# SAR EVALUATION REPORT

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

*For*
**SMARTPHONE**

**FCC ID: BCG-E3237A**
**Model Name: A2105**

**Report Number: 12216366-S1V1**
**Issue Date: 8/30/2018**

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NVLAP LAB CODE 200065-0

**Revision History**

| Rev. | Date | Revisions | Revised By |
|---|---|---|---|
| V1 | 8/30/2018 | Initial Issue | -- |
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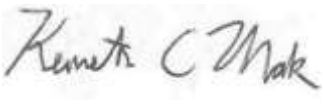
**Table of Contents**

# 1. Attestation of Test Results

| | | | | | |
|---|---|---|---|---|---|
| Applicant Name | | APPLE, INC. | | | |
| FCC ID | | BCG-E3237A | | | |
| Model Name | | A2105 | | | |
| Applicable Standards | | FCC 47 CFR § 2.1093<br>Published RF exposure KDB procedures<br>IEEE Std 1528-2013 | | | |
| Exposure Category | | SAR Limits (W/Kg) | | | |
| | | Peak spatial-average(1g of tissue) | | Extremities (hands, wrists, ankles, etc.) (10g of tissue) | |
| General population / Uncontrolled exposure | | 1.6 | | 4 | |
| RF Exposure Conditions | | Equipment Class - Highest Reported SAR (W/kg) | | | |
| | | PCE | DTS | NII | DSS |
| Head | | 0.899 | 1.063 | 1.101 | 0.413 |
| Body-worn (Dist.= 5 mm) | | 1.098 | 1.123 | 1.171 | 0.411 |
| Hotspot (Dist.= 5 mm) | | 1.099 | 1.123 | 1.171 | 0.443 |
| Simultaneous TX | Head | 1.390 | 1.390 | 1.385 | 1.385 |
| | Body-worn | 1.577 | 1.547 | 1.577 | 1.577 |
| | Hotspot | 1.577 | 1.547 | 1.577 | 1.577 |
| Date Tested | | 6/26/2018 to 8/14/2018 | | | |
| Test Results | | Pass | | | |

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

| Approved & Released By: | Prepared By: |
|---|---|
|  |  |
| Devin Chang<br>Senior Test Engineer<br>UL Verification Services Inc. | Kenneth C. Mak<br>Test Engineer<br>UL Verification Services Inc. |

# 2. Test Specification, Methods and Procedures

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

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 648474 D04 Handset SAR v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- 941225 D06 Hotspot Mode v02r01

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

- TCB workshop April 2015; RF Exposure Procedures Update (Overlapping LTE Bands)
- TCB workshop October 2014; RF Exposure Procedures Update (Other LTE Considerations)
- TCB workshop October 2015; RF Exposure Procedures (KDB 941225 D05A)
- TCB workshop April 2016; RF Exposure Procedures (LTE Carrier Aggregation for DL)
- TCB workshop October 2016; RF Exposure Procedures (LTE Carrier Aggregation for UL)
- TCB workshop October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- TCB workshop May 2017; RF Exposure Procedures (LTE Band 41 Power Class 2)
- TCB workshop October 2016; RF Exposure Procedures (DUT Holder Perturbations)
- TCB workshop November 2017; RF Exposure Procedures (LTE UL/DL Carrier Aggregation SAR)
- TCB workshop April 2018; RF Exposure Procedures (LTE DL CA SAR Test Exclusion)

# 3. Facilities and Accreditation

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

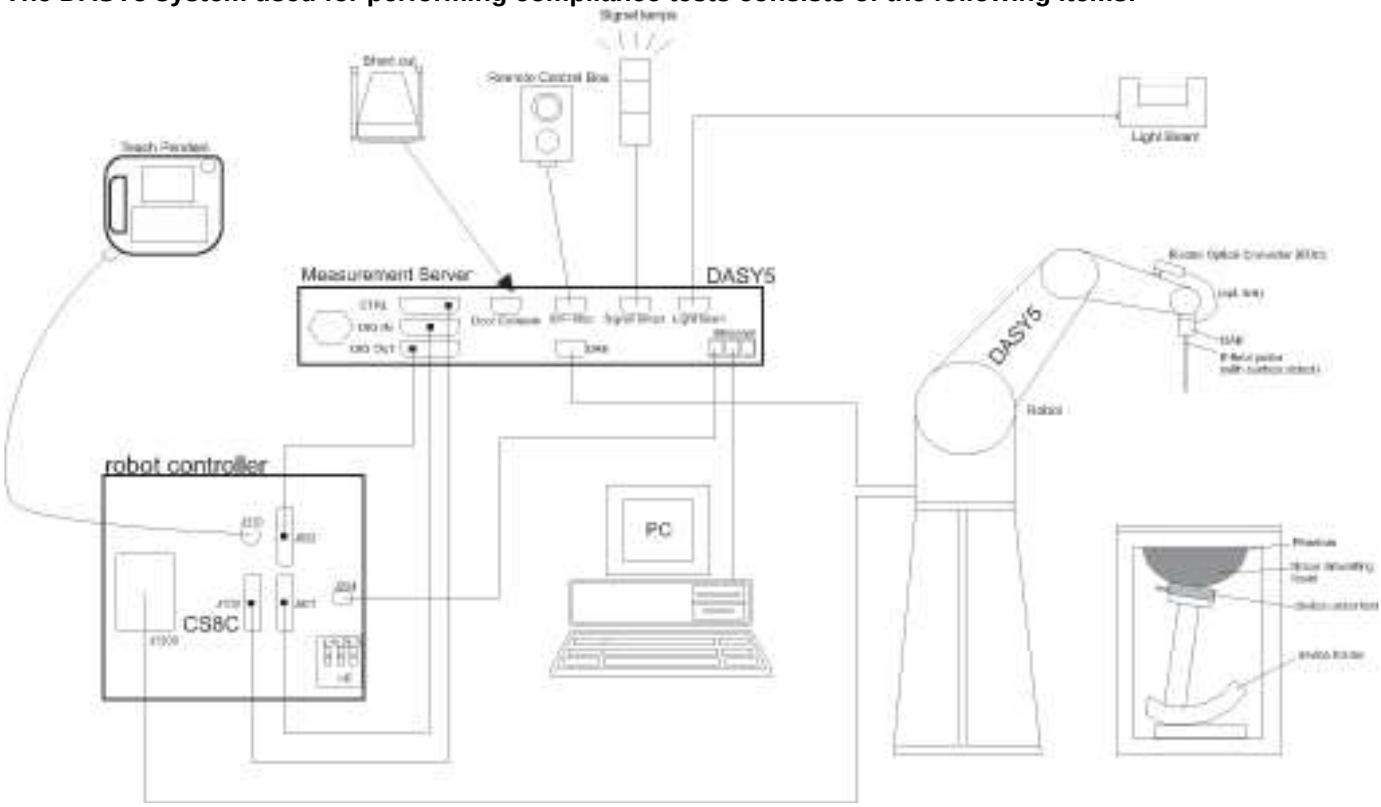
| 47173 Benicia Street | 47266 Benicia Street |
|---|---|
| SAR Lab A | SAR Lab 1 |
| SAR Lab B | SAR Lab 2 |
| SAR Lab C | SAR Lab 3 |
| SAR Lab D | SAR Lab 4 |
| SAR Lab E | |
| SAR Lab F | |
| SAR Lab G | |
| SAR Lab H | |

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

# 4. SAR Measurement System & Test Equipment

## 4.1. SAR Measurement System

**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.

## 4.2. SAR Scan Procedures

**Step 1: Power Reference Measurement**

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

**Step 2: Area Scan**

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

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

| | ≤ 3 GHz | > 3 GHz |
|---|---|---|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | 5 ± 1 mm | ½·δ·ln(2) ± 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: $\Delta x_{Area}$, $\Delta y_{Area}$ | ≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm<br>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: $\Delta x_{Zoom}$, $\Delta y_{Zoom}$ | | | ≤ 2 GHz: ≤ 8 mm<br>2 – 3 GHz: ≤ 5 mm* | 3 – 4 GHz: ≤ 5 mm*<br>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<br>4 – 5 GHz: ≤ 3 mm<br>5 – 6 GHz: ≤ 2 mm |
| | graded grid | $\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface | ≤ 4 mm | 3 – 4 GHz: ≤ 3 mm<br>4 – 5 GHz: ≤ 2.5 mm<br>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<br>4 – 5 GHz: ≥ 25 mm<br>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 *reported* SAR from the *area scan based 1-g SAR estimation* 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.

## 4.3. Test Equipment

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

**Dielectric Property Measurements**

| Name of Equipment | Manufacturer | Type/Model | Serial No. | Cal. Due Date |
|---|---|---|---|---|
| Network Analyzer | Agilent | 8753ES | MY40001647 | 9/15/2018 |
| Dielectric Probe kit | SPEAG | DAK-3.5 | 1087 | 11/14/2018 |
| Shorting block | SPEAG | DAK-3.5 Short | SM DAK 200 BA | 2/6/2019 |
| Thermometer | Traceable Calibration Control Co. | 4242 | 140493798 | 12/8/2018 |
| Network Analyzer | Agilent | 8753ES | MY40000980 | 5/14/2019 |
| Dielectric Probe kit | SPEAG | DAK-3.5 | 1082 | 10/17/2018 |
| Shorting block | SPEAG | DAK-3.5 Short | SM DAK 200 BA | 10/17/2018 |
| Thermometer | Traceable Calibration Control Co. | 4242 | 140562250 | 11/7/2018 |

**System Check**

| Name of Equipment | Manufacturer | Type/Model | Serial No. | Cal. Due Date |
|---|---|---|---|---|
| Synthesized Signal Generator | Agilent | N5181A | MY50140630 | 5/25/2019 |
| Power Meter | HP | 437B | 3125U12345 | 8/10/2018 |
| Power Meter | HP | 437B | 3125U11347 | 8/15/2018 |
| Power Sensor | HP | 8481A | 1926A27048 | 8/10/2018 |
| Power Sensor | HP | 8481A | 3318A92374 | 8/15/2018 |
| Amplifier | MITEQ | AMF-4D-00400600-50-30P | 1795092 | N/A |
| Directional coupler | Werlatone | C8060-102 | 2141 | N/A |
| DC Power Supply | HP | 1611 | 215-02292 | N/A |
| Synthesized Signal Generator | Agilent | N5181A | MY50140610 | 6/7/2019 |
| Power Meter | Keysight | N1912A | MY55196007 | 7/23/2019 |
| Power Sensor | Agilent | N1921A | MY53020038 | 4/23/2019 |
| Power Sensor | Agilent | N1921A | MY52260009 | 1/8/2019 |
| Amplifier | MITEQ | AMF-4D-00400600-50-30P | 1795093 | N/A |
| Directional coupler | Werlatone | C8060-102 | 2149 | N/A |
| DC Power Supply | HP | 6296A | 2841A-05955 | N/A |

**Note(s):**

*Equipment not used past calibration due date.

**Lab Equipment**

| Name of Equipment | Manufacturer | Type/Model | Serial No. | Cal. Due Date |
|---|---|---|---|---|
| E-Field Probe (SAR Lab A) | SPEAG | EX3DV4 | 7356 | 4/24/2019 |
| E-Field Probe (SAR Lab A) | SPEAG | EX3DV4 | 3991 | 5/24/2019 |
| E-Field Probe (SAR Lab B) | SPEAG | EX3DV4 | 3772 | 2/13/2019 |
| E-Field Probe (SAR Lab C) | SPEAG | EX3DV4 | 3749 | 1/16/2019 |
| E-Field Probe (SAR Lab D) | SPEAG | EX3DV4 | 3902 | 5/24/2019 |
| E-Field Probe (SAR Lab D) | SPEAG | EX3DV4 | 3929 | 3/16/2019 |
| E-Field Probe (SAR Lab E) | SPEAG | EX3DV4 | 3989 | 1/16/2019 |
| E-Field Probe (SAR Lab F) | SPEAG | EX3DV4 | 3902 | 5/24/2019 |
| E-Field Probe (SAR Lab F) | SPEAG | EX3DV4 | 3929 | 3/16/2019 |
| E-Field Probe (SAR Lab G) | SPEAG | EX3DV4 | 3773 | 4/23/2019 |
| E-Field Probe (SAR Lab G) | SPEAG | EX3DV4 | 7463 | 7/20/2019 |
| E-Field Probe (SAR Lab H) | SPEAG | EX3DV4 | 7483 | 12/12/2018 |
| E-Field Probe (SAR Lab 1) | SPEAG | EX3DV4 | 7448 | 4/16/2019 |
| E-Field Probe (SAR Lab 3) | SPEAG | EX3DV4 | 7335 | 3/16/2019 |
| E-Field Probe (SAR Lab 4) | SPEAG | EX3DV4 | 3871 | 8/23/2018 |
| Data Acquisition Electronics (SAR Lab A) | SPEAG | DAE4 | 1540 | 2/23/2019 |
| Data Acquisition Electronics (SAR Lab B) | SPEAG | DAE4 | 1352 | 11/8/2018 |
| Data Acquisition Electronics (SAR Lab C) | SPEAG | DAE4 | 1472 | 3/8/2019 |
| Data Acquisition Electronics (SAR Lab D) | SPEAG | DAE4 | 1433 | 3/7/2019 |
| Data Acquisition Electronics (SAR Lab E) | SPEAG | DAE4 | 1259 | 1/10/2019 |
| Data Acquisition Electronics (SAR Lab E) | SPEAG | DAE4 | 1548 | 5/3/2019 |
| Data Acquisition Electronics (SAR Lab F) | SPEAG | DAE4 | 1377 | 10/11/2018 |
| Data Acquisition Electronics (SAR Lab G) | SPEAG | DAE4 | 1359 | 2/9/2019 |
| Data Acquisition Electronics (SAR Lab H) | SPEAG | DAE4 | 1257 | 10/11/2018 |
| Data Acquisition Electronics (SAR Lab 1) | SPEAG | DAE4 | 1544 | 4/12/2019 |
| Data Acquisition Electronics (SAR Lab 3) | SPEAG | DAE4 | 1434 | 5/11/2019 |
| Data Acquisition Electronics (SAR Lab 4) | SPEAG | DAE4 | 1343 | 8/21/2018 |
| System Validation Dipole | SPEAG | D750V3 | 1071 | 11/21/2018 |
| System Validation Dipole | SPEAG | D835V2 | 4d002 | 11/21/2018 |
| System Validation Dipole | SPEAG | D835V2 | 4d142 | 10/12/2018 |
| System Validation Dipole | SPEAG | D1750V2 | 1053 | 8/24/2018 |
| System Validation Dipole | SPEAG | D1900V2 | 5d163 | 10/5/2018 |
| System Validation Dipole | SPEAG | D1900V2 | 5d140 | 4/11/2019 |
| System Validation Dipole | SPEAG | D2300V2 | 1058 | 8/31/2018 |
| System Validation Dipole | SPEAG | D2450V2 | 706 | 5/18/2019 |
| System Validation Dipole | SPEAG | D2450V2 | 748 | 2/14/2019 |
| System Validation Dipole | SPEAG | D2600V2 | 1006 | 10/5/2018 |
| System Validation Dipole | SPEAG | D2600V2 | 1036 | 3/16/2019 |
| System Validation Dipole | SPEAG | D5GHzV2 | 1003 | 3/13/2019 |
| System Validation Dipole | SPEAG | D5GHzV2 | 1138 | 10/26/2018 |

**Note(s):**

*Equipment not used past calibration due date.

**Other**

| Name of Equipment | Manufacturer | Type/Model | T Number | Serial No. | Cal. Due Date |
|---|---|---|---|---|---|
| Power Meter | Agilent | N1912A | T733 | MY50001018 | 10/17/2018 |
| Power Sensor | Agilent | 437B | T221 | 3125U09248 | 9/20/2018 |
| Power Sensor | Agilent | N1921A | T309 | MY52270022 | 12/28/2018 |
| Base station Simulator | R&S | CMW500 | T978 | 137877 | 2/19/2019 |
| Base station Simulator | R&S | CMW500 | T960 | 135384 | 2/20/2019 |
| Base station Simulator | R&S | CMW500 | T948 | 135393 | 2/17/2019 |
| Base station Simulator | R&S | CMW500 | T958 | 134855 | 2/15/2019 |
| Base station Simulator | R&S | CMW500 | T259 | 124594 | 2/21/2019 |
| Base station Simulator | R&S | CMW500 | T1526 | 147543 | 2/17/2019 |
| Base station Simulator | R&S | CMW500 | T964 | 134853 | 2/16/2019 |
| Base station Simulator | R&S | CMW500 | T268 | 124593 | 2/22/2019 |
| Base station Simulator | R&S | CMW500 | T953 | 135390 | 2/16/2019 |
| Base station Simulator | R&S | CMW500 | T1871 | 164541 | 2/19/2019 |
| Base station Simulator | R&S | CMW500 | T959 | 137873 | 2/17/2019 |
| Base station Simulator | R&S | CMW500 | T919 | 125236 | 2/21/2019 |

# 5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

# 6. Device Under Test (DUT) Information

## 6.1. DUT Description

The Apple iPhone, is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, TD-SCDMA, CDMA, IEEE 802.11a/b/g/n/ac, Bluetooth, GPS and NFC. All models support at least one UICC based SIM. The second SIM is either UICC based, electronic SIM (e-SIM), or second SIM is not present. The device has a built-in inductive charging receiver which is not user accessible. The rechargeable battery is not user accessible.

This device has two WWAN antennas (ANT1 and ANT2) as well as multiple Wi-Fi/Bluetooth antennas (ANT2 and ANT5 for Wi-Fi/BT 2.4GHz, ANT4 and ANT5 for Wi-Fi 5GHz).

The device utilizes two power modes: Mode A and Mode B. Power selection is determined by the device's positioning and use case as described in Sec. 10. Mode A power is used when the device is used against the user's head, or away from the body. Mode B is used when the device is used in a body-worn configuration by the user.

The WWAN transmit antenna switching mechanism between WWAN antennas is implemented with a physical "break-before-make" switch so that only one antenna can be used for WWAN transmission at one time.

In Airplay mode, the device uses same power and power control mechanism as Wi-Fi. Airplay is not supported in hotspot mode. Airplay utilize the same 802.11 modes, modulation, MIMO, Channel Bandwidth, etc. as Wi-Fi does. Therefore Airplay usage is categorized by the Wi-Fi SAR testing contained in Section 10.

There are two vendors of the Wi-Fi/Bluetooth radio modules: variant 1 and variant 2. The Wi-Fi/BT radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances. It is confirmed that Variant 1 represents the worst case.

| | |
|---|---|
| Device Dimension | Overall (Length x Width): 150.9 mm x 75.7 mm<br>Overall Diagonal: 168.66 mm (6.64 inch)<br>Display Diagonal: 153.92 mm (6.06 inch) |
| Back Cover | The Back Cover is not removable |
| Battery Options | The rechargeable battery is not user accessible. |
| Accessory | Headset |
| Wireless Router (Hotspot) | Wi-Fi Hotspot mode permits the device to share its WWAN data connection with other Wi-Fi-enabled devices.<br>☒ Mobile Hotspot (Wi-Fi 2.4 GHz)<br>☐ Mobile Hotspot (Wi-Fi 5 GHz) |
| AirPlay | AirPlay mode enabled devices transfer data directly between each other<br>☒ AirPlay (Wi-Fi 2.4 GHz)<br>☒ AirPlay (Wi-Fi 5 GHz) |
| Bluetooth Tethering | BT Tethering mode permits the device to share its cellular data connection with other devices.<br>☒ BT Tethering (Bluetooth 2.4 GHz) |

## 6.2. Wireless Technologies

| Wireless technologies | Frequency bands | Operating mode | | Duty Cycle used for SAR testing |
|---|---|---|---|---|
| GSM | 850<br>1900 | Voice (GMSK)<br>GPRS (GMSK)<br>EDGE (8PSK) | GSM Class : B<br>Multi-Slot Class:<br>Class 10 - 2 Up, 4 Down | GSM Voice: 12.5%<br>(E)GPRS: 1 Slot: 12.5%<br>2 Slots: 25% |
| | | Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No | | |
| CDMA (CDMA2000) | BC0<br>BC1<br>BC10 | 1xRTT (Voice & Data)<br>1xEV-DO Rel. 0<br>1xEV-DO Rev. A<br>1xAdvanced | | 100% |
| | | Does this device support SV-DO (1xRTT-1xEVDO)? ☐ Yes ☒ No | | |
| W-CDMA (UMTS) | Band 2<br>Band 4<br>Band 5 | UMTS Rel. 99 (Voice & Data)<br>HSDPA (Rel. 5)<br>HSUPA (Rel. 6)<br>HSPA+ (Rel. 7)<br>DC-HSDPA (Rel. 9) | | 100% |
| LTE[4] | FDD Band 2<br>FDD Band 4<br>FDD Band 5<br>FDD Band 7<br>FDD Band 12<br>FDD Band 13<br>FDD Band 14<br>FDD Band 17<br>FDD Band 25<br>FDD Band 26<br>FDD Band 29 (DL Only)<br>FDD Band 30<br>TDD Band 41 [2]<br>TDD Band 46 (DL Only)<br>FDD Band 66<br>**Carrier Aggregation** [3]<br>FDD Band 7_2CC<br>TDD Band 41_2CC | QPSK<br>16QAM<br>64AQM<br>Carrier Aggregation (2 Uplinks and 4 Downlinks) | | 100% (FDD)<br>63.3% (TDD) Power Class 3<br>43.3% (TDD) Power Class 2<br>Refer to §6.4 |
| | | Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No | | |
| Wi-Fi | 2.4 GHz [1] | 802.11b<br>802.11g<br>802.11n (HT20) | | 99.76% (802.11b)<br>98.82% (802.11g/n 20MHz BW) |
| | 5 GHz [1] | 802.11a<br>802.11n (HT20)<br>802.11n (HT40)<br>802.11ac (VHT20)<br>802.11ac (VHT40)<br>802.11ac (VHT80) | | 98.97% (802.11a/n/ac 20MHz BW)<br>97.77% (802.11n/ac 40MHz BW)<br>95.64% (802.11n/ac 80MHz BW) |
| | | Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No | | |
| | | Does this device support Band gap channel(s)? ☒ Yes ☐ No | | |
| Bluetooth | 2.4 GHz | Version 5.0 LE | | 100% |

**Note(s):**

1. Duty cycle for Wi-Fi and BT is referenced from the DTS and U-NII and BT reports.
2. This device supports Power Class 2 and Power Class 3 for LTE Band 41.
3. LTE Uplink 2CA is the total combined power of the UL CA.
4. LTE Uplink Cat 13, LTE 3GPP Rel-13 (LTE 3GPP Rel-14 for B41 PC2)

## 6.3. General LTE SAR Test and Reporting Considerations

| Item | Description | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency range, Channel Bandwidth, Numbers and Frequencies | Band 2 | Frequency range: 1850 - 1910 MHz (BW = 60 MHz) | | | | | |
| | | Channel Bandwidth | | | | | |
| | | 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 | 19185/ 1908.5 | 19193/ 1909.3 |
| | Band 4 | Frequency range: 1710 - 1755 MHz (BW = 45 MHz) | | | | | |
| | | Channel Bandwidth | | | | | |
| | | 20 MHz [2] | 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 | 20385/ 1753.5 | 20393/ 1754.3 |
| | Band 5 | Frequency range: 824 - 849 MHz (BW = 25 MHz) | | | | | |
| | | Channel Bandwidth | | | | | |
| | | 20 MHz | 15 MHz | 10 MHz [2] | 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 | 20635/ 847.5 | 20643/ 848.3 |
| | Band 7 | Frequency range: 2500 - 2570 MHz (BW = 70 MHz) | | | | | |
| | | Channel Bandwidth | | | | | |
| | | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| | Low | **20850 2510** | 20825 2507.5 | 20800 2505 | 20775 2502.5 | | |
| | Mid | **21100 2535** | 21100 2535 | 21100 2535 | 21100 2535 | | |
| | High | **21350 2560** | 21375 2562.5 | 21400 2565 | 21425 2567.5 | | |
| | Band 12 | Frequency range: 699 – 716 MHz (BW = 17 MHz) | | | | | |
| | | Channel Bandwidth | | | | | |
| | | 20 MHz | 15 MHz | 10 MHz [2] | 5 MHz | 3 MHz | 1.4 MHz |
| | Low | | | 23060/ 704 | 23035/ 701.5 | 23025/ 700.5 | 23017/ 699.7 |
| | Mid | | | **23095/ 707.5** | 23095/ 707.5 | 23095/ 707.5 | 23095/ 707.5 |
| | High | | | 23130/ 711 | 23155/ 713.5 | 23165/ 714.5 | 23173/ 715.3 |
| | Band 13 | Frequency range: 777 - 787 MHz (BW = 10 MHz) | | | | | |
| | | Channel Bandwidth | | | | | |
| | | 20 MHz | 15 MHz | 10 MHz [2] | 5 MHz [2] | 3 MHz | 1.4 MHz |
| | Low | | | | 23205/ 779.5 | | |
| | Mid | | | **23230/ 782** | 23230/ 782 | | |
| | High | | | | 23255/ 784.5 | | |

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

Frequency range, Channel Bandwidth, Numbers and Frequencies

| Band 14 | Frequency range: 788 - 798 MHz (BW = 10 MHz) | | | | | |
|---|---|---|---|---|---|---|
| | Channel Bandwidth | | | | | |
| | 20 MHz | 15 MHz | 10 MHz [2] | 5 MHz [2] | 3 MHz | 1.4 MHz |
| Low | | | | 23305/ 790.5 | | |
| Mid | | | **23330/ 793** | 23330/ 793 | | |
| High | | | | 23355/ 795.5 | | |

| Band 17 | Frequency range: 704 - 716 MHz (BW = 12 MHz) | | | | | |
|---|---|---|---|---|---|---|
| | Channel Bandwidth | | | | | |
| | 20 MHz | 15 MHz | 10 MHz [2] | 5 MHz [2] | 3 MHz | 1.4 MHz |
| Low | | | 23780/ 709 | 23755/ 706.5 | | |
| Mid | | | **23790/ 710** | 23790/ 710 | | |
| High | | | 23800/ 711 | 23825/ 713.5 | | |

| Band 25 | Frequency range: 1850 - 1915 MHz (BW = 65 MHz) | | | | | |
|---|---|---|---|---|---|---|
| | Channel Bandwidth | | | | | |
| | 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 | 26675/ 1913.5 | 26683/ 1914.3 |

| Band 26 | Frequency range: 814 - 849 MHz (BW = 35 MHz) | | | | | |
|---|---|---|---|---|---|---|
| | Channel Bandwidth | | | | | |
| | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| Low | | | **26740/ 819** | 26715/ 816.5 | 26705/ 815.5 | 26697/ 814.7 |
| Mid | | | **26865/ 831.5** | 26865/ 831.5 | 26865/ 831.5 | 26865/ 831.5 |
| High | | | **26990/ 844** | 27015/ 846.5 | 27025/ 847.5 | 27033/ 848.3 |

| Band 30 | Frequency range: 2305 - 2315 MHz (BW = 10 MHz) | | | | | |
|---|---|---|---|---|---|---|
| | Channel Bandwidth | | | | | |
| | 20 MHz | 15 MHz | 10 MHz [2] | 5 MHz | 3 MHz | 1.4 MHz |
| Low | | | | 27685/ 2307.5 | | |
| Mid | | | **27710/ 2310** | 27710/ 2310 | | |
| High | | | | 27735/ 2312.5 | | |

| Band 41[1] | Frequency range: 2496 - 2690 MHz (BW = 194 MHz) | | | | | |
|---|---|---|---|---|---|---|
| | Channel Bandwidth | | | | | |
| | 20 MHz | 15 MHz | 10 MHz | 5 MHz | 3 MHz | 1.4 MHz |
| Low | **39750 / 2506.0** | | | | | |
| Low-Mid | **40185 / 2549.5** | | | | | |
| Mid | **40620 / 2593.0** | | | | | |
| Mid-High | **41055 / 2636.5** | | | | | |
| High | **41490 / 2680.0** | | | | | |

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

<table>
<tr><td rowspan="5">Frequency range, Channel Bandwidth, Numbers and Frequencies</td><td rowspan="3">Band 66</td><td colspan="6">Frequency range: 1710 - 1780 MHz (BW = 70 MHz)</td></tr>
<tr><td colspan="6">Channel Bandwidth</td></tr>
<tr><td>20 MHz</td><td>15 MHz</td><td>10 MHz</td><td>5 MHz</td><td>3 MHz</td><td>1.4 MHz</td></tr>
<tr><td>Low</td><td>132072/ 1720</td><td>132047/ 1717.5</td><td>132022/ 1715</td><td>131997/ 1712.5</td><td>131987/ 1711.5</td><td>131979/ 1710.7</td></tr>
<tr><td>Mid</td><td>132322/ 1745</td><td>132322/ 1745</td><td>132322/ 1745</td><td>132322/ 1745</td><td>132322/ 1745</td><td>132322/ 1745</td></tr>
<tr><td>High</td><td>132572/ 1770</td><td>132597/ 1772.5</td><td>132622/ 1775</td><td>132647/ 1777.5</td><td>132657/ 1778.5</td><td>132665/ 1779.3</td></tr>
<tr><td>LTE transmitter and antenna implementation</td><td colspan="7">LTE can transmit from either ANT1 and ANT2 Then antenna switching is implemented with a physical, "break-before-make" switch such that only one antenna can be used for LTE transmission at a time.</td></tr>
<tr><td>Maximum power reduction (MPR)</td><td colspan="7">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3<br>
<table>
<tr><td rowspan="2">Modulation</td><td colspan="6">Channel bandwidth / Transmission bandwidth ($N_{RB}$)</td><td rowspan="2">MPR (dB)</td></tr>
<tr><td>1.4 MHz</td><td>3.0 MHz</td><td>5 MHz</td><td>10 MHz</td><td>15 MHz</td><td>20 MHz</td></tr>
<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>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table>
MPR Built-in by design. The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values.<br>A-MPR (additional MPR) was disabled during SAR testing</td></tr>
<tr><td>Spectrum plots for RB configurations</td><td colspan="7">A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
</table>

**Note(s):**

1. LTE band 41 test channels in accordance with October 2014 TCB workshop for all channels bandwidths.
2. Maximum bandwidth does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.
3. SAR Testing for LTE was performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

## 6.4. LTE (TDD) Considerations

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

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

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

| Special subframe configuration | Normal cyclic prefix in downlink | | | Extended cyclic prefix in downlink | | |
|---|---|---|---|---|---|---|
| | DwPTS | UpPTS | | DwPTS | UpPTS | |
| | | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink | | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0 | $6592 \cdot T_s$ | $(1+X) \cdot 2192 \cdot T_s$ | $(1+X) \cdot 2560 \cdot T_s$ | $7680 \cdot T_s$ | $(1+X) \cdot 2192 \cdot T_s$ | $(1+X) \cdot 2560 \cdot T_s$ |
| 1 | $19760 \cdot T_s$ | | | $20480 \cdot T_s$ | | |
| 2 | $21952 \cdot T_s$ | | | $23040 \cdot T_s$ | | |
| 3 | $24144 \cdot T_s$ | | | $25600 \cdot T_s$ | | |
| 4 | $26336 \cdot T_s$ | | | $7680 \cdot T_s$ | $(2+X) \cdot 2192 \cdot T_s$ | $(2+X) \cdot 2560 \cdot T_s$ |
| 5 | $6592 \cdot T_s$ | $(2+X) \cdot 2192 \cdot T_s$ | $(2+X) \cdot 2560 \cdot T_s$ | $20480 \cdot T_s$ | | |
| 6 | $19760 \cdot T_s$ | | | $23040 \cdot T_s$ | | |
| 7 | $21952 \cdot T_s$ | | | $12800 \cdot T_s$ | | |
| 8 | $24144 \cdot T_s$ | | | - | - | - |
| 9 | $13168 \cdot T_s$ | | | - | - | - |
| 10 | $13168 \cdot T_s$ | $13152 \cdot T_s$ | $12800 \cdot T_s$ | - | - | - |

Table 4.2-2: Uplink-downlink configurations & Calculated Duty Cycle

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

Calculated Duty Cycle = Extended cyclic prefix in uplink * ($T_s$) * # of S + # of U / period

**Note(s):**

This device supports uplink-downlink configurations 0-6. The configuration with highest duty cycle was used for SAR Testing: configuration 0 at 63.3%(Power Class 3) and configuration 1 at 43.3%(Power Class 2) duty cycle.

# 7. RF Exposure Conditions (Test Configurations)

This device has a total of 5 antennas. From Front of the device, antennas and supported frequencies are described and located as follows:

ANT1 (support all WWAN frequency bands) - located at the lower of the device.

ANT2 (support WWAN frequencies bands and Wi-Fi 2.4 GHz and Bluetooth) - located at the upper of the device.

ANT4 (support Wi-Fi 5GHz Bands) – located at upper left corner of the device.

ANT5 (support Wi-Fi 2.4/5 GHz Bands) – located at lower left corner of the device.

ANT3 does not support FCC bands.

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

The Body-worn accessory test configurations were tested using a conservative minimum test separation distance of 5 mm.

**Lower Antenna**

| Wireless technologies | RF Exposure Conditions | DUT-to-User Separation | Test Position | Antenna-to-edge/surface | SAR Required | Note |
|---|---|---|---|---|---|---|
| WWAN (ANT1) | Head | 0 mm | Left Touch | N/A | Yes | |
| | | | Left Tilt (15°) | N/A | Yes | |
| | | | Right Touch | N/A | Yes | |
| | | | Right Tilt (15°) | N/A | Yes | |
| | Body/Hotspot | 5 mm | Rear | < 25 mm | Yes | 2 |
| | | | Front | < 25 mm | Yes | 2 |
| | Hotspot | 5 mm | Edge 1 (Top) | > 25 mm | No | 1 |
| | | | Edge 2 (Right) | < 25 mm | Yes | |
| | | | Edge 3 (Bottom) | < 25 mm | Yes | |
| | | | Edge 4 (Left) | < 25 mm | Yes | |
| Wi-Fi 2.4 GHz and Bluetooth (ANT5) | Head | 0 mm | Left Touch | N/A | Yes | |
| | | | Left Tilt (15°) | N/A | Yes | |
| | | | Right Touch | N/A | Yes | |
| | | | Right Tilt (15°) | N/A | Yes | |
| | Body/Hotspot | 5 mm | Rear | < 25 mm | Yes | 2 |
| | | | Front | < 25 mm | Yes | 2 |
| | Hotspot | 5 mm | Edge 1 (Top) | > 25 mm | No | 1 |
| | | | Edge 2 (Right) | > 25 mm | No | 1 |
| | | | Edge 3 (Bottom) | < 25 mm | Yes | |
| | | | Edge 4 (Left) | < 25 mm | Yes | |
| Wi-Fi 5 GHz (ANT5) | Head | 0 mm | Left Touch | N/A | Yes | |
| | | | Left Tilt (15°) | N/A | Yes | |
| | | | Right Touch | N/A | Yes | |
| | | | Right Tilt (15°) | N/A | Yes | |
| | Body/Airplay | 5 mm | Rear | < 25 mm | Yes | 2 |
| | | | Front | < 25 mm | Yes | 2 |
| | Airplay | 5 mm | Edge 1 (Top) | > 25 mm | No | 1 |
| | | | Edge 2 (Right) | > 25 mm | No | 1 |
| | | | Edge 3 (Bottom) | < 25 mm | Yes | |
| | | | Edge 4 (Left) | < 25 mm | Yes | |

**Note(s):**

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
2. The Body-worn minimum separation distance is 5 mm. To cover both body-worn and hotspot RF exposure conditions testing was performed at a separation distance of 5 mm.

## Upper Antenna

| Wireless technologies | RF Exposure Conditions | DUT-to-User Separation | Test Position | Antenna-to-edge/surface | SAR Required | Note |
|---|---|---|---|---|---|---|
| WWAN and Wi-Fi 2.4 GHz and Bluetooth (ANT2) | Head | 0 mm | Left Touch | N/A | Yes | |
| | | | Left Tilt (15°) | N/A | Yes | |
| | | | Right Touch | N/A | Yes | |
| | | | Right Tilt (15°) | N/A | Yes | |
| | Body/Hotspot | 5 mm | Rear | < 25 mm | Yes | 2 |
| | | | Front | < 25 mm | Yes | 2 |
| | Hotspot | 5 mm | Edge 1 (Top) | < 25 mm | Yes | |
| | | | Edge 2 (Right) | < 25 mm | Yes | |
| | | | Edge 3 (Bottom) | > 25 mm | No | 1 |
| | | | Edge 4 (Left) | < 25 mm | Yes | |
| Wi-Fi 5 GHz (ANT4) | Head | 0 mm | Left Touch | N/A | Yes | |
| | | | Left Tilt (15°) | N/A | Yes | |
| | | | Right Touch | N/A | Yes | |
| | | | Right Tilt (15°) | N/A | Yes | |
| | Body/Airplay | 5 mm | Rear | < 25 mm | Yes | 2 |
| | | | Front | < 25 mm | Yes | 2 |
| | Airplay | 5 mm | Edge 1 (Top) | < 25 mm | Yes | |
| | | | Edge 2 (Right) | > 25 mm | No | 1 |
| | | | Edge 3 (Bottom) | > 25 mm | No | 1 |
| | | | Edge 4 (Left) | < 25 mm | Yes | |

**Note(s):**

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. The Body-worn minimum separation distance is 5 mm. To cover both body-worn and hotspot RF exposure conditions testing was performed at a separation distance of 5 mm.

