



SAR EVALUATION REPORT

**FCC 47 CFR § 2.1093
IEEE Std 1528-2013
(Class II Permissive Change)**

For
**Multi-band Radio Module
(Tested inside of Panasonic Tablet PC FZ-M1)**

**Model: WW13B
FCC ID: ACJ9TGWW13B3**

**Report Number: 11018655H-A
Issue Date: December 18, 2015**

Prepared for
**PANASONIC CORPORATION OF NORTH AMERICA
ONE PANASONIC WAY, 4B-8
SECAUCUS, NJ 07094**

Prepared by
**UL Japan, Inc.
Ise EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
TEL: +81 596 24 8999
FAX: +81 596 24 8124**



NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.

***As for the range of Accreditation in NVLAP, you may refer to the WEB address,**

<http://www.ul.com/japan/jpn/pages/services/emc/>

Revision History

| <u>Rev.</u> | <u>Issue Date</u> | <u>Revisions</u> | <u>Revised By</u> |
|-------------|-------------------|------------------|-------------------|
| -- | 12/18/2015 | Initial Issue | T. Hatakeda |

Table of Contents

1. Attestation of Test Results 8

 1.1. *Summary of Highest 1-g SAR Results*..... 9

2. Test Methodology 10

3. Facilities and Accreditation 10

4. Calibration and Uncertainty 11

 4.1. *Measuring Instrument Calibration*..... 11

 4.2. *Measurement Uncertainty* 12

5. Measurement System Description and Setup..... 13

6. SAR Measurement Procedure 14

 6.1. *Normal SAR Measurement Procedure* 14

 6.2. *Volume Scan Procedures*..... 16

7. Device Under Test 17

 7.1. *Wireless Technologies* 17

 7.2. *Hotspot (Wireless Router) Exposure Condition*..... 17

 7.3. *Simultaneous Transmission* 18

 7.4. *LTE Parameters* 23

 7.5. *Proximity Sensor* 26

 7.6. *Proximity Sensor Triggering distance (KDB 616217 §6.2)* 27

 7.7. *Proximity Sensor Coverage (KDB 616217 SS6.3)* 29

 7.8. *Proximity Sensor Tilt Angle (KDB 616217 §6.3)*..... 29

8. Exposure Conditions..... 30

 8.1. *Test Configurations for the WWAN Main Antenna, WWAN Modes*..... 30

 8.2. *Test Configurations for WLAN*..... 30

9. RF Output Power Measurement 31

 9.1. *W-CDMA Band V*..... 32

 9.2. *W-CDMA Band IV*..... 36

 9.3. *W-CDMA Band II* 40

 9.4. *CDMA BC0*..... 44

 9.5. *CDMA BC1* 45

| | | |
|------------|--|------------|
| 9.6. | CDMA BC10 | 46 |
| 9.7. | LTE Band 2..... | 47 |
| 9.8. | LTE Band 4..... | 60 |
| 9.9. | LTE Band 5..... | 73 |
| 9.10. | LTE Band 13..... | 82 |
| 9.11. | LTE Band 17..... | 86 |
| 9.12. | LTE Band 25..... | 91 |
| 10. | Dielectric Property Measurements..... | 104 |
| 10.1. | Tissue Dielectric Parameter Check Results..... | 105 |
| 11. | System Performance Check | 109 |
| 11.1. | System Performance Check Measurement Conditions | 109 |
| 11.2. | Reference SAR Values for System Performance Check..... | 110 |
| 11.3. | System Performance Check Results | 111 |
| 12. | RF Exposure Conditions (Test Configurations)..... | 113 |
| 12.1. | Standalone SAR Test Exclusion Considerations..... | 113 |
| 12.1.1. | SAR Test Exclusion Calculations for antennas <50mm to adjacent edges | 114 |
| 12.1.2. | SAR Test Exclusion Calculations for antennas >50mm to adjacent edges | 115 |
| 12.2. | Estimated SAR for Simultaneous Transmission SAR Analysis..... | 116 |
| 12.2.1. | Estimated SAR for WWAN..... | 117 |
| 13. | Measured and Reported (Scaled) SAR Results | 118 |
| 13.1. | W-CDMA Band 5 | 118 |
| 13.2. | W-CDMA Band 4 | 119 |
| 13.3. | W-CDMA Band 2 | 120 |
| 13.4. | CDMA Band 0..... | 121 |
| 13.5. | CDMA Band 1 | 123 |
| 13.6. | CDMA Band 10..... | 125 |
| 13.7. | LTE Band 2 | 127 |
| 13.8. | LTE Band 4 | 129 |
| 13.9. | LTE Band 5..... | 131 |
| 13.10. | LTE Band 25..... | 133 |

| | | |
|------------|--|------------|
| 13.11. | LTE Band 13..... | 135 |
| 13.12. | LTE Band 17..... | 136 |
| 13.13. | Summary of Highest SAR Values..... | 138 |
| 13.14. | SAR Measurement Variability and Uncertainty..... | 139 |
| 13.15. | Additional SAR Test Results..... | 140 |
| 13.15.1. | Wi-Fi 2.4 GHz Band..... | 141 |
| 13.15.2. | Wi-Fi 5.3 GHz Band..... | 142 |
| 13.15.3. | Wi-Fi 5.5 GHz Band..... | 143 |
| 13.15.4. | Wi-Fi 5.8 GHz Band..... | 144 |
| 13.15.5. | Bluetooth..... | 145 |
| 14. | Simultaneous Transmission SAR Analysis..... | 146 |
| 14.1. | Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 2.4 GHz Band..... | 146 |
| 14.2. | Sum of the SAR for W-CDMA Band II & Wi-Fi 2.4 GHz Band..... | 148 |
| 14.3. | Sum of the SAR for CDMA BC0 & Wi-Fi 2.4 GHz Band..... | 150 |
| 14.4. | Sum of the SAR for CDMA BC1 & Wi-Fi 2.4 GHz Band..... | 153 |
| 14.5. | Sum of the SAR for CDMA BC10 & Wi-Fi 2.4 GHz Bands..... | 155 |
| 14.6. | Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 2.4 GHz Band..... | 158 |
| 14.7. | Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 2.4 GHz Band..... | 160 |
| 14.8. | Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 2.4 GHz Band..... | 162 |
| 14.9. | Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 5.3 GHz Band..... | 165 |
| 14.10. | Sum of the SAR for W-CDMA Band II & Wi-Fi 5.3 GHz Band..... | 167 |
| 14.11. | Sum of the SAR for CDMA BC0 & Wi-Fi 5.3 GHz Band..... | 169 |
| 14.12. | Sum of the SAR for CDMA BC1 & Wi-Fi 5.3 GHz Band..... | 171 |
| 14.13. | Sum of the SAR for CDMA BC10 & Wi-Fi 5.3 GHz Bands..... | 173 |
| 14.14. | Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.3 GHz Band..... | 175 |
| 14.15. | Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 5.3 GHz Band..... | 177 |
| 14.16. | Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 5.3 GHz Band..... | 179 |
| 14.17. | Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 5.5 GHz Band..... | 182 |
| 14.18. | Sum of the SAR for W-CDMA Band II & Wi-Fi 5.5 GHz Band..... | 184 |
| 14.19. | Sum of the SAR for CDMA BC0 & Wi-Fi 5.5 GHz Band..... | 186 |

| | | |
|------------|--|------------|
| 14.20. | Sum of the SAR for CDMA BC1 & Wi-Fi 5.5 GHz Band | 189 |
| 14.21. | Sum of the SAR for CDMA BC10 & Wi-Fi 5.5 GHz Bands. | 191 |
| 14.22. | Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.5 GHz Band..... | 194 |
| 14.23. | Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 5.5 GHz Band..... | 196 |
| 14.24. | Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 5.5 GHz Band..... | 198 |
| 14.25. | Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 5.8 GHz Band | 201 |
| 14.26. | Sum of the SAR for W-CDMA Band II & Wi-Fi 5.8 GHz Band | 203 |
| 14.27. | Sum of the SAR for CDMA BC0 & Wi-Fi 5.8 GHz Band | 205 |
| 14.28. | Sum of the SAR for CDMA BC1 & Wi-Fi 5.8 GHz Band | 207 |
| 14.29. | Sum of the SAR for CDMA BC10 & Wi-Fi 5.8 GHz Bands. | 209 |
| 14.30. | Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.8 GHz Band..... | 211 |
| 14.31. | Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 5.8 GHz Band..... | 213 |
| 14.32. | Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 5.8 GHz Band..... | 215 |
| 15. | Appendixes | 217 |
| 15.1. | System Performance Check Plots | 217 |
| 15.2. | SAR test plots for WCDMA Band V | 217 |
| 15.3. | SAR test plots for WCDMA Band IV | 217 |
| 15.4. | SAR test plots for WCDMA Band II..... | 217 |
| 15.5. | SAR test plots for CDMA Band0..... | 217 |
| 15.6. | SAR test plots for CDMA Band1 | 217 |
| 15.7. | SAR test plots for CDMA Band10 | 217 |
| 15.8. | SAR test plots for LTE Band 2 | 217 |
| 15.9. | SAR test plots for LTE Band 4 | 217 |
| 15.10. | SAR test plots for LTE Band 5..... | 217 |
| 15.11. | SAR test plots for LTE Band 25..... | 217 |
| 15.12. | SAR test plots for LTE Band 13..... | 217 |
| 15.13. | SAR test plots for LTE Band 17..... | 217 |
| 15.14. | SAR Test Plots for Repeat Measurement..... | 217 |
| 15.15. | SAR Test Plots for Wi-Fi 2.4 GHz Band..... | 218 |
| 15.16. | SAR Test Plots for Wi-Fi 5.3 GHz Bands..... | 218 |

| | | |
|------------|---|------------|
| 15.17. | SAR Test Plots for Wi-Fi 5.5 GHz Bands..... | 218 |
| 15.18. | SAR Test Plots for Wi-Fi 5.8 GHz Bands..... | 218 |
| 15.19. | SAR Test Plots for Bluetooth | 218 |
| 15.20. | SAR Calibration Certificate - Probe EX3DV4 SN 3917..... | 218 |
| 15.21. | SAR Calibration Certificate - Probe EX3DV4 SN 3922..... | 218 |
| 15.22. | SAR Calibration Certificate - Probe EX3DV4 SN3540..... | 218 |
| 15.23. | SAR Calibration Certificate - Dipole D750V3 SN1058..... | 218 |
| 15.24. | SAR Calibration Certificate - Dipole D835V2 SN 4d149..... | 218 |
| 15.25. | SAR Calibration Certificate - Dipole D1750V2 SN1089..... | 218 |
| 15.26. | SAR Calibration Certificate - Dipole D1900V2 SN5d169..... | 218 |
| 15.27. | SAR Calibration Certificate for D2450V2 - SN 713..... | 218 |
| 15.28. | SAR Calibration Certificate for D5GHzV2 - SN 1020..... | 218 |
| 15.29. | SAR Tissue Ingredients | 218 |
| 15.30. | SAR peak separation for SPLSR..... | 218 |
| 15.31. | Triggering distances and power levels..... | 218 |
| 16. | External Photos | 219 |
| 17. | Antenna Dimensions & Separation Distances..... | 221 |
| 18. | Setup Photos..... | 222 |

1. Attestation of Test Results

| | | |
|---|---|--------------|
| Applicant | PANASONIC CORPORATION OF NORTH AMERICA | |
| DUT description | Multi-band Radio Module (Tested inside of Panasonic Tablet PC FZ-M1) | |
| Model | WW13B | |
| Test device is | An identical prototype | |
| Device category | Portable | |
| Exposure category | General Population/Uncontrolled Exposure | |
| Date tested | November 16 to December 3, 2015 | |
| | Applicable Standards | Test Results |
| | FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013 | Pass |
| <ol style="list-style-type: none"> 1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc. 2. The results in this report apply only to the sample tested. 3. This sample tested is in compliance with the limits of the above regulation. 4. The test results in this report are traceable to the national or international standards. 5. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. | | |

Approved & Released For UL Japan, Inc By:

Tested By:



 Takahiro Hatakeda
 Leader
 Consumer Technology Division



 Hisayoshi Sato
 Engineer
 Consumer Technology Division

1.1. Summary of Highest 1-g SAR Results

Worst Case SAR data for each Frequency Band

| RF Exposure Rule | Freq. Range | Highest Reported SAR | Limit |
|-------------------------------------|----------------|---|----------|
| 22 (CDMA Band 0) | 824-849 MHz | Body & Tablet: 1.345 W/kg (Edge 2) | 1.6 W/kg |
| 24 (LTE Band 2) | 1850-1910 MHz | Body & Tablet: 1.350 W/kg (Edge 2) | |
| 27 (LTE Band 17) | 777 – 787 MHz | Body & Tablet: 1.337 W/kg (Bottom side) | |
| 27 (WCDMA Band 4) | 1710–1755 MHz | Body & Tablet: 1.370 W/kg (Edge 2) | |
| 90 (CDMA Band 10) | 816-823.975MHz | Body & Tablet: 1.292 W/kg (Edge 2) | |
| Simultaneous transmission condition | | 1.589 W/kg(refer to Section 14 of this report.) (highest SAR across exposure conditions) | |

LEGEND:

- Bottom side = Rear of display(Tablet mode)
- Edge 1 = Top Edge(Tablet mode)
- Edge 2 = Left Edge(Tablet mode)
- Edge 3 = Bottom Edge(Tablet mode)
- Edge 4 = Right Edge(Tablet mode)

2. Test Methodology

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:

- 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- 865664 D02 SAR Reporting v01r02
- 447498 D01 General RF Exposure Guidance v06
- 941225 D01 SAR test for 3G devices v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 616217 D04 SAR for laptop and tablets v01r02

3. Facilities and Accreditation

*Shielded room for SAR testings

The test sites and measurement facilities used to collect data are located at 4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN.

UL Japan, Inc. is accredited by NVLAP, Laboratory Code 200572-0

The full scope of accreditation can be viewed at

<http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap>

4. Calibration and Uncertainty

4.1. Measuring Instrument Calibration

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

| Control No. | Instrument | Manufacturer | Model No | Serial No | Test Item | Calibration Date * Interval(month) |
|--------------|--------------------------------|-------------------------------|-------------|-----------|-----------|------------------------------------|
| MNA-03 | Vector Reflectometer | Copper Mountain Technologies | PLANAR R140 | 0030913 | SAR | 2015/10/30 * 12 |
| MDPK-03 | Dielectric assessment kit | Schmid&Partner Engineering AG | DAK-3.5 | 0008 | SAR | 2015/03/10 * 12 |
| MOS-37 | Digital thermometer | LKM electronic | DTM3000 | - | SAR | 2015/07/07 * 12 |
| COTS-MSAR-04 | Dielectric assessment software | Schmid&Partner Engineering AG | DAK | | SAR | - |

System check

| Control No. | Instrument | Manufacturer | Model No | Serial No | Test Item | Calibration Date * Interval(month) |
|--------------|------------------------------|-------------------------------|---------------------------------|------------------|---------------|------------------------------------|
| MDAE-02 | Data Acquisition Electronics | Schmid&Partner Engineering AG | DAE4 | 1369 | SAR | 2015/05/22 * 12 |
| MPB-08 | Dosimetric E-Field Probe | Schmid&Partner Engineering AG | EX3DV4 | 3917 | SAR | 2015/05/29 * 12 |
| MPF-03 | 2mm Oval Flat Phantom | Schmid&Partner Engineering AG | QDOVA001BB | 1203 | SAR | 2015/05/11 * 12 |
| MDH-04 | Device holder | Schmid&Partner Engineering AG | Mounting device for transmitter | - | SAR | Pre Check |
| MOS-35 | Digital thermometer | HANNA | Checktemp 4 | - | SAR | 2015/07/07 * 12 |
| COTS-MSAR-03 | Dasy5 | Schmid&Partner Engineering AG | DASY5 | - | SAR | - |
| MRBT-03 | SAR robot | Schmid&Partner Engineering AG | TX60 Lspeag | F13/5PP1D1/A /01 | SAR | 2015/06/23 * 12 |
| MDAE-01 | Data Acquisition Electronics | Schmid&Partner Engineering AG | DAE4 | 509 | SAR | 2015/07/07 * 12 |
| MRENT-32 | Dosimetric E-Field Probe | Schmid&Partner Engineering AG | EX3DV4 | 3540 | SAR | 2015/05/29 * 12 |
| MPF-02 | 2mm Oval Flat Phantom | Schmid&Partner Engineering AG | QDOVA001BB | 1045 | SAR | 2015/05/11 * 12 |
| MDH-01 | Device holder | Schmid&Partner Engineering AG | Mounting device for transmitter | - | SAR | Pre Check |
| MOS-26 | Thermo-Hygrometer | CUSTOM | CTH-201 | A08Q29 | SAR | 2015/04/28 * 12 |
| MRBT-02 | SAR robot | Schmid&Partner Engineering AG | TX60 Lspeag | F10/5E3LA1/A /01 | SAR | 2015/05/29 * 12 |
| MPM-11 | Dual Power Meter | Agilent | E4419B | MY45102060 | SAR | 2015/08/04 * 12 |
| MPSE-15 | Power sensor | Agilent | E9301A | MY41498311 | SAR | 2015/08/04 * 12 |
| MPSE-16 | Power sensor | Agilent | E9301A | MY41498313 | SAR | 2015/08/04 * 12 |
| MHDC-21 | Dual Directional Coupler | Agilent | 778D | MY52180243 | SAR(0.1-2GHz) | Pre Check |

| | | | | | | |
|-----------|------------------------------|-------------------------------|---------------------------------|------------------|--------------|-----------------|
| MHDC-12 | Dual Directional Coupler | Hewlett Packard | 772D | 2839A0016 | SAR(2-18GHz) | Pre Check |
| MRFA-24 | Pre Amplifier | R&K | R&K CGA020M602-2633R | B30550 | SAR | 2015/06/15 * 12 |
| MSG-13 | Signal Generator | Rohde & Schwarz | SMA 100A | 103764 | SAR | 2015/06/15 * 12 |
| MDA-20 | Dipole Antenna | Schmid&Partner Engineering AG | D750V3 | 1058 | SAR | 2015/05/28 * 12 |
| SSDA-04 | Dipole Antenna | Schmid&Partner Engineering AG | D835V2 | 4d149 | SAR | 2013/03/05 * 36 |
| SSDA-06 | Dipole Antenna | Schmid&Partner Engineering AG | D1750V2 | 1089 | SAR | 2013/03/08 * 36 |
| SSDA-08 | Dipole Antenna | Schmid&Partner Engineering AG | D1900V2 | 5d169 | SAR | 2013/03/07 * 36 |
| MAT-78 | Attenuator | Telegartner | J01156A0011 | 0042294119 | SAR | Pre Check |
| MPSE-25 | Power sensor | Anritsu | MA24106A | 1031504 | SAR | 2015/08/17 * 12 |
| MAT-81 | Attenuator | Weinschel Associates | WA1-20-33 | 100131 | SAR | 2015/05/04 * 12 |
| COTS-MPSE | Software for MA24106A | Anritsu | Anritsu Power meter software | - | SAR | - |
| MDAE-03 | Data Acquisition Electronics | Schmid&Partner Engineering AG | DAE4 | 1372 | SAR | 2015/06/15 * 12 |
| MPB-09 | Dosimetric E-Field Probe | Schmid&Partner Engineering AG | EX3DV4 | 3922 | SAR | 2015/06/17 * 12 |
| MPF-04 | 2mm Oval Flat Phantom | Schmid&Partner Engineering AG | QDOVA001BB | 1207 | SAR | 2015/05/11 * 12 |
| MDH-03 | Device holder | Schmid&Partner Engineering AG | Mounting device for transmitter | - | SAR | Pre Check |
| MRBT-04 | SAR robot | Schmid&Partner Engineering AG | TX60 Lspeag | F13/5PP1A1/A /01 | SAR | 2015/06/23 * 12 |
| MDA-07 | Dipole Antenna | Schmid&Partner Engineering AG | D2450V2 | 713 | SAR(D2450) | 2013/09/10 * 36 |
| MDA-08 | Dipole Antenna | Schmid&Partner Engineering AG | D5GHzV2 | 1020 | SAR(D5G) | 2015/01/13 * 12 |

Other

| Control No. | Instrument | Manufacturer | Model No | Serial No | Test Item | Calibration Date * Interval(month) |
|-------------|-------------------------------------|-----------------|-------------|------------|------------|------------------------------------|
| MURC-05 | Wideband Radio Communication Tester | Rohde & Schwarz | CMW500 | 127576 | SAR/ Power | 2015/11/12 * 12 |
| MURC-03 | Radio Communication Analyzer | Anritsu | MT8815B | 6200711471 | SAR/ Power | 2014/12/02 * 12 |
| MURC-02 | Wireless Communication Test Set | Agilent | E5515C | GB47050683 | SAR/ Power | 2015/02/27 * 12 |
| MCC-66 | Microwave Cable 1G-40GHz | Suhner | SUCOFLEX102 | 28636/2 | Power | 2015/04/02 * 12 |
| MOS-30 | Thermo-Hygrometer | Custom | CTH-201 | 3001 | Power | 2015/07/07 * 12 |

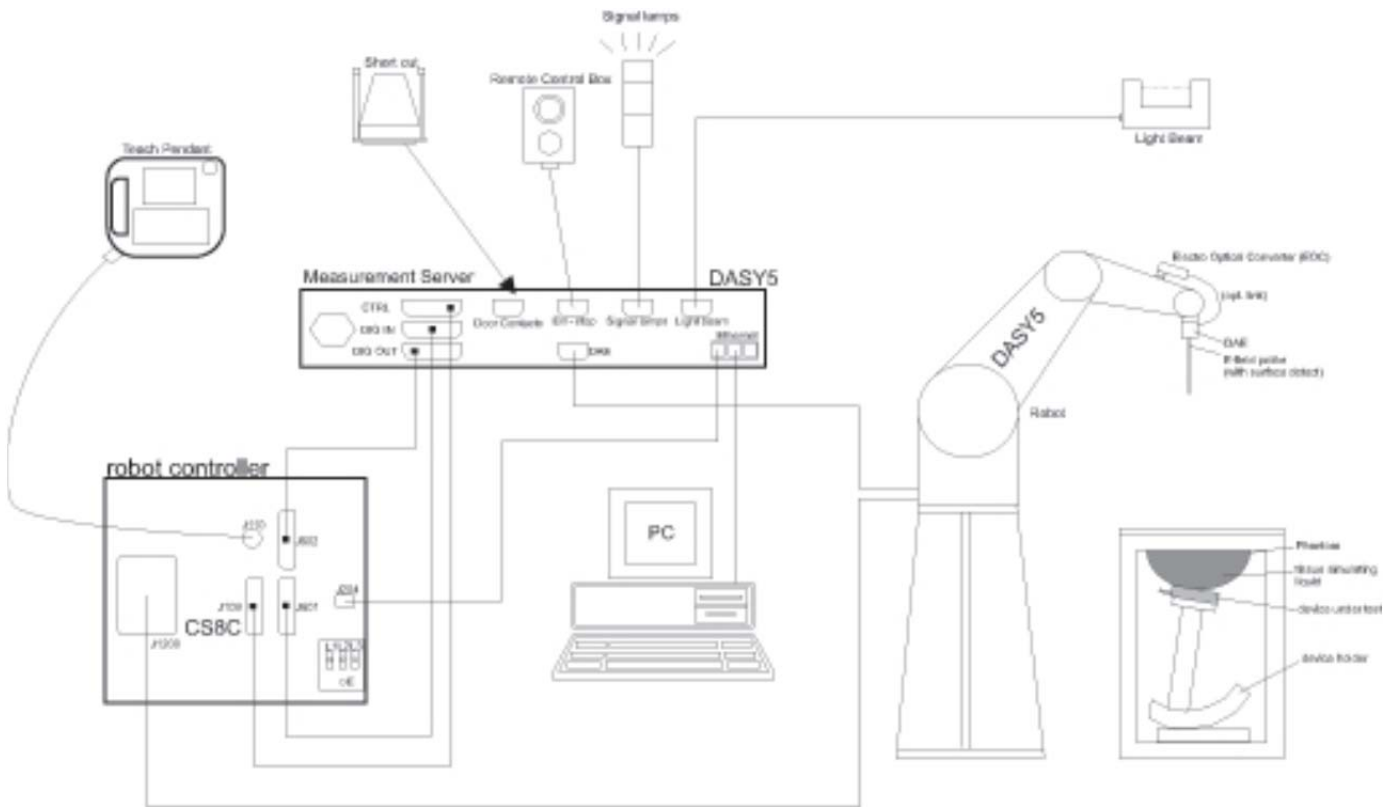
The expiration date of the calibration is the end of the expired month.
 All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards. As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

4.2. 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, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

5. Measurement System Description and Setup

The DASY5 system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

6. SAR Measurement Procedure

6.1. Normal SAR Measurement Procedure

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

| | ≤ 3 GHz | > 3 GHz |
|--|---|--|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | 5 ± 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° ± 1° | 20° ± 1° |
| Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area} | ≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 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 ≤ 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

| | | ≤ 3 GHz | > 3 GHz | |
|--|------------------------------------|--|---|--|
| Maximum zoom scan spatial resolution: Δx_{Zoom} , Δy_{Zoom} | | ≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm* | 3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm* | |
| Maximum zoom scan spatial resolution, normal to phantom surface | uniform grid: $\Delta z_{Zoom}(n)$ | ≤ 5 mm | 3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm | |
| | graded grid | $\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface | ≤ 4 mm | 3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm |
| | | $\Delta z_{Zoom}(n>1)$: between subsequent points | $\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ | |
| Minimum zoom scan volume | x, y, z | ≥ 30 mm | 3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm | |
| Note: δ 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 <i>reported</i> SAR from the area scan based <i>1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 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.

6.2. Volume Scan Procedures

Step 1: Repeat Step 1-4 in Section 6.1

Step 2: Volume Scan

Volume Scans are used to assess peak SAR and averaged SAR measurements in largely extended 3-dimensional volumes within any phantom. This measurement does not need any previous area scan. The grid can be anchored to a user specific point or to the current probe location.

Step 3: 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.

7. Device Under Test

| | |
|---|--|
| Multi-band Radio Module (Tested inside of Panasonic Tablet PC FZ-M1) Model: WW13B | |
| Operating Configuration(s) | <ul style="list-style-type: none"> Tablet mode |
| Exposure Condition(s) | <ul style="list-style-type: none"> The device is used in close proximity to the body. Specific details of the required test positions are provided in Section 8 "Exposure Conditions" |
| Accessory | <ul style="list-style-type: none"> None |

7.1. Wireless Technologies

| | |
|-----------------------------------|--|
| Wireless Mode and Frequency Bands | <ul style="list-style-type: none"> W-CDMA Band V: 824 - 849 MHz W-CDMA Band IV: 1710 - 1755 MHz W-CDMA Band II: 1850 - 1910 MHz CDMA BC 0: 824 - 849 MHz CDMA BC 1: 1850 - 1910 MHz CDMA BC 10: 816 - 823.975 MHz LTE Band 2: 1850 - 1910 MHz LTE Band 4: 1710 - 1755 MHz LTE Band 5: 824 - 849 MHz LTE Band 13: 777 - 787 MHz LTE Band 17: 704 – 716 MHz LTE Band 25: 1850 - 1915 MHz 802.11a/b/g/n/ac: 2412 - 2472 MHz, b / g / HT20 / HT40 5150 - 5250 MHz, a / HT20 / HT40 / HT80 5250 - 5350 MHz, a / HT20 / HT40 / HT80 5500 - 5700 MHz, a / HT20 / HT40 / HT80 5725 - 5850 MHz, a / HT20 / HT40 / HT80 Bluetooth: 2402 - 2480 MHz |
| Duty Cycle | <ul style="list-style-type: none"> W-CDMA: 100% CDMA: 100% LTE: 100% |

7.2. Hotspot (Wireless Router) Exposure Condition

N/A

7.3. Simultaneous Transmission

WWAN + Wi-Fi 2.4 GHz SISO (1 Tx)

| Usage Scenario | Modes | Mode of Operation | BAND | CDMA 1xRTT | CDMA 1xEV-DO | WCDMA | HSDPA | HSUPA | HSPA+ | DC-HSPA | LTE | Wi-Fi 2.4GHz Main | Wi-Fi 2.4GHz Aux | Wi-Fi 5 GHz Bands Main | Wi-Fi 5 GHz Bands Aux | BT 2.4 GHz | | |
|----------------|---------------------|-------------------|------|------------|--------------|-------|-------|-------|-------|---------|-----|-------------------|------------------|------------------------|-----------------------|------------|----|----|
| Body SAR | WWAN + 2.4 GHz WLAN | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | YES | No | No | No | No | | |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | YES | No | No | No | No | | |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | YES | No | No | No | No | | |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | YES | No | No | No | No | |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | YES | No | No | No | No | |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | YES | No | No | No | No | |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | YES | No | No | No | No | |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | YES | No | No | No | No | |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | YES | No | No | No | No | |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | YES | No | No | No | No | |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | YES | No | No | No | No | |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | YES | No | No | No | No | |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | YES | No | No | No | No | |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | No | YES | No | No | No | No | |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | No | YES | No | No | No | No | |
| | | HSPA+ | 850 | No | No | No | No | No | YES | No | No | No | YES | No | No | No | No | |
| | | HSPA+ | 1700 | No | No | No | No | No | YES | No | No | No | YES | No | No | No | No | |
| | | HSPA+ | 1900 | No | No | No | No | No | YES | No | No | No | YES | No | No | No | No | |
| | | DC-HSDPA | 850 | No | No | No | No | No | No | YES | No | YES | No | YES | No | No | No | No |
| | | DC-HSDPA | 1700 | No | No | No | No | No | No | YES | No | YES | No | YES | No | No | No | No |
| | | DC-HSDPA | 1900 | No | No | No | No | No | No | YES | No | YES | No | YES | No | No | No | No |
| | | LTE | 2 | No | No | No | No | No | No | No | No | No | YES | YES | No | No | No | No |
| | | LTE | 4 | No | No | No | No | No | No | No | No | No | YES | YES | No | No | No | No |
| | | LTE | 5 | No | No | No | No | No | No | No | No | No | YES | YES | No | No | No | No |
| | | LTE | 13 | No | No | No | No | No | No | No | No | No | YES | YES | No | No | No | No |
| | | LTE | 17 | No | No | No | No | No | No | No | No | No | YES | YES | No | No | No | No |
| | | LTE | 25 | No | No | No | No | No | No | No | No | No | YES | YES | No | No | No | No |
| | | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | No | No |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | No | No |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | No | No |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | No | No |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | No | No |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | No | No |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | No | No |
| | | HSPA+ | 850 | No | No | No | No | No | YES | No | No | No | No | No | YES | No | No | No |
| | | HSPA+ | 1700 | No | No | No | No | No | YES | No | No | No | No | No | YES | No | No | No |
| | | HSPA+ | 1900 | No | No | No | No | No | YES | No | No | No | No | No | YES | No | No | No |
| DC-HSDPA | 850 | No | No | No | No | No | No | YES | No | YES | No | No | YES | No | No | No | | |
| DC-HSDPA | 1700 | No | No | No | No | No | No | YES | No | YES | No | No | YES | No | No | No | | |
| DC-HSDPA | 1900 | No | No | No | No | No | No | YES | No | YES | No | No | YES | No | No | No | | |
| LTE | 2 | No | No | No | No | No | No | No | No | No | YES | No | YES | No | No | No | | |
| LTE | 4 | No | No | No | No | No | No | No | No | No | YES | No | YES | No | No | No | | |
| LTE | 5 | No | No | No | No | No | No | No | No | No | YES | No | YES | No | No | No | | |
| LTE | 13 | No | No | No | No | No | No | No | No | No | YES | No | YES | No | No | No | | |
| LTE | 17 | No | No | No | No | No | No | No | No | No | YES | No | YES | No | No | No | | |
| LTE | 25 | No | No | No | No | No | No | No | No | No | YES | No | YES | No | No | No | | |

WWAN + Wi-Fi 5 GHz Bands SISO (1 Tx)

| Usage Scenario | Modes | Mode of Operation | BAND | CDMA 1xRTT | CDMA 1xEV-DO | WCDMA | HSDPA | HSUPA | HSPA+ | DC-HSPA | LTE | Wi-Fi 2.4GHz Main | Wi-Fi 2.4GHz Aux | Wi-Fi 5 GHz Bands Main | Wi-Fi 5 GHz Bands Aux | BT 2.4 GHz | | |
|----------------|-------------------------|-------------------|------|------------|--------------|-------|-------|-------|-------|---------|-----|-------------------|------------------|------------------------|-----------------------|------------|-----|----|
| Body SAR | WWAN + 5 GHz Bands WLAN | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | No | No | YES | No | No | | |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | No | |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | No | |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | No | |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | No | |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | No | |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | No | |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | No | |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | No | |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | No | |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | No | |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | No | |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | No | |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | No | |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | No | |
| | | HSPA+ | 850 | No | No | No | No | No | No | YES | No | No | No | No | YES | No | No | |
| | | HSPA+ | 1700 | No | No | No | No | No | No | YES | No | No | No | No | YES | No | No | |
| | | HSPA+ | 1900 | No | No | No | No | No | No | YES | No | No | No | No | YES | No | No | |
| | | DC-HSDPA | 850 | No | No | No | No | No | No | No | YES | No | No | No | YES | No | No | |
| | | DC-HSDPA | 1700 | No | No | No | No | No | No | No | YES | No | No | No | YES | No | No | |
| | | DC-HSDPA | 1900 | No | No | No | No | No | No | No | YES | No | No | No | YES | No | No | |
| | | LTE | 2 | No | No | No | No | No | No | No | No | No | YES | No | No | YES | No | No |
| | | LTE | 4 | No | No | No | No | No | No | No | No | No | YES | No | No | YES | No | No |
| | | LTE | 5 | No | No | No | No | No | No | No | No | No | YES | No | No | YES | No | No |
| | | LTE | 13 | No | No | No | No | No | No | No | No | No | YES | No | No | YES | No | No |
| | | LTE | 17 | No | No | No | No | No | No | No | No | No | YES | No | No | YES | No | No |
| | | LTE | 25 | No | No | No | No | No | No | No | No | No | YES | No | No | YES | No | No |
| | | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | No | No | No | No | YES | No |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | No | No | No | No | YES | No |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | No | No | No | No | YES | No |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | No | No | No | No | YES | No |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | No | No | No | No | YES | No |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | No | No | No | No | No | YES | No |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | No | No | No | No | No | YES | No |
| | | HSPA+ | 850 | No | No | No | No | No | No | YES | No | No | No | No | No | No | YES | No |
| | | HSPA+ | 1700 | No | No | No | No | No | No | YES | No | No | No | No | No | No | YES | No |
| | | HSPA+ | 1900 | No | No | No | No | No | No | YES | No | No | No | No | No | No | YES | No |
| | | DC-HSDPA | 850 | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | No |
| | | DC-HSDPA | 1700 | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | No |
| | | DC-HSDPA | 1900 | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | No |
| | | LTE | 2 | No | No | No | No | No | No | No | No | No | YES | No | No | No | YES | No |
| | | LTE | 4 | No | No | No | No | No | No | No | No | No | YES | No | No | No | YES | No |
| LTE | 5 | No | No | No | No | No | No | No | No | No | YES | No | No | No | YES | No | | |
| LTE | 13 | No | No | No | No | No | No | No | No | No | YES | No | No | No | YES | No | | |
| LTE | 17 | No | No | No | No | No | No | No | No | No | YES | No | No | No | YES | No | | |
| LTE | 25 | No | No | No | No | No | No | No | No | No | YES | No | No | No | YES | No | | |

WWAN + Bluetooth

| Usage Scenario | Modes | Mode of Operation | BAND | CDMA 1xRTT | CDMA 1xEV-DO | WCDMA | HSDPA | HSUPA | HSPA+ | DC-HSPA | LTE | WiFi 2.4GHz Main | WiFi 2.4GHz Aux | Wi-Fi 5 GHz Bands Main | Wi-Fi 5 GHz Bands Aux | BT 2.4 GHz | |
|----------------|-----------|-------------------|------|------------|--------------|-------|-------|-------|-------|---------|-----|------------------|-----------------|------------------------|-----------------------|------------|-----|
| Body SAR | WWAN + BT | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | No | No | No | No | YES | |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | No | No | No | No | No | YES |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | No | No | No | No | No | YES |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | No | No | No | No | YES |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | No | No | No | No | YES |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | No | No | No | No | YES |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | No | No | No | No | YES |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | No | No | No | No | YES |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | No | No | No | No | YES |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | No | No | No | No | YES |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | No | No | No | No | YES |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | No | No | No | No | YES |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | No | No | No | No | YES |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | No | No | No | No | No | YES |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | No | No | No | No | No | YES |
| | | HSPA+ | 850 | No | No | No | No | No | YES | No | No | No | No | No | No | No | YES |
| | | HSPA+ | 1700 | No | No | No | No | No | YES | No | No | No | No | No | No | No | YES |
| | | HSPA+ | 1900 | No | No | No | No | No | YES | No | No | No | No | No | No | No | YES |
| | | DC-HSDPA | 850 | No | No | No | No | No | No | YES | No | No | No | No | No | No | YES |
| | | DC-HSDPA | 1700 | No | No | No | No | No | No | YES | No | No | No | No | No | No | YES |
| DC-HSDPA | 1900 | No | No | No | No | No | No | YES | No | No | No | No | No | No | YES | | |
| LTE | 2 | No | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | |
| LTE | 4 | No | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | |
| LTE | 5 | No | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | |
| LTE | 13 | No | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | |
| LTE | 17 | No | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | |
| LTE | 25 | No | No | No | No | No | No | No | No | YES | No | No | No | No | No | YES | |

WWAN + Wi-Fi SISO (1 Tx) + Bluetooth

| Usage Scenario | Modes | Mode of Operation | BAND | CDMA 1xRTT | CDMA 1xEV-DO | WCDMA | HSDPA | HSUPA | HSPA+ | DC-HSPA | LTE | Wi-Fi 2.4GHz Main | Wi-Fi 2.4GHz Aux | Wi-Fi 5 GHz Bands Main | Wi-Fi 5 GHz Bands Aux | BT 2.4 GHz | |
|----------------|------------------------------|-------------------|------|------------|--------------|-------|-------|-------|-------|---------|-----|-------------------|------------------|------------------------|-----------------------|------------|-----|
| Body SAR | WWAN + 2.4GHz WLAN + BT | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | YES | No | No | No | YES | |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | YES | No | No | No | YES | |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | YES | No | No | No | YES | |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | YES | No | No | No | YES | |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | YES | No | No | No | YES | |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | YES | No | No | No | YES | |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | YES | No | No | No | YES | |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | YES | No | No | No | YES | |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | YES | No | No | No | YES | |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | YES | No | No | No | YES | |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | YES | No | No | No | YES | |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | YES | No | No | No | YES | |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | YES | No | No | No | YES | |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | YES | No | No | No | YES | |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | YES | No | No | No | YES | |
| | | HSPA+ | 850 | No | No | No | No | No | YES | No | No | YES | No | No | No | YES | |
| | | HSPA+ | 1700 | No | No | No | No | No | YES | No | No | YES | No | No | No | YES | |
| | | HSPA+ | 1900 | No | No | No | No | No | YES | No | No | YES | No | No | No | YES | |
| | | DC-HSDPA | 850 | No | No | No | No | No | No | YES | No | YES | No | No | No | YES | |
| | | DC-HSDPA | 1700 | No | No | No | No | No | No | No | YES | No | YES | No | No | YES | |
| | DC-HSDPA | 1900 | No | No | No | No | No | No | No | YES | No | YES | No | No | YES | | |
| | LTE | 2 | No | No | No | No | No | No | No | No | YES | YES | No | No | No | YES | |
| | LTE | 4 | No | No | No | No | No | No | No | No | YES | YES | No | No | No | YES | |
| | LTE | 5 | No | No | No | No | No | No | No | No | YES | YES | No | No | No | YES | |
| | LTE | 13 | No | No | No | No | No | No | No | No | YES | YES | No | No | No | YES | |
| | LTE | 17 | No | No | No | No | No | No | No | No | YES | YES | No | No | No | YES | |
| | LTE | 25 | No | No | No | No | No | No | No | No | YES | YES | No | No | No | YES | |
| | WWAN + 5 GHz Bands WLAN + BT | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | YES |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | YES |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | No | No | No | YES | No | YES |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | YES |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | YES |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | No | No | YES | No | YES |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | YES |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | YES |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | No | No | YES | No | YES |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | YES |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | YES |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | No | No | YES | No | YES |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | YES |
| HSUPA | | 1700 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | YES | |
| HSUPA | | 1900 | No | No | No | No | YES | No | No | No | No | No | No | YES | No | YES | |
| HSPA+ | | 850 | No | No | No | No | No | YES | No | No | No | No | No | YES | No | YES | |
| HSPA+ | | 1700 | No | No | No | No | No | YES | No | No | No | No | No | YES | No | YES | |
| HSPA+ | | 1900 | No | No | No | No | No | YES | No | No | No | No | No | YES | No | YES | |
| DC-HSDPA | | 850 | No | No | No | No | No | No | YES | No | No | No | No | YES | No | YES | |
| DC-HSDPA | | 1700 | No | No | No | No | No | No | No | YES | No | No | No | YES | No | YES | |
| DC-HSDPA | 1900 | No | No | No | No | No | No | No | YES | No | No | No | YES | No | YES | | |
| LTE | 2 | No | No | No | No | No | No | No | No | YES | No | No | YES | No | YES | | |
| LTE | 4 | No | No | No | No | No | No | No | No | YES | No | No | YES | No | YES | | |
| LTE | 5 | No | No | No | No | No | No | No | No | YES | No | No | YES | No | YES | | |
| LTE | 13 | No | No | No | No | No | No | No | No | YES | No | No | YES | No | YES | | |
| LTE | 17 | No | No | No | No | No | No | No | No | YES | No | No | YES | No | YES | | |
| LTE | 25 | No | No | No | No | No | No | No | No | YES | No | No | YES | No | YES | | |

WWAN + Wi-Fi MIMO (2 Tx)

| Usage Scenario | Modes | Mode of Operation | BAND | CDMA 1xRTT | CDMA 1xEV-DO | WCDMA | HSDPA | HSUPA | HSPA+ | DC-HSPA | LTE | Wi-Fi 2.4GHz Main | Wi-Fi 2.4GHz Aux | Wi-Fi 5 GHz Bands Main | Wi-Fi 5 GHz Bands Aux | BT 2.4 GHz | |
|----------------|---|-------------------|------|------------|--------------|-------|-------|-------|-------|---------|-----|-------------------|------------------|------------------------|-----------------------|------------|----|
| Body SAR | WWAN + 2.4GHz WLAN MIMO (2 Tx on WLAN) | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | YES | YES | No | No | No | |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | YES | YES | No | No | No | |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | YES | YES | No | No | No | |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | YES | YES | No | No | No | |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | YES | YES | No | No | No | |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | YES | YES | No | No | No | |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | YES | YES | No | No | No | |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | YES | YES | No | No | No | |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | YES | YES | No | No | No | |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | YES | YES | No | No | No | |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | YES | YES | No | No | No | |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | YES | YES | No | No | No | |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | YES | YES | No | No | No | |
| | | HSUPA | 1700 | No | No | No | No | YES | No | No | No | YES | YES | No | No | No | |
| | | HSUPA | 1900 | No | No | No | No | YES | No | No | No | YES | YES | No | No | No | |
| | | HSPA+ | 850 | No | No | No | No | No | YES | No | No | YES | YES | No | No | No | |
| | | HSPA+ | 1700 | No | No | No | No | No | YES | No | No | YES | YES | No | No | No | |
| | | HSPA+ | 1900 | No | No | No | No | No | YES | No | No | YES | YES | No | No | No | |
| | | DC-HSDPA | 850 | No | No | No | No | No | No | YES | No | YES | YES | No | No | No | |
| | | DC-HSDPA | 1700 | No | No | No | No | No | No | YES | No | YES | YES | No | No | No | |
| | DC-HSDPA | 1900 | No | No | No | No | No | No | YES | No | YES | YES | No | No | No | | |
| | LTE | 2 | No | No | No | No | No | No | No | YES | No | YES | YES | No | No | No | |
| | LTE | 4 | No | No | No | No | No | No | No | No | YES | YES | YES | No | No | No | |
| | LTE | 5 | No | No | No | No | No | No | No | No | YES | YES | YES | No | No | No | |
| | LTE | 13 | No | No | No | No | No | No | No | No | YES | YES | YES | No | No | No | |
| | LTE | 17 | No | No | No | No | No | No | No | No | YES | YES | YES | No | No | No | |
| | LTE | 25 | No | No | No | No | No | No | No | No | YES | YES | YES | No | No | No | |
| | WWAN + 5 GHz Bands WLAN MIMO (2 Tx on WLAN) | CDMA 1xRTT | BC0 | YES | No | No | No | No | No | No | No | No | No | No | YES | YES | No |
| | | CDMA 1xRTT | BC1 | YES | No | No | No | No | No | No | No | No | No | No | YES | YES | No |
| | | CDMA 1xRTT | BC10 | YES | No | No | No | No | No | No | No | No | No | No | YES | YES | No |
| | | CDMA 1xEVDO | BC0 | No | YES | No | No | No | No | No | No | No | No | No | YES | YES | No |
| | | CDMA 1xEVDO | BC1 | No | YES | No | No | No | No | No | No | No | No | No | YES | YES | No |
| | | CDMA 1xEVDO | BC10 | No | YES | No | No | No | No | No | No | No | No | No | YES | YES | No |
| | | W-CDMA | 850 | No | No | YES | No | No | No | No | No | No | No | No | YES | YES | No |
| | | W-CDMA | 1700 | No | No | YES | No | No | No | No | No | No | No | No | YES | YES | No |
| | | W-CDMA | 1900 | No | No | YES | No | No | No | No | No | No | No | No | YES | YES | No |
| | | HSDPA | 850 | No | No | No | YES | No | No | No | No | No | No | No | YES | YES | No |
| | | HSDPA | 1700 | No | No | No | YES | No | No | No | No | No | No | No | YES | YES | No |
| | | HSDPA | 1900 | No | No | No | YES | No | No | No | No | No | No | No | YES | YES | No |
| | | HSUPA | 850 | No | No | No | No | YES | No | No | No | No | No | No | YES | YES | No |
| HSUPA | | 1700 | No | No | No | No | YES | No | No | No | No | No | No | YES | YES | No | |
| HSUPA | | 1900 | No | No | No | No | YES | No | No | No | No | No | No | YES | YES | No | |
| HSPA+ | | 850 | No | No | No | No | No | YES | No | No | No | No | No | YES | YES | No | |
| HSPA+ | | 1700 | No | No | No | No | No | YES | No | No | No | No | No | YES | YES | No | |
| HSPA+ | | 1900 | No | No | No | No | No | YES | No | No | No | No | No | YES | YES | No | |
| DC-HSDPA | | 850 | No | No | No | No | No | No | YES | No | No | No | No | YES | YES | No | |
| DC-HSDPA | | 1700 | No | No | No | No | No | No | YES | No | No | No | No | YES | YES | No | |
| DC-HSDPA | 1900 | No | No | No | No | No | No | YES | No | No | No | No | YES | YES | No | | |
| LTE | 2 | No | No | No | No | No | No | No | No | YES | No | No | YES | YES | No | | |
| LTE | 4 | No | No | No | No | No | No | No | No | YES | No | No | YES | YES | No | | |
| LTE | 5 | No | No | No | No | No | No | No | No | YES | No | No | YES | YES | No | | |
| LTE | 13 | No | No | No | No | No | No | No | No | YES | No | No | YES | YES | No | | |
| LTE | 17 | No | No | No | No | No | No | No | No | YES | No | No | YES | YES | No | | |
| LTE | 25 | No | No | No | No | No | No | No | No | YES | No | No | YES | YES | No | | |

Notes:

1. Bluetooth transmits using the WLAN Aux Antenna
2. Bluetooth can transmit simultaneously with the WLAN Main Antenna, in either of the WLAN bands.
3. Bluetooth cannot transmit simultaneously with the WLAN Aux Antenna, in either of the WLAN bands; this also precludes the transmission of Bluetooth when WLAN is in MIMO mode.

7.4. LTE Parameters

| # | Description | Information |
|---|---|--|
| A | List the frequency range and channel bandwidths used in each LTE band; 2,4, 5, 13, 17,25 etc. | Band 2 |
| | | Tx: 1850 - 1910 MHz Rx: 1930 - 1990 MHz |
| | | Band 4 |
| | | Tx: 1710 – 1755 MHz Rx: 2100 – 2155 MHz |
| | | Band 5 |
| | | Tx: 824 - 849 MHz Rx: 869 - 894 MHz |
| | | Band 13 |
| | | Tx: 777 – 787 MHz Rx: 746 – 756 MHz |
| | | Band 17 |
| | | Tx: 704 – 716 MHz Rx: 734 – 746 MHz |
| | | Band 25 |
| | | Tx: 1850 - 1915 MHz Rx: 1930 - 1995 MHz |
| | | Channel Bandwidths for bands 2, 4 and 25: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz and 20 MHz Channel Bandwidths for bands 5: 1.4 MHz, 3 MHz, 5 MHz and 10 MHz Channel Bandwidths for bands 13 and 17: 5MHz and 10MHz |

LTE Parameters continued

| # | Description | Information | | | | | | |
|------|---|---|--------------|--------------|--------------|--------------|--------------|--------------|
| B | Identify the high, middle and low (H, M, L) channel numbers and channel frequencies for each LTE bandwidth and frequency band | Channel Bandwidth | | | | | | |
| | | Band 2 | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | | Low | 18700/1860 | 18675/1857.5 | 18650/1855 | 18625/1852.5 | 18615/1851.5 | 18607/1850.7 |
| | | Mid | 18900/1880 | 18900/1880 | 18900/1880 | 18900/1880 | 18900/1880 | 18900/1880 |
| | | High | 19100/1900 | 19125/1902.5 | 19150/1905 | 19175/1907.5 | 19184/1908.4 | 19192/1909.2 |
| | | Channel Bandwidth | | | | | | |
| | | Band 4 | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | | Low | 20050/1720 | 20025/1717.5 | 20000/1715 | 19975/1712.5 | 19965/1711.5 | 19957/1710.7 |
| | | Mid | 20175/1732.5 | 20175/1732.5 | 20175/1732.5 | 20175/1732.5 | 20175/1732.5 | 20175/1732.5 |
| | | High | 20300/1745 | 20325/1747.5 | 20350/1750 | 20375/1752.5 | 20384/1753.4 | 20392/1754.2 |
| | | Channel Bandwidth | | | | | | |
| | | Band 5 | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | | Low | | | 20450/829 | 20425/826.5 | 20415/825.5 | 20407/824.7 |
| | | Mid | | | 20525/836.5 | 20525/836.5 | 20525/836.5 | 20525/836.5 |
| | | High | | | 20600/844 | 20625/846.5 | 20634/847.4 | 20642/848.2 |
| | | Channel Bandwidth | | | | | | |
| | | Band 13 | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | | Low | | | | 23205/779.5 | | |
| | | Mid | | | 23230/782 | 23230/782 | | |
| | | High | | | | 23255/784.5 | | |
| | | Channel Bandwidth | | | | | | |
| | | Band 17 | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | | Low | | | 23780/709 | 23755/706.5 | | |
| | | Mid | | | 23790/710 | 23790/710 | | |
| | | High | | | 23800/711 | 23825/713.5 | | |
| | | Channel Bandwidth | | | | | | |
| | | Band 25 | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | | Low | 26140/1860 | 26115/1857.5 | 26090/1855 | 26065/1852.5 | 26055/1851.5 | 26047/1850.7 |
| Mid | 26365/1882.5 | 26365/1882.5 | 26365/1882.5 | 26365/1882.5 | 26365/1882.5 | 26365/1882.5 | | |
| High | 26590/1905 | 26615/1907.5 | 26640/1910 | 26665/1912.5 | 26674/1913.4 | 26682/1914.2 | | |
| C | Descriptions of the LTE transmitter and antenna implementation, and identify if the transmitter operates independently of the other wireless transmitters in the device; i.e., whether the LTE hardware, components and/or antenna(s) are shared with other transmitters. | A single antenna (Main) is used for LTE and other wireless modes (W-CDMA/CDMA) for both transmit and receive. | | | | | | |

| # | Description | Information | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|--|---|------------|---|--------|--------|----------|--|--|----------|---------|---------|-------|--------|--------|--------|------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|
| D | Identify the voice and data transmission requirements for all LTE operating modes and exposure conditions, for standalone and simultaneous transmission, with respect to the required head and body test configurations, antenna locations, handset flip or slide cover positions, antenna diversity requirements, etc. | <p>Data Only Device Exposure Conditions:</p> <ul style="list-style-type: none"> ▪ Proximity Sensor disabled (Full Power) <ul style="list-style-type: none"> ○ Edge 1, Edge 3 and Edge 4 of the host device at 0 mm from the phantom, and Edge2 of the host device at 23mm and Bottom side of the host device at 18mm from the phantom • Proximity Sensor enabled (Reduced Power) <ul style="list-style-type: none"> ○ Edge2 and Bottom side of the DUT at 0 mm from the phantom | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | <p>Identify if Maximum Power Reduction (MPR) is implemented as an optional or permanent feature, i.e., built-in by design:</p> <p>15.11 MPR may be considered during SAR testing only when the maximum output power is permanently limited by the MPR implemented within the device, according to the RB (resource block) configurations specified in 3GPP/LTE standards.</p> <p>15.12 Regardless of network requirements, only those RB configurations allowed (see 3GPP standards) for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.</p> <p>15.13 A-MPR (additional MPR) must be disabled during SAR testing.</p> | <p>As per 3GPP TS 36.101 v11.0.0 (2012-03)</p> <p>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3</p> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>QPSK</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>≤ 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>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> </tbody> </table> <p>MPR is supported by design and is mandatory. A-MPR is supported by design, but is disabled for SAR testing. A-MPR is disabled, by using Network Setting value of NS_01.</p> | 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 |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | When power reduction is required for one or more LTE modes to satisfy SAR compliance for simultaneous transmission or other equipment certification and operating requirements, maximum average conducted output power measurement results for each power reduction mode applicable to the simultaneous voice/data transmission configurations for such wireless configurations and frequency bands are required. | <p>Yes. A proximity sensor for WWAN power reduction is implemented in the device to address RF exposure compliance when the cellular antenna is positioned close to the user's body or other objects.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

7.5. Proximity Sensor

The proximity sensor is intended to reduce the WWAN output power when Bottom side and edge 2 are brought close to the user.