# 8. Dielectric Property Measurements & System Check

## 8.1. Dielectric Property Measurements

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

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

**Tissue Dielectric Parameters**

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

| Target Frequency (MHz) | Head | | Body | |
|---|---|---|---|---|
| | $\varepsilon_r$ | σ (S/m) | $\varepsilon_r$ | 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

**Dielectric Property Measurements Results:**

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| A | 7/11/2018 | 2600 | Head | 2600 | 37.42 | 39.01 | -4.08 | 2.03 | 1.96 | 3.30 |
| | | | | 2495 | 37.78 | 39.14 | -3.48 | 1.91 | 1.85 | 3.37 |
| | | | | 2690 | 37.05 | 38.90 | -4.75 | 2.12 | 2.06 | 2.94 |
| A | 7/13/2018 | 2600 | Body | 2600 | 50.84 | 52.51 | -3.18 | 2.14 | 2.16 | -0.78 |
| | | | | 2495 | 51.17 | 52.64 | -2.80 | 2.02 | 2.01 | 0.53 |
| | | | | 2690 | 50.56 | 52.40 | -3.51 | 2.26 | 2.29 | -1.32 |
| A | 7/17/2018 | 2600 | Body | 2600 | 50.15 | 52.51 | -4.50 | 2.14 | 2.16 | -0.92 |
| | | | | 2495 | 50.40 | 52.64 | -4.26 | 2.03 | 2.01 | 0.68 |
| | | | | 2690 | 49.82 | 52.40 | -4.92 | 2.25 | 2.29 | -1.54 |
| A | 7/18/2018 | 2600 | Head | 2600 | 40.58 | 39.01 | 4.02 | 1.92 | 1.96 | -2.00 |
| | | | | 2495 | 40.87 | 39.14 | 4.41 | 1.80 | 1.85 | -2.69 |
| | | | | 2690 | 40.28 | 38.90 | 3.55 | 2.02 | 2.06 | -1.92 |
| A | 7/21/2018 | 2600 | Body | 2600 | 50.41 | 52.51 | -4.00 | 2.16 | 2.16 | -0.22 |
| | | | | 2495 | 50.79 | 52.64 | -3.52 | 2.03 | 2.01 | 0.88 |
| | | | | 2690 | 50.12 | 52.40 | -4.35 | 2.27 | 2.29 | -0.93 |
| A | 7/21/2018 | 2600 | Head | 2600 | 37.73 | 39.01 | -3.28 | 1.97 | 1.96 | 0.20 |
| | | | | 2495 | 38.12 | 39.14 | -2.61 | 1.84 | 1.85 | -0.31 |
| | | | | 2690 | 37.38 | 38.90 | -3.90 | 2.06 | 2.06 | -0.12 |
| A | 7/25/2018 | 2600 | Body | 2600 | 50.82 | 52.51 | -3.22 | 2.15 | 2.16 | -0.32 |
| | | | | 2495 | 51.14 | 52.64 | -2.86 | 2.03 | 2.01 | 0.73 |
| | | | | 2690 | 50.52 | 52.40 | -3.58 | 2.25 | 2.29 | -1.67 |
| A | 7/29/2018 | 2600 | Head | 2600 | 39.79 | 39.01 | 2.00 | 1.99 | 1.96 | 1.52 |
| | | | | 2495 | 40.09 | 39.14 | 2.42 | 1.87 | 1.85 | 1.26 |
| | | | | 2690 | 39.49 | 38.90 | 1.52 | 2.09 | 2.06 | 1.53 |
| B | 7/13/2018 | 1750 | Body | 1750 | 54.91 | 53.44 | 2.75 | 1.47 | 1.49 | -0.89 |
| | | | | 1710 | 54.98 | 53.54 | 2.68 | 1.43 | 1.46 | -2.50 |
| | | | | 1755 | 54.86 | 53.43 | 2.68 | 1.48 | 1.49 | -0.69 |
| B | 7/13/2018 | 1750 | Head | 1750 | 38.80 | 40.08 | -3.20 | 1.35 | 1.37 | -1.09 |
| | | | | 1710 | 38.86 | 40.15 | -3.20 | 1.32 | 1.35 | -1.66 |
| | | | | 1755 | 38.80 | 40.08 | -3.19 | 1.36 | 1.37 | -0.86 |
| B | 7/17/2018 | 1750 | Body | 1750 | 52.94 | 53.44 | -0.94 | 1.49 | 1.49 | 0.19 |
| | | | | 1710 | 53.11 | 53.54 | -0.81 | 1.45 | 1.46 | -0.65 |
| | | | | 1755 | 52.97 | 53.43 | -0.86 | 1.49 | 1.49 | 0.32 |
| B | 7/17/2018 | 1750 | Head | 1750 | 39.72 | 40.08 | -0.91 | 1.36 | 1.37 | -0.36 |
| | | | | 1710 | 39.81 | 40.15 | -0.84 | 1.35 | 1.35 | 0.04 |
| | | | | 1755 | 39.74 | 40.08 | -0.84 | 1.37 | 1.37 | -0.28 |
| B | 7/20/2018 | 1900 | Head | 1900 | 39.14 | 40.00 | -2.15 | 1.43 | 1.40 | 2.36 |
| | | | | 1850 | 39.13 | 40.00 | -2.17 | 1.41 | 1.40 | 0.64 |
| | | | | 1820 | 39.12 | 40.00 | -2.20 | 1.44 | 1.40 | 3.00 |
| B | 7/20/2018 | 1900 | Body | 1900 | 55.39 | 53.30 | 3.92 | 1.55 | 1.52 | 2.24 |
| | | | | 1850 | 55.39 | 53.30 | 3.92 | 1.51 | 1.52 | -0.59 |
| | | | | 1820 | 55.25 | 53.30 | 3.66 | 1.57 | 1.52 | 3.00 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| B | 7/24/2018 | 1750 | Body | 1750 | 53.98 | 53.44 | 1.01 | 1.56 | 1.49 | 4.70 |
| | | | | 1710 | 54.04 | 53.54 | 0.93 | 1.51 | 1.46 | 2.97 |
| | | | | 1755 | 53.91 | 53.43 | 0.90 | 1.56 | 1.49 | 4.82 |
| B | 7/24/2018 | 2600 | Body | 2600 | 51.69 | 52.51 | -1.56 | 2.23 | 2.16 | 3.02 |
| | | | | 2495 | 51.96 | 52.64 | -1.30 | 2.11 | 2.01 | 4.56 |
| | | | | 2690 | 51.49 | 52.40 | -1.73 | 2.35 | 2.29 | 2.65 |
| B | 7/28/2018 | 2600 | Head | 2600 | 37.96 | 39.01 | -2.69 | 1.98 | 1.93 | 1.01 |
| | | | | 2495 | 38.14 | 39.14 | -2.56 | 1.90 | 1.85 | 2.78 |
| | | | | 2690 | 37.78 | 38.90 | -2.87 | 2.06 | 2.06 | -0.12 |
| B | 7/29/2018 | 2600 | Body | 2600 | 50.43 | 52.51 | -3.96 | 2.23 | 2.16 | 3.11 |
| | | | | 2495 | 50.79 | 52.64 | -3.52 | 2.10 | 2.01 | 4.41 |
| | | | | 2690 | 50.10 | 52.40 | -4.38 | 2.33 | 2.29 | 1.95 |
| B | 8/1/2018 | 2450 | Body | 2450 | 50.32 | 52.70 | -4.52 | 2.01 | 1.95 | 3.18 |
| | | | | 2400 | 50.46 | 52.77 | -4.38 | 1.95 | 1.90 | 2.95 |
| | | | | 2480 | 50.18 | 52.66 | -4.71 | 2.05 | 1.99 | 2.70 |
| C | 7/12/2018 | 1900 | Head | 1900 | 40.12 | 40.00 | 0.30 | 1.41 | 1.40 | 0.57 |
| | | | | 1850 | 40.25 | 40.00 | 0.63 | 1.39 | 1.40 | -0.86 |
| | | | | 1920 | 40.10 | 40.00 | 0.25 | 1.42 | 1.40 | 1.57 |
| C | 7/12/2018 | 1900 | Body | 1900 | 52.53 | 53.30 | -1.44 | 1.55 | 1.52 | 2.11 |
| | | | | 1850 | 52.76 | 53.30 | -1.01 | 1.49 | 1.52 | -1.78 |
| | | | | 1920 | 52.52 | 53.30 | -1.46 | 1.58 | 1.52 | 4.01 |
| C | 7/16/2018 | 1900 | Head | 1900 | 39.50 | 40.00 | -1.25 | 1.44 | 1.40 | 2.64 |
| | | | | 1850 | 39.57 | 40.00 | -1.08 | 1.41 | 1.40 | 0.79 |
| | | | | 1920 | 39.47 | 40.00 | -1.33 | 1.45 | 1.40 | 3.57 |
| C | 7/17/2018 | 1900 | Body | 1900 | 50.92 | 53.30 | -4.47 | 1.55 | 1.52 | 2.24 |
| | | | | 1850 | 51.12 | 53.30 | -4.09 | 1.50 | 1.52 | -1.12 |
| | | | | 1920 | 50.88 | 53.30 | -4.54 | 1.58 | 1.52 | 3.88 |
| C | 7/21/2018 | 1900 | Body | 1900 | 51.07 | 53.30 | -4.18 | 1.56 | 1.52 | 2.57 |
| | | | | 1850 | 51.17 | 53.30 | -4.00 | 1.51 | 1.52 | -0.92 |
| | | | | 1920 | 50.96 | 53.30 | -4.39 | 1.58 | 1.52 | 4.01 |
| C | 7/21/2018 | 1900 | Head | 1900 | 40.18 | 40.00 | 0.45 | 1.44 | 1.40 | 2.93 |
| | | | | 1850 | 40.21 | 40.00 | 0.53 | 1.40 | 1.40 | 0.29 |
| | | | | 1920 | 40.14 | 40.00 | 0.35 | 1.45 | 1.40 | 3.43 |
| C | 7/24/2018 | 2600 | Head | 2600 | 38.09 | 39.01 | -2.36 | 1.96 | 1.96 | -0.31 |
| | | | | 2495 | 38.26 | 39.14 | -2.26 | 1.87 | 1.85 | 1.21 |
| | | | | 2690 | 37.99 | 38.90 | -2.33 | 2.03 | 2.06 | -1.48 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| D | 7/13/2018 | 2300 | Body | 2300 | 51.50 | 52.90 | -2.65 | 1.86 | 1.80 | 3.19 |
| | | | | 2350 | 51.34 | 52.84 | -2.84 | 1.92 | 1.85 | 3.52 |
| | | | | 2400 | 51.22 | 52.77 | -2.94 | 1.97 | 1.90 | 4.00 |
| D | 7/16/2018 | 2300 | Body | 2300 | 50.98 | 52.90 | -3.64 | 1.87 | 1.80 | 3.85 |
| | | | | 2350 | 50.82 | 52.84 | -3.82 | 1.92 | 1.85 | 3.85 |
| | | | | 2400 | 50.68 | 52.77 | -3.97 | 1.98 | 1.90 | 4.48 |
| D | 7/16/2018 | 2600 | Body | 2600 | 50.15 | 52.51 | -4.50 | 2.24 | 2.16 | 3.85 |
| | | | | 2495 | 50.52 | 52.64 | -4.03 | 2.11 | 2.01 | 4.71 |
| | | | | 2690 | 49.95 | 52.40 | -4.67 | 2.35 | 2.29 | 2.61 |
| D | 7/16/2018 | 2300 | Head | 2300 | 38.66 | 39.47 | -2.06 | 1.73 | 1.66 | 4.04 |
| | | | | 2350 | 38.49 | 39.38 | -2.27 | 1.78 | 1.71 | 4.12 |
| | | | | 2400 | 38.30 | 39.30 | -2.54 | 1.83 | 1.75 | 4.64 |
| D | 7/16/2018 | 2600 | Head | 2600 | 37.59 | 39.01 | -3.64 | 2.05 | 1.96 | 4.43 |
| | | | | 2495 | 37.98 | 39.14 | -2.97 | 1.92 | 1.85 | 4.08 |
| | | | | 2690 | 37.26 | 38.90 | -4.21 | 2.14 | 2.06 | 4.06 |
| D | 7/20/2018 | 2300 | Head | 2300 | 38.99 | 39.47 | -1.22 | 1.73 | 1.66 | 3.80 |
| | | | | 2350 | 38.77 | 39.38 | -1.56 | 1.78 | 1.71 | 4.41 |
| | | | | 2400 | 38.61 | 39.30 | -1.75 | 1.84 | 1.75 | 4.76 |
| D | 7/20/2018 | 2300 | Body | 2300 | 51.20 | 52.90 | -3.22 | 1.86 | 1.80 | 2.91 |
| | | | | 2350 | 51.03 | 52.84 | -3.42 | 1.92 | 1.85 | 3.47 |
| | | | | 2400 | 50.94 | 52.77 | -3.47 | 1.97 | 1.90 | 3.74 |
| D | 7/20/2018 | 2600 | Body | 2600 | 50.28 | 52.51 | -4.25 | 2.20 | 2.16 | 1.77 |
| | | | | 2495 | 50.65 | 52.64 | -3.79 | 2.08 | 2.01 | 3.42 |
| | | | | 2690 | 50.08 | 52.40 | -4.42 | 2.31 | 2.29 | 1.08 |
| D | 7/20/2018 | 2600 | Head | 2600 | 37.88 | 39.01 | -2.90 | 2.05 | 1.96 | 4.58 |
| | | | | 2495 | 38.27 | 39.14 | -2.23 | 1.94 | 1.85 | 4.89 |
| | | | | 2690 | 37.60 | 38.90 | -3.34 | 2.15 | 2.06 | 4.40 |
| D | 7/24/2018 | 2600 | Body | 2600 | 52.56 | 52.51 | 0.09 | 2.14 | 2.16 | -0.78 |
| | | | | 2495 | 52.83 | 52.64 | 0.35 | 2.02 | 2.01 | 0.29 |
| | | | | 2690 | 52.35 | 52.40 | -0.09 | 2.25 | 2.29 | -1.46 |
| D | 7/25/2018 | 2300 | Body | 2300 | 50.57 | 52.90 | -4.41 | 1.86 | 1.80 | 3.13 |
| | | | | 2350 | 50.41 | 52.84 | -4.60 | 1.86 | 1.85 | 0.50 |
| | | | | 2400 | 50.25 | 52.77 | -4.78 | 1.97 | 1.90 | 3.79 |
| D | 7/25/2018 | 2300 | Head | 2300 | 38.06 | 39.47 | -3.58 | 1.71 | 1.66 | 2.60 |
| | | | | 2350 | 37.83 | 39.38 | -3.95 | 1.76 | 1.71 | 3.06 |
| | | | | 2400 | 37.67 | 39.30 | -4.14 | 1.81 | 1.75 | 3.39 |
| D | 7/30/2018 | 2450 | Head | 2450 | 39.38 | 39.20 | 0.46 | 1.84 | 1.80 | 2.11 |
| | | | | 2400 | 39.57 | 39.30 | 0.70 | 1.78 | 1.75 | 1.73 |
| | | | | 2480 | 39.31 | 39.16 | 0.38 | 1.87 | 1.83 | 2.05 |
| D | 8/1/2018 | 2450 | Body | 2450 | 50.27 | 52.70 | -4.61 | 2.02 | 1.95 | 3.38 |
| | | | | 2400 | 50.42 | 52.77 | -4.46 | 1.95 | 1.90 | 2.90 |
| | | | | 2480 | 50.17 | 52.66 | -4.73 | 2.05 | 1.99 | 3.10 |
| D | 8/2/2018 | 5250 | Head | 5250 | 34.32 | 35.93 | -4.49 | 4.55 | 4.70 | -3.26 |
| | | | | 5150 | 34.58 | 36.05 | -4.07 | 4.47 | 4.60 | -2.76 |
| | | | | 5350 | 34.18 | 35.82 | -4.58 | 4.67 | 4.80 | -2.86 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| E | 7/12/2018 | 5750 | Body | 5750 | 47.03 | 48.27 | -2.58 | 6.14 | 5.94 | 3.47 |
| | | | | 5700 | 47.07 | 48.34 | -2.63 | 6.14 | 5.88 | 4.41 |
| | | | | 5850 | 46.79 | 48.20 | -2.93 | 6.28 | 6.00 | 4.73 |
| E | 7/12/2018 | 5750 | Head | 5750 | 36.61 | 35.36 | 3.53 | 5.07 | 5.21 | -2.85 |
| | | | | 5700 | 36.53 | 35.42 | 3.13 | 5.04 | 5.16 | -2.43 |
| | | | | 5850 | 36.42 | 35.30 | 3.17 | 5.17 | 5.27 | -1.99 |
| E | 7/16/2018 | 5750 | Head | 5750 | 36.14 | 35.36 | 2.20 | 5.18 | 5.21 | -0.70 |
| | | | | 5700 | 36.17 | 35.42 | 2.12 | 5.12 | 5.16 | -0.82 |
| | | | | 5850 | 35.99 | 35.30 | 1.95 | 5.27 | 5.27 | -0.09 |
| E | 7/16/2018 | 5750 | Body | 5750 | 49.25 | 48.27 | 2.02 | 6.14 | 5.94 | 3.46 |
| | | | | 5700 | 49.35 | 48.34 | 2.08 | 6.01 | 5.88 | 2.32 |
| | | | | 5850 | 49.17 | 48.20 | 2.01 | 6.28 | 6.00 | 4.63 |
| E | 7/20/2018 | 5750 | Head | 5750 | 34.07 | 35.36 | -3.66 | 4.99 | 5.21 | -4.35 |
| | | | | 5700 | 34.23 | 35.42 | -3.36 | 4.98 | 5.16 | -3.54 |
| | | | | 5850 | 33.96 | 35.30 | -3.80 | 5.09 | 5.27 | -3.51 |
| E | 7/20/2018 | 5750 | Body | 5750 | 47.64 | 48.27 | -1.31 | 6.01 | 5.94 | 1.23 |
| | | | | 5700 | 47.94 | 48.34 | -0.83 | 5.99 | 5.88 | 1.96 |
| | | | | 5850 | 47.62 | 48.20 | -1.20 | 6.14 | 6.00 | 2.40 |
| E | 7/24/2018 | 5750 | Head | 5750 | 34.80 | 35.36 | -1.59 | 5.20 | 5.21 | -0.21 |
| | | | | 5700 | 34.88 | 35.42 | -1.52 | 5.16 | 5.16 | -0.07 |
| | | | | 5850 | 34.73 | 35.30 | -1.61 | 5.35 | 5.27 | 1.44 |
| E | 7/24/2018 | 5750 | Body | 5750 | 48.36 | 48.27 | 0.18 | 5.99 | 5.94 | 0.84 |
| | | | | 5700 | 48.55 | 48.34 | 0.43 | 5.91 | 5.88 | 0.55 |
| | | | | 5850 | 48.29 | 48.20 | 0.19 | 6.16 | 6.00 | 2.60 |
| E | 7/27/2018 | 5200 | Head | 5200 | 34.78 | 35.99 | -3.36 | 4.51 | 4.65 | -3.12 |
| | | | | 5150 | 34.81 | 36.05 | -3.43 | 4.47 | 4.60 | -2.80 |
| | | | | 5350 | 34.52 | 35.82 | -3.63 | 4.64 | 4.80 | -3.44 |
| E | 7/28/2018 | 5250 | Body | 5250 | 48.90 | 48.95 | -0.11 | 5.56 | 5.35 | 3.94 |
| | | | | 5150 | 49.07 | 49.09 | -0.04 | 5.44 | 5.24 | 3.79 |
| | | | | 5350 | 48.87 | 48.82 | 0.11 | 5.67 | 5.47 | 3.57 |
| E | 7/29/2018 | 5750 | Head | 5750 | 36.80 | 35.36 | 4.06 | 5.21 | 5.21 | -0.01 |
| | | | | 5700 | 36.82 | 35.42 | 3.95 | 5.16 | 5.16 | 0.03 |
| | | | | 5850 | 36.62 | 35.30 | 3.74 | 5.31 | 5.27 | 0.70 |
| E | 7/29/2018 | 5750 | Body | 5750 | 47.45 | 48.27 | -1.71 | 5.93 | 5.94 | -0.08 |
| | | | | 5700 | 47.51 | 48.34 | -1.72 | 5.88 | 5.88 | 0.04 |
| | | | | 5850 | 47.43 | 48.20 | -1.60 | 6.07 | 6.00 | 1.22 |
| E | 8/1/2018 | 5600 | Head | 5600 | 37.17 | 35.53 | 4.60 | 5.20 | 5.06 | 2.80 |
| | | | | 5500 | 37.39 | 35.65 | 4.89 | 5.08 | 4.96 | 2.54 |
| | | | | 5850 | 36.92 | 35.30 | 4.59 | 5.47 | 5.27 | 3.80 |
| E | 8/2/2018 | 5750 | Head | 5750 | 35.94 | 35.36 | 1.63 | 5.18 | 5.21 | -0.67 |
| | | | | 5700 | 36.17 | 35.42 | 2.12 | 5.08 | 5.16 | -1.54 |
| | | | | 5850 | 35.92 | 35.30 | 1.76 | 5.24 | 5.27 | -0.53 |
| E | 8/2/2018 | 5750 | Body | 5750 | 48.41 | 48.27 | 0.28 | 6.11 | 5.94 | 2.95 |
| | | | | 5700 | 48.38 | 48.34 | 0.08 | 6.01 | 5.88 | 2.17 |
| | | | | 5850 | 48.35 | 48.20 | 0.31 | 6.27 | 6.00 | 4.48 |
| E | 8/14/2018 | 5750 | Body | 5750 | 48.11 | 48.27 | -0.34 | 5.90 | 5.94 | -0.67 |
| | | | | 5700 | 48.37 | 48.34 | 0.06 | 5.84 | 5.88 | -0.64 |
| | | | | 5850 | 48.04 | 48.20 | -0.33 | 6.02 | 6.00 | 0.33 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| F | 7/8/2018 | 2450 | Body | 2450 | 54.44 | 52.70 | 3.30 | 1.91 | 1.95 | -2.10 |
| | | | | 2400 | 54.58 | 52.77 | 3.43 | 1.84 | 1.90 | -2.90 |
| | | | | 2480 | 54.32 | 52.66 | 3.15 | 1.94 | 1.99 | -2.47 |
| F | 7/12/2018 | 5250 | Body | 5250 | 49.31 | 48.95 | 0.73 | 5.39 | 5.35 | 0.71 |
| | | | | 5150 | 49.44 | 49.09 | 0.72 | 5.32 | 5.24 | 1.63 |
| | | | | 5350 | 49.12 | 48.82 | 0.62 | 5.52 | 5.47 | 0.98 |
| F | 7/12/2018 | 5250 | Head | 5250 | 36.28 | 35.93 | 0.97 | 4.73 | 4.70 | 0.59 |
| | | | | 5150 | 36.41 | 36.05 | 1.01 | 4.65 | 4.60 | 1.18 |
| | | | | 5350 | 36.15 | 35.82 | 0.92 | 4.80 | 4.80 | -0.07 |
| F | 7/16/2018 | 5250 | Head | 5250 | 36.14 | 35.93 | 0.58 | 4.59 | 4.70 | -2.45 |
| | | | | 5150 | 36.38 | 36.05 | 0.92 | 4.48 | 4.60 | -2.58 |
| | | | | 5350 | 36.12 | 35.82 | 0.84 | 4.70 | 4.80 | -2.15 |
| F | 7/16/2018 | 5250 | Body | 5250 | 46.78 | 48.95 | -4.44 | 5.26 | 5.35 | -1.83 |
| | | | | 5150 | 46.99 | 49.09 | -4.27 | 5.13 | 5.24 | -1.96 |
| | | | | 5350 | 46.62 | 48.82 | -4.50 | 5.38 | 5.47 | -1.64 |
| F | 7/20/2018 | 5250 | Body | 5250 | 48.38 | 48.95 | -1.17 | 5.18 | 5.35 | -3.18 |
| | | | | 5150 | 48.49 | 49.09 | -1.22 | 5.09 | 5.24 | -2.87 |
| | | | | 5350 | 48.31 | 48.82 | -1.04 | 5.28 | 5.47 | -3.43 |
| F | 7/20/2018 | 5250 | Head | 5250 | 37.31 | 35.93 | 3.83 | 4.61 | 4.70 | -2.02 |
| | | | | 5150 | 37.37 | 36.05 | 3.67 | 4.53 | 4.60 | -1.52 |
| | | | | 5350 | 37.26 | 35.82 | 4.02 | 4.70 | 4.80 | -2.11 |
| F | 7/24/2018 | 5250 | Body | 5250 | 49.26 | 48.95 | 0.63 | 5.23 | 5.35 | -2.30 |
| | | | | 5150 | 49.57 | 49.09 | 0.98 | 5.09 | 5.24 | -2.78 |
| | | | | 5350 | 49.10 | 48.82 | 0.58 | 5.36 | 5.47 | -1.93 |
| F | 7/24/2018 | 5250 | Head | 5250 | 37.06 | 35.93 | 3.14 | 4.60 | 4.70 | -2.17 |
| | | | | 5150 | 37.30 | 36.05 | 3.48 | 4.50 | 4.60 | -2.15 |
| | | | | 5350 | 36.99 | 35.82 | 3.27 | 4.70 | 4.80 | -2.28 |
| F | 7/26/2018 | 5250 | Body | 5250 | 49.78 | 48.95 | 1.69 | 5.26 | 5.35 | -1.81 |
| | | | | 5150 | 50.00 | 49.09 | 1.86 | 5.13 | 5.24 | -2.13 |
| | | | | 5350 | 49.67 | 48.82 | 1.75 | 5.37 | 5.47 | -1.78 |
| F | 7/27/2018 | 5250 | Head | 5250 | 37.74 | 35.93 | 4.86 | 4.48 | 4.70 | -3.74 |
| | | | | 5150 | 37.37 | 36.05 | 3.67 | 4.37 | 4.60 | -4.93 |
| | | | | 5350 | 37.59 | 35.82 | 4.94 | 4.59 | 4.80 | -4.42 |
| F | 7/30/2018 | 2450 | Body | 2450 | 50.48 | 52.70 | -4.21 | 2.03 | 1.95 | 4.21 |
| | | | | 2400 | 50.71 | 52.77 | -3.91 | 1.96 | 1.90 | 3.37 |
| | | | | 2480 | 50.38 | 52.66 | -4.33 | 2.08 | 1.99 | 4.51 |
| F | 8/3/2018 | 5250 | Head | 5250 | 37.14 | 35.93 | 3.36 | 4.69 | 4.70 | -0.19 |
| | | | | 5150 | 37.22 | 36.05 | 3.25 | 4.63 | 4.60 | 0.57 |
| | | | | 5350 | 37.09 | 35.82 | 3.55 | 4.83 | 4.80 | 0.51 |
| F | 8/14/2018 | 5600 | Body | 5600 | 47.78 | 48.48 | -1.44 | 5.86 | 5.76 | 1.75 |
| | | | | 5500 | 48.01 | 48.61 | -1.24 | 5.77 | 5.64 | 2.15 |
| | | | | 5725 | 47.81 | 48.31 | -1.03 | 6.05 | 5.91 | 2.48 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| G | 7/8/2018 | 2450 | Head | 2450 | 38.34 | 39.20 | -2.19 | 1.86 | 1.80 | 3.56 |
| | | | | 2400 | 38.40 | 39.30 | -2.28 | 1.83 | 1.75 | 4.19 |
| | | | | 2480 | 38.22 | 39.16 | -2.41 | 1.88 | 1.83 | 2.32 |
| G | 7/9/2018 | 2450 | Body | 2450 | 51.86 | 52.70 | -1.59 | 2.02 | 1.95 | 3.33 |
| | | | | 2400 | 51.93 | 52.77 | -1.60 | 1.99 | 1.90 | 4.58 |
| | | | | 2480 | 51.77 | 52.66 | -1.69 | 2.04 | 1.99 | 2.55 |
| G | 7/12/2018 | 2450 | Head | 2450 | 38.05 | 39.20 | -2.93 | 1.80 | 1.80 | -0.22 |
| | | | | 2400 | 38.17 | 39.30 | -2.87 | 1.76 | 1.75 | 0.25 |
| | | | | 2480 | 38.00 | 39.16 | -2.97 | 1.81 | 1.83 | -1.12 |
| G | 7/12/2018 | 2450 | Body | 2450 | 51.68 | 52.70 | -1.94 | 2.03 | 1.95 | 4.00 |
| | | | | 2400 | 51.71 | 52.77 | -2.01 | 1.98 | 1.90 | 4.48 |
| | | | | 2480 | 51.64 | 52.66 | -1.94 | 2.06 | 1.99 | 3.41 |
| G | 7/16/2018 | 2450 | Body | 2450 | 53.11 | 52.70 | 0.78 | 2.00 | 1.95 | 2.46 |
| | | | | 2400 | 53.21 | 52.77 | 0.83 | 1.96 | 1.90 | 3.32 |
| | | | | 2480 | 53.16 | 52.66 | 0.95 | 2.03 | 1.99 | 1.85 |
| G | 7/17/2018 | 2450 | Head | 2450 | 37.52 | 39.20 | -4.29 | 1.83 | 1.80 | 1.39 |
| | | | | 2400 | 37.69 | 39.30 | -4.09 | 1.79 | 1.75 | 2.36 |
| | | | | 2480 | 37.59 | 39.16 | -4.01 | 1.85 | 1.83 | 0.79 |
| G | 7/20/2018 | 2450 | Body | 2450 | 51.33 | 52.70 | -2.60 | 2.01 | 1.95 | 3.23 |
| | | | | 2400 | 51.39 | 52.77 | -2.62 | 1.97 | 1.90 | 3.90 |
| | | | | 2480 | 51.30 | 52.66 | -2.59 | 2.03 | 1.99 | 2.00 |
| G | 7/20/2018 | 2450 | Head | 2450 | 39.01 | 39.20 | -0.48 | 1.81 | 1.80 | 0.61 |
| | | | | 2400 | 39.09 | 39.30 | -0.53 | 1.77 | 1.75 | 1.28 |
| | | | | 2480 | 38.98 | 39.16 | -0.47 | 1.82 | 1.83 | -0.46 |
| G | 7/27/2018 | 2450 | Head | 2450 | 38.79 | 39.20 | -1.05 | 1.85 | 1.80 | 2.67 |
| | | | | 2400 | 38.86 | 39.30 | -1.11 | 1.80 | 1.75 | 2.93 |
| | | | | 2480 | 38.78 | 39.16 | -0.98 | 1.87 | 1.83 | 2.21 |
| G | 7/27/2018 | 2450 | Body | 2450 | 51.89 | 52.70 | -1.54 | 2.02 | 1.95 | 3.49 |
| | | | | 2400 | 51.95 | 52.77 | -1.56 | 1.96 | 1.90 | 3.37 |
| | | | | 2480 | 51.89 | 52.66 | -1.47 | 2.05 | 1.99 | 2.70 |
| G | 8/2/2018 | 2450 | Head | 2450 | 37.44 | 39.20 | -4.49 | 1.81 | 1.80 | 0.78 |
| | | | | 2400 | 37.47 | 39.30 | -4.65 | 1.77 | 1.75 | 0.88 |
| | | | | 2480 | 37.38 | 39.16 | -4.55 | 1.84 | 1.83 | 0.41 |
| G | 8/2/2018 | 5600 | Head | 5600 | 35.13 | 35.53 | -1.14 | 4.83 | 5.06 | -4.55 |
| | | | | 5500 | 35.52 | 35.65 | -0.36 | 4.72 | 4.96 | -4.80 |
| | | | | 5725 | 35.02 | 35.39 | -1.05 | 5.01 | 5.19 | -3.47 |
| G | 8/14/2018 | 5250 | Body | 5250 | 48.26 | 48.95 | -1.41 | 5.16 | 5.35 | -3.59 |
| | | | | 5150 | 48.35 | 49.09 | -1.50 | 5.03 | 5.24 | -3.90 |
| | | | | 5350 | 47.93 | 48.82 | -1.82 | 5.26 | 5.47 | -3.90 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| H | 7/9/2018 | 5600 | Body | 5600 | 49.39 | 48.48 | 1.88 | 5.58 | 5.76 | -3.21 |
| | | | | 5500 | 49.47 | 48.61 | 1.76 | 5.47 | 5.64 | -3.16 |
| | | | | 5725 | 49.23 | 48.31 | 1.91 | 5.79 | 5.91 | -1.91 |
| H | 7/11/2018 | 5600 | Head | 5600 | 35.17 | 35.53 | -1.02 | 4.93 | 5.06 | -2.49 |
| | | | | 5500 | 35.28 | 35.65 | -1.03 | 4.82 | 4.96 | -2.72 |
| | | | | 5725 | 34.94 | 35.39 | -1.28 | 5.06 | 5.19 | -2.47 |
| H | 7/13/2018 | 5600 | Body | 5600 | 48.47 | 48.48 | -0.02 | 5.71 | 5.76 | -0.97 |
| | | | | 5500 | 48.70 | 48.61 | 0.18 | 5.52 | 5.64 | -2.13 |
| | | | | 5725 | 48.26 | 48.31 | -0.10 | 5.84 | 5.91 | -1.21 |
| H | 7/17/2018 | 5600 | Body | 5600 | 47.02 | 48.48 | -3.01 | 5.66 | 5.76 | -1.72 |
| | | | | 5500 | 47.27 | 48.61 | -2.76 | 5.50 | 5.64 | -2.59 |
| | | | | 5725 | 46.95 | 48.31 | -2.81 | 5.86 | 5.91 | -0.86 |
| H | 7/21/2018 | 5600 | Body | 5600 | 47.57 | 48.48 | -1.87 | 5.61 | 5.76 | -2.64 |
| | | | | 5500 | 47.94 | 48.61 | -1.38 | 5.50 | 5.64 | -2.61 |
| | | | | 5725 | 47.50 | 48.31 | -1.67 | 5.77 | 5.91 | -2.30 |
| H | 7/21/2018 | 5600 | Head | 5600 | 36.87 | 35.53 | 3.76 | 5.13 | 5.06 | 1.34 |
| | | | | 5500 | 37.16 | 35.65 | 4.24 | 4.97 | 4.96 | 0.22 |
| | | | | 5725 | 36.63 | 35.39 | 3.50 | 5.28 | 5.19 | 1.79 |
| H | 7/24/2018 | 5250 | Head | 5250 | 37.09 | 35.93 | 3.22 | 4.52 | 4.70 | -3.79 |
| | | | | 5150 | 37.29 | 36.05 | 3.45 | 4.45 | 4.60 | -3.21 |
| | | | | 5350 | 37.00 | 35.82 | 3.30 | 4.64 | 4.80 | -3.34 |
| H | 7/24/2018 | 5250 | Body | 5250 | 48.92 | 48.95 | -0.07 | 5.27 | 5.35 | -1.49 |
| | | | | 5150 | 49.15 | 49.09 | 0.13 | 5.12 | 5.24 | -2.20 |
| | | | | 5350 | 48.80 | 48.82 | -0.03 | 5.38 | 5.47 | -1.62 |
| H | 7/25/2018 | 5600 | Head | 5600 | 34.31 | 35.53 | -3.44 | 4.89 | 5.06 | -3.29 |
| | | | | 5500 | 34.51 | 35.65 | -3.19 | 4.83 | 4.96 | -2.58 |
| | | | | 5725 | 34.27 | 35.39 | -3.17 | 5.05 | 5.19 | -2.76 |
| H | 7/26/2018 | 5600 | Body | 5600 | 49.42 | 48.48 | 1.94 | 5.72 | 5.76 | -0.80 |
| | | | | 5500 | 49.53 | 48.61 | 1.89 | 5.52 | 5.64 | -2.24 |
| | | | | 5725 | 49.31 | 48.31 | 2.07 | 5.89 | 5.91 | -0.28 |
| H | 7/28/2018 | 5250 | Body | 5250 | 49.39 | 48.95 | 0.90 | 5.38 | 5.35 | 0.41 |
| | | | | 5150 | 49.70 | 49.09 | 1.25 | 5.24 | 5.24 | 0.05 |
| | | | | 5350 | 49.30 | 48.82 | 0.99 | 5.51 | 5.47 | 0.79 |
| H | 7/28/2018 | 5250 | Head | 5250 | 35.21 | 35.93 | -2.01 | 4.61 | 4.70 | -2.04 |
| | | | | 5150 | 35.46 | 36.05 | -1.63 | 4.51 | 4.60 | -1.91 |
| | | | | 5350 | 35.16 | 35.82 | -1.84 | 4.69 | 4.80 | -2.34 |
| H | 7/29/2018 | 5600 | Head | 5600 | 37.12 | 35.53 | 4.46 | 5.02 | 5.06 | -0.89 |
| | | | | 5500 | 37.22 | 35.65 | 4.41 | 4.90 | 4.96 | -1.11 |
| | | | | 5725 | 36.91 | 35.39 | 4.29 | 5.20 | 5.19 | 0.19 |
| H | 7/29/2018 | 5600 | Body | 5600 | 48.30 | 48.48 | -0.37 | 5.51 | 5.76 | -4.34 |
| | | | | 5500 | 48.46 | 48.61 | -0.32 | 5.38 | 5.64 | -4.65 |
| | | | | 5725 | 48.12 | 48.31 | -0.39 | 5.72 | 5.91 | -3.14 |
| H | 8/1/2018 | 5250 | Head | 5250 | 35.09 | 35.93 | -2.35 | 4.57 | 4.70 | -2.79 |
| | | | | 5150 | 35.09 | 36.05 | -2.66 | 4.48 | 4.60 | -2.67 |
| | | | | 5350 | 34.89 | 35.82 | -2.59 | 4.67 | 4.80 | -2.84 |
| H | 8/1/2018 | 5250 | Body | 5250 | 47.49 | 48.95 | -2.99 | 5.15 | 5.35 | -3.75 |
| | | | | 5150 | 47.57 | 49.09 | -3.09 | 5.00 | 5.24 | -4.61 |
| | | | | 5350 | 47.43 | 48.82 | -2.84 | 5.29 | 5.47 | -3.37 |
| H | 8/2/2018 | 5600 | Body | 5600 | 48.89 | 48.48 | 0.85 | 5.69 | 5.76 | -1.23 |
| | | | | 5500 | 49.34 | 48.61 | 1.50 | 5.52 | 5.64 | -2.15 |
| | | | | 5725 | 48.88 | 48.31 | 1.18 | 5.95 | 5.91 | 0.72 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| 1 | 7/14/2018 | 835 | Body | 835 | 53.51 | 55.20 | -3.06 | 0.97 | 0.97 | 0.44 |
| | | | | 805 | 53.78 | 55.33 | -2.81 | 0.94 | 0.97 | -2.70 |
| | | | | 905 | 52.77 | 55.00 | -4.05 | 1.03 | 1.05 | -2.04 |
| 1 | 7/18/2018 | 835 | Body | 835 | 53.88 | 55.20 | -2.39 | 0.97 | 0.97 | 0.21 |
| | | | | 805 | 54.11 | 55.33 | -2.21 | 0.94 | 0.97 | -2.70 |
| | | | | 905 | 53.06 | 55.00 | -3.53 | 1.05 | 1.05 | -0.33 |
| 1 | 7/18/2018 | 750 | Head | 750 | 40.67 | 41.96 | -3.08 | 0.91 | 0.89 | 2.39 |
| | | | | 660 | 41.06 | 42.42 | -3.21 | 0.88 | 0.89 | -0.32 |
| | | | | 790 | 40.60 | 41.76 | -2.77 | 0.93 | 0.90 | 3.67 |
| 1 | 7/24/2018 | 750 | Body | 750 | 56.23 | 55.55 | 1.23 | 0.97 | 0.96 | 0.51 |
| | | | | 695 | 56.80 | 55.76 | 1.87 | 0.91 | 0.96 | -4.79 |
| | | | | 790 | 55.87 | 55.39 | 0.86 | 1.01 | 0.97 | 4.02 |
| 1 | 7/24/2018 | 835 | Body | 835 | 54.31 | 55.20 | -1.61 | 0.97 | 0.97 | 0.42 |
| | | | | 805 | 54.51 | 55.33 | -1.49 | 0.94 | 0.97 | -2.83 |
| | | | | 905 | 53.65 | 55.00 | -2.45 | 1.05 | 1.05 | -0.05 |
| 1 | 7/24/2018 | 835 | Head | 835 | 41.41 | 41.50 | -0.22 | 0.92 | 0.90 | 2.71 |
| | | | | 805 | 41.38 | 41.68 | -0.72 | 0.91 | 0.90 | 1.24 |
| | | | | 905 | 41.26 | 41.50 | -0.58 | 0.95 | 0.97 | -2.32 |
| 1 | 7/25/2018 | 2600 | Head | 2600 | 38.65 | 39.01 | -0.92 | 1.90 | 1.96 | -3.17 |
| | | | | 2495 | 38.79 | 39.14 | -0.90 | 1.82 | 1.85 | -1.55 |
| | | | | 2690 | 38.49 | 38.90 | -1.05 | 1.98 | 2.06 | -3.91 |
| 1 | 7/26/2018 | 2600 | Body | 2600 | 50.25 | 52.51 | -4.31 | 2.24 | 2.16 | 3.62 |
| | | | | 2495 | 50.59 | 52.64 | -3.90 | 2.11 | 2.01 | 4.71 |
| | | | | 2690 | 50.00 | 52.40 | -4.58 | 2.34 | 2.29 | 2.48 |
| 3 | 7/14/2018 | 750 | Head | 750 | 39.94 | 41.96 | -4.82 | 0.94 | 0.89 | 5.38 |
| | | | | 660 | 40.34 | 42.42 | -4.91 | 0.91 | 0.89 | 2.83 |
| | | | | 790 | 39.94 | 41.76 | -4.35 | 0.95 | 0.90 | 6.13 |
| 3 | 7/14/2018 | 750 | Body | 750 | 54.01 | 55.55 | -2.77 | 0.96 | 0.96 | -0.11 |
| | | | | 695 | 54.63 | 55.76 | -2.02 | 0.91 | 0.96 | -4.80 |
| | | | | 790 | 53.55 | 55.39 | -3.33 | 1.00 | 0.97 | 3.61 |
| 3 | 7/15/2018 | 750 | Body | 750 | 56.06 | 55.55 | 0.93 | 0.98 | 0.96 | 2.26 |
| | | | | 660 | 57.07 | 55.89 | 2.11 | 0.89 | 0.96 | -6.42 |
| | | | | 790 | 55.49 | 55.39 | 0.18 | 1.02 | 0.97 | 5.47 |
| 3 | 7/16/2018 | 750 | Head | 750 | 41.40 | 41.96 | -1.34 | 0.90 | 0.89 | 0.76 |
| | | | | 660 | 41.66 | 42.42 | -1.80 | 0.87 | 0.89 | -1.95 |
| | | | | 790 | 41.45 | 41.76 | -0.73 | 0.91 | 0.90 | 1.85 |
| 3 | 7/18/2018 | 750 | Body | 750 | 54.97 | 55.55 | -1.04 | 0.96 | 0.96 | 0.00 |
| | | | | 695 | 55.74 | 55.76 | -0.03 | 0.91 | 0.96 | -4.81 |
| | | | | 790 | 54.68 | 55.39 | -1.29 | 1.00 | 0.97 | 3.92 |
| 3 | 7/18/2018 | 750 | Head | 750 | 41.84 | 41.96 | -0.29 | 0.90 | 0.89 | 0.42 |
| | | | | 695 | 42.17 | 42.24 | -0.17 | 0.88 | 0.89 | -1.11 |
| | | | | 790 | 41.76 | 41.76 | 0.01 | 0.91 | 0.90 | 1.63 |
| 3 | 7/22/2018 | 1900 | Body | 1900 | 52.24 | 53.30 | -1.99 | 1.57 | 1.52 | 3.09 |
| | | | | 1850 | 52.34 | 53.30 | -1.80 | 1.51 | 1.52 | -0.53 |
| | | | | 1920 | 52.16 | 53.30 | -2.14 | 1.59 | 1.52 | 4.34 |

| SAR Lab | Date | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity (εr) | | | Conductivity (σ) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | Target | Delta (%) | Measured | Target | Delta (%) |
| 4 | 7/14/2018 | 835 | Head | 835 | 40.71 | 41.50 | -1.90 | 0.94 | 0.90 | 4.82 |
| | | | | 805 | 40.77 | 41.68 | -2.18 | 0.93 | 0.90 | 4.09 |
| | | | | 905 | 40.59 | 41.50 | -2.19 | 0.97 | 0.97 | -0.51 |
| 4 | 7/18/2018 | 835 | Head | 835 | 41.16 | 41.50 | -0.82 | 0.94 | 0.90 | 4.44 |
| | | | | 805 | 41.12 | 41.68 | -1.34 | 0.93 | 0.90 | 3.45 |
| | | | | 905 | 40.78 | 41.50 | -1.73 | 0.96 | 0.97 | -1.42 |

## 8.2. System Check

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

**System Performance Check Measurement Conditions:**

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

**System Check Results**

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within ±10% of the manufacturer calibrated dipole SAR target. Refer to Appendix B for the SAR System Check Plots.

| SAR Lab | Date | Tissue Type | Dipole Type _Serial # | Dipole Cal. Due Data | Measured Results for 1g SAR | | | | Measured Results for 10g SAR | | | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Zoom Scan to 100 mW | Normalize to 1 W | Target (Ref. Value) | Delta ±10 % | Zoom Scan to 100 mW | Normalize to 1 W | Target (Ref. Value) | Delta ±10 % | |
| A | 7/11/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.800 | 58.00 | 55.73 | 4.07 | 2.530 | 25.30 | 25.08 | 0.88 | |
| A | 7/13/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.250 | 52.50 | 56.13 | -6.47 | 2.300 | 23.00 | 25.00 | -8.00 | 1,2 |
| A | 7/17/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.560 | 55.60 | 56.13 | -0.94 | 2.420 | 24.20 | 25.00 | -3.20 | |
| A | 7/18/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.620 | 56.20 | 55.73 | 0.84 | 2.450 | 24.50 | 25.08 | -2.31 | |
| A | 7/21/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.650 | 56.50 | 56.13 | 0.66 | 2.450 | 24.50 | 25.00 | -2.00 | |
| A | 7/21/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.590 | 55.90 | 55.73 | 0.31 | 2.430 | 24.30 | 25.08 | -3.11 | |
| A | 7/25/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.520 | 55.20 | 56.13 | -1.66 | 2.410 | 24.10 | 25.00 | -3.60 | |
| A | 7/29/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.910 | 59.10 | 55.73 | 6.05 | 2.550 | 25.50 | 25.08 | 1.67 | |
| B | 7/13/2018 | Body | D1750V2 SN:1053 | 8/24/2018 | 3.440 | 34.40 | 32.44 | 6.04 | 1.820 | 18.20 | 17.31 | 5.14 | |
| B | 7/13/2018 | Head | D1750V2 SN:1053 | 8/24/2018 | 3.690 | 36.90 | 39.45 | -6.46 | 1.960 | 19.60 | 20.58 | -4.76 | |
| B | 7/17/2018 | Body | D1750V2 SN:1053 | 8/24/2018 | 3.220 | 32.20 | 32.44 | -0.74 | 1.690 | 16.90 | 17.31 | -2.37 | |
| B | 7/17/2018 | Head | D1750V2 SN:1053 | 8/24/2018 | 3.720 | 37.20 | 39.45 | -5.70 | 1.980 | 19.80 | 20.58 | -3.79 | |
| B | 7/20/2018 | Head | D1900V2 SN:5d140 | 4/11/2019 | 4.200 | 42.00 | 38.93 | 7.89 | 2.170 | 21.70 | 20.14 | 7.75 | 3,4 |
| B | 7/20/2018 | Body | D1900V2 SN:5d140 | 4/11/2019 | 4.190 | 41.90 | 41.00 | 2.20 | 2.140 | 21.40 | 21.05 | 1.66 | |
| B | 7/24/2018 | Body | D1750V2 SN:1053 | 8/24/2018 | 3.510 | 35.10 | 32.44 | 8.20 | 1.850 | 18.50 | 17.31 | 6.87 | 5,6 |
| B | 7/24/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.770 | 57.70 | 56.13 | 2.80 | 2.510 | 25.10 | 25.00 | 0.40 | |
| B | 7/28/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.960 | 59.60 | 55.73 | 6.94 | 2.670 | 26.70 | 25.08 | 6.46 | 7,8 |
| B | 7/29/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.580 | 55.80 | 56.13 | -0.59 | 2.430 | 24.30 | 25.00 | -2.80 | |
| B | 8/1/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.500 | 55.00 | 50.95 | 7.95 | 2.510 | 25.10 | 23.80 | 5.46 | 9,10 |
| C | 7/12/2018 | Head | D1900V2 SN:5d140 | 4/11/2019 | 3.990 | 39.90 | 38.93 | 2.49 | 2.070 | 20.70 | 20.14 | 2.78 | |
| C | 7/12/2018 | Body | D1900V2 SN:5d140 | 4/11/2019 | 4.060 | 40.60 | 41.00 | -0.98 | 2.120 | 21.20 | 21.05 | 0.71 | |
| C | 7/16/2018 | Head | D1900V2 SN:5d140 | 4/11/2019 | 4.270 | 42.70 | 38.93 | 9.68 | 2.210 | 22.10 | 20.14 | 9.73 | 11,12 |
| C | 7/17/2018 | Body | D1900V2 SN:5d140 | 4/11/2019 | 4.230 | 42.30 | 41.00 | 3.17 | 2.180 | 21.80 | 21.05 | 3.56 | |
| C | 7/21/2018 | Body | D1900V2 SN:5d140 | 4/11/2019 | 4.330 | 43.30 | 41.00 | 5.61 | 2.240 | 22.40 | 21.05 | 6.41 | |
| C | 7/21/2018 | Head | D1900V2 SN:5d140 | 4/11/2019 | 4.170 | 41.70 | 38.93 | 7.12 | 2.160 | 21.60 | 20.14 | 7.25 | |
| C | 7/24/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 6.100 | 61.00 | 55.73 | 9.46 | 2.720 | 27.20 | 25.08 | 8.45 | 13,14 |

| SAR Lab | Date | Tissue Type | Dipole Type _Serial # | Dipole Cal. Due Data | Measured Results for 1g SAR | | | | Measured Results for 10g SAR | | | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Zoom Scan to 100 mW | Normalize to 1 W | Target (Ref. Value) | Delta ±10 % | Zoom Scan to 100 mW | Normalize to 1 W | Target (Ref. Value) | Delta ±10 % | |
| D | 7/13/2018 | Body | D2300V2 SN:1058 | 8/31/2018 | 4.990 | 49.90 | 54.14 | -7.83 | 2.370 | 23.70 | 24.88 | -4.74 | |
| D | 7/16/2018 | Body | D2300V2 SN:1058 | 8/31/2018 | 4.900 | 49.00 | 54.14 | -9.49 | 2.340 | 23.40 | 24.88 | -5.95 | 15,16 |
| D | 7/16/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.350 | 53.50 | 56.13 | -4.69 | 2.340 | 23.40 | 25.00 | -6.40 | |
| D | 7/16/2018 | Head | D2300V2 SN:1058 | 8/31/2018 | 5.270 | 52.70 | 53.74 | -1.94 | 2.400 | 24.00 | 25.31 | -5.18 | |
| D | 7/16/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.690 | 56.90 | 55.73 | 2.10 | 2.480 | 24.80 | 25.08 | -1.12 | |
| D | 7/20/2018 | Head | D2300V2 SN:1058 | 8/31/2018 | 5.030 | 50.30 | 53.74 | -6.40 | 2.360 | 23.60 | 25.31 | -6.76 | |
| D | 7/20/2018 | Body | D2300V2 SN:1058 | 8/31/2018 | 5.000 | 50.00 | 54.14 | -7.65 | 2.380 | 23.80 | 24.88 | -4.34 | |
| D | 7/20/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.170 | 51.70 | 56.13 | -7.89 | 2.270 | 22.70 | 25.00 | -9.20 | 17,18 |
| D | 7/20/2018 | Head | D2600V2 SN:1006 | 10/5/2018 | 5.530 | 55.30 | 55.73 | -0.77 | 2.430 | 24.30 | 25.08 | -3.11 | |
| D | 7/24/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.750 | 57.50 | 56.13 | 2.44 | 2.520 | 25.20 | 25.00 | 0.80 | |
| D | 7/25/2018 | Body | D2300V2 SN:1058 | 8/31/2018 | 5.610 | 56.10 | 54.14 | 3.62 | 2.690 | 26.90 | 24.88 | 8.12 | |
| D | 7/25/2018 | Head | D2300V2 SN:1058 | 8/31/2018 | 5.000 | 50.00 | 53.74 | -6.96 | 2.360 | 23.60 | 25.31 | -6.76 | |
| D | 7/30/2018 | Head | D2450V2 SN:748 | 2/14/2019 | 5.210 | 52.10 | 52.94 | -1.59 | 2.350 | 23.50 | 24.60 | -4.47 | |
| D | 8/2/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.270 | 52.70 | 50.95 | 3.43 | 2.410 | 24.10 | 23.80 | 1.26 | 19,20 |
| D | 8/2/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.690 | 76.90 | 80.60 | -4.59 | 2.190 | 21.90 | 23.20 | -5.60 | 21,22 |
| E | 7/12/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 8.060 | 80.60 | 73.90 | 9.07 | 2.230 | 22.30 | 20.60 | 8.25 | 23,24 |
| E | 7/12/2018 | Head | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.200 | 72.00 | 78.40 | -8.16 | 2.060 | 20.60 | 22.20 | -7.21 | |
| E | 7/16/2018 | Head | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.610 | 76.10 | 78.40 | -2.93 | 2.190 | 21.90 | 22.20 | -1.35 | |
| E | 7/16/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 6.830 | 68.30 | 73.90 | -7.58 | 1.910 | 19.10 | 20.60 | -7.28 | |
| E | 7/20/2018 | Head | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.520 | 75.20 | 78.40 | -4.08 | 2.160 | 21.60 | 22.20 | -2.70 | |
| E | 7/20/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.410 | 74.10 | 73.90 | 0.27 | 2.070 | 20.70 | 20.60 | 0.49 | |
| E | 7/24/2018 | Head | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.800 | 78.00 | 78.40 | -0.51 | 2.240 | 22.40 | 22.20 | 0.90 | |
| E | 7/24/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 8.020 | 80.20 | 73.90 | 8.53 | 2.240 | 22.40 | 20.60 | 8.74 | |
| E | 7/27/2018 | Head | D5GHzV2 SN:1138 (5.2 GHz) | 10/26/2018 | 7.440 | 74.40 | 77.70 | -4.25 | 2.160 | 21.60 | 22.20 | -2.70 | 25,26 |
| E | 7/28/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.670 | 76.70 | 73.60 | 4.21 | 2.160 | 21.60 | 20.50 | 5.37 | |
| E | 7/29/2018 | Head | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.430 | 74.30 | 78.40 | -5.23 | 2.080 | 20.80 | 22.20 | -6.31 | |
| E | 7/29/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.670 | 76.70 | 73.90 | 3.79 | 2.150 | 21.50 | 20.60 | 4.37 | |
| E | 8/1/2018 | Head | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 9.100 | 91.00 | 84.50 | 7.69 | 2.580 | 25.80 | 24.00 | 7.50 | |
| E | 8/2/2018 | Head | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.900 | 79.00 | 78.40 | 0.77 | 2.290 | 22.90 | 22.20 | 3.15 | |
| E | 8/2/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.210 | 72.10 | 73.90 | -2.44 | 2.040 | 20.40 | 20.60 | -0.97 | |
| E | 8/14/2018 | Body | D5GHzV2 SN:1003 (5.75 GHz) | 3/13/2019 | 7.750 | 77.50 | 73.90 | 4.87 | 2.170 | 21.70 | 20.60 | 5.34 | |
| F | 7/12/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.860 | 78.60 | 73.60 | 6.79 | 2.250 | 22.50 | 20.50 | 9.76 | |
| F | 7/12/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.600 | 76.00 | 80.60 | -5.71 | 2.160 | 21.60 | 23.20 | -6.90 | |
| F | 7/16/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.520 | 75.20 | 80.60 | -6.70 | 2.090 | 20.90 | 23.20 | -9.91 | |
| F | 7/16/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.810 | 78.10 | 73.60 | 6.11 | 2.220 | 22.20 | 20.50 | 8.29 | |
| F | 7/20/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.640 | 76.40 | 73.60 | 3.80 | 2.180 | 21.80 | 20.50 | 6.34 | |
| F | 7/20/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.700 | 77.00 | 80.60 | -4.47 | 2.180 | 21.80 | 23.20 | -6.03 | |
| F | 7/24/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.770 | 77.70 | 73.60 | 5.57 | 2.210 | 22.10 | 20.50 | 7.80 | |
| F | 7/24/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.810 | 78.10 | 80.60 | -3.10 | 2.210 | 22.10 | 23.20 | -4.74 | |
| F | 7/26/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.880 | 78.80 | 73.60 | 7.07 | 2.240 | 22.40 | 20.50 | 9.27 | |
| F | 7/27/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 8.080 | 80.80 | 80.60 | 0.25 | 2.320 | 23.20 | 23.20 | 0.00 | |
| F | 7/30/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.410 | 54.10 | 50.95 | 6.18 | 2.520 | 25.20 | 23.80 | 5.88 | 29,30 |
| F | 8/3/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.270 | 72.70 | 80.60 | -9.80 | 2.110 | 21.10 | 23.20 | -9.05 | 31,32 |
| F | 8/14/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 8.090 | 80.90 | 77.70 | 4.12 | 2.320 | 23.20 | 21.70 | 6.91 | |

| SAR Lab | Date | Tissue Type | Dipole Type _Serial # | Dipole Cal. Due Data | Measured Results for 1g SAR | | | | Measured Results for 10g SAR | | | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Zoom Scan to 100 mW | Normalize to 1 W | Target (Ref. Value) | Delta ±10 % | Zoom Scan to 100 mW | Normalize to 1 W | Target (Ref. Value) | Delta ±10 % | |
| G | 7/8/2018 | Head | D2450V2 SN:706 | 5/18/2019 | 5.480 | 54.80 | 52.60 | 4.18 | 2.540 | 25.40 | 24.60 | 3.25 | |
| G | 7/9/2018 | Body | D2450V2 SN:706 | 5/18/2019 | 5.370 | 53.70 | 50.60 | 6.13 | 2.450 | 24.50 | 23.70 | 3.38 | 33,34 |
| G | 7/12/2018 | Head | D2450V2 SN:706 | 5/18/2019 | 5.100 | 51.00 | 52.60 | -3.04 | 2.430 | 24.30 | 24.60 | -1.22 | |
| G | 7/12/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.550 | 55.50 | 50.95 | 8.93 | 2.580 | 25.80 | 23.80 | 8.40 | 35,36 |
| G | 7/16/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.360 | 53.60 | 50.95 | 5.20 | 2.460 | 24.60 | 23.80 | 3.36 | |
| G | 7/17/2018 | Head | D2450V2 SN:748 | 2/14/2019 | 5.200 | 52.00 | 52.94 | -1.78 | 2.400 | 24.00 | 24.60 | -2.44 | |
| G | 7/20/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.330 | 53.30 | 50.95 | 4.61 | 2.460 | 24.60 | 23.80 | 3.36 | |
| G | 7/20/2018 | Head | D2450V2 SN:748 | 2/14/2019 | 5.470 | 54.70 | 52.94 | 3.32 | 2.560 | 25.60 | 24.60 | 4.07 | |
| G | 7/27/2018 | Head | D2450V2 SN:748 | 2/14/2019 | 5.530 | 55.30 | 52.94 | 4.46 | 2.550 | 25.50 | 24.60 | 3.66 | |
| G | 7/27/2018 | Body | D2450V2 SN:748 | 2/14/2019 | 5.410 | 54.10 | 50.95 | 6.18 | 2.510 | 25.10 | 23.80 | 5.46 | |
| G | 8/2/2018 | Head | D2450V2 SN:748 | 2/14/2019 | 5.410 | 54.10 | 52.94 | 2.19 | 2.500 | 25.00 | 24.60 | 1.63 | |
| G | 8/2/2018 | Head | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 9.020 | 90.20 | 84.50 | 6.75 | 2.570 | 25.70 | 24.00 | 7.08 | 37,38 |
| G | 8/14/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.670 | 76.70 | 73.60 | 4.21 | 2.150 | 21.50 | 20.50 | 4.88 | |
| H | 7/9/2018 | Body | D5GHzV2 SN:1138 (5.6 GHz) | 10/26/2018 | 7.310 | 73.10 | 79.50 | -8.05 | 2.080 | 20.80 | 22.30 | -6.73 | 39,40 |
| H | 7/11/2018 | Head | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 8.420 | 84.20 | 84.50 | -0.36 | 2.380 | 23.80 | 24.00 | -0.83 | |
| H | 7/13/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 7.810 | 78.10 | 77.70 | 0.51 | 2.220 | 22.20 | 21.70 | 2.30 | |
| H | 7/17/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 7.720 | 77.20 | 77.70 | -0.64 | 2.180 | 21.80 | 21.70 | 0.46 | |
| H | 7/21/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 7.720 | 77.20 | 77.70 | -0.64 | 2.190 | 21.90 | 21.70 | 0.92 | |
| H | 7/21/2018 | Head | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 7.950 | 79.50 | 84.50 | -5.92 | 2.250 | 22.50 | 24.00 | -6.25 | |
| H | 7/24/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 8.520 | 85.20 | 80.60 | 5.71 | 2.470 | 24.70 | 23.20 | 6.47 | |
| H | 7/24/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.470 | 74.70 | 73.60 | 1.49 | 2.140 | 21.40 | 20.50 | 4.39 | |
| H | 7/25/2018 | Head | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 7.720 | 77.20 | 84.50 | -8.64 | 2.190 | 21.90 | 24.00 | -8.75 | |
| H | 7/26/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 8.010 | 80.10 | 77.70 | 3.09 | 2.260 | 22.60 | 21.70 | 4.15 | |
| H | 7/28/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.580 | 75.80 | 73.60 | 2.99 | 2.150 | 21.50 | 20.50 | 4.88 | |
| H | 7/28/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.440 | 74.40 | 80.60 | -7.69 | 2.130 | 21.30 | 23.20 | -8.19 | |
| H | 7/29/2018 | Head | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 8.020 | 80.20 | 84.50 | -5.09 | 2.270 | 22.70 | 24.00 | -5.42 | |
| H | 7/29/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 8.400 | 84.00 | 77.70 | 8.11 | 2.370 | 23.70 | 21.70 | 9.22 | |
| H | 8/1/2018 | Head | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.260 | 72.60 | 80.60 | -9.93 | 2.090 | 20.90 | 23.20 | -9.91 | 41,42 |
| H | 8/1/2018 | Body | D5GHzV2 SN:1003 (5.25 GHz) | 3/13/2019 | 7.610 | 76.10 | 73.60 | 3.40 | 2.200 | 22.00 | 20.50 | 7.32 | |
| H | 8/2/2018 | Body | D5GHzV2 SN:1003 (5.60 GHz) | 3/13/2019 | 8.420 | 84.20 | 77.70 | 8.37 | 2.370 | 23.70 | 21.70 | 9.22 | |
| 1 | 7/14/2018 | Body | D835V2 SN:4d002 | 11/21/2018 | 0.983 | 9.83 | 10.23 | -3.91 | 0.648 | 6.48 | 6.80 | -4.71 | |
| 1 | 7/18/2018 | Body | D835V2 SN:4d002 | 11/21/2018 | 0.967 | 9.67 | 10.23 | -5.47 | 0.637 | 6.37 | 6.80 | -6.32 | 43,44 |
| 1 | 7/18/2018 | Head | D750V3 SN:1071 | 11/21/2018 | 0.834 | 8.34 | 8.59 | -2.91 | 0.548 | 5.48 | 5.73 | -4.36 | |
| 1 | 7/24/2018 | Body | D750V3 SN:1071 | 11/21/2018 | 0.812 | 8.12 | 8.52 | -4.69 | 0.541 | 5.41 | 5.69 | -4.92 | 45,46 |
| 1 | 7/24/2018 | Body | D835V2 SN:4d142 | 10/12/2018 | 0.934 | 9.34 | 9.63 | -3.01 | 0.617 | 6.17 | 6.27 | -1.59 | |
| 1 | 7/24/2018 | Head | D835V2 SN:4d142 | 10/12/2018 | 0.915 | 9.15 | 9.64 | -5.08 | 0.599 | 5.99 | 6.22 | -3.70 | 47,48 |
| 1 | 7/25/2018 | Head | D2600V2 SN:1036 | 3/16/2019 | 5.620 | 56.20 | 54.54 | 3.04 | 2.530 | 25.30 | 24.56 | 3.01 | 49,50 |
| 1 | 7/26/2018 | Body | D2600V2 SN:1006 | 10/5/2018 | 5.460 | 54.60 | 56.13 | -2.73 | 2.350 | 23.50 | 25.00 | -6.00 | 51,52 |
| 3 | 7/14/2018 | Head | D750V3 SN:1071 | 11/21/2018 | 0.850 | 8.50 | 8.59 | -1.05 | 0.557 | 5.57 | 5.73 | -2.79 | |
| 3 | 7/14/2018 | Body | D750V3 SN:1071 | 11/21/2018 | 0.897 | 8.97 | 8.52 | 5.28 | 0.599 | 5.99 | 5.69 | 5.27 | |
| 3 | 7/17/2018 | Body | D750V3 SN:1071 | 11/21/2018 | 0.906 | 9.06 | 8.52 | 6.34 | 0.603 | 6.03 | 5.69 | 5.98 | 53,54 |
| 3 | 7/18/2018 | Head | D750V3 SN:1071 | 11/21/2018 | 0.813 | 8.13 | 8.59 | -5.36 | 0.534 | 5.34 | 5.73 | -6.81 | |
| 3 | 7/22/2018 | Body | D1900V2 SN:5d163 | 10/5/2018 | 4.100 | 41.00 | 42.99 | -4.63 | 2.110 | 21.10 | 21.97 | -3.96 | 55,56 |
| 4 | 7/14/2018 | Head | D835V2 SN:4d002 | 11/21/2018 | 0.996 | 9.96 | 10.27 | -3.02 | 0.651 | 6.51 | 6.76 | -3.70 | 57,58 |
| 4 | 7/18/2018 | Head | D835V2 SN:4d142 | 10/12/2018 | 0.990 | 9.90 | 9.64 | 2.70 | 0.647 | 6.47 | 6.22 | 4.02 | 59,60 |

# 9. Conducted Output Power Measurements

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-worn configuration by the user.

The selection between antennas ANT1, ANT2, ANT4, and ANT5 in the application is based on RSSI based antenna selection. The full details of power selections are described in the operational description. Refer to Sec. 7 and Sec. 10 for details of the testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted in detail for each technology in their respective Sections.

The Tune-up limit already includes component tolerance of ± 0.5 dB for modulations other than LTE 2CA, where a ± 1.0 dB tolerance is included. KDB 447498 sec.4.1.(d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

## 9.1. GSM

**Per KDB 941225 D01 3G SAR Procedures for GSM:**

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

When different maximum output power applies to GSM voice or GPRS/EDGE time slots, GSM voice and GPRS/EDGE time slots should be tested separately to determine compliance by summing the corresponding reported SAR.

The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance

**Per October 2013 TCB Workshop:**

When the maximum frame-averaged powers levels are within 0.25 dB of each other, test the configuration with the most number of time slots.

**Maximum Output Power (Tune-up Limit) for GSM**

SAR is not required for EDGE (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GPRS/EDGE (GMSK) or the adjusted SAR of the highest reported SAR of GPRS/EDGE (GMSK) is ≤ 1.2W/kg.

| RF Air interface | Mode | Maximum Output Power (Tune-up Limit) (dBm) | | | |
|---|---|---|---|---|---|
| | | ANT1 | | ANT2 | |
| | | Mode A | Mode B | Mode A | Mode B |
| GSM850 | Voice/GPRS (1 slot) | 33.00 | 33.00 | 31.00 | 31.00 |
| | GPRS 2 slots | 32.00 | 32.00 | 30.00 | 30.00 |
| | EGPRS 1 slot | 27.50 | 27.50 | 25.50 | 25.50 |
| | EGPRS 2 slots | 26.50 | 26.50 | 24.50 | 24.50 |
| GSM1900 | Voice/GPRS (1 slot) | 31.50 | 29.50 | 29.00 | 29.00 |
| | GPRS 2 slots | 30.50 | 26.50 | 26.00 | 26.00 |
| | EGPRS 1 slot | 26.50 | 26.50 | 24.00 | 24.00 |
| | EGPRS 2 slots | 25.50 | 25.50 | 23.00 | 23.00 |

## GSM850 Measured Results (ANT1)

| Mode | Coding Scheme | Time Slots | Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | | Power Mode B (dBm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | | Tune-up Limit | | Measured | | Tune-up Limit | |
| | | | | | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr |
| GPRS/EDGE (GMSK) | CS1 | 1 | 128 | 824.2 | 32.92 | 23.89 | 33.00 | 23.97 | 32.92 | 23.89 | 33.00 | 23.97 |
| | | | 190 | 836.6 | 32.97 | 23.94 | | | 32.97 | 23.94 | | |
| | | | 251 | 848.8 | 32.92 | 23.89 | | | 32.92 | 23.89 | | |
| | | 2 | 128 | 824.2 | 31.99 | 25.97 | 32.00 | **25.98** | 31.99 | 25.97 | 32.00 | **25.98** |
| | | | 190 | 836.6 | 31.98 | 25.96 | | | 31.98 | 25.96 | | |
| | | | 251 | 848.8 | 31.89 | 25.87 | | | 31.89 | 25.87 | | |
| EDGE (8PSK) | MCS5 | 1 | 128 | 824.2 | 27.43 | 18.40 | 27.50 | 18.47 | 27.43 | 18.40 | 27.50 | 18.47 |
| | | | 190 | 836.6 | 27.47 | 18.44 | | | 27.47 | 18.44 | | |
| | | | 251 | 848.8 | 27.42 | 18.39 | | | 27.42 | 18.39 | | |
| | | 2 | 128 | 824.2 | 26.46 | 20.44 | 26.50 | 20.48 | 26.46 | 20.44 | 26.50 | 20.48 |
| | | | 190 | 836.6 | 26.48 | 20.46 | | | 26.48 | 20.46 | | |
| | | | 251 | 848.8 | 26.42 | 20.40 | | | 26.42 | 20.40 | | |

**Note(s):**

GPRS/EDGE (GMSK) mode with 2 time slots for power Mode A and 2 time slots for power Mode B, based on the Tune-up Procedure.

## GSM850 Measured Results (ANT2)

| Mode | Coding Scheme | Time Slots | Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | | Power Mode B (dBm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | | Tune-up Limit | | Measured | | Tune-up Limit | |
| | | | | | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr |
| GPRS/EDGE (GMSK) | CS1 | 1 | 128 | 824.2 | 31.00 | 21.96 | 31.00 | 21.97 | 31.00 | 21.96 | 31.00 | 21.97 |
| | | | 190 | 836.6 | 30.90 | 21.87 | | | 30.90 | 21.87 | | |
| | | | 251 | 848.8 | 30.91 | 21.88 | | | 30.91 | 21.88 | | |
| | | 2 | 128 | 824.2 | 29.93 | 23.91 | 30.00 | **23.98** | 29.93 | 23.91 | 30.00 | **23.98** |
| | | | 190 | 836.6 | 29.98 | 23.96 | | | 29.98 | 23.96 | | |
| | | | 251 | 848.8 | 29.92 | 23.90 | | | 29.92 | 23.90 | | |
| EDGE (8PSK) | MCS5 | 1 | 128 | 824.2 | 25.45 | 16.42 | 25.50 | 16.47 | 25.45 | 16.42 | 25.50 | 16.47 |
| | | | 190 | 836.6 | 25.43 | 16.40 | | | 25.43 | 16.40 | | |
| | | | 251 | 848.8 | 25.37 | 16.33 | | | 25.37 | 16.33 | | |
| | | 2 | 128 | 824.2 | 24.46 | 18.44 | 24.50 | 18.48 | 24.46 | 18.44 | 24.50 | 18.48 |
| | | | 190 | 836.6 | 24.43 | 18.41 | | | 24.43 | 18.41 | | |
| | | | 251 | 848.8 | 24.35 | 18.33 | | | 24.35 | 18.33 | | |

**Note(s):**

GPRS/EDGE (GMSK) mode with 2 time slots for power Mode A and 2 time slots for power Mode B, based on the Tune-up Procedure.

## GSM1900 Measured Results (ANT1)

| Mode | Coding Scheme | Time Slots | Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | | Power Mode B (dBm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | | Tune-up Limit | | Measured | | Tune-up Limit | |
| | | | | | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr |
| GPRS/EDGE (GMSK) | CS1 | 1 | 512 | 1850.2 | 31.45 | 22.42 | 31.50 | 22.47 | 29.48 | 20.45 | 29.50 | 20.47 |
| | | | 661 | 1880.0 | 31.41 | 22.38 | | | 29.43 | 20.40 | | |
| | | | 810 | 1909.8 | 31.46 | 22.43 | | | 29.42 | 20.39 | | |
| | | 2 | 512 | 1850.2 | 30.47 | 24.45 | 30.50 | **24.48** | 26.40 | 20.38 | 26.50 | **20.48** |
| | | | 661 | 1880.0 | 30.41 | 24.39 | | | 26.44 | 20.42 | | |
| | | | 810 | 1909.8 | 30.41 | 24.39 | | | 26.43 | 20.41 | | |
| EDGE (8PSK) | MCS5 | 1 | 512 | 1850.2 | 26.44 | 17.41 | 26.50 | 17.47 | 26.47 | 17.44 | 26.50 | 17.47 |
| | | | 661 | 1880.0 | 26.41 | 17.38 | | | 26.45 | 17.42 | | |
| | | | 810 | 1909.8 | 26.43 | 17.40 | | | 26.46 | 17.43 | | |
| | | 2 | 512 | 1850.2 | 25.44 | 19.42 | 25.50 | 19.48 | 25.49 | 19.47 | 25.50 | 19.48 |
| | | | 661 | 1880.0 | 25.37 | 19.35 | | | 25.45 | 19.43 | | |
| | | | 810 | 1909.8 | 25.40 | 19.38 | | | 25.47 | 19.45 | | |

**Note(s):**

GPRS/EDGE (GMSK) mode with 2 time slots for power Mode A and 2 time slots for power Mode B, based on the Tune-up Procedure.

## GSM1900 Measured Results (ANT2)

| Mode | Coding Scheme | Time Slots | Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | | Power Mode B (dBm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Measured | | Tune-up Limit | | Measured | | Tune-up Limit | |
| | | | | | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr | Burst Pwr | Frame Pwr |
| GPRS/EDGE (GMSK) | CS1 | 1 | 512 | 1850.2 | 28.70 | 19.67 | 29.00 | 19.97 | 28.70 | 19.67 | 29.00 | 19.97 |
| | | | 661 | 1880.0 | 28.45 | 19.42 | | | 28.45 | 19.42 | | |
| | | | 810 | 1909.8 | 28.15 | 19.12 | | | 28.15 | 19.12 | | |
| | | 2 | 512 | 1850.2 | 25.95 | 19.93 | 26.00 | **19.98** | 25.95 | 19.93 | 26.00 | **19.98** |
| | | | 661 | 1880.0 | 25.95 | 19.93 | | | 25.95 | 19.93 | | |
| | | | 810 | 1909.8 | 25.88 | 19.86 | | | 25.88 | 19.86 | | |
| EDGE (8PSK) | MCS5 | 1 | 512 | 1850.2 | 23.87 | 14.84 | 24.00 | 14.97 | 23.87 | 14.84 | 24.00 | 14.97 |
| | | | 661 | 1880.0 | 23.55 | 14.52 | | | 23.55 | 14.52 | | |
| | | | 810 | 1909.8 | 23.27 | 14.24 | | | 23.27 | 14.24 | | |
| | | 2 | 512 | 1850.2 | 22.84 | 16.82 | 23.00 | 16.98 | 22.84 | 16.82 | 23.00 | 16.98 |
| | | | 661 | 1880.0 | 22.54 | 16.52 | | | 22.54 | 16.52 | | |
| | | | 810 | 1909.8 | 22.29 | 16.27 | | | 22.29 | 16.27 | | |

**Note(s):**

GPRS/EDGE (GMSK) mode with 2 time slots for power Mode A and 2 time slots for power Mode B, based on the Tune-up Procedure.

## 9.2. W-CDMA

**Per KDB 941225 D01 3G SAR Procedures for W-CDMA:**

Maximum output power is verified on the high, middle and low channels and using the appropriate 12.2 kbps RMC with TPC (transmit power control) set to all "1's"

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

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1. A summary of these settings are illustrated below:

| Mode | Subtest | Rel99 |
|---|---|---|
| WCDMA General Settings | Loopback Mode | Test Mode 2 |
| | Rel99 RMC | 12.2kbps RMC |
| | Power Control Algorithm | Algorithm2 |
| | βc/βd | 8/15 |

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

The following 4 Sub-tests were completed according to Release 5 procedures in table C.10.1.4 of 3GPP TS 34.121-1
A summary of these settings are illustrated below:

**Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH**

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note1, Note 2) | CM (dB) (Note 3) | MPR (dB) (Note 3) |
|---|---|---|---|---|---|---|---|
| 1 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 0.0 | 0.0 |
| 2 | 12/15 (Note 4) | 15/15 (Note 4) | 64 | 12/15 (Note 4) | 24/15 | 1.0 | 0.0 |
| 3 | 15/15 | 8/15 | 64 | 15/8 | 30/15 | 1.5 | 0.5 |
| 4 | 15/15 | 4/15 | 64 | 15/4 | 30/15 | 1.5 | 0.5 |

Note 1: $\Delta_{ACK}$, $\Delta_{NACK}$ and $\Delta_{CQI}$ = 30/15 with $\beta_{hs}$ = 30/15 * $\beta_c$.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, $\Delta_{ACK}$ and $\Delta_{NACK}$ = 30/15 with $\beta_{hs}$ = 30/15 * $\beta_c$, and $\Delta_{CQI}$ = 24/15 with $\beta_{hs}$ = 24/15 * $\beta_c$.

Note 3: CM = 1 for $\beta_c/\beta_d$ =12/15, $\beta_{hs}/\beta_c$=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the $\beta_c/\beta_d$ ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c$ = 11/15 and $\beta_d$ = 15/15.

**HSUPA Setup Procedures used to establish the test signals**

The following 5 Sub-tests were completed according to Release 6 procedures in table C.11.1.3 of 3GPP TS 34.121-1. A summary of these settings are illustrated below:

**Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH**

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note1) | $\beta_{ec}$ | $\beta_{ed}$ (Note 4) (Note 5) | $\beta_{ed}$ (SF) | $\beta_{ed}$ (Codes) | CM (dB) (Note 2) | MPR (dB) (Note 2) (Note 6) | AG Index (Note 5) | E-TFCI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11/15 (Note 3) | 15/15 (Note 3) | 64 | 11/15 (Note 3) | 22/15 | 209/225 | 1309/225 | 4 | 1 | 1.0 | 0.0 | 20 | 75 |
| 2 | 6/15 | 15/15 | 64 | 6/15 | 12/15 | 12/15 | 94/75 | 4 | 1 | 3.0 | 2.0 | 12 | 67 |
| 3 | 15/15 | 9/15 | 64 | 15/9 | 30/15 | 30/15 | $\beta_{ed}$1: 47/15<br>$\beta_{ed}$2: 47/15 | 4<br>4 | 2 | 2.0 | 1.0 | 15 | 92 |
| 4 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 2/15 | 56/75 | 4 | 1 | 3.0 | 2.0 | 17 | 71 |
| 5 | 15/15 | 0 | - | - | 5/15 | 5/15 | 47/15 | 4 | 1 | 1.0 | 0.0 | 12 | 67 |

Note 1: For sub-test 1 to 4, $\Delta_{ACK}$, $\Delta_{NACK}$ and $\Delta_{CQI}$ = 30/15 with $\beta_{hs}$ = 30/15 * $\beta_c$. For sub-test 5, $\Delta_{ACK}$, $\Delta_{NACK}$ and $\Delta_{CQI}$ = 5/15 with $\beta_{hs}$ = 5/15 * $\beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d$ =12/15, $\beta_{hs}/\beta_c$=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the $\beta_c/\beta_d$ ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c$ = 10/15 and $\beta_d$ = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: $\beta_{ed}$ can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

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

The following 4 Sub-tests for DC-HSDPA were completed according to Release 8 procedures in table C08.1.12 of 3GPP TS 34.121-1. A summary of subtest settings are illustrated below:

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

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

**HSPA+ Setup Procedures used to establish the test signals**

The following 1 Sub-test was completed according to Release 7 procedures in table C.11.1.4 of 3GPP TS34.121. A summary of these settings are illustrated below:

**Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

| Sub-test | $\beta_c$ (Note3) | $\beta_d$ | $\beta_{HS}$ (Note1) | $\beta_{ec}$ | $\beta_{ed}$ (2xSF2) (Note 4) | $\beta_{ed}$ (2xSF4) (Note 4) | CM (dB) (Note 2) | MPR (dB) (Note 2) | AG Index (Note 4) | E-TFCI (Note 5) | E-TFCI (boost) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0 | 30/15 | 30/15 | $\beta_{ed}1$: 30/15<br>$\beta_{ed}2$: 30/15 | $\beta_{ed}3$: 24/15<br>$\beta_{ed}4$: 24/15 | 3.5 | 2.5 | 14 | 105 | 105 |

Note 1: $\Delta_{ACK}$, $\Delta_{NACK}$ and $\Delta_{CQI}$ = 30/15 with $\beta_{hs}$ = 30/15 * $\beta_c$.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the $\beta_c$ is set to 1 and $\beta_d$ = 0 by default.
Note 4: $\beta_{ed}$ can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

**Maximum Output Power (Tune-up Limit) for W-CDMA**

SAR measurement is not required for the HSDPA, HSUPA, DC-HSDPA and HSPA+. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

| RF Air interface | Mode | Maximum Output Power (Tune-up Limit) (dBm) | | | |
|---|---|---|---|---|---|
| | | ANT1 | | ANT2 | |
| | | Mode A | Mode B | Mode A | Mode B |
| W-CDMA Band 2 | R99 | 25.50 | 20.00 | 19.50 | 19.20 |
| | HSDPA | 25.50 | 20.00 | 19.50 | 19.20 |
| | HSUPA | 25.50 | 20.00 | 19.50 | 19.20 |
| | DC-HSDPA | 25.50 | 20.00 | 19.50 | 19.20 |
| | HSPA+ | 25.50 | 20.00 | 19.50 | 19.20 |
| W-CDMA Band 4 | R99 | 25.50 | 21.00 | 20.70 | 21.50 |
| | HSDPA | 25.50 | 21.00 | 20.70 | 21.50 |
| | HSUPA | 25.50 | 21.00 | 20.70 | 21.50 |
| | DC-HSDPA | 25.50 | 21.00 | 20.70 | 21.50 |
| | HSPA+ | 25.50 | 21.00 | 20.70 | 21.50 |
| W-CDMA Band 5 | R99 | 25.50 | 25.50 | 24.20 | 24.20 |
| | HSDPA | 25.50 | 25.50 | 24.20 | 24.20 |
| | HSUPA | 25.50 | 25.50 | 24.20 | 24.20 |
| | DC-HSDPA | 25.50 | 25.50 | 24.20 | 24.20 |
| | HSPA+ | 25.50 | 25.50 | 24.20 | 24.20 |