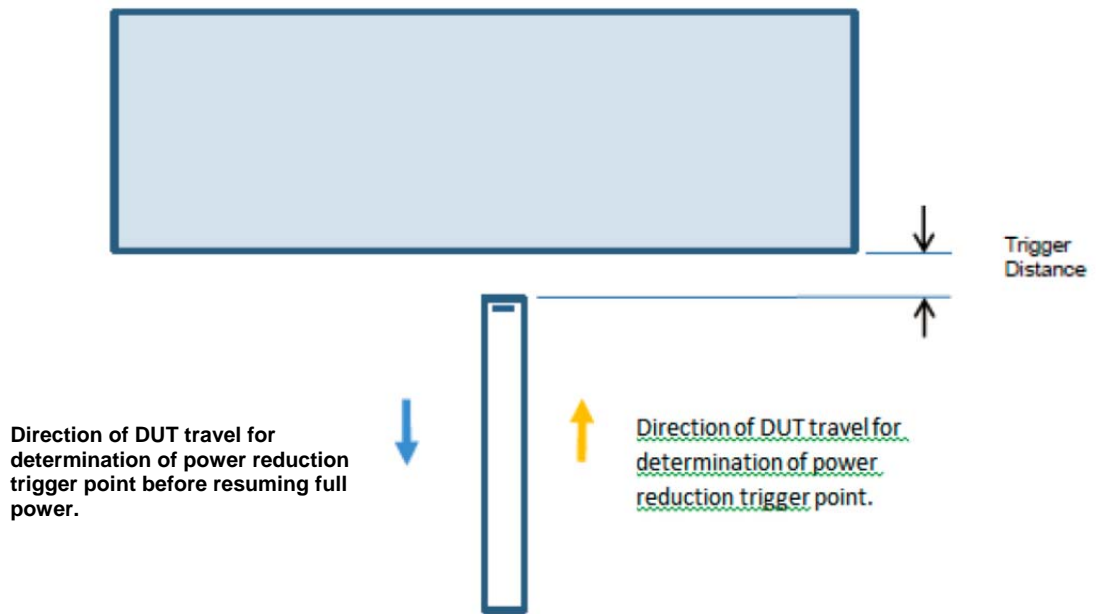
The default power level for sensor failure and malfunctioning, FZ-M1 comes up in low power mode and remain in low power mode until the proximity sensor has toggled from a proximity detected to proximity not-detected state.

Proximity sensor triggering distances were verified for Bottom side and edge 2. SAR testing of edge 1 was performed at full power.

Please refer to 17. Antenna Dimensions & Separation Distances about proximity sensor and WWAN Main antenna locations and dimensions.

7.6. Proximity Sensor Triggering distance (KDB 616217 §6.2)

Edge 2 of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.

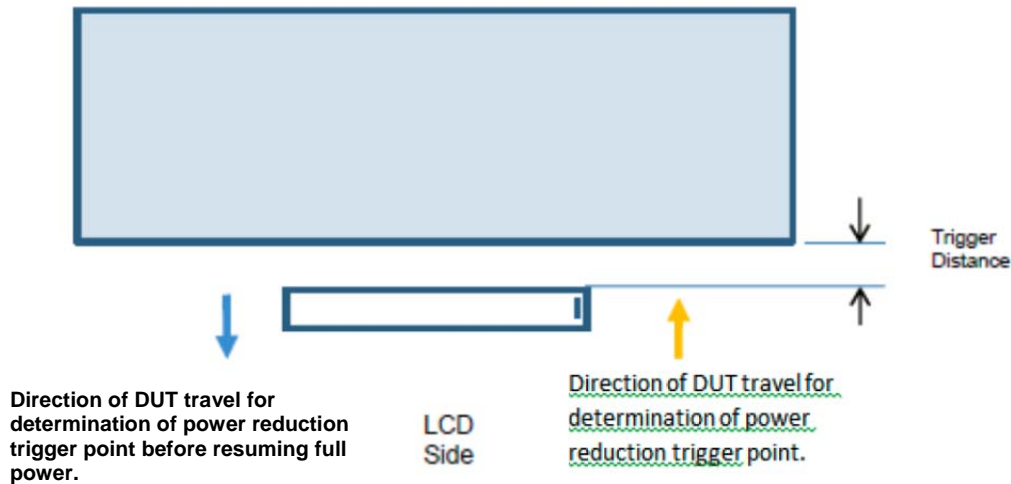


Proximity sensor trigger distance assessment (Edge 2) KDB 616217 §6.2

Summary of triggering distances

| Tissue simulating liquid | Trigger distance - Edge 2 | |
|--------------------------|---------------------------|---------------------|
| | Moving toward phantom | Moving from phantom |
| 750 muscle | 24mm | 29mm |
| 850 muscle | 26mm | 31mm |
| 1750/ 1900 muscle | 26mm | 32mm |

Bottom side of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.



Proximity sensor trigger distance assessment (Bottom side) KDB 616217 §6.2

Summary of triggering distances.

| Tissue simulating liquid | Trigger distance – Bottom side | |
|--------------------------|--------------------------------|---------------------|
| | Moving toward phantom | Moving from phantom |
| 750 muscle | 19mm | 26mm |
| 850 muscle | 24mm | 30mm |
| 1750/ 1900 muscle | 24mm | 31mm |

Please refer to “15.31 Triggering distances and power levels” about the trigger distance for resuming full power.

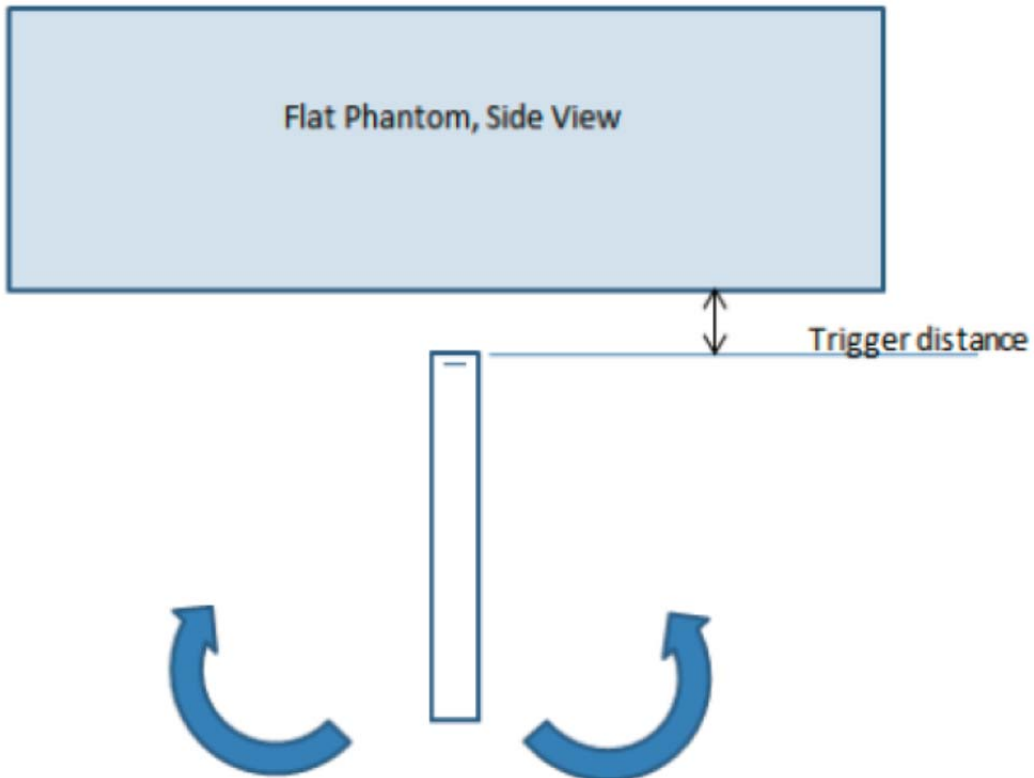
7.7. Proximity Sensor Coverage (KDB 616217 SS6.3)

As there is no spatial offset between the antenna and the proximity element, except on the display side of the antenna, proximity sensor coverage did not need to be assessed.

7.8. Proximity Sensor Tilt Angle (KDB 616217 §6.3)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with edge 2 parallel to the base of the flat phantom. The DUT was rotated in both directions about edge 2.

The proximity sensor remained triggered with the DUT positioned at the minimum measured trigger distance from the phantom for all angles up to 45°.



8. Exposure Conditions

Refer to Section 17 “Antenna Dimensions and Separation Distances” for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

8.1. Test Configurations for the WWAN Main Antenna, WWAN Modes

Tablet Mode

| Test Configurations | Antenna-to-edge/surface | SAR Required | Note |
|---------------------|-------------------------|--------------|--|
| Bottom side | 3.9mm | Yes | A proximity sensor is incorporated at this side that, when triggered, will reduce the transmit power of the WWAN transmitter. As such, two separate sets of evaluations are required for this test position: The test device operating at reduced power level and contact with the phantom. The test device operating at full power level and away 18mm from the phantom. 18mm is 1 mm less than the closest distance to which the test device can transmit at reduced power. |
| Front | - | No | SAR is not required as this is not a typical use scenario. |
| Edge 1 | 11.8mm | Yes | |
| Edge 2 | 1.8mm | Yes | A proximity sensor is incorporated at this side that, when triggered, will reduce the transmit power of the WWAN transmitter. As such, two separate sets of evaluations are required for this test position: The test device operating at reduced power level and contact with the phantom. The test device operating at full power level and away 23 mm from the phantom. 23mm is 1 mm less than the closest distance to which the test device can transmit at reduced power. |
| Edge 3 | 46.6mm | Yes | |
| Edge 4 | 190.5mm | No | Refer to section 12.1 for SAR exclusion justification. |

LEGEND:

- Bottom side = Rear of display(Tablet mode)
- Bottom side(Convertible mode) = Rear of display (Convertible mode)
- Edge 1 = Top Edge(Tablet mode)
- Edge 2 = Left Edge(Tablet mode)
- Edge 3 = Bottom Edge(Tablet mode)
- Edge 4 = Right Edge(Tablet mode)

8.2. Test Configurations for WLAN

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 11018650H-A, submitted under FCC ID ACJ9TGWL15B.

9. RF Output Power Measurement

As this device implements proximity sensor-triggered power reduction for SAR compliance, conducted output power was measured for the two different operating power levels. The following serves to clarify and establish the relation between power level and proximity sensor status:

- Full Power = Proximity Sensor Off
- Reduced Power = Proximity Sensor On

Each operating power level has its own set of target power and tune-up limit, and the scaling of SAR values is applied according to the corresponding target for the given operating power level

9.1. W-CDMA Band V

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|-----------------------------|-------|------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| | | | | WCDMA | BAND5 | |
| UTMS 3GPP HSDPA Rel 5 | BAND5 | 4132 | 826.4 | 22 | 19.5 | |
| | | 4182 | 836.4 | | | |
| | | 4233 | 846.6 | | | |
| UTMS 3GPP HSUPA Rel 6 | BAND5 | 4132 | 826.4 | 22.5 | 19.5 | |
| | | 4182 | 836.4 | | | |
| | | 4233 | 846.6 | | | |

Release 99

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 1 |
| | Rel99 RMC | 12.2kbps RMC |
| | Power Control Algorithm | Algorithm2 |
| | β_c/β_d | 8/15 |

Release 99 RMC Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr (dBm) | |
|----------------------------|-------------------------------|-----------|----------------|------------------|------------------|
| | | | | Full Power | Reduced Power |
| W-CDMA (UMTS) Band V | Rel 99 (RMC, 12.2 kbps) | 4132 | 826.4 | 22.69 | 20.31 |
| | | 4183 | 836.6 | 22.83 | 20.26 |
| | | 4233 | 846.6 | 22.72 | 20.15 |

HSDPA

The following 4 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 | 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-Set1 | | | |
| | Power Control Algorithm | Algorithm 2 | | | |
| | β_c | 2/15 | 12/15 | 15/15 | 15/15 |
| | β_d | 15/15 | 15/15 | 8/15 | 4/15 |
| | Bd (SF) | 64 | | | |
| | β_c/β_d | 2/15 | 12/15 | 15/8 | 15/4 |
| | β_{hs} | 4/15 | 24/15 | 30/15 | 30/15 |
| CM (dB) | 0 | 0 | 0.5 | 0.5 | |
| HSDPA Specific Settings | 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 | | | |

HSDPA Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr | |
|-------------------------|-----------|-----------|-------------|------------|---------------|
| | | | | Full Power | Reduced Power |
| W-CDMA (UMTS) Band V | Subtest 1 | 4132 | 826.4 | 22.01 | 19.97 |
| | | 4183 | 836.6 | 22.10 | 19.91 |
| | | 4233 | 846.6 | 21.99 | 19.88 |
| | Subtest 2 | 4132 | 826.4 | 21.96 | 20.01 |
| | | 4183 | 836.6 | 22.02 | 20.01 |
| | | 4233 | 846.6 | 21.94 | 19.91 |
| | Subtest 3 | 4132 | 826.4 | 21.34 | 19.54 |
| | | 4183 | 836.6 | 21.63 | 19.52 |
| | | 4233 | 846.6 | 21.46 | 19.48 |
| | Subtest 4 | 4132 | 826.4 | 21.48 | 19.47 |
| | | 4183 | 836.6 | 21.55 | 19.41 |
| | | 4233 | 846.6 | 21.49 | 19.39 |

Note(s):

HSPA (HSDPA & HSUPA)

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 | HSPA | HSPA | HSPA | HSPA |
|-------------------------------|--------------------------------------|--|-------|---|-------|--|
| | Subtest | 1 | 2 | 3 | 4 | 5 |
| WCDMA General Settings | Loopback Mode | Test Mode 1 | | | | |
| | Rel99 RMC | 12.2kbps RMC | | | | |
| | HSDPA FRC | H-Set1 | | | | |
| | HSUPA Test | HSUPA Loopback | | | | |
| | Power Control Algorithm | Algorithm2 | | | | |
| | β_c | 11/15 | 6/15 | 15/15 | 2/15 | 15/15 |
| | β_d | 15/15 | 15/15 | 9/15 | 15/15 | 15/15 |
| | β_{ec} | 209/225 | 12/15 | 30/15 | 2/15 | 24/15 |
| | β_c/β_d | 11/15 | 6/15 | 15/9 | 2/15 | 15/15 |
| | β_{hs} | 22/15 | 12/15 | 30/15 | 4/15 | 30/15 |
| | β_{ed} | 1309/225 | 94/75 | 47/15 47/15 | 56/75 | 134/15 |
| | CM (dB) | 1.0 | 3.0 | 2.0 | 3.0 | 1.0 |
| MPR (dB) | 0 | 2 | 1 | 2 | 0 | |
| HSDPA Specific Settings | DACK | 8 | | | | |
| | DNAK | 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 | | | | |
| HSUPA Specific Settings | D E-DPCCH | 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 | E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27 | | E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18 | | E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27 |

HSUPA Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr | |
|---------------------|-----------|-----------|-------------|------------|---------------|
| | | | | Full Power | Reduced Power |
| WCDMA (UMTS) Band V | Subtest 1 | 4132 | 826.4 | 21.95 | 19.81 |
| | | 4183 | 836.6 | 21.85 | 19.86 |
| | | 4233 | 846.6 | 22.33 | 19.50 |
| | Subtest 2 | 4132 | 826.4 | 20.62 | 18.48 |
| | | 4183 | 836.6 | 20.69 | 18.34 |
| | | 4233 | 846.6 | 20.62 | 18.44 |
| | Subtest 3 | 4132 | 826.4 | 21.15 | 19.18 |
| | | 4183 | 836.6 | 21.08 | 19.08 |
| | | 4233 | 846.6 | 21.04 | 19.22 |
| | Subtest 4 | 4132 | 826.4 | 20.98 | 18.28 |
| | | 4183 | 836.6 | 20.76 | 18.34 |
| | | 4233 | 846.6 | 20.68 | 18.48 |
| | Subtest 5 | 4132 | 826.4 | 22.29 | 20.30 |
| | | 4183 | 836.6 | 22.36 | 20.25 |
| | | 4233 | 846.6 | 22.19 | 20.06 |

Note(s):

9.2. W-CDMA Band IV

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] | |
|-----------------------------|-------|------|----------------|------------------------|-----------------------|-------------------|------|
| | | | | w/o Power Reduction | w/ Power Reduction | | |
| WCDMA | BAND4 | 1312 | 1712.4 | 23.0 | 15 | +/-1 | |
| | | 1413 | 1732.6 | | | | |
| | | 1513 | 1752.6 | | | | |
| UTMS 3GPP HSDPA Rel 5 | BAND4 | 4132 | 826.4 | 22 | 13.7 | | +/-1 |
| | | 4182 | 836.4 | | | | |
| | | 4233 | 846.6 | | | | |
| UTMS 3GPP HSUPA Rel 6 | BAND4 | 4132 | 826.4 | 22.5 | 14.4 | +/-1.5 | |
| | | 4182 | 836.4 | | | | |
| | | 4233 | 846.6 | | | | |

Release 99

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 1 |
| | Rel99 RMC | 12.2kbps RMC |
| | Power Control Algorithm | Algorithm2 |
| | β_c/β_d | 8/15 |

Release 99 RMC Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr (dBm) | |
|-----------------------------|-------------------------------|-----------|----------------|------------------|------------------|
| | | | | Full Power | Reduced Power |
| W-CDMA (UMTS) Band IV | Rel 99 (RMC, 12.2 kbps) | 1312 | 1712.4 | 22.86 | 15.55 |
| | | 1413 | 1732.6 | 22.82 | 15.59 |
| | | 1513 | 1752.6 | 22.80 | 15.46 |

HSDPA

The following 4 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 | 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-Set1 | | | |
| | Power Control Algorithm | Algorithm 2 | | | |
| | β_c | 2/15 | 12/15 | 15/15 | 15/15 |
| | β_d | 15/15 | 15/15 | 8/15 | 4/15 |
| | Bd (SF) | 64 | | | |
| | β_c/β_d | 2/15 | 12/15 | 15/8 | 15/4 |
| | β_{hs} | 4/15 | 24/15 | 30/15 | 30/15 |
| CM (dB) | 0 | 0 | 0.5 | 0.5 | |
| HSDPA Specific Settings | 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 | | | |

HSDPA Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr | |
|-----------------------------|-----------|-----------|-------------|------------|---------------|
| | | | | Full Power | Reduced Power |
| W-CDMA (UMTS) Band IV | Subtest 1 | 1312 | 1712.4 | 22.22 | 14.46 |
| | | 1413 | 1732.6 | 22.18 | 13.32 |
| | | 1513 | 1752.6 | 22.25 | 13.01 |
| | Subtest 2 | 1312 | 1712.4 | 22.16 | 14.63 |
| | | 1413 | 1732.6 | 22.39 | 13.29 |
| | | 1513 | 1752.6 | 22.21 | 13.03 |
| | Subtest 3 | 1312 | 1712.4 | 21.78 | 14.17 |
| | | 1413 | 1732.6 | 21.77 | 12.93 |
| | | 1513 | 1752.6 | 21.63 | 12.70 |
| | Subtest 4 | 1312 | 1712.4 | 21.65 | 14.19 |
| | | 1413 | 1732.6 | 21.81 | 12.87 |
| | | 1513 | 1752.6 | 21.56 | 12.72 |

Note(s):

HSPA (HSDPA & HSUPA)

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 | HSPA | HSPA | HSPA | HSPA |
|-------------------------------|--------------------------------------|--|-------|---|-------|--|
| | Subtest | 1 | 2 | 3 | 4 | 5 |
| WCDMA General Settings | Loopback Mode | Test Mode 1 | | | | |
| | Rel99 RMC | 12.2kbps RMC | | | | |
| | HSDPA FRC | H-Set1 | | | | |
| | HSUPA Test | HSUPA Loopback | | | | |
| | Power Control Algorithm | Algorithm2 | | | | |
| | β_c | 11/15 | 6/15 | 15/15 | 2/15 | 15/15 |
| | β_d | 15/15 | 15/15 | 9/15 | 15/15 | 15/15 |
| | β_{ec} | 209/225 | 12/15 | 30/15 | 2/15 | 24/15 |
| | β_c/β_d | 11/15 | 6/15 | 15/9 | 2/15 | 15/15 |
| | β_{hs} | 22/15 | 12/15 | 30/15 | 4/15 | 30/15 |
| | β_{ed} | 1309/225 | 94/75 | 47/15 47/15 | 56/75 | 134/15 |
| | CM (dB) | 1.0 | 3.0 | 2.0 | 3.0 | 1.0 |
| MPR (dB) | 0 | 2 | 1 | 2 | 0 | |
| HSDPA Specific Settings | DACK | 8 | | | | |
| | DNAK | 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 | | | | |
| HSUPA Specific Settings | D E-DPCCH | 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 | E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27 | | E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18 | | E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27 |

HSUPA Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr | |
|----------------------|-----------|-----------|-------------|------------|---------------|
| | | | | Full Power | Reduced Power |
| WCDMA (UMTS) Band IV | Subtest 1 | 1312 | 1712.4 | 22.41 | 13.43 |
| | | 1413 | 1732.6 | 22.33 | 13.88 |
| | | 1513 | 1752.6 | 22.36 | 12.96 |
| | Subtest 2 | 1312 | 1712.4 | 20.64 | 13.44 |
| | | 1413 | 1732.6 | 20.65 | 13.64 |
| | | 1513 | 1752.6 | 20.31 | 11.91 |
| | Subtest 3 | 1312 | 1712.4 | 20.81 | 13.92 |
| | | 1413 | 1732.6 | 20.98 | 13.71 |
| | | 1513 | 1752.6 | 20.70 | 12.95 |
| | Subtest 4 | 1312 | 1712.4 | 20.44 | 13.21 |
| | | 1413 | 1732.6 | 20.80 | 13.80 |
| | | 1513 | 1752.6 | 20.50 | 13.30 |
| | Subtest 5 | 1312 | 1712.4 | 22.72 | 14.61 |
| | | 1413 | 1732.6 | 22.59 | 13.67 |
| | | 1513 | 1752.6 | 22.46 | 13.16 |

Note(s):

9.3. W-CDMA Band II

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|-----------------------------|-------|------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| WCDMA | BAND2 | 9262 | 1852.4 | 23.0 | 13.6 | +/-1 |
| | | 9400 | 1880 | | | |
| | | 9538 | 1907.6 | | | |
| UTMS 3GPP HSDPA Rel 5 | BAND2 | 9262 | 1852.4 | 22 | 13.6 | |
| | | 9400 | 1880 | | | |
| | | 9538 | 1907.6 | | | |
| UTMS 3GPP HSUPA Rel 6 | BAND2 | 9262 | 1852.4 | 22 | 13.6 | |
| | | 9400 | 1880 | | | |
| | | 9538 | 1907.6 | | | |

Release 99

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 1 |
| | Rel99 RMC | 12.2kbps RMC |
| | Power Control Algorithm | Algorithm2 |
| | β_c/β_d | 8/15 |

Release 99 RMC Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr (dBm) | |
|-----------------------------|-------------------------------|-----------|----------------|------------------|------------------|
| | | | | Full Power | Reduced Power |
| W-CDMA (UMTS) Band II | Rel 99 (RMC, 12.2 kbps) | 9262 | 1852.4 | 22.92 | 14.56 |
| | | 9400 | 1880.0 | 22.94 | 14.39 |
| | | 9538 | 1907.6 | 23.00 | 14.51 |

HSDPA

The following 4 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 | 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-Set1 | | | |
| | Power Control Algorithm | | | |
| | Algorithm 2 | | | |
| β_c | 2/15 | 12/15 | 15/15 | 15/15 |
| β_d | 15/15 | 15/15 | 8/15 | 4/15 |
| Bd (SF) | 64 | | | |
| β_c/β_d | 2/15 | 12/15 | 15/8 | 15/4 |
| β_{hs} | 4/15 | 24/15 | 30/15 | 30/15 |
| CM (dB) | 0 | 0 | 0.5 | 0.5 |
| HSDPA Specific Settings | 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 | | | | |

HSDPA Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr | |
|-----------------------------|-----------|-----------|-------------|------------|---------------|
| | | | | Full Power | Reduced Power |
| W-CDMA (UMTS) Band II | Subtest 1 | 9262 | 1852.4 | 22.32 | 14.41 |
| | | 9400 | 1880.0 | 22.36 | 14.19 |
| | | 9538 | 1907.6 | 22.45 | 14.42 |
| | Subtest 2 | 9262 | 1852.4 | 22.39 | 14.33 |
| | | 9400 | 1880.0 | 22.24 | 14.29 |
| | | 9538 | 1907.6 | 22.46 | 14.37 |
| | Subtest 3 | 9262 | 1852.4 | 21.84 | 13.97 |
| | | 9400 | 1880.0 | 21.87 | 13.73 |
| | | 9538 | 1907.6 | 22.02 | 13.66 |
| | Subtest 4 | 9262 | 1852.4 | 21.80 | 14.06 |
| | | 9400 | 1880.0 | 21.82 | 13.90 |
| | | 9538 | 1907.6 | 21.92 | 13.69 |

Note(s):

HSPA (HSDPA & HSUPA)

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 | HSPA | HSPA | HSPA | HSPA |
|-------------------------------|--------------------------------------|--|-------|---|-------|--|
| | Subtest | 1 | 2 | 3 | 4 | 5 |
| WCDMA General Settings | Loopback Mode | Test Mode 1 | | | | |
| | Rel99 RMC | 12.2kbps RMC | | | | |
| | HSDPA FRC | H-Set1 | | | | |
| | HSUPA Test | HSUPA Loopback | | | | |
| | Power Control Algorithm | Algorithm2 | | | | |
| | β_c | 11/15 | 6/15 | 15/15 | 2/15 | 15/15 |
| | β_d | 15/15 | 15/15 | 9/15 | 15/15 | 15/15 |
| | β_{ec} | 209/225 | 12/15 | 30/15 | 2/15 | 24/15 |
| | β_c/β_d | 11/15 | 6/15 | 15/9 | 2/15 | 15/15 |
| | β_{hs} | 22/15 | 12/15 | 30/15 | 4/15 | 30/15 |
| | β_{ed} | 1309/225 | 94/75 | 47/15 47/15 | 56/75 | 134/15 |
| | CM (dB) | 1.0 | 3.0 | 2.0 | 3.0 | 1.0 |
| MPR (dB) | 0 | 2 | 1 | 2 | 0 | |
| HSDPA Specific Settings | DACK | 8 | | | | |
| | DNAK | 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 | | | | |
| HSUPA Specific Settings | D E-DPCCH | 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 | E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27 | | E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18 | | E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27 |

HSUPA Output Power Measurement Results

| Band | Mode | UL Ch No. | Freq. (MHz) | Avg Pwr | |
|----------------------|-----------|-----------|-------------|------------|---------------|
| | | | | Full Power | Reduced Power |
| WCDMA (UMTS) Band II | Subtest 1 | 9262 | 1852.4 | 22.23 | 14.22 |
| | | 9400 | 1880.0 | 22.35 | 14.22 |
| | | 9538 | 1907.6 | 22.54 | 13.84 |
| | Subtest 2 | 9262 | 1852.4 | 20.83 | 12.56 |
| | | 9400 | 1880.0 | 20.95 | 12.58 |
| | | 9538 | 1907.6 | 20.97 | 12.59 |
| | Subtest 3 | 9262 | 1852.4 | 21.10 | 13.12 |
| | | 9400 | 1880.0 | 21.17 | 12.86 |
| | | 9538 | 1907.6 | 21.05 | 13.01 |
| | Subtest 4 | 9262 | 1852.4 | 20.82 | 12.58 |
| | | 9400 | 1880.0 | 20.85 | 12.47 |
| | | 9538 | 1907.6 | 20.81 | 12.55 |
| | Subtest 5 | 9262 | 1852.4 | 22.63 | 14.51 |
| | | 9400 | 1880.0 | 22.45 | 14.24 |
| | | 9538 | 1907.6 | 22.50 | 14.00 |

Note(s):

9.4. CDMA BC0

| 1XRTT | | | | | | |
|------------------------|----------|------|----------------|---------------------|--------------------|----------------|
| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
| | | | | w/o Power Reduction | w/ Power Reduction | |
| CDMA 2000 SO32,RC3 | Cellular | 1013 | 824.7 | 24.0 | 20.2 | +/-1 |
| | BC0 | 384 | 836.52 | | | |
| | | 777 | 848.31 | | | |
| EVDO | | | | | | |
| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
| | | | | w/o Power Reduction | w/ Power Reduction | |
| CDMA2000 EVDO Rev.0 | Cellular | 1013 | 824.7 | 24.0 | 20.2 | +/-1 |
| | BC0 | 384 | 836.52 | | | |
| | | 777 | 848.31 | | | |

1xRTT Output Power Measurement Results

| CDMA | | | Avg Pwr (dBm) | | | | | |
|------|------|-------------|---------------|---------------|------------|---------------|------------|---------------|
| Band | Ch | Freq. (MHz) | RC1 - SO55 | | RC3 - SO55 | | RC3 - SO32 | |
| | | | (Loopback) | | (Loopback) | | (+F-SCH) | |
| | | | Full Power | Reduced Power | Full Power | Reduced Power | Full Power | Reduced Power |
| BC 0 | 1013 | 824.70 | 23.6 | 20.8 | 23.5 | 20.8 | 23.5 | 20.8 |
| | 384 | 836.52 | 23.6 | 20.6 | 23.6 | 20.7 | 23.6 | 20.7 |
| | 777 | 848.31 | 23.4 | 20.6 | 23.4 | 20.6 | 23.3 | 20.6 |

1xEV-DO Rel. 0 Output Power Measurement Results

| Band | FTAP Rate | RTAP Rate | Channel | f (MHz) | Avg Pwr (dBm) | |
|------|------------------------|------------|---------|---------|---------------|---------------|
| | | | | | Full Power | Reduced Power |
| BC 0 | 307.2 kbps (2 slot, | 153.6 kbps | 1013 | 824.70 | 23.6 | 20.6 |
| | | | 384 | 836.52 | 23.7 | 20.8 |
| | | | 777 | 848.31 | 23.4 | 20.5 |

9.5. CDMA BC1

| 1XRTT | | | | | | |
|------------------------|------|------|----------------|---------------------|--------------------|-------------------|
| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
| | | | | w/o Power Reduction | w/ Power Reduction | |
| CDMA 2000 SO32,RC3 | PCS | 25 | 1851.25 | 24.0 | 15.0 | +/-1 |
| | BC1 | 600 | 1880 | | | |
| | | 1175 | 1908.75 | | | |
| EVDO | | | | | | |
| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
| | | | | w/o Power Reduction | w/ Power Reduction | |
| CDMA2000 EVDO Rev.0 | PCS | 25 | 1851.25 | 24.0 | 15.0 | +/-1 |
| | BC1 | 600 | 1880 | | | |
| | | 1175 | 1908.75 | | | |

1xRTT Output Power Measurement Results

| CDMA | | | Avg Pwr (dBm) | | | | | |
|------|------|----------------|---------------|---------------|------------|---------------|------------|---------------|
| Band | Ch | Freq. (MHz) | RC1 - SO55 | | RC3 - SO55 | | RC3 - SO32 | |
| | | | (Loopback) | | (Loopback) | | (+F-SCH) | |
| | | | Full Power | Reduced Power | Full Power | Reduced Power | Full Power | Reduced Power |
| BC 1 | 25 | 1851.25 | 23.7 | 15.4 | 23.8 | 15.3 | 23.8 | 15.3 |
| | 600 | 1880 | 23.8 | 15.4 | 23.8 | 15.4 | 23.8 | 15.3 |
| | 1175 | 1908.75 | 23.9 | 15.0 | 23.9 | 15.2 | 23.9 | 15.1 |

1xEV-DO Rel. 0 Output Power Measurement Results

| Band | FTAP Rate | RTAP Rate | Channel | f (MHz) | Avg Pwr (dBm) | |
|------|------------------------|------------|---------|---------|---------------|---------------|
| | | | | | Full Power | Reduced Power |
| BC 1 | 307.2 kbps (2 slot, | 153.6 kbps | 25 | 1851.25 | 23.6 | 15.2 |
| | | | 600 | 1880 | 23.6 | 15.1 |
| | | | 1175 | 1908.75 | 23.7 | 14.9 |

9.6. CDMA BC10

| 1XRTT | | | | | | |
|------------------------|-----------|-----|----------------|---------------------|--------------------|-------------------|
| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
| | | | | w/o Power Reduction | w/ Power Reduction | |
| CDMA 2000 SO32,RC3 | Secondary | 450 | 817.25 | 24.0 | 20.8 | +/-1 |
| | 800 | 560 | 820 | | | |
| | BC10 | 670 | 822.75 | | | |
| EVDO | | | | | | |
| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
| | | | | w/o Power Reduction | w/ Power Reduction | |
| CDMA2000 EVDO Rev.0 | Secondary | 450 | 817.25 | 24.0 | 20.8 | +/-1 |
| | 800 | 560 | 820 | | | |
| | BC10 | 670 | 822.75 | | | |

1xRTT Output Power Measurement Results

| CDMA | | | Avg Pwr (dBm) | | | | | |
|-------|-----|----------------|---------------|---------------|------------|---------------|------------|---------------|
| Band | Ch | Freq. (MHz) | RC1 - SO55 | | RC3 - SO55 | | RC3 - SO32 | |
| | | | (Loopback) | | (Loopback) | | (+F-SCH) | |
| | | | Full Power | Reduced Power | Full Power | Reduced Power | Full Power | Reduced Power |
| BC 10 | 450 | 817.25 | 23.8 | 21.1 | 23.5 | 21.1 | 23.6 | 21.2 |
| | 560 | 820 | 23.6 | 21.1 | 23.5 | 21.1 | 23.5 | 21.2 |
| | 670 | 822.75 | 23.6 | 21.2 | 23.6 | 21.2 | 23.6 | 21.2 |

1xEV-DO Rel. 0 Output Power Measurement Results

| Band | FTAP Rate | RTAP Rate | Channel | f (MHz) | Avg Pwr (dBm) | |
|-------|------------------------|------------|---------|---------|---------------|---------------|
| | | | | | Full Power | Reduced Power |
| BC 10 | 307.2 kbps (2 slot, | 153.6 kbps | 450 | 817.25 | 23.6 | 21.1 |
| | | | 560 | 820.0 | 23.6 | 21.3 |
| | | | 670 | 822.75 | 23.7 | 21.2 |

9.7. LTE Band 2

Target Power for LTE Band 2, QPSK and 16QAM modulations in all bandwidth

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|------|-------|-------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| LTE | BAND2 | 18700 | 1860 | 23.0 | 14.6 | +/-1 |
| | | 18900 | 1880 | | | |
| | | 19100 | 1900 | | | |
| | | | | | | |
| | | | | | | |

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 |
| 16 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 | 13 | 10 | Table 6.2.4-2 | Table 6.2.4-2 |
| | 6.6.3.3.2 | | | | |
| NS_08 | 6.6.3.3.3 | 19 | 10, 15 | > 44 | ≤ 3 |
| | | | | > 40 | ≤ 1 |
| | | | | > 55 | ≤ 2 |
| NS_09 | 6.6.3.3.4 | 21 | 10, 15 | | |
| NS_10 | | 20 | 15, 20 | Table 6.2.4-3 | Table 6.2.4-3 |
| NS_11 | 6.6.2.2.1 | 23 ¹ | 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, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 20 | 18700 | 1860 | QPSK | 1 | 0 | 0 | 0 | 23.03 |
| | | | | 1 | 49 | 0 | 0 | 23.08 |
| | | | | 1 | 99 | 0 | 0 | 22.81 |
| | | | | 50 | 0 | 1 | 1 | 21.76 |
| | | | | 50 | 24 | 1 | 1 | 21.75 |
| | | | | 50 | 49 | 1 | 1 | 21.74 |
| | | | 100 | 0 | 1 | 1 | 21.81 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 22.09 |
| | | | | 1 | 49 | 1 | 1 | 22.20 |
| | | | | 1 | 99 | 1 | 1 | 21.91 |
| | | | | 50 | 0 | 2 | 2 | 20.90 |
| | | | | 50 | 24 | 2 | 2 | 20.76 |
| | 50 | 49 | | 2 | 2 | 20.67 | | |
| | 100 | 0 | 2 | 2 | 20.83 | | | |
| | 18900 | 1880 | QPSK | 1 | 0 | 0 | 0 | 22.78 |
| | | | | 1 | 49 | 0 | 0 | 22.94 |
| | | | | 1 | 99 | 0 | 0 | 22.75 |
| | | | | 50 | 0 | 1 | 1 | 21.65 |
| | | | | 50 | 24 | 1 | 1 | 21.77 |
| | | | | 50 | 49 | 1 | 1 | 21.71 |
| | | | 100 | 0 | 1 | 1 | 21.75 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.88 |
| | | | | 1 | 49 | 1 | 1 | 22.04 |
| | | | | 1 | 99 | 1 | 1 | 21.85 |
| | | | | 50 | 0 | 2 | 2 | 20.61 |
| | | | | 50 | 24 | 2 | 2 | 20.70 |
| | 50 | 49 | | 2 | 2 | 20.66 | | |
| | 100 | 0 | 2 | 2 | 20.73 | | | |
| | 19100 | 1900 | QPSK | 1 | 0 | 0 | 0 | 22.60 |
| | | | | 1 | 49 | 0 | 0 | 22.61 |
| 1 | | | | 99 | 0 | 0 | 22.74 | |
| 50 | | | | 0 | 1 | 1 | 21.48 | |
| 50 | | | | 24 | 1 | 1 | 21.48 | |
| 50 | | | | 49 | 1 | 1 | 21.52 | |
| 100 | | | 0 | 1 | 1 | 21.53 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.78 | |
| | | | 1 | 49 | 1 | 1 | 21.80 | |
| | | | 1 | 99 | 1 | 1 | 22.06 | |
| | | | 50 | 0 | 2 | 2 | 20.43 | |
| | | | 50 | 24 | 2 | 2 | 20.38 | |
| | 50 | 49 | 2 | 2 | 20.58 | | | |
| 100 | 0 | 2 | 2 | 20.49 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 20 | 18700 | 1860 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 15.15 |
| | | | | 1 | 49 | | 15.14 | |
| | | | | 1 | 99 | | 14.01 | |
| | | | | 50 | 0 | | 15.25 | |
| | | | | 50 | 24 | | 15.14 | |
| | | | | 50 | 49 | | 14.71 | |
| | | | 100 | 0 | 15.17 | | | |
| | | | 16QAM | 1 | 0 | | 15.05 | |
| | | | | 1 | 49 | | 15.56 | |
| | | | | 1 | 99 | | 14.42 | |
| | | | | 50 | 0 | | 14.91 | |
| | | | | 50 | 24 | | 14.80 | |
| | 50 | 49 | | 14.39 | | | | |
| | 18900 | 1880 | QPSK | 1 | 0 | | 14.37 | |
| | | | | 1 | 49 | | 14.80 | |
| | | | | 1 | 99 | | 15.10 | |
| | | | | 50 | 0 | | 14.90 | |
| | | | | 50 | 24 | | 15.06 | |
| | | | | 50 | 49 | | 15.41 | |
| | | | 100 | 0 | 15.00 | | | |
| | | | 16QAM | 1 | 0 | | 14.77 | |
| | | | | 1 | 49 | | 15.43 | |
| | | | | 1 | 99 | | 15.57 | |
| | | | | 50 | 0 | | 14.61 | |
| | | | | 50 | 24 | | 14.82 | |
| | 50 | 49 | | 15.14 | | | | |
| | 19100 | 1900 | QPSK | 100 | 0 | | 14.89 | |
| | | | | 1 | 0 | | 15.12 | |
| | | | | 1 | 49 | | 14.05 | |
| | | | | 1 | 99 | | 15.14 | |
| | | | | 50 | 0 | | 14.94 | |
| | | | | 50 | 24 | | 14.95 | |
| | | | 50 | 49 | 14.21 | | | |
| | | | 100 | 0 | 14.65 | | | |
| | | | 16QAM | 1 | 0 | | 15.55 | |
| | | | | 1 | 49 | | 14.53 | |
| 1 | | | | 99 | 15.53 | | | |
| 50 | | | | 0 | 14.73 | | | |
| 50 | 24 | 14.28 | | | | | | |
| 50 | 49 | 13.90 | | | | | | |
| 100 | 0 | 14.61 | | | | | | |

LTE Band 2, 15 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 15 | 18675 | 1857.5 | QPSK | 1 | 0 | 0 | 0 | 22.95 |
| | | | | 1 | 37 | 0 | 0 | 22.93 |
| | | | | 1 | 74 | 0 | 0 | 22.78 |
| | | | | 36 | 0 | 1 | 1 | 21.81 |
| | | | | 36 | 19 | 1 | 1 | 21.84 |
| | | | | 36 | 39 | 1 | 1 | 21.82 |
| | | | | 75 | 0 | 1 | 1 | 21.78 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.50 |
| | | | | 1 | 37 | 1 | 1 | 21.56 |
| | | | | 1 | 74 | 1 | 1 | 21.47 |
| | | | | 36 | 0 | 2 | 2 | 20.81 |
| | | | | 36 | 19 | 2 | 2 | 20.80 |
| | | | | 36 | 39 | 2 | 2 | 20.80 |
| | | | | 75 | 0 | 2 | 2 | 20.72 |
| | 18900 | 1880 | QPSK | 1 | 0 | 0 | 0 | 22.76 |
| | | | | 1 | 37 | 0 | 0 | 22.83 |
| | | | | 1 | 74 | 0 | 0 | 22.61 |
| | | | | 36 | 0 | 1 | 1 | 21.69 |
| | | | | 36 | 19 | 1 | 1 | 21.76 |
| | | | | 36 | 39 | 1 | 1 | 21.69 |
| | | | | 75 | 0 | 1 | 1 | 21.65 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.37 |
| | | | | 1 | 37 | 1 | 1 | 21.49 |
| | | | | 1 | 74 | 1 | 2 | 21.31 |
| | | | | 36 | 0 | 2 | 2 | 20.73 |
| | | | | 36 | 19 | 2 | 2 | 20.71 |
| | | | | 36 | 39 | 2 | 2 | 20.68 |
| | | | | 75 | 0 | 2 | 2 | 20.61 |
| | 19125 | 1902.5 | QPSK | 1 | 0 | 0 | 0 | 22.63 |
| | | | | 1 | 37 | 0 | 0 | 22.72 |
| 1 | | | | 74 | 0 | 0 | 22.85 | |
| 36 | | | | 0 | 1 | 1 | 21.56 | |
| 36 | | | | 19 | 1 | 1 | 21.67 | |
| 36 | | | | 39 | 1 | 1 | 21.69 | |
| 75 | | | | 0 | 1 | 1 | 21.48 | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.41 | |
| | | | 1 | 37 | 1 | 1 | 21.36 | |
| | | | 1 | 74 | 1 | 1 | 21.50 | |
| | | | 36 | 0 | 2 | 2 | 20.56 | |
| | | | 36 | 19 | 2 | 2 | 20.66 | |
| | | | 36 | 39 | 2 | 2 | 20.73 | |
| | | | 75 | 0 | 2 | 2 | 20.43 | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 15 | 18675 | 1857.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.12 |
| | | | | 1 | 37 | | | 15.10 |
| | | | | 1 | 74 | | | 14.13 |
| | | | | 36 | 0 | | | 14.64 |
| | | | | 36 | 19 | | | 15.00 |
| | | | | 36 | 39 | | | 14.76 |
| | | | | 75 | 0 | | | 14.89 |
| | | | 16QAM | 1 | 0 | | | 14.11 |
| | | | | 1 | 37 | | | 14.77 |
| | | | | 1 | 74 | | | 13.87 |
| | | | | 36 | 0 | | | 14.68 |
| | | | | 36 | 19 | | | 14.62 |
| | | | | 36 | 39 | | | 14.38 |
| | | | | 75 | 0 | | | 14.49 |
| | 18900 | 1880 | QPSK | 1 | 0 | | | 14.39 |
| | | | | 1 | 37 | | | 15.04 |
| | | | | 1 | 74 | | | 15.49 |
| | | | | 36 | 0 | | | 14.79 |
| | | | | 36 | 19 | | | 15.04 |
| | | | | 36 | 39 | | | 15.30 |
| | | | | 75 | 0 | | | 15.13 |
| | | | 16QAM | 1 | 0 | | | 14.22 |
| | | | | 1 | 37 | | | 14.84 |
| | | | | 1 | 74 | | | 15.36 |
| | | | | 36 | 0 | | | 14.56 |
| | | | | 36 | 19 | | | 14.81 |
| | | | | 36 | 39 | | | 15.05 |
| | | | | 75 | 0 | | | 14.89 |
| | 19125 | 1902.5 | QPSK | 1 | 0 | | | 15.48 |
| | | | | 1 | 37 | | | 13.96 |
| 1 | | | | 74 | 15.49 | | | |
| 36 | | | | 0 | 14.76 | | | |
| 36 | | | | 19 | 14.35 | | | |
| 36 | | | | 39 | 14.89 | | | |
| 75 | | | | 0 | 14.63 | | | |
| 16QAM | | | 1 | 0 | 15.44 | | | |
| | | | 1 | 37 | 14.06 | | | |
| | | | 1 | 74 | 15.47 | | | |
| | | | 36 | 0 | 14.47 | | | |
| | | | 36 | 19 | 14.32 | | | |
| | | | 36 | 39 | 14.63 | | | |
| | | | 75 | 0 | 14.66 | | | |

LTE Band 2, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 10 | 18650 | 1855 | QPSK | 1 | 0 | 0 | 0 | 22.89 |
| | | | | 1 | 24 | 0 | 0 | 22.83 |
| | | | | 1 | 49 | 0 | 0 | 23.01 |
| | | | | 25 | 0 | 1 | 1 | 21.96 |
| | | | | 25 | 12 | 1 | 1 | 21.88 |
| | | | | 25 | 24 | 1 | 1 | 21.92 |
| | | | 50 | 0 | 1 | 1 | 21.87 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.52 |
| | | | | 1 | 24 | 1 | 1 | 21.54 |
| | | | | 1 | 49 | 1 | 1 | 21.62 |
| | | | | 25 | 0 | 2 | 2 | 21.00 |
| | | | | 25 | 12 | 2 | 2 | 20.93 |
| | | | | 25 | 24 | 2 | 2 | 20.87 |
| | | | 50 | 0 | 2 | 2 | 20.78 | |
| | | | 18900 | 1880 | QPSK | 1 | 0 | 0 |
| | 1 | 24 | | | | 0 | 0 | 22.82 |
| | 1 | 49 | | | | 0 | 0 | 22.73 |
| | 25 | 0 | | | | 1 | 1 | 21.85 |
| | 25 | 12 | | | | 1 | 1 | 21.88 |
| | 25 | 24 | | | | 1 | 1 | 21.87 |
| | 50 | 0 | | | 1 | 1 | 21.73 | |
| | 16QAM | 1 | | | 0 | 1 | 1 | 21.47 |
| | | 1 | | | 24 | 1 | 1 | 21.47 |
| | | 1 | | | 49 | 1 | 1 | 21.36 |
| | | 25 | | | 0 | 2 | 2 | 20.83 |
| | | 25 | | | 12 | 2 | 2 | 20.83 |
| | | 25 | | | 24 | 2 | 2 | 20.81 |
| | 50 | 0 | | | 2 | 2 | 20.64 | |
| | 19150 | 1905 | | | QPSK | 1 | 0 | 0 |
| | | | 1 | 24 | | 0 | 0 | 22.76 |
| 1 | | | 49 | 0 | | 0 | 22.93 | |
| 25 | | | 0 | 1 | | 1 | 21.71 | |
| 25 | | | 12 | 1 | | 1 | 21.73 | |
| 25 | | | 24 | 1 | | 1 | 21.74 | |
| 50 | | | 0 | 1 | 1 | 21.64 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.47 | |
| | | | 1 | 24 | 1 | 1 | 21.47 | |
| | | | 1 | 49 | 1 | 1 | 21.49 | |
| | | | 25 | 0 | 2 | 2 | 20.69 | |
| | | | 25 | 12 | 2 | 2 | 20.76 | |
| | | | 25 | 24 | 2 | 2 | 20.72 | |
| 50 | | | 0 | 2 | 2 | 20.59 | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) | | | |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|-------|-------|-------|
| 10 | 18650 | 1855 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.17 | | | |
| | | | | 1 | 24 | | | 14.77 | | | |
| | | | | 1 | 49 | | | 15.12 | | | |
| | | | | 25 | 0 | | | 14.70 | | | |
| | | | | 25 | 12 | | | 15.11 | | | |
| | | | | 25 | 24 | | | 15.27 | | | |
| | | | 50 | 0 | 15.12 | | | | | | |
| | | | 16QAM | 1 | 0 | | | 14.18 | | | |
| | | | | 1 | 24 | | | 14.50 | | | |
| | | | | 1 | 49 | | | 14.81 | | | |
| | | | | 25 | 0 | | | 14.67 | | | |
| | | | | 25 | 12 | | | 14.72 | | | |
| | 25 | 24 | | 14.86 | | | | | | | |
| | 18900 | 1880 | QPSK | 1 | 0 | | | 14.64 | | | |
| | | | | 1 | 24 | | | 14.64 | | | |
| | | | | 1 | 49 | | | 15.28 | | | |
| | | | | 25 | 0 | | | 14.84 | | | |
| | | | | 25 | 12 | | | 14.85 | | | |
| | | | | 25 | 24 | | | 15.07 | | | |
| | | | | 50 | 0 | | | 15.02 | | | |
| | | | | 16QAM | 1 | | | 0 | 14.49 | | |
| | | | | | 1 | | | 24 | 14.52 | | |
| | | | 1 | | 49 | | | 15.11 | | | |
| | | | 25 | | 0 | | | 14.58 | | | |
| | | | 25 | | 12 | | | 14.60 | | | |
| | | | 25 | | 24 | | | 14.82 | | | |
| | | | 50 | | 0 | | | 14.73 | | | |
| | | | 19150 | | 1905 | | | QPSK | 1 | 0 | 14.29 |
| | | | | | | | | | 1 | 24 | 14.31 |
| | | | | 1 | | | | | 49 | 15.59 | |
| 25 | | | | 0 | | 14.31 | | | | | |
| 25 | 12 | 14.56 | | | | | | | | | |
| 25 | 24 | 15.01 | | | | | | | | | |
| 50 | 0 | 14.82 | | | | | | | | | |
| 16QAM | 1 | 0 | | 14.10 | | | | | | | |
| | 1 | 24 | | 14.08 | | | | | | | |
| | 1 | 49 | 15.59 | | | | | | | | |
| | | | 25 | 0 | 14.08 | | | | | | |
| | | | 25 | 12 | 14.37 | | | | | | |
| | | | 25 | 24 | 14.83 | | | | | | |
| | | | 50 | 0 | 14.60 | | | | | | |

LTE Band 2, 5 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 5 | 18625 | 1852.5 | QPSK | 1 | 0 | 0 | 0 | 22.87 |
| | | | | 1 | 12 | 0 | 0 | 22.95 |
| | | | | 1 | 24 | 0 | 0 | 22.92 |
| | | | | 12 | 0 | 1 | 1 | 21.98 |
| | | | | 12 | 6 | 1 | 1 | 22.05 |
| | | | | 12 | 11 | 1 | 1 | 21.92 |
| | | | 25 | 0 | 1 | 1 | 21.91 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.48 |
| | | | | 1 | 12 | 1 | 1 | 21.57 |
| | | | | 1 | 24 | 1 | 1 | 21.55 |
| | | | | 12 | 0 | 2 | 2 | 20.95 |
| | | | | 12 | 6 | 2 | 2 | 20.98 |
| | | | | 12 | 11 | 2 | 2 | 20.95 |
| | | | 25 | 0 | 2 | 2 | 20.95 | |
| | | | 18900 | 1880 | QPSK | 1 | 0 | 0 |
| | 1 | 12 | | | | 0 | 0 | 22.82 |
| | 1 | 24 | | | | 0 | 0 | 22.86 |
| | 12 | 0 | | | | 1 | 1 | 21.90 |
| | 12 | 6 | | | | 1 | 1 | 21.91 |
| | 12 | 11 | | | | 1 | 1 | 21.91 |
| | 25 | 0 | | | 1 | 1 | 21.89 | |
| | 16QAM | 1 | | | 0 | 1 | 1 | 21.40 |
| | | 1 | | | 12 | 1 | 1 | 21.52 |
| | | 1 | | | 24 | 1 | 1 | 21.53 |
| | | 12 | | | 0 | 2 | 2 | 20.93 |
| | | 12 | | | 6 | 2 | 2 | 20.89 |
| | | 12 | | | 11 | 2 | 2 | 20.93 |
| | 25 | 0 | | | 2 | 2 | 20.89 | |
| | 19175 | 1907.5 | | | QPSK | 1 | 0 | 0 |
| | | | 1 | 12 | | 0 | 0 | 22.75 |
| 1 | | | 24 | 0 | | 0 | 22.90 | |
| 12 | | | 0 | 1 | | 1 | 21.83 | |
| 12 | | | 6 | 1 | | 1 | 21.90 | |
| 12 | | | 11 | 1 | | 1 | 21.93 | |
| 25 | | | 0 | 1 | 1 | 21.72 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.49 | |
| | | | 1 | 12 | 1 | 1 | 21.49 | |
| | | | 1 | 24 | 1 | 1 | 21.55 | |
| | | | 12 | 0 | 2 | 2 | 20.78 | |
| | | | 12 | 6 | 2 | 2 | 20.74 | |
| | | | 12 | 11 | 2 | 2 | 20.85 | |
| 25 | | | 0 | 2 | 2 | 20.78 | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 5 | 18625 | 1852.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.50 |
| | | | | 1 | 12 | | | 15.19 |
| | | | | 1 | 24 | | | 15.30 |
| | | | | 12 | 0 | | | 15.04 |
| | | | | 12 | 6 | | | 15.21 |
| | | | | 12 | 11 | | | 15.30 |
| | | | 25 | 0 | 15.22 | | | |
| | | | 16QAM | 1 | 0 | | | 14.61 |
| | | | | 1 | 12 | | | 15.24 |
| | | | | 1 | 24 | | | 15.34 |
| | | | | 12 | 0 | | | 14.88 |
| | | | | 12 | 6 | | | 15.06 |
| | 12 | 11 | | 15.20 | | | | |
| | 18900 | 1880 | QPSK | 25 | 0 | | | 15.16 |
| | | | | 1 | 0 | | | 14.61 |
| | | | | 1 | 12 | | | 14.94 |
| | | | | 1 | 24 | | | 15.00 |
| | | | | 12 | 0 | | | 14.90 |
| | | | | 12 | 6 | | | 15.02 |
| | | | 12 | 11 | 15.05 | | | |
| | | | 25 | 0 | 15.09 | | | |
| | | | 16QAM | 1 | 0 | | | 14.55 |
| | | | | 1 | 12 | | | 14.87 |
| | | | | 1 | 24 | | | 14.93 |
| | | | | 12 | 0 | | | 14.66 |
| | 12 | 6 | | 14.73 | | | | |
| | 12 | 11 | | 14.81 | | | | |
| | 19175 | 1907.5 | QPSK | 25 | 0 | | | 14.93 |
| | | | | 1 | 0 | | | 14.06 |
| | | | | 1 | 12 | | | 14.72 |
| | | | | 1 | 24 | | | 14.72 |
| | | | | 12 | 0 | | | 15.57 |
| | | | | 12 | 6 | | | 14.35 |
| | | | 12 | 11 | 14.81 | | | |
| | | | 12 | 11 | 15.22 | | | |
| | | | 25 | 0 | 14.95 | | | |
| 16QAM | | | 1 | 0 | 14.19 | | | |
| | | | 1 | 12 | 14.90 | | | |
| | | | 1 | 24 | 15.56 | | | |
| | 12 | 0 | 14.45 | | | | | |
| | 12 | 6 | 14.90 | | | | | |
| | 12 | 11 | 15.27 | | | | | |
| 25 | 0 | 15.07 | | | | | | |

LTE Band 2, 3 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 3 | 18615 | 1851.5 | QPSK | 1 | 0 | 0 | 0 | 22.89 |
| | | | | 1 | 7 | 0 | 0 | 22.91 |
| | | | | 1 | 14 | 0 | 0 | 22.97 |
| | | | | 8 | 0 | 1 | 1 | 22.01 |
| | | | | 8 | 4 | 1 | 1 | 22.05 |
| | | | | 8 | 7 | 1 | 1 | 22.05 |
| | | | 15 | 0 | 1 | 1 | 21.92 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.55 |
| | | | | 1 | 7 | 1 | 1 | 21.56 |
| | | | | 1 | 14 | 1 | 1 | 21.56 |
| | | | | 8 | 0 | 2 | 2 | 21.06 |
| | | | | 8 | 4 | 2 | 2 | 21.14 |
| | 8 | 7 | | 2 | 2 | 21.12 | | |
| | 15 | 0 | 2 | 2 | 21.05 | | | |
| | 18900 | 1880 | QPSK | 1 | 0 | 0 | 0 | 22.81 |
| | | | | 1 | 7 | 0 | 0 | 22.79 |
| | | | | 1 | 14 | 0 | 0 | 22.80 |
| | | | | 8 | 0 | 1 | 1 | 21.92 |
| | | | | 8 | 4 | 1 | 1 | 21.91 |
| | | | | 8 | 7 | 1 | 1 | 21.90 |
| | | | 15 | 0 | 1 | 1 | 21.93 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.55 |
| | | | | 1 | 7 | 1 | 1 | 21.43 |
| | | | | 1 | 14 | 1 | 1 | 21.46 |
| | | | | 8 | 0 | 2 | 2 | 20.99 |
| | | | | 8 | 4 | 2 | 2 | 21.03 |
| | 8 | 7 | | 2 | 2 | 21.03 | | |
| | 15 | 0 | 2 | 2 | 20.96 | | | |
| | 19184 | 1908.4 | QPSK | 1 | 0 | 0 | 0 | 22.71 |
| | | | | 1 | 7 | 0 | 0 | 22.77 |
| | | | | 1 | 14 | 0 | 0 | 22.90 |
| | | | | 8 | 0 | 1 | 1 | 21.83 |
| | | | | 8 | 4 | 1 | 1 | 21.93 |
| | | | | 8 | 7 | 1 | 1 | 21.98 |
| | | | 15 | 0 | 1 | 1 | 21.86 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.50 |
| 1 | | | | 7 | 1 | 1 | 21.50 | |
| 1 | | | | 14 | 1 | 1 | 21.56 | |
| 8 | | | | 0 | 2 | 2 | 20.89 | |
| 8 | | | | 4 | 2 | 2 | 20.99 | |
| 8 | 7 | 2 | | 2 | 21.00 | | | |
| 15 | 0 | 2 | 2 | 20.89 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 3 | 18615 | 1851.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.68 |
| | | | | 1 | 7 | | | 15.15 |
| | | | | 1 | 14 | | | 15.38 |
| | | | | 8 | 0 | | | 14.99 |
| | | | | 8 | 4 | | | 15.34 |
| | | | | 8 | 7 | | | 15.42 |
| | | | 15 | 0 | 15.22 | | | |
| | | | 16QAM | 1 | 0 | | | 14.56 |
| | | | | 1 | 7 | | | 15.23 |
| | | | | 1 | 14 | | | 15.41 |
| | | | | 8 | 0 | | | 15.13 |
| | | | | 8 | 4 | | | 15.38 |
| | 8 | 7 | | 15.57 | | | | |
| | 18900 | 1880 | QPSK | 1 | 0 | | | 15.06 |
| | | | | 1 | 7 | | | 15.26 |
| | | | | 1 | 14 | | | 15.25 |
| | | | | 8 | 0 | | | 15.32 |
| | | | | 8 | 4 | | | 15.43 |
| | | | | 8 | 7 | | | 15.36 |
| | | | 15 | 0 | 15.34 | | | |
| | | | 16QAM | 1 | 0 | | | 14.89 |
| | | | | 1 | 7 | | | 15.08 |
| | | | | 1 | 14 | | | 15.03 |
| | | | | 8 | 0 | | | 15.18 |
| | | | | 8 | 4 | | | 15.28 |
| | 8 | 7 | | 15.22 | | | | |
| | 15 | 0 | 15.11 | | | | | |
| | 19184 | 1908.4 | QPSK | 1 | 0 | | | 14.46 |
| | | | | 1 | 7 | | | 15.08 |
| | | | | 1 | 14 | | | 15.57 |
| | | | | 8 | 0 | | | 14.82 |
| | | | | 8 | 4 | | | 15.25 |
| | | | | 8 | 7 | | | 15.45 |
| | | | 15 | 0 | 15.16 | | | |
| | | | 16QAM | 1 | 0 | | | 14.29 |
| | | | | 1 | 7 | | | 14.85 |
| 1 | | | | 14 | 15.53 | | | |
| 8 | | | | 0 | 14.69 | | | |
| 8 | | | | 4 | 15.12 | | | |
| 8 | 7 | 15.33 | | | | | | |
| 15 | 0 | 14.94 | | | | | | |

LTE Band 2, 1.4 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 1.4 | 18607 | 1850.7 | QPSK | 1 | 0 | 0 | 0 | 23.02 |
| | | | | 1 | 2 | 0 | 0 | 23.01 |
| | | | | 1 | 5 | 0 | 0 | 23.05 |
| | | | | 3 | 0 | 0 | 0 | 23.10 |
| | | | | 3 | 1 | 0 | 0 | 23.09 |
| | | | | 3 | 3 | 0 | 0 | 23.05 |
| | | | 6 | 0 | 1 | 1 | 22.07 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.86 |
| | | | | 1 | 2 | 1 | 1 | 21.90 |
| | | | | 1 | 5 | 1 | 1 | 21.91 |
| | | | | 3 | 0 | 1 | 1 | 22.03 |
| | | | | 3 | 1 | 1 | 1 | 21.98 |
| | 3 | 3 | | 1 | 1 | 22.00 | | |
| | 6 | 0 | 2 | 2 | 21.11 | | | |
| | 18900 | 1880 | QPSK | 1 | 0 | 0 | 0 | 22.98 |
| | | | | 1 | 2 | 0 | 0 | 22.92 |
| | | | | 1 | 5 | 0 | 0 | 22.98 |
| | | | | 3 | 0 | 0 | 0 | 23.00 |
| | | | | 3 | 1 | 0 | 0 | 22.97 |
| | | | | 3 | 3 | 0 | 0 | 22.94 |
| | | | 6 | 0 | 1 | 1 | 22.08 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.83 |
| | | | | 1 | 2 | 1 | 1 | 21.79 |
| | | | | 1 | 5 | 1 | 1 | 21.86 |
| | | | | 3 | 0 | 1 | 1 | 21.97 |
| | | | | 3 | 1 | 1 | 1 | 21.97 |
| | 3 | 3 | | 1 | 1 | 21.97 | | |
| | 6 | 0 | 2 | 2 | 21.11 | | | |
| | 19192 | 1909.2 | QPSK | 1 | 0 | 0 | 0 | 22.96 |
| | | | | 1 | 2 | 0 | 0 | 22.92 |
| | | | | 1 | 5 | 0 | 0 | 22.97 |
| | | | | 3 | 0 | 0 | 0 | 22.96 |
| | | | | 3 | 1 | 0 | 0 | 22.94 |
| | | | | 3 | 3 | 0 | 0 | 22.94 |
| | | | 6 | 0 | 1 | 1 | 21.93 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.79 |
| 1 | | | | 2 | 1 | 1 | 21.81 | |
| 1 | | | | 5 | 1 | 1 | 21.80 | |
| 3 | | | | 0 | 1 | 1 | 21.91 | |
| 3 | | | | 1 | 1 | 1 | 21.91 | |
| 3 | 3 | 1 | | 1 | 21.96 | | | |
| 6 | 0 | 2 | 2 | 21.02 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 1.4 | 18607 | 1850.7 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.94 |
| | | | | 1 | 2 | | | 15.07 |
| | | | | 1 | 5 | | | 15.19 |
| | | | | 3 | 0 | | | 15.17 |
| | | | | 3 | 1 | | | 15.23 |
| | | | | 3 | 3 | | | 15.28 |
| | | | 6 | 0 | 15.22 | | | |
| | | | 16QAM | 1 | 0 | | | 15.21 |
| | | | | 1 | 2 | | | 15.15 |
| | | | | 1 | 5 | | | 15.49 |
| | | | | 3 | 0 | | | 14.98 |
| | | | | 3 | 1 | | | 15.04 |
| | 3 | 3 | | 15.09 | | | | |
| | 18900 | 1880 | QPSK | 6 | 0 | | | 15.15 |
| | | | | 1 | 0 | | | 15.19 |
| | | | | 1 | 2 | | | 15.26 |
| | | | | 1 | 5 | | | 15.18 |
| | | | | 3 | 0 | | | 15.34 |
| | | | | 3 | 1 | | | 15.35 |
| | | | 16QAM | 3 | 3 | | | 15.35 |
| | | | | 6 | 0 | | | 15.34 |
| | | | | 1 | 0 | | | 15.19 |
| | | | | 1 | 2 | | | 15.24 |
| | | | | 1 | 5 | | | 15.20 |
| | | | | 3 | 0 | | | 15.13 |
| | 19192 | 1909.2 | QPSK | 3 | 1 | | | 15.14 |
| | | | | 3 | 3 | | | 15.14 |
| | | | | 6 | 0 | | | 15.22 |
| | | | | 1 | 0 | | | 14.90 |
| | | | | 1 | 2 | | | 15.13 |
| | | | | 1 | 5 | | | 15.42 |
| | | | 16QAM | 3 | 0 | | | 15.06 |
| | | | | 3 | 1 | | | 15.19 |
| | | | | 3 | 3 | | | 15.30 |
| | | | | 6 | 0 | | | 15.24 |
| | | | | 1 | 0 | | | 14.81 |
| 1 | | | | 2 | 15.10 | | | |
| 16QAM | 1 | 5 | 15.34 | | | | | |
| | 3 | 0 | 14.91 | | | | | |
| | 3 | 1 | 15.02 | | | | | |
| | 3 | 3 | 15.13 | | | | | |
| | 6 | 0 | 15.17 | | | | | |
| | | | | | | | | |

9.8. LTE Band 4

Target Power for LTE Band 4, QPSK and 16QAM modulations in all bandwidth

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|------|-------|-------|-------------|---------------------|--------------------|----------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| LTE | BAND4 | 20050 | 1720 | 23.0 | 15.0 | +/-1 |
| | | 20175 | 1732.5 | | | |
| | | 20300 | 1745 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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 |
| 16 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 |
| NS_04 | 6.6.2.2.2 | 41 | 20 | >10 | ≤ 1 |
| | | | 5 | >6 | ≤ 1 |
| 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 | 13 | 10 | Table 6.2.4-2 | Table 6.2.4-2 |
| | 6.6.3.3.2 | | | | |
| 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 ¹ | 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 4, 20 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 20 | 20050 | 1720 | QPSK | 1 | 0 | 0 | 0 | 22.89 |
| | | | | 1 | 49 | 0 | 0 | 22.93 |
| | | | | 1 | 99 | 0 | 0 | 22.87 |
| | | | | 50 | 0 | 1 | 1 | 21.71 |
| | | | | 50 | 24 | 1 | 1 | 21.81 |
| | | | | 50 | 49 | 1 | 1 | 21.73 |
| | | | | 100 | 0 | 1 | 1 | 21.71 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 22.00 |
| | | | | 1 | 49 | 1 | 1 | 22.07 |
| | | | | 1 | 99 | 1 | 1 | 22.04 |
| | | | | 50 | 0 | 2 | 2 | 20.67 |
| | | | | 50 | 24 | 2 | 2 | 20.73 |
| | | | | 50 | 49 | 2 | 2 | 20.65 |
| | | | | 100 | 0 | 2 | 2 | 20.67 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 0 | 22.69 |
| | | | | 1 | 49 | 0 | 0 | 22.85 |
| | | | | 1 | 99 | 0 | 0 | 22.88 |
| | | | | 50 | 0 | 1 | 1 | 21.66 |
| | | | | 50 | 24 | 1 | 1 | 21.71 |
| | | | | 50 | 49 | 1 | 1 | 21.80 |
| | | | | 100 | 0 | 1 | 1 | 21.68 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.82 |
| | | | | 1 | 49 | 1 | 1 | 21.99 |
| | | | | 1 | 99 | 1 | 1 | 21.97 |
| | | | | 50 | 0 | 2 | 2 | 20.64 |
| | | | | 50 | 24 | 2 | 2 | 20.70 |
| | | | | 50 | 49 | 2 | 2 | 20.74 |
| | | | | 100 | 0 | 2 | 2 | 20.75 |
| | 20300 | 1745 | QPSK | 1 | 0 | 0 | 0 | 22.73 |
| | | | | 1 | 49 | 0 | 0 | 22.82 |
| 1 | | | | 99 | 0 | 0 | 22.93 | |
| 50 | | | | 0 | 1 | 1 | 21.66 | |
| 50 | | | | 24 | 1 | 1 | 21.54 | |
| 50 | | | | 49 | 1 | 1 | 21.55 | |
| 100 | | | | 0 | 1 | 1 | 21.60 | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.89 | |
| | | | 1 | 49 | 1 | 1 | 21.82 | |
| | | | 1 | 99 | 1 | 1 | 21.94 | |
| | | | 50 | 0 | 2 | 2 | 20.62 | |
| | | | 50 | 24 | 2 | 2 | 20.55 | |
| | | | 50 | 49 | 2 | 2 | 20.59 | |
| | | | 100 | 0 | 2 | 2 | 20.66 | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 20 | 20050 | 1720 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.14 |
| | | | | 1 | 49 | | | 14.71 |
| | | | | 1 | 99 | | | 14.58 |
| | | | | 50 | 0 | | | 14.20 |
| | | | | 50 | 24 | | | 14.69 |
| | | | | 50 | 49 | | | 14.87 |
| | | | 100 | 0 | 14.88 | | | |
| | | | 16QAM | 1 | 0 | | | 14.25 |
| | | | | 1 | 49 | | | 14.84 |
| | | | | 1 | 99 | | | 15.17 |
| | | | | 50 | 0 | | | 14.29 |
| | | | | 50 | 24 | | | 14.26 |
| | 50 | 49 | | 14.43 | | | | |
| | 20175 | 1732.5 | QPSK | 1 | 0 | | | 15.12 |
| | | | | 1 | 49 | | | 14.78 |
| | | | | 1 | 99 | | | 14.27 |
| | | | | 50 | 0 | | | 15.43 |
| | | | | 50 | 24 | | | 14.84 |
| | | | | 50 | 49 | | | 14.83 |
| | | | 100 | 0 | 14.91 | | | |
| | | | 16QAM | 1 | 0 | | | 15.73 |
| | | | | 1 | 49 | | | 15.40 |
| | | | | 1 | 99 | | | 14.64 |
| | | | | 50 | 0 | | | 14.97 |
| | | | | 50 | 24 | | | 14.91 |
| | 50 | 49 | | 14.36 | | | | |
| | 20300 | 1745 | QPSK | 100 | 0 | | | 14.93 |
| | | | | 1 | 0 | | | 14.37 |
| | | | | 1 | 49 | | | 14.06 |
| | | | | 1 | 99 | | | 14.30 |
| | | | | 50 | 0 | | | 14.10 |
| | | | | 50 | 24 | | | 14.16 |
| | | | 50 | 49 | 14.75 | | | |
| | | | 100 | 0 | 14.21 | | | |
| | | | 16QAM | 1 | 0 | | | 14.41 |
| | | | | 1 | 49 | | | 14.06 |
| 1 | | | | 99 | 14.61 | | | |
| 50 | | | | 0 | 14.66 | | | |
| 50 | 24 | 14.68 | | | | | | |
| 50 | 49 | 14.84 | | | | | | |
| 100 | 0 | 14.74 | | | | | | |

**LTE Band 4, 15 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 15 | 20025 | 1717.5 | QPSK | 1 | 0 | 0 | 0 | 22.84 |
| | | | | 1 | 37 | 0 | 0 | 22.85 |
| | | | | 1 | 74 | 0 | 0 | 22.72 |
| | | | | 36 | 0 | 1 | 1 | 21.78 |
| | | | | 36 | 19 | 1 | 1 | 21.81 |
| | | | | 36 | 39 | 1 | 1 | 21.85 |
| | | | | 75 | 0 | 1 | 1 | 21.77 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.51 |
| | | | | 1 | 37 | 1 | 1 | 21.62 |
| | | | | 1 | 74 | 1 | 1 | 21.49 |
| | | | | 36 | 0 | 2 | 2 | 20.75 |
| | | | | 36 | 19 | 2 | 2 | 20.80 |
| | | | | 36 | 39 | 2 | 2 | 20.77 |
| | | | | 75 | 0 | 2 | 2 | 20.62 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 0 | 22.68 |
| | | | | 1 | 37 | 0 | 0 | 22.83 |
| | | | | 1 | 74 | 0 | 0 | 22.84 |
| | | | | 36 | 0 | 1 | 1 | 21.68 |
| | | | | 36 | 19 | 1 | 1 | 21.79 |
| | | | | 36 | 39 | 1 | 1 | 21.65 |
| | | | | 75 | 0 | 1 | 1 | 21.60 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.39 |
| | | | | 1 | 37 | 1 | 1 | 21.53 |
| | | | | 1 | 74 | 1 | 1 | 22.25 |
| | | | | 36 | 0 | 2 | 2 | 20.65 |
| | | | | 36 | 19 | 2 | 2 | 20.80 |
| | | | | 36 | 39 | 2 | 2 | 20.64 |
| | | | | 75 | 0 | 2 | 2 | 20.61 |
| | 20325 | 1747.5 | QPSK | 1 | 0 | 0 | 0 | 22.74 |
| | | | | 1 | 37 | 0 | 0 | 22.70 |
| 1 | | | | 74 | 0 | 0 | 22.74 | |
| 36 | | | | 0 | 1 | 1 | 21.48 | |
| 36 | | | | 19 | 1 | 1 | 21.56 | |
| 36 | | | | 39 | 1 | 1 | 21.54 | |
| 75 | | | | 0 | 1 | 1 | 21.45 | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.48 | |
| | | | 1 | 37 | 1 | 1 | 21.35 | |
| | | | 1 | 74 | 1 | 1 | 21.43 | |
| | | | 36 | 0 | 2 | 2 | 20.56 | |
| | | | 36 | 19 | 2 | 2 | 20.62 | |
| | | | 36 | 39 | 2 | 2 | 20.68 | |
| | | | 75 | 0 | 2 | 2 | 20.40 | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 15 | 20025 | 1717.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.73 |
| | | | | 1 | 37 | | | 14.82 |
| | | | | 1 | 74 | | | 14.63 |
| | | | | 36 | 0 | | | 14.42 |
| | | | | 36 | 19 | | | 14.89 |
| | | | | 36 | 39 | | | 15.02 |
| | | | | 75 | 0 | | | 14.45 |
| | | | 16QAM | 1 | 0 | | | 14.40 |
| | | | | 1 | 37 | | | 14.46 |
| | | | | 1 | 74 | | | 14.73 |
| | | | | 36 | 0 | | | 14.05 |
| | | | | 36 | 19 | | | 14.45 |
| | | | | 36 | 39 | | | 14.54 |
| | | | | 75 | 0 | | | 14.51 |
| | 20175 | 1732.5 | QPSK | 1 | 0 | | | 14.62 |
| | | | | 1 | 37 | | | 14.69 |
| | | | | 1 | 74 | | | 14.02 |
| | | | | 36 | 0 | | | 15.05 |
| | | | | 36 | 19 | | | 14.84 |
| | | | | 36 | 39 | | | 14.41 |
| | | | | 75 | 0 | | | 14.50 |
| | | | 16QAM | 1 | 0 | | | 14.72 |
| | | | | 1 | 37 | | | 14.32 |
| | | | | 1 | 74 | | | 14.23 |
| | | | | 36 | 0 | | | 14.52 |
| | | | | 36 | 19 | | | 14.35 |
| | | | | 36 | 39 | | | 14.17 |
| | | | | 75 | 0 | | | 14.50 |
| | 20325 | 1747.5 | QPSK | 1 | 0 | | | 14.60 |
| | | | | 1 | 37 | | | 14.50 |
| | | | | 1 | 74 | | | 14.24 |
| | | | | 36 | 0 | | | 14.33 |
| | | | | 36 | 19 | | | 14.29 |
| | | | | 36 | 39 | | | 14.21 |
| | | | | 75 | 0 | | | 14.07 |
| | | | 16QAM | 1 | 0 | | | 14.07 |
| 1 | | | | 37 | 14.01 | | | |
| 1 | | | | 74 | 14.35 | | | |
| 36 | | | | 0 | 14.07 | | | |
| 36 | | | | 19 | 14.04 | | | |
| 36 | | | | 39 | 14.09 | | | |
| 75 | | | | 0 | 14.01 | | | |

**LTE Band 4, 10 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 10 | 20000 | 1715 | QPSK | 1 | 0 | 0 | 0 | 22.84 |
| | | | | 1 | 24 | 0 | 0 | 22.82 |
| | | | | 1 | 49 | 0 | 0 | 22.90 |
| | | | | 25 | 0 | 1 | 1 | 21.88 |
| | | | | 25 | 12 | 1 | 1 | 21.92 |
| | | | | 25 | 24 | 1 | 1 | 21.87 |
| | | | 50 | 0 | 1 | 1 | 21.69 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.51 |
| | | | | 1 | 24 | 1 | 1 | 21.47 |
| | | | | 1 | 49 | 1 | 1 | 21.55 |
| | | | | 25 | 0 | 2 | 2 | 20.88 |
| | | | | 25 | 12 | 2 | 2 | 20.92 |
| | | | | 25 | 24 | 2 | 2 | 20.88 |
| | | | 50 | 0 | 2 | 2 | 20.75 | |
| | | | 20175 | 1732.5 | QPSK | 1 | 0 | 0 |
| | 1 | 24 | | | | 0 | 0 | 22.85 |
| | 1 | 49 | | | | 0 | 0 | 22.76 |
| | 25 | 0 | | | | 1 | 1 | 21.82 |
| | 25 | 12 | | | | 1 | 1 | 21.98 |
| | 25 | 24 | | | | 1 | 1 | 21.90 |
| | 50 | 0 | | | 1 | 1 | 21.71 | |
| | 16QAM | 1 | | | 0 | 1 | 1 | 21.47 |
| | | 1 | | | 24 | 1 | 1 | 21.55 |
| | | 1 | | | 49 | 1 | 1 | 21.52 |
| | | 25 | | | 0 | 2 | 2 | 20.87 |
| | | 25 | | | 12 | 2 | 2 | 20.90 |
| | | 25 | | | 24 | 2 | 2 | 20.91 |
| | 50 | 0 | | | 2 | 2 | 20.70 | |
| | 20350 | 1750 | | | QPSK | 1 | 0 | 0 |
| | | | 1 | 24 | | 0 | 0 | 22.65 |
| 1 | | | 49 | 0 | | 0 | 22.81 | |
| 25 | | | 0 | 1 | | 1 | 21.64 | |
| 25 | | | 12 | 1 | | 1 | 21.71 | |
| 25 | | | 24 | 1 | | 1 | 21.79 | |
| 50 | | | 0 | 1 | 1 | 21.55 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.33 | |
| | | | 1 | 24 | 1 | 1 | 21.40 | |
| | | | 1 | 49 | 1 | 1 | 21.38 | |
| | | | 25 | 0 | 2 | 2 | 20.70 | |
| | | | 25 | 12 | 2 | 2 | 20.66 | |
| | | | 25 | 24 | 2 | 2 | 20.76 | |
| 50 | | | 0 | 2 | 2 | 20.59 | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 10 | 20000 | 1715 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.62 |
| | | | | 1 | 24 | | | 14.31 |
| | | | | 1 | 49 | | | 15.13 |
| | | | | 25 | 0 | | | 14.61 |
| | | | | 25 | 12 | | | 14.60 |
| | | | | 25 | 24 | | | 14.85 |
| | | | 50 | 0 | 14.71 | | | |
| | | | 16QAM | 1 | 0 | | | 14.27 |
| | | | | 1 | 24 | | | 14.47 |
| | | | | 1 | 49 | | | 15.25 |
| | | | | 25 | 0 | | | 14.16 |
| | | | | 25 | 12 | | | 14.68 |
| | 25 | 24 | | 14.93 | | | | |
| | 20175 | 1732.5 | QPSK | 1 | 0 | | | 15.34 |
| | | | | 1 | 24 | | | 14.81 |
| | | | | 1 | 49 | | | 15.15 |
| | | | | 25 | 0 | | | 15.17 |
| | | | | 25 | 12 | | | 14.91 |
| | | | | 25 | 24 | | | 14.92 |
| | | | 50 | 0 | 15.06 | | | |
| | | | 16QAM | 1 | 0 | | | 15.43 |
| | | | | 1 | 24 | | | 14.86 |
| | | | | 1 | 49 | | | 14.66 |
| | | | | 25 | 0 | | | 15.20 |
| | | | | 25 | 12 | | | 14.95 |
| | 25 | 24 | | 14.48 | | | | |
| | 20350 | 1750 | QPSK | 50 | 0 | | | 15.08 |
| | | | | 1 | 0 | | | 14.34 |
| | | | | 1 | 24 | | | 14.43 |
| | | | | 1 | 49 | | | 14.00 |
| | | | | 25 | 0 | | | 14.68 |
| | | | | 25 | 12 | | | 14.05 |
| | | | 25 | 24 | 14.27 | | | |
| | | | 50 | 0 | 14.17 | | | |
| | | | 16QAM | 1 | 0 | | | 14.46 |
| | | | | 1 | 24 | | | 14.00 |
| 1 | | | | 49 | 14.10 | | | |
| 25 | | | | 0 | 14.19 | | | |
| 25 | 12 | 14.27 | | | | | | |
| 25 | 24 | 14.45 | | | | | | |
| 50 | 0 | 14.34 | | | | | | |

**LTE Band 4, 5 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 5 | 19975 | 1712.5 | QPSK | 1 | 0 | 0 | 0 | 22.86 |
| | | | | 1 | 12 | 0 | 0 | 22.82 |
| | | | | 1 | 24 | 0 | 0 | 22.89 |
| | | | | 12 | 0 | 1 | 1 | 21.96 |
| | | | | 12 | 6 | 1 | 1 | 21.96 |
| | | | | 12 | 11 | 1 | 1 | 22.04 |
| | | | 25 | 0 | 1 | 1 | 21.92 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.54 |
| | | | | 1 | 12 | 1 | 1 | 21.52 |
| | | | | 1 | 24 | 1 | 1 | 21.55 |
| | | | | 12 | 0 | 2 | 2 | 20.94 |
| | | | | 12 | 6 | 2 | 2 | 20.91 |
| | 12 | 11 | | 2 | 2 | 20.97 | | |
| | 25 | 0 | 2 | 2 | 20.92 | | | |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 0 | 22.74 |
| | | | | 1 | 12 | 0 | 0 | 22.79 |
| | | | | 1 | 24 | 0 | 0 | 22.87 |
| | | | | 12 | 0 | 1 | 1 | 21.93 |
| | | | | 12 | 6 | 1 | 1 | 21.93 |
| | | | | 12 | 11 | 1 | 1 | 21.98 |
| | | | 25 | 0 | 1 | 1 | 21.83 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.47 |
| | | | | 1 | 12 | 1 | 1 | 21.54 |
| | | | | 1 | 24 | 1 | 1 | 21.49 |
| | | | | 12 | 0 | 2 | 2 | 20.90 |
| | | | | 12 | 6 | 2 | 2 | 20.90 |
| | 12 | 11 | | 2 | 2 | 20.87 | | |
| | 25 | 0 | 2 | 2 | 20.89 | | | |
| | 20375 | 1752.5 | QPSK | 1 | 0 | 0 | 0 | 22.69 |
| | | | | 1 | 12 | 0 | 0 | 22.72 |
| 1 | | | | 24 | 0 | 0 | 22.72 | |
| 12 | | | | 0 | 1 | 1 | 21.83 | |
| 12 | | | | 6 | 1 | 1 | 21.82 | |
| 12 | | | | 11 | 1 | 1 | 21.86 | |
| 25 | | | 0 | 1 | 1 | 21.74 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.35 | |
| | | | 1 | 12 | 1 | 1 | 21.42 | |
| | | | 1 | 24 | 1 | 1 | 21.47 | |
| | | | 12 | 0 | 2 | 2 | 20.84 | |
| | | | 12 | 6 | 2 | 2 | 20.88 | |
| | 12 | 11 | 2 | 2 | 20.86 | | | |
| 25 | 0 | 2 | 2 | 20.91 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 5 | 19975 | 1712.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.27 |
| | | | | 1 | 12 | | | 14.29 |
| | | | | 1 | 24 | | | 14.42 |
| | | | | 12 | 0 | | | 14.43 |
| | | | | 12 | 6 | | | 14.49 |
| | | | | 12 | 11 | | | 14.53 |
| | | | 16QAM | 25 | 0 | | | 14.36 |
| | | | | 1 | 0 | | | 14.08 |
| | | | | 1 | 12 | | | 14.45 |
| | | | | 1 | 24 | | | 14.15 |
| | | | | 12 | 0 | | | 14.07 |
| | | | | 12 | 6 | | | 14.07 |
| | 20175 | 1732.5 | QPSK | 12 | 11 | | | 14.13 |
| | | | | 25 | 0 | | | 14.03 |
| | | | | 1 | 0 | | | 15.08 |
| | | | | 1 | 12 | | | 14.99 |
| | | | | 1 | 24 | | | 14.96 |
| | | | | 12 | 0 | | | 15.04 |
| | | | 16QAM | 12 | 6 | | | 15.09 |
| | | | | 12 | 11 | | | 14.96 |
| | | | | 25 | 0 | | | 15.07 |
| | | | | 1 | 0 | | | 15.23 |
| | | | | 1 | 12 | | | 15.14 |
| | | | | 1 | 24 | | | 14.62 |
| | 20375 | 1752.5 | QPSK | 12 | 0 | | | 15.09 |
| | | | | 12 | 6 | | | 15.16 |
| | | | | 12 | 11 | | | 15.03 |
| | | | | 25 | 0 | | | 15.20 |
| | | | | 1 | 0 | | | 14.33 |
| | | | | 1 | 12 | | | 14.38 |
| | | | 16QAM | 1 | 24 | | | 14.35 |
| | | | | 12 | 0 | | | 14.19 |
| | | | | 12 | 6 | | | 14.36 |
| | | | | 12 | 11 | | | 14.33 |
| | | | | 25 | 0 | | | 14.31 |
| | | | | 1 | 0 | | | 14.07 |
| | | | QPSK | 1 | 12 | 14.36 | | |
| | | | | 1 | 24 | 14.35 | | |
| | | | | 12 | 0 | 14.06 | | |
| | | | | 12 | 6 | 14.27 | | |
| | | | 16QAM | 12 | 11 | 14.26 | | |
| | | | | 25 | 0 | 14.28 | | |
| | | | | | | | | |
| | | | | | | | | |

**LTE Band 4, 3 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 3 | 19965 | 1711.5 | QPSK | 1 | 0 | 0 | 0 | 22.84 |
| | | | | 1 | 7 | 0 | 0 | 22.86 |
| | | | | 1 | 14 | 0 | 0 | 22.86 |
| | | | | 8 | 0 | 1 | 1 | 22.00 |
| | | | | 8 | 4 | 1 | 1 | 22.08 |
| | | | | 8 | 7 | 1 | 1 | 22.06 |
| | | | 15 | 0 | 1 | 1 | 21.98 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.57 |
| | | | | 1 | 7 | 1 | 1 | 21.61 |
| | | | | 1 | 14 | 1 | 1 | 21.58 |
| | | | | 8 | 0 | 2 | 2 | 21.08 |
| | | | | 8 | 4 | 2 | 2 | 21.11 |
| | 8 | 7 | | 2 | 2 | 21.09 | | |
| | 15 | 0 | 2 | 2 | 21.02 | | | |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 0 | 22.84 |
| | | | | 1 | 7 | 0 | 0 | 22.88 |
| | | | | 1 | 14 | 0 | 0 | 22.82 |
| | | | | 8 | 0 | 1 | 1 | 21.96 |
| | | | | 8 | 4 | 1 | 1 | 21.94 |
| | | | | 8 | 7 | 1 | 1 | 21.97 |
| | | | 15 | 0 | 1 | 1 | 21.91 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.55 |
| | | | | 1 | 7 | 1 | 1 | 21.53 |
| | | | | 1 | 14 | 1 | 1 | 21.51 |
| | | | | 8 | 0 | 2 | 2 | 21.02 |
| | | | | 8 | 4 | 2 | 2 | 21.04 |
| | 8 | 7 | | 2 | 2 | 21.08 | | |
| | 15 | 0 | 2 | 2 | 20.97 | | | |
| | 20384 | 1753.4 | QPSK | 1 | 0 | 0 | 0 | 22.77 |
| | | | | 1 | 7 | 0 | 0 | 22.80 |
| | | | | 1 | 14 | 0 | 0 | 22.76 |
| | | | | 8 | 0 | 1 | 1 | 21.84 |
| | | | | 8 | 4 | 1 | 1 | 21.86 |
| | | | | 8 | 7 | 1 | 1 | 21.86 |
| | | | 15 | 0 | 1 | 1 | 21.81 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.48 |
| 1 | | | | 7 | 1 | 1 | 21.58 | |
| 1 | | | | 14 | 1 | 1 | 21.50 | |
| 8 | | | | 0 | 2 | 2 | 21.02 | |
| 8 | | | | 4 | 2 | 2 | 21.01 | |
| 8 | 7 | 2 | | 2 | 21.01 | | | |
| 15 | 0 | 2 | 2 | 20.93 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 3 | 19965 | 1711.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.35 |
| | | | | 1 | 7 | | | 14.35 |
| | | | | 1 | 14 | | | 14.42 |
| | | | | 8 | 0 | | | 14.43 |
| | | | | 8 | 4 | | | 14.48 |
| | | | | 8 | 7 | | | 14.48 |
| | | | 16QAM | 15 | 0 | | | 14.52 |
| | | | | 1 | 0 | | | 14.01 |
| | | | | 1 | 7 | | | 14.07 |
| | | | | 1 | 14 | | | 14.01 |
| | | | | 8 | 0 | | | 14.12 |
| | | | | 8 | 4 | | | 14.16 |
| | 20175 | 1732.5 | QPSK | 8 | 7 | | | 14.15 |
| | | | | 8 | 7 | | | 14.15 |
| | | | | 15 | 0 | | | 14.12 |
| | | | | 1 | 0 | | | 15.18 |
| | | | | 1 | 7 | | | 15.25 |
| | | | | 1 | 14 | | | 15.18 |
| | | | 16QAM | 8 | 0 | | | 15.37 |
| | | | | 8 | 4 | | | 15.32 |
| | | | | 8 | 7 | | | 15.22 |
| | | | | 15 | 0 | | | 15.26 |
| | | | | 1 | 0 | | | 15.20 |
| | | | | 1 | 7 | | | 15.25 |
| | 20384 | 1753.4 | QPSK | 1 | 14 | | | 14.73 |
| | | | | 8 | 0 | | | 15.50 |
| | | | | 8 | 4 | | | 15.44 |
| | | | | 8 | 7 | | | 14.89 |
| | | | | 15 | 0 | | | 15.31 |
| | | | | 1 | 0 | | | 14.04 |
| | | | 16QAM | 1 | 7 | | | 14.47 |
| | | | | 1 | 14 | | | 14.44 |
| | | | | 8 | 0 | | | 14.44 |
| | | | | 8 | 4 | | | 14.47 |
| | | | | 8 | 7 | | | 14.54 |
| | | | | 15 | 0 | | | 14.49 |
| 16QAM | 1 | 0 | 14.15 | | | | | |
| | 1 | 7 | 14.19 | | | | | |
| | 1 | 14 | 14.13 | | | | | |
| | 8 | 0 | 14.04 | | | | | |
| | 8 | 4 | 14.10 | | | | | |
| | 8 | 7 | 14.14 | | | | | |
| | | | 15 | 0 | 14.01 | | | |

**LTE Band 4, 1.4 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 1.4 | 19957 | 1710.7 | QPSK | 1 | 0 | 0 | 0 | 22.98 |
| | | | | 1 | 2 | 0 | 0 | 22.94 |
| | | | | 1 | 5 | 0 | 0 | 22.91 |
| | | | | 3 | 0 | 0 | 0 | 22.99 |
| | | | | 3 | 1 | 0 | 0 | 22.97 |
| | | | | 3 | 3 | 0 | 0 | 23.02 |
| | | | 6 | 0 | 1 | 1 | 22.00 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.85 |
| | | | | 1 | 2 | 1 | 1 | 21.86 |
| | | | | 1 | 5 | 1 | 1 | 21.81 |
| | | | | 3 | 0 | 1 | 1 | 21.95 |
| | | | | 3 | 1 | 1 | 1 | 21.96 |
| | 3 | 3 | | 1 | 1 | 21.96 | | |
| | 6 | 0 | 2 | 2 | 21.12 | | | |
| | 20175 | 1732.5 | QPSK | 1 | 0 | 0 | 0 | 22.93 |
| | | | | 1 | 2 | 0 | 0 | 22.96 |
| | | | | 1 | 5 | 0 | 0 | 22.95 |
| | | | | 3 | 0 | 0 | 0 | 22.90 |
| | | | | 3 | 1 | 0 | 0 | 22.90 |
| | | | | 3 | 3 | 0 | 0 | 22.94 |
| | | | 6 | 0 | 1 | 1 | 22.01 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.83 |
| | | | | 1 | 2 | 1 | 1 | 21.84 |
| | | | | 1 | 5 | 1 | 1 | 21.86 |
| | | | | 3 | 0 | 1 | 1 | 21.86 |
| | | | | 3 | 1 | 1 | 1 | 21.87 |
| | 3 | 3 | | 1 | 1 | 21.91 | | |
| | 6 | 0 | 2 | 2 | 21.09 | | | |
| | 20392 | 1754.2 | QPSK | 1 | 0 | 0 | 0 | 22.89 |
| | | | | 1 | 2 | 0 | 0 | 22.77 |
| | | | | 1 | 5 | 0 | 0 | 22.82 |
| | | | | 3 | 0 | 0 | 0 | 22.86 |
| | | | | 3 | 1 | 0 | 0 | 22.86 |
| | | | | 3 | 3 | 0 | 0 | 22.85 |
| | | | 6 | 0 | 1 | 1 | 21.93 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.78 |
| 1 | | | | 2 | 1 | 1 | 21.79 | |
| 1 | | | | 5 | 1 | 1 | 21.74 | |
| 3 | | | | 0 | 1 | 1 | 21.83 | |
| 3 | | | | 1 | 1 | 1 | 21.84 | |
| 3 | 3 | 1 | | 1 | 21.86 | | | |
| 6 | 0 | 2 | 2 | 21.01 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 1.4 | 19957 | 1710.7 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.42 |
| | | | | 1 | 2 | | | 14.41 |
| | | | | 1 | 5 | | | 14.43 |
| | | | | 3 | 0 | | | 14.58 |
| | | | | 3 | 1 | | | 14.50 |
| | | | | 3 | 3 | | | 14.52 |
| | | | 16QAM | 6 | 0 | | | 14.47 |
| | | | | 1 | 0 | | | 14.22 |
| | | | | 1 | 2 | | | 14.23 |
| | | | | 1 | 5 | | | 14.21 |
| | | | | 3 | 0 | | | 14.19 |
| | | | | 3 | 1 | | | 14.15 |
| | 20175 | 1732.5 | QPSK | 3 | 3 | | | 14.17 |
| | | | | 6 | 0 | | | 14.24 |
| | | | | 1 | 0 | | | 15.19 |
| | | | | 1 | 2 | | | 15.31 |
| | | | | 1 | 5 | | | 15.25 |
| | | | | 3 | 0 | | | 15.42 |
| | | | 16QAM | 3 | 1 | | | 15.40 |
| | | | | 3 | 3 | | | 15.36 |
| | | | | 6 | 0 | | | 15.35 |
| | | | | 1 | 0 | | | 15.40 |
| | | | | 1 | 2 | | | 15.49 |
| | | | | 1 | 5 | | | 15.44 |
| | 20392 | 1754.2 | QPSK | 3 | 0 | | | 15.44 |
| | | | | 3 | 1 | | | 15.42 |
| | | | | 3 | 3 | | | 15.39 |
| | | | | 6 | 0 | | | 15.49 |
| | | | | 1 | 0 | | | 14.46 |
| | | | | 1 | 2 | | | 14.54 |
| | | | 16QAM | 1 | 5 | | | 14.40 |
| | | | | 3 | 0 | | | 14.49 |
| | | | | 3 | 1 | | | 14.63 |
| | | | | 3 | 3 | | | 14.53 |
| | | | | 6 | 0 | | | 14.49 |
| | | | | 1 | 0 | | | 14.16 |
| 16QAM | 1 | 2 | 14.23 | | | | | |
| | 1 | 5 | 14.12 | | | | | |
| | 3 | 0 | 14.04 | | | | | |
| | 3 | 1 | 14.15 | | | | | |
| | 3 | 3 | 14.08 | | | | | |
| | 6 | 0 | 14.16 | | | | | |

9.9. LTE Band 5

Target Power for LTE Band 5, QPSK and 16QAM modulations in all bandwidth

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|------|-------|-------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| LTE | BAND5 | 20450 | 829 | 23.0 | 20.0 | +/-1 |
| | | 20525 | 836 | | | |
| | | 20600 | 844 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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 |
| 16 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 | 13 | 10 | Table 6.2.4-2 | Table 6.2.4-2 |
| | 6.6.3.3.2 | | | | |
| 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 ¹ | 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 5, 10 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 10 | 20450 | 829 | QPSK | 1 | 0 | 0 | 0 | 22.70 |
| | | | | 1 | 24 | 0 | 0 | 22.72 |
| | | | | 1 | 49 | 0 | 0 | 22.82 |
| | | | | 25 | 0 | 1 | 1 | 21.89 |
| | | | | 25 | 12 | 1 | 1 | 21.84 |
| | | | | 25 | 24 | 1 | 1 | 21.92 |
| | | | 50 | 0 | 1 | 1 | 21.78 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.39 |
| | | | | 1 | 24 | 1 | 1 | 21.42 |
| | | | | 1 | 49 | 1 | 1 | 21.51 |
| | | | | 25 | 0 | 2 | 2 | 20.87 |
| | | | | 25 | 12 | 2 | 2 | 20.92 |
| | | | | 25 | 24 | 2 | 2 | 20.92 |
| | | | 50 | 0 | 2 | 2 | 20.79 | |
| | | | 20525 | 836.5 | QPSK | 1 | 0 | 0 |
| | 1 | 24 | | | | 0 | 0 | 22.77 |
| | 1 | 49 | | | | 0 | 0 | 22.77 |
| | 25 | 0 | | | | 1 | 1 | 21.96 |
| | 25 | 12 | | | | 1 | 1 | 21.94 |
| | 25 | 24 | | | | 1 | 1 | 21.88 |
| | 50 | 0 | | | 1 | 1 | 21.83 | |
| | 16QAM | 1 | | | 0 | 1 | 1 | 21.48 |
| | | 1 | | | 24 | 1 | 1 | 21.42 |
| | | 1 | | | 49 | 1 | 1 | 21.47 |
| | | 25 | | | 0 | 2 | 2 | 20.96 |
| | | 25 | | | 12 | 2 | 2 | 20.90 |
| | | 25 | | | 24 | 2 | 2 | 20.91 |
| | 50 | 0 | | | 2 | 2 | 20.81 | |
| | 20600 | 844 | | | QPSK | 1 | 0 | 0 |
| | | | 1 | 24 | | 0 | 0 | 22.78 |
| 1 | | | 49 | 0 | | 0 | 22.65 | |
| 25 | | | 0 | 1 | | 1 | 21.93 | |
| 25 | | | 12 | 1 | | 1 | 22.10 | |
| 25 | | | 24 | 1 | | 1 | 21.92 | |
| 50 | | | 0 | 1 | 1 | 21.84 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.39 | |
| | | | 1 | 24 | 1 | 1 | 21.46 | |
| | | | 1 | 49 | 1 | 1 | 21.31 | |
| | | | 25 | 0 | 2 | 2 | 20.92 | |
| | | | 25 | 12 | 2 | 2 | 21.04 | |
| | | | 25 | 24 | 2 | 2 | 20.98 | |
| 50 | | | 0 | 2 | 2 | 20.82 | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 10 | 20450 | 829 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 20.36 |
| | | | | 1 | 24 | | | 20.44 |
| | | | | 1 | 49 | | | 20.50 |
| | | | | 25 | 0 | | | 20.50 |
| | | | | 25 | 12 | | | 20.48 |
| | | | | 25 | 24 | | | 20.49 |
| | | | 50 | 0 | 20.41 | | | |
| | | | 16QAM | 1 | 0 | | | 20.00 |
| | | | | 1 | 24 | | | 20.03 |
| | | | | 1 | 49 | | | 20.13 |
| | | | | 25 | 0 | | | 20.49 |
| | | | | 25 | 12 | | | 20.44 |
| | 25 | 24 | | 20.49 | | | | |
| | 20525 | 836.5 | QPSK | 50 | 0 | | | 20.37 |
| | | | | 1 | 0 | | | 20.44 |
| | | | | 1 | 24 | | | 20.40 |
| | | | | 1 | 49 | | | 20.49 |
| | | | | 25 | 0 | | | 20.54 |
| | | | | 25 | 12 | | | 20.49 |
| | | | | 25 | 24 | | | 20.52 |
| | | | | 50 | 0 | | | 20.34 |
| | | | | 1 | 0 | | | 20.08 |
| | | | 16QAM | 1 | 24 | | | 20.02 |
| | | | | 1 | 49 | | | 20.05 |
| | | | | 25 | 0 | | | 20.49 |
| | | | | 25 | 12 | | | 20.40 |
| | | | | 25 | 24 | | | 20.42 |
| | | | | 50 | 0 | | | 20.31 |
| | | | | 1 | 0 | | | 20.37 |
| | | | | 1 | 24 | | | 20.48 |
| 1 | | | | 49 | 20.34 | | | |
| 20600 | 844 | QPSK | 25 | 0 | 20.51 | | | |
| | | | 25 | 12 | 20.58 | | | |
| | | | 25 | 24 | 20.57 | | | |
| | | | 50 | 0 | 20.41 | | | |
| | | | 1 | 0 | 20.01 | | | |
| | | | 1 | 24 | 20.12 | | | |
| | | 16QAM | 1 | 49 | 19.87 | | | |
| | | | 25 | 0 | 20.49 | | | |
| | | | 25 | 12 | 20.56 | | | |
| | | | 25 | 24 | 20.49 | | | |
| | | | 50 | 0 | 20.36 | | | |