**W-CDMA Band 2 Measured Results (ANT1)**

| Mode | | UL Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | MPR | Tune-up Limit | Measured Pwr | MPR | Tune-up Limit |
| Release 99 | Rel 99 (RMC, 12.2 kbps) | 9262 | 1852.4 | 25.33 | N/A | 25.50 | 19.77 | N/A | 20.00 |
| | | 9400 | 1880.0 | 25.25 | | | 19.76 | | |
| | | 9538 | 1907.6 | 25.15 | | | 19.70 | | |
| HSDPA | Subtest 1 | 9262 | 1852.4 | 25.30 | 0 | 25.50 | 19.70 | 0 | 20.00 |
| | | 9400 | 1880.0 | 25.26 | | | 19.77 | | |
| | | 9538 | 1907.6 | 25.16 | | | 19.70 | | |
| | Subtest 2 | 9262 | 1852.4 | 24.80 | 0 | 25.50 | 19.70 | 0 | 20.00 |
| | | 9400 | 1880.0 | 24.93 | | | 19.73 | | |
| | | 9538 | 1907.6 | 24.83 | | | 19.65 | | |
| | Subtest 3 | 9262 | 1852.4 | 24.70 | 0.5 | 25.00 | 19.40 | 0.5 | 19.50 |
| | | 9400 | 1880.0 | 24.71 | | | 19.43 | | |
| | | 9538 | 1907.6 | 24.57 | | | 19.34 | | |
| | Subtest 4 | 9262 | 1852.4 | 24.40 | 0.5 | 25.00 | 19.49 | 0.5 | 19.50 |
| | | 9400 | 1880.0 | 24.44 | | | 19.44 | | |
| | | 9538 | 1907.6 | 24.32 | | | 19.34 | | |
| HSUPA | Subtest 1 | 9262 | 1852.4 | 25.30 | 0 | 25.50 | 19.76 | 0 | 20.00 |
| | | 9400 | 1880.0 | 25.26 | | | 19.76 | | |
| | | 9538 | 1907.6 | 25.16 | | | 19.65 | | |
| | Subtest 2 | 9262 | 1852.4 | 22.80 | 2 | 23.50 | 17.95 | 2 | 18.00 |
| | | 9400 | 1880.0 | 22.95 | | | 17.96 | | |
| | | 9538 | 1907.6 | 22.83 | | | 17.87 | | |
| | Subtest 3 | 9262 | 1852.4 | 23.70 | 1 | 24.50 | 18.51 | 1 | 19.00 |
| | | 9400 | 1880.0 | 23.84 | | | 18.46 | | |
| | | 9538 | 1907.6 | 23.73 | | | 18.35 | | |
| | Subtest 4 | 9262 | 1852.4 | 23.10 | 2 | 23.50 | 17.92 | 2 | 18.00 |
| | | 9400 | 1880.0 | 23.28 | | | 17.98 | | |
| | | 9538 | 1907.6 | 23.11 | | | 17.87 | | |
| | Subtest 5 | 9262 | 1852.4 | 25.30 | 0 | 25.50 | 19.70 | 0 | 20.00 |
| | | 9400 | 1880.0 | 25.26 | | | 19.70 | | |
| | | 9538 | 1907.6 | 25.16 | | | 19.72 | | |
| DC-HSDPA | Subtest 1 | 9262 | 1852.4 | 25.30 | 0 | 25.50 | 19.70 | 0 | 20.00 |
| | | 9400 | 1880.0 | 25.27 | | | 19.70 | | |
| | | 9538 | 1907.6 | 25.16 | | | 19.71 | | |
| | Subtest 2 | 9262 | 1852.4 | 24.76 | 0 | 25.50 | 19.70 | 0 | 20.00 |
| | | 9400 | 1880.0 | 25.24 | | | 19.70 | | |
| | | 9538 | 1907.6 | 25.03 | | | 19.65 | | |
| | Subtest 3 | 9262 | 1852.4 | 24.26 | 0.5 | 25.00 | 19.43 | 0.5 | 19.50 |
| | | 9400 | 1880.0 | 24.99 | | | 19.49 | | |
| | | 9538 | 1907.6 | 24.79 | | | 19.38 | | |
| | Subtest 4 | 9262 | 1852.4 | 24.26 | 0.5 | 25.00 | 19.42 | 0.5 | 19.50 |
| | | 9400 | 1880.0 | 24.96 | | | 19.44 | | |
| | | 9538 | 1907.6 | 24.77 | | | 19.35 | | |
| HSPA+ | Subtest 1 | 9262 | 1852.4 | 22.78 | 2.5 | 23.00 | 17.31 | 2.5 | 17.50 |
| | | 9400 | 1880.0 | 22.80 | | | 17.32 | | |
| | | 9538 | 1907.6 | 22.69 | | | 17.25 | | |

## W-CDMA Band 2 Measured Results (ANT2)

| Mode | | UL Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | MPR | Tune-up Limit | Measured Pwr | MPR | Tune-up Limit |
| Release 99 | Rel 99 (RMC, 12.2 kbps) | 9262 | 1852.4 | 19.28 | N/A | 19.50 | 18.97 | N/A | 19.20 |
| | | 9400 | 1880.0 | 19.14 | | | 18.88 | | |
| | | 9538 | 1907.6 | 19.21 | | | 18.91 | | |
| HSDPA | Subtest 1 | 9262 | 1852.4 | 19.32 | 0 | 19.50 | 19.06 | 0 | 19.20 |
| | | 9400 | 1880.0 | 19.17 | | | 18.88 | | |
| | | 9538 | 1907.6 | 19.12 | | | 18.91 | | |
| | Subtest 2 | 9262 | 1852.4 | 19.28 | 0 | 19.50 | 18.98 | 0 | 19.20 |
| | | 9400 | 1880.0 | 19.11 | | | 18.86 | | |
| | | 9538 | 1907.6 | 19.08 | | | 18.84 | | |
| | Subtest 3 | 9262 | 1852.4 | 18.96 | 0.5 | 19.00 | 18.60 | 0.5 | 18.70 |
| | | 9400 | 1880.0 | 18.92 | | | 18.65 | | |
| | | 9538 | 1907.6 | 18.97 | | | 18.69 | | |
| | Subtest 4 | 9262 | 1852.4 | 18.95 | 0.5 | 19.00 | 18.62 | 0.5 | 18.70 |
| | | 9400 | 1880.0 | 18.93 | | | 18.64 | | |
| | | 9538 | 1907.6 | 18.98 | | | 18.61 | | |
| HSUPA | Subtest 1 | 9262 | 1852.4 | 19.26 | 0 | 19.50 | 18.82 | 0 | 19.20 |
| | | 9400 | 1880.0 | 19.14 | | | 18.73 | | |
| | | 9538 | 1907.6 | 19.10 | | | 18.76 | | |
| | Subtest 2 | 9262 | 1852.4 | 17.25 | 2 | 17.50 | 17.03 | 2 | 17.20 |
| | | 9400 | 1880.0 | 17.13 | | | 16.82 | | |
| | | 9538 | 1907.6 | 17.11 | | | 16.82 | | |
| | Subtest 3 | 9262 | 1852.4 | 18.41 | 1 | 18.50 | 18.14 | 1 | 18.20 |
| | | 9400 | 1880.0 | 18.33 | | | 18.19 | | |
| | | 9538 | 1907.6 | 18.31 | | | 18.01 | | |
| | Subtest 4 | 9262 | 1852.4 | 17.24 | 2 | 17.50 | 17.04 | 2 | 17.20 |
| | | 9400 | 1880.0 | 17.13 | | | 16.86 | | |
| | | 9538 | 1907.6 | 17.11 | | | 16.83 | | |
| | Subtest 5 | 9262 | 1852.4 | 19.27 | 0 | 19.50 | 18.95 | 0 | 19.20 |
| | | 9400 | 1880.0 | 19.14 | | | 18.88 | | |
| | | 9538 | 1907.6 | 19.16 | | | 18.89 | | |
| DC-HSDPA | Subtest 1 | 9262 | 1852.4 | 19.32 | 0 | 19.50 | 19.00 | 0 | 19.20 |
| | | 9400 | 1880.0 | 19.19 | | | 18.91 | | |
| | | 9538 | 1907.6 | 19.21 | | | 18.90 | | |
| | Subtest 2 | 9262 | 1852.4 | 19.29 | 0 | 19.50 | 19.03 | 0 | 19.20 |
| | | 9400 | 1880.0 | 19.13 | | | 18.85 | | |
| | | 9538 | 1907.6 | 19.15 | | | 18.85 | | |
| | Subtest 3 | 9262 | 1852.4 | 19.00 | 0.5 | 19.00 | 18.61 | 0.5 | 18.70 |
| | | 9400 | 1880.0 | 18.96 | | | 18.66 | | |
| | | 9538 | 1907.6 | 19.00 | | | 18.61 | | |
| | Subtest 4 | 9262 | 1852.4 | 18.97 | 0.5 | 19.00 | 18.67 | 0.5 | 18.70 |
| | | 9400 | 1880.0 | 18.94 | | | 18.64 | | |
| | | 9538 | 1907.6 | 18.99 | | | 18.70 | | |
| HSPA+ | Subtest 1 | 9262 | 1852.4 | 16.93 | 2.5 | 17.00 | 16.60 | 2.5 | 16.70 |
| | | 9400 | 1880.0 | 16.84 | | | 16.57 | | |
| | | 9538 | 1907.6 | 16.69 | | | 16.39 | | |

## W-CDMA Band 4 Measured Results (ANT1)

| Mode | | UL Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | MPR | Tune-up Limit | Measured Pwr | MPR | Tune-up Limit |
| Release 99 | Rel 99 (RMC, 12.2 kbps) | 1312 | 1712.4 | 25.34 | N/A | 25.50 | 20.80 | N/A | 21.00 |
| | | 1413 | 1732.6 | 25.37 | | | 20.90 | | |
| | | 1513 | 1752.6 | 25.37 | | | 20.90 | | |
| HSDPA | Subtest 1 | 1312 | 1712.4 | 25.25 | 0 | 25.50 | 20.60 | 0 | 21.00 |
| | | 1413 | 1732.6 | 25.30 | | | 20.60 | | |
| | | 1513 | 1752.6 | 25.30 | | | 20.60 | | |
| | Subtest 2 | 1312 | 1712.4 | 25.00 | 0 | 25.50 | 20.60 | 0 | 21.00 |
| | | 1413 | 1732.6 | 25.11 | | | 20.60 | | |
| | | 1513 | 1752.6 | 25.05 | | | 20.50 | | |
| | Subtest 3 | 1312 | 1712.4 | 24.50 | 0.5 | 25.00 | 20.10 | 0.5 | 20.50 |
| | | 1413 | 1732.6 | 24.83 | | | 20.10 | | |
| | | 1513 | 1752.6 | 24.77 | | | 20.10 | | |
| | Subtest 4 | 1312 | 1712.4 | 24.40 | 0.5 | 25.00 | 20.00 | 0.5 | 20.50 |
| | | 1413 | 1732.6 | 24.59 | | | 20.10 | | |
| | | 1513 | 1752.6 | 24.53 | | | 20.10 | | |
| HSUPA | Subtest 1 | 1312 | 1712.4 | 25.00 | 0 | 25.50 | 20.10 | 0 | 21.00 |
| | | 1413 | 1732.6 | 25.11 | | | 20.20 | | |
| | | 1513 | 1752.6 | 25.05 | | | 20.10 | | |
| | Subtest 2 | 1312 | 1712.4 | 23.10 | 2 | 23.50 | 18.20 | 2 | 19.00 |
| | | 1413 | 1732.6 | 23.11 | | | 18.20 | | |
| | | 1513 | 1752.6 | 23.11 | | | 18.10 | | |
| | Subtest 3 | 1312 | 1712.4 | 24.00 | 1 | 24.50 | 19.10 | 1 | 20.00 |
| | | 1413 | 1732.6 | 24.03 | | | 19.20 | | |
| | | 1513 | 1752.6 | 23.98 | | | 19.20 | | |
| | Subtest 4 | 1312 | 1712.4 | 23.20 | 2 | 23.50 | 18.20 | 2 | 19.00 |
| | | 1413 | 1732.6 | 23.38 | | | 18.30 | | |
| | | 1513 | 1752.6 | 23.42 | | | 18.20 | | |
| | Subtest 5 | 1312 | 1712.4 | 25.00 | 0 | 25.50 | 20.20 | 0 | 21.00 |
| | | 1413 | 1732.6 | 25.11 | | | 20.20 | | |
| | | 1513 | 1752.6 | 25.05 | | | 20.20 | | |
| DC-HSDPA | Subtest 1 | 1312 | 1712.4 | 25.25 | 0 | 25.50 | 20.90 | 0 | 21.00 |
| | | 1413 | 1732.6 | 25.36 | | | 20.84 | | |
| | | 1513 | 1752.6 | 25.32 | | | 20.85 | | |
| | Subtest 2 | 1312 | 1712.4 | 25.29 | 0 | 25.50 | 20.82 | 0 | 21.00 |
| | | 1413 | 1732.6 | 25.30 | | | 20.90 | | |
| | | 1513 | 1752.6 | 25.26 | | | 20.85 | | |
| | Subtest 3 | 1312 | 1712.4 | 24.81 | 0.5 | 25.00 | 20.35 | 0.5 | 20.50 |
| | | 1413 | 1732.6 | 24.83 | | | 20.38 | | |
| | | 1513 | 1752.6 | 24.78 | | | 20.39 | | |
| | Subtest 4 | 1312 | 1712.4 | 24.80 | 0.5 | 25.00 | 20.32 | 0.5 | 20.50 |
| | | 1413 | 1732.6 | 24.80 | | | 20.38 | | |
| | | 1513 | 1752.6 | 24.76 | | | 20.39 | | |
| HSPA+ | Subtest 1 | 1312 | 1712.4 | 22.77 | 2.5 | 23.00 | 18.38 | 2.5 | 18.50 |
| | | 1413 | 1732.6 | 22.83 | | | 18.39 | | |
| | | 1513 | 1752.6 | 22.80 | | | 18.38 | | |

## W-CDMA Band 4 Measured Results (ANT2)

| Mode | | UL Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | MPR | Tune-up Limit | Measured Pwr | MPR | Tune-up Limit |
| Release 99 | Rel 99 (RMC, 12.2 kbps) | 1312 | 1712.4 | 20.59 | N/A | 20.70 | 21.42 | N/A | 21.50 |
| | | 1413 | 1732.6 | 20.52 | | | 21.40 | | |
| | | 1513 | 1752.6 | 20.63 | | | 21.47 | | |
| HSDPA | Subtest 1 | 1312 | 1712.4 | 20.56 | 0 | 20.70 | 21.38 | 0 | 21.50 |
| | | 1413 | 1732.6 | 20.50 | | | 21.34 | | |
| | | 1513 | 1752.6 | 20.63 | | | 21.48 | | |
| | Subtest 2 | 1312 | 1712.4 | 20.50 | 0 | 20.70 | 21.34 | 0 | 21.50 |
| | | 1413 | 1732.6 | 20.48 | | | 21.30 | | |
| | | 1513 | 1752.6 | 20.60 | | | 21.44 | | |
| | Subtest 3 | 1312 | 1712.4 | 19.93 | 0.5 | 20.20 | 20.74 | 0.5 | 21.00 |
| | | 1413 | 1732.6 | 20.19 | | | 20.74 | | |
| | | 1513 | 1752.6 | 20.03 | | | 20.81 | | |
| | Subtest 4 | 1312 | 1712.4 | 19.92 | 0.5 | 20.20 | 20.79 | 0.5 | 21.00 |
| | | 1413 | 1732.6 | 20.19 | | | 20.72 | | |
| | | 1513 | 1752.6 | 20.04 | | | 20.82 | | |
| HSUPA | Subtest 1 | 1312 | 1712.4 | 20.55 | 0 | 20.70 | 21.36 | 0 | 21.50 |
| | | 1413 | 1732.6 | 20.57 | | | 21.30 | | |
| | | 1513 | 1752.6 | 20.50 | | | 21.43 | | |
| | Subtest 2 | 1312 | 1712.4 | 18.40 | 2 | 18.70 | 19.29 | 2 | 19.50 |
| | | 1413 | 1732.6 | 18.48 | | | 19.49 | | |
| | | 1513 | 1752.6 | 18.59 | | | 19.43 | | |
| | Subtest 3 | 1312 | 1712.4 | 19.62 | 1 | 19.70 | 20.34 | 1 | 20.50 |
| | | 1413 | 1732.6 | 19.67 | | | 20.30 | | |
| | | 1513 | 1752.6 | 19.49 | | | 20.43 | | |
| | Subtest 4 | 1312 | 1712.4 | 18.66 | 2 | 18.70 | 19.31 | 2 | 19.50 |
| | | 1413 | 1732.6 | 18.46 | | | 19.27 | | |
| | | 1513 | 1752.6 | 18.59 | | | 19.32 | | |
| | Subtest 5 | 1312 | 1712.4 | 20.56 | 0 | 20.70 | 21.36 | 0 | 21.50 |
| | | 1413 | 1732.6 | 20.58 | | | 21.36 | | |
| | | 1513 | 1752.6 | 20.50 | | | 21.48 | | |
| DC-HSDPA | Subtest 1 | 1312 | 1712.4 | 20.62 | 0 | 20.70 | 21.37 | 0 | 21.50 |
| | | 1413 | 1732.6 | 20.53 | | | 21.35 | | |
| | | 1513 | 1752.6 | 20.50 | | | 21.48 | | |
| | Subtest 2 | 1312 | 1712.4 | 20.57 | 0 | 20.70 | 21.38 | 0 | 21.50 |
| | | 1413 | 1732.6 | 20.50 | | | 21.34 | | |
| | | 1513 | 1752.6 | 20.62 | | | 21.45 | | |
| | Subtest 3 | 1312 | 1712.4 | 19.97 | 0.5 | 20.20 | 20.80 | 0.5 | 21.00 |
| | | 1413 | 1732.6 | 19.90 | | | 20.76 | | |
| | | 1513 | 1752.6 | 20.04 | | | 20.83 | | |
| | Subtest 4 | 1312 | 1712.4 | 19.95 | 0.5 | 20.20 | 20.74 | 0.5 | 21.00 |
| | | 1413 | 1732.6 | 20.19 | | | 20.73 | | |
| | | 1513 | 1752.6 | 20.03 | | | 20.82 | | |
| HSPA+ | Subtest 1 | 1312 | 1712.4 | 18.00 | 2.5 | 18.20 | 19.00 | 2.5 | 19.00 |
| | | 1413 | 1732.6 | 18.10 | | | 19.00 | | |
| | | 1513 | 1752.6 | 18.11 | | | 19.00 | | |

## W-CDMA Band 5 Measured Results (ANT1)

| Mode | | UL Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | MPR | Tune-up Limit | Measured Pwr | MPR | Tune-up Limit |
| Release 99 | Rel 99 (RMC, 12.2 kbps) | 4132 | 826.4 | 25.30 | N/A | 25.50 | 25.30 | N/A | 25.50 |
| | | 4183 | 836.6 | 25.20 | | | 25.20 | | |
| | | 4233 | 846.6 | 25.20 | | | 25.20 | | |
| HSDPA | Subtest 1 | 4132 | 826.4 | 25.20 | 0 | 25.50 | 25.20 | 0 | 25.50 |
| | | 4183 | 836.6 | 25.10 | | | 25.10 | | |
| | | 4233 | 846.6 | 25.10 | | | 25.10 | | |
| | Subtest 2 | 4132 | 826.4 | 25.20 | 0 | 25.50 | 25.20 | 0 | 25.50 |
| | | 4183 | 836.6 | 25.10 | | | 25.10 | | |
| | | 4233 | 846.6 | 25.10 | | | 25.10 | | |
| | Subtest 3 | 4132 | 826.4 | 24.80 | 0.5 | 25.00 | 24.80 | 0.5 | 25.00 |
| | | 4183 | 836.6 | 24.70 | | | 24.70 | | |
| | | 4233 | 846.6 | 24.70 | | | 24.70 | | |
| | Subtest 4 | 4132 | 826.4 | 24.60 | 0.5 | 25.00 | 24.60 | 0.5 | 25.00 |
| | | 4183 | 836.6 | 24.50 | | | 24.50 | | |
| | | 4233 | 846.6 | 24.40 | | | 24.40 | | |
| HSUPA | Subtest 1 | 4132 | 826.4 | 24.80 | 0 | 25.50 | 24.80 | 0 | 25.50 |
| | | 4183 | 836.6 | 25.20 | | | 25.20 | | |
| | | 4233 | 846.6 | 25.30 | | | 25.30 | | |
| | Subtest 2 | 4132 | 826.4 | 23.30 | 2 | 23.50 | 23.30 | 2 | 23.50 |
| | | 4183 | 836.6 | 23.20 | | | 23.20 | | |
| | | 4233 | 846.6 | 23.20 | | | 23.20 | | |
| | Subtest 3 | 4132 | 826.4 | 24.40 | 1 | 24.50 | 24.40 | 1 | 24.50 |
| | | 4183 | 836.6 | 24.30 | | | 24.30 | | |
| | | 4233 | 846.6 | 24.20 | | | 24.20 | | |
| | Subtest 4 | 4132 | 826.4 | 23.30 | 2 | 23.50 | 23.30 | 2 | 23.50 |
| | | 4183 | 836.6 | 23.20 | | | 23.20 | | |
| | | 4233 | 846.6 | 23.20 | | | 23.20 | | |
| | Subtest 5 | 4132 | 826.4 | 25.10 | 0 | 25.50 | 25.10 | 0 | 25.50 |
| | | 4183 | 836.6 | 25.00 | | | 25.00 | | |
| | | 4233 | 846.6 | 24.90 | | | 24.90 | | |
| DC-HSDPA | Subtest 1 | 4132 | 826.4 | 25.20 | 0 | 25.50 | 25.20 | 0 | 25.50 |
| | | 4183 | 836.6 | 25.10 | | | 25.10 | | |
| | | 4233 | 846.6 | 25.10 | | | 25.10 | | |
| | Subtest 2 | 4132 | 826.4 | 25.20 | 0 | 25.50 | 25.20 | 0 | 25.50 |
| | | 4183 | 836.6 | 25.10 | | | 25.10 | | |
| | | 4233 | 846.6 | 25.10 | | | 25.10 | | |
| | Subtest 3 | 4132 | 826.4 | 24.80 | 0.5 | 25.00 | 24.80 | 0.5 | 25.00 |
| | | 4183 | 836.6 | 24.70 | | | 24.70 | | |
| | | 4233 | 846.6 | 24.70 | | | 24.70 | | |
| | Subtest 4 | 4132 | 826.4 | 24.60 | 0.5 | 25.00 | 24.60 | 0.5 | 25.00 |
| | | 4183 | 836.6 | 24.50 | | | 24.50 | | |
| | | 4233 | 846.6 | 24.40 | | | 24.40 | | |
| HSPA+ | Subtest 1 | 4132 | 826.4 | 22.80 | 2.5 | 23.00 | 22.80 | 2.5 | 23.00 |
| | | 4183 | 836.6 | 22.70 | | | 22.50 | | |
| | | 4233 | 846.6 | 22.70 | | | 22.50 | | |

## W-CDMA Band 5 Measured Results (ANT2)

| Mode | | UL Ch No. | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | MPR | Tune-up Limit | Measured Pwr | MPR | Tune-up Limit |
| Release 99 | Rel 99 (RMC, 12.2 kbps) | 4132 | 826.4 | 24.05 | N/A | 24.20 | 24.05 | N/A | 24.20 |
| | | 4183 | 836.6 | 24.12 | | | 24.12 | | |
| | | 4233 | 846.6 | 24.07 | | | 24.07 | | |
| HSDPA | Subtest 1 | 4132 | 826.4 | 24.06 | 0 | 24.20 | 24.06 | 0 | 24.20 |
| | | 4183 | 836.6 | 24.12 | | | 24.12 | | |
| | | 4233 | 846.6 | 24.09 | | | 24.09 | | |
| | Subtest 2 | 4132 | 826.4 | 23.64 | 0 | 24.20 | 23.64 | 0 | 24.20 |
| | | 4183 | 836.6 | 23.96 | | | 23.96 | | |
| | | 4233 | 846.6 | 23.91 | | | 23.91 | | |
| | Subtest 3 | 4132 | 826.4 | 23.20 | 0.5 | 23.70 | 23.20 | 0.5 | 23.70 |
| | | 4183 | 836.6 | 23.62 | | | 23.62 | | |
| | | 4233 | 846.6 | 23.65 | | | 23.65 | | |
| | Subtest 4 | 4132 | 826.4 | 23.64 | 0.5 | 23.70 | 23.64 | 0.5 | 23.70 |
| | | 4183 | 836.6 | 23.48 | | | 23.48 | | |
| | | 4233 | 846.6 | 23.40 | | | 23.40 | | |
| HSUPA | Subtest 1 | 4132 | 826.4 | 23.62 | 0 | 24.20 | 23.62 | 0 | 24.20 |
| | | 4183 | 836.6 | 23.92 | | | 23.92 | | |
| | | 4233 | 846.6 | 23.88 | | | 23.88 | | |
| | Subtest 2 | 4132 | 826.4 | 21.89 | 2 | 22.20 | 21.89 | 2 | 22.20 |
| | | 4183 | 836.6 | 21.94 | | | 21.94 | | |
| | | 4233 | 846.6 | 21.87 | | | 21.87 | | |
| | Subtest 3 | 4132 | 826.4 | 22.68 | 1 | 23.20 | 22.68 | 1 | 23.20 |
| | | 4183 | 836.6 | 22.72 | | | 22.72 | | |
| | | 4233 | 846.6 | 22.66 | | | 22.66 | | |
| | Subtest 4 | 4132 | 826.4 | 22.00 | 2 | 22.20 | 22.00 | 2 | 22.20 |
| | | 4183 | 836.6 | 22.14 | | | 22.14 | | |
| | | 4233 | 846.6 | 22.14 | | | 22.14 | | |
| | Subtest 5 | 4132 | 826.4 | 23.64 | 0 | 24.20 | 23.64 | 0 | 24.20 |
| | | 4183 | 836.6 | 23.96 | | | 23.96 | | |
| | | 4233 | 846.6 | 23.91 | | | 23.91 | | |
| DC-HSDPA | Subtest 1 | 4132 | 826.4 | 24.07 | 0 | 24.20 | 24.07 | 0 | 24.20 |
| | | 4183 | 836.6 | 24.12 | | | 24.12 | | |
| | | 4233 | 846.6 | 24.05 | | | 24.05 | | |
| | Subtest 2 | 4132 | 826.4 | 24.00 | 0 | 24.20 | 24.00 | 0 | 24.20 |
| | | 4183 | 836.6 | 24.00 | | | 24.00 | | |
| | | 4233 | 846.6 | 24.10 | | | 24.10 | | |
| | Subtest 3 | 4132 | 826.4 | 23.66 | 0.5 | 23.70 | 23.66 | 0.5 | 23.70 |
| | | 4183 | 836.6 | 23.66 | | | 23.66 | | |
| | | 4233 | 846.6 | 23.59 | | | 23.59 | | |
| | Subtest 4 | 4132 | 826.4 | 23.14 | 0.5 | 23.70 | 23.14 | 0.5 | 23.70 |
| | | 4183 | 836.6 | 23.65 | | | 23.65 | | |
| | | 4233 | 846.6 | 23.58 | | | 23.58 | | |
| HSPA+ | Subtest 1 | 4132 | 826.4 | 21.00 | 2.5 | 21.70 | 21.00 | 2.5 | 21.70 |
| | | 4183 | 836.6 | 21.11 | | | 21.11 | | |
| | | 4233 | 846.6 | 21.09 | | | 21.09 | | |

## 9.3. CDMA

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

Call box setup procedure

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

**1xEV-DO Rev. B Setup Procedures used to establish the test signals**

Call box setup procedure

- CMW 500 Signal Generator > 1xEV-DO Taskbar Enable
- CMW 500 1xEV-DO Signaling Configuration Window >
- 1xEV-DO Signaling On Window:
  Under Access Network Control:
  Band Class: BC0: US Cellular
  RF Channel: 31
  1xEV-DO Power: -70 dBm
  Release B

- 1xEV-DO Signaling Configuration Window

  Under RF Frequency Band / Channel: Enter Ch. Frequency
  - Under Carrier Configuration: RF Frequency
    For Two Carriers: Low Channel (1013)

| | RF Channel | RF Channel Offset |
|---|---|---|
| Carrier [0] | 31 | 0 |
| Carrier [1] | 1013 | 982 |

  - Under Carrier Configuration: RF Pilot

| | Carrier Sector | Active on AN | Assigned to AT |
|---|---|---|---|
| Pilot [0] | C0/S0 | ✓ | ✓ |
| | CA/S1 | ✓ | ✓ |

  For Three Carriers: Low Channel (1013)

| | RF Channel | RF Channel Offset |
|---|---|---|
| Carrier [0] | 72 | 0 |
| Carrier [1] | 31 | -41 |
| Carrier [2] | 1013 | 941 |

  - Under Carrier Configuration: RF Pilot

| | Carrier Sector | Active on AN | Assigned to AT |
|---|---|---|---|
| Pilot [0] | C0/S0 | ✓ | ✓ |
| Pilot [1] | C1/S1 | ✓ | ✓ |
| Pilot [2] | C2/S2 | ✓ | ✓ |

- Rvs Power Ctrl > All Up bits (to get the maximum power)

**Maximum Output Power (Tune-up Limit) for CDMA**

SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55. The 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode

Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 D01 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCHn), with FCH only as the primary mode.

When VOIP is supported by Ev-Do devices for next to the ear use, head exposure SAR is required.

SAR measurement is not required for the 1xEVDO Rev. A, Rev. B and 1x-Advanced. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

| RF Air interface | Mode | Maximum Output Power (Tune-up Limit) (dBm) | | | |
|---|---|---|---|---|---|
| | | ANT1 | | ANT2 | |
| | | Mode A | Mode B | Mode A | Mode B |
| CDMA BC0 | 1xRTT | 25.5 | 25.5 | 24.2 | 24.2 |
| | 1xAdvanced | 25.5 | 25.5 | 24.2 | 24.2 |
| | 1xEVDO Rel. 0 | 25.5 | 25.5 | 24.2 | 24.2 |
| | 1xEVDO Rev. A | 25.5 | 25.5 | 24.2 | 24.2 |
| CDMA BC1 | 1xRTT | 25.5 | 20.0 | 19.5 | 19.2 |
| | 1xAdvanced | 25.5 | 20.0 | 19.5 | 19.2 |
| | 1xEVDO Rel. 0 | 25.5 | 20.0 | 19.5 | 19.2 |
| | 1xEVDO Rev. A | 25.5 | 20.0 | 19.5 | 19.2 |
| CDMA BC10 | 1xRTT | 25.5 | 25.5 | 24.2 | 24.2 |
| | 1xAdvanced | 25.5 | 25.5 | 24.2 | 24.2 |
| | 1xEVDO Rel. 0 | 25.5 | 25.5 | 24.2 | 24.2 |
| | 1xEVDO Rev. A | 25.5 | 25.5 | 24.2 | 24.2 |

## CDMA BC0 Measured Results (ANT1)

| Mode | | Channel | Freq. (MHz) | Power Mode A (dBm) | | Power Mode B (dBm) | |
|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | Tune-up Limit | Measured Pwr | Tune-up Limit |
| 1xRTT | RC1, SO55 (Loopback) | 1013 | 824.70 | 25.50 | 25.50 | 25.50 | 25.50 |
| | | 384 | 836.52 | 25.30 | | 25.30 | |
| | | 777 | 848.31 | 25.30 | | 25.30 | |
| | RC3, SO55 (Loopback) | 1013 | 824.70 | 25.40 | | 25.40 | |
| | | 384 | 836.52 | 25.20 | | 25.20 | |
| | | 777 | 848.31 | 25.20 | | 25.20 | |
| | RC3, SO32 (+F-SCH) | 1013 | 824.70 | 25.40 | | 25.40 | |
| | | 384 | 836.52 | 25.20 | | 25.20 | |
| | | 777 | 848.31 | 25.30 | | 25.30 | |
| 1xAdvanced | Fwd11/Rvs8 SO75 (Loopback) | 1013 | 824.70 | 25.50 | 25.50 | 25.50 | 25.50 |
| | | 384 | 836.52 | 25.30 | | 25.30 | |
| | | 777 | 848.31 | 25.30 | | 25.30 | |
| 1xEv-Do Rel. 0 | 307.2 kbps (2 slot, QPSK) | 1013 | 824.70 | 25.40 | 25.50 | 25.20 | 25.50 |
| | | 384 | 836.52 | 25.20 | | 24.90 | |
| | | 777 | 848.31 | 25.20 | | 24.90 | |
| 1xEv-Do Rev. A | 307.2k, QPSK/ ACK channel is transmitted at all the slots | 1013 | 824.70 | 25.30 | 25.50 | 25.30 | 25.50 |
| | | 384 | 836.52 | 25.10 | | 25.10 | |
| | | 777 | 848.31 | 25.10 | | 25.10 | |

## CDMA BC0 Measured Results (ANT2)

| Mode | | Channel | Freq. (MHz) | Power Mode A (dBm) | | Power Mode B (dBm) | |
|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | Tune-up Limit | Measured Pwr | Tune-up Limit |
| 1xRTT | RC1, SO55 (Loopback) | 1013 | 824.70 | 24.20 | 24.20 | 24.20 | 24.20 |
| | | 384 | 836.52 | 24.20 | | 24.20 | |
| | | 777 | 848.31 | 24.20 | | 24.20 | |
| | RC3, SO55 (Loopback) | 1013 | 824.70 | 24.10 | | 24.10 | |
| | | 384 | 836.52 | 24.00 | | 24.00 | |
| | | 777 | 848.31 | 24.00 | | 24.00 | |
| | RC3, SO32 (+F-SCH) | 1013 | 824.70 | 24.10 | | 24.10 | |
| | | 384 | 836.52 | 24.00 | | 24.00 | |
| | | 777 | 848.31 | 24.00 | | 24.00 | |
| 1xAdvanced | Fwd11/Rvs8 SO75 (Loopback) | 1013 | 824.70 | 24.20 | 24.20 | 24.20 | 24.20 |
| | | 384 | 836.52 | 24.20 | | 24.20 | |
| | | 777 | 848.31 | 24.20 | | 24.20 | |
| 1xEv-Do Rel. 0 | 307.2 kbps (2 slot, QPSK) | 1013 | 824.70 | 24.10 | 24.20 | 24.10 | 24.20 |
| | | 384 | 836.52 | 24.00 | | 24.00 | |
| | | 777 | 848.31 | 24.00 | | 24.00 | |
| 1xEv-Do Rev. A | 307.2k, QPSK/ ACK channel is transmitted at all the slots | 1013 | 824.70 | 24.20 | 24.20 | 24.20 | 24.20 |
| | | 384 | 836.52 | 24.10 | | 24.10 | |
| | | 777 | 848.31 | 24.20 | | 24.20 | |

## CDMA BC1 Measured Results (ANT1)

| Mode | | Channel | Freq. (MHz) | Power Mode A (dBm) | | Power Mode B (dBm) | |
|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | Tune-up Limit | Measured Pwr | Tune-up Limit |
| 1xRTT | RC1, SO55 (Loopback) | 25 | 1851.25 | 25.20 | 25.50 | 19.70 | 20.00 |
| | | 600 | 1880.00 | 25.10 | | 19.60 | |
| | | 1175 | 1908.75 | 24.90 | | 19.50 | |
| | RC3, SO55 (Loopback) | 25 | 1851.25 | 25.10 | | 19.60 | |
| | | 600 | 1880.00 | 25.00 | | 19.50 | |
| | | 1175 | 1908.75 | 24.90 | | 19.40 | |
| | RC3, SO32 (+F-SCH) | 25 | 1851.25 | 25.10 | | 19.90 | |
| | | 600 | 1880.00 | 25.10 | | 19.90 | |
| | | 1175 | 1908.75 | 24.90 | | 19.90 | |
| 1xAdvanced | Fwd11/Rvs8 SO75 (Loopback) | 25 | 1851.25 | 25.20 | 25.50 | 19.70 | 20.00 |
| | | 600 | 1880 | 25.10 | | 19.60 | |
| | | 1175 | 1908.75 | 24.90 | | 19.50 | |
| 1xEv-Do Rel. 0 | 307.2 kbps (2 slot, QPSK) | 25 | 1851.25 | 25.10 | 25.50 | 19.60 | 20.00 |
| | | 600 | 1880.00 | 25.00 | | 19.50 | |
| | | 1175 | 1908.75 | 24.90 | | 19.40 | |
| 1xEv-Do Rev. A | 307.2k, QPSK/ ACK channel is transmitted at all the slots | 25 | 1851.25 | 24.90 | 25.50 | 19.50 | 20.00 |
| | | 600 | 1880 | 24.80 | | 19.50 | |
| | | 1175 | 1908.75 | 24.70 | | 19.40 | |

## CDMA BC1 Measured Results (ANT2)

| Mode | | Channel | Freq. (MHz) | Power Mode A (dBm) | | Power Mode B (dBm) | |
|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | Tune-up Limit | Measured Pwr | Tune-up Limit |
| 1xRTT | RC1, SO55 (Loopback) | 25 | 1851.25 | 19.40 | 19.50 | 19.20 | 19.20 |
| | | 600 | 1880.00 | 19.30 | | 19.10 | |
| | | 1175 | 1908.75 | 19.20 | | 19.00 | |
| | RC3, SO55 (Loopback) | 25 | 1851.25 | 19.40 | | 19.20 | |
| | | 600 | 1880.00 | 19.30 | | 19.10 | |
| | | 1175 | 1908.75 | 19.30 | | 19.00 | |
| | RC3, SO32 (+F-SCH) | 25 | 1851.25 | 19.30 | | 19.00 | |
| | | 600 | 1880.00 | 19.30 | | 19.00 | |
| | | 1175 | 1908.75 | 19.10 | | 18.90 | |
| 1xAdvanced | Fwd11/Rvs8 SO75 (Loopback) | 25 | 1851.25 | 19.40 | 19.50 | 19.20 | 19.20 |
| | | 600 | 1880 | 19.30 | | 19.10 | |
| | | 1175 | 1908.75 | 19.20 | | 19.00 | |
| 1xEv-Do Rel. 0 | 307.2 kbps (2 slot, QPSK) | 25 | 1851.25 | 19.40 | 19.50 | 18.70 | 19.20 |
| | | 600 | 1880.00 | 19.30 | | 18.70 | |
| | | 1175 | 1908.75 | 19.30 | | 18.60 | |
| 1xEv-Do Rev. A | 307.2k, QPSK/ ACK channel is transmitted at all the slots | 25 | 1851.25 | 19.10 | 19.50 | 18.70 | 19.20 |
| | | 600 | 1880 | 19.10 | | 18.70 | |
| | | 1175 | 1908.75 | 19.00 | | 18.60 | |

## CDMA BC10 Measured Results (ANT1)

| Mode | | Channel | Freq. (MHz) | Power Mode A (dBm) | | Power Mode B (dBm) | |
|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | Tune-up Limit | Measured Pwr | Tune-up Limit |
| 1xRTT | RC1, SO55 (Loopback) | 450 | 817.25 | 25.30 | 25.50 | 25.30 | 25.50 |
| | | 560 | 820.00 | 25.40 | | 25.40 | |
| | | 670 | 822.75 | 25.40 | | 25.40 | |
| | RC3, SO55 (Loopback) | 450 | 817.25 | 25.30 | | 25.30 | |
| | | 560 | 820.00 | 25.40 | | 25.40 | |
| | | 670 | 822.75 | 25.40 | | 25.40 | |
| | RC3, SO32 (+F-SCH) | 450 | 817.25 | 25.30 | | 25.30 | |
| | | 560 | 820.00 | 25.40 | | 25.40 | |
| | | 670 | 822.75 | 25.40 | | 25.40 | |
| 1xAdvanced | Fwd11/Rvs8 SO75 (Loopback) | 450 | 817.25 | 25.30 | 25.50 | 25.30 | 25.50 |
| | | 560 | 820 | 25.40 | | 25.40 | |
| | | 670 | 822.75 | 25.40 | | 25.40 | |
| 1xEv-Do Rel. 0 | 307.2 kbps (2 slot, QPSK) | 450 | 817.25 | 25.30 | 25.50 | 25.00 | 25.50 |
| | | 560 | 820.00 | 25.40 | | 25.10 | |
| | | 670 | 822.75 | 25.40 | | 25.10 | |
| 1xEv-Do Rev. A | 307.2k, QPSK/ ACK channel is transmitted at all the slots | 450 | 817.25 | 25.10 | 25.50 | 25.10 | 25.50 |
| | | 560 | 820 | 25.30 | | 25.30 | |
| | | 670 | 822.75 | 25.20 | | 25.20 | |

## CDMA BC10 Measured Results (ANT2)

| Mode | | Channel | Freq. (MHz) | Power Mode A (dBm) | | Power Mode B (dBm) | |
|---|---|---|---|---|---|---|---|
| | | | | Measured Pwr | Tune-up Limit | Measured Pwr | Tune-up Limit |
| 1xRTT | RC1, SO55 (Loopback) | 450 | 817.25 | 24.00 | 24.20 | 24.00 | 24.20 |
| | | 560 | 820.00 | 24.10 | | 24.10 | |
| | | 670 | 822.75 | 24.10 | | 24.10 | |
| | RC3, SO55 (Loopback) | 450 | 817.25 | 24.00 | | 24.00 | |
| | | 560 | 820.00 | 24.10 | | 24.10 | |
| | | 670 | 822.75 | 24.00 | | 24.00 | |
| | RC3, SO32 (+F-SCH) | 450 | 817.25 | 24.00 | | 24.00 | |
| | | 560 | 820.00 | 24.10 | | 24.10 | |
| | | 670 | 822.75 | 24.00 | | 24.00 | |
| 1xAdvanced | Fwd11/Rvs8 SO75 (Loopback) | 450 | 817.25 | 24.00 | 24.20 | 24.00 | 24.20 |
| | | 560 | 820 | 24.10 | | 24.10 | |
| | | 670 | 822.75 | 24.10 | | 24.10 | |
| 1xEv-Do Rel. 0 | 307.2 kbps (2 slot, QPSK) | 450 | 817.25 | 24.00 | 24.20 | 24.00 | 24.20 |
| | | 560 | 820.00 | 24.10 | | 24.10 | |
| | | 670 | 822.75 | 24.00 | | 24.00 | |
| 1xEv-Do Rev. A | 307.2k, QPSK/ ACK channel is transmitted at all the slots | 450 | 817.25 | 24.00 | 24.20 | 24.00 | 24.20 |
| | | 560 | 820 | 24.10 | | 24.10 | |
| | | 670 | 822.75 | 24.00 | | 24.00 | |

## 9.4. LTE

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

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

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3**

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

The 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 (subclause) | 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 | N/A |

**Maximum Output Power (Tune-up Limit) for LTE**

According to April 2015 TCB workshop, SAR test exclusion can be applied for testing overlapping LTE bands as follows:

a) The maximum output power, including tolerance, for the smaller band must be ≤ the larger band to qualify for the SAR test exclusion.
b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.
   - LTE Band 2 (1850-1910 MHz) is covered by LTE Band 25 (1850-1915 MHz)
   - LTE Band 4 (1710-1755 MHz) is covered by LTE Band 66 (1710-1780 MHz)
   - LTE Band 5 (824-849 MHz) is covered by LTE Band 26 (814-849 MHz)
   - LTE Band 17 (704-716 MHz) is covered by LTE Band 12 (699-716 MHz)

LTE QPSK configuration has the highest maximum average output power per 3GPP standard.