**LTE Band 5, 5 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 5 | 20425 | 826.5 | QPSK | 1 | 0 | 0 | 0 | 22.76 |
| | | | | 1 | 12 | 0 | 0 | 22.77 |
| | | | | 1 | 24 | 0 | 0 | 22.79 |
| | | | | 12 | 0 | 1 | 1 | 21.95 |
| | | | | 12 | 6 | 1 | 1 | 21.96 |
| | | | | 12 | 11 | 1 | 1 | 21.95 |
| | | | 25 | 0 | 1 | 1 | 21.90 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.44 |
| | | | | 1 | 12 | 1 | 1 | 21.46 |
| | | | | 1 | 24 | 1 | 1 | 21.45 |
| | | | | 12 | 0 | 2 | 2 | 20.91 |
| | | | | 12 | 6 | 2 | 2 | 20.84 |
| | 12 | 11 | | 2 | 2 | 20.93 | | |
| | 25 | 0 | 2 | 2 | 20.91 | | | |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 0 | 22.88 |
| | | | | 1 | 12 | 0 | 0 | 22.69 |
| | | | | 1 | 24 | 0 | 0 | 22.74 |
| | | | | 12 | 0 | 1 | 1 | 21.95 |
| | | | | 12 | 6 | 1 | 1 | 21.89 |
| | | | | 12 | 11 | 1 | 1 | 21.96 |
| | | | 25 | 0 | 1 | 1 | 21.83 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.55 |
| | | | | 1 | 12 | 1 | 1 | 21.41 |
| | | | | 1 | 24 | 1 | 1 | 21.45 |
| | | | | 12 | 0 | 2 | 2 | 20.94 |
| | | | | 12 | 6 | 2 | 2 | 20.89 |
| | 12 | 11 | | 2 | 2 | 20.93 | | |
| | 25 | 0 | 2 | 2 | 20.91 | | | |
| | 20625 | 846.5 | QPSK | 1 | 0 | 0 | 0 | 22.79 |
| | | | | 1 | 12 | 0 | 0 | 22.72 |
| 1 | | | | 24 | 0 | 0 | 22.61 | |
| 12 | | | | 0 | 1 | 1 | 21.95 | |
| 12 | | | | 6 | 1 | 1 | 21.91 | |
| 12 | | | | 11 | 1 | 1 | 21.79 | |
| 25 | | | 0 | 1 | 1 | 21.90 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.48 | |
| | | | 1 | 12 | 1 | 1 | 21.39 | |
| | | | 1 | 24 | 1 | 2 | 21.28 | |
| | | | 12 | 0 | 2 | 2 | 21.01 | |
| | | | 12 | 6 | 2 | 2 | 20.90 | |
| | 12 | 11 | 2 | 2 | 20.81 | | | |
| 25 | 0 | 2 | 2 | 20.95 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 5 | 20425 | 826.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 20.47 |
| | | | | 1 | 12 | | | 20.41 |
| | | | | 1 | 24 | | | 20.43 |
| | | | | 12 | 0 | | | 20.47 |
| | | | | 12 | 6 | | | 20.42 |
| | | | | 12 | 11 | | | 20.44 |
| | | | 25 | 0 | 20.35 | | | |
| | | | 16QAM | 1 | 0 | | | 20.54 |
| | | | | 1 | 12 | | | 20.55 |
| | | | | 1 | 24 | | | 20.59 |
| | | | | 12 | 0 | | | 20.40 |
| | | | | 12 | 6 | | | 20.47 |
| | 12 | 11 | | 20.45 | | | | |
| | 20525 | 836.5 | QPSK | 25 | 0 | | | 20.35 |
| | | | | 1 | 0 | | | 20.56 |
| | | | | 1 | 12 | | | 20.36 |
| | | | | 1 | 24 | | | 20.38 |
| | | | | 12 | 0 | | | 20.47 |
| | | | | 12 | 6 | | | 20.40 |
| | | | 16QAM | 12 | 11 | | | 20.40 |
| | | | | 25 | 0 | | | 20.35 |
| | | | | 1 | 0 | | | 20.14 |
| | | | | 1 | 12 | | | 19.98 |
| | | | | 1 | 24 | | | 19.98 |
| | | | | 12 | 0 | | | 20.46 |
| | 20625 | 846.5 | QPSK | 12 | 6 | | | 20.36 |
| | | | | 12 | 11 | | | 20.35 |
| | | | | 25 | 0 | | | 20.42 |
| | | | | 1 | 0 | | | 20.49 |
| | | | | 1 | 12 | | | 20.34 |
| | | | | 1 | 24 | | | 20.30 |
| | | | 16QAM | 12 | 0 | | | 20.59 |
| | | | | 12 | 6 | | | 20.55 |
| | | | | 12 | 11 | | | 20.39 |
| | | | | 25 | 0 | | | 20.44 |
| | | | | 1 | 0 | | | 20.08 |
| 1 | | | | 12 | 19.95 | | | |
| 16QAM | 1 | 24 | 19.85 | | | | | |
| | 12 | 0 | 20.50 | | | | | |
| | 12 | 6 | 20.44 | | | | | |
| | 12 | 11 | 20.33 | | | | | |
| | 25 | 0 | 20.52 | | | | | |

**LTE Band 5, 3 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 3 | 20415 | 825.5 | QPSK | 1 | 0 | 0 | 0 | 22.66 |
| | | | | 1 | 7 | 0 | 0 | 22.74 |
| | | | | 1 | 14 | 0 | 0 | 22.76 |
| | | | | 8 | 0 | 1 | 1 | 21.89 |
| | | | | 8 | 4 | 1 | 1 | 21.86 |
| | | | | 8 | 7 | 1 | 1 | 21.92 |
| | | | 15 | 0 | 1 | 1 | 21.87 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.42 |
| | | | | 1 | 7 | 1 | 1 | 21.43 |
| | | | | 1 | 14 | 1 | 1 | 21.43 |
| | | | | 8 | 0 | 2 | 2 | 20.95 |
| | | | | 8 | 4 | 2 | 2 | 20.94 |
| | 8 | 7 | | 2 | 2 | 20.97 | | |
| | 15 | 0 | 2 | 2 | 20.93 | | | |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 0 | 22.80 |
| | | | | 1 | 7 | 0 | 0 | 22.70 |
| | | | | 1 | 14 | 0 | 0 | 22.72 |
| | | | | 8 | 0 | 1 | 1 | 21.92 |
| | | | | 8 | 4 | 1 | 1 | 21.82 |
| | | | | 8 | 7 | 1 | 1 | 21.92 |
| | | | 15 | 0 | 1 | 1 | 21.78 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.50 |
| | | | | 1 | 7 | 1 | 1 | 21.40 |
| | | | | 1 | 14 | 1 | 1 | 21.41 |
| | | | | 8 | 0 | 2 | 2 | 20.91 |
| | | | | 8 | 4 | 2 | 2 | 20.98 |
| | 8 | 7 | | 2 | 2 | 20.97 | | |
| | 15 | 0 | 2 | 2 | 20.95 | | | |
| | 20634 | 847.4 | QPSK | 1 | 0 | 0 | 0 | 22.78 |
| | | | | 1 | 7 | 0 | 0 | 22.63 |
| | | | | 1 | 14 | 0 | 0 | 22.56 |
| | | | | 8 | 0 | 1 | 1 | 21.92 |
| | | | | 8 | 4 | 1 | 1 | 21.77 |
| | | | | 8 | 7 | 1 | 1 | 21.73 |
| | | | 15 | 0 | 1 | 1 | 21.83 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.48 |
| 1 | | | | 7 | 1 | 1 | 21.33 | |
| 1 | | | | 14 | 1 | 2 | 21.26 | |
| 8 | | | | 0 | 2 | 2 | 20.99 | |
| 8 | | | | 4 | 2 | 2 | 20.88 | |
| 8 | 7 | 2 | | 2 | 20.84 | | | |
| 15 | 0 | 2 | 2 | 20.85 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 3 | 20415 | 825.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 20.37 |
| | | | | 1 | 7 | | | 20.35 |
| | | | | 1 | 14 | | | 20.33 |
| | | | | 8 | 0 | | | 20.43 |
| | | | | 8 | 4 | | | 20.41 |
| | | | | 8 | 7 | | | 20.44 |
| | | | 15 | 0 | 20.50 | | | |
| | | | 16QAM | 1 | 0 | | | 20.02 |
| | | | | 1 | 7 | | | 19.94 |
| | | | | 1 | 14 | | | 19.96 |
| | | | | 8 | 0 | | | 20.53 |
| | | | | 8 | 4 | | | 20.51 |
| | 8 | 7 | | 20.51 | | | | |
| | 20525 | 836.5 | QPSK | 1 | 0 | | | 20.42 |
| | | | | 1 | 7 | | | 20.34 |
| | | | | 1 | 14 | | | 20.46 |
| | | | | 8 | 0 | | | 20.47 |
| | | | | 8 | 4 | | | 20.51 |
| | | | | 8 | 7 | | | 20.46 |
| | | | 15 | 0 | 20.45 | | | |
| | | | 16QAM | 1 | 0 | | | 20.05 |
| | | | | 1 | 7 | | | 19.97 |
| | | | | 1 | 14 | | | 19.99 |
| | | | | 8 | 0 | | | 20.51 |
| | | | | 8 | 4 | | | 20.48 |
| | 8 | 7 | | 20.53 | | | | |
| | 20634 | 847.4 | QPSK | 15 | 0 | | | 20.46 |
| | | | | 1 | 0 | | | 20.51 |
| | | | | 1 | 7 | | | 20.33 |
| | | | | 1 | 14 | | | 20.28 |
| 8 | | | | 0 | 20.52 | | | |
| 8 | | | | 4 | 20.41 | | | |
| 8 | | | 7 | 20.37 | | | | |
| 16QAM | | | 15 | 0 | 20.37 | | | |
| | | | 1 | 0 | 20.15 | | | |
| | | | 1 | 7 | 19.92 | | | |
| | | | 1 | 14 | 19.89 | | | |
| | | | 8 | 0 | 20.66 | | | |
| | 8 | 4 | 20.51 | | | | | |
| 8 | 7 | 20.41 | | | | | | |
| 15 | 0 | 20.42 | | | | | | |

**LTE Band 5, 1.4 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 1.4 | 20407 | 824.7 | QPSK | 1 | 0 | 0 | 0 | 22.76 |
| | | | | 1 | 2 | 0 | 0 | 22.77 |
| | | | | 1 | 5 | 0 | 0 | 22.81 |
| | | | | 3 | 0 | 0 | 0 | 22.86 |
| | | | | 3 | 1 | 0 | 0 | 22.82 |
| | | | | 3 | 3 | 0 | 0 | 22.77 |
| | | | 6 | 0 | 1 | 1 | 21.92 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.68 |
| | | | | 1 | 2 | 1 | 1 | 21.64 |
| | | | | 1 | 5 | 1 | 1 | 21.66 |
| | | | | 3 | 0 | 1 | 1 | 21.82 |
| | | | | 3 | 1 | 1 | 1 | 21.81 |
| | 3 | 3 | | 1 | 1 | 21.87 | | |
| | 6 | 0 | 2 | 2 | 21.02 | | | |
| | 20525 | 836.5 | QPSK | 1 | 0 | 0 | 0 | 22.74 |
| | | | | 1 | 2 | 0 | 0 | 22.69 |
| | | | | 1 | 5 | 0 | 0 | 22.74 |
| | | | | 3 | 0 | 0 | 0 | 22.81 |
| | | | | 3 | 1 | 0 | 0 | 22.81 |
| | | | | 3 | 3 | 0 | 0 | 22.79 |
| | | | 6 | 0 | 1 | 1 | 21.95 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.72 |
| | | | | 1 | 2 | 1 | 1 | 21.69 |
| | | | | 1 | 5 | 1 | 1 | 21.69 |
| | | | | 3 | 0 | 1 | 1 | 21.85 |
| | | | | 3 | 1 | 1 | 1 | 21.80 |
| | 3 | 3 | | 1 | 1 | 21.81 | | |
| | 6 | 0 | 2 | 2 | 21.00 | | | |
| | 20642 | 848.2 | QPSK | 1 | 0 | 0 | 0 | 22.72 |
| | | | | 1 | 2 | 0 | 0 | 22.58 |
| 1 | | | | 5 | 0 | 0 | 22.64 | |
| 3 | | | | 0 | 0 | 0 | 22.66 | |
| 3 | | | | 1 | 0 | 0 | 22.67 | |
| 3 | | | | 3 | 0 | 0 | 22.64 | |
| 6 | | | 0 | 1 | 1 | 21.79 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.57 | |
| | | | 1 | 2 | 1 | 1 | 21.54 | |
| | | | 1 | 5 | 1 | 1 | 21.53 | |
| | | | 3 | 0 | 1 | 1 | 21.74 | |
| | | | 3 | 1 | 1 | 1 | 21.72 | |
| | 3 | 3 | 1 | 1 | 21.69 | | | |
| 6 | 0 | 2 | 2 | 20.85 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 1.4 | 20407 | 824.7 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 20.41 |
| | | | | 1 | 2 | | | 20.37 |
| | | | | 1 | 5 | | | 20.36 |
| | | | | 3 | 0 | | | 20.50 |
| | | | | 3 | 1 | | | 20.48 |
| | | | | 3 | 3 | | | 20.45 |
| | | | 16QAM | 6 | 0 | | | 20.51 |
| | | | | 1 | 0 | | | 20.32 |
| | | | | 1 | 2 | | | 20.25 |
| | | | | 1 | 5 | | | 20.23 |
| | | | | 3 | 0 | | | 20.40 |
| | | | | 3 | 1 | | | 20.38 |
| | 20525 | 836.5 | QPSK | 3 | 3 | | | 20.41 |
| | | | | 6 | 0 | | | 20.53 |
| | | | | 1 | 0 | | | 20.45 |
| | | | | 1 | 2 | | | 20.45 |
| | | | | 1 | 5 | | | 20.45 |
| | | | | 3 | 0 | | | 20.46 |
| | | | 16QAM | 3 | 1 | | | 20.47 |
| | | | | 3 | 3 | | | 20.50 |
| | | | | 6 | 0 | | | 20.52 |
| | | | | 1 | 0 | | | 20.28 |
| | | | | 1 | 2 | | | 20.27 |
| | | | | 1 | 5 | | | 20.26 |
| | 20642 | 848.2 | QPSK | 3 | 0 | | | 20.44 |
| | | | | 3 | 1 | | | 20.38 |
| | | | | 3 | 3 | | | 20.45 |
| | | | | 6 | 0 | | | 20.54 |
| | | | | 1 | 0 | | | 20.38 |
| | | | | 1 | 2 | | | 20.33 |
| | | | 16QAM | 1 | 5 | | | 20.32 |
| | | | | 3 | 0 | | | 20.35 |
| | | | | 3 | 1 | | | 20.36 |
| | | | | 3 | 3 | | | 20.35 |
| | | | | 6 | 0 | | | 20.34 |
| | | | | 1 | 0 | | | 20.15 |
| 16QAM | 1 | 2 | 20.18 | | | | | |
| | 1 | 5 | 20.18 | | | | | |
| | 3 | 0 | 20.38 | | | | | |
| | 3 | 1 | 20.37 | | | | | |
| | 3 | 3 | 20.35 | | | | | |
| | 6 | 0 | 20.44 | | | | | |

9.10. LTE Band 13

Target Power for LTE Band 13, QPSK and 16QAM modulations in all bandwidth

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|------|--------|-------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| LTE | BAND13 | 23205 | 779.5 | 23.0 | 20.5 | +/-1 |
| | | 23230 | 782 | | | |
| | | 23225 | 784.5 | | | |
| | | | | | | |
| | | | | | | |

Target power indicated above is the nominal value. The measured value shall fall within +/- 1dB of this value.

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 |
| 16 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 |
| 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 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 ¹ | 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 13, 10 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 10 | 23230 | 782 | QPSK | 1 | 0 | 0 | 0 | 22.91 |
| | | | | 1 | 24 | 0 | 0 | 22.93 |
| | | | | 1 | 49 | 0 | 0 | 22.88 |
| | | | | 25 | 0 | 1 | 1 | 21.98 |
| | | | | 25 | 12 | 1 | 1 | 22.02 |
| | | | | 25 | 24 | 1 | 1 | 22.00 |
| | | | | 50 | 0 | 1 | 1 | 22.01 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.60 |
| | | | | 1 | 24 | 1 | 1 | 21.56 |
| | | | | 1 | 49 | 1 | 1 | 21.55 |
| | | | | 25 | 0 | 2 | 2 | 20.88 |
| | | | | 25 | 12 | 2 | 2 | 21.03 |
| | | | | 25 | 24 | 2 | 2 | 20.96 |
| | | | | 50 | 0 | 2 | 2 | 20.94 |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 10 | 23230 | 782 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 20.45 |
| | | | | 1 | 24 | | | 20.44 |
| | | | | 1 | 49 | | | 20.42 |
| | | | | 25 | 0 | | | 20.50 |
| | | | | 25 | 12 | | | 20.58 |
| | | | | 25 | 24 | | | 20.56 |
| | | | | 50 | 0 | | | 20.56 |
| | | | 16QAM | 1 | 0 | | | 20.09 |
| | | | | 1 | 24 | | | 20.02 |
| | | | | 1 | 49 | | | 20.05 |
| | | | | 25 | 0 | | | 20.41 |
| | | | | 25 | 12 | | | 20.56 |
| | | | | 25 | 24 | | | 20.56 |
| | | | | 50 | 0 | | | 20.44 |

**LTE Band 13, 5 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 5 | 23205 | 779.5 | QPSK | 1 | 0 | 0 | 0 | 22.83 |
| | | | | 1 | 12 | 0 | 0 | 22.75 |
| | | | | 1 | 24 | 0 | 0 | 22.86 |
| | | | | 12 | 0 | 1 | 1 | 21.96 |
| | | | | 12 | 6 | 1 | 1 | 21.92 |
| | | | | 12 | 11 | 1 | 1 | 22.01 |
| | | | 25 | 0 | 1 | 1 | 21.85 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.45 |
| | | | | 1 | 12 | 1 | 1 | 21.48 |
| | | | | 1 | 24 | 1 | 1 | 21.56 |
| | | | | 12 | 0 | 2 | 2 | 20.88 |
| | | | | 12 | 6 | 2 | 2 | 20.76 |
| | 12 | 11 | | 2 | 2 | 20.88 | | |
| | 25 | 0 | 2 | 2 | 20.95 | | | |
| | 23230 | 782 | QPSK | 1 | 0 | 0 | 0 | 22.70 |
| | | | | 1 | 12 | 0 | 0 | 22.86 |
| | | | | 1 | 24 | 0 | 0 | 22.83 |
| | | | | 12 | 0 | 1 | 1 | 21.95 |
| | | | | 12 | 6 | 1 | 1 | 21.92 |
| | | | | 12 | 11 | 1 | 1 | 22.11 |
| | | | 25 | 0 | 1 | 1 | 21.89 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.37 |
| | | | | 1 | 12 | 1 | 1 | 21.55 |
| | | | | 1 | 24 | 1 | 1 | 21.53 |
| | | | | 12 | 0 | 2 | 2 | 20.87 |
| | | | | 12 | 6 | 2 | 2 | 20.85 |
| | 12 | 11 | | 2 | 2 | 20.98 | | |
| | 25 | 0 | 2 | 2 | 21.04 | | | |
| | 23255 | 784.5 | QPSK | 1 | 0 | 0 | 0 | 22.86 |
| | | | | 1 | 12 | 0 | 0 | 22.79 |
| | | | | 1 | 24 | 0 | 0 | 22.70 |
| | | | | 12 | 0 | 1 | 1 | 22.10 |
| | | | | 12 | 6 | 1 | 1 | 21.97 |
| | | | | 12 | 11 | 1 | 1 | 21.96 |
| | | | 25 | 0 | 1 | 1 | 21.95 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.58 |
| 1 | | | | 12 | 1 | 1 | 21.47 | |
| 1 | | | | 24 | 1 | 2 | 21.36 | |
| 12 | | | | 0 | 2 | 2 | 21.05 | |
| 12 | | | | 6 | 2 | 2 | 20.84 | |
| 12 | 11 | 2 | | 2 | 20.94 | | | |
| 25 | 0 | 2 | 2 | 20.98 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 5 | 23205 | 779.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 20.34 |
| | | | | 1 | 12 | | | 20.32 |
| | | | | 1 | 24 | | | 20.40 |
| | | | | 12 | 0 | | | 20.52 |
| | | | | 12 | 6 | | | 20.44 |
| | | | | 12 | 11 | | | 20.44 |
| | | | 25 | 0 | 20.33 | | | |
| | | | 16QAM | 1 | 0 | | | 20.02 |
| | | | | 1 | 12 | | | 19.93 |
| | | | | 1 | 24 | | | 19.98 |
| | | | | 12 | 0 | | | 20.41 |
| | | | | 12 | 6 | | | 20.30 |
| | 12 | 11 | | 20.45 | | | | |
| | 23230 | 782 | QPSK | 25 | 0 | | | 20.49 |
| | | | | 1 | 0 | | | 20.25 |
| | | | | 1 | 12 | | | 20.38 |
| | | | | 1 | 24 | | | 20.37 |
| | | | | 12 | 0 | | | 20.47 |
| | | | | 12 | 6 | | | 20.45 |
| | | | 16QAM | 12 | 11 | | | 20.56 |
| | | | | 25 | 0 | | | 20.47 |
| | | | | 1 | 0 | | | 19.88 |
| | | | | 1 | 12 | | | 19.99 |
| | | | | 1 | 24 | | | 19.93 |
| | | | | 12 | 0 | | | 20.42 |
| | 23255 | 784.5 | QPSK | 12 | 6 | | | 20.33 |
| | | | | 12 | 11 | | | 20.42 |
| | | | | 25 | 0 | | | 20.50 |
| | | | | 1 | 0 | | | 20.40 |
| | | | | 1 | 12 | | | 20.32 |
| | | | | 1 | 24 | | | 20.28 |
| | | | 16QAM | 12 | 0 | | | 20.54 |
| | | | | 12 | 6 | | | 20.40 |
| | | | | 12 | 11 | | | 20.52 |
| | | | | 25 | 0 | | | 20.43 |
| | | | | 1 | 0 | | | 20.04 |
| 1 | | | | 12 | 19.95 | | | |
| 16QAM | 1 | 24 | 19.81 | | | | | |
| | 12 | 0 | 20.49 | | | | | |
| | 12 | 6 | 20.27 | | | | | |
| | 12 | 11 | 20.44 | | | | | |
| | 25 | 0 | 20.44 | | | | | |
| | | | | | | | | |

9.11. LTE Band 17

Target Power for LTE Band 17, QPSK and 16QAM modulations in all bandwidth

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|------|--------|-------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| LTE | BAND17 | 23780 | 709 | 23.0 | 21.5 | +/-1 |
| | | 23790 | 710 | | | |
| | | 23800 | 711 | | | |

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 |
| 16 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 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 ¹ | 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 17, 10 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) | | | |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|---|-------|-------|
| 10 | 23780 | 709 | QPSK | 1 | 0 | 0 | 0 | 22.63 | | | |
| | | | | 1 | 24 | 0 | 0 | 22.92 | | | |
| | | | | 1 | 49 | 0 | 0 | 22.77 | | | |
| | | | | 25 | 0 | 1 | 1 | 21.93 | | | |
| | | | | 25 | 12 | 1 | 1 | 21.90 | | | |
| | | | | 25 | 24 | 1 | 1 | 21.93 | | | |
| | | | 16QAM | 50 | 0 | 1 | 1 | 21.81 | | | |
| | | | | 1 | 0 | 1 | 1 | 21.50 | | | |
| | | | | 1 | 24 | 1 | 1 | 21.65 | | | |
| | | | | 1 | 49 | 1 | 1 | 21.48 | | | |
| | | | | 25 | 0 | 2 | 2 | 20.90 | | | |
| | | | | 25 | 12 | 2 | 2 | 20.93 | | | |
| | 23790 | 710 | QPSK | 25 | 24 | 2 | 2 | 20.96 | | | |
| | | | | 50 | 0 | 2 | 2 | 20.86 | | | |
| | | | | 1 | 0 | 0 | 0 | 22.81 | | | |
| | | | | 1 | 24 | 0 | 0 | 22.88 | | | |
| | | | | 1 | 49 | 0 | 0 | 22.68 | | | |
| | | | | 25 | 0 | 1 | 1 | 22.00 | | | |
| | | | 16QAM | 25 | 12 | 1 | 1 | 21.92 | | | |
| | | | | 25 | 24 | 1 | 1 | 21.91 | | | |
| | | | | 50 | 0 | 1 | 1 | 21.83 | | | |
| | | | | 1 | 0 | 1 | 1 | 21.47 | | | |
| | | | | 1 | 24 | 1 | 1 | 21.62 | | | |
| | | | | 1 | 49 | 1 | 1 | 21.44 | | | |
| | | | 23800 | 711 | QPSK | 25 | 0 | 2 | 2 | 20.99 | |
| | | | | | | 25 | 12 | 2 | 2 | 20.95 | |
| | | | | | | 25 | 24 | 2 | 2 | 20.94 | |
| | | | | | | 50 | 0 | 2 | 2 | 20.82 | |
| | | | | | | 1 | 0 | 0 | 0 | 22.87 | |
| | | | | | | 1 | 24 | 0 | 0 | 22.88 | |
| 16QAM | 1 | 49 | | | 0 | 0 | 22.47 | | | | |
| | 25 | 0 | | | 1 | 1 | 21.99 | | | | |
| | 25 | 12 | | | 1 | 1 | 21.96 | | | | |
| | 25 | 24 | | | 1 | 1 | 21.89 | | | | |
| | 50 | 0 | | | 1 | 1 | 21.76 | | | | |
| | 1 | 0 | | | 1 | 1 | 21.44 | | | | |
| | | | 16QAM | 1 | 24 | 1 | 1 | 21.46 | | | |
| | | | | 1 | 49 | 1 | 1 | 21.42 | | | |
| | | | | 25 | 0 | 2 | 2 | 21.01 | | | |
| | | | | 25 | 12 | 2 | 2 | 20.98 | | | |
| | | | | | | | 25 | 24 | 2 | 2 | 20.88 |
| | | | | | | | 50 | 0 | 2 | 2 | 20.77 |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 10 | 23780 | 709 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 21.81 |
| | | | | 1 | 24 | | | 22.12 |
| | | | | 1 | 49 | | | 22.00 |
| | | | | 25 | 0 | | | 21.96 |
| | | | | 25 | 12 | | | 22.04 |
| | | | | 25 | 24 | | | 22.03 |
| | | | 50 | 0 | 21.97 | | | |
| | | | 16QAM | 1 | 0 | | | 21.53 |
| | | | | 1 | 24 | | | 21.62 |
| | | | | 1 | 49 | | | 21.60 |
| | | | | 25 | 0 | | | 21.05 |
| | | | | 25 | 12 | | | 21.00 |
| | 25 | 24 | | 21.04 | | | | |
| | 50 | 0 | 20.95 | | | | | |
| | 23790 | 710 | QPSK | 1 | 0 | | | 21.89 |
| | | | | 1 | 24 | | | 22.03 |
| | | | | 1 | 49 | | | 21.89 |
| | | | | 25 | 0 | | | 22.07 |
| | | | | 25 | 12 | | | 22.00 |
| | | | | 25 | 24 | | | 21.96 |
| | | | 50 | 0 | 21.90 | | | |
| | | | 16QAM | 1 | 0 | | | 21.52 |
| | | | | 1 | 24 | | | 21.64 |
| | | | | 1 | 49 | | | 21.43 |
| | | | | 25 | 0 | | | 21.04 |
| | | | | 25 | 12 | | | 20.99 |
| | 25 | 24 | | 20.93 | | | | |
| | 50 | 0 | 20.91 | | | | | |
| | 23800 | 711 | QPSK | 1 | 0 | | | 21.91 |
| | | | | 1 | 24 | | | 21.88 |
| | | | | 1 | 49 | | | 21.65 |
| | | | | 25 | 0 | | | 22.06 |
| | | | | 25 | 12 | | | 22.09 |
| | | | | 25 | 24 | | | 22.00 |
| | | | 50 | 0 | 21.81 | | | |
| | | | 16QAM | 1 | 0 | | | 21.54 |
| 1 | | | | 24 | 21.52 | | | |
| 1 | | | | 49 | 21.21 | | | |
| 25 | | | | 0 | 21.08 | | | |
| 25 | | | | 12 | 21.07 | | | |
| 25 | 24 | 20.87 | | | | | | |
| 50 | 0 | 20.82 | | | | | | |

**LTE Band 17, 5 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 5 | 23755 | 706.5 | QPSK | 1 | 0 | 0 | 0 | 22.71 |
| | | | | 1 | 12 | 0 | 0 | 22.96 |
| | | | | 1 | 24 | 0 | 0 | 22.94 |
| | | | | 12 | 0 | 1 | 1 | 22.05 |
| | | | | 12 | 6 | 1 | 1 | 22.12 |
| | | | | 12 | 11 | 1 | 1 | 22.06 |
| | | | 25 | 0 | 1 | 1 | 21.96 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.48 |
| | | | | 1 | 12 | 1 | 1 | 21.61 |
| | | | | 1 | 24 | 1 | 1 | 21.61 |
| | | | | 12 | 0 | 2 | 2 | 20.93 |
| | | | | 12 | 6 | 2 | 2 | 21.04 |
| | 12 | 11 | | 2 | 2 | 21.08 | | |
| | 25 | 0 | 2 | 2 | 21.08 | | | |
| | 23790 | 710 | QPSK | 1 | 0 | 0 | 0 | 22.96 |
| | | | | 1 | 12 | 0 | 0 | 23.11 |
| | | | | 1 | 24 | 0 | 0 | 23.03 |
| | | | | 12 | 0 | 1 | 1 | 22.02 |
| | | | | 12 | 6 | 1 | 1 | 22.07 |
| | | | | 12 | 11 | 1 | 1 | 22.20 |
| | | | 25 | 0 | 1 | 1 | 22.05 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.67 |
| | | | | 1 | 12 | 1 | 1 | 21.79 |
| | | | | 1 | 24 | 1 | 2 | 21.61 |
| | | | | 12 | 0 | 2 | 2 | 21.05 |
| | | | | 12 | 6 | 2 | 2 | 21.06 |
| | 12 | 11 | | 2 | 2 | 21.21 | | |
| | 25 | 0 | 2 | 2 | 21.09 | | | |
| | 23825 | 713.5 | QPSK | 1 | 0 | 0 | 0 | 23.01 |
| | | | | 1 | 12 | 0 | 0 | 22.92 |
| | | | | 1 | 24 | 0 | 0 | 22.54 |
| | | | | 12 | 0 | 1 | 1 | 22.01 |
| | | | | 12 | 6 | 1 | 1 | 22.00 |
| | | | | 12 | 11 | 1 | 1 | 21.95 |
| | | | 25 | 0 | 1 | 1 | 21.93 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.62 |
| 1 | | | | 12 | 1 | 1 | 21.55 | |
| 1 | | | | 24 | 1 | 2 | 21.16 | |
| 12 | | | | 0 | 2 | 2 | 21.09 | |
| 12 | | | | 6 | 2 | 2 | 20.89 | |
| 12 | 11 | 2 | | 2 | 20.89 | | | |
| 25 | 0 | 2 | 2 | 21.04 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 5 | 23755 | 706.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 21.74 |
| | | | | 1 | 12 | | | 21.89 |
| | | | | 1 | 24 | | | 21.92 |
| | | | | 12 | 0 | | | 21.95 |
| | | | | 12 | 6 | | | 22.02 |
| | | | | 12 | 11 | | | 21.97 |
| | | | | 25 | 0 | | | 21.88 |
| | | | 16QAM | 1 | 0 | | | 21.29 |
| | | | | 1 | 12 | | | 21.53 |
| | | | | 1 | 24 | | | 21.52 |
| | | | | 12 | 0 | | | 20.86 |
| | | | | 12 | 6 | | | 20.97 |
| | | | | 12 | 11 | | | 20.93 |
| | | | | 25 | 0 | | | 20.98 |
| | 23790 | 710 | QPSK | 1 | 0 | | | 21.91 |
| | | | | 1 | 12 | | | 22.05 |
| | | | | 1 | 24 | | | 21.98 |
| | | | | 12 | 0 | | | 21.95 |
| | | | | 12 | 6 | | | 22.02 |
| | | | | 12 | 11 | | | 22.10 |
| | | | | 25 | 0 | | | 21.99 |
| | | | 16QAM | 1 | 0 | | | 21.52 |
| | | | | 1 | 12 | | | 21.69 |
| | | | | 1 | 24 | | | 21.59 |
| | | | | 12 | 0 | | | 20.92 |
| | | | | 12 | 6 | | | 20.97 |
| | | | | 12 | 11 | | | 21.11 |
| | | | | 25 | 0 | | | 20.98 |
| | 23825 | 713.5 | QPSK | 1 | 0 | | | 21.99 |
| | | | | 1 | 12 | | | 21.90 |
| | | | | 1 | 24 | | | 21.58 |
| | | | | 12 | 0 | | | 22.08 |
| | | | | 12 | 6 | | | 21.96 |
| | | | | 12 | 11 | | | 21.87 |
| | | | | 25 | 0 | | | 21.91 |
| | | | 16QAM | 1 | 0 | | | 21.61 |
| 1 | | | | 12 | 21.50 | | | |
| 1 | | | | 24 | 21.13 | | | |
| 12 | | | | 0 | 21.08 | | | |
| 12 | | | | 6 | 20.93 | | | |
| 12 | | | | 11 | 20.84 | | | |
| 25 | | | | 0 | 21.02 | | | |

9.12. LTE Band 25

Target Power for LTE Band 25, QPSK and 16QAM modulations in all bandwidth

| Tech | BAND | CH. | Freq. [MHz] | Target Power | | Tolerance [dB] |
|------|--------|-------|----------------|------------------------|-----------------------|-------------------|
| | | | | w/o Power Reduction | w/ Power Reduction | |
| LTE | BAND25 | 26140 | 1860 | 23.0 | 14.5 | +/-1 |
| | | 26365 | 1882 | | | |
| | | 26590 | 1905 | | | |
| | | | | | | |
| | | | | | | |

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 |
| 16 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 | 13 | 10 | Table 6.2.4-2 | Table 6.2.4-2 |
| | 6.6.3.3.2 | | | | |
| 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 ¹ | 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 25, 20 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 20 | 26140 | 1860 | QPSK | 1 | 0 | 0 | 0 | 22.99 |
| | | | | 1 | 49 | 0 | 0 | 23.07 |
| | | | | 1 | 99 | 0 | 0 | 22.98 |
| | | | | 50 | 0 | 1 | 1 | 21.83 |
| | | | | 50 | 24 | 1 | 1 | 21.84 |
| | | | | 50 | 49 | 1 | 1 | 21.86 |
| | | | 100 | 0 | 1 | 1 | 21.88 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 22.05 |
| | | | | 1 | 49 | 1 | 1 | 22.14 |
| | | | | 1 | 99 | 1 | 1 | 22.07 |
| | | | | 50 | 0 | 2 | 2 | 20.81 |
| | | | | 50 | 24 | 2 | 2 | 20.76 |
| | 50 | 49 | | 2 | 2 | 20.74 | | |
| | 100 | 0 | 2 | 2 | 20.81 | | | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | 0 | 0 | 22.87 |
| | | | | 1 | 49 | 0 | 0 | 22.99 |
| | | | | 1 | 99 | 0 | 0 | 22.84 |
| | | | | 50 | 0 | 1 | 1 | 21.71 |
| | | | | 50 | 24 | 1 | 1 | 21.68 |
| | | | | 50 | 49 | 1 | 1 | 21.72 |
| | | | 100 | 0 | 1 | 1 | 21.70 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.95 |
| | | | | 1 | 49 | 1 | 1 | 22.06 |
| | | | | 1 | 99 | 1 | 1 | 21.95 |
| | | | | 50 | 0 | 2 | 2 | 20.63 |
| | | | | 50 | 24 | 2 | 2 | 20.64 |
| | 50 | 49 | | 2 | 2 | 20.58 | | |
| | 100 | 0 | 2 | 2 | 20.66 | | | |
| | 26590 | 1905 | QPSK | 1 | 0 | 0 | 0 | 22.71 |
| | | | | 1 | 49 | 0 | 0 | 22.88 |
| 1 | | | | 99 | 0 | 0 | 23.00 | |
| 50 | | | | 0 | 1 | 1 | 21.53 | |
| 50 | | | | 24 | 1 | 1 | 21.55 | |
| 50 | | | | 49 | 1 | 1 | 21.84 | |
| 100 | | | 0 | 1 | 1 | 21.71 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.83 | |
| | | | 1 | 49 | 1 | 1 | 21.93 | |
| | | | 1 | 99 | 1 | 1 | 22.10 | |
| | | | 50 | 0 | 2 | 2 | 20.60 | |
| | | | 50 | 24 | 2 | 2 | 20.59 | |
| | 50 | 49 | 2 | 2 | 20.78 | | | |
| 100 | 0 | 2 | 2 | 20.68 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 20 | 26140 | 1860 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 13.67 |
| | | | | 1 | 49 | | | 14.48 |
| | | | | 1 | 99 | | | 13.53 |
| | | | | 50 | 0 | | | 14.22 |
| | | | | 50 | 24 | | | 14.42 |
| | | | | 50 | 49 | | | 13.70 |
| | | | 100 | 0 | 14.05 | | | |
| | | | 16QAM | 1 | 0 | | | 14.18 |
| | | | | 1 | 49 | | | 14.86 |
| | | | | 1 | 99 | | | 13.52 |
| | | | | 50 | 0 | | | 13.99 |
| | | | | 50 | 24 | | | 14.19 |
| | 50 | 49 | | 13.54 | | | | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | | | 13.70 |
| | | | | 1 | 49 | | | 14.20 |
| | | | | 1 | 99 | | | 15.00 |
| | | | | 50 | 0 | | | 14.13 |
| | | | | 50 | 24 | | | 14.41 |
| | | | | 50 | 49 | | | 14.76 |
| | | | 100 | 0 | 14.38 | | | |
| | | | 16QAM | 1 | 0 | | | 14.06 |
| | | | | 1 | 49 | | | 14.54 |
| | | | | 1 | 99 | | | 15.42 |
| | | | | 50 | 0 | | | 13.87 |
| | | | | 50 | 24 | | | 14.15 |
| | 50 | 49 | | 14.62 | | | | |
| | 100 | 0 | 14.11 | | | | | |
| | 26590 | 1905 | QPSK | 1 | 0 | | | 14.87 |
| | | | | 1 | 49 | | | 13.53 |
| | | | | 1 | 99 | | | 15.44 |
| | | | | 50 | 0 | | | 14.02 |
| | | | | 50 | 24 | | | 13.91 |
| | | | | 50 | 49 | | | 14.93 |
| | | | 100 | 0 | 14.55 | | | |
| | | | 16QAM | 1 | 0 | | | 15.31 |
| | | | | 1 | 49 | | | 13.89 |
| 1 | | | | 99 | 15.46 | | | |
| 50 | | | | 0 | 13.72 | | | |
| 50 | | | | 24 | 13.67 | | | |
| 50 | 49 | 14.97 | | | | | | |
| 100 | 0 | 14.30 | | | | | | |

**LTE Band 25, 15 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|--------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 15 | 26115 | 1857.5 | QPSK | 1 | 0 | 0 | 0 | 22.95 |
| | | | | 1 | 37 | 0 | 0 | 23.05 |
| | | | | 1 | 74 | 0 | 0 | 22.87 |
| | | | | 36 | 0 | 1 | 1 | 21.88 |
| | | | | 36 | 19 | 1 | 1 | 21.99 |
| | | | | 36 | 39 | 1 | 1 | 21.88 |
| | | | | 75 | 0 | 1 | 1 | 21.90 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.61 |
| | | | | 1 | 37 | 1 | 1 | 21.63 |
| | | | | 1 | 74 | 1 | 1 | 21.64 |
| | | | | 36 | 0 | 2 | 2 | 20.83 |
| | | | | 36 | 19 | 2 | 2 | 20.98 |
| | | | | 36 | 39 | 2 | 2 | 20.82 |
| | | | | 75 | 0 | 2 | 2 | 20.83 |
| | 26365 | 1882.5 | QPSK | 1 | 0 | 0 | 0 | 22.95 |
| | | | | 1 | 37 | 0 | 0 | 23.05 |
| | | | | 1 | 74 | 0 | 0 | 22.87 |
| | | | | 36 | 0 | 1 | 1 | 21.88 |
| | | | | 36 | 19 | 1 | 1 | 21.99 |
| | | | | 36 | 39 | 1 | 1 | 21.88 |
| | | | | 75 | 0 | 1 | 1 | 21.90 |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.61 |
| | | | | 1 | 37 | 1 | 1 | 21.63 |
| | | | | 1 | 74 | 1 | 1 | 21.64 |
| | | | | 36 | 0 | 2 | 2 | 20.83 |
| | | | | 36 | 19 | 2 | 2 | 20.98 |
| | | | | 36 | 39 | 2 | 2 | 20.82 |
| 75 | | | | 0 | 2 | 2 | 20.83 | |
| 26615 | 1907.5 | QPSK | 1 | 0 | 0 | 0 | 22.83 | |
| | | | 1 | 37 | 0 | 0 | 22.79 | |
| | | | 1 | 74 | 0 | 0 | 22.72 | |
| | | | 36 | 0 | 1 | 1 | 21.81 | |
| | | | 36 | 19 | 1 | 1 | 21.82 | |
| | | | 36 | 39 | 1 | 1 | 21.75 | |
| | | | 75 | 0 | 1 | 1 | 21.67 | |
| | | 16QAM | 1 | 0 | 1 | 1 | 21.49 | |
| | | | 1 | 37 | 1 | 1 | 21.47 | |
| | | | 1 | 74 | 1 | 1 | 21.35 | |
| | | | 36 | 0 | 2 | 2 | 20.77 | |
| | | | 36 | 19 | 2 | 2 | 20.75 | |
| | | | 36 | 39 | 2 | 2 | 20.69 | |
| | | | 75 | 0 | 2 | 2 | 20.62 | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|--------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 15 | 26115 | 1857.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 13.63 |
| | | | | 1 | 37 | | | 14.58 |
| | | | | 1 | 74 | | | 13.69 |
| | | | | 36 | 0 | | | 14.53 |
| | | | | 36 | 19 | | | 14.45 |
| | | | | 36 | 39 | | | 14.25 |
| | | | | 75 | 0 | | | 14.31 |
| | | | 16QAM | 1 | 0 | | | 13.55 |
| | | | | 1 | 37 | | | 14.59 |
| | | | | 1 | 74 | | | 13.51 |
| | | | | 36 | 0 | | | 14.15 |
| | | | | 36 | 19 | | | 14.45 |
| | | | | 36 | 39 | | | 13.90 |
| | | | | 75 | 0 | | | 13.96 |
| | 26365 | 1882.5 | QPSK | 1 | 0 | | | 13.58 |
| | | | | 1 | 37 | | | 14.24 |
| | | | | 1 | 74 | | | 14.73 |
| | | | | 36 | 0 | | | 14.00 |
| | | | | 36 | 19 | | | 14.37 |
| | | | | 36 | 39 | | | 14.64 |
| | | | | 75 | 0 | | | 14.46 |
| | | | | 1 | 0 | | | 13.52 |
| | | | 16QAM | 1 | 37 | | | 14.06 |
| | | | | 1 | 74 | | | 14.65 |
| | | | | 36 | 0 | | | 14.05 |
| | | | | 36 | 19 | | | 14.10 |
| | | | | 36 | 39 | | | 14.40 |
| | | | | 75 | 0 | | | 14.19 |
| | | | | 1 | 0 | | | 13.52 |
| | | | | 1 | 37 | | | 13.72 |
| 26615 | 1907.5 | QPSK | 1 | 74 | 14.84 | | | |
| | | | 36 | 0 | 13.51 | | | |
| | | | 36 | 19 | 14.06 | | | |
| | | | 36 | 39 | 15.21 | | | |
| | | | 75 | 0 | 14.31 | | | |
| | | | 1 | 0 | 13.52 | | | |
| | | | 16QAM | 1 | 37 | 13.53 | | |
| | | | | 1 | 74 | 14.59 | | |
| | | 36 | | 0 | 13.51 | | | |
| | | 36 | | 19 | 13.81 | | | |
| | | 36 | | 39 | 14.95 | | | |
| | | 75 | | 0 | 14.37 | | | |

**LTE Band 25, 10 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 10 | 26090 | 1855 | QPSK | 1 | 0 | 0 | 0 | 22.92 |
| | | | | 1 | 24 | 0 | 0 | 22.99 |
| | | | | 1 | 49 | 0 | 0 | 23.11 |
| | | | | 25 | 0 | 1 | 1 | 21.94 |
| | | | | 25 | 12 | 1 | 1 | 21.99 |
| | | | | 25 | 24 | 1 | 1 | 22.08 |
| | | | 50 | 0 | 1 | 1 | 21.81 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.64 |
| | | | | 1 | 24 | 1 | 1 | 21.63 |
| | | | | 1 | 49 | 1 | 1 | 21.74 |
| | | | | 25 | 0 | 2 | 2 | 20.85 |
| | | | | 25 | 12 | 2 | 2 | 20.91 |
| | | | | 25 | 24 | 2 | 2 | 20.97 |
| | | | 50 | 0 | 2 | 2 | 20.78 | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | 0 | 0 | 22.83 |
| | | | | 1 | 24 | 0 | 0 | 22.94 |
| | | | | 1 | 49 | 0 | 0 | 22.81 |
| | | | | 25 | 0 | 1 | 1 | 21.95 |
| | | | | 25 | 12 | 1 | 1 | 21.84 |
| | | | | 25 | 24 | 1 | 1 | 21.89 |
| | | | 50 | 0 | 1 | 1 | 21.66 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.52 |
| | | | | 1 | 24 | 1 | 1 | 21.51 |
| | | | | 1 | 49 | 1 | 1 | 21.48 |
| | | | | 25 | 0 | 2 | 2 | 20.94 |
| | | | | 25 | 12 | 2 | 2 | 20.82 |
| | | | | 25 | 24 | 2 | 2 | 20.82 |
| | | | 50 | 0 | 2 | 2 | 20.67 | |
| | 26640 | 1910 | QPSK | 1 | 0 | 0 | 0 | 22.86 |
| | | | | 1 | 24 | 0 | 0 | 22.89 |
| 1 | | | | 49 | 0 | 0 | 22.91 | |
| 25 | | | | 0 | 1 | 1 | 21.91 | |
| 25 | | | | 12 | 1 | 1 | 21.90 | |
| 25 | | | | 24 | 1 | 1 | 21.94 | |
| 50 | | | 0 | 1 | 1 | 21.95 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.47 | |
| | | | 1 | 24 | 1 | 1 | 21.48 | |
| | | | 1 | 49 | 1 | 1 | 21.56 | |
| | | | 25 | 0 | 2 | 2 | 20.91 | |
| | | | 25 | 12 | 2 | 2 | 20.82 | |
| | | | 25 | 24 | 2 | 2 | 20.93 | |
| 50 | | | 0 | 2 | 2 | 20.83 | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 10 | 26090 | 1855 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 13.81 |
| | | | | 1 | 24 | | | 14.35 |
| | | | | 1 | 49 | | | 14.76 |
| | | | | 25 | 0 | | | 14.41 |
| | | | | 25 | 12 | | | 14.54 |
| | | | | 25 | 24 | | | 14.81 |
| | | | | 50 | 0 | | | 14.55 |
| | | | 16QAM | 1 | 0 | | | 13.85 |
| | | | | 1 | 24 | | | 14.06 |
| | | | | 1 | 49 | | | 14.44 |
| | | | | 25 | 0 | | | 14.00 |
| | | | | 25 | 12 | | | 14.15 |
| | | | | 25 | 24 | | | 14.78 |
| | | | | 50 | 0 | | | 14.12 |
| | 26365 | 1882.5 | QPSK | 1 | 0 | | | 14.17 |
| | | | | 1 | 24 | | | 14.09 |
| | | | | 1 | 49 | | | 14.75 |
| | | | | 25 | 0 | | | 14.46 |
| | | | | 25 | 12 | | | 14.37 |
| | | | | 25 | 24 | | | 14.61 |
| | | | | 50 | 0 | | | 14.56 |
| | | | | 16QAM | 1 | | | 0 |
| | | | 1 | | 24 | | | 13.93 |
| | | | 1 | | 49 | | | 14.84 |
| | | | 25 | | 0 | | | 14.21 |
| | | | 25 | | 12 | | | 14.16 |
| | | | 25 | | 24 | | | 14.39 |
| | | | 50 | | 0 | | | 14.29 |
| | | | 50 | | 0 | | | 14.29 |
| | | | 26640 | 1910 | QPSK | | | 1 |
| 1 | 24 | 14.14 | | | | | | |
| 1 | 49 | 14.73 | | | | | | |
| 25 | 0 | 13.91 | | | | | | |
| 25 | 12 | 14.57 | | | | | | |
| 25 | 24 | 15.20 | | | | | | |
| 50 | 0 | 14.53 | | | | | | |
| 16QAM | 1 | 0 | | | | 13.51 | | |
| | 1 | 24 | | | 13.97 | | | |
| | 1 | 49 | | | 14.63 | | | |
| | 25 | 0 | | | 13.63 | | | |
| | 25 | 12 | | | 14.33 | | | |
| | 25 | 24 | | | 15.02 | | | |
| | 50 | 0 | | | 14.23 | | | |
| | 50 | 0 | | | 14.23 | | | |

**LTE Band 25, 5 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 5 | 26065 | 1852.5 | QPSK | 1 | 0 | 0 | 0 | 22.94 |
| | | | | 1 | 12 | 0 | 0 | 22.92 |
| | | | | 1 | 24 | 0 | 0 | 22.97 |
| | | | | 12 | 0 | 1 | 1 | 22.05 |
| | | | | 12 | 6 | 1 | 1 | 21.96 |
| | | | | 12 | 11 | 1 | 1 | 22.02 |
| | | | 25 | 0 | 1 | 1 | 21.93 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.53 |
| | | | | 1 | 12 | 1 | 1 | 21.49 |
| | | | | 1 | 24 | 1 | 1 | 21.58 |
| | | | | 12 | 0 | 2 | 2 | 20.96 |
| | | | | 12 | 6 | 2 | 2 | 20.88 |
| | 12 | 11 | | 2 | 2 | 20.96 | | |
| | 25 | 0 | 2 | 2 | 20.96 | | | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | 0 | 0 | 22.96 |
| | | | | 1 | 12 | 0 | 0 | 22.82 |
| | | | | 1 | 24 | 0 | 0 | 22.82 |
| | | | | 12 | 0 | 1 | 1 | 21.99 |
| | | | | 12 | 6 | 1 | 1 | 21.94 |
| | | | | 12 | 11 | 1 | 1 | 21.94 |
| | | | 25 | 0 | 1 | 1 | 21.81 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.58 |
| | | | | 1 | 12 | 1 | 1 | 21.51 |
| | | | | 1 | 24 | 1 | 1 | 21.48 |
| | | | | 12 | 0 | 2 | 2 | 20.97 |
| | | | | 12 | 6 | 2 | 2 | 20.85 |
| | 12 | 11 | | 2 | 2 | 20.84 | | |
| | 25 | 0 | 2 | 2 | 20.90 | | | |
| | 26665 | 1912.5 | QPSK | 1 | 0 | 0 | 0 | 22.88 |
| | | | | 1 | 12 | 0 | 0 | 22.97 |
| 1 | | | | 24 | 0 | 0 | 22.91 | |
| 12 | | | | 0 | 1 | 1 | 21.89 | |
| 12 | | | | 6 | 1 | 1 | 21.96 | |
| 12 | | | | 11 | 1 | 1 | 22.01 | |
| 25 | | | 0 | 1 | 1 | 21.91 | | |
| 16QAM | | | 1 | 0 | 1 | 1 | 21.50 | |
| | | | 1 | 12 | 1 | 1 | 21.62 | |
| | | | 1 | 24 | 1 | 1 | 21.58 | |
| | | | 12 | 0 | 2 | 2 | 20.91 | |
| | | | 12 | 6 | 2 | 2 | 20.88 | |
| | 12 | 11 | 2 | 2 | 20.97 | | | |
| 25 | 0 | 2 | 2 | 20.92 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-------|-------|-------------|-------|------------------|-------------|--|-----------|---------------|
| 5 | 26065 | 1852.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.13 |
| | | | | 1 | 12 | | | 14.47 |
| | | | | 1 | 24 | | | 14.65 |
| | | | | 12 | 0 | | | 14.41 |
| | | | | 12 | 6 | | | 14.48 |
| | | | | 12 | 11 | | | 14.57 |
| | | | 25 | 0 | 14.50 | | | |
| | | | 16QAM | 1 | 0 | | | 14.20 |
| | | | | 1 | 12 | | | 14.67 |
| | | | | 1 | 24 | | | 14.91 |
| | | | | 12 | 0 | | | 14.26 |
| | | | | 12 | 6 | | | 14.52 |
| | 12 | 11 | | 14.63 | | | | |
| | 26365 | 1882.5 | QPSK | 25 | 0 | | | 14.58 |
| | | | | 1 | 0 | | | 14.28 |
| | | | | 1 | 12 | | | 14.66 |
| | | | | 1 | 24 | | | 14.85 |
| | | | | 12 | 0 | | | 14.44 |
| | | | | 12 | 6 | | | 14.78 |
| | | | 12 | 11 | 14.88 | | | |
| | | | 25 | 0 | 14.79 | | | |
| | | | 16QAM | 1 | 0 | | | 14.20 |
| | | | | 1 | 12 | | | 14.56 |
| | | | | 1 | 24 | | | 14.76 |
| | | | | 12 | 0 | | | 14.50 |
| | 12 | 6 | | 14.52 | | | | |
| | 12 | 11 | | 14.63 | | | | |
| | 26665 | 1912.5 | QPSK | 25 | 0 | | | 14.61 |
| | | | | 1 | 0 | | | 14.01 |
| | | | | 1 | 12 | | | 14.74 |
| | | | | 1 | 24 | | | 14.74 |
| | | | | 12 | 0 | | | 13.51 |
| | | | | 12 | 6 | | | 14.57 |
| | | | 12 | 11 | 14.81 | | | |
| | | | 12 | 11 | 14.56 | | | |
| | | | 25 | 0 | 14.53 | | | |
| 16QAM | | | 1 | 0 | 14.00 | | | |
| | | | 1 | 12 | 14.69 | | | |
| | | | 1 | 24 | 13.52 | | | |
| | 12 | 0 | 14.40 | | | | | |
| | 12 | 6 | 14.61 | | | | | |
| | 12 | 11 | 14.38 | | | | | |
| 25 | 0 | 14.40 | | | | | | |

**LTE Band 25, 3 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 3 | 26055 | 1851.5 | QPSK | 1 | 0 | 0 | 0 | 22.98 |
| | | | | 1 | 7 | 0 | 0 | 22.98 |
| | | | | 1 | 14 | 0 | 0 | 22.93 |
| | | | | 8 | 0 | 1 | 1 | 22.04 |
| | | | | 8 | 4 | 1 | 1 | 22.08 |
| | | | | 8 | 7 | 1 | 1 | 22.10 |
| | | | 15 | 0 | 1 | 1 | 22.03 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.58 |
| | | | | 1 | 7 | 1 | 1 | 21.62 |
| | | | | 1 | 14 | 1 | 1 | 21.53 |
| | | | | 8 | 0 | 2 | 2 | 21.07 |
| | | | | 8 | 4 | 2 | 2 | 21.12 |
| | 8 | 7 | | 2 | 2 | 21.17 | | |
| | 15 | 0 | 2 | 2 | 21.05 | | | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | 0 | 0 | 22.99 |
| | | | | 1 | 7 | 0 | 0 | 22.85 |
| | | | | 1 | 14 | 0 | 0 | 22.88 |
| | | | | 8 | 0 | 1 | 1 | 22.03 |
| | | | | 8 | 4 | 1 | 1 | 21.97 |
| | | | | 8 | 7 | 1 | 1 | 22.00 |
| | | | 15 | 0 | 1 | 1 | 21.95 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.69 |
| | | | | 1 | 7 | 1 | 1 | 21.50 |
| | | | | 1 | 14 | 1 | 2 | 21.48 |
| | | | | 8 | 0 | 2 | 2 | 21.12 |
| | | | | 8 | 4 | 2 | 2 | 21.05 |
| | 8 | 7 | | 2 | 2 | 21.00 | | |
| | 15 | 0 | 2 | 2 | 20.98 | | | |
| | 26674 | 1913.4 | QPSK | 1 | 0 | 0 | 0 | 22.91 |
| | | | | 1 | 7 | 0 | 0 | 22.96 |
| | | | | 1 | 14 | 0 | 0 | 22.92 |
| | | | | 8 | 0 | 1 | 1 | 21.99 |
| | | | | 8 | 4 | 1 | 1 | 21.99 |
| | | | | 8 | 7 | 1 | 1 | 22.08 |
| | | | 15 | 0 | 1 | 1 | 22.08 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.62 |
| 1 | | | | 7 | 1 | 1 | 21.61 | |
| 1 | | | | 14 | 1 | 1 | 21.60 | |
| 8 | | | | 0 | 2 | 2 | 21.05 | |
| 8 | | | | 4 | 2 | 2 | 21.01 | |
| 8 | 7 | 2 | | 2 | 21.08 | | | |
| 15 | 0 | 2 | 2 | 21.01 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) | | | |
|-------|-------|-------------|-------|------------------|-------------|---|-----------|---------------|-------|-------|-------|
| 3 | 26055 | 1851.5 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.21 | | | |
| | | | | 1 | 7 | | | 14.43 | | | |
| | | | | 1 | 14 | | | 14.53 | | | |
| | | | | 8 | 0 | | | 14.43 | | | |
| | | | | 8 | 4 | | | 14.53 | | | |
| | | | | 8 | 7 | | | 14.64 | | | |
| | | | 15 | 0 | 14.55 | | | | | | |
| | | | 16QAM | 1 | 0 | | | 14.22 | | | |
| | | | | 1 | 7 | | | 14.42 | | | |
| | | | | 1 | 14 | | | 14.47 | | | |
| | | | | 8 | 0 | | | 14.45 | | | |
| | | | | 8 | 4 | | | 14.51 | | | |
| | 8 | 7 | | 14.61 | | | | | | | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | | | 14.41 | | | |
| | | | | 1 | 7 | | | 14.82 | | | |
| | | | | 1 | 14 | | | 14.86 | | | |
| | | | | 8 | 0 | | | 14.85 | | | |
| | | | | 8 | 4 | | | 14.90 | | | |
| | | | | 8 | 7 | | | 14.92 | | | |
| | | | | 15 | 0 | | | 14.90 | | | |
| | | | | 16QAM | 1 | | | 0 | 14.29 | | |
| | | | | | 1 | | | 7 | 14.66 | | |
| | | | 1 | | 14 | | | 14.67 | | | |
| | | | 8 | | 0 | | | 14.74 | | | |
| | | | 8 | | 4 | | | 14.74 | | | |
| | | | 8 | | 7 | | | 14.78 | | | |
| | | | 15 | | 0 | | | 14.67 | | | |
| | | | 26674 | | 1913.4 | | | QPSK | 1 | 0 | 14.85 |
| | | | | | | | | | 1 | 7 | 14.63 |
| | | | | 1 | | | | | 14 | 13.69 | |
| 8 | | | | 0 | | 14.85 | | | | | |
| 8 | 4 | 14.59 | | | | | | | | | |
| 8 | 7 | 14.25 | | | | | | | | | |
| 15 | 0 | 14.66 | | | | | | | | | |
| 16QAM | 1 | 0 | | 14.69 | | | | | | | |
| | 1 | 7 | | 14.45 | | | | | | | |
| | 1 | 14 | | 13.51 | | | | | | | |
| | 8 | 0 | | 14.82 | | | | | | | |
| | 8 | 4 | | 14.50 | | | | | | | |
| | 8 | 7 | 14.18 | | | | | | | | |
| 15 | 0 | 14.54 | | | | | | | | | |

**LTE Band 25, 1.4 MHz Bandwidth Output Power
 Full Power (Proximity Sensor Off)**

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|------------|-----------|---------------|
| 1.4 | 26047 | 1850.7 | QPSK | 1 | 0 | 0 | 0 | 23.05 |
| | | | | 1 | 2 | 0 | 0 | 22.96 |
| | | | | 1 | 5 | 0 | 0 | 23.01 |
| | | | | 3 | 0 | 0 | 0 | 23.11 |
| | | | | 3 | 1 | 0 | 0 | 23.07 |
| | | | | 3 | 3 | 0 | 0 | 23.02 |
| | | | 6 | 0 | 1 | 1 | 22.02 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.84 |
| | | | | 1 | 2 | 1 | 1 | 21.89 |
| | | | | 1 | 5 | 1 | 1 | 21.89 |
| | | | | 3 | 0 | 1 | 1 | 22.04 |
| | | | | 3 | 1 | 1 | 1 | 21.97 |
| | 3 | 3 | | 1 | 1 | 21.98 | | |
| | 6 | 0 | 2 | 2 | 21.11 | | | |
| | 26365 | 1882.5 | QPSK | 1 | 0 | 0 | 0 | 23.02 |
| | | | | 1 | 2 | 0 | 0 | 23.03 |
| | | | | 1 | 5 | 0 | 0 | 22.85 |
| | | | | 3 | 0 | 0 | 0 | 23.05 |
| | | | | 3 | 1 | 0 | 0 | 22.93 |
| | | | | 3 | 3 | 0 | 0 | 22.94 |
| | | | 6 | 0 | 1 | 1 | 21.98 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.90 |
| | | | | 1 | 2 | 1 | 1 | 21.84 |
| | | | | 1 | 5 | 1 | 1 | 21.78 |
| | | | | 3 | 0 | 1 | 1 | 22.06 |
| | | | | 3 | 1 | 1 | 1 | 21.91 |
| | 3 | 3 | | 1 | 1 | 21.90 | | |
| | 6 | 0 | 2 | 2 | 21.02 | | | |
| | 26682 | 1914.2 | QPSK | 1 | 0 | 0 | 0 | 23.00 |
| | | | | 1 | 2 | 0 | 0 | 23.00 |
| | | | | 1 | 5 | 0 | 0 | 22.92 |
| | | | | 3 | 0 | 0 | 0 | 22.99 |
| | | | | 3 | 1 | 0 | 0 | 22.99 |
| | | | | 3 | 3 | 0 | 0 | 22.97 |
| | | | 6 | 0 | 1 | 1 | 21.95 | |
| | | | 16QAM | 1 | 0 | 1 | 1 | 21.86 |
| 1 | | | | 2 | 1 | 1 | 21.91 | |
| 1 | | | | 5 | 1 | 1 | 21.84 | |
| 3 | | | | 0 | 1 | 1 | 21.95 | |
| 3 | | | | 1 | 1 | 1 | 21.97 | |
| 3 | 3 | 1 | | 1 | 21.88 | | | |
| 6 | 0 | 2 | 2 | 21.00 | | | | |

Reduced Power (Proximity Sensor On)

| BW | Ch | Freq. (MHz) | Mode | UL RB Allocation | UL RB Start | Target MPR | Meas. MPR | Avg Pwr (dBm) |
|-----|-------|-------------|-------|------------------|-------------|---|-----------|---------------|
| 1.4 | 26047 | 1850.7 | QPSK | 1 | 0 | MPR is disabled when power reduction is enabled | | 14.50 |
| | | | | 1 | 2 | | 14.64 | |
| | | | | 1 | 5 | | 14.66 | |
| | | | | 3 | 0 | | 14.65 | |
| | | | | 3 | 1 | | 14.73 | |
| | | | | 3 | 3 | | 14.70 | |
| | | | 16QAM | 6 | 0 | | 14.73 | |
| | | | | 1 | 0 | | 14.59 | |
| | | | | 1 | 2 | | 14.79 | |
| | | | | 1 | 5 | | 14.77 | |
| | | | | 3 | 0 | | 14.63 | |
| | | | | 3 | 1 | | 14.70 | |
| | 26365 | 1882.5 | QPSK | 3 | 3 | | 14.65 | |
| | | | | 6 | 0 | | 14.83 | |
| | | | | 1 | 0 | | 14.69 | |
| | | | | 1 | 2 | | 14.72 | |
| | | | | 1 | 5 | | 14.69 | |
| | | | | 3 | 0 | | 14.72 | |
| | | | 16QAM | 3 | 1 | | 14.79 | |
| | | | | 3 | 3 | | 14.84 | |
| | | | | 6 | 0 | | 14.80 | |
| | | | | 1 | 0 | | 14.69 | |
| | | | | 1 | 2 | | 14.75 | |
| | | | | 1 | 5 | | 14.68 | |
| | 26682 | 1914.2 | QPSK | 3 | 0 | | 14.60 | |
| | | | | 3 | 1 | | 14.66 | |
| | | | | 3 | 3 | | 14.70 | |
| | | | | 6 | 0 | | 14.76 | |
| | | | | 1 | 0 | | 14.88 | |
| | | | | 1 | 2 | | 14.63 | |
| | | | 16QAM | 1 | 5 | | 14.08 | |
| | | | | 3 | 0 | | 14.77 | |
| | | | | 3 | 1 | | 14.69 | |
| | | | | 3 | 3 | | 14.59 | |
| | | | | 6 | 0 | | 14.62 | |
| | | | | 1 | 0 | | 14.84 | |
| | | | | 1 | 2 | 14.62 | | |
| | | | | 1 | 5 | 14.09 | | |
| | | | | 3 | 0 | 14.64 | | |
| | | | | 3 | 1 | 14.55 | | |
| | | | | 3 | 3 | 14.44 | | |
| | | | | 6 | 0 | 14.58 | | |

10. 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.

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

| Target Frequency (MHz) | Head | | Body | |
|------------------------|--------------|----------------|--------------|----------------|
| | ϵ_r | σ (S/m) | ϵ_r | σ (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

10.1. Tissue Dielectric Parameter Check Results

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°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.

750MHz Band

| Date | Freq. (MHz) | Liquid Parameters | Measured | Target | Delta (%) | Limit ±(%) |
|------------|-------------|---|----------|--------|-----------|------------|
| 2015/11/27 | Body 750 | Relative Permittivity (ϵ_r): | 54.66 | 55.55 | -1.60 | 5 |
| | | Conductivity (σ): | 0.96 | 0.96 | -0.57 | 5 |
| | Body 775 | Relative Permittivity (ϵ_r): | 54.36 | 55.45 | -1.97 | 5 |
| | | Conductivity (σ): | 0.98 | 0.97 | 1.65 | 5 |
| | Body 790 | Relative Permittivity (ϵ_r): | 54.18 | 55.39 | -2.19 | 5 |
| | | Conductivity (σ): | 1.00 | 0.97 | 3.12 | 5 |
| 2015/11/27 | Body 750 | Relative Permittivity (ϵ_r): | 54.66 | 55.55 | -1.60 | 5 |
| | | Conductivity (σ): | 0.96 | 0.96 | -0.57 | 5 |
| | Body 705 | Relative Permittivity (ϵ_r): | 55.19 | 55.72 | -0.95 | 5 |
| | | Conductivity (σ): | 0.91 | 0.96 | -4.67 | 5 |
| | Body 720 | Relative Permittivity (ϵ_r): | 55.00 | 55.66 | -1.19 | 5 |
| | | Conductivity (σ): | 0.93 | 0.96 | -3.25 | 5 |
| 2015/11/30 | Body 750 | Relative Permittivity (ϵ_r): | 56.11 | 55.55 | 1.02 | 5 |
| | | Conductivity (σ): | 0.95 | 0.96 | -1.31 | 5 |
| | Body 775 | Relative Permittivity (ϵ_r): | 55.89 | 55.45 | 0.79 | 5 |
| | | Conductivity (σ): | 0.97 | 0.97 | 0.64 | 5 |
| | Body 790 | Relative Permittivity (ϵ_r): | 55.76 | 55.39 | 0.66 | 5 |
| | | Conductivity (σ): | 0.98 | 0.97 | 1.92 | 5 |
| 2015/12/3 | Body 750 | Relative Permittivity (ϵ_r): | 57.39 | 55.55 | 3.32 | 5 |
| | | Conductivity (σ): | 0.96 | 0.96 | -0.77 | 5 |
| | Body 705 | Relative Permittivity (ϵ_r): | 57.81 | 55.72 | 3.75 | 5 |
| | | Conductivity (σ): | 0.92 | 0.96 | -4.43 | 5 |
| | Body 720 | Relative Permittivity (ϵ_r): | 57.65 | 55.66 | 3.57 | 5 |
| | | Conductivity (σ): | 0.93 | 0.96 | -3.18 | 5 |

835MHz Band

| Date | Freq. (MHz) | Liquid Parameters | Measured | Target | Delta (%) | Limit ±(%) |
|------------|-------------|---|----------|--------|-----------|------------|
| 2015/11/18 | Body 835 | Relative Permittivity (ϵ_r): | 54.37 | 55.20 | -1.50 | 5 |
| | | Conductivity (σ): | 0.99 | 0.97 | 1.88 | 5 |
| | Body 820 | Relative Permittivity (ϵ_r): | 54.56 | 55.28 | -1.30 | 5 |
| | | Conductivity (σ): | 0.97 | 0.97 | 0.47 | 5 |
| | Body 850 | Relative Permittivity (ϵ_r): | 54.18 | 55.16 | -1.77 | 5 |
| | | Conductivity (σ): | 1.00 | 0.99 | 1.61 | 5 |
| 2015/11/19 | Body 835 | Relative Permittivity (ϵ_r): | 54.24 | 55.20 | -1.74 | 5 |
| | | Conductivity (σ): | 0.96 | 0.97 | -0.65 | 5 |
| | Body 820 | Relative Permittivity (ϵ_r): | 54.41 | 55.28 | -1.57 | 5 |
| | | Conductivity (σ): | 0.95 | 0.97 | -2.10 | 5 |
| | Body 850 | Relative Permittivity (ϵ_r): | 54.08 | 55.16 | -1.95 | 5 |
| | | Conductivity (σ): | 0.98 | 0.99 | -0.80 | 5 |
| 2015/11/20 | Body 835 | Relative Permittivity (ϵ_r): | 53.85 | 55.20 | -2.45 | 5 |
| | | Conductivity (σ): | 0.97 | 0.97 | 0.46 | 5 |
| | Body 820 | Relative Permittivity (ϵ_r): | 54.00 | 55.28 | -2.31 | 5 |
| | | Conductivity (σ): | 0.96 | 0.97 | -0.98 | 5 |
| | Body 850 | Relative Permittivity (ϵ_r): | 53.70 | 55.16 | -2.64 | 5 |
| | | Conductivity (σ): | 0.99 | 0.99 | 0.24 | 5 |
| 2015/11/25 | Body 835 | Relative Permittivity (ϵ_r): | 55.27 | 55.20 | 0.13 | 5 |
| | | Conductivity (σ): | 0.97 | 0.97 | 0.46 | 5 |
| | Body 820 | Relative Permittivity (ϵ_r): | 55.42 | 55.28 | 0.26 | 5 |
| | | Conductivity (σ): | 0.96 | 0.97 | -1.00 | 5 |
| | Body 850 | Relative Permittivity (ϵ_r): | 55.11 | 55.16 | -0.09 | 5 |
| | | Conductivity (σ): | 0.99 | 0.99 | 0.43 | 5 |
| 2015/11/26 | Body 835 | Relative Permittivity (ϵ_r): | 55.13 | 55.20 | -0.13 | 5 |
| | | Conductivity (σ): | 0.96 | 0.97 | -1.16 | 5 |
| | Body 810 | Relative Permittivity (ϵ_r): | 55.38 | 55.32 | 0.12 | 5 |
| | | Conductivity (σ): | 0.93 | 0.97 | -3.63 | 5 |
| | Body 850 | Relative Permittivity (ϵ_r): | 54.98 | 55.16 | -0.32 | 5 |
| | | Conductivity (σ): | 0.98 | 0.99 | -1.19 | 5 |
| 2015/11/30 | Body 835 | Relative Permittivity (ϵ_r): | 54.32 | 55.20 | -1.59 | 5 |
| | | Conductivity (σ): | 0.95 | 0.97 | -2.35 | 5 |
| | Body 810 | Relative Permittivity (ϵ_r): | 54.59 | 55.32 | -1.31 | 5 |
| | | Conductivity (σ): | 0.92 | 0.97 | -4.63 | 5 |
| | Body 850 | Relative Permittivity (ϵ_r): | 54.19 | 55.16 | -1.75 | 5 |
| | | Conductivity (σ): | 0.96 | 0.99 | -2.55 | 5 |

1750MHz Band

| Date | Freq. (MHz) | Liquid Parameters | Measured | Target | Delta (%) | Limit ±(%) |
|------------|-------------|---|----------|--------|-----------|------------|
| 2015/11/27 | Body 1710 | Relative Permittivity (ϵ_r): | 52.73 | 53.54 | -1.52 | 5 |
| | | Conductivity (σ): | 1.42 | 1.46 | -2.71 | 5 |
| | Body 1750 | Relative Permittivity (ϵ_r): | 52.60 | 53.43 | -1.55 | 5 |
| | | Conductivity (σ): | 1.47 | 1.49 | -1.28 | 5 |
| | Body 1755 | Relative Permittivity (ϵ_r): | 52.57 | 53.43 | -1.61 | 5 |
| | | Conductivity (σ): | 1.48 | 1.49 | -0.82 | 5 |
| 2015/12/2 | Body 1710 | Relative Permittivity (ϵ_r): | 52.13 | 53.54 | -2.64 | 5 |
| | | Conductivity (σ): | 1.42 | 1.46 | -2.84 | 5 |
| | Body 1750 | Relative Permittivity (ϵ_r): | 51.94 | 53.43 | -2.79 | 5 |
| | | Conductivity (σ): | 1.46 | 1.49 | -1.90 | 5 |
| | Body 1755 | Relative Permittivity (ϵ_r): | 51.92 | 53.43 | -2.82 | 5 |
| | | Conductivity (σ): | 1.47 | 1.49 | -1.56 | 5 |

1900MHz Band

| Date | Freq. (MHz) | Liquid Parameters | Measured | Target | Delta (%) | Limit ±(%) |
|------------|-------------|---|----------|--------|-----------|------------|
| 2015/11/26 | Body 1900 | Relative Permittivity (ϵ_r): | 53.21 | 53.30 | -0.17 | 5 |
| | | Conductivity (σ): | 1.54 | 1.52 | 1.32 | 5 |
| | Body 1850 | Relative Permittivity (ϵ_r): | 53.39 | 53.30 | 0.17 | 5 |
| | | Conductivity (σ): | 1.48 | 1.52 | -2.43 | 5 |
| | Body 1915 | Relative Permittivity (ϵ_r): | 53.16 | 53.30 | -0.26 | 5 |
| | | Conductivity (σ): | 1.56 | 1.52 | 2.37 | 5 |
| 2015/11/27 | Body 1900 | Relative Permittivity (ϵ_r): | 51.85 | 53.30 | -2.72 | 5 |
| | | Conductivity (σ): | 1.49 | 1.52 | -1.97 | 5 |
| | Body 1850 | Relative Permittivity (ϵ_r): | 52.01 | 53.30 | -2.42 | 5 |
| | | Conductivity (σ): | 1.45 | 1.52 | -4.80 | 5 |
| | Body 1915 | Relative Permittivity (ϵ_r): | 51.82 | 53.30 | -2.78 | 5 |
| | | Conductivity (σ): | 1.51 | 1.52 | -0.46 | 5 |
| 2015/11/30 | Body 1900 | Relative Permittivity (ϵ_r): | 52.81 | 53.30 | -0.92 | 5 |
| | | Conductivity (σ): | 1.51 | 1.52 | -0.66 | 5 |
| | Body 1850 | Relative Permittivity (ϵ_r): | 52.93 | 53.30 | -0.69 | 5 |
| | | Conductivity (σ): | 1.46 | 1.52 | -4.08 | 5 |
| | Body 1915 | Relative Permittivity (ϵ_r): | 52.79 | 53.30 | -0.96 | 5 |
| | | Conductivity (σ): | 1.52 | 1.52 | 0.26 | 5 |
| 2015/12/1 | Body 1900 | Relative Permittivity (ϵ_r): | 52.00 | 53.30 | -2.44 | 5 |
| | | Conductivity (σ): | 1.55 | 1.52 | 2.17 | 5 |
| | Body 1850 | Relative Permittivity (ϵ_r): | 52.13 | 53.30 | -2.20 | 5 |
| | | Conductivity (σ): | 1.50 | 1.52 | -1.58 | 5 |
| | Body 1915 | Relative Permittivity (ϵ_r): | 51.97 | 53.30 | -2.50 | 5 |
| | | Conductivity (σ): | 1.57 | 1.52 | 3.09 | 5 |
| 2015/12/2 | Body 1900 | Relative Permittivity (ϵ_r): | 51.76 | 53.30 | -2.90 | 5 |
| | | Conductivity (σ): | 1.51 | 1.52 | -0.68 | 5 |
| | Body 1850 | Relative Permittivity (ϵ_r): | 51.83 | 53.30 | -2.75 | 5 |
| | | Conductivity (σ): | 1.45 | 1.52 | -4.54 | 5 |
| | Body 1915 | Relative Permittivity (ϵ_r): | 51.75 | 53.30 | -2.91 | 5 |
| | | Conductivity (σ): | 1.53 | 1.52 | 0.49 | 5 |

2.4GHz/ 5GHz band

| Date | Freq. (MHz) | Liquid Parameters | Measured | Target | Delta (%) | Limit ±(%) |
|------------|-------------|---|----------|--------|-----------|------------|
| 2015/11/17 | Body 2450 | Relative Permittivity (ϵ_r): | 50.57 | 52.70 | -4.04 | 5 |
| | | Conductivity (σ): | 1.94 | 1.95 | -0.56 | 5 |
| | Body 2410 | Relative Permittivity (ϵ_r): | 50.71 | 52.76 | -3.89 | 5 |
| | | Conductivity (σ): | 1.86 | 1.91 | -2.34 | 5 |
| | Body 2475 | Relative Permittivity (ϵ_r): | 50.48 | 52.67 | -4.16 | 5 |
| | | Conductivity (σ): | 1.98 | 1.99 | -0.50 | 5 |
| 2015/11/19 | Body 2450 | Relative Permittivity (ϵ_r): | 50.78 | 52.70 | -3.64 | 5 |
| | | Conductivity (σ): | 1.93 | 1.95 | -1.18 | 5 |
| | Body 2410 | Relative Permittivity (ϵ_r): | 50.92 | 52.76 | -3.49 | 5 |
| | | Conductivity (σ): | 1.88 | 1.91 | -1.60 | 5 |
| | Body 2475 | Relative Permittivity (ϵ_r): | 50.69 | 52.67 | -3.76 | 5 |
| | | Conductivity (σ): | 1.96 | 1.99 | -1.32 | 5 |
| 2015/11/16 | Body 5180 | Relative Permittivity (ϵ_r): | 47.50 | 49.05 | -3.15 | 10 |
| | | Conductivity (σ): | 5.33 | 5.27 | 1.07 | 5 |
| | Body 5250 | Relative Permittivity (ϵ_r): | 47.18 | 48.95 | -3.62 | 10 |
| | | Conductivity (σ): | 5.46 | 5.35 | 1.91 | 5 |
| | Body 5600 | Relative Permittivity (ϵ_r): | 46.95 | 48.48 | -3.16 | 10 |
| | | Conductivity (σ): | 5.84 | 5.76 | 1.41 | 5 |
| | Body 5750 | Relative Permittivity (ϵ_r): | 46.70 | 48.27 | -3.26 | 10 |
| | | Conductivity (σ): | 6.16 | 5.94 | 3.81 | 5 |
| | Body 5825 | Relative Permittivity (ϵ_r): | 46.68 | 48.20 | -3.15 | 10 |
| | | Conductivity (σ): | 6.19 | 6.00 | 3.23 | 5 |

11. System Performance 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 remeasured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

11.1. System Performance Check Measurement Conditions

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ± 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 ≥ 15.0 cm ± 0.5 cm for SAR measurements.
- 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 3GHz), 12 mm (1GHz to 3GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 12 mm (1GHz to 3GHz) and 15 mm (below 1GHz) 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(For 5GHz band) or 250 mW(For other band).
- The results are normalized to 1 W input power.

11.2. Reference SAR Values for System Performance Check

The target(reference) SAR values can be obtained from the calibration certificate of system validation dipoles(Refer to section 15). The target SAR values are SAR measured value in the calibration certificate scaled to 1W.

| System Dipole | Serial No. | Cal. Date | Freq. (MHz) | Target SAR Values (mW/g) | | |
|---------------|------------|------------|-------------|--------------------------|-------|-------|
| | | | | 1g/10g | Head | Body |
| D750V3 | 1058 | 05/28/2015 | 750 | 1g | 8.24 | 8.64 |
| | | | | 10g | 5.40 | 5.72 |
| D835V2 | 4d149 | 5/05/2013 | 835 | 1g | 9.96 | 10.04 |
| | | | | 10g | 6.44 | 6.60 |
| D1750V2 | 1089 | 5/08/2013 | 1750 | 1g | 36.64 | 38.16 |
| | | | | 10g | 19.56 | 20.44 |
| D1900V2 | 5d169 | 05/07/2013 | 1900 | 1g | 40.00 | 40.80 |
| | | | | 10g | 20.92 | 21.44 |
| D2450V2 | 713 | 9/3/2013 | 2450 | 1g | 52.0 | 50.4 |
| | | | | 10g | 24.2 | 23.6 |
| D5GHV2 | 1020 | 1/13/2015 | 5250 | 1g | 80.4 | 73.8 |
| | | | | 10g | 22.9 | 20.7 |
| | | | 5600 | 1g | 81.4 | 77.2 |
| | | | | 10g | 23.1 | 21.4 |
| | | | 5750 | 1g | 78.8 | 73.7 |
| | | | | 10g | 22.4 | 20.4 |

11.3. System Performance 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.

| Date Tested | System Dipole | | T.S. Liquid | Measured Results | | Target (Ref. Value) | Delta $\pm 10\%$ | |
|-------------|---------------|----------|-------------|------------------|------------------|---------------------|------------------|-------|
| | Type | Serial # | | Zoom Scan | Normalize to 1 W | | | |
| 11/27/2015 | D750V3 | 1058 | Body | 1g | 2.04 | 8.2 | 8.64 | -5.56 |
| | | | | 10g | 1.37 | 5.48 | 5.72 | -4.20 |
| 11/30/2015 | D750V3 | 1058 | Body | 1g | 2.10 | 8.4 | 8.64 | -2.78 |
| | | | | 10g | 1.41 | 5.64 | 5.72 | -1.40 |
| 12/3/2015 | D750V3 | 1058 | Body | 1g | 2.02 | 8.1 | 8.64 | -6.48 |
| | | | | 10g | 1.35 | 5.40 | 5.72 | -5.59 |
| 11/18/2015 | D835V2 | 4d149 | Body | 1g | 2.46 | 9.84 | 10.04 | -1.99 |
| | | | | 10g | 1.63 | 6.52 | 6.60 | -1.21 |
| 11/19/2015 | D835V2 | 4d149 | Body | 1g | 2.54 | 10.16 | 10.04 | 1.20 |
| | | | | 10g | 1.69 | 6.76 | 6.60 | 2.42 |
| 11/20/2015 | D835V2 | 4d149 | Body | 1g | 2.50 | 10.00 | 10.04 | -0.40 |
| | | | | 10g | 1.66 | 6.64 | 6.60 | 0.61 |
| 11/25/2015 | D835V2 | 4d149 | Body | 1g | 2.38 | 9.52 | 10.04 | -5.18 |
| | | | | 10g | 1.59 | 6.36 | 6.60 | -3.64 |
| 11/26/2015 | D835V2 | 4d149 | Body | 1g | 2.29 | 9.16 | 10.04 | -8.76 |
| | | | | 10g | 1.53 | 6.12 | 6.60 | -7.27 |
| 11/30/2015 | D835V2 | 4d149 | Body | 1g | 2.42 | 9.68 | 10.04 | -3.59 |
| | | | | 10g | 1.61 | 6.44 | 6.60 | -2.42 |
| 11/27/2015 | D1750V2 | 1089 | Body | 1g | 9.00 | 36.00 | 38.16 | -5.66 |
| | | | | 10g | 4.81 | 19.24 | 20.44 | -5.87 |
| 12/2/2015 | D1750V2 | 1089 | Body | 1g | 9.23 | 36.92 | 38.16 | -3.25 |
| | | | | 10g | 5.01 | 20.04 | 20.44 | -1.96 |
| 11/26/2015 | D1900V2 | 5d169 | Body | 1g | 9.93 | 39.72 | 40.8 | -2.65 |
| | | | | 10g | 5.21 | 20.84 | 21.44 | -2.80 |
| 11/27/2015 | D1900V2 | 5d169 | Body | 1g | 9.72 | 38.88 | 40.8 | -4.71 |
| | | | | 10g | 5.08 | 20.32 | 21.44 | -5.22 |
| 11/30/2015 | D1900V2 | 5d169 | Body | 1g | 9.30 | 37.20 | 40.8 | -8.82 |
| | | | | 10g | 4.92 | 19.68 | 21.44 | -8.21 |
| 12/1/2015 | D1900V2 | 5d169 | Body | 1g | 9.78 | 39.12 | 40.8 | -4.12 |
| | | | | 10g | 5.11 | 20.44 | 21.44 | -4.66 |
| 12/2/2015 | D1900V2 | 5d169 | Body | 1g | 9.64 | 38.56 | 40.8 | -5.49 |
| | | | | 10g | 5.13 | 20.52 | 21.44 | -4.29 |

| Date Tested | System Dipole | | T.S. Liquid | Measured Results | | Target (Ref. Value) | Delta ±10 % | |
|-------------|---------------------|----------|----------------|------------------|---------------------|---------------------------|----------------|-------|
| | Type | Serial # | | Zoom Scan | Normalize to 1 W | | | |
| 11/17/2015 | D2450V2 | 713 | Body | 1g | 13.50 | 54.0 | 50.4 | 7.14 |
| | | | | 10g | 6.32 | 25.3 | 23.6 | 7.12 |
| 11/19/2015 | D2450V2 | 713 | Body | 1g | 12.20 | 48.8 | 50.4 | -3.17 |
| | | | | 10g | 5.74 | 23.0 | 23.6 | -2.71 |
| 11/16/2015 | D5GHzV2 5.25 GHz | 1020 | Body | 1g | 7.97 | 79.7 | 73.8 | 7.99 |
| | | | | 10g | 2.24 | 22.4 | 20.7 | 8.21 |
| 11/16/2015 | D5GHzV2 5.6 GHz | 1020 | Body | 1g | 8.39 | 83.9 | 77.2 | 8.68 |
| | | | | 10g | 2.33 | 23.3 | 21.4 | 8.88 |
| 11/16/2015 | D5GHzV2 5.75 GHz | 1020 | Body | 1g | 8.02 | 80.2 | 73.7 | 8.82 |
| | | | | 10g | 2.24 | 22.4 | 20.4 | 9.80 |

12. RF Exposure Conditions (Test Configurations)

Refer to Section 17 “Antenna Dimensions and Separation Distances” for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

12.1. Standalone SAR Test Exclusion Considerations

Standalone SAR test exclusion was based upon the following criteria:

1. According to KDB 447498D01 § 4.1 f) if the antenna is at close proximity to user then the outer surface of the DUT should be treated as the radiating surface. The test separation distance is then determined by the smallest distance between the outer surface of the device and the user. For the purposes of this report close proximity has been defined as closer than 50 mm. For antennas <50 mm from the rear or edge the separation distance used for the SAR exclusion calculations is 5 mm.
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
3. If the antenna to DUT adjacent edge or bottom separation distance is >50mm the actual antenna to user separation distance is used to determine SAR exclusion and estimated SAR value
4. Reduced power does not apply for edges 1, 3 and 4.

12.1.1. SAR Test Exclusion Calculations for antennas <50mm to adjacent edges

| Antenna | Tx Interface | Frequency (MHz) | Output Power | | Separation Distances (mm) | | | | | | Calculated Threshold Value | | | | | |
|-----------------------------|--------------|-----------------|--------------|-----|---------------------------|--------|-------------|--------|--------|-------|----------------------------|--------|--------|--------|---------|-------|
| | | | dBm | mW | Bottom side | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Bottom side | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front |
| Full Power WWAN | | | | | | | | | | | | | | | | |
| WWAN | WCDMA V | 846.6 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 12.8 | 46.2 | 10 | 46.2 | > 50 mm | |
| WWAN | WCDMA IV | 1752.6 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 18.5 | 66.5 | 14.4 | 66.5 | > 50 mm | |
| WWAN | WCDMA II | 1907.6 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 19.3 | 69.3 | 15.1 | 69.3 | > 50 mm | |
| WWAN | CDMA BC0 | 848.3 | 25.0 | 316 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 16.2 | 58.2 | 12.7 | 58.2 | > 50 mm | |
| WWAN | CDMA BC1 | 1908.8 | 25.0 | 316 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 24.3 | 87.3 | 19 | 87.3 | > 50 mm | |
| WWAN | CDMA BC10 | 822.75 | 25.0 | 316 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 15.9 | 57.3 | 12.5 | 57.3 | > 50 mm | |
| WWAN | LTE 2 | 1909.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 19.3 | 69.4 | 15.1 | 69.4 | > 50 mm | |
| WWAN | LTE 4 | 1754.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 18.5 | 66.5 | 14.5 | 66.5 | > 50 mm | |
| WWAN | LTE 5 | 848.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 12.8 | 46.2 | 10.1 | 46.2 | > 50 mm | |
| WWAN | LTE 13 | 784.5 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 12.4 | 44.5 | 9.7 | 44.5 | > 50 mm | |
| WWAN | LTE 17 | 713.5 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 11.8 | 42.4 | 9.2 | 42.4 | > 50 mm | |
| WWAN | LTE 25 | 1914.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | 19.3 | 69.5 | 15.1 | 69.5 | > 50 mm | |
| Reduction Power WWAN | | | | | | | | | | | | | | | | |
| WWAN | WCDMA V | 846.6 | 20.5 | 112 | 3.90 | | 1.80 | | | | 20.6 | | 20.6 | | | |
| WWAN | WCDMA IV | 1752.6 | 16.0 | 40 | 3.90 | | 1.80 | | | | 10.6 | | 10.6 | | | |
| WWAN | WCDMA II | 1907.6 | 16.4 | 44 | 3.90 | | 1.80 | | | | 12.2 | | 12.2 | | | |
| WWAN | CDMA BC0 | 848.3 | 21.2 | 132 | 3.90 | | 1.80 | | | | 24.3 | | 24.3 | | | |
| WWAN | CDMA BC1 | 1908.8 | 16.0 | 40 | 3.90 | | 1.80 | | | | 11.1 | | 11.1 | | | |
| WWAN | CDMA BC10 | 822.75 | 21.8 | 151 | 3.90 | | 1.80 | | | | 27.4 | | 27.4 | | | |
| WWAN | LTE 2 | 1909.2 | 15.6 | 36 | 3.90 | | 1.80 | | | | 9.9 | | 9.9 | | | |
| WWAN | LTE 4 | 1754.2 | 16.0 | 40 | 3.90 | | 1.80 | | | | 10.6 | | 10.6 | | | |
| WWAN | LTE 5 | 848.2 | 21.0 | 126 | 3.90 | | 1.80 | | | | 23.2 | | 23.2 | | | |
| WWAN | LTE 13 | 784.5 | 21.5 | 141 | 3.90 | | 1.80 | | | | 25 | | 25 | | | |
| WWAN | LTE 17 | 713.5 | 22.5 | 178 | 3.90 | | 1.80 | | | | 30.1 | | 30.1 | | | |
| WWAN | LTE 25 | 1914.2 | 15.5 | 35 | 3.90 | | 1.80 | | | | 9.7 | | 9.7 | | | |

Note(s):

1. According to KDB 447498D01, if the calculated threshold value is >3 then SAR testing is required.
2. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge (shaded blue frame in above table) the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances from antennas to the bottom side or the edge were input (shaded pink frame in above table). A number in the parenthesis is "(proxy sensor trigger distance - 1)mm". The separation distance used for the SAR exclusion calculations is 18 mm (Bottom side) and 23 mm (Edge 2).

12.1.2. SAR Test Exclusion Calculations for antennas >50mm to adjacent edges

| Antenna | Tx Interface | Frequency (MHz) | Output Power | | Separation Distances (mm) | | | | | | Calculated Threshold Value | | | | | |
|-----------------------------|--------------|-----------------|--------------|-----|---------------------------|--------|-------------|--------|--------|-------|----------------------------|---------|---------|---------|---------|----------------------|
| | | | dBm | mW | Bottom side | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Bottom side | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front |
| Full Power WWAN | | | | | | | | | | | | | | | | |
| WWAN | WCDMA V | 846.6 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 956 mW -EXEMPT- |
| WWAN | WCDMA IV | 1752.6 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 1518.3 mW |
| WWAN | WCDMA II | 1907.6 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 1513.6 mW |
| WWAN | CDMA BC0 | 848.3 | 25.0 | 316 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 957.4 mW -EXEMPT- |
| WWAN | CDMA BC1 | 1908.8 | 25.0 | 316 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 1513.6 mW |
| WWAN | CDMA BC1 | 822.75 | 25.0 | 316 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 936 mW -EXEMPT- |
| WWAN | LTE 2 | 1909.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 1513.6 mW |
| WWAN | LTE 4 | 1754.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 1518.3 mW |
| WWAN | LTE 5 | 848.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 957.4 mW -EXEMPT- |
| WWAN | LTE 13 | 784.5 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 904.2 mW -EXEMPT- |
| WWAN | LTE 17 | 713.5 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 845.9 mW -EXEMPT- |
| WWAN | LTE 25 | 1914.2 | 24.0 | 251 | 3.9(18.00) | 11.80 | 1.80(23.00) | 46.60 | 190.50 | | | < 50 mm | < 50 mm | < 50 mm | < 50 mm | 1513.4 mW |
| Reduction Power WWAN | | | | | | | | | | | | | | | | |
| WWAN | WCDMA V | 846.6 | 20.5 | 112 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | WCDMA IV | 1752.6 | 16.0 | 40 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | WCDMA II | 1907.6 | 16.4 | 44 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | CDMA BC0 | 848.3 | 21.2 | 132 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | CDMA BC1 | 1908.8 | 16.0 | 40 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | CDMA BC1 | 822.75 | 21.8 | 151 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | LTE 2 | 1909.2 | 15.6 | 36 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | LTE 4 | 1754.2 | 16.0 | 40 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | LTE 5 | 848.2 | 21.0 | 126 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | LTE 13 | 784.5 | 21.5 | 141 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | LTE 17 | 713.5 | 22.5 | 178 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |
| WWAN | LTE 25 | 1914.2 | 15.5 | 35 | 3.90 | | 1.80 | | | | | < 50 mm | | < 50 mm | | |

Note(s):

1. According to KDB 447498D01, if the calculated Power threshold is less than the output power then SAR testing is required.
2. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge(shaded blue frame in above table) the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances from antennas to the bottom side or the edge were input(shaded pink frame in above table). A number in the parenthesis is "(proxy sensor trigger distance - 1)mm". The separation distance used for the SAR exclusion calculations is 18 mm(Bottom side) and 23 mm(Edge 2).

12.2. Estimated SAR for Simultaneous Transmission SAR Analysis

Considerations for using estimated SAR values:

1. According to KDB 447498D01 § 4.1 f) if the antenna is at close proximity to user then the outer surface of the DUT should be treated as the radiating surface. The test separation distance is then determined by the smallest distance between the outer surface of the device and the user. For the purposes of this report close proximity has been defined as closer than 50 mm. For antennas <50 mm from the rear or edge the separation distance used for the estimated SAR calculations is 5 mm.
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
3. Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.
4. If the antenna separation distance is > 50mm then the estimated SAR value is 0.4 W/Kg.
5. Formulas round separation distance to nearest mm and power to nearest mW before calculating estimated SAR

12.2.1. Estimated SAR for WWAN

| Antenna | Tx Interface | Frequency (MHz) | Output Power | | Separation Distances (mm) | | | | | | Estimated 1-g SAR Value (W/kg) | | | | | |
|-----------------------------|--------------|-----------------|--------------|-----|---------------------------|--------|-------------|--------|--------|-------|--------------------------------|-----------|-----------|-----------|------------------------|-------|
| | | | dBm | mW | Bottom side | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Bottom side | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front |
| Full Power WWAN | | | | | | | | | | | | | | | | |
| WWAN | WCDMA V | 846.6 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | WCDMA IV | 1752.6 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | WCDMA II | 1907.6 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | 0.400 | |
| WWAN | CDMA BC0 | 848.3 | 25.0 | 316 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | CDMA BC1 | 1908.8 | 25.0 | 316 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | CDMA BC10 | 822.75 | 25.0 | 316 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | 0.400 | |
| WWAN | LTE 2 | 1909.2 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | 0.400 | |
| WWAN | LTE 4 | 1754.2 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | LTE 5 | 848.2 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | LTE 13 | 784.5 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | LTE 17 | 713.5 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | Additional measurement | |
| WWAN | LTE 25 | 1914.2 | 24.0 | 251 | 3.9(18.00) | 11.8 | 1.80(23.00) | 46.60 | 190.5 | | -MEASURE- | -MEASURE- | -MEASURE- | -MEASURE- | 0.400 | |
| Reduction Power WWAN | | | | | | | | | | | | | | | | |
| WWAN | WCDMA V | 846.6 | 20.5 | 112 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | WCDMA IV | 1752.6 | 16.0 | 40 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | WCDMA II | 1907.6 | 16.4 | 44 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | CDMA BC0 | 848.3 | 21.2 | 132 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | CDMA BC1 | 1908.8 | 16.0 | 40 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | CDMA BC10 | 822.75 | 21.8 | 151 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | LTE 2 | 1909.2 | 15.6 | 36 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | LTE 4 | 1754.2 | 16.0 | 40 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | LTE 5 | 848.2 | 21.0 | 126 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | LTE 13 | 784.5 | 21.5 | 141 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | LTE 17 | 713.5 | 22.5 | 178 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |
| WWAN | LTE 25 | 1914.2 | 15.5 | 35 | 3.9 | | 1.80 | | | | -MEASURE- | | -MEASURE- | | | |

Notes:

1. According to KDB 447498D01, if the calculated threshold value is >3 then SAR testing is required.
2. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge(shaded blue frame in above table) the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances from antennas to the bottom side or the edge were input(shaded pink frame in above table). A number in the parenthesis is "(proxy sensor trigger distance - 1)mm". The separation distance used for the SAR exclusion calculations is 18 mm(Bottom side) and 23 mm(Edge 2).
4. When it was original, Edge 4 was excluded stand-alone SAR test, but the Edge 4 mentioned with additional measurement above table was measured SAR test this time.

13. Measured and Reported (Scaled) SAR Results

13.1. W-CDMA Band 5

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|-------------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 20.5 | 20.31 | 1.100 | 1.149 | 1 | |
| | | | 4183 | 836.6 | 20.5 | 20.26 | 1.180 | 1.247 | 2 | |
| | | | 4233 | 846.6 | 20.5 | 20.15 | 1.230 | 1.333 | 3 | |
| Bottom side | 0 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 20.5 | 20.31 | 0.755 | 0.789 | 4 | |
| | | | 4183 | 836.6 | 20.5 | 20.26 | | | | |
| | | | 4233 | 846.6 | 20.5 | 20.15 | | | | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|-------------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 24.0 | 22.69 | 0.379 | 0.512 | 5 | |
| | | | 4183 | 836.6 | 24.0 | 22.83 | 0.377 | 0.494 | 6 | |
| | | | 4233 | 846.6 | 24.0 | 22.72 | 0.366 | 0.491 | 7 | |
| Edge 2 | 23 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 24.0 | 22.69 | | | | |
| | | | 4183 | 836.6 | 24.0 | 22.83 | 0.229 | 0.300 | 8 | |
| | | | 4233 | 846.6 | 24.0 | 22.72 | | | | |
| Edge 3 | 0 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 24.0 | 22.69 | | | | |
| | | | 4183 | 836.6 | 24.0 | 22.83 | 0.094 | 0.123 | 9 | |
| | | | 4233 | 846.6 | 24.0 | 22.72 | | | | |
| Edge 4 | 0 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 24.0 | 22.69 | | | | |
| | | | 4183 | 836.6 | 24.0 | 22.83 | 0.024 | 0.031 | 10 | |
| | | | 4233 | 846.6 | 24.0 | 22.72 | | | | |
| Bottom side | 18 | Rel 99 RMC 12.2 kbps | 4132 | 826.4 | 24.0 | 22.69 | | | | |
| | | | 4183 | 836.6 | 24.0 | 22.83 | 0.138 | 0.181 | 11 | |
| | | | 4233 | 846.6 | 24.0 | 22.72 | | | | |

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, 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.