SAR measurement is not required for the 16QAM and 64QAM. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode.

Please refer to section 6.3. for LTE detail test channels.

| RF Air interface | Mode | Maximum Output Power (Tune-up Limit) (dBm) | | | |
|---|---|---|---|---|---|
| | | ANT1 | | ANT2 | |
| | | Mode A | Mode B | Mode A | Mode B |
| LTE Band 2 | QPSK | 25.50 | 20.00 | 19.50 | 19.20 |
| LTE Band 4 | QPSK | 25.50 | 21.00 | 20.70 | 21.50 |
| LTE Band 5 | QPSK | 25.50 | 25.50 | 23.50 | 23.50 |
| LTE Band 7 | QPSK | 25.50 | 21.00 | 19.70 | 21.50 |
| LTE Band 12 | QPSK | 25.50 | 25.50 | 24.20 | 24.20 |
| LTE Band 13 | QPSK | 25.50 | 25.50 | 23.70 | 23.70 |
| LTE Band 14 | QPSK | 25.50 | 25.50 | 24.20 | 24.20 |
| LTE Band 17 | QPSK | 25.50 | 25.50 | 24.20 | 24.20 |
| LTE Band 25 | QPSK | 25.50 | 20.00 | 19.50 | 19.20 |
| LTE Band 26 | QPSK | 25.50 | 25.50 | 23.50 | 23.50 |
| LTE Band 30 | QPSK | 23.50 | 21.70 | 19.50 | 20.50 |
| LTE Band 41 (PC 3) | QPSK | 25.50 | 24.00 | 21.20 | 22.70 |
| LTE Band 41 (PC 2) | QPSK | 27.00 | 24.00 | 21.20 | 22.70 |
| LTE Band 66 | QPSK | 25.50 | 21.00 | 20.70 | 21.50 |

**Note(s):**

* From May 2017 TCB Workshop, Rel. 14 has introduced HPUE Power Class 2 for Band 41 allows 26 ±2 dBm and does not support uplink-downlink configurations 0 and 6 or inter-band CA. The highest time averaged power for UL-DL configurations is 1 the duty cycle is 43.3%. Please refer to section 6.4. LTE (TDD) Considerations.

## LTE Band 7 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20850 | 21100 | 21350 | MPR | Tune-up Limit | 20850 | 21100 | 21350 | MPR | Tune-up Limit |
| | | | | 2510 MHz | 2535 MHz | 2560 MHz | | | 2510 MHz | 2535 MHz | 2560 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 25.45 | 25.40 | 25.38 | 0 | 25.5 | 20.90 | 20.89 | 20.80 | 0 | 21 |
| | | 1 | 49 | 25.48 | 25.44 | 24.90 | 0 | 25.5 | 20.95 | 20.92 | 20.90 | 0 | 21 |
| | | 1 | 99 | 25.47 | 25.35 | 25.38 | 0 | 25.5 | 20.90 | 20.86 | 20.80 | 0 | 21 |
| | | 50 | 0 | 24.40 | 24.40 | 24.35 | 1 | 24.5 | 20.90 | 20.85 | 20.78 | 0 | 21 |
| | | 50 | 24 | 24.45 | 24.42 | 24.36 | 1 | 24.5 | 20.98 | 20.92 | 20.95 | 0 | 21 |
| | | 50 | 50 | 24.41 | 24.37 | 24.32 | 1 | 24.5 | 20.86 | 20.81 | 20.70 | 0 | 21 |
| | | 100 | 0 | 24.49 | 24.42 | 24.40 | 1 | 24.5 | 20.93 | 20.95 | 20.93 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.25 | 24.45 | 24.24 | 1 | 24.5 | 20.44 | 20.42 | 20.45 | 0 | 21 |
| | | 1 | 49 | 24.31 | 24.42 | 24.21 | 1 | 24.5 | 20.49 | 20.46 | 20.48 | 0 | 21 |
| | | 1 | 99 | 24.33 | 24.32 | 24.19 | 1 | 24.5 | 20.47 | 20.41 | 20.49 | 0 | 21 |
| | | 50 | 0 | 23.32 | 23.44 | 23.44 | 2 | 23.5 | 20.42 | 20.39 | 20.30 | 0 | 21 |
| | | 50 | 24 | 23.31 | 23.35 | 23.40 | 2 | 23.5 | 20.39 | 20.35 | 20.31 | 0 | 21 |
| | | 50 | 50 | 23.17 | 23.33 | 23.29 | 2 | 23.5 | 20.32 | 20.34 | 20.23 | 0 | 21 |
| | | 100 | 0 | 23.32 | 23.35 | 23.42 | 2 | 23.5 | 20.44 | 20.38 | 20.36 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.30 | 23.34 | 23.22 | 2 | 23.5 | 20.45 | 20.47 | 20.46 | 0 | 21 |
| | | 1 | 49 | 23.32 | 23.36 | 23.21 | 2 | 23.5 | 20.49 | 20.49 | 20.49 | 0 | 21 |
| | | 1 | 99 | 23.36 | 23.29 | 23.21 | 2 | 23.5 | 20.48 | 20.47 | 20.48 | 0 | 21 |
| | | 50 | 0 | 22.31 | 22.22 | 22.17 | 3 | 22.5 | 20.42 | 20.40 | 20.31 | 0 | 21 |
| | | 50 | 24 | 22.28 | 22.16 | 22.14 | 3 | 22.5 | 20.37 | 20.36 | 20.27 | 0 | 21 |
| | | 50 | 50 | 22.19 | 22.14 | 22.02 | 3 | 22.5 | 20.29 | 20.33 | 20.26 | 0 | 21 |
| | | 100 | 0 | 22.32 | 22.18 | 22.17 | 3 | 22.5 | 20.40 | 20.36 | 20.30 | 0 | 21 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20825 | 21100 | 21375 | MPR | Tune-up Limit | 20825 | 21100 | 21375 | MPR | Tune-up Limit |
| | | | | 2507.5 MHz | 2535 MHz | 2562.5 MHz | | | 2507.5 MHz | 2535 MHz | 2562.5 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 24.96 | 25.00 | 24.90 | 0 | 25.5 | 20.39 | 20.43 | 20.37 | 0 | 21 |
| | | 1 | 37 | 24.89 | 24.91 | 24.80 | 0 | 25.5 | 20.50 | 20.37 | 20.33 | 0 | 21 |
| | | 1 | 74 | 24.94 | 24.86 | 24.83 | 0 | 25.5 | 20.37 | 20.32 | 20.29 | 0 | 21 |
| | | 36 | 0 | 23.96 | 23.97 | 23.85 | 1 | 24.5 | 20.38 | 20.39 | 20.31 | 0 | 21 |
| | | 36 | 20 | 24.01 | 23.96 | 23.84 | 1 | 24.5 | 20.44 | 20.42 | 20.31 | 0 | 21 |
| | | 36 | 39 | 23.98 | 23.91 | 23.77 | 1 | 24.5 | 20.45 | 20.38 | 20.26 | 0 | 21 |
| | | 75 | 0 | 24.01 | 23.89 | 23.82 | 1 | 24.5 | 20.45 | 20.35 | 20.32 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.32 | 24.37 | 24.19 | 1 | 24.5 | 20.36 | 20.42 | 20.48 | 0 | 21 |
| | | 1 | 37 | 24.42 | 24.27 | 24.06 | 1 | 24.5 | 20.47 | 20.36 | 20.44 | 0 | 21 |
| | | 1 | 74 | 24.31 | 24.22 | 24.09 | 1 | 24.5 | 20.38 | 20.31 | 20.41 | 0 | 21 |
| | | 36 | 0 | 23.33 | 23.46 | 23.38 | 2 | 23.5 | 20.40 | 20.42 | 20.37 | 0 | 21 |
| | | 36 | 20 | 23.38 | 23.46 | 23.31 | 2 | 23.5 | 20.45 | 20.44 | 20.34 | 0 | 21 |
| | | 36 | 39 | 23.34 | 23.41 | 23.25 | 2 | 23.5 | 20.40 | 20.39 | 20.27 | 0 | 21 |
| | | 75 | 0 | 23.37 | 23.38 | 23.29 | 2 | 23.5 | 20.47 | 20.36 | 20.29 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.38 | 23.47 | 23.48 | 2 | 23.5 | 20.45 | 20.48 | 20.44 | 0 | 21 |
| | | 1 | 37 | 23.47 | 23.40 | 23.37 | 2 | 23.5 | 20.35 | 20.45 | 20.40 | 0 | 21 |
| | | 1 | 74 | 23.48 | 23.34 | 23.49 | 2 | 23.5 | 20.41 | 20.39 | 20.39 | 0 | 21 |
| | | 36 | 0 | 22.49 | 22.41 | 22.39 | 3 | 22.5 | 20.39 | 20.43 | 20.33 | 0 | 21 |
| | | 36 | 20 | 22.35 | 22.40 | 22.36 | 3 | 22.5 | 20.43 | 20.46 | 20.31 | 0 | 21 |
| | | 36 | 39 | 22.49 | 22.40 | 22.31 | 3 | 22.5 | 20.39 | 20.41 | 20.24 | 0 | 21 |
| | | 75 | 0 | 22.35 | 22.32 | 22.29 | 3 | 22.5 | 20.44 | 20.36 | 20.29 | 0 | 21 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20800 | 21100 | 21400 | MPR | Tune-up Limit | 20800 | 21100 | 21400 | MPR | Tune-up Limit |
| | | | | 2505 MHz | 2535 MHz | 2565 MHz | | | 2505 MHz | 2535 MHz | 2565 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 24.86 | 24.96 | 24.85 | 0 | 25.5 | 20.37 | 20.40 | 20.34 | 0 | 21 |
| | | 1 | 25 | 24.98 | 24.99 | 24.77 | 0 | 25.5 | 20.48 | 20.42 | 20.27 | 0 | 21 |
| | | 1 | 49 | 24.84 | 24.88 | 24.87 | 0 | 25.5 | 20.31 | 20.35 | 20.34 | 0 | 21 |
| | | 25 | 0 | 23.92 | 23.90 | 23.82 | 1 | 24.5 | 20.40 | 20.34 | 20.28 | 0 | 21 |
| | | 25 | 12 | 23.94 | 23.93 | 23.76 | 1 | 24.5 | 20.41 | 20.38 | 20.20 | 0 | 21 |
| | | 25 | 25 | 23.98 | 23.89 | 23.75 | 1 | 24.5 | 20.45 | 20.35 | 20.20 | 0 | 21 |
| | | 50 | 0 | 23.96 | 23.88 | 23.76 | 1 | 24.5 | 20.40 | 20.33 | 20.21 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.23 | 24.34 | 24.12 | 1 | 24.5 | 20.32 | 20.40 | 20.41 | 0 | 21 |
| | | 1 | 25 | 24.38 | 24.32 | 24.04 | 1 | 24.5 | 20.47 | 20.36 | 20.35 | 0 | 21 |
| | | 1 | 49 | 24.42 | 24.23 | 24.11 | 1 | 24.5 | 20.30 | 20.35 | 20.40 | 0 | 21 |
| | | 25 | 0 | 23.44 | 23.42 | 23.35 | 2 | 23.5 | 20.43 | 20.38 | 20.30 | 0 | 21 |
| | | 25 | 12 | 23.46 | 23.44 | 23.24 | 2 | 23.5 | 20.45 | 20.42 | 20.23 | 0 | 21 |
| | | 25 | 25 | 23.50 | 23.40 | 23.23 | 2 | 23.5 | 20.49 | 20.39 | 20.22 | 0 | 21 |
| | | 50 | 0 | 23.45 | 23.35 | 23.25 | 2 | 23.5 | 20.42 | 20.35 | 20.24 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.43 | 23.31 | 23.49 | 2 | 23.5 | 20.45 | 20.41 | 20.34 | 0 | 21 |
| | | 1 | 25 | 23.40 | 23.30 | 23.44 | 2 | 23.5 | 20.32 | 20.37 | 20.31 | 0 | 21 |
| | | 1 | 49 | 23.39 | 23.42 | 23.48 | 2 | 23.5 | 20.36 | 20.34 | 20.37 | 0 | 21 |
| | | 25 | 0 | 22.47 | 22.39 | 22.32 | 3 | 22.5 | 20.44 | 20.39 | 20.27 | 0 | 21 |
| | | 25 | 12 | 22.47 | 22.40 | 22.22 | 3 | 22.5 | 20.45 | 20.42 | 20.21 | 0 | 21 |
| | | 25 | 25 | 22.31 | 22.40 | 22.21 | 3 | 22.5 | 20.49 | 20.40 | 20.20 | 0 | 21 |
| | | 50 | 0 | 22.47 | 22.35 | 22.22 | 3 | 22.5 | 20.45 | 20.35 | 20.21 | 0 | 21 |

## LTE Band 7 Measured Results (ANT1) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20775 | 21100 | 21425 | MPR | Tune-up Limit | 20775 | 21100 | 21425 | MPR | Tune-up Limit |
| | | | | 2502.5 MHz | 2535 MHz | 2567.5 MHz | | | 2502.5 MHz | 2535 MHz | 2567.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 24.83 | 24.92 | 24.83 | 0 | 25.5 | 20.34 | 20.37 | 20.32 | 0 | 21 |
| | | 1 | 12 | 24.94 | 24.90 | 24.72 | 0 | 25.5 | 20.41 | 20.32 | 20.23 | 0 | 21 |
| | | 1 | 24 | 24.95 | 24.87 | 24.81 | 0 | 25.5 | 20.45 | 20.37 | 20.28 | 0 | 21 |
| | | 12 | 0 | 23.85 | 23.91 | 23.70 | 1 | 24.5 | 20.34 | 20.32 | 20.16 | 0 | 21 |
| | | 12 | 7 | 23.90 | 23.93 | 23.69 | 1 | 24.5 | 20.36 | 20.34 | 20.13 | 0 | 21 |
| | | 12 | 13 | 23.92 | 23.87 | 23.75 | 1 | 24.5 | 20.37 | 20.28 | 20.21 | 0 | 21 |
| | | 25 | 0 | 23.93 | 23.87 | 23.73 | 1 | 24.5 | 20.39 | 20.30 | 20.17 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.21 | 24.38 | 24.07 | 1 | 24.5 | 20.35 | 20.45 | 20.40 | 0 | 21 |
| | | 1 | 12 | 24.29 | 24.25 | 24.10 | 1 | 24.5 | 20.42 | 20.39 | 20.35 | 0 | 21 |
| | | 1 | 24 | 24.34 | 24.30 | 24.15 | 1 | 24.5 | 20.45 | 20.42 | 20.41 | 0 | 21 |
| | | 12 | 0 | 23.37 | 23.43 | 23.32 | 2 | 23.5 | 20.39 | 20.39 | 20.22 | 0 | 21 |
| | | 12 | 7 | 23.45 | 23.45 | 23.28 | 2 | 23.5 | 20.43 | 20.40 | 20.21 | 0 | 21 |
| | | 12 | 13 | 23.45 | 23.40 | 23.32 | 2 | 23.5 | 20.42 | 20.35 | 20.29 | 0 | 21 |
| | | 25 | 0 | 23.42 | 23.40 | 23.24 | 2 | 23.5 | 20.43 | 20.33 | 20.19 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.42 | 23.35 | 23.31 | 2 | 23.5 | 20.42 | 20.33 | 20.37 | 0 | 21 |
| | | 1 | 12 | 23.34 | 23.48 | 23.49 | 2 | 23.5 | 20.47 | 20.30 | 20.31 | 0 | 21 |
| | | 1 | 24 | 23.37 | 23.35 | 23.36 | 2 | 23.5 | 20.49 | 20.37 | 20.40 | 0 | 21 |
| | | 12 | 0 | 22.36 | 22.41 | 22.14 | 3 | 22.5 | 20.38 | 20.37 | 20.17 | 0 | 21 |
| | | 12 | 7 | 22.47 | 22.43 | 22.21 | 3 | 22.5 | 20.41 | 20.38 | 20.15 | 0 | 21 |
| | | 12 | 13 | 22.46 | 22.36 | 22.24 | 3 | 22.5 | 20.43 | 20.33 | 20.22 | 0 | 21 |
| | | 25 | 0 | 22.43 | 22.34 | 22.24 | 3 | 22.5 | 20.40 | 20.31 | 20.19 | 0 | 21 |

## LTE Band 7 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20850 | 21100 | 21350 | MPR | Tune-up Limit | 20850 | 21100 | 21350 | MPR | Tune-up Limit |
| | | | | 2510 MHz | 2535 MHz | 2560 MHz | | | 2510 MHz | 2535 MHz | 2560 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 19.53 | 19.40 | 19.40 | 0 | 19.7 | 21.39 | 21.35 | 21.23 | 0 | 21.5 |
| | | 1 | 49 | 19.70 | 19.45 | 19.50 | 0 | 19.7 | 21.50 | 21.49 | 21.30 | 0 | 21.5 |
| | | 1 | 99 | 19.63 | 19.44 | 19.33 | 0 | 19.7 | 21.46 | 21.26 | 21.14 | 0 | 21.5 |
| | | 50 | 0 | 19.59 | 19.42 | 19.34 | 0 | 19.7 | 21.50 | 21.31 | 21.19 | 0 | 21.5 |
| | | 50 | 24 | 19.60 | 19.50 | 19.40 | 0 | 19.7 | 21.50 | 21.50 | 21.30 | 0 | 21.5 |
| | | 50 | 50 | 19.52 | 19.42 | 19.30 | 0 | 19.7 | 21.39 | 21.29 | 21.22 | 0 | 21.5 |
| | | 100 | 0 | 19.62 | 19.44 | 19.37 | 0 | 19.7 | 21.49 | 21.41 | 21.27 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 19.62 | 19.69 | 19.55 | 0 | 19.7 | 21.36 | 21.46 | 21.43 | 0 | 21.5 |
| | | 1 | 49 | 19.66 | 19.66 | 19.65 | 0 | 19.7 | 21.45 | 21.43 | 21.34 | 0 | 21.5 |
| | | 1 | 99 | 19.67 | 19.61 | 19.67 | 0 | 19.7 | 21.36 | 21.34 | 21.33 | 0 | 21.5 |
| | | 50 | 0 | 19.62 | 19.47 | 19.39 | 0 | 19.7 | 20.48 | 20.27 | 20.18 | 0.7 | 20.8 |
| | | 50 | 24 | 19.60 | 19.45 | 19.33 | 0 | 19.7 | 20.44 | 20.22 | 20.74 | 0.7 | 20.8 |
| | | 50 | 50 | 19.54 | 19.46 | 19.32 | 0 | 19.7 | 20.40 | 20.23 | 20.74 | 0.7 | 20.8 |
| | | 100 | 0 | 19.63 | 19.47 | 19.39 | 0 | 19.7 | 20.47 | 20.23 | 20.19 | 0.7 | 20.8 |
| | 64QAM | 1 | 0 | 19.62 | 19.64 | 19.57 | 0 | 19.7 | 20.58 | 20.22 | 20.25 | 0.7 | 20.8 |
| | | 1 | 49 | 19.50 | 19.57 | 19.63 | 0 | 19.7 | 20.74 | 20.27 | 20.24 | 0.7 | 20.8 |
| | | 1 | 99 | 19.64 | 19.65 | 19.61 | 0 | 19.7 | 20.74 | 20.25 | 20.32 | 0.7 | 20.8 |
| | | 50 | 0 | 19.51 | 19.54 | 19.57 | 0 | 19.7 | 19.68 | 19.46 | 19.73 | 1.7 | 19.8 |
| | | 50 | 24 | 19.66 | 19.70 | 19.53 | 0 | 19.7 | 19.70 | 19.46 | 19.70 | 1.7 | 19.8 |
| | | 50 | 50 | 19.62 | 19.50 | 19.56 | 0 | 19.7 | 19.66 | 19.51 | 19.70 | 1.7 | 19.8 |
| | | 100 | 0 | 19.68 | 19.70 | 19.59 | 0 | 19.7 | 19.74 | 19.48 | 19.36 | 1.7 | 19.8 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20825 | 21100 | 21375 | MPR | Tune-up Limit | 20825 | 21100 | 21375 | MPR | Tune-up Limit |
| | | | | 2507.5 MHz | 2535 MHz | 2562.5 MHz | | | 2507.5 MHz | 2535 MHz | 2562.5 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 19.35 | 19.51 | 19.33 | 0 | 19.7 | 21.37 | 21.30 | 21.21 | 0 | 21.5 |
| | | 1 | 37 | 19.55 | 19.42 | 19.36 | 0 | 19.7 | 21.31 | 21.29 | 21.21 | 0 | 21.5 |
| | | 1 | 74 | 19.57 | 19.39 | 19.27 | 0 | 19.7 | 21.42 | 21.19 | 21.06 | 0 | 21.5 |
| | | 36 | 0 | 19.59 | 19.40 | 19.32 | 0 | 19.7 | 21.43 | 21.27 | 21.11 | 0 | 21.5 |
| | | 36 | 20 | 19.59 | 19.43 | 19.31 | 0 | 19.7 | 21.31 | 21.32 | 21.17 | 0 | 21.5 |
| | | 36 | 39 | 19.51 | 19.42 | 19.27 | 0 | 19.7 | 21.42 | 21.30 | 21.11 | 0 | 21.5 |
| | | 75 | 0 | 19.60 | 19.35 | 19.28 | 0 | 19.7 | 21.45 | 21.28 | 21.18 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 19.52 | 19.64 | 19.54 | 0 | 19.7 | 21.31 | 21.45 | 21.38 | 0 | 21.5 |
| | | 1 | 37 | 19.57 | 19.52 | 19.52 | 0 | 19.7 | 21.47 | 21.41 | 21.35 | 0 | 21.5 |
| | | 1 | 74 | 19.54 | 19.52 | 19.64 | 0 | 19.7 | 21.36 | 21.32 | 21.43 | 0 | 21.5 |
| | | 36 | 0 | 19.57 | 19.44 | 19.36 | 0 | 19.7 | 20.60 | 20.67 | 20.68 | 0.7 | 20.8 |
| | | 36 | 20 | 19.65 | 19.43 | 19.34 | 0 | 19.7 | 20.67 | 20.69 | 20.71 | 0.7 | 20.8 |
| | | 36 | 39 | 19.57 | 19.40 | 19.27 | 0 | 19.7 | 20.65 | 20.65 | 20.67 | 0.7 | 20.8 |
| | | 75 | 0 | 19.63 | 19.37 | 19.30 | 0 | 19.7 | 20.64 | 20.62 | 20.72 | 0.7 | 20.8 |
| | 64QAM | 1 | 0 | 19.69 | 19.63 | 19.58 | 0 | 19.7 | 20.39 | 20.37 | 20.22 | 0.7 | 20.8 |
| | | 1 | 37 | 19.54 | 19.54 | 19.56 | 0 | 19.7 | 20.53 | 20.35 | 20.30 | 0.7 | 20.8 |
| | | 1 | 74 | 19.65 | 19.66 | 19.63 | 0 | 19.7 | 20.49 | 20.35 | 20.22 | 0.7 | 20.8 |
| | | 36 | 0 | 19.67 | 19.56 | 19.54 | 0 | 19.7 | 19.64 | 19.58 | 19.73 | 1.7 | 19.8 |
| | | 36 | 20 | 19.58 | 19.57 | 19.58 | 0 | 19.7 | 19.73 | 19.62 | 19.69 | 1.7 | 19.8 |
| | | 36 | 39 | 19.68 | 19.54 | 19.55 | 0 | 19.7 | 19.65 | 19.62 | 19.74 | 1.7 | 19.8 |
| | | 75 | 0 | 19.70 | 19.68 | 19.58 | 0 | 19.7 | 19.67 | 19.53 | 19.69 | 1.7 | 19.8 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20800 | 21100 | 21400 | MPR | Tune-up Limit | 20800 | 21100 | 21400 | MPR | Tune-up Limit |
| | | | | 2505 MHz | 2535 MHz | 2565 MHz | | | 2505 MHz | 2535 MHz | 2565 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 19.36 | 19.47 | 19.36 | 0 | 19.7 | 21.32 | 21.37 | 21.21 | 0 | 21.5 |
| | | 1 | 25 | 19.42 | 19.48 | 19.31 | 0 | 19.7 | 21.45 | 21.37 | 21.17 | 0 | 21.5 |
| | | 1 | 49 | 19.55 | 19.44 | 19.31 | 0 | 19.7 | 21.46 | 21.35 | 21.11 | 0 | 21.5 |
| | | 25 | 0 | 19.29 | 19.37 | 19.31 | 0 | 19.7 | 21.35 | 21.27 | 21.18 | 0 | 21.5 |
| | | 25 | 12 | 19.39 | 19.42 | 19.26 | 0 | 19.7 | 21.44 | 21.32 | 21.13 | 0 | 21.5 |
| | | 25 | 25 | 19.45 | 19.41 | 19.26 | 0 | 19.7 | 21.50 | 21.32 | 21.14 | 0 | 21.5 |
| | | 50 | 0 | 19.42 | 19.38 | 19.26 | 0 | 19.7 | 21.46 | 21.29 | 21.16 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 19.56 | 19.54 | 19.53 | 0 | 19.7 | 21.49 | 21.45 | 21.43 | 0 | 21.5 |
| | | 1 | 25 | 19.66 | 19.56 | 19.67 | 0 | 19.7 | 21.49 | 21.43 | 21.33 | 0 | 21.5 |
| | | 1 | 49 | 19.70 | 19.70 | 19.68 | 0 | 19.7 | 21.50 | 21.40 | 21.48 | 0 | 21.5 |
| | | 25 | 0 | 19.34 | 19.43 | 19.35 | 0 | 19.7 | 20.56 | 20.67 | 20.56 | 0.7 | 20.8 |
| | | 25 | 12 | 19.44 | 19.48 | 19.29 | 0 | 19.7 | 20.63 | 20.70 | 20.70 | 0.7 | 20.8 |
| | | 25 | 25 | 19.50 | 19.46 | 19.28 | 0 | 19.7 | 20.68 | 20.69 | 20.70 | 0.7 | 20.8 |
| | | 50 | 0 | 19.44 | 19.40 | 19.27 | 0 | 19.7 | 20.62 | 20.63 | 20.68 | 0.7 | 20.8 |
| | 64QAM | 1 | 0 | 19.64 | 19.63 | 19.64 | 0 | 19.7 | 20.36 | 20.39 | 20.13 | 0.7 | 20.8 |
| | | 1 | 25 | 19.52 | 19.57 | 19.58 | 0 | 19.7 | 20.52 | 20.44 | 20.06 | 0.7 | 20.8 |
| | | 1 | 49 | 19.53 | 19.55 | 19.55 | 0 | 19.7 | 20.56 | 20.42 | 20.06 | 0.7 | 20.8 |
| | | 25 | 0 | 19.60 | 19.57 | 19.60 | 0 | 19.7 | 19.53 | 19.51 | 19.75 | 1.7 | 19.8 |
| | | 25 | 12 | 19.66 | 19.61 | 19.54 | 0 | 19.7 | 19.60 | 19.58 | 19.70 | 1.7 | 19.8 |
| | | 25 | 25 | 19.51 | 19.58 | 19.55 | 0 | 19.7 | 19.64 | 19.59 | 19.73 | 1.7 | 19.8 |
| | | 50 | 0 | 19.69 | 19.53 | 19.55 | 0 | 19.7 | 19.62 | 19.50 | 19.70 | 1.7 | 19.8 |

## LTE Band 7 Measured Results (ANT2) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 20775 | 21100 | 21425 | MPR | Tune-up Limit | 20775 | 21100 | 21425 | MPR | Tune-up Limit |
| | | | | 2502.5 MHz | 2535 MHz | 2567.5 MHz | | | 2502.5 MHz | 2535 MHz | 2567.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 19.36 | 19.40 | 19.36 | 0 | 19.7 | 21.33 | 21.32 | 21.20 | 0 | 21.5 |
| | | 1 | 12 | 19.34 | 19.34 | 19.32 | 0 | 19.7 | 21.37 | 21.28 | 21.17 | 0 | 21.5 |
| | | 1 | 24 | 19.48 | 19.40 | 19.34 | 0 | 19.7 | 21.50 | 21.35 | 21.12 | 0 | 21.5 |
| | | 12 | 0 | 19.35 | 19.36 | 19.31 | 0 | 19.7 | 21.30 | 21.24 | 21.15 | 0 | 21.5 |
| | | 12 | 7 | 19.32 | 19.39 | 19.30 | 0 | 19.7 | 21.29 | 21.26 | 21.13 | 0 | 21.5 |
| | | 12 | 13 | 19.37 | 19.35 | 19.27 | 0 | 19.7 | 21.33 | 21.23 | 21.06 | 0 | 21.5 |
| | | 25 | 0 | 19.33 | 19.35 | 19.25 | 0 | 19.7 | 21.29 | 21.23 | 21.16 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 19.52 | 19.67 | 19.62 | 0 | 19.7 | 21.49 | 21.37 | 21.46 | 0 | 21.5 |
| | | 1 | 12 | 19.51 | 19.62 | 19.63 | 0 | 19.7 | 21.33 | 21.33 | 21.42 | 0 | 21.5 |
| | | 1 | 24 | 19.64 | 19.68 | 19.62 | 0 | 19.7 | 21.47 | 21.39 | 21.40 | 0 | 21.5 |
| | | 12 | 0 | 19.34 | 19.44 | 19.30 | 0 | 19.7 | 20.67 | 20.65 | 20.75 | 0.7 | 20.8 |
| | | 12 | 7 | 19.30 | 19.44 | 19.29 | 0 | 19.7 | 20.68 | 20.56 | 20.73 | 0.7 | 20.8 |
| | | 12 | 13 | 19.34 | 19.39 | 19.30 | 0 | 19.7 | 20.57 | 20.69 | 20.66 | 0.7 | 20.8 |
| | | 25 | 0 | 19.30 | 19.38 | 19.27 | 0 | 19.7 | 20.73 | 20.68 | 20.70 | 0.7 | 20.8 |
| | 64QAM | 1 | 0 | 19.66 | 19.50 | 19.63 | 0 | 19.7 | 20.52 | 20.40 | 20.49 | 0.7 | 20.8 |
| | | 1 | 12 | 19.63 | 19.65 | 19.65 | 0 | 19.7 | 20.55 | 20.35 | 20.12 | 0.7 | 20.8 |
| | | 1 | 24 | 19.58 | 19.52 | 19.62 | 0 | 19.7 | 20.67 | 20.44 | 20.12 | 0.7 | 20.8 |
| | | 12 | 0 | 19.61 | 19.51 | 19.28 | 0 | 19.7 | 19.48 | 19.49 | 19.74 | 1.7 | 19.8 |
| | | 12 | 7 | 19.61 | 19.53 | 19.49 | 0 | 19.7 | 19.51 | 19.54 | 19.72 | 1.7 | 19.8 |
| | | 12 | 13 | 19.62 | 19.69 | 19.43 | 0 | 19.7 | 19.53 | 19.47 | 19.66 | 1.7 | 19.8 |
| | | 25 | 0 | 19.50 | 19.67 | 19.51 | 0 | 19.7 | 19.52 | 19.47 | 19.69 | 1.7 | 19.8 |

## LTE Band 12 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | Power Mode B (dBm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23095 | MPR | Tune-up Limit | | 23095 | MPR | Tune-up Limit | |
| | | | | 707.5 MHz | | | | 707.5 MHz | | | |
| 10 MHz | QPSK | 1 | 0 | 25.32 | 0 | 25.5 | | 25.32 | 0 | 25.5 | |
| | | 1 | 25 | 25.49 | 0 | 25.5 | | 25.49 | 0 | 25.5 | |
| | | 1 | 49 | 25.34 | 0 | 25.5 | | 25.34 | 0 | 25.5 | |
| | | 25 | 0 | 24.42 | 1 | 24.5 | | 24.42 | 1 | 24.5 | |
| | | 25 | 12 | 24.42 | 1 | 24.5 | | 24.42 | 1 | 24.5 | |
| | | 25 | 25 | 24.38 | 1 | 24.5 | | 24.38 | 1 | 24.5 | |
| | | 50 | 0 | 24.44 | 1 | 24.5 | | 24.44 | 1 | 24.5 | |
| | 16QAM | 1 | 0 | 24.18 | 1 | 24.5 | | 24.18 | 1 | 24.5 | |
| | | 1 | 25 | 24.43 | 1 | 24.5 | | 24.43 | 1 | 24.5 | |
| | | 1 | 49 | 24.42 | 1 | 24.5 | | 24.42 | 1 | 24.5 | |
| | | 25 | 0 | 23.46 | 2 | 23.5 | | 23.46 | 2 | 23.5 | |
| | | 25 | 12 | 23.48 | 2 | 23.5 | | 23.48 | 2 | 23.5 | |
| | | 25 | 25 | 23.44 | 2 | 23.5 | | 23.44 | 2 | 23.5 | |
| | | 50 | 0 | 23.49 | 2 | 23.5 | | 23.49 | 2 | 23.5 | |
| | 64QAM | 1 | 0 | 23.17 | 2 | 23.5 | | 23.17 | 2 | 23.5 | |
| | | 1 | 25 | 23.46 | 2 | 23.5 | | 23.46 | 2 | 23.5 | |
| | | 1 | 49 | 23.20 | 2 | 23.5 | | 23.50 | 2 | 23.5 | |
| | | 25 | 0 | 22.45 | 3 | 22.5 | | 22.45 | 3 | 22.5 | |
| | | 25 | 12 | 22.47 | 3 | 22.5 | | 22.47 | 3 | 22.5 | |
| | | 25 | 25 | 22.42 | 3 | 22.5 | | 22.42 | 3 | 22.5 | |
| | | 50 | 0 | 22.47 | 3 | 22.5 | | 22.47 | 3 | 22.5 | |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23035 | 23095 | 23155 | MPR | Tune-up Limit | 23035 | 23095 | 23155 | MPR | Tune-up Limit |
| | | | | 701.5 MHz | 707.5 MHz | 713.5 MHz | | | 701.5 MHz | 707.5 MHz | 713.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 25.39 | 25.12 | 25.33 | 0 | 25.5 | 25.39 | 25.12 | 25.33 | 0 | 25.5 |
| | | 1 | 12 | 25.21 | 25.10 | 25.24 | 0 | 25.5 | 25.21 | 25.10 | 25.24 | 0 | 25.5 |
| | | 1 | 24 | 25.35 | 25.44 | 25.31 | 0 | 25.5 | 25.35 | 25.44 | 25.31 | 0 | 25.5 |
| | | 12 | 0 | 24.27 | 24.43 | 24.21 | 1 | 24.5 | 24.27 | 24.43 | 24.21 | 1 | 24.5 |
| | | 12 | 7 | 24.18 | 24.42 | 24.18 | 1 | 24.5 | 24.18 | 24.42 | 24.18 | 1 | 24.5 |
| | | 12 | 13 | 24.25 | 24.35 | 24.15 | 1 | 24.5 | 24.25 | 24.35 | 24.15 | 1 | 24.5 |
| | | 25 | 0 | 24.20 | 24.47 | 24.20 | 1 | 24.5 | 24.20 | 24.47 | 24.20 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.33 | 24.48 | 24.30 | 1 | 24.5 | 24.33 | 24.48 | 24.30 | 1 | 24.5 |
| | | 1 | 12 | 24.15 | 24.49 | 24.18 | 1 | 24.5 | 24.15 | 24.49 | 24.18 | 1 | 24.5 |
| | | 1 | 24 | 24.30 | 24.42 | 24.25 | 1 | 24.5 | 24.30 | 24.42 | 24.25 | 1 | 24.5 |
| | | 12 | 0 | 23.32 | 23.48 | 23.26 | 2 | 23.5 | 23.32 | 23.48 | 23.26 | 2 | 23.5 |
| | | 12 | 7 | 23.26 | 23.49 | 23.24 | 2 | 23.5 | 23.26 | 23.49 | 23.24 | 2 | 23.5 |
| | | 12 | 13 | 23.31 | 23.44 | 23.22 | 2 | 23.5 | 23.31 | 23.44 | 23.22 | 2 | 23.5 |
| | | 25 | 0 | 23.23 | 23.11 | 23.23 | 2 | 23.5 | 23.23 | 23.11 | 23.23 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.21 | 23.43 | 23.26 | 2 | 23.5 | 23.21 | 23.43 | 23.26 | 2 | 23.5 |
| | | 1 | 12 | 23.13 | 23.35 | 23.16 | 2 | 23.5 | 23.13 | 23.35 | 23.16 | 2 | 23.5 |
| | | 1 | 24 | 23.17 | 23.38 | 23.21 | 2 | 23.5 | 23.17 | 23.38 | 23.21 | 2 | 23.5 |
| | | 12 | 0 | 22.33 | 22.45 | 22.25 | 3 | 22.5 | 22.33 | 22.45 | 22.25 | 3 | 22.5 |
| | | 12 | 7 | 22.23 | 22.48 | 22.27 | 3 | 22.5 | 22.23 | 22.48 | 22.27 | 3 | 22.5 |
| | | 12 | 13 | 22.29 | 22.44 | 22.21 | 3 | 22.5 | 22.29 | 22.44 | 22.21 | 3 | 22.5 |
| | | 25 | 0 | 22.20 | 22.46 | 22.20 | 3 | 22.5 | 22.20 | 22.46 | 22.20 | 3 | 22.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23025 | 23095 | 23165 | MPR | Tune-up Limit | 23025 | 23095 | 23165 | MPR | Tune-up Limit |
| | | | | 700.5 MHz | 707.5 MHz | 714.5 MHz | | | 700.5 MHz | 707.5 MHz | 714.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 25.36 | 25.50 | 25.29 | 0 | 25.5 | 25.36 | 25.50 | 25.29 | 0 | 25.5 |
| | | 1 | 8 | 25.39 | 25.19 | 25.25 | 0 | 25.5 | 25.39 | 25.19 | 25.25 | 0 | 25.5 |
| | | 1 | 14 | 25.28 | 25.47 | 25.30 | 0 | 25.5 | 25.28 | 25.47 | 25.30 | 0 | 25.5 |
| | | 8 | 0 | 24.35 | 24.45 | 24.20 | 1 | 24.5 | 24.35 | 24.45 | 24.20 | 1 | 24.5 |
| | | 8 | 4 | 24.30 | 24.43 | 24.18 | 1 | 24.5 | 24.30 | 24.43 | 24.18 | 1 | 24.5 |
| | | 8 | 7 | 24.26 | 24.43 | 24.16 | 1 | 24.5 | 24.26 | 24.43 | 24.16 | 1 | 24.5 |
| | | 15 | 0 | 24.27 | 24.44 | 24.17 | 1 | 24.5 | 24.27 | 24.44 | 24.17 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.22 | 24.38 | 24.15 | 1 | 24.5 | 24.22 | 24.38 | 24.15 | 1 | 24.5 |
| | | 1 | 8 | 24.24 | 24.44 | 24.15 | 1 | 24.5 | 24.24 | 24.44 | 24.15 | 1 | 24.5 |
| | | 1 | 14 | 24.46 | 24.33 | 24.18 | 1 | 24.5 | 24.46 | 24.33 | 24.18 | 1 | 24.5 |
| | | 8 | 0 | 23.34 | 23.50 | 23.27 | 2 | 23.5 | 23.34 | 23.50 | 23.27 | 2 | 23.5 |
| | | 8 | 4 | 23.36 | 23.11 | 23.24 | 2 | 23.5 | 23.36 | 23.11 | 23.24 | 2 | 23.5 |
| | | 8 | 7 | 23.35 | 23.12 | 23.26 | 2 | 23.5 | 23.35 | 23.12 | 23.26 | 2 | 23.5 |
| | | 15 | 0 | 23.31 | 23.50 | 23.21 | 2 | 23.5 | 23.31 | 23.50 | 23.21 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.11 | 23.28 | 23.50 | 2 | 23.5 | 23.11 | 23.28 | 23.50 | 2 | 23.5 |
| | | 1 | 8 | 23.22 | 23.35 | 23.42 | 2 | 23.5 | 23.22 | 23.35 | 23.42 | 2 | 23.5 |
| | | 1 | 14 | 23.45 | 23.32 | 23.15 | 2 | 23.5 | 23.45 | 23.32 | 23.15 | 2 | 23.5 |
| | | 8 | 0 | 22.40 | 22.15 | 22.30 | 3 | 22.5 | 22.40 | 22.15 | 22.30 | 3 | 22.5 |
| | | 8 | 4 | 22.40 | 22.18 | 22.28 | 3 | 22.5 | 22.40 | 22.18 | 22.28 | 3 | 22.5 |
| | | 8 | 7 | 22.41 | 22.18 | 22.26 | 3 | 22.5 | 22.41 | 22.18 | 22.26 | 3 | 22.5 |
| | | 15 | 0 | 22.36 | 22.12 | 22.24 | 3 | 22.5 | 22.36 | 22.12 | 22.24 | 3 | 22.5 |