1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

13.2. W-CDMA Band 4

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|----------------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 16.0 | 15.55 | 1.040 | 1.154 | 1 | |
| | | | 1413 | 1732.6 | 16.0 | 15.59 | 1.180 | 1.297 | 2 | |
| | | | 1513 | 1752.6 | 16.0 | 15.46 | 1.210 | 1.370 | 3 | |
| Bottom side | 0 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 16.0 | 15.55 | 0.720 | 0.799 | 4 | |
| | | | 1413 | 1732.6 | 16.0 | 15.59 | 0.735 | 0.808 | 5 | |
| | | | 1513 | 1752.6 | 16.0 | 15.46 | 0.693 | 0.785 | 6 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|----------------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 24.0 | 22.86 | 0.349 | 0.454 | 7 | |
| | | | 1413 | 1732.6 | 24.0 | 22.82 | | | | |
| | | | 1513 | 1752.6 | 24.0 | 22.80 | | | | |
| Edge 2 | 23 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 24.0 | 22.86 | 0.434 | 0.564 | 8 | |
| | | | 1413 | 1732.6 | 24.0 | 22.82 | | | | |
| | | | 1513 | 1752.6 | 24.0 | 22.80 | | | | |
| Edge 3 | 0 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 24.0 | 22.86 | 0.203 | 0.264 | 9 | |
| | | | 1413 | 1732.6 | 24.0 | 22.82 | | | | |
| | | | 1513 | 1752.6 | 24.0 | 22.80 | | | | |
| Edge 4 | 0 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 24.0 | 22.86 | 0.028 | 0.037 | 10 | |
| | | | 1413 | 1732.6 | 24.0 | 22.82 | | | | |
| | | | 1513 | 1752.6 | 24.0 | 22.80 | | | | |
| Bottom side | 18 | Rel 99 RMC 12.2 kbps | 1312 | 1712.4 | 24.0 | 22.86 | 0.359 | 0.467 | 11 | |
| | | | 1413 | 1732.6 | 24.0 | 22.82 | | | | |
| | | | 1513 | 1752.6 | 24.0 | 22.80 | | | | |

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, 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.

1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

The maximum SAR value of WCDMA Band 4 is Repeated SAR. Please refer to Section 13.15. .

13.3. W-CDMA Band 2

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|----------------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | Rel 99 RMC 12.2 kbps | 9262 | 1852.4 | 14.6 | 14.56 | 0.886 | 0.894 | 1 | |
| | | | 9400 | 1880.0 | 14.6 | 14.39 | 1.060 | 1.113 | 2 | |
| | | | 9538 | 1907.6 | 14.6 | 14.51 | 1.060 | 1.082 | 3 | |
| Bottom side | 0 | Rel 99 RMC 12.2 kbps | 9262 | 1852.4 | 14.6 | 14.56 | 0.496 | 0.501 | 4 | |
| | | | 9400 | 1880.0 | 14.6 | 14.39 | | | | |
| | | | 9538 | 1907.6 | 14.6 | 14.51 | | | | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|----------------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | Rel 99 RMC 12.2 kbps | 9262 | 1852.4 | 24.0 | 22.92 | | | | |
| | | | 9400 | 1880.0 | 24.0 | 22.94 | | | | |
| | | | 9538 | 1907.6 | 24.0 | 23.00 | 0.110 | 0.138 | 5 | |
| Edge 2 | 23 | Rel 99 RMC 12.2 kbps | 9262 | 1852.4 | 24.0 | 22.92 | | | | |
| | | | 9400 | 1880.0 | 24.0 | 22.94 | | | | |
| | | | 9538 | 1907.6 | 24.0 | 23.00 | 0.458 | 0.577 | 6 | |
| Edge 3 | 0 | Rel 99 RMC 12.2 kbps | 9262 | 1852.4 | 24.0 | 22.92 | | | | |
| | | | 9400 | 1880.0 | 24.0 | 22.94 | | | | |
| | | | 9538 | 1907.6 | 24.0 | 23.00 | 0.259 | 0.326 | 7 | |
| Bottom side | 18 | Rel 99 RMC 12.2 kbps | 9262 | 1852.4 | 24.0 | 22.92 | | | | |
| | | | 9400 | 1880.0 | 24.0 | 22.94 | | | | |
| | | | 9538 | 1907.6 | 24.0 | 23.00 | 0.293 | 0.369 | 8 | |

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, 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.

1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

The maximum SAR value of WCDMA Band 2 is Repeated SAR. Please refer to Section 13.15. .

13.4. CDMA Band 0

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 21.2 | 20.83 | 1.070 | 1.165 | 1 | |
| | | | 384 | 836.5 | 21.2 | 20.71 | 1.120 | 1.254 | 2 | |
| | | | 777 | 848.3 | 21.2 | 20.62 | 1.140 | 1.303 | 3 | |
| Edge 2 | 0 | 1xEVDO Rel. 0 | 1013 | 824.7 | 21.2 | 20.62 | 1.060 | 1.211 | 4 | |
| | | | 384 | 836.5 | 21.2 | 20.77 | 1.170 | 1.292 | 5 | |
| | | | 777 | 848.3 | 21.2 | 20.52 | 1.150 | 1.345 | 6 | |
| Bottom side | 0 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 21.2 | 20.83 | 0.811 | 0.883 | 7 | |
| | | | 384 | 836.5 | 21.2 | 20.71 | 0.781 | 0.874 | 8 | |
| | | | 777 | 848.3 | 21.2 | 20.62 | 0.781 | 0.893 | 9 | |
| Bottom side | 0 | 1xEVDO Rel. 0 | 1013 | 824.7 | 21.2 | 20.62 | 0.820 | 0.937 | 10 | |
| | | | 384 | 836.5 | 21.2 | 20.77 | 0.773 | 0.853 | 11 | |
| | | | 777 | 848.3 | 21.2 | 20.52 | 0.760 | 0.889 | 12 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 25.0 | 23.50 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.59 | 0.522 | 0.722 | 13 | |
| | | | 777 | 848.3 | 25.0 | 23.33 | | | | |
| Edge 1 | 0 | 1xEVDO Rel. 0 | 1013 | 824.7 | 25.0 | 23.55 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.70 | 0.512 | 0.691 | 14 | |
| | | | 777 | 848.3 | 25.0 | 23.38 | | | | |
| Edge 2 | 23 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 25.0 | 23.50 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.59 | 0.289 | 0.400 | 15 | |
| | | | 777 | 848.3 | 25.0 | 23.33 | | | | |
| Edge 2 | 23 | 1xEVDO Rel. 0 | 1013 | 824.7 | 25.0 | 23.55 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.70 | 0.280 | 0.378 | 16 | |
| | | | 777 | 848.3 | 25.0 | 23.38 | | | | |
| Edge 3 | 0 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 25.0 | 23.50 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.59 | 0.112 | 0.155 | 17 | |
| | | | 777 | 848.3 | 25.0 | 23.33 | | | | |
| Edge 3 | 0 | 1xEVDO Rel. 0 | 1013 | 824.7 | 25.0 | 23.55 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.70 | 0.110 | 0.148 | 18 | |
| | | | 777 | 848.3 | 25.0 | 23.38 | | | | |
| Edge 4 | 0 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 25.0 | 23.50 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.59 | 0.031 | 0.043 | 19 | |
| | | | 777 | 848.3 | 25.0 | 23.33 | | | | |
| Edge 4 | 0 | 1xEVDO Rel. 0 | 1013 | 824.7 | 25.0 | 23.55 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.70 | 0.032 | 0.043 | 20 | |
| | | | 777 | 848.3 | 25.0 | 23.38 | | | | |
| Bottom side | 18 | 1xRTT (RC3 SO32) | 1013 | 824.7 | 25.0 | 23.50 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.59 | 0.135 | 0.187 | 21 | |
| | | | 777 | 848.3 | 25.0 | 23.33 | | | | |
| Bottom side | 18 | 1xEVDO Rel. 0 | 1013 | 824.7 | 25.0 | 23.55 | | | | |
| | | | 384 | 836.5 | 25.0 | 23.70 | 0.199 | 0.268 | 22 | |
| | | | 777 | 848.3 | 25.0 | 23.38 | | | | |

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, 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.

1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

3G SAR Test reduction Procedure is used based on KDB941225 D01 section 3.2.2. The 3G SAR test reduction procedure is applied to Rev. A. When the maximum output power and tune-up tolerance specified for production units in a secondary mode(Rev.A) is ≤ ¼ dB higher than the primary mode(Rel.0) 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 ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

13.5. CDMA Band 1

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 16.0 | 15.33 | 0.928 | 1.083 | 1 | |
| | | | 600 | 1880.0 | 16.0 | 15.32 | 1.090 | 1.275 | 2 | |
| | | | 1175 | 1908.8 | 16.0 | 15.14 | 1.010 | 1.231 | 3 | |
| Edge 2 | 0 | 1xEVDO Rel. 0 | 25 | 1851.3 | 16.0 | 15.15 | 0.925 | 1.125 | 4 | |
| | | | 600 | 1880.0 | 16.0 | 15.12 | 1.020 | 1.249 | 5 | |
| | | | 1175 | 1908.8 | 16.0 | 14.89 | 0.972 | 1.255 | 6 | |
| Bottom side | 0 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 16.0 | 15.33 | 0.671 | 0.783 | 7 | |
| | | | 600 | 1880.0 | 16.0 | 15.32 | 0.677 | 0.792 | 8 | |
| | | | 1175 | 1908.8 | 16.0 | 15.14 | 0.724 | 0.883 | 9 | |
| Bottom side | 0 | 1xEVDO Rel. 0 | 25 | 1851.3 | 16.0 | 15.15 | 0.682 | 0.829 | 10 | |
| | | | 600 | 1880.0 | 16.0 | 15.12 | 0.587 | 0.719 | 11 | |
| | | | 1175 | 1908.8 | 16.0 | 14.89 | 0.703 | 0.908 | 12 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 25.0 | 23.78 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.82 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.92 | 0.128 | 0.164 | 13 | |
| Edge 1 | 0 | 1xEVDO Rel. 0 | 25 | 1851.3 | 25.0 | 23.57 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.62 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.73 | 0.098 | 0.131 | 14 | |
| Edge 2 | 23 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 25.0 | 23.78 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.82 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.92 | 0.574 | 0.736 | 15 | |
| Edge 2 | 23 | 1xEVDO Rel. 0 | 25 | 1851.3 | 25.0 | 23.57 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.62 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.73 | 0.516 | 0.691 | 16 | |
| Edge 3 | 0 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 25.0 | 23.78 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.82 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.92 | 0.293 | 0.376 | 17 | |
| Edge 3 | 0 | 1xEVDO Rel. 0 | 25 | 1851.3 | 25.0 | 23.57 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.62 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.73 | 0.296 | 0.397 | 18 | |
| Edge 4 | 0 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 25.0 | 23.78 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.82 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.92 | 0.025 | 0.032 | 19 | |
| Edge 4 | 0 | 1xEVDO Rel. 0 | 25 | 1851.3 | 25.0 | 23.57 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.62 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.73 | 0.018 | 0.024 | 20 | |
| Bottom side | 18 | 1xRTT (RC3 SO32) | 25 | 1851.3 | 25.0 | 23.78 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.82 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.92 | 0.358 | 0.459 | 21 | |
| Bottom side | 18 | 1xEVDO Rel. 0 | 25 | 1851.3 | 25.0 | 23.57 | | | | |
| | | | 600 | 1880.0 | 25.0 | 23.62 | | | | |
| | | | 1175 | 1908.8 | 25.0 | 23.73 | 0.351 | 0.470 | 22 | |

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, 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.

1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

3G SAR Test reduction Procedure is used based on KDB941225 D01 section 3.2.2. The 3G SAR test reduction procedure is applied to Rev. A. When the maximum output power and tune-up tolerance specified for production units in a secondary mode(Rev.A) is $\leq \frac{1}{4}$ dB higher than the primary mode(Rel.0) 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 ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

13.6. CDMA Band 10

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | 1xRTT (RC3 SO32) | 450 | 817.3 | 21.8 | 21.15 | 1.070 | 1.243 | 1 | |
| | | | 560 | 820.0 | 21.8 | 21.17 | 1.080 | 1.249 | 2 | |
| | | | 670 | 822.8 | 21.8 | 21.23 | 1.100 | 1.254 | 3 | |
| Edge 2 | 0 | 1xEVDO Rel. 0 | 450 | 817.3 | 21.8 | 21.08 | 1.070 | 1.263 | 4 | |
| | | | 560 | 820.0 | 21.8 | 21.28 | 1.090 | 1.229 | 5 | |
| | | | 670 | 822.8 | 21.8 | 21.18 | 1.120 | 1.292 | 6 | |
| Bottom side | 0 | 1xRTT (RC3 SO32) | 450 | 817.3 | 21.8 | 21.15 | 0.857 | 0.995 | 7 | |
| | | | 560 | 820.0 | 21.8 | 21.17 | 0.847 | 0.979 | 8 | |
| | | | 670 | 822.8 | 21.8 | 21.23 | 0.869 | 0.991 | 9 | |
| Bottom side | 0 | 1xEVDO Rel. 0 | 450 | 817.3 | 21.8 | 21.08 | 0.823 | 0.971 | 10 | |
| | | | 560 | 820.0 | 21.8 | 21.28 | 0.869 | 0.980 | 11 | |
| | | | 670 | 822.8 | 21.8 | 21.18 | 0.864 | 0.997 | 12 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | 1xRTT (RC3 SO32) | 450 | 817.3 | 25.0 | 23.56 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.50 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.59 | 0.520 | 0.719 | 13 | |
| Edge 1 | 0 | 1xEVDO Rel. 0 | 450 | 817.3 | 25.0 | 23.61 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.63 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.69 | 0.533 | 0.721 | 14 | |
| Edge 2 | 23 | 1xRTT (RC3 SO32) | 450 | 817.3 | 25.0 | 23.56 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.50 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.59 | 0.249 | 0.345 | 15 | |
| Edge 2 | 23 | 1xEVDO Rel. 0 | 450 | 817.3 | 25.0 | 23.61 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.63 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.69 | 0.212 | 0.287 | 16 | |
| Edge 3 | 0 | 1xRTT (RC3 SO32) | 450 | 817.3 | 25.0 | 23.56 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.50 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.59 | 0.108 | 0.149 | 17 | |
| Edge 3 | 0 | 1xEVDO Rel. 0 | 450 | 817.3 | 25.0 | 23.61 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.63 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.69 | 0.112 | 0.151 | 18 | |
| Bottom side | 18 | 1xRTT (RC3 SO32) | 450 | 817.3 | 25.0 | 23.56 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.50 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.59 | 0.191 | 0.264 | 19 | |
| Bottom side | 18 | 1xEVDO Rel. 0 | 450 | 817.3 | 25.0 | 23.61 | | | | |
| | | | 560 | 820.0 | 25.0 | 23.63 | | | | |
| | | | 670 | 822.8 | 25.0 | 23.69 | 0.186 | 0.251 | 20 | |

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, 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.

1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

3G SAR Test reduction Procedure is used based on KDB941225 D01 section 3.2.2. The 3G SAR test reduction procedure is applied to Rev. A. When the maximum output power and tune-up tolerance specified for production units in a secondary mode(Rev.A) is $\leq 1/4$ dB higher than the primary mode(Rel.0) 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 ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

13.7. LTE Band 2

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | QPSK | 18700 | 1860 | 1 | 0 | 15.6 | 15.15 | 1.220 | 1.353 | 1 | |
| | | | 18900 | 1880 | 1 | 99 | 15.6 | 15.10 | 1.060 | 1.189 | 2 | |
| | | | 19100 | 1900 | 1 | 0 | 15.6 | 15.12 | 0.959 | 1.071 | 3 | |
| | | | 18700 | 1860 | 50 | 0 | 15.6 | 15.25 | 1.020 | 1.106 | 4 | |
| | | | 18900 | 1880 | 50 | 49 | 15.6 | 15.41 | 1.020 | 1.066 | 5 | |
| | | | 19100 | 1900 | 50 | 24 | 15.6 | 14.95 | 1.020 | 1.185 | 6 | |
| | | | 18700 | 1860 | 100 | 0 | 15.6 | 15.17 | 1.020 | 1.126 | 7 | |
| Bottom side | 0 | QPSK | 18700 | 1860 | 1 | 0 | 15.6 | 15.15 | 0.686 | 0.761 | 8 | |
| | | | 18900 | 1880 | 1 | 99 | 15.6 | 15.10 | | | | |
| | | | 19100 | 1900 | 1 | 0 | 15.6 | 15.12 | | | | |
| | | | 18700 | 1860 | 50 | 0 | 15.6 | 15.25 | 0.651 | 0.706 | 9 | |
| | | | 18900 | 1880 | 50 | 49 | 15.6 | 15.41 | | | | |
| | | | 19100 | 1900 | 50 | 24 | 15.6 | 14.95 | | | | |
| | | | 18700 | 1860 | 100 | 0 | 15.6 | 15.17 | 0.643 | 0.710 | 10 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | QPSK | 18700 | 1860 | 1 | 49 | 24.0 | 23.08 | 0.131 | 0.162 | 11 | |
| | | | 18900 | 1880 | 1 | 49 | 24.0 | 22.94 | | | | |
| | | | 19100 | 1900 | 1 | 99 | 24.0 | 22.74 | | | | |
| | | | 18700 | 1860 | 50 | 0 | 23.0 | 21.76 | | | | |
| | | | 18900 | 1880 | 50 | 24 | 23.0 | 21.77 | 0.083 | 0.110 | 12 | |
| | | | 19100 | 1900 | 50 | 49 | 23.0 | 21.52 | | | | |
| Edge 2 | 23 | QPSK | 18700 | 1860 | 100 | 0 | 23.0 | 21.81 | 0.102 | 0.134 | 13 | |
| | | | 18700 | 1860 | 1 | 49 | 24.0 | 23.08 | 0.458 | 0.566 | 14 | |
| | | | 18900 | 1880 | 1 | 49 | 24.0 | 22.94 | | | | |
| | | | 19100 | 1900 | 1 | 99 | 24.0 | 22.74 | | | | |
| | | | 18700 | 1860 | 50 | 0 | 23.0 | 21.76 | | | | |
| | | | 18900 | 1880 | 50 | 24 | 23.0 | 21.77 | 0.337 | 0.447 | 15 | |
| Edge 3 | 0 | QPSK | 19100 | 1900 | 50 | 49 | 23.0 | 21.52 | | | | |
| | | | 18700 | 1860 | 100 | 0 | 23.0 | 21.81 | 0.337 | 0.443 | 16 | |
| | | | 18700 | 1860 | 1 | 49 | 24.0 | 23.08 | 0.259 | 0.320 | 17 | |
| | | | 18900 | 1880 | 1 | 49 | 24.0 | 22.94 | | | | |
| | | | 19100 | 1900 | 1 | 99 | 24.0 | 22.74 | | | | |
| | | | 18700 | 1860 | 50 | 0 | 23.0 | 21.76 | | | | |
| Bottom side | 18 | QPSK | 18900 | 1880 | 50 | 24 | 23.0 | 21.77 | 0.176 | 0.234 | 18 | |
| | | | 19100 | 1900 | 50 | 49 | 23.0 | 21.52 | | | | |
| | | | 18700 | 1860 | 100 | 0 | 23.0 | 21.81 | 0.183 | 0.241 | 19 | |
| | | | 18700 | 1860 | 1 | 49 | 24.0 | 23.08 | 0.300 | 0.371 | 20 | |
| | | | 18900 | 1880 | 1 | 49 | 24.0 | 22.94 | | | | |
| | | | 19100 | 1900 | 1 | 99 | 24.0 | 22.74 | | | | |
| Bottom side | 18 | QPSK | 18700 | 1860 | 50 | 0 | 23.0 | 21.76 | | | | |
| | | | 18900 | 1880 | 50 | 24 | 23.0 | 21.77 | 0.232 | 0.308 | 21 | |
| | | | 19100 | 1900 | 50 | 49 | 23.0 | 21.52 | | | | |
| | | | 18700 | 1860 | 100 | 0 | 23.0 | 21.81 | 0.233 | 0.306 | 22 | |

Note(s):

Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:

- Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
 - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
- The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
- Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
 - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
- Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

The maximum SAR value of LTE Band 2 is Repeated SAR. Please refer to Section 13.15. .

13.8. LTE Band 4

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | QPSK | 20050 | 1720 | 1 | 49 | 16.0 | 14.71 | 0.632 | 0.851 | 1 | |
| | | | 20175 | 1732.5 | 1 | 0 | 16.0 | 15.12 | 0.664 | 0.813 | 2 | |
| | | | 20300 | 1745 | 1 | 0 | 16.0 | 14.37 | 0.636 | 0.926 | 3 | |
| | | | 20050 | 1720 | 50 | 49 | 16.0 | 14.87 | 0.697 | 0.904 | 4 | |
| | | | 20175 | 1732.5 | 50 | 0 | 16.0 | 15.43 | 0.605 | 0.690 | 5 | |
| | | | 20300 | 1745 | 50 | 49 | 16.0 | 14.75 | 0.716 | 0.955 | 6 | |
| | | | 20175 | 1732.5 | 100 | 0 | 16.0 | 14.91 | 0.600 | 0.771 | 7 | |
| Bottom side | 0 | QPSK | 20050 | 1720 | 1 | 49 | 16.0 | 14.71 | | | | |
| | | | 20175 | 1732.5 | 1 | 0 | 16.0 | 15.12 | 0.504 | 0.617 | 8 | |
| | | | 20300 | 1745 | 1 | 0 | 16.0 | 14.37 | | | | |
| | | | 20050 | 1720 | 50 | 49 | 16.0 | 14.87 | | | | |
| | | | 20175 | 1732.5 | 50 | 0 | 16.0 | 15.43 | 0.627 | 0.715 | 9 | |
| | | | 20300 | 1745 | 50 | 49 | 16.0 | 14.75 | | | | |
| | | | 20175 | 1732.5 | 100 | 0 | 16.0 | 14.91 | | | | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | QPSK | 20050 | 1720 | 1 | 49 | 24.0 | 22.93 | 0.395 | 0.505 | 10 | |
| | | | 20175 | 1732.5 | 1 | 99 | 24.0 | 22.88 | | | | |
| | | | 20300 | 1745 | 1 | 99 | 24.0 | 22.93 | | | | |
| | | | 20050 | 1720 | 50 | 24 | 23.0 | 21.81 | 0.308 | 0.405 | 11 | |
| | | | 20175 | 1732.5 | 50 | 49 | 23.0 | 21.80 | | | | |
| | | | 20300 | 1745 | 50 | 0 | 23.0 | 21.66 | | | | |
| | | | 20050 | 1720 | 100 | 0 | 23.0 | 21.71 | | | | |
| Edge 2 | 23 | QPSK | 20050 | 1720 | 1 | 49 | 24.0 | 22.93 | 0.273 | 0.349 | 12 | |
| | | | 20175 | 1732.5 | 1 | 99 | 24.0 | 22.88 | | | | |
| | | | 20300 | 1745 | 1 | 99 | 24.0 | 22.93 | | | | |
| | | | 20050 | 1720 | 50 | 24 | 23.0 | 21.81 | 0.213 | 0.280 | 13 | |
| | | | 20175 | 1732.5 | 50 | 49 | 23.0 | 21.80 | | | | |
| | | | 20300 | 1745 | 50 | 0 | 23.0 | 21.66 | | | | |
| | | | 20050 | 1720 | 100 | 0 | 23.0 | 21.71 | | | | |
| Edge 3 | 0 | QPSK | 20050 | 1720 | 1 | 49 | 24.0 | 22.93 | 0.188 | 0.241 | 14 | |
| | | | 20175 | 1732.5 | 1 | 99 | 24.0 | 22.88 | | | | |
| | | | 20300 | 1745 | 1 | 99 | 24.0 | 22.93 | | | | |
| | | | 20050 | 1720 | 50 | 24 | 23.0 | 21.81 | 0.149 | 0.196 | 15 | |
| | | | 20175 | 1732.5 | 50 | 49 | 23.0 | 21.80 | | | | |
| | | | 20300 | 1745 | 50 | 0 | 23.0 | 21.66 | | | | |
| | | | 20050 | 1720 | 100 | 0 | 23.0 | 21.71 | | | | |
| Edge 4 | 0 | QPSK | 20050 | 1720 | 1 | 49 | 24.0 | 22.93 | 0.022 | 0.028 | 16 | |
| | | | 20175 | 1732.5 | 1 | 99 | 24.0 | 22.88 | | | | |
| | | | 20300 | 1745 | 1 | 99 | 24.0 | 22.93 | | | | |
| | | | 20050 | 1720 | 50 | 24 | 23.0 | 21.81 | 0.021 | 0.028 | 17 | |
| | | | 20175 | 1732.5 | 50 | 49 | 23.0 | 21.80 | | | | |
| | | | 20300 | 1745 | 50 | 0 | 23.0 | 21.66 | | | | |
| | | | 20050 | 1720 | 100 | 0 | 23.0 | 21.71 | | | | |
| Bottom side | 18 | QPSK | 20050 | 1720 | 1 | 49 | 24.0 | 22.93 | 0.317 | 0.406 | 18 | |
| | | | 20175 | 1732.5 | 1 | 99 | 24.0 | 22.88 | | | | |
| | | | 20300 | 1745 | 1 | 99 | 24.0 | 22.93 | | | | |
| | | | 20050 | 1720 | 50 | 24 | 23.0 | 21.81 | 0.232 | 0.305 | 19 | |
| | | | 20175 | 1732.5 | 50 | 49 | 23.0 | 21.80 | | | | |
| | | | 20300 | 1745 | 50 | 0 | 23.0 | 21.66 | | | | |
| | | | 20525 | 836.5 | 100 | 0 | 23.0 | 21.71 | | | | |

Note(s):

Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:

- Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
 - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
- The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
- Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
 - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
- Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

13.9. LTE Band 5

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | QPSK | 20450 | 829 | 1 | 49 | 21.0 | 20.50 | 1.050 | 1.178 | 1 | |
| | | | 20525 | 836.5 | 1 | 49 | 21.0 | 20.49 | 1.010 | 1.136 | 2 | |
| | | | 20600 | 844 | 1 | 24 | 21.0 | 20.48 | 1.070 | 1.206 | 3 | |
| | | | 20450 | 829 | 25 | 0 | 21.0 | 20.50 | 1.020 | 1.144 | 4 | |
| | | | 20525 | 836.5 | 25 | 0 | 21.0 | 20.54 | 1.080 | 1.201 | 5 | |
| | | | 20600 | 844 | 25 | 12 | 21.0 | 20.58 | 1.100 | 1.212 | 6 | |
| | | | 20600 | 844 | 50 | 0 | 21.0 | 20.41 | 1.060 | 1.214 | 7 | |
| Bottom side | 0 | QPSK | 20450 | 829 | 1 | 49 | 21.0 | 20.50 | 0.696 | 0.781 | 8 | |
| | | | 20525 | 836.5 | 1 | 49 | 21.0 | 20.49 | 0.742 | 0.834 | 9 | |
| | | | 20600 | 844 | 1 | 24 | 21.0 | 20.48 | 0.755 | 0.851 | 10 | |
| | | | 20450 | 829 | 25 | 0 | 21.0 | 20.50 | 0.701 | 0.787 | 11 | |
| | | | 20525 | 836.5 | 25 | 0 | 21.0 | 20.54 | 0.756 | 0.840 | 12 | |
| | | | 20600 | 844 | 25 | 12 | 21.0 | 20.58 | 0.771 | 0.849 | 13 | |
| | | | 20600 | 844 | 50 | 0 | 21.0 | 20.41 | 0.744 | 0.852 | 14 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | QPSK | 20450 | 829 | 1 | 49 | 24.0 | 22.82 | 0.460 | 0.604 | 15 | |
| | | | 20525 | 836.5 | 1 | 0 | 24.0 | 22.80 | | | | |
| | | | 20600 | 844 | 1 | 24 | 24.0 | 22.78 | | | | |
| | | | 20450 | 829 | 25 | 24 | 23.0 | 21.92 | | | | |
| | | | 20525 | 836.5 | 25 | 0 | 23.0 | 21.96 | 0.367 | 0.466 | 16 | |
| | | | 20600 | 844 | 25 | 0 | 23.0 | 21.93 | | | | |
| Edge 2 | 23 | QPSK | 20450 | 829 | 1 | 49 | 24.0 | 22.82 | 0.179 | 0.235 | 17 | |
| | | | 20525 | 836.5 | 1 | 0 | 24.0 | 22.80 | | | | |
| | | | 20600 | 844 | 1 | 24 | 24.0 | 22.78 | | | | |
| | | | 20450 | 829 | 25 | 24 | 23.0 | 21.92 | | | | |
| | | | 20525 | 836.5 | 25 | 0 | 23.0 | 21.96 | 0.155 | 0.197 | 18 | |
| | | | 20600 | 844 | 25 | 0 | 23.0 | 21.93 | | | | |
| Edge 3 | 0 | QPSK | 20450 | 829 | 1 | 49 | 24.0 | 22.82 | 0.096 | 0.126 | 19 | |
| | | | 20525 | 836.5 | 1 | 0 | 24.0 | 22.80 | | | | |
| | | | 20600 | 844 | 1 | 24 | 24.0 | 22.78 | | | | |
| | | | 20450 | 829 | 25 | 24 | 23.0 | 21.92 | | | | |
| | | | 20525 | 836.5 | 25 | 0 | 23.0 | 21.96 | 0.074 | 0.094 | 20 | |
| | | | 20600 | 844 | 25 | 0 | 23.0 | 21.93 | | | | |
| Edge 4 | 0 | QPSK | 20450 | 829 | 1 | 49 | 24.0 | 22.82 | 0.021 | 0.028 | 21 | |
| | | | 20525 | 836.5 | 1 | 0 | 24.0 | 22.80 | | | | |
| | | | 20600 | 844 | 1 | 24 | 24.0 | 22.78 | | | | |
| | | | 20450 | 829 | 25 | 24 | 23.0 | 21.92 | | | | |
| | | | 20525 | 836.5 | 25 | 0 | 23.0 | 21.96 | 0.010 | 0.013 | 22 | |
| | | | 20600 | 844 | 25 | 0 | 23.0 | 21.93 | | | | |
| Bottom side | 18 | QPSK | 20450 | 829 | 1 | 49 | 24.0 | 22.82 | 0.151 | 0.198 | 23 | |
| | | | 20525 | 836.5 | 1 | 0 | 24.0 | 22.80 | | | | |
| | | | 20600 | 844 | 1 | 24 | 24.0 | 22.78 | | | | |
| | | | 20450 | 829 | 25 | 24 | 23.0 | 21.92 | | | | |
| | | | 20525 | 836.5 | 25 | 0 | 23.0 | 21.96 | 0.122 | 0.155 | 24 | |
| | | | 20600 | 844 | 25 | 0 | 23.0 | 21.93 | | | | |
| | | | 20525 | 836.5 | 50 | 0 | 23.0 | 21.84 | | | | |

Note(s):

Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:

- Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
 - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
- The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
- Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
 - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
- Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

13.10. **LTE Band 25**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | QPSK | 26140 | 1860 | 1 | 49 | 15.5 | 14.48 | 0.985 | 1.246 | 1 | |
| | | | 26365 | 1882.5 | 1 | 99 | 15.5 | 15.00 | 0.918 | 1.030 | 2 | |
| | | | 26590 | 1905 | 1 | 99 | 15.5 | 15.44 | 1.030 | 1.044 | 3 | |
| | | | 26140 | 1860 | 50 | 24 | 15.5 | 14.42 | 0.924 | 1.185 | 4 | |
| | | | 26365 | 1882.5 | 50 | 49 | 15.5 | 14.76 | 0.965 | 1.144 | 5 | |
| | | | 26590 | 1905 | 50 | 49 | 15.5 | 14.93 | 0.933 | 1.064 | 6 | |
| | | | 26590 | 1905 | 100 | 0 | 15.5 | 14.55 | 0.899 | 1.119 | 7 | |
| Bottom side | 0 | QPSK | 26140 | 1860 | 1 | 49 | 15.5 | 14.48 | | | | |
| | | | 26365 | 1882.5 | 1 | 99 | 15.5 | 15.00 | | | | |
| | | | 26590 | 1905 | 1 | 99 | 15.5 | 15.44 | 0.651 | 0.660 | 8 | |
| | | | 26140 | 1860 | 50 | 24 | 15.5 | 14.42 | | | | |
| | | | 26365 | 1882.5 | 50 | 49 | 15.5 | 14.76 | | | | |
| | | | 26590 | 1905 | 50 | 49 | 15.5 | 14.93 | 0.620 | 0.707 | 11 | |
| | | | 26590 | 1905 | 100 | 0 | 15.5 | 14.55 | | | | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | QPSK | 26140 | 1860 | 1 | 49 | 24.0 | 23.07 | 0.123 | 0.152 | 12 | |
| | | | 26365 | 1882.5 | 1 | 49 | 24.0 | 22.99 | | | | |
| | | | 26590 | 1905 | 1 | 99 | 24.0 | 23.00 | | | | |
| | | | 26140 | 1860 | 50 | 49 | 23.0 | 21.86 | 0.106 | 0.138 | 13 | |
| | | | 26365 | 1882.5 | 50 | 24 | 23.0 | 21.72 | | | | |
| | | | 26590 | 1905 | 50 | 49 | 23.0 | 21.84 | | | | |
| | | | 26140 | 1860 | 100 | 0 | 23.0 | 21.88 | 0.101 | 0.131 | 14 | |
| Edge 2 | 23 | QPSK | 26140 | 1860 | 1 | 49 | 24.0 | 23.07 | 0.420 | 0.520 | 15 | |
| | | | 26365 | 1882.5 | 1 | 49 | 24.0 | 22.99 | | | | |
| | | | 26590 | 1905 | 1 | 99 | 24.0 | 23.00 | | | | |
| | | | 26140 | 1860 | 50 | 49 | 23.0 | 21.86 | 0.317 | 0.412 | 16 | |
| | | | 26365 | 1882.5 | 50 | 24 | 23.0 | 21.72 | | | | |
| | | | 26590 | 1905 | 50 | 49 | 23.0 | 21.84 | | | | |
| | | | 26140 | 1860 | 100 | 0 | 23.0 | 21.88 | 0.314 | 0.406 | 17 | |
| Edge 3 | 0 | QPSK | 26140 | 1860 | 1 | 49 | 24.0 | 23.07 | 0.248 | 0.307 | 18 | |
| | | | 26365 | 1882.5 | 1 | 49 | 24.0 | 22.99 | | | | |
| | | | 26590 | 1905 | 1 | 99 | 24.0 | 23.00 | | | | |
| | | | 26140 | 1860 | 50 | 49 | 23.0 | 21.86 | 0.166 | 0.216 | 19 | |
| | | | 26365 | 1882.5 | 50 | 24 | 23.0 | 21.72 | | | | |
| | | | 26590 | 1905 | 50 | 49 | 23.0 | 21.84 | | | | |
| | | | 26140 | 1860 | 100 | 0 | 23.0 | 21.88 | 0.180 | 0.233 | 20 | |
| Bottom side | 18 | QPSK | 26140 | 1860 | 1 | 49 | 24.0 | 23.07 | 0.286 | 0.354 | 21 | |
| | | | 26365 | 1882.5 | 1 | 49 | 24.0 | 22.99 | | | | |
| | | | 26590 | 1905 | 1 | 99 | 24.0 | 23.00 | | | | |
| | | | 26140 | 1860 | 50 | 49 | 23.0 | 21.86 | 0.225 | 0.293 | 22 | |
| | | | 26365 | 1882.5 | 50 | 24 | 23.0 | 21.72 | | | | |
| | | | 26590 | 1905 | 50 | 49 | 23.0 | 21.84 | | | | |
| | | | 26140 | 1860 | 100 | 0 | 23.0 | 21.88 | 0.225 | 0.291 | 23 | |

Note(s):

Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:

- Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
 - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
- The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
- Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
 - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
- Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

13.11. LTE Band 13

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | QPSK | 23230 | 782 | 1 | 0 | 21.5 | 20.45 | 0.779 | 0.992 | 1 | |
| | | | 23230 | 782 | 25 | 12 | 21.5 | 20.58 | 0.843 | 1.042 | 2 | |
| | | | 23230 | 782 | 50 | 0 | 21.5 | 20.56 | 0.829 | 1.029 | 3 | |
| Bottom side | 0 | QPSK | 23230 | 782 | 1 | 0 | 21.5 | 20.45 | 0.845 | 1.076 | 4 | |
| | | | 23230 | 782 | 25 | 12 | 21.5 | 20.58 | 0.847 | 1.047 | 5 | |
| | | | 23230 | 782 | 50 | 0 | 21.5 | 20.56 | 0.832 | 1.033 | 6 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | QPSK | 23230 | 782 | 1 | 24 | 24.0 | 22.93 | 0.535 | 0.684 | 7 | |
| | | | 23230 | 782 | 25 | 12 | 23.0 | 22.02 | 0.421 | 0.528 | 8 | |
| | | | 23230 | 782 | 50 | 0 | 23.0 | 22.01 | | | | |
| Edge 2 | 23 | QPSK | 23230 | 782 | 1 | 24 | 24.0 | 22.93 | 0.180 | 0.230 | 9 | |
| | | | 23230 | 782 | 25 | 12 | 23.0 | 22.02 | 0.143 | 0.179 | 10 | |
| | | | 23230 | 782 | 50 | 0 | 23.0 | 22.01 | | | | |
| Edge 3 | 0 | QPSK | 23230 | 782 | 1 | 24 | 24.0 | 22.93 | 0.122 | 0.156 | 11 | |
| | | | 23230 | 782 | 25 | 12 | 23.0 | 22.02 | 0.095 | 0.119 | 12 | |
| | | | 23230 | 782 | 50 | 0 | 23.0 | 22.01 | | | | |
| Edge 4 | 0 | QPSK | 23230 | 782 | 1 | 24 | 24.0 | 22.93 | 0.063 | 0.081 | 13 | |
| | | | 23230 | 782 | 25 | 12 | 23.0 | 22.02 | 0.049 | 0.061 | 14 | |
| | | | 23230 | 782 | 50 | 0 | 23.0 | 22.01 | | | | |
| Bottom side | 18 | QPSK | 23230 | 782 | 1 | 24 | 24.0 | 22.93 | 0.196 | 0.251 | 15 | |
| | | | 23230 | 782 | 25 | 12 | 23.0 | 22.02 | 0.154 | 0.193 | 16 | |
| | | | 23230 | 782 | 50 | 0 | 23.0 | 22.01 | | | | |

Note(s):

Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:

- Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
 - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
- The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
- Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
 - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
- Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

13.12. **LTE Band 17**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 0 | QPSK | 23780 | 709 | 1 | 24 | 22.5 | 22.12 | 0.888 | 0.969 | 1 | |
| | | | 23790 | 710 | 1 | 24 | 22.5 | 22.03 | 0.913 | 1.017 | 2 | |
| | | | 23800 | 711 | 1 | 0 | 22.5 | 21.91 | 0.890 | 1.020 | 3 | |
| | | | 23780 | 709 | 25 | 12 | 22.5 | 22.04 | 0.876 | 0.974 | 4 | |
| | | | 23790 | 710 | 25 | 0 | 22.5 | 22.07 | 0.894 | 0.987 | 5 | |
| | | | 23800 | 711 | 25 | 12 | 22.5 | 22.09 | 0.911 | 1.001 | 6 | |
| | | | 23780 | 709 | 50 | 0 | 22.5 | 21.97 | 0.853 | 0.964 | 7 | |
| Bottom side | 0 | QPSK | 23780 | 709 | 1 | 24 | 22.5 | 22.12 | 1.190 | 1.299 | 8 | |
| | | | 23790 | 710 | 1 | 24 | 22.5 | 22.03 | 1.200 | 1.337 | 9 | |
| | | | 23800 | 711 | 1 | 0 | 22.5 | 21.91 | 1.160 | 1.329 | 10 | |
| | | | 23780 | 709 | 25 | 12 | 22.5 | 22.04 | 1.170 | 1.301 | 11 | |
| | | | 23790 | 710 | 25 | 0 | 22.5 | 22.07 | 1.190 | 1.314 | 12 | |
| | | | 23800 | 711 | 25 | 12 | 22.5 | 22.09 | 1.210 | 1.330 | 13 | |
| | | | 23780 | 709 | 50 | 0 | 22.5 | 21.97 | 1.130 | 1.277 | 14 | |

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

| Test Position | Dist. (mm) | Mode | UL Ch #. | Freq. (MHz) | UL RB Allocation | UL RB Start | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------|----------|-------------|------------------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 0 | QPSK | 23780 | 709 | 1 | 24 | 24.0 | 22.92 | 0.381 | 0.489 | 15 | |
| | | | 23790 | 710 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23800 | 711 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23780 | 709 | 25 | 0 | 23.0 | 21.93 | | | | |
| | | | 23790 | 710 | 25 | 0 | 23.0 | 22.00 | 0.292 | 0.368 | 16 | |
| | | | 23800 | 711 | 25 | 0 | 23.0 | 21.99 | | | | |
| Edge 2 | 23 | QPSK | 23780 | 709 | 1 | 24 | 24.0 | 22.92 | 0.123 | 0.158 | 17 | |
| | | | 23790 | 710 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23800 | 711 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23780 | 709 | 25 | 0 | 23.0 | 21.93 | | | | |
| | | | 23790 | 710 | 25 | 0 | 23.0 | 22.00 | 0.095 | 0.120 | 18 | |
| | | | 23800 | 711 | 25 | 0 | 23.0 | 21.99 | | | | |
| Edge 3 | 0 | QPSK | 23780 | 709 | 1 | 24 | 24.0 | 22.92 | 0.091 | 0.116 | 19 | |
| | | | 23790 | 710 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23800 | 711 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23780 | 709 | 25 | 0 | 23.0 | 21.93 | | | | |
| | | | 23790 | 710 | 25 | 0 | 23.0 | 22.00 | 0.069 | 0.087 | 20 | |
| | | | 23800 | 711 | 25 | 0 | 23.0 | 21.99 | | | | |
| Edge 4 | 0 | QPSK | 23780 | 709 | 1 | 24 | 24.0 | 22.92 | 0.069 | 0.088 | 21 | |
| | | | 23790 | 710 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23800 | 711 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23780 | 709 | 25 | 0 | 23.0 | 21.93 | | | | |
| | | | 23790 | 710 | 25 | 0 | 23.0 | 22.00 | 0.061 | 0.076 | 22 | |
| | | | 23800 | 711 | 25 | 0 | 23.0 | 21.99 | | | | |
| Bottom side | 18 | QPSK | 23780 | 709 | 1 | 24 | 24.0 | 22.92 | 0.176 | 0.226 | 23 | |
| | | | 23790 | 710 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23800 | 711 | 1 | 24 | 24.0 | 22.88 | | | | |
| | | | 23780 | 709 | 25 | 0 | 23.0 | 21.93 | | | | |
| | | | 23790 | 710 | 25 | 0 | 23.0 | 22.00 | 0.137 | 0.172 | 24 | |
| | | | 23800 | 711 | 25 | 0 | 23.0 | 21.99 | | | | |
| 23790 | 710 | 50 | 0 | 23.0 | 21.83 | | | | | | | |

Note(s):

Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:

- Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
 - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
 - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
- The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
- Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
 - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
- Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

The maximum SAR value of LTE Band 17 is Repeated SAR. Please refer to Section 13.15. .

13.13. Summary of Highest SAR Values

Results for the highest scaled SAR values in each frequency band and mode

| Technology Band | Test Configuration | | Mode | Dist. (mm) | Freq. (MHz) | dBm | 1g/SAR (w/kg) |
|-----------------|--------------------|-----------------------|-----------------------|------------|-------------|-------|---------------|
| | Exposure | Position | | | | | |
| W-CDMA Band 5 | Body | Edge 2 (Prox on) | Rel 99 RMC 12.2kbps | 0 | 846.6 | 20.15 | 1.333 |
| W-CDMA Band 4 | Body | Edge 2 (Prox on) | Rel 99 RMC 12.2kbps | 0 | 1752.6 | 15.46 | 1.370 |
| W-CDMA Band 2 | Body | Edge 2 (Prox on) | Rel 99 RMC 12.2kbps | 0 | 1880.0 | 14.39 | 1.113 |
| CDMA BC0 | Body | Edge 2 (Prox on) | 1xEVDO Rel.0 | 0 | 848.3 | 20.52 | 1.345 |
| CDMA BC1 | Body | Edge 2 (Prox on) | 1xRTT (RC3 SO32) | 0 | 1880.0 | 15.32 | 1.275 |
| CDMA BC 10 | Body | Edge 2 (Prox on) | 1xEVDO Rel.0 | 0 | 822.8 | 21.18 | 1.292 |
| LTE Band 2 | Body | Edge 2 (Prox on) | 20 MHz(QPSK) RB 1/0 | 0 | 1860 | 15.15 | 1.353 |
| LTE Band 4 | Body | Edge 2 (Prox on) | 20 MHz(QPSK) RB 50/49 | 0 | 1745 | 14.75 | 0.955 |
| LTE Band 5 | Body | Edge 2 (Prox on) | 10 MHz (QPSK) RB 50/0 | 0 | 844 | 20.41 | 1.214 |
| LTE Band 25 | Body | Edge 2 (Prox on) | 20 MHz(QPSK) RB 1/49 | 0 | 1860 | 14.48 | 1.246 |
| LTE Band 13 | Body | Bottom side (Prox on) | 10 MHz (QPSK) RB 1/0 | 0 | 782 | 20.58 | 1.076 |
| LTE Band 17 | Body | Bottom side (Prox on) | 10 MHz (QPSK) RB 1/24 | 0 | 710 | 22.03 | 1.337 |

13.14. SAR Measurement Variability and Uncertainty

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. 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 < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the **ratio of largest to smallest SAR** for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

| Wireless Technologies | Test Configuration | | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Meas. SAR (W/kg) | | Largest to Smallest SAR Ratio | Plot No. |
|-----------------------|--------------------|-----------------|---------------------|------------|-------|-------------|------------------|----------|-------------------------------|----------|
| | Exposure | Position | | | | | Original | Repeated | | |
| LTE band 17 | Body | Edge 2 Prox. On | 10 MHz (QPSK) 25/12 | 0 | 23800 | 711 | 1.210 | 1.200 | 1.01 | 1 |
| W-CDMA Band 5 | Body | Edge 2 Prox. On | Rel 99 RMC 12.2kbps | 0 | 4233 | 846.6 | 1.230 | 1.230 | 1.00 | 2 |
| W-CDMA Band 4 | Body | Edge 2 Prox. On | Rel 99 RMC 12.2kbps | 0 | 1513 | 1752.6 | 1.210 | 1.150 | 1.05 | 3 |
| LTE band 2 | Body | Edge 2 Prox. On | 20 MHz (QPSK) 1/0 | 0 | 18700 | 1860 | 1.220 | 1.120 | 1.09 | 4 |

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.

13.15. Additional SAR Test Results

The SAR result of WLAN/Bluetooth in the former report(SAR report No.: 11018650H-A, FCC ID ACJ9TGWL15B) was used for simultaneous transmission SAR analysis of WWAN+WLAN. Please refer to section 14 for simultaneous transmission SAR analysis of WWAN+WLAN/Bluetooth.

When considering exclusion of simultaneous transmitting SAR test, estimated SAR of WLAN/Bluetooth is too large(for example 0.4W/kg). When the sum of SAR value exceeded 1.6W/kg, estimated SAR was not used. Therefore some test position of WLAN/Bluetooth was measured standalone SAR for simultaneous transmitting evaluation in this report.

About the substitution of test setup position

- SAR value of Bottom side "18mm" with WLAN: We substituted SAR value of Bottom side "0mm" with WLAN conservatively. Please refer to SAR report No.: 11018650H-A about SAR value of Bottom side "0mm" with WLAN.
- SAR value of Bottom side "18mm" with Bluetooth: We substituted SAR value of Bottom side "0mm" with Bluetooth conservatively. SAR value of Bottom side "0mm" with Bluetooth was measured as additional test this time.
- SAR value of Edge 1 of WLAN Aux/Bluetooth: SAR value of Edge1 with WLAN Aux/Bluetooth was measured as additional test this time.
- SAR value of Edge 2 "23mm" of WLAN/Bluetooth: We substituted SAR value of Edge 2 "0mm" with WLAN/Bluetooth conservatively. SAR value of Edge 2 "0mm" with WLAN/Bluetooth was measured as additional test this time.
- SAR value of Edge 3 of WLAN Main: SAR value of Edge3 with WLAN Main was measured as additional test this time.

13.15.1. Wi-Fi 2.4 GHz Band

Main Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|---------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 802.11b | 0 | 1 | 2412 | 15.00 | 14.93 | | | | |
| | | | 6 | 2437 | 15.00 | 14.96 | | | | |
| | | | 11 | 2462 | 15.00 | 15.00 | 0.025 | 0.025 | 1 | |
| Edge 3 | 802.11b | 0 | 1 | 2412 | 15.00 | 14.93 | | | | |
| | | | 6 | 2437 | 15.00 | 14.96 | | | | |
| | | | 11 | 2462 | 15.00 | 15.00 | 0.000 | 0.000 | 2 | |

Auxiliary Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|---------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 802.11b | 0 | 1 | 2412 | 15.00 | 14.92 | | | | |
| | | | 6 | 2437 | 15.00 | 14.93 | 0.000 | 0.000 | 3 | |
| | | | 11 | 2462 | 15.00 | 14.91 | | | | |
| Edge 2 | 802.11b | 0 | 1 | 2412 | 15.00 | 14.92 | | | | |
| | | | 6 | 2437 | 15.00 | 14.93 | 0.012 | 0.012 | 4 | |
| | | | 11 | 2462 | 15.00 | 14.91 | | | | |

Note(s):

- Highest reported SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
- Highest reported SAR is > 0.4 W/kg. Due to the highest reported SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was reported.
- 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 ≤ 1.2 W/kg or all required test channels are considered.

13.15.2. Wi-Fi 5.3 GHz Band

Main Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------|-------|-------------|---------------|-------|----------------|---------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 802.11ac80 | 0 | 58 | 5290 | 13.50 | 13.38 | 0.00832 | 0.00855 | 1 | |
| Edge 3 | 802.11ac80 | 0 | 58 | 5290 | 13.50 | 13.38 | 0.00154 | 0.00158 | 2 | |

Auxiliary Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 802.11ac80 | 0 | 58 | 5290 | 13.50 | 13.41 | 0.000 | 0.000 | 3 | |
| Edge 2 | 802.11ac80 | 0 | 58 | 5290 | 13.50 | 13.41 | 0.027 | 0.028 | 4 | |

Note(s):

1. Highest reported SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 W/kg. Due to the highest reported SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was reported.
3. 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 ≤ 1.2 W/kg or all required test channels are considered.

13.15.3. Wi-Fi 5.5 GHz Band

Main Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------|-------|-------------|---------------|-------|----------------|---------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 802.11ac80 | 0 | 106 | 5530 | 13.50 | 13.47 | 0.00836 | 0.00841 | 1 | |
| | | | 122 | 5610 | 13.50 | 13.42 | | | | |
| | | | 138 | 5690 | 13.50 | 13.41 | | | | |
| Edge 3 | 802.11ac80 | 0 | 106 | 5530 | 13.50 | 13.47 | 0.000 | 0.000 | 2 | |
| | | | 122 | 5610 | 13.50 | 13.42 | | | | |
| | | | 138 | 5690 | 13.50 | 13.41 | | | | |

Auxiliary Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 802.11ac80 | 0 | 106 | 5530 | 13.50 | 13.48 | 0.000 | 0.000 | 3 | |
| | | | 122 | 5610 | 13.50 | 13.44 | | | | |
| | | | 138 | 5690 | 13.50 | 13.46 | | | | |
| Edge 2 | 802.11ac80 | 0 | 106 | 5530 | 13.50 | 13.48 | 0.038 | 0.038 | 4 | |
| | | | 122 | 5610 | 13.50 | 13.44 | | | | |
| | | | 138 | 5690 | 13.50 | 13.46 | | | | |

Note(s):

1. Highest reported SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 W/kg. Due to the highest reported SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was reported.
3. 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 ≤ 1.2 W/kg or all required test channels are considered.

13.15.4. Wi-Fi 5.8 GHz Band

Main Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 2 | 802.11ac80 | 0 | 155 | 5775 | 13.50 | 13.48 | 0.000 | 0.000 | 1 | |
| Edge 3 | 802.11ac80 | 0 | 155 | 5775 | 13.50 | 13.48 | 0.000 | 0.000 | 2 | |

Auxiliary Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note |
|---------------|------------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | |
| Edge 1 | 802.11ac80 | 0 | 155 | 5775 | 13.50 | 13.48 | 0.000 | 0.000 | 3 | |
| Edge 2 | 802.11ac80 | 0 | 155 | 5775 | 13.50 | 13.48 | 0.024 | 0.024 | 4 | |

Note(s):

- Highest reported SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
- Highest reported SAR is > 0.4 W/kg. Due to the highest reported SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was reported.
- 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 ≤ 1.2 W/kg or all required test channels are considered.