## LTE Band 12 Measured Results (ANT1) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23017 | 23095 | 23173 | MPR | Tune-up Limit | 23017 | 23095 | 23173 | MPR | Tune-up Limit |
| | | | | 699.7 MHz | 707.5 MHz | 715.3 MHz | | | 699.7 MHz | 707.5 MHz | 715.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 25.43 | 25.21 | 25.34 | 0 | 25.5 | 25.43 | 25.21 | 25.34 | 0 | 25.5 |
| | | 1 | 3 | 25.38 | 25.17 | 25.24 | 0 | 25.5 | 25.38 | 25.17 | 25.24 | 0 | 25.5 |
| | | 1 | 5 | 25.39 | 25.15 | 25.35 | 0 | 25.5 | 25.39 | 25.15 | 25.35 | 0 | 25.5 |
| | | 3 | 0 | 25.34 | 25.48 | 25.23 | 0 | 25.5 | 25.34 | 25.48 | 25.23 | 0 | 25.5 |
| | | 3 | 1 | 25.33 | 25.49 | 25.22 | 0 | 25.5 | 25.33 | 25.49 | 25.22 | 0 | 25.5 |
| | | 3 | 3 | 25.34 | 25.48 | 25.23 | 0 | 25.5 | 25.34 | 25.48 | 25.23 | 0 | 25.5 |
| | | 6 | 0 | 24.32 | 24.08 | 24.22 | 1 | 24.5 | 24.32 | 24.48 | 24.22 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.23 | 24.44 | 24.25 | 1 | 24.5 | 24.23 | 24.44 | 24.25 | 1 | 24.5 |
| | | 1 | 3 | 24.21 | 24.43 | 24.19 | 1 | 24.5 | 24.21 | 24.43 | 24.19 | 1 | 24.5 |
| | | 1 | 5 | 24.30 | 24.45 | 24.27 | 1 | 24.5 | 24.30 | 24.45 | 24.27 | 1 | 24.5 |
| | | 3 | 0 | 24.49 | 24.26 | 24.39 | 1 | 24.5 | 24.49 | 24.26 | 24.39 | 1 | 24.5 |
| | | 3 | 1 | 24.49 | 24.24 | 24.37 | 1 | 24.5 | 24.49 | 24.24 | 24.37 | 1 | 24.5 |
| | | 3 | 3 | 24.48 | 24.24 | 24.37 | 1 | 24.5 | 24.48 | 24.24 | 24.37 | 1 | 24.5 |
| | | 6 | 0 | 23.41 | 23.15 | 23.28 | 2 | 23.5 | 23.41 | 23.15 | 23.28 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.30 | 23.43 | 23.21 | 2 | 23.5 | 23.30 | 23.43 | 23.21 | 2 | 23.5 |
| | | 1 | 3 | 23.36 | 23.40 | 23.17 | 2 | 23.5 | 23.36 | 23.40 | 23.17 | 2 | 23.5 |
| | | 1 | 5 | 23.32 | 23.37 | 23.11 | 2 | 23.5 | 23.32 | 23.37 | 23.11 | 2 | 23.5 |
| | | 3 | 0 | 23.15 | 23.21 | 23.34 | 2 | 23.5 | 23.15 | 23.21 | 23.34 | 2 | 23.5 |
| | | 3 | 1 | 23.12 | 23.20 | 23.32 | 2 | 23.5 | 23.12 | 23.20 | 23.32 | 2 | 23.5 |
| | | 3 | 3 | 23.12 | 23.22 | 23.31 | 2 | 23.5 | 23.12 | 23.22 | 23.31 | 2 | 23.5 |
| | | 6 | 0 | 22.36 | 22.16 | 22.31 | 3 | 22.5 | 22.36 | 22.16 | 22.31 | 3 | 22.5 |

## LTE Band 12 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | Power Mode B (dBm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23095 | | MPR | Tune-up Limit | 23095 | | MPR | Tune-up Limit |
| | | | | 707.5 MHz | | | | 707.5 MHz | | | |
| 10 MHz | QPSK | 1 | 0 | 24.18 | | 0 | 24.2 | 24.18 | | 0 | 24.2 |
| | | 1 | 25 | 24.20 | | 0 | 24.2 | 24.20 | | 0 | 24.2 |
| | | 1 | 49 | 24.12 | | 0 | 24.2 | 24.12 | | 0 | 24.2 |
| | | 25 | 0 | 23.09 | | 1 | 23.2 | 23.09 | | 1 | 23.2 |
| | | 25 | 12 | 23.10 | | 1 | 23.2 | 23.10 | | 1 | 23.2 |
| | | 25 | 25 | 23.09 | | 1 | 23.2 | 23.09 | | 1 | 23.2 |
| | | 50 | 0 | 23.08 | | 1 | 23.2 | 23.08 | | 1 | 23.2 |
| | 16QAM | 1 | 0 | 23.17 | | 1 | 23.2 | 23.17 | | 1 | 23.2 |
| | | 1 | 25 | 23.08 | | 1 | 23.2 | 23.08 | | 1 | 23.2 |
| | | 1 | 49 | 23.20 | | 1 | 23.2 | 23.20 | | 1 | 23.2 |
| | | 25 | 0 | 22.11 | | 2 | 22.2 | 22.11 | | 2 | 22.2 |
| | | 25 | 12 | 22.06 | | 2 | 22.2 | 22.06 | | 2 | 22.2 |
| | | 25 | 25 | 22.13 | | 2 | 22.2 | 22.13 | | 2 | 22.2 |
| | | 50 | 0 | 22.08 | | 2 | 22.2 | 22.08 | | 2 | 22.2 |
| | 64QAM | 1 | 0 | 22.13 | | 2 | 22.2 | 22.13 | | 2 | 22.2 |
| | | 1 | 25 | 22.05 | | 2 | 22.2 | 22.05 | | 2 | 22.2 |
| | | 1 | 49 | 22.06 | | 2 | 22.2 | 22.06 | | 2 | 22.2 |
| | | 25 | 0 | 21.10 | | 3 | 21.2 | 21.10 | | 3 | 21.2 |
| | | 25 | 12 | 21.05 | | 3 | 21.2 | 21.05 | | 3 | 21.2 |
| | | 25 | 25 | 21.10 | | 3 | 21.2 | 21.10 | | 3 | 21.2 |
| | | 50 | 0 | 21.06 | | 3 | 21.2 | 21.06 | | 3 | 21.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23035 | 23095 | 23155 | MPR | Tune-up Limit | 23035 | 23095 | 23155 | MPR | Tune-up Limit |
| | | | | 701.5 MHz | 707.5 MHz | 713.5 MHz | | | 701.5 MHz | 707.5 MHz | 713.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 24.09 | 24.11 | 24.11 | 0 | 24.2 | 24.09 | 24.11 | 24.11 | 0 | 24.2 |
| | | 1 | 12 | 24.04 | 24.06 | 24.14 | 0 | 24.2 | 24.04 | 24.06 | 24.14 | 0 | 24.2 |
| | | 1 | 24 | 24.11 | 24.18 | 24.17 | 0 | 24.2 | 24.11 | 24.18 | 24.17 | 0 | 24.2 |
| | | 12 | 0 | 23.00 | 23.01 | 23.07 | 1 | 23.2 | 23.00 | 23.01 | 23.07 | 1 | 23.2 |
| | | 12 | 7 | 22.98 | 22.99 | 23.08 | 1 | 23.2 | 22.98 | 22.99 | 23.08 | 1 | 23.2 |
| | | 12 | 13 | 22.89 | 23.00 | 23.04 | 1 | 23.2 | 22.89 | 23.00 | 23.04 | 1 | 23.2 |
| | | 25 | 0 | 22.71 | 23.01 | 23.11 | 1 | 23.2 | 23.01 | 23.01 | 23.11 | 1 | 23.2 |
| | 16QAM | 1 | 0 | 22.97 | 23.10 | 23.19 | 1 | 23.2 | 22.97 | 23.10 | 23.19 | 1 | 23.2 |
| | | 1 | 12 | 22.92 | 23.07 | 22.96 | 1 | 23.2 | 22.92 | 23.07 | 22.96 | 1 | 23.2 |
| | | 1 | 24 | 22.94 | 23.18 | 22.93 | 1 | 23.2 | 22.94 | 23.18 | 22.93 | 1 | 23.2 |
| | | 12 | 0 | 22.01 | 22.06 | 22.12 | 2 | 22.2 | 22.01 | 22.06 | 22.12 | 2 | 22.2 |
| | | 12 | 7 | 22.03 | 22.02 | 22.16 | 2 | 22.2 | 22.03 | 22.02 | 22.16 | 2 | 22.2 |
| | | 12 | 13 | 21.99 | 22.04 | 22.12 | 2 | 22.2 | 21.99 | 22.04 | 22.12 | 2 | 22.2 |
| | | 25 | 0 | 22.03 | 22.04 | 22.15 | 2 | 22.2 | 22.03 | 22.04 | 22.15 | 2 | 22.2 |
| | 64QAM | 1 | 0 | 22.11 | 22.01 | 22.07 | 2 | 22.2 | 22.11 | 22.01 | 22.07 | 2 | 22.2 |
| | | 1 | 12 | 22.07 | 21.96 | 22.11 | 2 | 22.2 | 22.07 | 21.96 | 22.11 | 2 | 22.2 |
| | | 1 | 24 | 22.13 | 22.11 | 22.11 | 2 | 22.2 | 22.13 | 22.11 | 22.11 | 2 | 22.2 |
| | | 12 | 0 | 21.01 | 21.02 | 21.09 | 3 | 21.2 | 21.01 | 21.02 | 21.09 | 3 | 21.2 |
| | | 12 | 7 | 21.00 | 21.00 | 21.14 | 3 | 21.2 | 21.00 | 21.00 | 21.14 | 3 | 21.2 |
| | | 12 | 13 | 20.93 | 21.00 | 21.12 | 3 | 21.2 | 20.93 | 21.00 | 21.12 | 3 | 21.2 |
| | | 25 | 0 | 20.99 | 21.02 | 21.09 | 3 | 21.2 | 20.99 | 21.02 | 21.09 | 3 | 21.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23025 | 23095 | 23165 | MPR | Tune-up Limit | 23025 | 23095 | 23165 | MPR | Tune-up Limit |
| | | | | 700.5 MHz | 707.5 MHz | 714.5 MHz | | | 700.5 MHz | 707.5 MHz | 714.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 24.05 | 24.02 | 24.16 | 0 | 24.2 | 24.05 | 24.02 | 24.16 | 0 | 24.2 |
| | | 1 | 8 | 24.09 | 24.06 | 24.18 | 0 | 24.2 | 24.09 | 24.06 | 24.18 | 0 | 24.2 |
| | | 1 | 14 | 24.02 | 24.02 | 24.15 | 0 | 24.2 | 24.02 | 24.02 | 24.15 | 0 | 24.2 |
| | | 8 | 0 | 23.00 | 23.02 | 23.11 | 1 | 23.2 | 23.00 | 23.02 | 23.11 | 1 | 23.2 |
| | | 8 | 4 | 23.00 | 23.01 | 23.08 | 1 | 23.2 | 23.00 | 23.01 | 23.08 | 1 | 23.2 |
| | | 8 | 7 | 23.00 | 23.02 | 23.06 | 1 | 23.2 | 23.00 | 23.02 | 23.06 | 1 | 23.2 |
| | | 15 | 0 | 23.00 | 23.03 | 23.07 | 1 | 23.2 | 23.00 | 23.03 | 23.07 | 1 | 23.2 |
| | 16QAM | 1 | 0 | 23.12 | 23.07 | 23.13 | 1 | 23.2 | 23.12 | 23.07 | 23.13 | 1 | 23.2 |
| | | 1 | 8 | 23.17 | 23.18 | 22.91 | 1 | 23.2 | 23.17 | 23.18 | 22.91 | 1 | 23.2 |
| | | 1 | 14 | 23.08 | 23.03 | 23.08 | 1 | 23.2 | 23.08 | 23.03 | 23.08 | 1 | 23.2 |
| | | 8 | 0 | 22.04 | 22.08 | 22.18 | 2 | 22.2 | 21.74 | 21.78 | 22.18 | 2 | 22.2 |
| | | 8 | 4 | 22.03 | 22.05 | 22.17 | 2 | 22.2 | 22.03 | 22.05 | 22.17 | 2 | 22.2 |
| | | 8 | 7 | 22.03 | 22.05 | 22.14 | 2 | 22.2 | 22.03 | 22.05 | 22.14 | 2 | 22.2 |
| | | 15 | 0 | 22.00 | 22.02 | 22.12 | 2 | 22.2 | 22.00 | 22.02 | 22.12 | 2 | 22.2 |
| | 64QAM | 1 | 0 | 21.92 | 22.17 | 22.06 | 2 | 22.2 | 21.92 | 22.17 | 22.06 | 2 | 22.2 |
| | | 1 | 8 | 21.96 | 21.96 | 22.05 | 2 | 22.2 | 21.96 | 21.96 | 22.05 | 2 | 22.2 |
| | | 1 | 14 | 22.17 | 21.90 | 21.99 | 2 | 22.2 | 22.17 | 21.90 | 21.99 | 2 | 22.2 |
| | | 8 | 0 | 21.06 | 21.05 | 21.13 | 3 | 21.2 | 21.06 | 21.05 | 21.13 | 3 | 21.2 |
| | | 8 | 4 | 21.05 | 21.03 | 21.10 | 3 | 21.2 | 21.05 | 21.03 | 21.10 | 3 | 21.2 |
| | | 8 | 7 | 21.05 | 21.03 | 21.09 | 3 | 21.2 | 21.05 | 21.03 | 21.09 | 3 | 21.2 |
| | | 15 | 0 | 20.99 | 21.01 | 21.03 | 3 | 21.2 | 20.99 | 21.01 | 21.03 | 3 | 21.2 |

## LTE Band 12 Measured Results (ANT2) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 23017 | 23095 | 23173 | MPR | Tune-up Limit | 23017 | 23095 | 23173 | MPR | Tune-up Limit |
| | | | | 699.7 MHz | 707.5 MHz | 715.3 MHz | | | 699.7 MHz | 707.5 MHz | 715.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 24.08 | 24.09 | 24.09 | 0 | 24.2 | 24.08 | 24.09 | 24.09 | 0 | 24.2 |
| | | 1 | 3 | 24.07 | 24.06 | 24.07 | 0 | 24.2 | 24.07 | 24.06 | 24.07 | 0 | 24.2 |
| | | 1 | 5 | 24.10 | 24.09 | 24.11 | 0 | 24.2 | 24.10 | 24.09 | 24.11 | 0 | 24.2 |
| | | 3 | 0 | 24.05 | 24.05 | 24.07 | 0 | 24.2 | 24.05 | 24.05 | 24.07 | 0 | 24.2 |
| | | 3 | 1 | 24.04 | 24.04 | 24.06 | 0 | 24.2 | 24.04 | 24.04 | 24.06 | 0 | 24.2 |
| | | 3 | 3 | 24.02 | 24.04 | 24.05 | 0 | 24.2 | 24.02 | 24.04 | 24.05 | 0 | 24.2 |
| | | 6 | 0 | 23.02 | 23.02 | 23.00 | 1 | 23.2 | 23.02 | 23.02 | 23.00 | 1 | 23.2 |
| | 16QAM | 1 | 0 | 23.05 | 23.16 | 22.98 | 1 | 23.2 | 23.05 | 23.16 | 22.98 | 1 | 23.2 |
| | | 1 | 3 | 23.03 | 23.13 | 22.95 | 1 | 23.2 | 23.03 | 23.13 | 22.95 | 1 | 23.2 |
| | | 1 | 5 | 23.07 | 23.15 | 23.02 | 1 | 23.2 | 23.07 | 23.15 | 23.02 | 1 | 23.2 |
| | | 3 | 0 | 22.90 | 23.18 | 23.18 | 1 | 23.2 | 22.90 | 23.18 | 23.18 | 1 | 23.2 |
| | | 3 | 1 | 23.18 | 23.16 | 23.20 | 1 | 23.2 | 22.88 | 23.16 | 23.20 | 1 | 23.2 |
| | | 3 | 3 | 23.19 | 23.16 | 23.15 | 1 | 23.2 | 23.19 | 23.16 | 23.15 | 1 | 23.2 |
| | | 6 | 0 | 22.10 | 22.06 | 22.12 | 2 | 22.2 | 22.10 | 22.06 | 22.12 | 2 | 22.2 |
| | 64QAM | 1 | 0 | 21.98 | 22.07 | 21.98 | 2 | 22.2 | 21.98 | 22.07 | 21.98 | 2 | 22.2 |
| | | 1 | 3 | 21.98 | 22.04 | 21.96 | 2 | 22.2 | 21.98 | 22.04 | 21.96 | 2 | 22.2 |
| | | 1 | 5 | 22.00 | 22.06 | 22.04 | 2 | 22.2 | 22.00 | 22.06 | 22.04 | 2 | 22.2 |
| | | 3 | 0 | 22.10 | 22.20 | 22.17 | 2 | 22.2 | 22.10 | 22.20 | 22.17 | 2 | 22.2 |
| | | 3 | 1 | 22.08 | 22.18 | 22.15 | 2 | 22.2 | 22.08 | 22.18 | 22.15 | 2 | 22.2 |
| | | 3 | 3 | 22.08 | 22.19 | 22.16 | 2 | 22.2 | 22.08 | 22.19 | 22.16 | 2 | 22.2 |
| | | 6 | 0 | 21.06 | 21.04 | 21.10 | 3 | 21.2 | 21.06 | 21.04 | 21.10 | 3 | 21.2 |

## LTE Band 13 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23230 782 MHz | MPR | Tune-up Limit | 23230 782 MHz | MPR | Tune-up Limit |
| 10 MHz | QPSK | 1 | 0 | 25.50 | 0 | 25.5 | 25.50 | 0 | 25.5 |
| | | 1 | 25 | 25.50 | 0 | 25.5 | 25.50 | 0 | 25.5 |
| | | 1 | 49 | 25.49 | 0 | 25.5 | 25.49 | 0 | 25.5 |
| | | 25 | 0 | 24.48 | 1 | 24.5 | 24.48 | 1 | 24.5 |
| | | 25 | 12 | 24.50 | 1 | 24.5 | 24.39 | 1 | 24.5 |
| | | 25 | 25 | 24.41 | 1 | 24.5 | 24.41 | 1 | 24.5 |
| | | 50 | 0 | 24.42 | 1 | 24.5 | 24.42 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.45 | 1 | 24.5 | 24.35 | 1 | 24.5 |
| | | 1 | 25 | 24.49 | 1 | 24.5 | 24.49 | 1 | 24.5 |
| | | 1 | 49 | 24.42 | 1 | 24.5 | 24.32 | 1 | 24.5 |
| | | 25 | 0 | 23.48 | 2 | 23.5 | 23.48 | 2 | 23.5 |
| | | 25 | 12 | 23.32 | 2 | 23.5 | 23.32 | 2 | 23.5 |
| | | 25 | 25 | 23.45 | 2 | 23.5 | 23.45 | 2 | 23.5 |
| | | 50 | 0 | 23.28 | 2 | 23.5 | 23.28 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.46 | 2 | 23.5 | 23.46 | 2 | 23.5 |
| | | 1 | 25 | 23.38 | 2 | 23.5 | 23.38 | 2 | 23.5 |
| | | 1 | 49 | 23.43 | 2 | 23.5 | 23.43 | 2 | 23.5 |
| | | 25 | 0 | 22.45 | 3 | 22.5 | 22.45 | 3 | 22.5 |
| | | 25 | 12 | 22.32 | 3 | 22.5 | 22.32 | 3 | 22.5 |
| | | 25 | 25 | 22.42 | 3 | 22.5 | 22.42 | 3 | 22.5 |
| | | 50 | 0 | 22.27 | 3 | 22.5 | 22.27 | 3 | 22.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23230 782 MHz | MPR | Tune-up Limit | 23230 782 MHz | MPR | Tune-up Limit |
| 5 MHz | QPSK | 1 | 0 | 25.41 | 0 | 25.5 | 25.41 | 0 | 25.5 |
| | | 1 | 12 | 25.33 | 0 | 25.5 | 25.33 | 0 | 25.5 |
| | | 1 | 24 | 25.33 | 0 | 25.5 | 25.33 | 0 | 25.5 |
| | | 12 | 0 | 24.43 | 1 | 24.5 | 24.43 | 1 | 24.5 |
| | | 12 | 7 | 24.34 | 1 | 24.5 | 24.34 | 1 | 24.5 |
| | | 12 | 13 | 24.22 | 1 | 24.5 | 24.22 | 1 | 24.5 |
| | | 25 | 0 | 24.30 | 1 | 24.5 | 24.30 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.46 | 1 | 24.5 | 24.46 | 1 | 24.5 |
| | | 1 | 12 | 24.35 | 1 | 24.5 | 24.15 | 1 | 24.5 |
| | | 1 | 24 | 24.33 | 1 | 24.5 | 24.33 | 1 | 24.5 |
| | | 12 | 0 | 23.31 | 2 | 23.5 | 23.31 | 2 | 23.5 |
| | | 12 | 7 | 23.42 | 2 | 23.5 | 23.42 | 2 | 23.5 |
| | | 12 | 13 | 23.34 | 2 | 23.5 | 23.34 | 2 | 23.5 |
| | | 25 | 0 | 23.31 | 2 | 23.5 | 23.31 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.39 | 2 | 23.5 | 23.39 | 2 | 23.5 |
| | | 1 | 12 | 23.33 | 2 | 23.5 | 23.33 | 2 | 23.5 |
| | | 1 | 24 | 23.48 | 2 | 23.5 | 23.48 | 2 | 23.5 |
| | | 12 | 0 | 22.44 | 3 | 22.5 | 22.44 | 3 | 22.5 |
| | | 12 | 7 | 22.35 | 3 | 22.5 | 22.35 | 3 | 22.5 |
| | | 12 | 13 | 22.24 | 3 | 22.5 | 22.24 | 3 | 22.5 |
| | | 25 | 0 | 22.24 | 3 | 22.5 | 22.24 | 3 | 22.5 |

## LTE Band 13 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23230 782 MHz | MPR | Tune-up Limit | 23230 782 MHz | MPR | Tune-up Limit |
| 10 MHz | QPSK | 1 | 0 | 23.66 | 0 | 23.7 | 23.66 | 0 | 23.7 |
| | | 1 | 25 | 23.70 | 0 | 23.7 | 23.60 | 0 | 23.7 |
| | | 1 | 49 | 23.70 | 0 | 23.7 | 23.70 | 0 | 23.7 |
| | | 25 | 0 | 22.61 | 1 | 22.7 | 22.61 | 1 | 22.7 |
| | | 25 | 12 | 22.70 | 1 | 22.7 | 22.60 | 1 | 22.7 |
| | | 25 | 25 | 22.65 | 1 | 22.7 | 22.65 | 1 | 22.7 |
| | | 50 | 0 | 22.55 | 1 | 22.7 | 22.55 | 1 | 22.7 |
| | 16QAM | 1 | 0 | 22.57 | 1 | 22.7 | 22.57 | 1 | 22.7 |
| | | 1 | 25 | 22.69 | 1 | 22.7 | 22.69 | 1 | 22.7 |
| | | 1 | 49 | 22.56 | 1 | 22.7 | 22.56 | 1 | 22.7 |
| | | 25 | 0 | 21.68 | 2 | 21.7 | 21.68 | 2 | 21.7 |
| | | 25 | 12 | 21.63 | 2 | 21.7 | 21.63 | 2 | 21.7 |
| | | 25 | 25 | 21.67 | 2 | 21.7 | 21.67 | 2 | 21.7 |
| | | 50 | 0 | 21.57 | 2 | 21.7 | 21.57 | 2 | 21.7 |
| | 64QAM | 1 | 0 | 21.64 | 2 | 21.7 | 21.64 | 2 | 21.7 |
| | | 1 | 25 | 21.53 | 2 | 21.7 | 21.53 | 2 | 21.7 |
| | | 1 | 49 | 21.65 | 2 | 21.7 | 21.65 | 2 | 21.7 |
| | | 25 | 0 | 20.64 | 3 | 20.7 | 20.64 | 3 | 20.7 |
| | | 25 | 12 | 20.59 | 3 | 20.7 | 20.59 | 3 | 20.7 |
| | | 25 | 25 | 20.68 | 3 | 20.7 | 20.68 | 3 | 20.7 |
| | | 50 | 0 | 20.57 | 3 | 20.7 | 20.57 | 3 | 20.7 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23230 782 MHz | MPR | Tune-up Limit | 23230 782 MHz | MPR | Tune-up Limit |
| 5 MHz | QPSK | 1 | 0 | 23.61 | 0 | 23.7 | 23.61 | 0 | 23.7 |
| | | 1 | 12 | 23.46 | 0 | 23.7 | 23.46 | 0 | 23.7 |
| | | 1 | 24 | 23.60 | 0 | 23.7 | 23.60 | 0 | 23.7 |
| | | 12 | 0 | 22.64 | 1 | 22.7 | 22.64 | 1 | 22.7 |
| | | 12 | 7 | 22.59 | 1 | 22.7 | 22.59 | 1 | 22.7 |
| | | 12 | 13 | 22.60 | 1 | 22.7 | 22.60 | 1 | 22.7 |
| | | 25 | 0 | 22.52 | 1 | 22.7 | 22.52 | 1 | 22.7 |
| | 16QAM | 1 | 0 | 22.48 | 1 | 22.7 | 22.48 | 1 | 22.7 |
| | | 1 | 12 | 22.58 | 1 | 22.7 | 22.58 | 1 | 22.7 |
| | | 1 | 24 | 22.44 | 1 | 22.7 | 22.44 | 1 | 22.7 |
| | | 12 | 0 | 21.65 | 2 | 21.7 | 21.65 | 2 | 21.7 |
| | | 12 | 7 | 21.60 | 2 | 21.7 | 21.60 | 2 | 21.7 |
| | | 12 | 13 | 21.60 | 2 | 21.7 | 21.60 | 2 | 21.7 |
| | | 25 | 0 | 21.53 | 2 | 21.7 | 21.53 | 2 | 21.7 |
| | 64QAM | 1 | 0 | 21.65 | 2 | 21.7 | 21.65 | 2 | 21.7 |
| | | 1 | 12 | 21.50 | 2 | 21.7 | 21.50 | 2 | 21.7 |
| | | 1 | 24 | 21.62 | 2 | 21.7 | 21.62 | 2 | 21.7 |
| | | 12 | 0 | 20.36 | 3 | 20.7 | 20.36 | 3 | 20.7 |
| | | 12 | 7 | 20.62 | 3 | 20.7 | 20.62 | 3 | 20.7 |
| | | 12 | 13 | 20.61 | 3 | 20.7 | 20.61 | 3 | 20.7 |
| | | 25 | 0 | 20.50 | 3 | 20.7 | 20.50 | 3 | 20.7 |

## LTE Band 14 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23330 / 793 MHz | MPR | Tune-up Limit | 23330 / 793 MHz | MPR | Tune-up Limit |
| 10 MHz | QPSK | 1 | 0 | 25.31 | 0 | 25.5 | 25.31 | 0 | 25.5 |
| | | 1 | 25 | 25.46 | 0 | 25.5 | 25.46 | 0 | 25.5 |
| | | 1 | 49 | 25.31 | 0 | 25.5 | 25.31 | 0 | 25.5 |
| | | 25 | 0 | 24.48 | 1 | 24.5 | 24.48 | 1 | 24.5 |
| | | 25 | 12 | 24.48 | 1 | 24.5 | 24.48 | 1 | 24.5 |
| | | 25 | 25 | 24.42 | 1 | 24.5 | 24.42 | 1 | 24.5 |
| | | 50 | 0 | 24.48 | 1 | 24.5 | 24.48 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.22 | 1 | 24.5 | 24.22 | 1 | 24.5 |
| | | 1 | 25 | 24.32 | 1 | 24.5 | 24.32 | 1 | 24.5 |
| | | 1 | 49 | 24.25 | 1 | 24.5 | 24.25 | 1 | 24.5 |
| | | 25 | 0 | 22.92 | 2 | 23.5 | 22.92 | 2 | 23.5 |
| | | 25 | 12 | 22.92 | 2 | 23.5 | 22.92 | 2 | 23.5 |
| | | 25 | 25 | 22.94 | 2 | 23.5 | 22.94 | 2 | 23.5 |
| | | 50 | 0 | 23.01 | 2 | 23.5 | 23.01 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.07 | 2 | 23.5 | 23.07 | 2 | 23.5 |
| | | 1 | 25 | 23.13 | 2 | 23.5 | 23.13 | 2 | 23.5 |
| | | 1 | 49 | 23.15 | 2 | 23.5 | 23.15 | 2 | 23.5 |
| | | 25 | 0 | 21.89 | 3 | 22.5 | 21.89 | 3 | 22.5 |
| | | 25 | 12 | 21.92 | 3 | 22.5 | 21.92 | 3 | 22.5 |
| | | 25 | 25 | 21.95 | 3 | 22.5 | 21.95 | 3 | 22.5 |
| | | 50 | 0 | 21.95 | 3 | 22.5 | 21.95 | 3 | 22.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23330 / 793 MHz | MPR | Tune-up Limit | 23330 / 793 MHz | MPR | Tune-up Limit |
| 5 MHz | QPSK | 1 | 0 | 25.37 | 0 | 25.5 | 25.37 | 0 | 25.5 |
| | | 1 | 12 | 25.43 | 0 | 25.5 | 25.43 | 0 | 25.5 |
| | | 1 | 24 | 25.40 | 0 | 25.5 | 25.40 | 0 | 25.5 |
| | | 12 | 0 | 24.45 | 1 | 24.5 | 24.45 | 1 | 24.5 |
| | | 12 | 7 | 24.46 | 1 | 24.5 | 24.46 | 1 | 24.5 |
| | | 12 | 13 | 23.91 | 1 | 24.5 | 23.91 | 1 | 24.5 |
| | | 25 | 0 | 23.93 | 1 | 24.5 | 23.93 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.25 | 1 | 24.5 | 24.25 | 1 | 24.5 |
| | | 1 | 12 | 24.30 | 1 | 24.5 | 24.30 | 1 | 24.5 |
| | | 1 | 24 | 24.31 | 1 | 24.5 | 24.31 | 1 | 24.5 |
| | | 12 | 0 | 22.96 | 2 | 23.5 | 22.96 | 2 | 23.5 |
| | | 12 | 7 | 22.95 | 2 | 23.5 | 22.95 | 2 | 23.5 |
| | | 12 | 13 | 23.03 | 2 | 23.5 | 23.03 | 2 | 23.5 |
| | | 25 | 0 | 23.02 | 2 | 23.5 | 23.02 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.22 | 2 | 23.5 | 23.22 | 2 | 23.5 |
| | | 1 | 12 | 23.30 | 2 | 23.5 | 23.30 | 2 | 23.5 |
| | | 1 | 24 | 23.28 | 2 | 23.5 | 23.28 | 2 | 23.5 |
| | | 12 | 0 | 21.93 | 3 | 22.5 | 21.93 | 3 | 22.5 |
| | | 12 | 7 | 21.91 | 3 | 22.5 | 21.91 | 3 | 22.5 |
| | | 12 | 13 | 22.03 | 3 | 22.5 | 22.03 | 3 | 22.5 |
| | | 25 | 0 | 21.95 | 3 | 22.5 | 21.95 | 3 | 22.5 |

## LTE Band 14 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23330 / 793 MHz | MPR | Tune-up Limit | 23330 / 793 MHz | MPR | Tune-up Limit |
| 10 MHz | QPSK | 1 | 0 | 24.14 | 0 | 24.2 | 24.14 | 0 | 24.2 |
| | | 1 | 25 | 24.20 | 0 | 24.2 | 24.20 | 0 | 24.2 |
| | | 1 | 49 | 24.04 | 0 | 24.2 | 24.04 | 0 | 24.2 |
| | | 25 | 0 | 23.00 | 1 | 23.2 | 23.00 | 1 | 23.2 |
| | | 25 | 12 | 23.10 | 1 | 23.2 | 23.10 | 1 | 23.2 |
| | | 25 | 25 | 23.02 | 1 | 23.2 | 23.02 | 1 | 23.2 |
| | | 50 | 0 | 23.06 | 1 | 23.2 | 23.06 | 1 | 23.2 |
| | 16QAM | 1 | 0 | 23.19 | 1 | 23.2 | 23.19 | 1 | 23.2 |
| | | 1 | 25 | 23.13 | 1 | 23.2 | 23.13 | 1 | 23.2 |
| | | 1 | 49 | 23.06 | 1 | 23.2 | 23.06 | 1 | 23.2 |
| | | 25 | 0 | 22.08 | 2 | 22.2 | 22.08 | 2 | 22.2 |
| | | 25 | 12 | 22.05 | 2 | 22.2 | 22.05 | 2 | 22.2 |
| | | 25 | 25 | 22.04 | 2 | 22.2 | 22.04 | 2 | 22.2 |
| | | 50 | 0 | 22.06 | 2 | 22.2 | 22.06 | 2 | 22.2 |
| | 64QAM | 1 | 0 | 22.13 | 2 | 22.2 | 22.13 | 2 | 22.2 |
| | | 1 | 25 | 22.00 | 2 | 22.2 | 22.00 | 2 | 22.2 |
| | | 1 | 49 | 22.01 | 2 | 22.2 | 22.01 | 2 | 22.2 |
| | | 25 | 0 | 21.12 | 3 | 21.2 | 21.12 | 3 | 21.2 |
| | | 25 | 12 | 21.13 | 3 | 21.2 | 21.13 | 3 | 21.2 |
| | | 25 | 25 | 21.11 | 3 | 21.2 | 21.11 | 3 | 21.2 |
| | | 50 | 0 | 21.15 | 3 | 21.2 | 21.15 | 3 | 21.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 23330 / 793 MHz | MPR | Tune-up Limit | 23330 / 793 MHz | MPR | Tune-up Limit |
| 5 MHz | QPSK | 1 | 0 | 24.03 | 0 | 24.2 | 24.03 | 0 | 24.2 |
| | | 1 | 12 | 24.20 | 0 | 24.2 | 24.20 | 0 | 24.2 |
| | | 1 | 24 | 24.18 | 0 | 24.2 | 24.18 | 0 | 24.2 |
| | | 12 | 0 | 23.20 | 1 | 23.2 | 23.20 | 1 | 23.2 |
| | | 12 | 7 | 23.07 | 1 | 23.2 | 23.07 | 1 | 23.2 |
| | | 12 | 13 | 23.06 | 1 | 23.2 | 23.06 | 1 | 23.2 |
| | | 25 | 0 | 23.08 | 1 | 23.2 | 23.08 | 1 | 23.2 |
| | 16QAM | 1 | 0 | 23.19 | 1 | 23.2 | 23.19 | 1 | 23.2 |
| | | 1 | 12 | 23.05 | 1 | 23.2 | 23.05 | 1 | 23.2 |
| | | 1 | 24 | 23.04 | 1 | 23.2 | 23.04 | 1 | 23.2 |
| | | 12 | 0 | 22.05 | 2 | 22.2 | 22.05 | 2 | 22.2 |
| | | 12 | 7 | 22.12 | 2 | 22.2 | 22.12 | 2 | 22.2 |
| | | 12 | 13 | 22.09 | 2 | 22.2 | 22.09 | 2 | 22.2 |
| | | 25 | 0 | 22.11 | 2 | 22.2 | 22.11 | 2 | 22.2 |
| | 64QAM | 1 | 0 | 22.14 | 2 | 22.2 | 22.14 | 2 | 22.2 |
| | | 1 | 12 | 22.11 | 2 | 22.2 | 22.11 | 2 | 22.2 |
| | | 1 | 24 | 22.13 | 2 | 22.2 | 22.13 | 2 | 22.2 |
| | | 12 | 0 | 21.08 | 3 | 21.2 | 21.08 | 3 | 21.2 |
| | | 12 | 7 | 21.12 | 3 | 21.2 | 21.12 | 3 | 21.2 |
| | | 12 | 13 | 21.11 | 3 | 21.2 | 21.11 | 3 | 21.2 |
| | | 25 | 0 | 21.09 | 3 | 21.2 | 21.09 | 3 | 21.2 |