13.15.5. Bluetooth

Auxiliary Antenna

| Test Position | Mode | Dist. (mm) | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | Plot No. | Note | SW Pwr Setting |
|---------------|---------|------------|-------|-------------|---------------|-------|----------------|--------|----------|------|----------------|
| | | | | | Tune-up limit | Meas. | Meas. | Scaled | | | |
| Edge 1 | BDR DH5 | 0 | 0 | 2402 | 5.20 | 4.36 | 0.000 | 0.000 | 1 | | |
| | | | 39 | 2441 | 5.20 | 2.15 | | | | | |
| | | | 78 | 2480 | 5.20 | 3.39 | | | | | |
| Edge 2 | BDR DH5 | 0 | 0 | 2402 | 5.20 | 4.36 | 0.000 | 0.000 | 2 | | |
| | | | 39 | 2441 | 5.20 | 2.15 | | | | | |
| | | | 78 | 2480 | 5.20 | 3.39 | | | | | |
| Bottom side | BDR DH5 | 0 | 0 | 2402 | 5.20 | 4.36 | 0.018 | 0.022 | 3 | | |
| | | | 39 | 2441 | 5.20 | 2.15 | | | | | |
| | | | 78 | 2480 | 5.20 | 3.39 | | | | | |

Note(s):

1. According to KDB 447498 D01 General RF Exposure Guidance v05, 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
 1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

14. Simultaneous Transmission SAR Analysis

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 11018650H-A, submitted under FCC ID ACJ9TGWL15B.

All Simultaneous Transmission SAR analysis applies scaling in accordance with the scaled values documented in this report (for the WWAN radios) and the aforementioned SAR report (11018650H-A) with scaling applied (for the WLAN radios).

14.1. Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.512 | | 0.959 | | 0.000 | 1.471 |
| | | 0.454 | 0.959 | | 0.000 | 1.413 |
| | 0.512 | | | 0.000 | | 0.512 |
| | | 0.454 | | 0.000 | | 0.454 |
| Edge 1, Wi-Fi 2 Tx | 0.512 | | 0.959 | 0.000 | | 1.471 |
| | | 0.454 | 0.959 | 0.000 | | 1.413 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.025 | | 0.000 | 1.358 |
| | | 1.370 | 0.025 | | 0.000 | 1.395 |
| | 1.333 | | 0.025 | 0.021 | | 1.379 |
| | | 1.370 | 0.025 | 0.021 | | 1.416 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.025 | 0.021 | | 1.379 |
| | | 1.370 | 0.025 | 0.021 | | 1.416 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.300 | | 0.025 | | 0.000 | 0.325 |
| | | 0.564 | 0.025 | | 0.000 | 0.589 |
| | 0.300 | | 0.025 | 0.021 | | 0.346 |
| | | 0.564 | 0.025 | 0.021 | | 0.610 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.300 | | 0.025 | 0.021 | | 0.346 |
| | | 0.564 | 0.025 | 0.021 | | 0.610 |
| Edge 3, Wi-Fi 1 Tx | 0.123 | | 0.000 | | 0.126 | 0.249 |
| | | 0.264 | 0.000 | | 0.126 | 0.390 |
| | 0.123 | | | 1.188 | | 1.311 |
| | | 0.264 | | 1.188 | | 1.452 |
| Edge 3, Wi-Fi 2 Tx | 0.123 | | 0.000 | 1.188 | | 1.311 |
| | | 0.264 | 0.000 | 1.188 | | 1.452 |
| Edge 4, Wi-Fi 1 Tx | 0.031 | | 0.135 | | 0.126 | 0.292 |
| | | 0.037 | 0.135 | | 0.126 | 0.298 |
| | 0.031 | | | 0.122 | | 0.153 |
| | | 0.037 | | 0.122 | | 0.159 |
| Edge 4, Wi-Fi 2 Tx | 0.031 | | 0.135 | 0.122 | | 0.288 |
| | | 0.037 | 0.135 | 0.122 | | 0.294 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.317 | | 0.022 | 1.128 |
| | | 0.808 | 0.317 | | 0.022 | 1.147 |
| | 0.789 | | | 0.317 | | 1.106 |
| | | 0.808 | | 0.317 | | 1.125 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.317 | 0.317 | | 1.423 |
| | | 0.808 | 0.317 | 0.317 | | 1.442 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.181 | | 0.317 | | 0.022 | 0.520 |
| | | 0.467 | 0.317 | | 0.022 | 0.806 |
| | 0.181 | | | 0.317 | | 0.498 |
| | | 0.467 | | 0.317 | | 0.784 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.181 | | 0.317 | 0.317 | | 0.815 |
| | | 0.467 | 0.317 | 0.317 | | 1.101 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.2. Sum of the SAR for W-CDMA Band II & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|---|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.138 | 0.959 | | 0.000 | 1.097 |
| | 0.138 | | 0.000 | | 0.138 |
| Edge 1, Wi-Fi 2 Tx | 0.138 | 0.959 | 0.000 | | 1.097 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.113 | 0.025 | | 0.000 | 1.138 |
| | 1.113 | 0.025 | 0.021 | | 1.159 |
| Edge 2, Wi-Fi 2 Tx | 1.113 | 0.025 | 0.021 | | 1.159 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.577 | 0.025 | | 0.000 | 0.602 |
| | 0.577 | 0.025 | 0.021 | | 0.623 |
| Edge 2, Wi-Fi 2 Tx | 0.577 | 0.025 | 0.021 | | 0.623 |
| Edge 3, Wi-Fi 1 Tx | 0.326 | 0.000 | | 0.126 | 0.452 |
| | 0.326 | | 1.188 | | 1.514 |
| Edge 3, Wi-Fi 2 Tx | 0.326 | 0.000 | 1.188 | | 1.514 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | 0.135 | | 0.126 | 0.661 |
| | 0.400 | | 0.122 | | 0.522 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | 0.135 | 0.122 | | 0.657 |
| | | | | | |

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|--|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.317 | | 0.022 | 0.840 |
| | 0.501 | | 0.317 | | 0.818 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.317 | 0.317 | | 1.135 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.369 | 0.317 | | 0.022 | 0.708 |
| | 0.369 | | 0.317 | | 0.686 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.369 | 0.317 | 0.317 | | 1.003 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.3. Sum of the SAR for CDMA BC0 & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.722 | | 0.959 | | 0.000 | 1.681 |
| | | 0.691 | 0.959 | | 0.000 | 1.650 |
| | 0.722 | | | 0.000 | | 0.722 |
| | | 0.691 | | 0.000 | | 0.691 |
| Edge 1, Wi-Fi 2 Tx | 0.722 | | 0.959 | 0.000 | | 1.681 |
| | | 0.691 | 0.959 | 0.000 | | 1.650 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.025 | | 0.000 | 1.328 |
| | | 1.345 | 0.025 | | 0.000 | 1.370 |
| | 1.303 | | 0.025 | 0.021 | | 1.349 |
| | | 1.345 | 0.025 | 0.021 | | 1.391 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.025 | 0.021 | | 1.349 |
| | | 1.345 | 0.025 | 0.021 | | 1.391 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.400 | | 0.025 | | 0.000 | 0.425 |
| | | 0.378 | 0.025 | | 0.000 | 0.403 |
| | 0.400 | | 0.025 | 0.021 | | 0.446 |
| | | 0.378 | 0.025 | 0.021 | | 0.424 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.400 | | 0.025 | 0.021 | | 0.446 |
| | | 0.378 | 0.025 | 0.021 | | 0.424 |
| Edge 3, Wi-Fi 1 Tx | 0.155 | | 0.000 | | 0.126 | 0.281 |
| | | 0.148 | 0.000 | | 0.126 | 0.274 |
| | 0.155 | | | 1.188 | | 1.343 |
| | | 0.148 | | 1.188 | | 1.336 |
| Edge 3, Wi-Fi 2 Tx | 0.155 | | 0.000 | 1.188 | | 1.343 |
| | | 0.148 | 0.000 | 1.188 | | 1.336 |
| Edge 4, Wi-Fi 1 Tx | 0.043 | | 0.135 | | 0.126 | 0.304 |
| | | 0.043 | 0.135 | | 0.126 | 0.304 |
| | 0.043 | | | 0.122 | | 0.165 |
| | | 0.043 | | 0.122 | | 0.165 |
| Edge 4, Wi-Fi 2 Tx | 0.043 | | 0.135 | 0.122 | | 0.300 |
| | | 0.043 | 0.135 | 0.122 | | 0.300 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.317 | | 0.022 | 1.232 |
| | | 0.937 | 0.317 | | 0.022 | 1.276 |
| | 0.893 | | | 0.317 | | 1.210 |
| | | 0.937 | | 0.317 | | 1.254 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.317 | 0.317 | | 1.527 |
| | | 0.937 | 0.317 | 0.317 | | 1.571 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.187 | | 0.317 | | 0.022 | 0.526 |
| | | 0.268 | 0.317 | | 0.022 | 0.607 |
| | 0.187 | | | 0.317 | | 0.504 |
| | | 0.268 | | 0.317 | | 0.585 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.187 | | 0.317 | 0.317 | | 0.821 |
| | | 0.268 | 0.317 | 0.317 | | 0.902 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①CDMA BC0 1xRTT | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|-----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| | | | | | ① + ② + ④ | 1.68 | | | | |
| Edge1 Wi-Fi 1 Tx | 0.722 | 0.959 | | 0.000 | ① + ② + ④ | 1.68 | | | | |
| | 0.722 | 0.959 | | | ① + ② | 1.68 | 157.6 | 0.014 | No | 1 |

| Test Position | ①CDMA BC0 1xRTT | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|-----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| | | | | | ① + ② + ③ | 1.68 | | | | |
| Edge1 Wi-Fi 2 Tx | 0.722 | 0.959 | 0.000 | | ① + ② + ③ | 1.68 | | | | |
| | 0.722 | 0.959 | | | ① + ② | 1.68 | 157.6 | 0.014 | No | 2 |

| Test Position | ①CDMA BC0 EVDO | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| | | | | | ① + ② + ④ | 1.65 | | | | |
| Edge1 Wi-Fi 1 Tx | 0.691 | 0.959 | | 0.000 | ① + ② + ④ | 1.65 | | | | |
| | 0.691 | 0.959 | | | ① + ② | 1.65 | 159.1 | 0.013 | No | 3 |

| Test Position | ①CDMA BC0 EVDO | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| | | | | | ① + ② + ③ | 1.65 | | | | |
| Edge1 Wi-Fi 2 Tx | 0.691 | 0.959 | 0.000 | | ① + ② + ③ | 1.65 | | | | |
| | 0.691 | 0.959 | | | ① + ② | 1.65 | 159.1 | 0.013 | No | 4 |

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.

14.4. Sum of the SAR for CDMA BC1 & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.164 | | 0.959 | | 0.000 | 1.123 |
| | | 0.131 | 0.959 | | 0.000 | 1.090 |
| | 0.164 | | | 0.000 | | 0.164 |
| | | 0.131 | | 0.000 | | 0.131 |
| Edge 1, Wi-Fi 2 Tx | 0.164 | | 0.959 | 0.000 | | 1.123 |
| | | 0.131 | 0.959 | 0.000 | | 1.090 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.025 | | 0.000 | 1.300 |
| | | 1.255 | 0.025 | | 0.000 | 1.280 |
| | 1.275 | | 0.025 | 0.021 | | 1.321 |
| | | 1.255 | 0.025 | 0.021 | | 1.301 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.025 | 0.021 | | 1.321 |
| | | 1.255 | 0.025 | 0.021 | | 1.301 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.736 | | 0.025 | | 0.000 | 0.761 |
| | | 0.691 | 0.025 | | 0.000 | 0.716 |
| | 0.736 | | 0.025 | 0.021 | | 0.782 |
| | | 0.691 | 0.025 | 0.021 | | 0.737 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.736 | | 0.025 | 0.021 | | 0.782 |
| | | 0.691 | 0.025 | 0.021 | | 0.737 |
| Edge 3, Wi-Fi 1 Tx | 0.376 | | 0.000 | | 0.126 | 0.502 |
| | | 0.397 | 0.000 | | 0.126 | 0.523 |
| | 0.376 | | | 1.188 | | 1.564 |
| | | 0.397 | | 1.188 | | 1.585 |
| Edge 3, Wi-Fi 2 Tx | 0.376 | | 0.000 | 1.188 | | 1.564 |
| | | 0.397 | 0.000 | 1.188 | | 1.585 |
| Edge 4, Wi-Fi 1 Tx | 0.032 | | 0.135 | | 0.126 | 0.293 |
| | | 0.024 | 0.135 | | 0.126 | 0.285 |
| | 0.032 | | | 0.122 | | 0.154 |
| | | 0.024 | | 0.122 | | 0.146 |
| Edge 4, Wi-Fi 2 Tx | 0.032 | | 0.135 | 0.122 | | 0.289 |
| | | 0.024 | 0.135 | 0.122 | | 0.281 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.317 | | 0.022 | 1.222 |
| | | 0.908 | 0.317 | | 0.022 | 1.247 |
| | 0.883 | | | 0.317 | | 1.200 |
| | | 0.908 | | 0.317 | | 1.225 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.317 | 0.317 | | 1.517 |
| | | 0.908 | 0.317 | 0.317 | | 1.542 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.459 | | 0.317 | | 0.022 | 0.798 |
| | | 0.470 | 0.317 | | 0.022 | 0.809 |
| | 0.459 | | | 0.317 | | 0.776 |
| | | 0.470 | | 0.317 | | 0.787 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.459 | | 0.317 | 0.317 | | 1.093 |
| | | 0.470 | 0.317 | 0.317 | | 1.104 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.5. Sum of the SAR for CDMA BC10 & Wi-Fi 2.4 GHz Bands.

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.719 | | 0.959 | | 0.000 | 1.678 |
| | | 0.721 | 0.959 | | 0.000 | 1.680 |
| | 0.719 | | | 0.000 | | 0.719 |
| | | 0.721 | | 0.000 | | 0.721 |
| Edge 1, Wi-Fi 2 Tx | 0.719 | | 0.959 | 0.000 | | 1.678 |
| | | 0.721 | 0.959 | 0.000 | | 1.680 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.254 | | 0.025 | | 0.000 | 1.279 |
| | | 1.292 | 0.025 | | 0.000 | 1.317 |
| | 1.254 | | 0.025 | 0.021 | | 1.300 |
| | | 1.292 | 0.025 | 0.021 | | 1.338 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.254 | | 0.025 | 0.021 | | 1.300 |
| | | 1.292 | 0.025 | 0.021 | | 1.338 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.345 | | 0.025 | | 0.000 | 0.370 |
| | | 0.287 | 0.025 | | 0.000 | 0.312 |
| | 0.345 | | 0.025 | 0.021 | | 0.391 |
| | | 0.287 | 0.025 | 0.021 | | 0.333 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.345 | | 0.025 | 0.021 | | 0.391 |
| | | 0.287 | 0.025 | 0.021 | | 0.333 |
| Edge 3, Wi-Fi 1 Tx | 0.149 | | 0.000 | | 0.126 | 0.275 |
| | | 0.157 | 0.000 | | 0.126 | 0.283 |
| | 0.149 | | | 1.188 | | 1.337 |
| | | 0.157 | | 1.188 | | 1.345 |
| Edge 3, Wi-Fi 2 Tx | 0.149 | | 0.000 | 1.188 | | 1.337 |
| | | 0.157 | 0.000 | 1.188 | | 1.345 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.135 | | 0.126 | 0.661 |
| | | 0.400 | 0.135 | | 0.126 | 0.661 |
| | 0.400 | | | 0.122 | | 0.522 |
| | | 0.400 | | 0.122 | | 0.522 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | | 0.135 | 0.122 | | 0.657 |
| | | 0.400 | 0.135 | 0.122 | | 0.657 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.317 | | 0.022 | 1.330 |
| | | 0.997 | 0.317 | | 0.022 | 1.336 |
| | 0.991 | | | 0.317 | | 1.308 |
| | | 0.997 | | 0.317 | | 1.314 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.317 | 0.317 | | 1.625 |
| | | 0.997 | 0.317 | 0.317 | | 1.631 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.264 | | 0.317 | | 0.022 | 0.603 |
| | | 0.251 | 0.317 | | 0.022 | 0.590 |
| | 0.264 | | | 0.317 | | 0.581 |
| | | 0.251 | | 0.317 | | 0.568 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.264 | | 0.317 | 0.317 | | 0.898 |
| | | 0.251 | 0.317 | 0.317 | | 0.885 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①CDMA BC10 1xRTT | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|---------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ④ | 1.68 | | | | |
| Edge1 Wi-Fi 1 Tx | 0.719 | 0.959 | | 0.000 | ① + ② + ④ | 1.68 | | | | |
| | 0.719 | 0.959 | | | ① + ② | 1.68 | 159.0 | 0.014 | No | 5 |

| Test Position | ①CDMA BC10 1xRTT | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|---------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ③ | 1.68 | | | | |
| Edge1 Wi-Fi 2 Tx | 0.719 | 0.959 | 0.000 | | ① + ② + ③ | 1.68 | | | | |
| | 0.719 | 0.959 | | | ① + ② | 1.68 | 159.0 | 0.014 | No | 6 |

| Test Position | ①CDMA BC10 EVDO | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|--------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ④ | 1.68 | | | | |
| Edge1 Wi-Fi 1 Tx | 0.721 | 0.959 | | 0.000 | ① + ② + ④ | 1.68 | | | | |
| | 0.721 | 0.959 | | | ① + ② | 1.68 | 160.5 | 0.014 | No | 7 |

| Test Position | ①CDMA BC10 EVDO | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|--------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ③ | 1.68 | | | | |
| Edge1 Wi-Fi 2 Tx | 0.721 | 0.959 | 0.000 | | ① + ② + ③ | 1.68 | | | | |
| | 0.721 | 0.959 | | | ① + ② | 1.68 | 160.5 | 0.014 | No | 8 |

| Test Position | ①CDMA BC10 1xRTT | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--|---------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ③ | 1.63 | | | | |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.991 | 0.317 | 0.317 | | ① + ② + ③ | 1.63 | | | | |
| | 0.991 | 0.317 | | | ① + ② | 1.31 | 167.8 | 0.009 | No | 9 |
| | 0.991 | | 0.317 | | ① + ③ | 1.31 | 193.9 | 0.008 | No | 9 |

| Test Position | ①CDMA BC10 EVDO | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---|-----------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ③ | 1.63 | | | | |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.997 | 0.317 | 0.317 | | ① + ② + ③ | 1.63 | | | | |
| | 0.997 | 0.317 | | | ① + ② | 1.31 | 169.3 | 0.009 | No | 10 |
| | 0.997 | | 0.317 | | ① + ③ | 1.31 | 197.0 | 0.008 | No | 10 |

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.

14.6. Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.162 | | 0.959 | | 0.000 | 1.121 |
| | | 0.505 | 0.959 | | 0.000 | 1.464 |
| | 0.162 | | | 0.000 | | 0.162 |
| | | 0.505 | | 0.000 | | 0.505 |
| Edge 1, Wi-Fi 2 Tx | 0.162 | | 0.959 | 0.000 | | 1.121 |
| | | 0.505 | 0.959 | 0.000 | | 1.464 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.025 | | 0.000 | 1.378 |
| | | 0.955 | 0.025 | | 0.000 | 0.980 |
| | 1.353 | | 0.025 | 0.021 | | 1.399 |
| | | 0.955 | 0.025 | 0.021 | | 1.001 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.025 | 0.021 | | 1.399 |
| | | 0.955 | 0.025 | 0.021 | | 1.001 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.566 | | 0.025 | | 0.000 | 0.591 |
| | | 0.349 | 0.025 | | 0.000 | 0.374 |
| | 0.566 | | 0.025 | 0.021 | | 0.612 |
| | | 0.349 | 0.025 | 0.021 | | 0.395 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.566 | | 0.025 | 0.021 | | 0.612 |
| | | 0.349 | 0.025 | 0.021 | | 0.395 |
| Edge 3, Wi-Fi 1 Tx | 0.320 | | 0.000 | | 0.126 | 0.446 |
| | | 0.241 | 0.000 | | 0.126 | 0.367 |
| | 0.320 | | | 1.188 | | 1.508 |
| | | 0.241 | | 1.188 | | 1.429 |
| Edge 3, Wi-Fi 2 Tx | 0.320 | | 0.000 | 1.188 | | 1.508 |
| | | 0.241 | 0.000 | 1.188 | | 1.429 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.135 | | 0.126 | 0.661 |
| | | 0.028 | 0.135 | | 0.126 | 0.289 |
| | 0.400 | | | 0.122 | | 0.522 |
| | | 0.028 | | 0.122 | | 0.150 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | | 0.135 | 0.122 | | 0.657 |
| | | 0.028 | 0.135 | 0.122 | | 0.285 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.317 | | 0.022 | 1.100 |
| | | 0.715 | 0.317 | | 0.022 | 1.054 |
| | 0.761 | | | 0.317 | | 1.078 |
| | | 0.715 | | 0.317 | | 1.032 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.317 | 0.317 | | 1.395 |
| | | 0.715 | 0.317 | 0.317 | | 1.349 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.371 | | 0.317 | | 0.022 | 0.710 |
| | | 0.406 | 0.317 | | 0.022 | 0.745 |
| | 0.371 | | | 0.317 | | 0.688 |
| | | 0.406 | | 0.317 | | 0.723 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.371 | | 0.317 | 0.317 | | 1.005 |
| | | 0.406 | 0.317 | 0.317 | | 1.040 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.7. Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.604 | | 0.959 | | 0.000 | 1.563 |
| | | 0.152 | 0.959 | | 0.000 | 1.111 |
| | 0.604 | | | 0.000 | | 0.604 |
| | | 0.152 | | 0.000 | | 0.152 |
| Edge 1, Wi-Fi 2 Tx | 0.604 | | 0.959 | 0.000 | | 1.563 |
| | | 0.152 | 0.959 | 0.000 | | 1.111 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.025 | | 0.000 | 1.239 |
| | | 1.246 | 0.025 | | 0.000 | 1.271 |
| | 1.214 | | 0.025 | 0.021 | | 1.260 |
| | | 1.246 | 0.025 | 0.021 | | 1.292 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.025 | 0.021 | | 1.260 |
| | | 1.246 | 0.025 | 0.021 | | 1.292 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.235 | | 0.025 | | 0.000 | 0.260 |
| | | 0.520 | 0.025 | | 0.000 | 0.545 |
| | 0.235 | | 0.025 | 0.021 | | 0.281 |
| | | 0.520 | 0.025 | 0.021 | | 0.566 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.235 | | 0.025 | 0.021 | | 0.281 |
| | | 0.520 | 0.025 | 0.021 | | 0.566 |
| Edge 3, Wi-Fi 1 Tx | 0.126 | | 0.000 | | 0.126 | 0.252 |
| | | 0.307 | 0.000 | | 0.126 | 0.433 |
| | 0.126 | | | 1.188 | | 1.314 |
| | | 0.307 | | 1.188 | | 1.495 |
| Edge 3, Wi-Fi 2 Tx | 0.126 | | 0.000 | 1.188 | | 1.314 |
| | | 0.307 | 0.000 | 1.188 | | 1.495 |
| Edge 4, Wi-Fi 1 Tx | 0.028 | | 0.135 | | 0.126 | 0.289 |
| | | 0.400 | 0.135 | | 0.126 | 0.661 |
| | 0.028 | | | 0.122 | | 0.150 |
| | | 0.400 | | 0.122 | | 0.522 |
| Edge 4, Wi-Fi 2 Tx | 0.028 | | 0.135 | 0.122 | | 0.285 |
| | | 0.400 | 0.135 | 0.122 | | 0.657 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.317 | | 0.022 | 1.191 |
| | | 0.707 | 0.317 | | 0.022 | 1.046 |
| | 0.852 | | | 0.317 | | 1.169 |
| | | 0.707 | | 0.317 | | 1.024 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.317 | 0.317 | | 1.486 |
| | | 0.707 | 0.317 | 0.317 | | 1.341 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.198 | | 0.317 | | 0.022 | 0.537 |
| | | 0.354 | 0.317 | | 0.022 | 0.693 |
| | 0.198 | | | 0.317 | | 0.515 |
| | | 0.354 | | 0.317 | | 0.671 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.198 | | 0.317 | 0.317 | | 0.832 |
| | | 0.354 | 0.317 | 0.317 | | 0.988 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.8. Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 2.4 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.684 | | 0.959 | | 0.000 | 1.643 |
| | | 0.489 | 0.959 | | 0.000 | 1.448 |
| | 0.684 | | | 0.000 | | 0.684 |
| | | 0.489 | | 0.000 | | 0.489 |
| Edge 1, Wi-Fi 2 Tx | 0.684 | | 0.959 | 0.000 | | 1.643 |
| | | 0.489 | 0.959 | 0.000 | | 1.448 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.025 | | 0.000 | 1.067 |
| | | 1.020 | 0.025 | | 0.000 | 1.045 |
| | 1.042 | | 0.025 | 0.021 | | 1.088 |
| | | 1.020 | 0.025 | 0.021 | | 1.066 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.025 | 0.021 | | 1.088 |
| | | 1.020 | 0.025 | 0.021 | | 1.066 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.230 | | 0.025 | | 0.000 | 0.255 |
| | | 0.158 | 0.025 | | 0.000 | 0.183 |
| | 0.230 | | 0.025 | 0.021 | | 0.276 |
| | | 0.158 | 0.025 | 0.021 | | 0.204 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.230 | | 0.025 | 0.021 | | 0.276 |
| | | 0.158 | 0.025 | 0.021 | | 0.204 |
| Edge 3, Wi-Fi 1 Tx | 0.156 | | 0.000 | | 0.126 | 0.282 |
| | | 0.116 | 0.000 | | 0.126 | 0.242 |
| | 0.156 | | | 1.188 | | 1.344 |
| | | 0.116 | | 1.188 | | 1.304 |
| Edge 3, Wi-Fi 2 Tx | 0.156 | | 0.000 | 1.188 | | 1.344 |
| | | 0.116 | 0.000 | 1.188 | | 1.304 |
| Edge 4, Wi-Fi 1 Tx | 0.081 | | 0.135 | | 0.126 | 0.342 |
| | | 0.088 | 0.135 | | 0.126 | 0.349 |
| | 0.081 | | | 0.122 | | 0.203 |
| | | 0.088 | | 0.122 | | 0.210 |
| Edge 4, Wi-Fi 2 Tx | 0.081 | | 0.135 | 0.122 | | 0.338 |
| | | 0.088 | 0.135 | 0.122 | | 0.345 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 2.4 GHz Main | WiFi 2.4 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.317 | | 0.022 | 1.415 |
| | | 1.337 | 0.317 | | 0.022 | 1.676 |
| | 1.076 | | | 0.317 | | 1.393 |
| | | 1.337 | | 0.317 | | 1.654 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.317 | 0.317 | | 1.710 |
| | | 1.337 | 0.317 | 0.317 | | 1.971 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.251 | | 0.317 | | 0.022 | 0.590 |
| | | 0.226 | 0.317 | | 0.022 | 0.565 |
| | 0.251 | | | 0.317 | | 0.568 |
| | | 0.226 | | 0.317 | | 0.543 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.251 | | 0.317 | 0.317 | | 0.885 |
| | | 0.226 | 0.317 | 0.317 | | 0.860 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①LTE Band 13 | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 1 Tx | 0.684 | 0.959 | | 0.000 | ① + ② + ④ | 1.64 | | | | |
| | 0.684 | 0.959 | | | ① + ② | 1.64 | 152.6 | 0.014 | No | 11 |

| Test Position | ①LTE Band 13 | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 2 Tx | 0.684 | 0.959 | 0.000 | | ① + ② + ③ | 1.64 | | | | |
| | 0.684 | 0.959 | | | ① + ② | 1.64 | 152.6 | 0.014 | No | 12 |

| Test Position | ①LTE Band 17 | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.337 | 0.317 | | 0.022 | ① + ② + ④ | 1.68 | | | | |
| | 1.337 | 0.317 | | | ① + ② | 1.65 | 169.3 | 0.013 | No | 13 |
| | 1.337 | | | 0.022 | ① + ④ | 1.36 | 192.2 | 0.008 | No | 13 |

| Test Position | ①LTE Band 17 | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.337 | 0.317 | 0.317 | | ① + ② + ③ | 1.97 | | | | |
| | 1.337 | 0.317 | | | ① + ② | 1.65 | 169.3 | 0.013 | No | 14 |
| | 1.337 | | 0.317 | | ① + ③ | 1.65 | 197.0 | 0.011 | No | 14 |

| Test Position | ①LTE Band 13 | ②WiFi 2.4GHz (Main Ant) | ③WiFi 2.4GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.076 | 0.317 | 0.317 | | ① + ② + ③ | 1.71 | | | | |
| | 1.076 | 0.317 | | | ① + ② | 1.39 | 167.6 | 0.010 | No | 15 |
| | 1.076 | | 0.317 | | ① + ③ | 1.39 | 194.6 | 0.008 | No | 15 |

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.

14.9. Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 5.3 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.512 | | 0.571 | | 0.000 | 1.083 |
| | | 0.454 | 0.571 | | 0.000 | 1.025 |
| | 0.512 | | | 0.000 | | 0.512 |
| | | 0.454 | | 0.000 | | 0.454 |
| Edge 1, Wi-Fi 2 Tx | 0.512 | | 0.571 | 0.000 | | 1.083 |
| | | 0.454 | 0.571 | 0.000 | | 1.025 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.009 | | 0.000 | 1.342 |
| | | 1.370 | 0.009 | | 0.000 | 1.379 |
| | 1.333 | | 0.009 | 0.028 | | 1.370 |
| | | 1.370 | 0.009 | 0.028 | | 1.407 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.009 | 0.028 | | 1.370 |
| | | 1.370 | 0.009 | 0.028 | | 1.407 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.300 | | 0.009 | | 0.000 | 0.309 |
| | | 0.564 | 0.009 | | 0.000 | 0.573 |
| | 0.300 | | 0.009 | 0.028 | | 0.337 |
| | | 0.564 | 0.009 | 0.028 | | 0.601 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.300 | | 0.009 | 0.028 | | 0.337 |
| | | 0.564 | 0.009 | 0.028 | | 0.601 |
| Edge 3, Wi-Fi 1 Tx | 0.123 | | 0.002 | | 0.126 | 0.251 |
| | | 0.00158 | 0.002 | | 0.126 | 0.129 |
| | 0.123 | | | 0.602 | | 0.725 |
| | | 0.00158 | | 0.602 | | 0.604 |
| Edge 3, Wi-Fi 2 Tx | 0.123 | | 0.002 | 0.602 | | 0.727 |
| | | 0.00158 | 0.002 | 0.602 | | 0.605 |
| Edge 4, Wi-Fi 1 Tx | 0.031 | | 0.041 | | 0.126 | 0.198 |
| | | 0.041 | 0.041 | | 0.126 | 0.208 |
| | 0.031 | | | 0.048 | | 0.079 |
| | | 0.041 | | 0.048 | | 0.089 |
| Edge 4, Wi-Fi 2 Tx | 0.031 | | 0.041 | 0.048 | | 0.120 |
| | | 0.041 | 0.041 | 0.048 | | 0.130 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.182 | | 0.022 | 0.993 |
| | | 0.808 | 0.182 | | 0.022 | 1.012 |
| | 0.789 | | | 0.117 | | 0.906 |
| | | 0.808 | | 0.117 | | 0.925 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.182 | 0.117 | | 1.088 |
| | | 0.808 | 0.182 | 0.117 | | 1.107 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.181 | | 0.182 | | 0.022 | 0.385 |
| | | 0.467 | 0.182 | | 0.022 | 0.671 |
| | 0.181 | | | 0.117 | | 0.298 |
| | | 0.467 | | 0.117 | | 0.584 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.181 | | 0.182 | 0.117 | | 0.480 |
| | | 0.467 | 0.182 | 0.117 | | 0.766 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.10. **Sum of the SAR for W-CDMA Band II & Wi-Fi 5.3 GHz Band**

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|---|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.138 | 0.571 | | 0.000 | 0.709 |
| | 0.138 | | 0.000 | | 0.138 |
| Edge 1, Wi-Fi 2 Tx | 0.138 | 0.571 | 0.000 | | 0.709 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.113 | 0.00855 | | 0.000 | 1.122 |
| | 1.113 | 0.00855 | 0.028 | | 1.150 |
| Edge 2, Wi-Fi 2 Tx | 1.113 | 0.00855 | 0.028 | | 1.150 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.577 | 0.00855 | | 0.000 | 0.586 |
| | 0.577 | 0.00855 | 0.028 | | 0.614 |
| Edge 2, Wi-Fi 2 Tx | 0.577 | 0.00855 | 0.028 | | 0.614 |
| Edge 3, Wi-Fi 1 Tx | 0.326 | 0.002 | | 0.126 | 0.454 |
| | 0.326 | | 0.602 | | 0.928 |
| Edge 3, Wi-Fi 2 Tx | 0.326 | 0.002 | 0.602 | | 0.930 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | 0.041 | | 0.126 | 0.567 |
| | 0.400 | | 0.048 | | 0.448 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | 0.041 | 0.048 | | 0.489 |
| | | | | | |

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|--|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.182 | | 0.022 | 0.705 |
| | 0.501 | | 0.117 | | 0.618 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.182 | 0.117 | | 0.800 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN | 0.369 | 0.182 | | 0.022 | 0.573 |
| | 0.369 | | 0.117 | | 0.486 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN | 0.369 | 0.182 | 0.117 | | 0.668 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

14.11. **Sum of the SAR for CDMA BC0 & Wi-Fi 5.3 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.722 | | 0.571 | | 0.000 | 1.293 |
| | | 0.691 | 0.571 | | 0.000 | 1.262 |
| | 0.722 | | | 0.000 | | 0.722 |
| Edge 1, Wi-Fi 2 Tx | | 0.691 | | 0.000 | | 0.691 |
| | 0.722 | | 0.571 | 0.000 | | 1.293 |
| | | 0.691 | 0.571 | 0.000 | | 1.262 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.009 | | 0.000 | 1.312 |
| | | 1.345 | 0.009 | | 0.000 | 1.354 |
| | 1.303 | | 0.009 | 0.028 | | 1.340 |
| | | 1.345 | 0.009 | 0.028 | | 1.382 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.009 | 0.028 | | 1.340 |
| | | 1.345 | 0.009 | 0.028 | | 1.382 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.400 | | 0.009 | | 0.000 | 0.409 |
| | | 0.378 | 0.009 | | 0.000 | 0.387 |
| | 0.400 | | 0.009 | 0.028 | | 0.437 |
| | | 0.378 | 0.009 | 0.028 | | 0.415 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.400 | | 0.009 | 0.028 | | 0.437 |
| | | 0.378 | 0.009 | 0.028 | | 0.415 |
| Edge 3, Wi-Fi 1 Tx | 0.155 | | 0.002 | | 0.126 | 0.283 |
| | | 0.148 | 0.002 | | 0.126 | 0.276 |
| | 0.155 | | | 0.602 | | 0.757 |
| | | 0.148 | | 0.602 | | 0.750 |
| Edge 3, Wi-Fi 2 Tx | 0.155 | | 0.002 | 0.602 | | 0.759 |
| | | 0.148 | 0.002 | 0.602 | | 0.752 |
| Edge 4, Wi-Fi 1 Tx | 0.043 | | 0.041 | | 0.126 | 0.210 |
| | | 0.043 | 0.041 | | 0.126 | 0.210 |
| | 0.043 | | | 0.048 | | 0.091 |
| | | 0.043 | | 0.048 | | 0.091 |
| Edge 4, Wi-Fi 2 Tx | 0.043 | | 0.041 | 0.048 | | 0.132 |
| | | 0.043 | 0.041 | 0.048 | | 0.132 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.182 | | 0.022 | 1.097 |
| | | 0.937 | 0.182 | | 0.022 | 1.141 |
| | 0.893 | | | 0.117 | | 1.010 |
| | | 0.937 | | 0.117 | | 1.054 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.182 | 0.117 | | 1.192 |
| | | 0.937 | 0.182 | 0.117 | | 1.236 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.187 | | 0.182 | | 0.022 | 0.391 |
| | | 0.268 | 0.182 | | 0.022 | 0.472 |
| | 0.187 | | | 0.117 | | 0.304 |
| | | 0.268 | | 0.117 | | 0.385 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.187 | | 0.182 | 0.117 | | 0.486 |
| | | 0.268 | 0.182 | 0.117 | | 0.567 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.12. **Sum of the SAR for CDMA BC1 & Wi-Fi 5.3 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.164 | | 0.571 | | 0.000 | 0.735 |
| | | 0.131 | 0.571 | | 0.000 | 0.702 |
| | 0.164 | | | 0.000 | | 0.164 |
| | | 0.131 | | 0.000 | | 0.131 |
| Edge 1, Wi-Fi 2 Tx | 0.164 | | 0.571 | 0.000 | | 0.735 |
| | | 0.131 | 0.571 | 0.000 | | 0.702 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.009 | | 0.000 | 1.284 |
| | | 1.255 | 0.009 | | 0.000 | 1.264 |
| | 1.275 | | 0.009 | 0.028 | | 1.312 |
| | | 1.255 | 0.009 | 0.028 | | 1.292 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.009 | 0.028 | | 1.312 |
| | | 1.255 | 0.009 | 0.028 | | 1.292 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.736 | | 0.009 | | 0.000 | 0.745 |
| | | 0.691 | 0.009 | | 0.000 | 0.700 |
| | 0.736 | | 0.009 | 0.028 | | 0.773 |
| | | 0.691 | 0.009 | 0.028 | | 0.728 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.736 | | 0.009 | 0.028 | | 0.773 |
| | | 0.691 | 0.009 | 0.028 | | 0.728 |
| Edge 3, Wi-Fi 1 Tx | 0.376 | | 0.002 | | 0.126 | 0.504 |
| | | 0.397 | 0.002 | | 0.126 | 0.525 |
| | 0.376 | | | 0.602 | | 0.978 |
| | | 0.397 | | 0.602 | | 0.999 |
| Edge 3, Wi-Fi 2 Tx | 0.376 | | 0.002 | 0.602 | | 0.980 |
| | | 0.397 | 0.002 | 0.602 | | 1.001 |
| Edge 4, Wi-Fi 1 Tx | 0.032 | | 0.041 | | 0.126 | 0.199 |
| | | 0.024 | 0.041 | | 0.126 | 0.191 |
| | 0.032 | | | 0.048 | | 0.080 |
| | | 0.024 | | 0.048 | | 0.072 |
| Edge 4, Wi-Fi 2 Tx | 0.032 | | 0.041 | 0.048 | | 0.121 |
| | | 0.024 | 0.041 | 0.048 | | 0.113 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.182 | | 0.022 | 1.087 |
| | | 0.908 | 0.182 | | 0.022 | 1.112 |
| | 0.883 | | | 0.117 | | 1.000 |
| | | 0.908 | | 0.117 | | 1.025 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.182 | 0.117 | | 1.182 |
| | | 0.908 | 0.182 | 0.117 | | 1.207 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.459 | | 0.182 | | 0.022 | 0.663 |
| | | 0.470 | 0.182 | | 0.022 | 0.674 |
| | 0.459 | | | 0.117 | | 0.576 |
| | | 0.470 | | 0.117 | | 0.587 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.459 | | 0.182 | 0.117 | | 0.758 |
| | | 0.470 | 0.182 | 0.117 | | 0.769 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.13. **Sum of the SAR for CDMA BC10 & Wi-Fi 5.3 GHz Bands.**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.719 | | 0.571 | | 0.000 | 1.290 |
| | | 0.721 | 0.571 | | 0.000 | 1.292 |
| | 0.719 | | | 0.000 | | 0.719 |
| | | 0.721 | | 0.000 | | 0.721 |
| Edge 1, Wi-Fi 2 Tx | 0.719 | | 0.571 | 0.000 | | 1.290 |
| | | 0.721 | 0.571 | 0.000 | | 1.292 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.254 | | 0.009 | | 0.000 | 1.263 |
| | | 1.292 | 0.009 | | 0.000 | 1.301 |
| | 1.254 | | 0.009 | 0.028 | | 1.291 |
| | | 1.292 | 0.009 | 0.028 | | 1.329 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.254 | | 0.009 | 0.028 | | 1.291 |
| | | 1.292 | 0.009 | 0.028 | | 1.329 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.345 | | 0.009 | | 0.000 | 0.354 |
| | | 0.287 | 0.009 | | 0.000 | 0.296 |
| | 0.345 | | 0.009 | 0.028 | | 0.382 |
| | | 0.287 | 0.009 | 0.028 | | 0.324 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.345 | | 0.009 | 0.028 | | 0.382 |
| | | 0.287 | 0.009 | 0.028 | | 0.324 |
| Edge 3, Wi-Fi 1 Tx | 0.149 | | 0.002 | | 0.126 | 0.277 |
| | | 0.151 | 0.002 | | 0.126 | 0.279 |
| | 0.149 | | | 0.602 | | 0.751 |
| | | 0.151 | | 0.602 | | 0.753 |
| Edge 3, Wi-Fi 2 Tx | 0.149 | | 0.002 | 0.602 | | 0.753 |
| | | 0.151 | 0.002 | 0.602 | | 0.755 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.041 | | 0.126 | 0.567 |
| | | 0.400 | 0.041 | | 0.126 | 0.567 |
| | 0.400 | | | 0.048 | | 0.448 |
| | | 0.400 | | 0.048 | | 0.448 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | | 0.041 | 0.048 | | 0.489 |
| | | 0.400 | 0.041 | 0.048 | | 0.489 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.182 | | 0.022 | 1.195 |
| | | 0.997 | 0.182 | | 0.022 | 1.201 |
| | 0.991 | | | 0.117 | | 1.108 |
| | | 0.997 | | 0.117 | | 1.114 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.182 | 0.117 | | 1.290 |
| | | 0.997 | 0.182 | 0.117 | | 1.296 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.264 | | 0.182 | | 0.022 | 0.468 |
| | | 0.251 | 0.182 | | 0.022 | 0.455 |
| | 0.264 | | | 0.117 | | 0.381 |
| | | 0.251 | | 0.117 | | 0.368 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.264 | | 0.182 | 0.117 | | 0.563 |
| | | 0.251 | 0.182 | 0.117 | | 0.550 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.14. **Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.3 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.162 | | 0.571 | | 0.000 | 0.733 |
| | | 0.505 | 0.571 | | 0.000 | 1.076 |
| | 0.162 | | | 0.000 | | 0.162 |
| | | 0.505 | | 0.000 | | 0.505 |
| Edge 1, Wi-Fi 2 Tx | 0.162 | | 0.571 | 0.000 | | 0.733 |
| | | 0.505 | 0.571 | 0.000 | | 1.076 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.009 | | 0.000 | 1.362 |
| | | 0.955 | 0.009 | | 0.000 | 0.964 |
| | 1.353 | | 0.009 | 0.028 | | 1.390 |
| | | 0.955 | 0.009 | 0.028 | | 0.992 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.009 | 0.028 | | 1.390 |
| | | 0.955 | 0.009 | 0.028 | | 0.992 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.566 | | 0.009 | | 0.000 | 0.575 |
| | | 0.349 | 0.009 | | 0.000 | 0.358 |
| | 0.566 | | 0.009 | 0.028 | | 0.603 |
| | | 0.349 | 0.009 | 0.028 | | 0.386 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.566 | | 0.009 | 0.028 | | 0.603 |
| | | 0.349 | 0.009 | 0.028 | | 0.386 |
| Edge 3, Wi-Fi 1 Tx | 0.320 | | 0.002 | | 0.126 | 0.448 |
| | | 0.241 | 0.002 | | 0.126 | 0.369 |
| | 0.320 | | | 0.602 | | 0.922 |
| | | 0.241 | | 0.602 | | 0.843 |
| Edge 3, Wi-Fi 2 Tx | 0.320 | | 0.002 | 0.602 | | 0.924 |
| | | 0.241 | 0.002 | 0.602 | | 0.845 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.041 | | 0.126 | 0.567 |
| | | 0.028 | 0.041 | | 0.126 | 0.195 |
| | 0.400 | | | 0.048 | | 0.448 |
| | | 0.028 | | 0.048 | | 0.076 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | | 0.041 | 0.048 | | 0.489 |
| | | 0.028 | 0.041 | 0.048 | | 0.117 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.182 | | 0.022 | 0.965 |
| | | 0.715 | 0.182 | | 0.022 | 0.919 |
| | 0.761 | | | 0.117 | | 0.878 |
| | | 0.715 | | 0.117 | | 0.832 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.182 | 0.117 | | 1.060 |
| | | 0.715 | 0.182 | 0.117 | | 1.014 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.371 | | 0.182 | | 0.022 | 0.575 |
| | | 0.406 | 0.182 | | 0.022 | 0.610 |
| | 0.371 | | | 0.117 | | 0.488 |
| | | 0.406 | | 0.117 | | 0.523 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.371 | | 0.182 | 0.117 | | 0.670 |
| | | 0.406 | 0.182 | 0.117 | | 0.705 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.15. Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 5.3 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.604 | | 0.571 | | 0.000 | 1.175 |
| | | 0.152 | 0.571 | | 0.000 | 0.723 |
| | 0.604 | | | 0.000 | | 0.604 |
| | | 0.152 | | 0.000 | | 0.152 |
| Edge 1, Wi-Fi 2 Tx | 0.604 | | 0.571 | 0.000 | | 1.175 |
| | | 0.152 | 0.571 | 0.000 | | 0.723 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.009 | | 0.000 | 1.223 |
| | | 1.246 | 0.009 | | 0.000 | 1.255 |
| | 1.214 | | 0.009 | 0.028 | | 1.251 |
| | | 1.246 | 0.009 | 0.028 | | 1.283 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.009 | 0.028 | | 1.251 |
| | | 1.246 | 0.009 | 0.028 | | 1.283 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.235 | | 0.009 | | 0.000 | 0.244 |
| | | 0.520 | 0.009 | | 0.000 | 0.529 |
| | 0.235 | | 0.009 | 0.028 | | 0.272 |
| | | 0.520 | 0.009 | 0.028 | | 0.557 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.235 | | 0.009 | 0.028 | | 0.272 |
| | | 0.520 | 0.009 | 0.028 | | 0.557 |
| Edge 3, Wi-Fi 1 Tx | 0.126 | | 0.002 | | 0.126 | 0.254 |
| | | 0.307 | 0.002 | | 0.126 | 0.435 |
| | 0.126 | | | 0.602 | | 0.728 |
| | | 0.307 | | 0.602 | | 0.909 |
| Edge 3, Wi-Fi 2 Tx | 0.126 | | 0.002 | 0.602 | | 0.730 |
| | | 0.307 | 0.002 | 0.602 | | 0.911 |
| Edge 4, Wi-Fi 1 Tx | 0.028 | | 0.041 | | 0.126 | 0.195 |
| | | 0.400 | 0.041 | | 0.126 | 0.567 |
| | 0.028 | | | 0.048 | | 0.076 |
| | | 0.400 | | 0.048 | | 0.448 |
| Edge 4, Wi-Fi 2 Tx | 0.028 | | 0.041 | 0.048 | | 0.117 |
| | | 0.400 | 0.041 | 0.048 | | 0.489 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.182 | | 0.022 | 1.056 |
| | | 0.707 | 0.182 | | 0.022 | 0.911 |
| | 0.852 | | | 0.117 | | 0.969 |
| | | 0.707 | | 0.117 | | 0.824 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.182 | 0.117 | | 1.151 |
| | | 0.707 | 0.182 | 0.117 | | 1.006 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.198 | | 0.182 | | 0.022 | 0.402 |
| | | 0.354 | 0.182 | | 0.022 | 0.558 |
| | 0.198 | | | 0.117 | | 0.315 |
| | | 0.354 | | 0.117 | | 0.471 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.198 | | 0.182 | 0.117 | | 0.497 |
| | | 0.354 | 0.182 | 0.117 | | 0.653 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.16. **Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 5.3 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.684 | | 0.571 | | 0.000 | 1.255 |
| | | 0.489 | 0.571 | | 0.000 | 1.060 |
| | 0.684 | | | 0.000 | | 0.684 |
| | | 0.489 | | 0.000 | | 0.489 |
| Edge 1, Wi-Fi 2 Tx | 0.684 | | 0.571 | 0.000 | | 1.255 |
| | | 0.489 | 0.571 | 0.000 | | 1.060 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.009 | | 0.000 | 1.051 |
| | | 1.020 | 0.009 | | 0.000 | 1.029 |
| | 1.042 | | 0.009 | 0.028 | | 1.079 |
| | | 1.020 | 0.009 | 0.028 | | 1.057 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.009 | 0.028 | | 1.079 |
| | | 1.020 | 0.009 | 0.028 | | 1.057 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.230 | | 0.009 | | 0.000 | 0.239 |
| | | 0.158 | 0.009 | | 0.000 | 0.167 |
| | 0.230 | | 0.009 | 0.028 | | 0.267 |
| | | 0.158 | 0.009 | 0.028 | | 0.195 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.230 | | 0.009 | 0.028 | | 0.267 |
| | | 0.158 | 0.009 | 0.028 | | 0.195 |
| Edge 3, Wi-Fi 1 Tx | 0.156 | | 0.002 | | 0.126 | 0.284 |
| | | 0.116 | 0.002 | | 0.126 | 0.244 |
| | 0.156 | | | 0.602 | | 0.758 |
| | | 0.116 | | 0.602 | | 0.718 |
| Edge 3, Wi-Fi 2 Tx | 0.156 | | 0.002 | 0.602 | | 0.760 |
| | | 0.116 | 0.002 | 0.602 | | 0.720 |
| Edge 4, Wi-Fi 1 Tx | 0.081 | | 0.041 | | 0.126 | 0.248 |
| | | 0.088 | 0.041 | | 0.126 | 0.255 |
| | 0.081 | | | 0.048 | | 0.129 |
| | | 0.088 | | 0.048 | | 0.136 |
| Edge 4, Wi-Fi 2 Tx | 0.081 | | 0.041 | 0.048 | | 0.170 |
| | | 0.088 | 0.041 | 0.048 | | 0.177 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 5.3 GHz Main | WiFi 5.3 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.182 | | 0.022 | 1.280 |
| | | 1.337 | 0.182 | | 0.022 | 1.541 |
| | 1.076 | | | 0.117 | | 1.193 |
| | | 1.337 | | 0.117 | | 1.454 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.182 | 0.117 | | 1.375 |
| | | 1.337 | 0.182 | 0.117 | | 1.636 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.251 | | 0.182 | | 0.022 | 0.455 |
| | | 0.226 | 0.182 | | 0.022 | 0.430 |
| | 0.251 | | | 0.117 | | 0.368 |
| | | 0.226 | | 0.117 | | 0.343 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.251 | | 0.182 | 0.117 | | 0.550 |
| | | 0.226 | 0.182 | 0.117 | | 0.525 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①LTE Band 17 | ②WiFi 5.3GHz (Main Ant) | ③WiFi 5.3GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---|-----------------|-------------------------------|------------------------------|------------------|---------------------|-------|--------------------------------|-------------------|-----------------------------|--------|
| | | | | | ① + ② + ③ | ① + ② | | | | |
| Bottom side, Wi-Fi 2 Tx 0mm → w /WWAN Power reduction | 1.337 | 0.182 | 0.117 | | ① + ② + ③ | 1.64 | | | | |
| | 1.337 | 0.182 | | | ① + ② | 1.52 | 168.2 | 0.011 | No | 16 |
| | 1.337 | | 0.117 | | ① + ③ | 1.45 | 194.3 | 0.009 | No | 16 |

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.

14.17. **Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 5.5 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.512 | | 0.969 | | 0.000 | 1.481 |
| | | 0.454 | 0.969 | | 0.000 | 1.423 |
| | 0.512 | | | 0.000 | | 0.512 |
| | | 0.454 | | 0.000 | | 0.454 |
| Edge 1, Wi-Fi 2 Tx | 0.512 | | 0.969 | 0.000 | | 1.481 |
| | | 0.454 | 0.969 | 0.000 | | 1.423 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.008 | | 0.000 | 1.341 |
| | | 1.370 | 0.008 | | 0.000 | 1.378 |
| | 1.333 | | 0.008 | 0.038 | | 1.379 |
| | | 1.370 | 0.008 | 0.038 | | 1.416 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.008 | 0.038 | | 1.379 |
| | | 1.370 | 0.008 | 0.038 | | 1.416 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.300 | | 0.008 | | 0.000 | 0.308 |
| | | 0.564 | 0.008 | | 0.000 | 0.572 |
| | 0.300 | | 0.008 | 0.038 | | 0.346 |
| | | 0.564 | 0.008 | 0.038 | | 0.610 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.300 | | 0.008 | 0.038 | | 0.346 |
| | | 0.564 | 0.008 | 0.038 | | 0.610 |
| Edge 3, Wi-Fi 1 Tx | 0.123 | | 0.000 | | 0.126 | 0.249 |
| | | 0.264 | 0.000 | | 0.126 | 0.390 |
| | 0.123 | | | 0.865 | | 0.988 |
| | | 0.264 | | 0.865 | | 1.129 |
| Edge 3, Wi-Fi 2 Tx | 0.123 | | 0.000 | 0.865 | | 0.988 |
| | | 0.264 | 0.000 | 0.865 | | 1.129 |
| Edge 4, Wi-Fi 1 Tx | 0.031 | | 0.024 | | 0.126 | 0.181 |
| | | 0.037 | 0.024 | | 0.126 | 0.187 |
| | 0.031 | | | 0.086 | | 0.117 |
| | | 0.037 | | 0.086 | | 0.123 |
| Edge 4, Wi-Fi 2 Tx | 0.031 | | 0.024 | 0.086 | | 0.141 |
| | | 0.037 | 0.024 | 0.086 | | 0.147 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.172 | | 0.022 | 0.983 |
| | | 0.808 | 0.172 | | 0.022 | 1.002 |
| | 0.789 | | | 0.267 | | 1.056 |
| | | 0.808 | | 0.267 | | 1.075 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.172 | 0.267 | | 1.228 |
| | | 0.808 | 0.172 | 0.267 | | 1.247 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.181 | | 0.172 | | 0.022 | 0.375 |
| | | 0.467 | 0.172 | | 0.022 | 0.661 |
| | 0.181 | | | 0.267 | | 0.448 |
| | | 0.467 | | 0.267 | | 0.734 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.181 | | 0.172 | 0.267 | | 0.620 |
| | | 0.467 | 0.172 | 0.267 | | 0.906 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.18. **Sum of the SAR for W-CDMA Band II & Wi-Fi 5.5 GHz Band**

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|---|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.138 | 0.969 | | 0.000 | 1.107 |
| | 0.138 | | 0.000 | | 0.138 |
| Edge 1, Wi-Fi 2 Tx | 0.138 | 0.969 | 0.000 | | 1.107 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.113 | 0.008 | | 0.000 | 1.121 |
| | 1.113 | 0.008 | 0.038 | | 1.159 |
| Edge 2, Wi-Fi 2 Tx | 1.113 | 0.008 | 0.038 | | 1.159 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.577 | 0.008 | | 0.000 | 0.585 |
| | 0.577 | 0.008 | 0.038 | | 0.623 |
| Edge 2, Wi-Fi 2 Tx | 0.577 | 0.008 | 0.038 | | 0.623 |
| Edge 3, Wi-Fi 1 Tx | 0.326 | 0.000 | | 0.126 | 0.452 |
| | 0.326 | | 0.865 | | 1.191 |
| Edge 3, Wi-Fi 2 Tx | 0.326 | 0.000 | 0.865 | | 1.191 |
| | | 0.000 | 0.865 | | 0.865 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | 0.024 | | 0.126 | 0.550 |
| | 0.400 | | 0.086 | | 0.486 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | 0.024 | 0.086 | | 0.510 |
| | | | | | |

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|--|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.172 | | 0.022 | 0.695 |
| | 0.501 | | 0.267 | | 0.768 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.172 | 0.267 | | 0.940 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.369 | 0.172 | | 0.022 | 0.563 |
| | 0.369 | | 0.267 | | 0.636 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.369 | 0.172 | 0.267 | | 0.808 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.19. **Sum of the SAR for CDMA BC0 & Wi-Fi 5.5 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.722 | | 0.969 | | 0.000 | 1.691 |
| | | 0.691 | 0.969 | | 0.000 | 1.660 |
| | 0.722 | | | 0.000 | | 0.722 |
| | | 0.691 | | 0.000 | | 0.691 |
| Edge 1, Wi-Fi 2 Tx | 0.722 | | 0.969 | 0.000 | | 1.691 |
| | | 0.691 | 0.969 | 0.000 | | 1.660 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.008 | | 0.000 | 1.311 |
| | | 1.345 | 0.008 | | 0.000 | 1.353 |
| | 1.303 | | 0.008 | 0.038 | | 1.349 |
| | | 1.345 | 0.008 | 0.038 | | 1.391 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.008 | 0.038 | | 1.349 |
| | | 1.345 | 0.008 | 0.038 | | 1.391 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.400 | | 0.008 | | 0.000 | 0.408 |
| | | 0.378 | 0.008 | | 0.000 | 0.386 |
| | 0.400 | | 0.008 | 0.038 | | 0.446 |
| | | 0.378 | 0.008 | 0.038 | | 0.424 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.400 | | 0.008 | 0.038 | | 0.446 |
| | | 0.378 | 0.008 | 0.038 | | 0.424 |
| Edge 3, Wi-Fi 1 Tx | 0.155 | | 0.000 | | 0.126 | 0.281 |
| | | 0.148 | 0.000 | | 0.126 | 0.274 |
| | 0.155 | | | 0.865 | | 1.020 |
| | | 0.148 | | 0.865 | | 1.013 |
| Edge 3, Wi-Fi 2 Tx | 0.155 | | 0.000 | 0.865 | | 1.020 |
| | | 0.148 | 0.000 | 0.865 | | 1.013 |
| Edge 4, Wi-Fi 1 Tx | 0.043 | | 0.024 | | 0.126 | 0.193 |
| | | 0.043 | 0.024 | | 0.126 | 0.193 |
| | 0.043 | | | 0.086 | | 0.129 |
| | | 0.043 | | 0.086 | | 0.129 |
| Edge 4, Wi-Fi 2 Tx | 0.043 | | 0.024 | 0.086 | | 0.153 |
| | | 0.043 | 0.024 | 0.086 | | 0.153 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.172 | | 0.022 | 1.087 |
| | | 0.937 | 0.172 | | 0.022 | 1.131 |
| | 0.893 | | | 0.267 | | 1.160 |
| | | 0.937 | | 0.267 | | 1.204 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.172 | 0.267 | | 1.332 |
| | | 0.937 | 0.172 | 0.267 | | 1.376 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.187 | | 0.172 | | 0.022 | 0.381 |
| | | 0.268 | 0.172 | | 0.022 | 0.462 |
| | 0.187 | | | 0.267 | | 0.454 |
| | | 0.268 | | 0.267 | | 0.535 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.187 | | 0.172 | 0.267 | | 0.626 |
| | | 0.268 | 0.172 | 0.267 | | 0.707 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①CDMA BC0 1xRTT | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|-----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| Edge1 Wi-Fi 1 Tx | 0.722 | 0.969 | | 0.000 | ① + ② + ④ | 1.69 | | | | |
| | 0.722 | 0.969 | | | ① + ② | 1.69 | 147.2 | 0.015 | No | 17 |

| Test Position | ①CDMA BC0 1xRTT | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|-----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| Edge1 Wi-Fi 2 Tx | 0.722 | 0.969 | 0.000 | | ① + ② + ③ | 1.69 | | | | |
| | 0.722 | 0.969 | | | ① + ② | 1.69 | 147.2 | 0.015 | No | 18 |

| Test Position | ①CDMA BC0 EVDO | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| Edge1 Wi-Fi 1 Tx | 0.691 | 0.691 | | 0.000 | ① + ② + ④ | 1.38 | | | | |
| | 0.691 | 0.691 | | | ① + ② | 1.38 | 148.6 | 0.011 | No | 19 |

| Test Position | ①CDMA BC0 EVDO | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|------------------|----------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| Edge1 Wi-Fi 2 Tx | 0.691 | 0.691 | 0.000 | | ① + ② + ③ | 1.38 | | | | |
| | 0.691 | 0.691 | | | ① + ② | 1.38 | 148.6 | 0.011 | No | 20 |

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.

14.20. **Sum of the SAR for CDMA BC1 & Wi-Fi 5.5 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.164 | | 0.969 | | 0.000 | 1.133 |
| | | 0.131 | 0.969 | | 0.000 | 1.100 |
| | 0.164 | | | 0.000 | | 0.164 |
| | | 0.131 | | 0.000 | | 0.131 |
| Edge 1, Wi-Fi 2 Tx | 0.164 | | 0.969 | 0.000 | | 1.133 |
| | | 0.131 | 0.969 | 0.000 | | 1.100 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.008 | | 0.000 | 1.283 |
| | | 1.255 | 0.008 | | 0.000 | 1.263 |
| | 1.275 | | 0.008 | 0.038 | | 1.321 |
| | | 1.255 | 0.008 | 0.038 | | 1.301 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.008 | 0.038 | | 1.321 |
| | | 1.255 | 0.008 | 0.038 | | 1.301 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.736 | | 0.008 | | 0.000 | 0.744 |
| | | 0.691 | 0.008 | | 0.000 | 0.699 |
| | 0.736 | | 0.008 | 0.038 | | 0.782 |
| | | 0.691 | 0.008 | 0.038 | | 0.737 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.736 | | 0.008 | 0.038 | | 0.782 |
| | | 0.691 | 0.008 | 0.038 | | 0.737 |
| Edge 3, Wi-Fi 1 Tx | 0.376 | | 0.000 | | 0.126 | 0.502 |
| | | 0.397 | 0.000 | | 0.126 | 0.523 |
| | 0.376 | | | 0.865 | | 1.241 |
| | | 0.397 | | 0.865 | | 1.262 |
| Edge 3, Wi-Fi 2 Tx | 0.376 | | 0.000 | 0.865 | | 1.241 |
| | | 0.397 | 0.000 | 0.865 | | 1.262 |
| Edge 4, Wi-Fi 1 Tx | 0.032 | | 0.024 | | 0.126 | 0.182 |
| | | 0.024 | 0.024 | | 0.126 | 0.174 |
| | 0.032 | | | 0.086 | | 0.118 |
| | | 0.024 | | 0.086 | | 0.110 |
| Edge 4, Wi-Fi 2 Tx | 0.032 | | 0.024 | 0.086 | | 0.142 |
| | | 0.024 | 0.024 | 0.086 | | 0.134 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.172 | | 0.022 | 1.077 |
| | | 0.908 | 0.172 | | 0.022 | 1.102 |
| | 0.883 | | | 0.267 | | 1.150 |
| | | 0.908 | | 0.267 | | 1.175 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.172 | 0.267 | | 1.322 |
| | | 0.908 | 0.172 | 0.267 | | 1.347 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.459 | | 0.172 | | 0.022 | 0.653 |
| | | 0.470 | 0.172 | | 0.022 | 0.664 |
| | 0.459 | | | 0.267 | | 0.726 |
| | | 0.470 | | 0.267 | | 0.737 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.459 | | 0.172 | 0.267 | | 0.898 |
| | | 0.470 | 0.172 | 0.267 | | 0.909 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.21. **Sum of the SAR for CDMA BC10 & Wi-Fi 5.5 GHz Bands.**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.719 | | 0.969 | | 0.000 | 1.688 |
| | | 0.721 | 0.969 | | 0.000 | 1.690 |
| | 0.719 | | | 0.000 | | 0.719 |
| | | 0.721 | | 0.000 | | 0.721 |
| Edge 1, Wi-Fi 2 Tx | 0.719 | | 0.969 | 0.000 | | 1.688 |
| | | 0.721 | 0.969 | 0.000 | | 1.690 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.254 | | 0.008 | | 0.000 | 1.262 |
| | | 1.292 | 0.008 | | 0.000 | 1.300 |
| | 1.254 | | 0.008 | 0.038 | | 1.300 |
| | | 1.292 | 0.008 | 0.038 | | 1.338 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.254 | | 0.008 | 0.038 | | 1.300 |
| | | 1.292 | 0.008 | 0.038 | | 1.338 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.345 | | 0.008 | | 0.000 | 0.353 |
| | | 0.287 | 0.008 | | 0.000 | 0.295 |
| | 0.345 | | 0.008 | 0.038 | | 0.391 |
| | | 0.287 | 0.008 | 0.038 | | 0.333 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.345 | | 0.008 | 0.038 | | 0.391 |
| | | 0.287 | 0.008 | 0.038 | | 0.333 |
| Edge 3, Wi-Fi 1 Tx | 0.149 | | 0.000 | | 0.126 | 0.275 |
| | | 0.151 | 0.000 | | 0.126 | 0.277 |
| | 0.149 | | | 0.865 | | 1.014 |
| | | 0.151 | | 0.865 | | 1.016 |
| Edge 3, Wi-Fi 2 Tx | 0.149 | | 0.000 | 0.865 | | 1.014 |
| | | 0.151 | 0.000 | 0.865 | | 1.016 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.024 | | 0.126 | 0.550 |
| | | 0.400 | 0.024 | | 0.126 | 0.550 |
| | 0.400 | | | 0.086 | | 0.486 |
| | | 0.400 | | 0.086 | | 0.486 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | | 0.024 | 0.086 | | 0.510 |
| | | 0.400 | 0.024 | 0.086 | | 0.510 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.172 | | 0.022 | 1.185 |
| | | 0.997 | 0.172 | | 0.022 | 1.191 |
| | 0.991 | | | 0.267 | | 1.258 |
| | | 0.997 | | 0.267 | | 1.264 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.172 | 0.267 | | 1.430 |
| | | 0.997 | 0.172 | 0.267 | | 1.436 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.264 | | 0.172 | | 0.022 | 0.458 |
| | | 0.251 | 0.172 | | 0.022 | 0.445 |
| | 0.264 | | | 0.267 | | 0.531 |
| | | 0.251 | | 0.267 | | 0.518 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.264 | | 0.172 | 0.267 | | 0.703 |
| | | 0.251 | 0.172 | 0.267 | | 0.690 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①CDMA BC10 1xRTT | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|---------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 1 Tx | 0.719 | 0.969 | | 0.000 | ① + ② + ④ | 1.69 | | | | |
| | 0.719 | 0.969 | | | ① + ② | 1.69 | 148.6 | 0.015 | No | 21 |

| Test Position | ①CDMA BC10 1xRTT | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|---------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 2 Tx | 0.719 | 0.969 | 0.000 | | ① + ② + ③ | 1.69 | | | | |
| | 0.719 | 0.969 | | | ① + ② | 1.69 | 148.6 | 0.015 | No | 22 |

| Test Position | ①CDMA BC10 EVDO | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|--------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 1 Tx | 0.721 | 0.969 | | 0.000 | ① + ② + ④ | 1.69 | | | | |
| | 0.721 | 0.969 | | | ① + ② | 1.69 | 150.0 | 0.015 | No | 23 |

| Test Position | ①CDMA BC10 EVDO | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | ∑ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--------------------|--------------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 2Tx | 0.721 | 0.969 | 0.000 | | ① + ② + ③ | 1.69 | | | | |
| | 0.721 | 0.969 | | | ① + ② | 1.69 | 150.0 | 0.015 | No | 24 |

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.

14.22. **Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.5 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.162 | | 0.969 | | 0.000 | 1.131 |
| | | 0.505 | 0.969 | | 0.000 | 1.474 |
| | 0.162 | | | 0.000 | | 0.162 |
| Edge 1, Wi-Fi 2 Tx | | 0.505 | | 0.000 | | 0.505 |
| | 0.162 | | 0.969 | 0.000 | | 1.131 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.008 | | 0.000 | 1.361 |
| | | 0.955 | 0.008 | | 0.000 | 0.963 |
| | 1.353 | | 0.008 | 0.038 | | 1.399 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | | 0.955 | 0.008 | 0.038 | | 1.001 |
| | 1.353 | | 0.008 | 0.038 | | 1.399 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.566 | | 0.008 | | 0.000 | 0.574 |
| | | 0.349 | 0.008 | | 0.000 | 0.357 |
| | 0.566 | | 0.008 | 0.038 | | 0.612 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | | 0.349 | 0.008 | 0.038 | | 0.395 |
| | 0.566 | | 0.008 | 0.038 | | 0.612 |
| Edge 3, Wi-Fi 1 Tx | 0.320 | | 0.000 | | 0.126 | 0.446 |
| | | 0.241 | 0.000 | | 0.126 | 0.367 |
| | 0.320 | | | 0.865 | | 1.185 |
| Edge 3, Wi-Fi 2 Tx | | 0.241 | | 0.865 | | 1.106 |
| | 0.320 | | 0.000 | 0.865 | | 1.185 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.024 | | 0.126 | 0.550 |
| | | 0.028 | 0.024 | | 0.126 | 0.178 |
| | 0.400 | | | 0.086 | | 0.486 |
| Edge 4, Wi-Fi 2 Tx | | 0.028 | | 0.086 | | 0.114 |
| | 0.400 | | 0.024 | 0.086 | | 0.510 |
| | | 0.028 | 0.024 | 0.086 | | 0.138 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.172 | | 0.022 | 0.955 |
| | | 0.715 | 0.172 | | 0.022 | 0.909 |
| | 0.761 | | | 0.267 | | 1.028 |
| | | 0.715 | | 0.267 | | 0.982 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.172 | 0.267 | | 1.200 |
| | | 0.715 | 0.172 | 0.267 | | 1.154 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.371 | | 0.172 | | 0.022 | 0.565 |
| | | 0.406 | 0.172 | | 0.022 | 0.600 |
| | 0.371 | | | 0.267 | | 0.638 |
| | | 0.406 | | 0.267 | | 0.673 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.371 | | 0.172 | 0.267 | | 0.810 |
| | | 0.406 | 0.172 | 0.267 | | 0.845 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.23. **Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 5.5 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.604 | | 0.969 | | 0.000 | 1.573 |
| | | 0.152 | 0.969 | | 0.000 | 1.121 |
| | 0.604 | | | 0.000 | | 0.604 |
| | | 0.152 | | 0.000 | | 0.152 |
| Edge 1, Wi-Fi 2 Tx | 0.604 | | 0.969 | 0.000 | | 1.573 |
| | | 0.152 | 0.969 | 0.000 | | 1.121 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.008 | | 0.000 | 1.222 |
| | | 1.246 | 0.008 | | 0.000 | 1.254 |
| | 1.214 | | 0.008 | 0.038 | | 1.260 |
| | | 1.246 | 0.008 | 0.038 | | 1.292 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.008 | 0.038 | | 1.260 |
| | | 1.246 | 0.008 | 0.038 | | 1.292 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.235 | | 0.008 | | 0.000 | 0.243 |
| | | 0.520 | 0.008 | | 0.000 | 0.528 |
| | 0.235 | | 0.008 | 0.038 | | 0.281 |
| | | 0.520 | 0.008 | 0.038 | | 0.566 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.235 | | 0.008 | 0.038 | | 0.281 |
| | | 0.520 | 0.008 | 0.038 | | 0.566 |
| Edge 3, Wi-Fi 1 Tx | 0.126 | | 0.000 | | 0.126 | 0.252 |
| | | 0.307 | 0.000 | | 0.126 | 0.433 |
| | 0.126 | | | 0.865 | | 0.991 |
| | | 0.307 | | 0.865 | | 1.172 |
| Edge 3, Wi-Fi 2 Tx | 0.126 | | 0.000 | 0.865 | | 0.991 |
| | | 0.307 | 0.000 | 0.865 | | 1.172 |
| Edge 4, Wi-Fi 1 Tx | 0.028 | | 0.024 | | 0.126 | 0.178 |
| | | 0.400 | 0.024 | | 0.126 | 0.550 |
| | 0.028 | | | 0.086 | | 0.114 |
| | | 0.400 | | 0.086 | | 0.486 |
| Edge 4, Wi-Fi 2 Tx | 0.028 | | 0.024 | 0.086 | | 0.138 |
| | | 0.400 | 0.024 | 0.086 | | 0.510 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.172 | | 0.022 | 1.046 |
| | | 0.707 | 0.172 | | 0.022 | 0.901 |
| | 0.852 | | | 0.267 | | 1.119 |
| | | 0.707 | | 0.267 | | 0.974 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.172 | 0.267 | | 1.291 |
| | | 0.707 | 0.172 | 0.267 | | 1.146 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.198 | | 0.172 | | 0.022 | 0.392 |
| | | 0.354 | 0.172 | | 0.022 | 0.548 |
| | 0.198 | | | 0.267 | | 0.465 |
| | | 0.354 | | 0.267 | | 0.621 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.198 | | 0.172 | 0.267 | | 0.637 |
| | | 0.354 | 0.172 | 0.267 | | 0.793 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.24. Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 5.5 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.684 | | 0.969 | | 0.000 | 1.653 |
| | | 0.489 | 0.969 | | 0.000 | 1.458 |
| | 0.684 | | | 0.000 | | 0.684 |
| | | 0.489 | | 0.000 | | 0.489 |
| Edge 1, Wi-Fi 2 Tx | 0.684 | | 0.969 | 0.000 | | 1.653 |
| | | 0.489 | 0.969 | 0.000 | | 1.458 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.008 | | 0.000 | 1.050 |
| | | 1.020 | 0.008 | | 0.000 | 1.028 |
| | 1.042 | | 0.008 | 0.038 | | 1.088 |
| | | 1.020 | 0.008 | 0.038 | | 1.066 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.008 | 0.038 | | 1.088 |
| | | 1.020 | 0.008 | 0.038 | | 1.066 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.230 | | 0.008 | | 0.000 | 0.238 |
| | | 0.158 | 0.008 | | 0.000 | 0.166 |
| | 0.230 | | 0.008 | 0.038 | | 0.276 |
| | | 0.158 | 0.008 | 0.038 | | 0.204 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.230 | | 0.008 | 0.038 | | 0.276 |
| | | 0.158 | 0.008 | 0.038 | | 0.204 |
| Edge 3, Wi-Fi 1 Tx | 0.156 | | 0.000 | | 0.126 | 0.282 |
| | | 0.116 | 0.000 | | 0.126 | 0.242 |
| | 0.156 | | | 0.865 | | 1.021 |
| | | 0.116 | | 0.865 | | 0.981 |
| Edge 3, Wi-Fi 2 Tx | 0.156 | | 0.000 | 0.865 | | 1.021 |
| | | 0.116 | 0.000 | 0.865 | | 0.981 |
| Edge 4, Wi-Fi 1 Tx | 0.081 | | 0.024 | | 0.126 | 0.231 |
| | | 0.088 | 0.024 | | 0.126 | 0.238 |
| | 0.081 | | | 0.086 | | 0.167 |
| | | 0.088 | | 0.086 | | 0.174 |
| Edge 4, Wi-Fi 2 Tx | 0.081 | | 0.024 | 0.086 | | 0.191 |
| | | 0.088 | 0.024 | 0.086 | | 0.198 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 5.5 GHz Main | WiFi 5.5 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.172 | | 0.022 | 1.270 |
| | | 1.337 | 0.172 | | 0.022 | 1.531 |
| | 1.076 | | | 0.267 | | 1.343 |
| | | 1.337 | | 0.267 | | 1.604 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.172 | 0.267 | | 1.515 |
| | | 1.337 | 0.172 | 0.267 | | 1.776 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.251 | | 0.172 | | 0.022 | 0.445 |
| | | 0.226 | 0.172 | | 0.022 | 0.420 |
| | 0.251 | | | 0.267 | | 0.518 |
| | | 0.226 | | 0.267 | | 0.493 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.251 | | 0.172 | 0.267 | | 0.690 |
| | | 0.226 | 0.172 | 0.267 | | 0.665 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①LTE Band 13 | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 1 Tx | 0.684 | 0.969 | | 0.000 | ① + ② + ④ | 1.65 | | | | |
| | 0.684 | 0.969 | | | ① + ② | 1.65 | 142.2 | 0.015 | No | 25 |

| Test Position | ①LTE Band 13 | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|---------------------|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Edge1 Wi-Fi 2 Tx | 0.684 | 0.969 | 0.000 | | ① + ② + ③ | 1.65 | | | | |
| | 0.684 | 0.969 | | | ① + ② | 1.65 | 142.2 | 0.015 | No | 26 |

| Test Position | ①LTE Band 17 | ②WiFi 5.5GHz (Main Ant) | ③WiFi 5.5GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--|-----------------|-------------------------------|------------------------------|------------------|---------------------|------|--------------------------------|-------------------|-----------------------------|--------|
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.337 | 0.172 | 0.267 | | ① + ② + ③ | 1.78 | | | | |
| | 1.337 | 0.172 | | | ① + ② | 1.51 | 169.5 | 0.011 | No | 27 |
| | 1.337 | | 0.267 | | ① + ③ | 1.60 | 199.1 | 0.010 | No | 27 |

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.

14.25. **Sum of the SAR for W-CDMA Band V, IV & Wi-Fi 5.8 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.512 | | 0.664 | | 0.000 | 1.176 |
| | | 0.454 | 0.664 | | 0.000 | 1.118 |
| | 0.512 | | | 0.000 | | 0.512 |
| | | 0.454 | | 0.000 | | 0.454 |
| Edge 1, Wi-Fi 2 Tx | 0.512 | | 0.664 | 0.000 | | 1.176 |
| | | 0.454 | 0.664 | 0.000 | | 1.118 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.000 | | 0.000 | 1.333 |
| | | 1.370 | 0.000 | | 0.000 | 1.370 |
| | 1.333 | | 0.000 | 0.024 | | 1.357 |
| | | 1.370 | 0.000 | 0.024 | | 1.394 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.333 | | 0.000 | 0.024 | | 1.357 |
| | | 1.370 | 0.000 | 0.024 | | 1.394 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.300 | | 0.000 | | 0.000 | 0.300 |
| | | 0.564 | 0.000 | | 0.000 | 0.564 |
| | 0.300 | | 0.000 | 0.024 | | 0.324 |
| | | 0.564 | 0.000 | 0.024 | | 0.588 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.300 | | 0.000 | 0.024 | | 0.324 |
| | | 0.564 | 0.000 | 0.024 | | 0.588 |
| Edge 3, Wi-Fi 1 Tx | 0.123 | | 0.000 | | 0.126 | 0.249 |
| | | 0.264 | 0.000 | | 0.126 | 0.390 |
| | 0.123 | | | 0.548 | | 0.671 |
| | | 0.264 | | 0.548 | | 0.812 |
| Edge 3, Wi-Fi 2 Tx | 0.123 | | 0.000 | 0.548 | | 0.671 |
| | | 0.264 | 0.000 | 0.548 | | 0.812 |
| Edge 4, Wi-Fi 1 Tx | 0.031 | | 0.006 | | 0.126 | 0.163 |
| | | 0.037 | 0.006 | | 0.126 | 0.169 |
| | 0.031 | | | 0.019 | | 0.050 |
| Edge 4, Wi-Fi 2 Tx | | 0.037 | | 0.019 | | 0.056 |
| | 0.031 | | 0.006 | 0.019 | | 0.056 |
| | | 0.037 | 0.006 | 0.019 | | 0.062 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|---------|----------|-------------------|------------------|-----------|------------------|
| | WCDMA V | WCDMA IV | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.071 | | 0.022 | 0.882 |
| | | 0.808 | 0.071 | | 0.022 | 0.901 |
| | 0.789 | | | 0.252 | | 1.041 |
| | | 0.808 | | 0.252 | | 1.060 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.789 | | 0.071 | 0.252 | | 1.112 |
| | | 0.808 | 0.071 | 0.252 | | 1.131 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.181 | | 0.071 | | 0.022 | 0.274 |
| | | 0.467 | 0.071 | | 0.022 | 0.560 |
| | 0.181 | | | 0.252 | | 0.433 |
| | | 0.467 | | 0.252 | | 0.719 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.181 | | 0.071 | 0.252 | | 0.504 |
| | | 0.467 | 0.071 | 0.252 | | 0.790 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.26. **Sum of the SAR for W-CDMA Band II & Wi-Fi 5.8 GHz Band**

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|---|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.138 | 0.664 | | 0.000 | 0.802 |
| | 0.138 | | 0.000 | | 0.138 |
| Edge 1, Wi-Fi 2 Tx | 0.138 | 0.664 | 0.000 | | 0.802 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.113 | 0.000 | | 0.000 | 1.113 |
| | 1.113 | 0.000 | 0.024 | | 1.137 |
| Edge 2, Wi-Fi 2 Tx | 1.113 | 0.000 | 0.024 | | 1.137 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.577 | 0.000 | | 0.000 | 0.577 |
| | 0.577 | 0.000 | 0.024 | | 0.601 |
| Edge 2, Wi-Fi 2 Tx | 0.577 | 0.000 | 0.024 | | 0.601 |
| Edge 3, Wi-Fi 1 Tx | 0.326 | 0.000 | | 0.126 | 0.452 |
| | 0.326 | | 0.548 | | 0.874 |
| Edge 3, Wi-Fi 2 Tx | 0.326 | 0.000 | 0.548 | | 0.874 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | 0.006 | | 0.126 | 0.532 |
| | 0.400 | | 0.019 | | 0.419 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | 0.006 | 0.019 | | 0.425 |
| | | | | | |

| Test Position | Data | | | | Σ 1-g SAR (mW/g) |
|--|----------|-------------------|------------------|-----------|------------------|
| | WCDMA II | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.071 | | 0.022 | 0.594 |
| | 0.501 | | 0.252 | | 0.753 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.501 | 0.071 | 0.252 | | 0.824 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.369 | 0.071 | | 0.022 | 0.462 |
| | 0.369 | | 0.252 | | 0.621 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.369 | 0.071 | 0.252 | | 0.692 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.27. **Sum of the SAR for CDMA BC0 & Wi-Fi 5.8 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.722 | | 0.664 | | 0.000 | 1.386 |
| | | 0.691 | 0.664 | | 0.000 | 1.355 |
| | 0.722 | | | 0.000 | | 0.722 |
| | | 0.691 | | 0.000 | | 0.691 |
| Edge 1, Wi-Fi 2 Tx | 0.722 | | 0.664 | 0.000 | | 1.386 |
| | | 0.691 | 0.664 | 0.000 | | 1.355 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.000 | | 0.000 | 1.303 |
| | | 1.345 | 0.000 | | 0.000 | 1.345 |
| | 1.303 | | 0.000 | 0.024 | | 1.327 |
| | | 1.345 | 0.000 | 0.024 | | 1.369 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.303 | | 0.000 | 0.024 | | 1.327 |
| | | 1.345 | 0.000 | 0.024 | | 1.369 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.400 | | 0.000 | | 0.000 | 0.400 |
| | | 0.378 | 0.000 | | 0.000 | 0.378 |
| | 0.400 | | 0.000 | 0.024 | | 0.424 |
| | | 0.378 | 0.000 | 0.024 | | 0.402 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.400 | | 0.000 | 0.024 | | 0.424 |
| | | 0.378 | 0.000 | 0.024 | | 0.402 |
| Edge 3, Wi-Fi 1 Tx | 0.155 | | 0.000 | | 0.126 | 0.281 |
| | | 0.148 | 0.000 | | 0.126 | 0.274 |
| | 0.155 | | | 0.548 | | 0.703 |
| | | 0.148 | | 0.548 | | 0.696 |
| Edge 3, Wi-Fi 2 Tx | 0.155 | | 0.000 | 0.548 | | 0.703 |
| | | 0.148 | 0.000 | 0.548 | | 0.696 |
| Edge 4, Wi-Fi 1 Tx | 0.043 | | 0.006 | | 0.126 | 0.175 |
| | | 0.043 | 0.006 | | 0.126 | 0.175 |
| | 0.043 | | | 0.019 | | 0.062 |
| | | 0.043 | | 0.019 | | 0.062 |
| Edge 4, Wi-Fi 2 Tx | 0.043 | | 0.006 | 0.019 | | 0.068 |
| | | 0.043 | 0.006 | 0.019 | | 0.068 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|-------------------------|
| | 1xRTT | EVDO | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.071 | | 0.022 | 0.986 |
| | | 0.937 | 0.071 | | 0.022 | 1.030 |
| | 0.893 | | | 0.252 | | 1.145 |
| | | 0.937 | | 0.252 | | 1.189 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.893 | | 0.071 | 0.252 | | 1.216 |
| | | 0.937 | 0.071 | 0.252 | | 1.260 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.187 | | 0.071 | | 0.022 | 0.280 |
| | | 0.268 | 0.071 | | 0.022 | 0.361 |
| | 0.187 | | | 0.252 | | 0.439 |
| | | 0.268 | | 0.252 | | 0.520 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.187 | | 0.071 | 0.252 | | 0.510 |
| | | 0.268 | 0.071 | 0.252 | | 0.591 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.28. **Sum of the SAR for CDMA BC1 & Wi-Fi 5.8 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.164 | | 0.664 | | 0.000 | 0.828 |
| | | 0.131 | 0.664 | | 0.000 | 0.795 |
| | 0.164 | | | 0.000 | | 0.164 |
| | | 0.131 | | 0.000 | | 0.131 |
| Edge 1, Wi-Fi 2 Tx | 0.164 | | 0.664 | 0.000 | | 0.828 |
| | | 0.131 | 0.664 | 0.000 | | 0.795 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.000 | | 0.000 | 1.275 |
| | | 1.255 | 0.000 | | 0.000 | 1.255 |
| | 1.275 | | 0.000 | 0.024 | | 1.299 |
| | | 1.255 | 0.000 | 0.024 | | 1.279 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.275 | | 0.000 | 0.024 | | 1.299 |
| | | 1.255 | 0.000 | 0.024 | | 1.279 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.736 | | 0.000 | | 0.000 | 0.736 |
| | | 0.691 | 0.000 | | 0.000 | 0.691 |
| | 0.736 | | 0.000 | 0.024 | | 0.760 |
| | | 0.691 | 0.000 | 0.024 | | 0.715 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.736 | | 0.000 | 0.024 | | 0.760 |
| | | 0.691 | 0.000 | 0.024 | | 0.715 |
| Edge 3, Wi-Fi 1 Tx | 0.376 | | 0.000 | | 0.126 | 0.502 |
| | | 0.397 | 0.000 | | 0.126 | 0.523 |
| | 0.376 | | | 0.548 | | 0.924 |
| | | 0.397 | | 0.548 | | 0.945 |
| Edge 3, Wi-Fi 2 Tx | 0.376 | | 0.000 | 0.548 | | 0.924 |
| | | 0.397 | 0.000 | 0.548 | | 0.945 |
| Edge 4, Wi-Fi 1 Tx | 0.032 | | 0.006 | | 0.126 | 0.164 |
| | | 0.024 | 0.006 | | 0.126 | 0.156 |
| | 0.032 | | | 0.019 | | 0.051 |
| | | 0.024 | | 0.019 | | 0.043 |
| Edge 4, Wi-Fi 2 Tx | 0.032 | | 0.006 | 0.019 | | 0.057 |
| | | 0.024 | 0.006 | 0.019 | | 0.049 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.071 | | 0.022 | 0.976 |
| | | 0.908 | 0.071 | | 0.022 | 1.001 |
| | 0.883 | | | 0.252 | | 1.135 |
| | | 0.908 | | 0.252 | | 1.160 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.883 | | 0.071 | 0.252 | | 1.206 |
| | | 0.908 | 0.071 | 0.252 | | 1.231 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.459 | | 0.071 | | 0.022 | 0.552 |
| | | 0.470 | 0.071 | | 0.022 | 0.563 |
| | 0.459 | | | 0.252 | | 0.711 |
| | | 0.470 | | 0.252 | | 0.722 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.459 | | 0.071 | 0.252 | | 0.782 |
| | | 0.470 | 0.071 | 0.252 | | 0.793 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.29. Sum of the SAR for CDMA BC10 & Wi-Fi 5.8 GHz Bands.

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.719 | | 0.664 | | 0.000 | 1.383 |
| | | 0.721 | 0.664 | | 0.000 | 1.385 |
| | 0.719 | | | 0.000 | | 0.719 |
| Edge 1, Wi-Fi 2 Tx | | 0.721 | | 0.000 | | 0.721 |
| | 0.719 | | 0.664 | 0.000 | | 1.383 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | | 0.721 | 0.664 | 0.000 | | 1.385 |
| | 1.254 | | 0.000 | | 0.000 | 1.254 |
| | | 1.292 | 0.000 | | 0.000 | 1.292 |
| | 1.254 | | 0.000 | 0.024 | | 1.278 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | | 1.292 | 0.000 | 0.024 | | 1.316 |
| | 1.254 | | 0.000 | 0.024 | | 1.278 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | | 1.292 | 0.000 | 0.024 | | 1.316 |
| | 0.345 | | 0.000 | | 0.000 | 0.345 |
| | | 0.287 | 0.000 | | 0.000 | 0.287 |
| | 0.345 | | 0.000 | 0.024 | | 0.369 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | | 0.287 | 0.000 | 0.024 | | 0.311 |
| | 0.345 | | 0.000 | 0.024 | | 0.369 |
| Edge 3, Wi-Fi 1 Tx | | 0.287 | 0.000 | 0.024 | | 0.311 |
| | 0.149 | | 0.000 | | 0.126 | 0.275 |
| | | 0.151 | 0.000 | | 0.126 | 0.277 |
| | 0.149 | | | 0.548 | | 0.697 |
| Edge 3, Wi-Fi 2 Tx | | 0.151 | | 0.548 | | 0.699 |
| | 0.149 | | 0.000 | 0.548 | | 0.697 |
| Edge 4, Wi-Fi 1 Tx | | 0.151 | 0.000 | 0.548 | | 0.699 |
| | 0.400 | | 0.006 | | 0.126 | 0.532 |
| | | 0.400 | 0.006 | | 0.126 | 0.532 |
| | 0.400 | | | 0.019 | | 0.419 |
| Edge 4, Wi-Fi 2 Tx | | 0.400 | | 0.019 | | 0.419 |
| | 0.400 | | 0.006 | 0.019 | | 0.425 |
| | | 0.400 | 0.006 | 0.019 | | 0.425 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------|-------|-------------------|------------------|-----------|------------------|
| | 1xRTT | EVDO | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.071 | | 0.022 | 1.084 |
| | | 0.997 | 0.071 | | 0.022 | 1.090 |
| | 0.991 | | | 0.252 | | 1.243 |
| | | 0.997 | | 0.252 | | 1.249 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.991 | | 0.071 | 0.252 | | 1.314 |
| | | 0.997 | 0.071 | 0.252 | | 1.320 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.264 | | 0.071 | | 0.022 | 0.357 |
| | | 0.251 | 0.071 | | 0.022 | 0.344 |
| | 0.264 | | | 0.252 | | 0.516 |
| | | 0.251 | | 0.252 | | 0.503 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.264 | | 0.071 | 0.252 | | 0.587 |
| | | 0.251 | 0.071 | 0.252 | | 0.574 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.30. **Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.8 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.162 | | 0.664 | | 0.000 | 0.826 |
| | | 0.505 | 0.664 | | 0.000 | 1.169 |
| | 0.162 | | | 0.000 | | 0.162 |
| | | 0.505 | | 0.000 | | 0.505 |
| Edge 1, Wi-Fi 2 Tx | 0.162 | | 0.664 | 0.000 | | 0.826 |
| | | 0.505 | 0.664 | 0.000 | | 1.169 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.000 | | 0.000 | 1.353 |
| | | 0.955 | 0.000 | | 0.000 | 0.955 |
| | 1.353 | | 0.000 | 0.024 | | 1.377 |
| | | 0.955 | 0.000 | 0.024 | | 0.979 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.353 | | 0.000 | 0.024 | | 1.377 |
| | | 0.955 | 0.000 | 0.024 | | 0.979 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.566 | | 0.000 | | 0.000 | 0.566 |
| | | 0.349 | 0.000 | | 0.000 | 0.349 |
| | 0.566 | | 0.000 | 0.024 | | 0.590 |
| | | 0.349 | 0.000 | 0.024 | | 0.373 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.566 | | 0.000 | 0.024 | | 0.590 |
| | | 0.349 | 0.000 | 0.024 | | 0.373 |
| Edge 3, Wi-Fi 1 Tx | 0.320 | | 0.000 | | 0.126 | 0.446 |
| | | 0.241 | 0.000 | | 0.126 | 0.367 |
| | 0.320 | | | 0.548 | | 0.868 |
| | | 0.241 | | 0.548 | | 0.789 |
| Edge 3, Wi-Fi 2 Tx | 0.320 | | 0.000 | 0.548 | | 0.868 |
| | | 0.241 | 0.000 | 0.548 | | 0.789 |
| Edge 4, Wi-Fi 1 Tx | 0.400 | | 0.006 | | 0.126 | 0.532 |
| | | 0.028 | 0.006 | | 0.126 | 0.160 |
| | 0.400 | | | 0.019 | | 0.419 |
| | | 0.028 | | 0.019 | | 0.047 |
| Edge 4, Wi-Fi 2 Tx | 0.400 | | 0.006 | 0.019 | | 0.425 |
| | | 0.028 | 0.006 | 0.019 | | 0.053 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|------------|------------|-------------------|------------------|-----------|------------------|
| | LTE Band 2 | LTE Band 4 | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.071 | | 0.022 | 0.854 |
| | | 0.715 | 0.071 | | 0.022 | 0.808 |
| | 0.761 | | | 0.252 | | 1.013 |
| | | 0.715 | | 0.252 | | 0.967 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.761 | | 0.071 | 0.252 | | 1.084 |
| | | 0.715 | 0.071 | 0.252 | | 1.038 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.371 | | 0.071 | | 0.022 | 0.464 |
| | | 0.406 | 0.071 | | 0.022 | 0.499 |
| | 0.371 | | | 0.252 | | 0.623 |
| | | 0.406 | | 0.252 | | 0.658 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.371 | | 0.071 | 0.252 | | 0.694 |
| | | 0.406 | 0.071 | 0.252 | | 0.729 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.31. **Sum of the SAR for LTE Bands 5 and 25 & Wi-Fi 5.8 GHz Band**

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.604 | | 0.664 | | 0.000 | 1.268 |
| | | 0.152 | 0.664 | | 0.000 | 0.816 |
| | 0.604 | | | 0.000 | | 0.604 |
| | | 0.152 | | 0.000 | | 0.152 |
| Edge 1, Wi-Fi 2 Tx | 0.604 | | 0.664 | 0.000 | | 1.268 |
| | | 0.152 | 0.664 | 0.000 | | 0.816 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.000 | | 0.000 | 1.214 |
| | | 1.246 | 0.000 | | 0.000 | 1.246 |
| | 1.214 | | 0.000 | 0.024 | | 1.238 |
| | | 1.246 | 0.000 | 0.024 | | 1.270 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.214 | | 0.000 | 0.024 | | 1.238 |
| | | 1.246 | 0.000 | 0.024 | | 1.270 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.235 | | 0.000 | | 0.000 | 0.235 |
| | | 0.520 | 0.000 | | 0.000 | 0.520 |
| | 0.235 | | 0.000 | 0.024 | | 0.259 |
| | | 0.520 | 0.000 | 0.024 | | 0.544 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.235 | | 0.000 | 0.024 | | 0.259 |
| | | 0.520 | 0.000 | 0.024 | | 0.544 |
| Edge 3, Wi-Fi 1 Tx | 0.126 | | 0.000 | | 0.126 | 0.252 |
| | | 0.307 | 0.000 | | 0.126 | 0.433 |
| | 0.126 | | | 0.548 | | 0.674 |
| | | 0.307 | | 0.548 | | 0.855 |
| Edge 3, Wi-Fi 2 Tx | 0.126 | | 0.000 | 0.548 | | 0.674 |
| | | 0.307 | 0.000 | 0.548 | | 0.855 |
| Edge 4, Wi-Fi 1 Tx | 0.028 | | 0.006 | | 0.126 | 0.160 |
| | | 0.400 | 0.006 | | 0.126 | 0.532 |
| | 0.028 | | | 0.019 | | 0.047 |
| | | 0.400 | | 0.019 | | 0.419 |
| Edge 4, Wi-Fi 2 Tx | 0.028 | | 0.006 | 0.019 | | 0.053 |
| | | 0.400 | 0.006 | 0.019 | | 0.425 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 5 | LTE Band 25 | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.071 | | 0.022 | 0.945 |
| | | 0.707 | 0.071 | | 0.022 | 0.800 |
| | 0.852 | | | 0.252 | | 1.104 |
| | | 0.707 | | 0.252 | | 0.959 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 0.852 | | 0.071 | 0.252 | | 1.175 |
| | | 0.707 | 0.071 | 0.252 | | 1.030 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.198 | | 0.071 | | 0.022 | 0.291 |
| | | 0.354 | 0.071 | | 0.022 | 0.447 |
| | 0.198 | | | 0.252 | | 0.450 |
| | | 0.354 | | 0.252 | | 0.606 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.198 | | 0.071 | 0.252 | | 0.521 |
| | | 0.354 | 0.071 | 0.252 | | 0.677 |

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

14.32. Sum of the SAR for LTE Bands 13 and 17 & Wi-Fi 5.8 GHz Band

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|---|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Edge 1, Wi-Fi 1 Tx | 0.684 | | 0.664 | | 0.000 | 1.348 |
| | | 0.489 | 0.664 | | 0.000 | 1.153 |
| | 0.684 | | | 0.000 | | 0.684 |
| | | 0.489 | | 0.000 | | 0.489 |
| Edge 1, Wi-Fi 2 Tx | 0.684 | | 0.664 | 0.000 | | 1.348 |
| | | 0.489 | 0.664 | 0.000 | | 1.153 |
| Edge 2, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.000 | | 0.000 | 1.042 |
| | | 1.020 | 0.000 | | 0.000 | 1.020 |
| | 1.042 | | 0.000 | 0.024 | | 1.066 |
| | | 1.020 | 0.000 | 0.024 | | 1.044 |
| Edge 2, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.042 | | 0.000 | 0.024 | | 1.066 |
| | | 1.020 | 0.000 | 0.024 | | 1.044 |
| Edge 2, Wi-Fi 1 Tx 23mm → w/WWAN Full power | 0.230 | | 0.000 | | 0.000 | 0.230 |
| | | 0.158 | 0.000 | | 0.000 | 0.158 |
| | 0.230 | | 0.000 | 0.024 | | 0.254 |
| | | 0.158 | 0.000 | 0.024 | | 0.182 |
| Edge 2, Wi-Fi 2 Tx 23mm → w/WWAN Full power | 0.230 | | 0.000 | 0.024 | | 0.254 |
| | | 0.158 | 0.000 | 0.024 | | 0.182 |
| Edge 3, Wi-Fi 1 Tx | 0.156 | | 0.000 | | 0.126 | 0.282 |
| | | 0.116 | 0.000 | | 0.126 | 0.242 |
| | 0.156 | | | 0.548 | | 0.704 |
| | | 0.116 | | 0.548 | | 0.664 |
| Edge 3, Wi-Fi 2 Tx | 0.156 | | 0.000 | 0.548 | | 0.704 |
| | | 0.116 | 0.000 | 0.548 | | 0.664 |
| Edge 4, Wi-Fi 1 Tx | 0.081 | | 0.006 | | 0.126 | 0.213 |
| | | 0.088 | 0.006 | | 0.126 | 0.220 |
| | 0.081 | | | 0.019 | | 0.100 |
| | | 0.088 | | 0.019 | | 0.107 |
| Edge 4, Wi-Fi 2 Tx | 0.081 | | 0.006 | 0.019 | | 0.106 |
| | | 0.088 | 0.006 | 0.019 | | 0.113 |

| Test Position | Data | | | | | Σ 1-g SAR (mW/g) |
|--|-------------|-------------|-------------------|------------------|-----------|------------------|
| | LTE Band 13 | LTE Band 17 | WiFi 5.8 GHz Main | WiFi 5.8 GHz Aux | Bluetooth | |
| Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.071 | | 0.022 | 1.169 |
| | | 1.337 | 0.071 | | 0.022 | 1.430 |
| | 1.076 | | | 0.252 | | 1.328 |
| | | 1.337 | | 0.252 | | 1.589 |
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.076 | | 0.071 | 0.252 | | 1.399 |
| | | 1.337 | 0.071 | 0.252 | | 1.660 |
| Bottom side, Wi-Fi 1 Tx 18mm → w/WWAN Full power | 0.251 | | 0.071 | | 0.022 | 0.344 |
| | | 0.226 | 0.071 | | 0.022 | 0.319 |
| | 0.251 | | | 0.252 | | 0.503 |
| | | 0.226 | | 0.252 | | 0.478 |
| Bottom side, Wi-Fi 2 Tx 18mm → w/WWAN Full power | 0.251 | | 0.071 | 0.252 | | 0.574 |
| | | 0.226 | 0.071 | 0.252 | | 0.549 |

Note(s):

- Bluetooth and Wi-Fi Aux cannot simultaneously transmit
- Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | ①LTE Band 17 | ②WiFi 5.8GHz (Main Ant) | ③WiFi 5.8GHz (Aux Ant) | ④BT (Aux Ant) | Σ 1-g SAR (mW/g) | | Calculated distance (mm) | SPLSR (≤ 0.04) | Volume Scan (Yes/ No) | Figure |
|--|--------------|-------------------------|------------------------|---------------|------------------|------|--------------------------|----------------|-----------------------|--------|
| Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction | 1.337 | 0.071 | 0.252 | | ① + ② + ③ | 1.66 | | | | |
| | 1.337 | 0.071 | | | ① + ② | 1.41 | 163.2 | 0.010 | No | 28 |
| | 1.337 | | 0.252 | | ① + ③ | 1.59 | 201.8 | 0.010 | No | 28 |

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.

- 15.1. System Performance Check Plots**
- 15.2. SAR test plots for WCDMA Band V**
- 15.3. SAR test plots for WCDMA Band IV**
- 15.4. SAR test plots for WCDMA Band II**
- 15.5. SAR test plots for CDMA Band0**
- 15.6. SAR test plots for CDMA Band1**
- 15.7. SAR test plots for CDMA Band10**
- 15.8. SAR test plots for LTE Band 2**
- 15.9. SAR test plots for LTE Band 4**
- 15.10. SAR test plots for LTE Band 5**
- 15.11. SAR test plots for LTE Band 25**
- 15.12. SAR test plots for LTE Band 13**
- 15.13. SAR test plots for LTE Band 17**
- 15.14. SAR Test Plots for Repeat Measurement**

-
- 15.15. **SAR Test Plots for Wi-Fi 2.4 GHz Band**
 - 15.16. **SAR Test Plots for Wi-Fi 5.3 GHz Bands**
 - 15.17. **SAR Test Plots for Wi-Fi 5.5 GHz Bands**
 - 15.18. **SAR Test Plots for Wi-Fi 5.8 GHz Bands**
 - 15.19. **SAR Test Plots for Bluetooth**
 - 15.20. **SAR Calibration Certificate - Probe EX3DV4 SN 3917**
 - 15.21. **SAR Calibration Certificate - Probe EX3DV4 SN 3922**
 - 15.22. **SAR Calibration Certificate - Probe EX3DV4 SN3540**
 - 15.23. **SAR Calibration Certificate - Dipole D750V3 SN1058**
 - 15.24. **SAR Calibration Certificate - Dipole D835V2 SN 4d149**
 - 15.25. **SAR Calibration Certificate - Dipole D1750V2 SN1089**
 - 15.26. **SAR Calibration Certificate - Dipole D1900V2 SN5d169**
 - 15.27. **SAR Calibration Certificate for D2450V2 - SN 713**
 - 15.28. **SAR Calibration Certificate for D5GHzV2 - SN 1020**
 - 15.29. **SAR Tissue Ingredients**
 - 15.30. **SAR peak separation for SPLSR**
 - 15.31. **Triggering distances and power levels**