## LTE Band 25 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26140 | 26365 | 26590 | MPR | Tune-up Limit | 26140 | 26365 | 26590 | MPR | Tune-up Limit |
| | | | | 1860 MHz | 1882.5 MHz | 1905 MHz | | | 1860 MHz | 1882.5 MHz | 1905 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 25.28 | 25.20 | 25.13 | 0 | 25.5 | 19.78 | 19.67 | 19.62 | 0 | 20 |
| | | 1 | 49 | 25.36 | 25.22 | 25.30 | 0 | 25.5 | 19.83 | 19.77 | 19.78 | 0 | 20 |
| | | 1 | 99 | 25.31 | 25.11 | 25.27 | 0 | 25.5 | 19.79 | 19.63 | 19.75 | 0 | 20 |
| | | 50 | 0 | 24.10 | 24.16 | 24.02 | 1 | 24.5 | 19.81 | 19.63 | 19.51 | 0 | 20 |
| | | 50 | 24 | 24.17 | 24.24 | 24.04 | 1 | 24.5 | 19.90 | 19.72 | 19.84 | 0 | 20 |
| | | 50 | 50 | 24.04 | 24.18 | 24.11 | 1 | 24.5 | 19.49 | 19.70 | 19.63 | 0 | 20 |
| | | 100 | 0 | 24.15 | 24.24 | 24.19 | 1 | 24.5 | 19.66 | 19.80 | 19.71 | 0 | 20 |
| | 16QAM | 1 | 0 | 24.38 | 24.42 | 24.37 | 1 | 24.5 | 19.92 | 19.71 | 19.97 | 0 | 20 |
| | | 1 | 49 | 24.46 | 24.46 | 24.33 | 1 | 24.5 | 20.00 | 19.80 | 19.93 | 0 | 20 |
| | | 1 | 99 | 24.32 | 24.41 | 24.50 | 1 | 24.5 | 19.93 | 19.71 | 19.78 | 0 | 20 |
| | | 50 | 0 | 23.34 | 23.36 | 23.45 | 2 | 23.5 | 19.79 | 19.66 | 19.55 | 0 | 20 |
| | | 50 | 24 | 23.41 | 23.45 | 23.47 | 2 | 23.5 | 19.67 | 19.75 | 19.56 | 0 | 20 |
| | | 50 | 50 | 23.31 | 23.40 | 23.34 | 2 | 23.5 | 19.57 | 19.72 | 19.62 | 0 | 20 |
| | | 100 | 0 | 23.37 | 23.31 | 23.40 | 2 | 23.5 | 19.63 | 19.81 | 19.69 | 0 | 20 |
| | 64QAM | 1 | 0 | 23.31 | 23.33 | 23.42 | 2 | 23.5 | 19.85 | 19.75 | 19.75 | 0 | 20 |
| | | 1 | 49 | 23.41 | 23.35 | 23.40 | 2 | 23.5 | 19.92 | 19.86 | 19.90 | 0 | 20 |
| | | 1 | 99 | 23.44 | 23.24 | 23.32 | 2 | 23.5 | 19.84 | 19.71 | 19.71 | 0 | 20 |
| | | 50 | 0 | 22.39 | 22.43 | 22.20 | 3 | 22.5 | 19.44 | 19.27 | 19.24 | 0 | 20 |
| | | 50 | 24 | 22.47 | 22.32 | 22.39 | 3 | 22.5 | 19.35 | 19.35 | 19.24 | 0 | 20 |
| | | 50 | 50 | 22.38 | 22.31 | 22.45 | 3 | 22.5 | 19.23 | 19.39 | 19.27 | 0 | 20 |
| | | 100 | 0 | 22.45 | 22.39 | 22.31 | 3 | 22.5 | 19.31 | 19.43 | 19.37 | 0 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26115 | 26365 | 26615 | MPR | Tune-up Limit | 26115 | 26365 | 26615 | MPR | Tune-up Limit |
| | | | | 1857.5 MHz | 1882.5 MHz | 1907.5 MHz | | | 1857.5 MHz | 1882.5 MHz | 1907.5 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 25.28 | 25.07 | 25.10 | 0 | 25.5 | 19.77 | 19.57 | 19.59 | 0 | 20 |
| | | 1 | 37 | 25.39 | 25.26 | 25.09 | 0 | 25.5 | 19.88 | 19.76 | 19.55 | 0 | 20 |
| | | 1 | 74 | 24.99 | 25.11 | 25.16 | 0 | 25.5 | 19.48 | 19.61 | 19.63 | 0 | 20 |
| | | 36 | 0 | 24.26 | 24.13 | 24.08 | 1 | 24.5 | 19.79 | 19.63 | 19.52 | 0 | 20 |
| | | 36 | 20 | 24.28 | 24.21 | 24.10 | 1 | 24.5 | 19.80 | 19.72 | 19.53 | 0 | 20 |
| | | 36 | 39 | 24.18 | 24.16 | 24.09 | 1 | 24.5 | 19.67 | 19.65 | 19.55 | 0 | 20 |
| | | 75 | 0 | 24.25 | 24.24 | 24.17 | 1 | 24.5 | 19.76 | 19.75 | 19.63 | 0 | 20 |
| | 16QAM | 1 | 0 | 24.41 | 24.44 | 24.34 | 1 | 24.5 | 19.81 | 19.94 | 19.81 | 0 | 20 |
| | | 1 | 37 | 24.36 | 24.38 | 24.37 | 1 | 24.5 | 19.98 | 19.84 | 19.89 | 0 | 20 |
| | | 1 | 74 | 24.38 | 24.48 | 24.46 | 1 | 24.5 | 19.85 | 19.70 | 19.92 | 0 | 20 |
| | | 36 | 0 | 23.43 | 23.43 | 23.38 | 2 | 23.5 | 19.81 | 19.63 | 19.55 | 0 | 20 |
| | | 36 | 20 | 23.42 | 23.32 | 23.38 | 2 | 23.5 | 19.81 | 19.72 | 19.53 | 0 | 20 |
| | | 36 | 39 | 23.35 | 23.45 | 23.40 | 2 | 23.5 | 19.69 | 19.66 | 19.56 | 0 | 20 |
| | | 75 | 0 | 23.40 | 23.34 | 23.44 | 2 | 23.5 | 19.77 | 19.76 | 19.61 | 0 | 20 |
| | 64QAM | 1 | 0 | 23.32 | 23.43 | 23.50 | 2 | 23.5 | 19.94 | 19.84 | 19.88 | 0 | 20 |
| | | 1 | 37 | 23.39 | 23.39 | 23.33 | 2 | 23.5 | 19.81 | 19.97 | 19.87 | 0 | 20 |
| | | 1 | 74 | 23.41 | 23.32 | 23.33 | 2 | 23.5 | 19.83 | 19.88 | 19.82 | 0 | 20 |
| | | 36 | 0 | 22.41 | 22.46 | 22.41 | 3 | 22.5 | 19.47 | 19.29 | 19.25 | 0 | 20 |
| | | 36 | 20 | 22.41 | 22.35 | 22.40 | 3 | 22.5 | 19.41 | 19.38 | 19.22 | 0 | 20 |
| | | 36 | 39 | 22.36 | 22.49 | 22.41 | 3 | 22.5 | 19.41 | 19.34 | 19.23 | 0 | 20 |
| | | 75 | 0 | 22.37 | 22.35 | 22.46 | 3 | 22.5 | 19.45 | 19.40 | 19.27 | 0 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26090 | 26365 | 26640 | MPR | Tune-up Limit | 26090 | 26365 | 26640 | MPR | Tune-up Limit |
| | | | | 1855 MHz | 1882.5 MHz | 1910 MHz | | | 1855 MHz | 1882.5 MHz | 1910 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 25.22 | 25.18 | 25.15 | 0 | 25.5 | 19.73 | 19.64 | 19.62 | 0 | 20 |
| | | 1 | 25 | 25.32 | 25.27 | 25.14 | 0 | 25.5 | 19.80 | 19.73 | 19.62 | 0 | 20 |
| | | 1 | 49 | 25.41 | 25.25 | 25.22 | 0 | 25.5 | 19.86 | 19.74 | 19.71 | 0 | 20 |
| | | 25 | 0 | 24.22 | 24.20 | 24.04 | 1 | 24.5 | 19.70 | 19.66 | 19.46 | 0 | 20 |
| | | 25 | 12 | 24.25 | 24.16 | 24.06 | 1 | 24.5 | 19.71 | 19.68 | 19.51 | 0 | 20 |
| | | 25 | 25 | 24.31 | 24.16 | 24.11 | 1 | 24.5 | 19.76 | 19.68 | 19.55 | 0 | 20 |
| | | 50 | 0 | 24.28 | 24.19 | 24.13 | 1 | 24.5 | 19.72 | 19.71 | 19.58 | 0 | 20 |
| | 16QAM | 1 | 0 | 24.39 | 24.40 | 24.45 | 1 | 24.5 | 19.78 | 19.73 | 19.83 | 0 | 20 |
| | | 1 | 25 | 24.49 | 24.50 | 24.48 | 1 | 24.5 | 19.84 | 19.82 | 19.85 | 0 | 20 |
| | | 1 | 49 | 24.33 | 24.31 | 24.36 | 1 | 24.5 | 19.95 | 19.85 | 19.93 | 0 | 20 |
| | | 25 | 0 | 23.34 | 23.48 | 23.36 | 2 | 23.5 | 19.73 | 19.68 | 19.50 | 0 | 20 |
| | | 25 | 12 | 23.35 | 23.32 | 23.39 | 2 | 23.5 | 19.74 | 19.71 | 19.53 | 0 | 20 |
| | | 25 | 25 | 23.38 | 23.35 | 23.42 | 2 | 23.5 | 19.78 | 19.70 | 19.57 | 0 | 20 |
| | | 50 | 0 | 23.35 | 23.50 | 23.41 | 2 | 23.5 | 19.74 | 19.72 | 19.58 | 0 | 20 |
| | 64QAM | 1 | 0 | 23.33 | 23.43 | 23.43 | 2 | 23.5 | 19.98 | 19.93 | 19.83 | 0 | 20 |
| | | 1 | 25 | 23.34 | 23.48 | 23.43 | 2 | 23.5 | 19.82 | 19.71 | 19.52 | 0 | 20 |
| | | 1 | 49 | 23.43 | 23.48 | 23.50 | 2 | 23.5 | 19.83 | 19.75 | 19.54 | 0 | 20 |
| | | 25 | 0 | 22.35 | 22.32 | 22.36 | 3 | 22.5 | 19.43 | 19.44 | 19.27 | 0 | 20 |
| | | 25 | 12 | 22.35 | 22.31 | 22.36 | 3 | 22.5 | 19.45 | 19.43 | 19.29 | 0 | 20 |
| | | 25 | 25 | 22.38 | 22.50 | 22.39 | 3 | 22.5 | 19.48 | 19.44 | 19.31 | 0 | 20 |
| | | 50 | 0 | 22.34 | 22.31 | 22.40 | 3 | 22.5 | 19.40 | 19.44 | 19.25 | 0 | 20 |

## LTE Band 25 Measured Results (ANT1) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26065 | 26365 | 26665 | MPR | Tune-up Limit | 26065 | 26365 | 26665 | MPR | Tune-up Limit |
| | | | | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz | | | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 25.21 | 25.22 | 25.15 | 0 | 25.5 | 19.81 | 19.78 | 19.62 | 0 | 20 |
| | | 1 | 12 | 25.26 | 25.22 | 25.17 | 0 | 25.5 | 19.83 | 19.74 | 19.65 | 0 | 20 |
| | | 1 | 24 | 25.33 | 25.22 | 25.22 | 0 | 25.5 | 19.91 | 19.80 | 19.73 | 0 | 20 |
| | | 12 | 0 | 24.16 | 24.23 | 24.10 | 1 | 24.5 | 19.72 | 19.77 | 19.57 | 0 | 20 |
| | | 12 | 7 | 24.19 | 24.18 | 24.13 | 1 | 24.5 | 19.75 | 19.73 | 19.62 | 0 | 20 |
| | | 12 | 13 | 24.23 | 24.21 | 24.12 | 1 | 24.5 | 19.79 | 19.75 | 19.64 | 0 | 20 |
| | | 25 | 0 | 24.19 | 24.19 | 24.14 | 1 | 24.5 | 19.76 | 19.75 | 19.64 | 0 | 20 |
| | 16QAM | 1 | 0 | 24.50 | 24.44 | 24.34 | 1 | 24.5 | 19.83 | 19.90 | 19.82 | 0 | 20 |
| | | 1 | 12 | 24.35 | 24.39 | 24.38 | 1 | 24.5 | 19.83 | 19.85 | 19.83 | 0 | 20 |
| | | 1 | 24 | 24.41 | 24.39 | 24.44 | 1 | 24.5 | 19.91 | 19.94 | 19.87 | 0 | 20 |
| | | 12 | 0 | 23.49 | 23.42 | 23.38 | 2 | 23.5 | 19.76 | 19.84 | 19.58 | 0 | 20 |
| | | 12 | 7 | 23.36 | 23.37 | 23.42 | 2 | 23.5 | 19.80 | 19.79 | 19.63 | 0 | 20 |
| | | 12 | 13 | 23.42 | 23.40 | 23.40 | 2 | 23.5 | 19.85 | 19.82 | 19.64 | 0 | 20 |
| | | 25 | 0 | 23.34 | 23.36 | 23.45 | 2 | 23.5 | 19.79 | 19.78 | 19.65 | 0 | 20 |
| | 64QAM | 1 | 0 | 23.34 | 23.33 | 23.37 | 2 | 23.5 | 19.72 | 19.79 | 19.74 | 0 | 20 |
| | | 1 | 12 | 23.37 | 23.50 | 23.32 | 2 | 23.5 | 19.74 | 19.71 | 19.70 | 0 | 20 |
| | | 1 | 24 | 23.38 | 23.33 | 23.40 | 2 | 23.5 | 19.84 | 19.75 | 19.76 | 0 | 20 |
| | | 12 | 0 | 22.47 | 22.39 | 22.45 | 3 | 22.5 | 19.41 | 19.26 | 19.29 | 0 | 20 |
| | | 12 | 7 | 22.31 | 22.41 | 22.45 | 3 | 22.5 | 19.44 | 19.49 | 19.31 | 0 | 20 |
| | | 12 | 13 | 22.34 | 22.45 | 22.42 | 3 | 22.5 | 19.48 | 19.23 | 19.29 | 0 | 20 |
| | | 25 | 0 | 22.32 | 22.38 | 22.46 | 3 | 22.5 | 19.46 | 19.47 | 19.31 | 0 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26055 | 26365 | 26675 | MPR | Tune-up Limit | 26055 | 26365 | 26675 | MPR | Tune-up Limit |
| | | | | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz | | | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 25.18 | 25.24 | 25.15 | 0 | 25.5 | 19.66 | 19.78 | 19.58 | 0 | 20 |
| | | 1 | 8 | 25.23 | 25.22 | 25.28 | 0 | 25.5 | 19.74 | 19.78 | 19.69 | 0 | 20 |
| | | 1 | 14 | 25.25 | 25.12 | 25.17 | 0 | 25.5 | 19.75 | 19.71 | 19.66 | 0 | 20 |
| | | 8 | 0 | 24.14 | 24.23 | 24.14 | 1 | 24.5 | 19.69 | 19.70 | 19.58 | 0 | 20 |
| | | 8 | 4 | 24.22 | 24.24 | 24.09 | 1 | 24.5 | 19.70 | 19.72 | 19.58 | 0 | 20 |
| | | 8 | 7 | 24.25 | 24.26 | 24.12 | 1 | 24.5 | 19.72 | 19.73 | 19.61 | 0 | 20 |
| | | 15 | 0 | 24.22 | 24.24 | 24.10 | 1 | 24.5 | 19.72 | 19.73 | 19.59 | 0 | 20 |
| | 16QAM | 1 | 0 | 24.47 | 24.39 | 24.36 | 1 | 24.5 | 19.76 | 19.80 | 19.66 | 0 | 20 |
| | | 1 | 8 | 24.33 | 24.38 | 24.30 | 1 | 24.5 | 19.84 | 19.73 | 19.78 | 0 | 20 |
| | | 1 | 14 | 24.38 | 24.34 | 24.40 | 1 | 24.5 | 19.87 | 19.72 | 19.74 | 0 | 20 |
| | | 8 | 0 | 23.33 | 23.36 | 23.31 | 2 | 23.5 | 19.75 | 19.78 | 19.65 | 0 | 20 |
| | | 8 | 4 | 23.34 | 23.37 | 23.35 | 2 | 23.5 | 19.76 | 19.80 | 19.65 | 0 | 20 |
| | | 8 | 7 | 23.35 | 23.40 | 23.37 | 2 | 23.5 | 19.77 | 19.80 | 19.67 | 0 | 20 |
| | | 15 | 0 | 23.32 | 23.34 | 23.49 | 2 | 23.5 | 19.74 | 19.76 | 19.63 | 0 | 20 |
| | 64QAM | 1 | 0 | 23.34 | 23.34 | 23.34 | 2 | 23.5 | 19.90 | 20.00 | 19.84 | 0 | 20 |
| | | 1 | 8 | 23.50 | 23.36 | 23.32 | 2 | 23.5 | 19.76 | 19.70 | 19.90 | 0 | 20 |
| | | 1 | 14 | 23.32 | 23.50 | 23.44 | 2 | 23.5 | 19.97 | 19.89 | 19.83 | 0 | 20 |
| | | 8 | 0 | 22.39 | 22.41 | 22.48 | 3 | 22.5 | 19.48 | 19.48 | 19.38 | 0 | 20 |
| | | 8 | 4 | 22.40 | 22.40 | 22.32 | 3 | 22.5 | 19.49 | 19.49 | 19.35 | 0 | 20 |
| | | 8 | 7 | 22.41 | 22.42 | 22.36 | 3 | 22.5 | 19.22 | 19.50 | 19.39 | 0 | 20 |
| | | 15 | 0 | 22.35 | 22.41 | 22.45 | 3 | 22.5 | 19.44 | 19.46 | 19.28 | 0 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26047 | 26365 | 26683 | MPR | Tune-up Limit | 26047 | 26365 | 26683 | MPR | Tune-up Limit |
| | | | | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz | | | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 25.23 | 25.29 | 25.19 | 0 | 25.5 | 19.71 | 19.77 | 19.68 | 0 | 20 |
| | | 1 | 3 | 25.23 | 25.27 | 25.14 | 0 | 25.5 | 19.69 | 19.77 | 19.62 | 0 | 20 |
| | | 1 | 5 | 25.30 | 25.31 | 25.19 | 0 | 25.5 | 19.73 | 19.84 | 19.68 | 0 | 20 |
| | | 3 | 0 | 24.44 | 24.34 | 24.45 | 1 | 24.5 | 19.65 | 19.75 | 19.60 | 0 | 20 |
| | | 3 | 1 | 24.43 | 24.35 | 24.46 | 1 | 24.5 | 19.65 | 19.76 | 19.60 | 0 | 20 |
| | | 3 | 3 | 24.44 | 24.34 | 24.42 | 1 | 24.5 | 19.64 | 19.77 | 19.61 | 0 | 20 |
| | | 6 | 0 | 23.99 | 24.05 | 23.94 | 1 | 24.5 | 19.65 | 19.75 | 19.59 | 0 | 20 |
| | 16QAM | 1 | 0 | 24.30 | 24.43 | 24.46 | 1 | 24.5 | 19.71 | 19.92 | 19.92 | 0 | 20 |
| | | 1 | 3 | 24.49 | 24.47 | 24.36 | 1 | 24.5 | 19.72 | 19.93 | 19.84 | 0 | 20 |
| | | 1 | 5 | 24.34 | 24.47 | 24.48 | 1 | 24.5 | 19.71 | 19.96 | 19.95 | 0 | 20 |
| | | 3 | 0 | 23.44 | 23.50 | 23.37 | 2 | 23.5 | 19.85 | 19.93 | 19.74 | 0 | 20 |
| | | 3 | 1 | 23.44 | 23.30 | 23.35 | 2 | 23.5 | 19.84 | 19.93 | 19.73 | 0 | 20 |
| | | 3 | 3 | 23.43 | 23.30 | 23.35 | 2 | 23.5 | 19.84 | 19.90 | 19.78 | 0 | 20 |
| | | 6 | 0 | 23.38 | 23.38 | 23.32 | 2 | 23.5 | 19.76 | 19.78 | 19.69 | 0 | 20 |
| | 64QAM | 1 | 0 | 23.32 | 23.39 | 23.45 | 2 | 23.5 | 19.92 | 19.78 | 19.76 | 0 | 20 |
| | | 1 | 3 | 23.32 | 23.33 | 23.33 | 2 | 23.5 | 19.89 | 19.72 | 19.99 | 0 | 20 |
| | | 1 | 5 | 23.39 | 23.38 | 23.38 | 2 | 23.5 | 19.71 | 19.75 | 19.76 | 0 | 20 |
| | | 3 | 0 | 22.43 | 22.46 | 22.42 | 3 | 22.5 | 19.81 | 19.88 | 19.91 | 0 | 20 |
| | | 3 | 1 | 22.44 | 22.48 | 22.43 | 3 | 22.5 | 19.82 | 19.87 | 19.89 | 0 | 20 |
| | | 3 | 3 | 22.44 | 22.48 | 22.46 | 3 | 22.5 | 19.85 | 19.86 | 19.89 | 0 | 20 |
| | | 6 | 0 | 22.38 | 22.46 | 22.49 | 3 | 22.5 | 19.20 | 19.24 | 19.27 | 0 | 20 |

## LTE Band 25 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26140 | 26365 | 26590 | MPR | Tune-up Limit | 26140 | 26365 | 26590 | MPR | Tune-up Limit |
| | | | | 1860 MHz | 1882.5 MHz | 1905 MHz | | | 1860 MHz | 1882.5 MHz | 1905 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 19.26 | 19.00 | 19.20 | 0 | 19.5 | 19.14 | 19.07 | 19.03 | 0 | 19.2 |
| | | 1 | 49 | 19.27 | 19.10 | 19.30 | 0 | 19.5 | 19.20 | 19.10 | 19.10 | 0 | 19.2 |
| | | 1 | 99 | 19.21 | 19.04 | 19.15 | 0 | 19.5 | 19.18 | 19.00 | 19.05 | 0 | 19.2 |
| | | 50 | 0 | 19.31 | 19.09 | 19.03 | 0 | 19.5 | 19.19 | 18.95 | 18.87 | 0 | 19.2 |
| | | 50 | 24 | 19.40 | 19.10 | 19.10 | 0 | 19.5 | 19.20 | 19.05 | 18.90 | 0 | 19.2 |
| | | 50 | 50 | 18.98 | 19.08 | 19.01 | 0 | 19.5 | 18.88 | 19.03 | 18.80 | 0 | 19.2 |
| | | 100 | 0 | 19.11 | 19.23 | 19.12 | 0 | 19.5 | 19.00 | 19.12 | 18.98 | 0 | 19.2 |
| | 16QAM | 1 | 0 | 19.31 | 19.36 | 19.31 | 0 | 19.5 | 19.10 | 18.93 | 18.86 | 0 | 19.2 |
| | | 1 | 49 | 19.36 | 19.32 | 19.32 | 0 | 19.5 | 19.15 | 18.92 | 18.67 | 0 | 19.2 |
| | | 1 | 99 | 19.47 | 19.41 | 19.49 | 0 | 19.5 | 19.15 | 18.79 | 18.89 | 0 | 19.2 |
| | | 50 | 0 | 19.30 | 19.12 | 19.05 | 0 | 19.5 | 18.69 | 18.48 | 18.39 | 0 | 19.2 |
| | | 50 | 24 | 19.13 | 19.15 | 18.97 | 0 | 19.5 | 18.52 | 18.54 | 18.31 | 0 | 19.2 |
| | | 50 | 50 | 19.00 | 19.15 | 19.01 | 0 | 19.5 | 18.41 | 18.52 | 18.39 | 0 | 19.2 |
| | | 100 | 0 | 19.10 | 19.23 | 19.11 | 0 | 19.5 | 18.50 | 18.62 | 18.45 | 0 | 19.2 |
| | 64QAM | 1 | 0 | 19.43 | 19.33 | 19.35 | 0 | 19.5 | 18.65 | 18.66 | 18.39 | 0 | 19.2 |
| | | 1 | 49 | 19.46 | 19.28 | 19.39 | 0 | 19.5 | 18.74 | 18.70 | 18.25 | 0 | 19.2 |
| | | 1 | 99 | 19.38 | 19.16 | 19.31 | 0 | 19.5 | 18.79 | 18.75 | 18.64 | 0 | 19.2 |
| | | 50 | 0 | 19.29 | 19.08 | 19.06 | 0 | 19.5 | 18.31 | 18.17 | 18.04 | 0 | 19.2 |
| | | 50 | 24 | 19.12 | 19.14 | 18.97 | 0 | 19.5 | 18.24 | 18.29 | 18.19 | 0 | 19.2 |
| | | 50 | 50 | 18.99 | 19.16 | 19.02 | 0 | 19.5 | 18.15 | 18.34 | 18.32 | 0 | 19.2 |
| | | 100 | 0 | 19.09 | 19.22 | 19.12 | 0 | 19.5 | 18.20 | 18.39 | 18.32 | 0 | 19.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26115 | 26365 | 26615 | MPR | Tune-up Limit | 26115 | 26365 | 26615 | MPR | Tune-up Limit |
| | | | | 1857.5 MHz | 1882.5 MHz | 1907.5 MHz | | | 1857.5 MHz | 1882.5 MHz | 1907.5 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 19.21 | 19.09 | 19.14 | 0 | 19.5 | 18.60 | 18.47 | 18.48 | 0 | 19.2 |
| | | 1 | 37 | 19.29 | 19.13 | 19.04 | 0 | 19.5 | 18.72 | 18.59 | 18.44 | 0 | 19.2 |
| | | 1 | 74 | 18.95 | 19.00 | 19.11 | 0 | 19.5 | 18.42 | 18.47 | 18.57 | 0 | 19.2 |
| | | 36 | 0 | 19.24 | 19.01 | 18.97 | 0 | 19.5 | 18.62 | 18.45 | 18.32 | 0 | 19.2 |
| | | 36 | 20 | 19.25 | 19.10 | 18.98 | 0 | 19.5 | 18.60 | 18.49 | 18.31 | 0 | 19.2 |
| | | 36 | 39 | 19.14 | 19.09 | 18.98 | 0 | 19.5 | 18.48 | 18.46 | 18.37 | 0 | 19.2 |
| | | 75 | 0 | 19.25 | 19.13 | 19.05 | 0 | 19.5 | 18.59 | 18.54 | 18.40 | 0 | 19.2 |
| | 16QAM | 1 | 0 | 19.38 | 19.34 | 19.45 | 0 | 19.5 | 18.96 | 18.79 | 18.84 | 0 | 19.2 |
| | | 1 | 37 | 19.48 | 19.44 | 19.42 | 0 | 19.5 | 19.04 | 18.92 | 18.77 | 0 | 19.2 |
| | | 1 | 74 | 19.36 | 19.31 | 19.47 | 0 | 19.5 | 18.79 | 18.81 | 18.87 | 0 | 19.2 |
| | | 36 | 0 | 19.26 | 19.05 | 18.98 | 0 | 19.5 | 18.62 | 18.50 | 18.33 | 0 | 19.2 |
| | | 36 | 20 | 19.27 | 19.11 | 18.97 | 0 | 19.5 | 18.63 | 18.51 | 18.32 | 0 | 19.2 |
| | | 36 | 39 | 19.16 | 19.08 | 18.97 | 0 | 19.5 | 18.51 | 18.47 | 18.35 | 0 | 19.2 |
| | | 75 | 0 | 19.25 | 19.14 | 19.04 | 0 | 19.5 | 18.61 | 18.54 | 18.39 | 0 | 19.2 |
| | 64QAM | 1 | 0 | 19.47 | 19.36 | 19.34 | 0 | 19.5 | 18.46 | 18.35 | 18.43 | 0 | 19.2 |
| | | 1 | 37 | 19.36 | 19.46 | 19.23 | 0 | 19.5 | 18.60 | 18.65 | 18.64 | 0 | 19.2 |
| | | 1 | 74 | 19.25 | 19.33 | 19.32 | 0 | 19.5 | 18.44 | 18.58 | 18.76 | 0 | 19.2 |
| | | 36 | 0 | 19.27 | 19.06 | 18.97 | 0 | 19.5 | 18.33 | 18.16 | 18.15 | 0 | 19.2 |
| | | 36 | 20 | 19.10 | 19.12 | 18.98 | 0 | 19.5 | 18.32 | 18.30 | 18.19 | 0 | 19.2 |
| | | 36 | 39 | 19.19 | 19.11 | 18.98 | 0 | 19.5 | 18.29 | 18.32 | 18.26 | 0 | 19.2 |
| | | 75 | 0 | 19.25 | 19.15 | 19.02 | 0 | 19.5 | 18.29 | 18.31 | 18.26 | 0 | 19.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26090 | 26365 | 26640 | MPR | Tune-up Limit | 26090 | 26365 | 26640 | MPR | Tune-up Limit |
| | | | | 1855 MHz | 1882.5 MHz | 1910 MHz | | | 1855 MHz | 1882.5 MHz | 1910 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 19.28 | 19.20 | 19.07 | 0 | 19.5 | 18.62 | 18.58 | 18.40 | 0 | 19.2 |
| | | 1 | 25 | 19.37 | 19.24 | 19.12 | 0 | 19.5 | 18.71 | 18.60 | 18.45 | 0 | 19.2 |
| | | 1 | 49 | 19.34 | 19.25 | 19.14 | 0 | 19.5 | 18.69 | 18.63 | 18.51 | 0 | 19.2 |
| | | 25 | 0 | 19.25 | 19.15 | 18.99 | 0 | 19.5 | 18.59 | 18.52 | 18.34 | 0 | 19.2 |
| | | 25 | 12 | 19.31 | 19.16 | 19.02 | 0 | 19.5 | 18.64 | 18.52 | 18.37 | 0 | 19.2 |
| | | 25 | 25 | 19.31 | 19.20 | 19.04 | 0 | 19.5 | 18.66 | 18.56 | 18.40 | 0 | 19.2 |
| | | 50 | 0 | 19.29 | 19.20 | 19.08 | 0 | 19.5 | 18.66 | 18.56 | 18.42 | 0 | 19.2 |
| | 16QAM | 1 | 0 | 19.45 | 19.46 | 19.46 | 0 | 19.5 | 18.99 | 18.82 | 18.78 | 0 | 19.2 |
| | | 1 | 25 | 19.35 | 19.49 | 19.47 | 0 | 19.5 | 19.10 | 18.88 | 18.83 | 0 | 19.2 |
| | | 1 | 49 | 19.33 | 19.33 | 19.32 | 0 | 19.5 | 19.08 | 18.89 | 18.88 | 0 | 19.2 |
| | | 25 | 0 | 19.26 | 19.19 | 19.02 | 0 | 19.5 | 18.59 | 18.55 | 18.36 | 0 | 19.2 |
| | | 25 | 12 | 19.32 | 19.20 | 19.05 | 0 | 19.5 | 18.66 | 18.55 | 18.38 | 0 | 19.2 |
| | | 25 | 25 | 19.33 | 19.23 | 19.06 | 0 | 19.5 | 18.68 | 18.59 | 18.40 | 0 | 19.2 |
| | | 50 | 0 | 19.25 | 19.21 | 19.02 | 0 | 19.5 | 18.66 | 18.56 | 18.42 | 0 | 19.2 |
| | 64QAM | 1 | 0 | 19.46 | 19.36 | 19.28 | 0 | 19.5 | 18.61 | 18.43 | 18.49 | 0 | 19.2 |
| | | 1 | 25 | 19.44 | 19.47 | 19.33 | 0 | 19.5 | 18.61 | 18.59 | 18.56 | 0 | 19.2 |
| | | 1 | 49 | 19.38 | 19.42 | 19.35 | 0 | 19.5 | 18.68 | 18.64 | 18.60 | 0 | 19.2 |
| | | 25 | 0 | 19.08 | 19.21 | 18.94 | 0 | 19.5 | 18.36 | 18.30 | 18.22 | 0 | 19.2 |
| | | 25 | 12 | 19.11 | 19.19 | 18.95 | 0 | 19.5 | 18.36 | 18.34 | 18.24 | 0 | 19.2 |
| | | 25 | 25 | 19.28 | 19.18 | 18.98 | 0 | 19.5 | 18.37 | 18.42 | 18.25 | 0 | 19.2 |
| | | 50 | 0 | 19.27 | 19.15 | 18.99 | 0 | 19.5 | 18.35 | 18.34 | 18.27 | 0 | 19.2 |

## LTE Band 25 Measured Results (ANT2) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26065 | 26365 | 26665 | MPR | Tune-up Limit | 26065 | 26365 | 26665 | MPR | Tune-up Limit |
| | | | | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz | | | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 19.22 | 19.26 | 19.11 | 0 | 19.5 | 18.61 | 18.63 | 18.52 | 0 | 19.2 |
| | | 1 | 12 | 19.25 | 19.25 | 19.11 | 0 | 19.5 | 18.62 | 18.61 | 18.49 | 0 | 19.2 |
| | | 1 | 24 | 19.34 | 19.30 | 19.17 | 0 | 19.5 | 18.71 | 18.67 | 18.56 | 0 | 19.2 |
| | | 12 | 0 | 19.20 | 19.17 | 19.04 | 0 | 19.5 | 18.57 | 18.54 | 18.41 | 0 | 19.2 |
| | | 12 | 7 | 19.23 | 19.18 | 19.05 | 0 | 19.5 | 18.60 | 18.53 | 18.44 | 0 | 19.2 |
| | | 12 | 13 | 19.25 | 19.19 | 19.08 | 0 | 19.5 | 18.62 | 18.54 | 18.47 | 0 | 19.2 |
| | | 25 | 0 | 19.24 | 19.20 | 19.11 | 0 | 19.5 | 18.60 | 18.55 | 18.50 | 0 | 19.2 |
| | 16QAM | 1 | 0 | 19.48 | 19.38 | 19.31 | 0 | 19.5 | 19.05 | 18.95 | 18.89 | 0 | 19.2 |
| | | 1 | 12 | 19.11 | 19.38 | 19.31 | 0 | 19.5 | 19.06 | 18.92 | 18.90 | 0 | 19.2 |
| | | 1 | 24 | 19.22 | 19.43 | 19.35 | 0 | 19.5 | 19.18 | 19.02 | 18.96 | 0 | 19.2 |
| | | 12 | 0 | 19.24 | 19.24 | 19.08 | 0 | 19.5 | 18.62 | 18.59 | 18.46 | 0 | 19.2 |
| | | 12 | 7 | 19.25 | 19.26 | 19.09 | 0 | 19.5 | 18.63 | 18.61 | 18.48 | 0 | 19.2 |
| | | 12 | 13 | 19.28 | 19.28 | 19.11 | 0 | 19.5 | 18.66 | 18.64 | 18.52 | 0 | 19.2 |
| | | 25 | 0 | 19.06 | 19.04 | 19.11 | 0 | 19.5 | 18.65 | 18.60 | 18.51 | 0 | 19.2 |
| | 64QAM | 1 | 0 | 19.35 | 19.30 | 19.48 | 0 | 19.5 | 18.60 | 18.64 | 18.72 | 0 | 19.2 |
| | | 1 | 12 | 19.35 | 19.32 | 19.49 | 0 | 19.5 | 18.67 | 18.71 | 18.77 | 0 | 19.2 |
| | | 1 | 24 | 19.47 | 19.39 | 19.33 | 0 | 19.5 | 18.70 | 18.76 | 18.87 | 0 | 19.2 |
| | | 12 | 0 | 19.23 | 19.25 | 19.09 | 0 | 19.5 | 18.28 | 18.41 | 18.36 | 0 | 19.2 |
| | | 12 | 7 | 19.26 | 19.27 | 19.10 | 0 | 19.5 | 18.38 | 18.45 | 18.36 | 0 | 19.2 |
| | | 12 | 13 | 19.27 | 19.29 | 19.12 | 0 | 19.5 | 18.37 | 18.45 | 18.40 | 0 | 19.2 |
| | | 25 | 0 | 19.27 | 19.25 | 19.04 | 0 | 19.5 | 18.37 | 18.41 | 18.31 | 0 | 19.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26055 | 26365 | 26675 | MPR | Tune-up Limit | 26055 | 26365 | 26675 | MPR | Tune-up Limit |
| | | | | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz | | | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 19.18 | 19.19 | 19.15 | 0 | 19.5 | 18.54 | 18.59 | 18.53 | 0 | 19.2 |
| | | 1 | 8 | 19.25 | 19.24 | 19.19 | 0 | 19.5 | 18.60 | 18.64 | 18.58 | 0 | 19.2 |
| | | 1 | 14 | 19.23 | 19.21 | 19.11 | 0 | 19.5 | 18.60 | 18.60 | 18.51 | 0 | 19.2 |
| | | 8 | 0 | 19.20 | 19.17 | 19.07 | 0 | 19.5 | 18.56 | 18.56 | 18.45 | 0 | 19.2 |
| | | 8 | 4 | 19.21 | 19.16 | 19.08 | 0 | 19.5 | 18.57 | 18.56 | 18.47 | 0 | 19.2 |
| | | 8 | 7 | 19.22 | 19.18 | 19.10 | 0 | 19.5 | 18.58 | 18.58 | 18.50 | 0 | 19.2 |
| | | 15 | 0 | 19.22 | 19.17 | 19.07 | 0 | 19.5 | 18.58 | 18.57 | 18.47 | 0 | 19.2 |
| | 16QAM | 1 | 0 | 19.35 | 19.45 | 19.46 | 0 | 19.5 | 18.91 | 18.82 | 18.85 | 0 | 19.2 |
| | | 1 | 8 | 19.44 | 19.34 | 19.36 | 0 | 19.5 | 18.99 | 18.92 | 18.93 | 0 | 19.2 |
| | | 1 | 14 | 19.40 | 19.45 | 19.46 | 0 | 19.5 | 19.00 | 18.89 | 18.92 | 0 | 19.2 |
| | | 8 | 0 | 19.26 | 19.24 | 19.12 | 0 | 19.5 | 18.62 | 18.64 | 18.53 | 0 | 19.2 |
| | | 8 | 4 | 19.26 | 19.24 | 19.13 | 0 | 19.5 | 18.63 | 18.64 | 18.55 | 0 | 19.2 |
| | | 8 | 7 | 19.26 | 19.25 | 19.16 | 0 | 19.5 | 18.65 | 18.65 | 18.55 | 0 | 19.2 |
| | | 15 | 0 | 19.24 | 19.23 | 19.13 | 0 | 19.5 | 18.62 | 18.61 | 18.53 | 0 | 19.2 |
| | 64QAM | 1 | 0 | 19.46 | 19.37 | 19.29 | 0 | 19.5 | 18.55 | 18.56 | 18.51 | 0 | 19.2 |
| | | 1 | 8 | 19.32 | 19.43 | 19.34 | 0 | 19.5 | 18.60 | 18.55 | 18.68 | 0 | 19.2 |
| | | 1 | 14 | 19.32 | 19.38 | 19.33 | 0 | 19.5 | 18.75 | 18.53 | 18.56 | 0 | 19.2 |
| | | 8 | 0 | 19.29 | 19.24 | 19.12 | 0 | 19.5 | 18.43 | 18.40 | 18.36 | 0 | 19.2 |
| | | 8 | 4 | 19.10 | 19.24 | 19.13 | 0 | 19.5 | 18.43 | 18.40 | 18.39 | 0 | 19.2 |
| | | 8 | 7 | 19.12 | 19.25 | 19.15 | 0 | 19.5 | 18.44 | 18.40 | 18.42 | 0 | 19.2 |
| | | 15 | 0 | 19.26 | 19.22 | 19.08 | 0 | 19.5 | 18.38 | 18.38 | 18.34 | 0 | 19.2 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26047 | 26365 | 26683 | MPR | Tune-up Limit | 26047 | 26365 | 26683 | MPR | Tune-up Limit |
| | | | | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz | | | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 19.28 | 19.32 | 19.22 | 0 | 19.5 | 18.71 | 18.72 | 18.64 | 0 | 19.2 |
| | | 1 | 3 | 19.25 | 19.29 | 19.22 | 0 | 19.5 | 18.69 | 18.69 | 18.65 | 0 | 19.2 |
| | | 1 | 5 | 19.29 | 19.32 | 19.20 | 0 | 19.5 | 18.72 | 18.72 | 18.64 | 0 | 19.2 |
| | | 3 | 0 | 19.24 | 19.24 | 19.17 | 0 | 19.5 | 18.63 | 18.64 | 18.63 | 0 | 19.2 |
| | | 3 | 1 | 19.23 | 19.24 | 19.18 | 0 | 19.5 | 18.63 | 18.64 | 18.63 | 0 | 19.2 |
| | | 3 | 3 | 19.24 | 19.24 | 19.18 | 0 | 19.5 | 18.63 | 18.64 | 18.65 | 0 | 19.2 |
| | | 6 | 0 | 19.22 | 19.24 | 19.17 | 0 | 19.5 | 18.59 | 18.64 | 18.63 | 0 | 19.2 |
| | 16QAM | 1 | 0 | 19.49 | 19.39 | 19.41 | 0 | 19.5 | 18.89 | 19.12 | 18.90 | 0 | 19.2 |
| | | 1 | 3 | 19.46 | 19.37 | 19.40 | 0 | 19.5 | 18.88 | 19.08 | 18.85 | 0 | 19.2 |
| | | 1 | 5 | 19.49 | 19.39 | 19.38 | 0 | 19.5 | 18.90 | 19.11 | 18.82 | 0 | 19.2 |
| | | 3 | 0 | 19.36 | 19.44 | 19.35 | 0 | 19.5 | 18.75 | 18.81 | 18.70 | 0 | 19.2 |
| | | 3 | 1 | 19.35 | 19.42 | 19.34 | 0 | 19.5 | 18.76 | 18.81 | 18.71 | 0 | 19.2 |
| | | 3 | 3 | 19.37 | 19.44 | 19.32 | 0 | 19.5 | 18.75 | 18.82 | 18.73 | 0 | 19.2 |
| | | 6 | 0 | 19.30 | 19.35 | 19.23 | 0 | 19.5 | 18.69 | 18.71 | 18.65 | 0 | 19.2 |
| | 64QAM | 1 | 0 | 19.41 | 19.45 | 19.38 | 0 | 19.5 | 18.62 | 18.75 | 18.76 | 0 | 19.2 |
| | | 1 | 3 | 19.38 | 19.42 | 19.42 | 0 | 19.5 | 18.56 | 18.68 | 18.77 | 0 | 19.2 |
| | | 1 | 5 | 19.42 | 19.46 | 19.38 | 0 | 19.5 | 18.65 | 18.75 | 18.74 | 0 | 19.2 |
| | | 3 | 0 | 19.41 | 19.32 | 19.22 | 0 | 19.5 | 18.43 | 18.56 | 18.53 | 0 | 19.2 |
| | | 3 | 1 | 19.42 | 19.32 | 19.23 | 0 | 19.5 | 18.40 | 18.54 | 18.53 | 0 | 19.2 |
| | | 3 | 3 | 19.40 | 19.32 | 19.23 | 0 | 19.5 | 18.41 | 18.55 | 18.58 | 0 | 19.2 |
| | | 6 | 0 | 19.30 | 19.28 | 19.20 | 0 | 19.5 | 18.36 | 18.42 | 18.44 | 0 | 19.2 |

## LTE Band 26 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26740 | 26865 | 26990 | MPR | Tune-up Limit | 26740 | 26865 | 26990 | MPR | Tune-up Limit |
| | | | | 819 MHz | 831.5 MHz | 844 MHz | | | 819 MHz | 831.5 MHz | 844 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 25.15 | 25.29 | 25.33 | 0 | 25.5 | 25.15 | 25.29 | 25.33 | 0 | 25.5 |
| | | 1 | 25 | 25.35 | 25.06 | 25.25 | 0 | 25.5 | 25.35 | 25.06 | 25.25 | 0 | 25.5 |
| | | 1 | 49 | 25.43 | 25.18 | 25.32 | 0 | 25.5 | 25.43 | 25.18 | 25.32 | 0 | 25.5 |
| | | 25 | 0 | 24.29 | 24.15 | 24.25 | 1 | 24.5 | 24.29 | 24.15 | 24.25 | 1 | 24.5 |
| | | 25 | 12 | 24.27 | 24.04 | 24.15 | 1 | 24.5 | 24.27 | 24.04 | 24.15 | 1 | 24.5 |
| | | 25 | 25 | 24.35 | 24.07 | 24.17 | 1 | 24.5 | 24.35 | 24.07 | 24.17 | 1 | 24.5 |
| | | 50 | 0 | 24.38 | 24.07 | 24.18 | 1 | 24.5 | 24.38 | 24.07 | 24.18 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.49 | 24.30 | 24.17 | 1 | 24.5 | 24.49 | 24.30 | 24.17 | 1 | 24.5 |
| | | 1 | 25 | 24.24 | 24.44 | 24.48 | 1 | 24.5 | 24.24 | 24.44 | 24.48 | 1 | 24.5 |
| | | 1 | 49 | 24.44 | 24.11 | 24.18 | 1 | 24.5 | 24.44 | 24.11 | 24.18 | 1 | 24.5 |
| | | 25 | 0 | 23.32 | 23.19 | 23.29 | 2 | 23.5 | 23.32 | 23.19 | 23.29 | 2 | 23.5 |
| | | 25 | 12 | 23.31 | 23.07 | 23.19 | 2 | 23.5 | 23.31 | 23.07 | 23.19 | 2 | 23.5 |
| | | 25 | 25 | 23.37 | 23.11 | 23.22 | 2 | 23.5 | 23.37 | 23.11 | 23.22 | 2 | 23.5 |
| | | 50 | 0 | 23.37 | 23.08 | 23.19 | 2 | 23.5 | 23.37 | 23.08 | 23.19 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.41 | 23.19 | 23.12 | 2 | 23.5 | 23.41 | 23.19 | 23.12 | 2 | 23.5 |
| | | 1 | 25 | 23.50 | 23.35 | 23.42 | 2 | 23.5 | 23.50 | 23.35 | 23.42 | 2 | 23.5 |
| | | 1 | 49 | 23.29 | 23.41 | 23.13 | 2 | 23.5 | 23.29 | 23.41 | 23.13 | 2 | 23.5 |
| | | 25 | 0 | 22.31 | 22.22 | 22.33 | 3 | 22.5 | 22.31 | 22.22 | 22.33 | 3 | 22.5 |
| | | 25 | 12 | 22.29 | 22.10 | 22.21 | 3 | 22.5 | 22.29 | 22.10 | 22.21 | 3 | 22.5 |
| | | 25 | 25 | 22.34 | 22.14 | 22.25 | 3 | 22.5 | 22.34 | 22.14 | 22.25 | 3 | 22.5 |
| | | 50 | 0 | 22.35 | 22.12 | 22.21 | 3 | 22.5 | 22.35 | 22.12 | 22.21 | 3.0 | 22.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26715 | 26865 | 27015 | MPR | Tune-up Limit | 26715 | 26865 | 27015 | MPR | Tune-up Limit |
| | | | | 816.5 MHz | 831.5 MHz | 846.5 MHz | | | 816.5 MHz | 831.5 MHz | 846.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 25.14 | 25.29 | 25.34 | 0 | 25.5 | 25.14 | 25.29 | 25.34 | 0 | 25.5 |
| | | 1 | 12 | 25.34 | 25.11 | 25.32 | 0 | 25.5 | 25.34 | 25.11 | 25.32 | 0 | 25.5 |
| | | 1 | 24 | 25.36 | 25.17 | 25.33 | 0 | 25.5 | 25.36 | 25.17 | 25.33 | 0 | 25.5 |
| | | 12 | 0 | 24.39 | 24.13 | 24.26 | 1 | 24.5 | 24.39 | 24.13 | 24.26 | 1 | 24.5 |
| | | 12 | 7 | 24.29 | 24.04 | 24.21 | 1 | 24.5 | 24.29 | 24.04 | 24.21 | 1 | 24.5 |
| | | 12 | 13 | 24.28 | 24.02 | 24.25 | 1 | 24.5 | 24.28 | 24.02 | 24.25 | 1 | 24.5 |
| | | 25 | 0 | 24.32 | 24.07 | 24.24 | 1 | 24.5 | 24.32 | 24.07 | 24.24 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.17 | 24.18 | 24.26 | 1 | 24.5 | 24.17 | 24.18 | 24.26 | 1 | 24.5 |
| | | 1 | 12 | 24.35 | 24.41 | 24.23 | 1 | 24.5 | 24.35 | 24.41 | 24.23 | 1 | 24.5 |
| | | 1 | 24 | 24.37 | 24.46 | 24.29 | 1 | 24.5 | 24.37 | 24.46 | 24.29 | 1 | 24.5 |
| | | 12 | 0 | 23.49 | 23.31 | 23.32 | 2 | 23.5 | 23.49 | 23.31 | 23.32 | 2 | 23.5 |
| | | 12 | 7 | 23.36 | 23.20 | 23.36 | 2 | 23.5 | 23.36 | 23.20 | 23.36 | 2 | 23.5 |
| | | 12 | 13 | 23.36 | 23.15 | 23.38 | 2 | 23.5 | 23.36 | 23.15 | 23.38 | 2 | 23.5 |
| | | 25 | 0 | 23.36 | 23.19 | 23.36 | 2 | 23.5 | 23.36 | 23.19 | 23.36 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.43 | 23.11 | 23.26 | 2 | 23.5 | 23.43 | 23.11 | 23.26 | 2 | 23.5 |
| | | 1 | 12 | 23.19 | 23.36 | 23.25 | 2 | 23.5 | 23.19 | 23.36 | 23.25 | 2 | 23.5 |
| | | 1 | 24 | 23.23 | 23.41 | 23.32 | 2 | 23.5 | 23.23 | 23.41 | 23.32 | 2 | 23.5 |
| | | 12 | 0 | 22.40 | 22.24 | 22.31 | 3 | 22.5 | 22.40 | 22.24 | 22.31 | 3 | 22.5 |
| | | 12 | 7 | 22.32 | 22.14 | 22.26 | 3 | 22.5 | 22.32 | 22.14 | 22.26 | 3 | 22.5 |
| | | 12 | 13 | 22.31 | 22.10 | 22.27 | 3 | 22.5 | 22.31 | 22.10 | 22.27 | 3 | 22.5 |
| | | 25 | 0 | 22.35 | 22.11 | 22.27 | 3 | 22.5 | 22.35 | 22.11 | 22.27 | 3 | 22.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26705 | 26865 | 27025 | MPR | Tune-up Limit | 26705 | 26865 | 27025 | MPR | Tune-up Limit |
| | | | | 815.5 MHz | 831.5 MHz | 847.5 MHz | | | 815.5 MHz | 831.5 MHz | 847.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 25.20 | 25.21 | 25.36 | 0 | 25.5 | 25.20 | 25.21 | 25.36 | 0 | 25.5 |
| | | 1 | 8 | 25.14 | 25.16 | 25.44 | 0 | 25.5 | 25.14 | 25.16 | 25.44 | 0 | 25.5 |
| | | 1 | 14 | 25.36 | 25.15 | 25.38 | 0 | 25.5 | 25.36 | 25.15 | 25.38 | 0 | 25.5 |
| | | 8 | 0 | 24.45 | 24.22 | 24.31 | 1 | 24.5 | 24.45 | 24.22 | 24.31 | 1 | 24.5 |
| | | 8 | 4 | 24.45 | 24.12 | 24.32 | 1 | 24.5 | 24.45 | 24.12 | 24.32 | 1 | 24.5 |
| | | 8 | 7 | 24.46 | 24.11 | 24.33 | 1 | 24.5 | 24.46 | 24.11 | 24.33 | 1 | 24.5 |
| | | 15 | 0 | 24.46 | 24.12 | 24.32 | 1 | 24.5 | 24.46 | 24.12 | 24.32 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.11 | 24.20 | 24.26 | 1 | 24.5 | 24.11 | 24.20 | 24.26 | 1 | 24.5 |
| | | 1 | 8 | 24.44 | 24.12 | 24.33 | 1 | 24.5 | 24.44 | 24.12 | 24.33 | 1 | 24.5 |
| | | 1 | 14 | 24.28 | 24.15 | 24.18 | 1 | 24.5 | 24.28 | 24.15 | 24.18 | 1 | 24.5 |
| | | 8 | 0 | 23.17 | 23.33 | 23.38 | 2 | 23.5 | 23.17 | 23.33 | 23.38 | 2 | 23.5 |
| | | 8 | 4 | 23.12 | 23.24 | 23.45 | 2 | 23.5 | 23.12 | 23.24 | 23.45 | 2 | 23.5 |
| | | 8 | 7 | 23.12 | 23.23 | 23.43 | 2 | 23.5 | 23.12 | 23.23 | 23.43 | 2 | 23.5 |
| | | 15 | 0 | 23.11 | 23.18 | 23.40 | 2 | 23.5 | 23.11 | 23.18 | 23.40 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.39 | 23.10 | 23.12 | 2 | 23.5 | 23.39 | 23.10 | 23.12 | 2 | 23.5 |
| | | 1 | 8 | 23.32 | 23.42 | 23.14 | 2 | 23.5 | 23.32 | 23.42 | 23.14 | 2 | 23.5 |
| | | 1 | 14 | 23.15 | 23.45 | 23.12 | 2 | 23.5 | 23.15 | 23.45 | 23.12 | 2 | 23.5 |
| | | 8 | 0 | 22.48 | 22.31 | 22.36 | 3 | 22.5 | 22.48 | 22.31 | 22.36 | 3 | 22.5 |
| | | 8 | 4 | 22.47 | 22.20 | 22.38 | 3 | 22.5 | 22.47 | 22.20 | 22.38 | 3 | 22.5 |
| | | 8 | 7 | 22.47 | 22.20 | 22.34 | 3 | 22.5 | 22.47 | 22.20 | 22.34 | 3 | 22.5 |
| | | 15 | 0 | 22.40 | 22.16 | 22.32 | 3 | 22.5 | 22.40 | 22.16 | 22.32 | 3 | 22.5 |

## LTE Band 26 Measured Results (ANT1) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26697 | 26865 | 27033 | MPR | Tune-up Limit | 26697 | 26865 | 27033 | MPR | Tune-up Limit |
| | | | | 814.7 MHz | 831.5 MHz | 848.3 MHz | | | 814.7 MHz | 831.5 MHz | 848.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 25.25 | 25.21 | 25.40 | 0 | 25.5 | 25.25 | 25.21 | 25.40 | 0 | 25.5 |
| | | 1 | 3 | 25.21 | 25.17 | 25.39 | 0 | 25.5 | 25.21 | 25.17 | 25.39 | 0 | 25.5 |
| | | 1 | 5 | 25.14 | 25.21 | 25.37 | 0 | 25.5 | 25.14 | 25.21 | 25.37 | 0 | 25.5 |
| | | 3 | 0 | 25.20 | 25.17 | 25.36 | 0 | 25.5 | 25.20 | 25.17 | 25.36 | 0 | 25.5 |
| | | 3 | 1 | 25.18 | 25.17 | 25.36 | 0 | 25.5 | 25.18 | 25.17 | 25.36 | 0 | 25.5 |
| | | 3 | 3 | 25.11 | 25.17 | 25.36 | 0 | 25.5 | 25.11 | 25.17 | 25.36 | 0 | 25.5 |
| | | 6 | 0 | 24.49 | 24.13 | 24.30 | 1 | 24.5 | 24.49 | 24.13 | 24.30 | 1 | 24.5 |
| | 16QAM | 1 | 0 | 24.48 | 24.17 | 24.20 | 1 | 24.5 | 24.48 | 24.17 | 24.20 | 1 | 24.5 |
| | | 1 | 3 | 24.47 | 24.16 | 24.18 | 1 | 24.5 | 24.47 | 24.16 | 24.18 | 1 | 24.5 |
| | | 1 | 5 | 24.42 | 24.13 | 24.19 | 1 | 24.5 | 24.42 | 24.13 | 24.19 | 1 | 24.5 |
| | | 3 | 0 | 24.32 | 24.32 | 24.49 | 1 | 24.5 | 24.32 | 24.32 | 24.49 | 1 | 24.5 |
| | | 3 | 1 | 24.30 | 24.29 | 24.45 | 1 | 24.5 | 24.30 | 24.29 | 24.45 | 1 | 24.5 |
| | | 3 | 3 | 24.25 | 24.29 | 24.43 | 1 | 24.5 | 24.25 | 24.29 | 24.43 | 1 | 24.5 |
| | | 6 | 0 | 23.17 | 23.21 | 23.44 | 2 | 23.5 | 23.17 | 23.21 | 23.44 | 2 | 23.5 |
| | 64QAM | 1 | 0 | 23.43 | 23.14 | 23.21 | 2 | 23.5 | 23.43 | 23.14 | 23.21 | 2 | 23.5 |
| | | 1 | 3 | 23.41 | 23.44 | 23.15 | 2 | 23.5 | 23.41 | 23.44 | 23.15 | 2 | 23.5 |
| | | 1 | 5 | 23.36 | 23.50 | 23.48 | 2 | 23.5 | 23.36 | 23.50 | 23.48 | 2 | 23.5 |
| | | 3 | 0 | 23.27 | 23.38 | 23.45 | 2 | 23.5 | 23.27 | 23.38 | 23.45 | 2 | 23.5 |
| | | 3 | 1 | 23.26 | 23.38 | 23.43 | 2 | 23.5 | 23.26 | 23.38 | 23.43 | 2 | 23.5 |
| | | 3 | 3 | 23.17 | 23.36 | 23.46 | 2 | 23.5 | 23.17 | 23.36 | 23.46 | 2 | 23.5 |
| | | 6 | 0 | 22.13 | 22.21 | 22.36 | 3 | 22.5 | 22.13 | 22.21 | 22.36 | 3 | 22.5 |

## LTE Band 26 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26740 | 26865 | 26990 | MPR | Tune-up Limit | 26740 | 26865 | 26990 | MPR | Tune-up Limit |
| | | | | 819 MHz | 831.5 MHz | 844 MHz | | | 819 MHz | 831.5 MHz | 844 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 23.33 | 23.35 | 23.35 | 0 | 23.5 | 23.33 | 23.35 | 23.35 | 0 | 23.5 |
| | | 1 | 25 | 23.44 | 23.32 | 23.26 | 0 | 23.5 | 23.44 | 23.32 | 23.26 | 0 | 23.5 |
| | | 1 | 49 | 23.42 | 23.32 | 23.40 | 0 | 23.5 | 23.42 | 23.32 | 23.40 | 0 | 23.5 |
| | | 25 | 0 | 22.42 | 22.28 | 22.16 | 1 | 22.5 | 22.42 | 22.28 | 22.16 | 1 | 22.5 |
| | | 25 | 12 | 22.39 | 22.27 | 22.18 | 1 | 22.5 | 22.39 | 22.27 | 22.18 | 1 | 22.5 |
| | | 25 | 25 | 22.43 | 22.26 | 22.25 | 1 | 22.5 | 22.43 | 22.26 | 22.25 | 1 | 22.5 |
| | | 50 | 0 | 22.48 | 22.27 | 22.22 | 1 | 22.5 | 22.48 | 22.27 | 22.22 | 1 | 22.5 |
| | 16QAM | 1 | 0 | 22.34 | 22.43 | 22.44 | 1 | 22.5 | 22.34 | 22.43 | 22.44 | 1 | 22.5 |
| | | 1 | 25 | 22.41 | 22.39 | 22.44 | 1 | 22.5 | 22.41 | 22.39 | 22.44 | 1 | 22.5 |
| | | 1 | 49 | 22.43 | 22.39 | 22.37 | 1 | 22.5 | 22.43 | 22.39 | 22.37 | 1 | 22.5 |
| | | 25 | 0 | 21.44 | 21.31 | 21.17 | 2 | 21.5 | 21.44 | 21.31 | 21.17 | 2 | 21.5 |
| | | 25 | 12 | 21.41 | 21.30 | 21.22 | 2 | 21.5 | 21.41 | 21.30 | 21.22 | 2 | 21.5 |
| | | 25 | 25 | 21.44 | 21.29 | 21.29 | 2 | 21.5 | 21.44 | 21.29 | 21.29 | 2 | 21.5 |
| | | 50 | 0 | 21.47 | 21.31 | 21.23 | 2 | 21.5 | 21.47 | 21.31 | 21.23 | 2 | 21.5 |
| | 64QAM | 1 | 0 | 21.30 | 21.32 | 21.37 | 2 | 21.5 | 21.30 | 21.32 | 21.37 | 2 | 21.5 |
| | | 1 | 25 | 21.42 | 21.31 | 21.43 | 2 | 21.5 | 21.42 | 21.31 | 21.43 | 2 | 21.5 |
| | | 1 | 49 | 21.46 | 21.32 | 21.40 | 2 | 21.5 | 21.46 | 21.32 | 21.40 | 2 | 21.5 |
| | | 25 | 0 | 20.36 | 20.48 | 20.35 | 3 | 20.5 | 20.36 | 20.48 | 20.35 | 3 | 20.5 |
| | | 25 | 12 | 20.34 | 20.49 | 20.39 | 3 | 20.5 | 20.34 | 20.49 | 20.39 | 3 | 20.5 |
| | | 25 | 25 | 20.39 | 20.49 | 20.49 | 3 | 20.5 | 20.39 | 20.49 | 20.49 | 3 | 20.5 |
| | | 50 | 0 | 20.42 | 20.50 | 20.41 | 3 | 20.5 | 20.42 | 20.50 | 20.41 | 3.0 | 20.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26715 | 26865 | 27015 | MPR | Tune-up Limit | 26715 | 26865 | 27015 | MPR | Tune-up Limit |
| | | | | 816.5 MHz | 831.5 MHz | 846.5 MHz | | | 816.5 MHz | 831.5 MHz | 846.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 23.35 | 23.34 | 23.29 | 0 | 23.5 | 23.35 | 23.34 | 23.29 | 0 | 23.5 |
| | | 1 | 12 | 23.46 | 23.32 | 23.25 | 0 | 23.5 | 23.46 | 23.32 | 23.25 | 0 | 23.5 |
| | | 1 | 24 | 23.48 | 23.33 | 23.33 | 0 | 23.5 | 23.48 | 23.33 | 23.33 | 0 | 23.5 |
| | | 12 | 0 | 22.45 | 22.28 | 22.21 | 1 | 22.5 | 22.45 | 22.28 | 22.21 | 1 | 22.5 |
| | | 12 | 7 | 22.37 | 22.28 | 22.21 | 1 | 22.5 | 22.37 | 22.28 | 22.21 | 1 | 22.5 |
| | | 12 | 13 | 22.36 | 22.28 | 22.28 | 1 | 22.5 | 22.36 | 22.28 | 22.28 | 1 | 22.5 |
| | | 25 | 0 | 22.41 | 22.31 | 22.24 | 1 | 22.5 | 22.41 | 22.31 | 22.24 | 1 | 22.5 |
| | 16QAM | 1 | 0 | 22.43 | 22.50 | 22.47 | 1 | 22.5 | 22.43 | 22.50 | 22.47 | 1 | 22.5 |
| | | 1 | 12 | 22.36 | 22.27 | 22.33 | 1 | 22.5 | 22.36 | 22.27 | 22.33 | 1 | 22.5 |
| | | 1 | 24 | 22.37 | 22.35 | 22.41 | 1 | 22.5 | 22.37 | 22.35 | 22.41 | 1 | 22.5 |
| | | 12 | 0 | 21.32 | 21.42 | 21.26 | 2 | 21.5 | 21.32 | 21.42 | 21.26 | 2 | 21.5 |
| | | 12 | 7 | 21.43 | 21.40 | 21.27 | 2 | 21.5 | 21.43 | 21.40 | 21.27 | 2 | 21.5 |
| | | 12 | 13 | 21.44 | 21.41 | 21.36 | 2 | 21.5 | 21.44 | 21.41 | 21.36 | 2 | 21.5 |
| | | 25 | 0 | 21.43 | 21.39 | 21.31 | 2 | 21.5 | 21.43 | 21.39 | 21.31 | 2 | 21.5 |
| | 64QAM | 1 | 0 | 21.40 | 21.32 | 21.49 | 2 | 21.5 | 21.40 | 21.32 | 21.49 | 2 | 21.5 |
| | | 1 | 12 | 21.33 | 21.33 | 21.32 | 2 | 21.5 | 21.33 | 21.33 | 21.32 | 2 | 21.5 |
| | | 1 | 24 | 21.35 | 21.34 | 21.46 | 2 | 21.5 | 21.35 | 21.34 | 21.46 | 2 | 21.5 |
| | | 12 | 0 | 20.37 | 20.48 | 20.48 | 3 | 20.5 | 20.37 | 20.48 | 20.48 | 3 | 20.5 |
| | | 12 | 7 | 20.33 | 20.46 | 20.47 | 3 | 20.5 | 20.33 | 20.46 | 20.47 | 3 | 20.5 |
| | | 12 | 13 | 20.34 | 20.48 | 20.31 | 3 | 20.5 | 20.34 | 20.48 | 20.31 | 3 | 20.5 |
| | | 25 | 0 | 20.34 | 20.48 | 20.42 | 3 | 20.5 | 20.34 | 20.48 | 20.42 | 3 | 20.5 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26705 | 26865 | 27025 | MPR | Tune-up Limit | 26705 | 26865 | 27025 | MPR | Tune-up Limit |
| | | | | 815.5 MHz | 831.5 MHz | 847.5 MHz | | | 815.5 MHz | 831.5 MHz | 847.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 23.44 | 23.34 | 23.31 | 0 | 23.5 | 23.44 | 23.34 | 23.31 | 0 | 23.5 |
| | | 1 | 8 | 23.32 | 23.36 | 23.42 | 0 | 23.5 | 23.32 | 23.36 | 23.42 | 0 | 23.5 |
| | | 1 | 14 | 23.39 | 23.32 | 23.30 | 0 | 23.5 | 23.39 | 23.32 | 23.30 | 0 | 23.5 |
| | | 8 | 0 | 22.47 | 22.30 | 22.23 | 1 | 22.5 | 22.47 | 22.30 | 22.23 | 1 | 22.5 |
| | | 8 | 4 | 22.46 | 22.29 | 22.29 | 1 | 22.5 | 22.46 | 22.29 | 22.29 | 1 | 22.5 |
| | | 8 | 7 | 22.46 | 22.29 | 22.29 | 1 | 22.5 | 22.46 | 22.29 | 22.29 | 1 | 22.5 |
| | | 15 | 0 | 22.46 | 22.29 | 22.29 | 1 | 22.5 | 22.46 | 22.29 | 22.29 | 1 | 22.5 |
| | 16QAM | 1 | 0 | 22.47 | 22.43 | 22.41 | 1 | 22.5 | 22.47 | 22.43 | 22.41 | 1 | 22.5 |
| | | 1 | 8 | 22.50 | 22.40 | 22.37 | 1 | 22.5 | 22.50 | 22.40 | 22.37 | 1 | 22.5 |
| | | 1 | 14 | 22.33 | 22.46 | 22.45 | 1 | 22.5 | 22.33 | 22.46 | 22.45 | 1 | 22.5 |
| | | 8 | 0 | 21.33 | 21.41 | 21.31 | 2 | 21.5 | 21.33 | 21.41 | 21.31 | 2 | 21.5 |
| | | 8 | 4 | 21.32 | 21.41 | 21.37 | 2 | 21.5 | 21.32 | 21.41 | 21.37 | 2 | 21.5 |
| | | 8 | 7 | 21.32 | 21.41 | 21.39 | 2 | 21.5 | 21.32 | 21.41 | 21.39 | 2 | 21.5 |
| | | 15 | 0 | 21.47 | 21.39 | 21.39 | 2 | 21.5 | 21.47 | 21.39 | 21.39 | 2 | 21.5 |
| | 64QAM | 1 | 0 | 21.46 | 21.35 | 21.33 | 2 | 21.5 | 21.46 | 21.35 | 21.33 | 2 | 21.5 |
| | | 1 | 8 | 21.48 | 21.38 | 21.40 | 2 | 21.5 | 21.48 | 21.38 | 21.40 | 2 | 21.5 |
| | | 1 | 14 | 21.43 | 21.31 | 21.37 | 2 | 21.5 | 21.43 | 21.31 | 21.37 | 2 | 21.5 |
| | | 8 | 0 | 20.44 | 20.39 | 20.30 | 3 | 20.5 | 20.44 | 20.39 | 20.30 | 3 | 20.5 |
| | | 8 | 4 | 20.45 | 20.38 | 20.37 | 3 | 20.5 | 20.45 | 20.38 | 20.37 | 3 | 20.5 |
| | | 8 | 7 | 20.46 | 20.39 | 20.35 | 3 | 20.5 | 20.46 | 20.39 | 20.35 | 3 | 20.5 |
| | | 15 | 0 | 20.42 | 20.36 | 20.27 | 3 | 20.5 | 20.42 | 20.36 | 20.27 | 3 | 20.5 |

## LTE Band 26 Measured Results (ANT2) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 26697 | 26865 | 27033 | MPR | Tune-up Limit | 26697 | 26865 | 27033 | MPR | Tune-up Limit |
| | | | | 814.7 MHz | 831.5 MHz | 848.3 MHz | | | 814.7 MHz | 831.5 MHz | 848.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 23.42 | 23.43 | 23.37 | 0 | 23.5 | 23.42 | 23.43 | 23.37 | 0 | 23.5 |
| | | 1 | 3 | 23.32 | 23.40 | 23.37 | 0 | 23.5 | 23.32 | 23.40 | 23.37 | 0 | 23.5 |
| | | 1 | 5 | 23.33 | 23.44 | 23.39 | 0 | 23.5 | 23.33 | 23.44 | 23.39 | 0 | 23.5 |
| | | 3 | 0 | 23.48 | 23.36 | 23.38 | 0 | 23.5 | 23.48 | 23.36 | 23.38 | 0 | 23.5 |
| | | 3 | 1 | 23.46 | 23.35 | 23.37 | 0 | 23.5 | 23.46 | 23.35 | 23.37 | 0 | 23.5 |
| | | 3 | 3 | 23.46 | 23.34 | 23.38 | 0 | 23.5 | 23.46 | 23.34 | 23.38 | 0 | 23.5 |
| | | 6 | 0 | 22.48 | 22.37 | 22.34 | 1 | 22.5 | 22.48 | 22.37 | 22.34 | 1 | 22.5 |
| | 16QAM | 1 | 0 | 22.40 | 22.46 | 22.45 | 1 | 22.5 | 22.40 | 22.46 | 22.45 | 1 | 22.5 |
| | | 1 | 3 | 22.41 | 22.42 | 22.41 | 1 | 22.5 | 22.41 | 22.42 | 22.41 | 1 | 22.5 |
| | | 1 | 5 | 22.40 | 22.43 | 22.43 | 1 | 22.5 | 22.40 | 22.43 | 22.43 | 1 | 22.5 |
| | | 3 | 0 | 22.44 | 22.35 | 22.32 | 1 | 22.5 | 22.44 | 22.35 | 22.32 | 1 | 22.5 |
| | | 3 | 1 | 22.39 | 22.35 | 22.27 | 1 | 22.5 | 22.39 | 22.35 | 22.27 | 1 | 22.5 |
| | | 3 | 3 | 22.41 | 22.35 | 22.29 | 1 | 22.5 | 22.41 | 22.35 | 22.29 | 1 | 22.5 |
| | | 6 | 0 | 21.32 | 21.24 | 21.24 | 2 | 21.5 | 21.32 | 21.24 | 21.24 | 2 | 21.5 |
| | 64QAM | 1 | 0 | 21.34 | 21.31 | 21.34 | 2 | 21.5 | 21.34 | 21.31 | 21.34 | 2 | 21.5 |
| | | 1 | 3 | 21.35 | 21.49 | 21.35 | 2 | 21.5 | 21.35 | 21.49 | 21.35 | 2 | 21.5 |
| | | 1 | 5 | 21.36 | 21.31 | 21.38 | 2 | 21.5 | 21.36 | 21.31 | 21.38 | 2 | 21.5 |
| | | 3 | 0 | 21.33 | 21.37 | 21.46 | 2 | 21.5 | 21.33 | 21.37 | 21.46 | 2 | 21.5 |
| | | 3 | 1 | 21.33 | 21.37 | 21.46 | 2 | 21.5 | 21.33 | 21.37 | 21.46 | 2 | 21.5 |
| | | 3 | 3 | 21.31 | 21.39 | 21.44 | 2 | 21.5 | 21.31 | 21.39 | 21.44 | 2 | 21.5 |
| | | 6 | 0 | 20.47 | 20.41 | 20.38 | 3 | 20.5 | 20.47 | 20.41 | 20.38 | 3 | 20.5 |

## LTE Band 30 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 27710 2310 MHz | MPR | Tune-up Limit | 27710 2310 MHz | MPR | Tune-up Limit |
| 10 MHz | QPSK | 1 | 0 | 23.37 | 0 | 23.5 | 21.65 | 0 | 21.7 |
| | | 1 | 25 | 23.40 | 0 | 23.5 | 21.67 | 0 | 21.7 |
| | | 1 | 49 | 23.33 | 0 | 23.5 | 21.58 | 0 | 21.7 |
| | | 25 | 0 | 23.30 | 0 | 23.5 | 21.50 | 0 | 21.7 |
| | | 25 | 12 | 23.40 | 0 | 23.5 | 21.50 | 0 | 21.7 |
| | | 25 | 25 | 23.22 | 0 | 23.5 | 21.43 | 0 | 21.7 |
| | | 50 | 0 | 23.28 | 0 | 23.5 | 21.48 | 0 | 21.7 |
| | 16QAM | 1 | 0 | 23.38 | 0 | 23.5 | 21.57 | 0 | 21.7 |
| | | 1 | 25 | 23.34 | 0 | 23.5 | 21.50 | 0 | 21.7 |
| | | 1 | 49 | 23.33 | 0 | 23.5 | 21.54 | 0 | 21.7 |
| | | 25 | 0 | 23.34 | 0 | 23.5 | 21.51 | 0 | 21.7 |
| | | 25 | 12 | 23.29 | 0 | 23.5 | 21.48 | 0 | 21.7 |
| | | 25 | 25 | 23.22 | 0 | 23.5 | 21.45 | 0 | 21.7 |
| | | 50 | 0 | 23.22 | 0 | 23.5 | 21.48 | 0 | 21.7 |
| | 64QAM | 1 | 0 | 23.31 | 0 | 23.5 | 21.30 | 0 | 21.7 |
| | | 1 | 25 | 23.35 | 0 | 23.5 | 21.23 | 0 | 21.7 |
| | | 1 | 49 | 23.34 | 0 | 23.5 | 21.25 | 0 | 21.7 |
| | | 25 | 0 | 22.44 | 1 | 22.5 | 21.09 | 0 | 21.7 |
| | | 25 | 12 | 22.41 | 1 | 22.5 | 21.05 | 0 | 21.7 |
| | | 25 | 25 | 22.38 | 1 | 22.5 | 21.01 | 0 | 21.7 |
| | | 50 | 0 | 22.42 | 1 | 22.5 | 21.05 | 0 | 21.7 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 27710 2310 MHz | MPR | Tune-up Limit | 27710 2310 MHz | MPR | Tune-up Limit |
| 5 MHz | QPSK | 1 | 0 | 23.37 | 0 | 23.5 | 21.55 | 0 | 21.7 |
| | | 1 | 12 | 23.31 | 0 | 23.5 | 21.50 | 0 | 21.7 |
| | | 1 | 24 | 23.29 | 0 | 23.5 | 21.47 | 0 | 21.7 |
| | | 12 | 0 | 23.25 | 0 | 23.5 | 21.44 | 0 | 21.7 |
| | | 12 | 7 | 23.24 | 0 | 23.5 | 21.45 | 0 | 21.7 |
| | | 12 | 13 | 23.23 | 0 | 23.5 | 21.42 | 0 | 21.7 |
| | | 25 | 0 | 23.27 | 0 | 23.5 | 21.46 | 0 | 21.7 |
| | 16QAM | 1 | 0 | 23.44 | 0 | 23.5 | 21.59 | 0 | 21.7 |
| | | 1 | 12 | 23.38 | 0 | 23.5 | 21.54 | 0 | 21.7 |
| | | 1 | 24 | 23.36 | 0 | 23.5 | 21.52 | 0 | 21.7 |
| | | 12 | 0 | 23.33 | 0 | 23.5 | 21.52 | 0 | 21.7 |
| | | 12 | 7 | 23.31 | 0 | 23.5 | 21.52 | 0 | 21.7 |
| | | 12 | 13 | 23.29 | 0 | 23.5 | 21.47 | 0 | 21.7 |
| | | 25 | 0 | 23.30 | 0 | 23.5 | 21.48 | 0 | 21.7 |
| | 64QAM | 1 | 0 | 23.38 | 0 | 23.5 | 21.46 | 0 | 21.7 |
| | | 1 | 12 | 23.35 | 0 | 23.5 | 21.40 | 0 | 21.7 |
| | | 1 | 24 | 23.31 | 0 | 23.5 | 21.33 | 0 | 21.7 |
| | | 12 | 0 | 22.41 | 1 | 22.5 | 21.00 | 0 | 21.7 |
| | | 12 | 7 | 22.40 | 1 | 22.5 | 21.01 | 0 | 21.7 |
| | | 12 | 13 | 22.39 | 1 | 22.5 | 20.99 | 0 | 21.7 |
| | | 25 | 0 | 22.41 | 1 | 22.5 | 20.99 | 0 | 21.7 |

## LTE Band 30 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 27710 2310 MHz | MPR | Tune-up Limit | 27710 2310 MHz | MPR | Tune-up Limit |
| 10 MHz | QPSK | 1 | 0 | 19.50 | 0 | 19.5 | 20.47 | 0 | 20.5 |
| | | 1 | 25 | 19.50 | 0 | 19.5 | 20.50 | 0 | 20.5 |
| | | 1 | 49 | 19.41 | 0 | 19.5 | 20.49 | 0 | 20.5 |
| | | 25 | 0 | 19.49 | 0 | 19.5 | 20.44 | 0 | 20.5 |
| | | 25 | 12 | 19.50 | 0 | 19.5 | 20.50 | 0 | 20.5 |
| | | 25 | 25 | 19.44 | 0 | 19.5 | 20.44 | 0 | 20.5 |
| | | 50 | 0 | 19.49 | 0 | 19.5 | 20.48 | 0 | 20.5 |
| | 16QAM | 1 | 0 | 19.47 | 0 | 19.5 | 20.43 | 0 | 20.5 |
| | | 1 | 25 | 19.43 | 0 | 19.5 | 20.44 | 0 | 20.5 |
| | | 1 | 49 | 19.43 | 0 | 19.5 | 20.47 | 0 | 20.5 |
| | | 25 | 0 | 19.35 | 0 | 19.5 | 20.30 | 0 | 20.5 |
| | | 25 | 12 | 19.40 | 0 | 19.5 | 20.26 | 0 | 20.5 |
| | | 25 | 25 | 19.28 | 0 | 19.5 | 20.27 | 0 | 20.5 |
| | | 50 | 0 | 19.30 | 0 | 19.5 | 20.50 | 0 | 20.5 |
| | 64QAM | 1 | 0 | 19.41 | 0 | 19.5 | 20.45 | 0 | 20.5 |
| | | 1 | 25 | 19.37 | 0 | 19.5 | 20.42 | 0 | 20.5 |
| | | 1 | 49 | 19.32 | 0 | 19.5 | 20.44 | 0 | 20.5 |
| | | 25 | 0 | 19.30 | 0 | 19.5 | 19.88 | 0.5 | 20 |
| | | 25 | 12 | 19.36 | 0 | 19.5 | 19.84 | 0.5 | 20 |
| | | 25 | 25 | 19.27 | 0 | 19.5 | 19.86 | 0.5 | 20 |
| | | 50 | 0 | 19.31 | 0 | 19.5 | 19.78 | 0.5 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 27710 2310 MHz | MPR | Tune-up Limit | 27710 2310 MHz | MPR | Tune-up Limit |
| 5 MHz | QPSK | 1 | 0 | 19.37 | 0 | 19.5 | 20.41 | 0 | 20.5 |
| | | 1 | 12 | 19.34 | 0 | 19.5 | 20.26 | 0 | 20.5 |
| | | 1 | 24 | 19.39 | 0 | 19.5 | 20.37 | 0 | 20.5 |
| | | 12 | 0 | 19.37 | 0 | 19.5 | 20.35 | 0 | 20.5 |
| | | 12 | 7 | 19.36 | 0 | 19.5 | 20.33 | 0 | 20.5 |
| | | 12 | 13 | 19.29 | 0 | 19.5 | 20.24 | 0 | 20.5 |
| | | 25 | 0 | 19.33 | 0 | 19.5 | 20.28 | 0 | 20.5 |
| | 16QAM | 1 | 0 | 19.42 | 0 | 19.5 | 20.48 | 0 | 20.5 |
| | | 1 | 12 | 19.36 | 0 | 19.5 | 20.45 | 0 | 20.5 |
| | | 1 | 24 | 19.42 | 0 | 19.5 | 20.48 | 0 | 20.5 |
| | | 12 | 0 | 19.39 | 0 | 19.5 | 20.32 | 0 | 20.5 |
| | | 12 | 7 | 19.36 | 0 | 19.5 | 20.32 | 0 | 20.5 |
| | | 12 | 13 | 19.26 | 0 | 19.5 | 20.23 | 0 | 20.5 |
| | | 25 | 0 | 19.27 | 0 | 19.5 | 20.25 | 0 | 20.5 |
| | 64QAM | 1 | 0 | 19.34 | 0 | 19.5 | 20.43 | 0 | 20.5 |
| | | 1 | 12 | 19.30 | 0 | 19.5 | 20.42 | 0 | 20.5 |
| | | 1 | 24 | 19.35 | 0 | 19.5 | 20.46 | 0 | 20.5 |
| | | 12 | 0 | 19.46 | 0 | 19.5 | 19.97 | 0.5 | 20 |
| | | 12 | 7 | 19.42 | 0 | 19.5 | 19.94 | 0.5 | 20 |
| | | 12 | 13 | 19.37 | 0 | 19.5 | 19.85 | 0.5 | 20 |
| | | 25 | 0 | 19.33 | 0 | 19.5 | 19.83 | 0.5 | 20 |

C

## LTE Band 41 Power Class 3 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 25.47 | 25.30 | 25.10 | 25.29 | 25.26 | 0 | 25.5 | 23.80 | 23.78 | 23.79 | 23.75 | 23.68 | 0 | 24 |
| | | 1 | 49 | 25.50 | 25.40 | 25.18 | 25.33 | 25.30 | 0 | 25.5 | 23.83 | 23.90 | 23.80 | 23.80 | 23.70 | 0 | 24 |
| | | 1 | 99 | 25.47 | 25.31 | 25.15 | 25.28 | 25.15 | 0 | 25.5 | 23.80 | 23.82 | 23.77 | 23.79 | 23.64 | 0 | 24 |
| | | 50 | 0 | 24.46 | 24.34 | 24.30 | 24.32 | 24.42 | 1 | 24.5 | 23.80 | 23.73 | 23.70 | 23.67 | 23.57 | 0 | 24 |
| | | 50 | 24 | 24.50 | 24.49 | 24.31 | 24.37 | 24.45 | 1 | 24.5 | 23.81 | 23.80 | 23.80 | 23.71 | 23.60 | 0 | 24 |
| | | 50 | 50 | 24.44 | 24.31 | 24.31 | 24.36 | 24.40 | 1 | 24.5 | 23.75 | 23.73 | 23.68 | 23.71 | 23.56 | 0 | 24 |
| | | 100 | 0 | 24.30 | 24.33 | 24.36 | 24.42 | 24.46 | 1 | 24.5 | 23.91 | 23.77 | 23.72 | 23.77 | 23.61 | 0 | 24 |
| | 16QAM | 1 | 0 | 24.42 | 24.48 | 24.45 | 24.49 | 24.39 | 1 | 24.5 | 23.47 | 23.44 | 23.36 | 23.33 | 23.35 | 0 | 24 |
| | | 1 | 49 | 24.49 | 24.40 | 24.38 | 24.46 | 24.36 | 1 | 24.5 | 23.43 | 23.40 | 23.29 | 23.34 | 23.25 | 0 | 24 |
| | | 1 | 99 | 24.42 | 24.43 | 24.39 | 24.50 | 24.44 | 1 | 24.5 | 23.45 | 23.43 | 23.33 | 23.38 | 23.27 | 0 | 24 |
| | | 50 | 0 | 23.45 | 23.43 | 23.44 | 23.44 | 23.36 | 2 | 23.5 | 22.79 | 22.68 | 22.63 | 22.63 | 22.53 | 0.5 | 23.5 |
| | | 50 | 24 | 23.44 | 23.46 | 23.41 | 23.48 | 23.33 | 2 | 23.5 | 22.76 | 22.64 | 22.60 | 22.67 | 22.49 | 0.5 | 23.5 |
| | | 50 | 50 | 23.45 | 23.48 | 23.42 | 23.48 | 23.33 | 2 | 23.5 | 22.77 | 22.67 | 22.60 | 22.66 | 22.49 | 0.5 | 23.5 |
| | | 100 | 0 | 23.43 | 23.43 | 23.49 | 23.45 | 23.41 | 2 | 23.5 | 22.84 | 22.72 | 22.69 | 22.73 | 22.58 | 0.5 | 23.5 |
| | 64QAM | 1 | 0 | 23.43 | 23.40 | 23.50 | 23.41 | 23.41 | 2 | 23.5 | 22.97 | 22.90 | 22.79 | 22.87 | 22.77 | 0.5 | 23.5 |
| | | 1 | 49 | 23.41 | 23.41 | 23.49 | 23.45 | 23.44 | 2 | 23.5 | 22.95 | 22.84 | 22.70 | 22.87 | 22.66 | 0.5 | 23.5 |
| | | 1 | 99 | 23.44 | 23.42 | 23.40 | 23.47 | 23.42 | 2 | 23.5 | 23.05 | 22.87 | 22.74 | 22.87 | 22.74 | 0.5 | 23.5 |
| | | 50 | 0 | 22.33 | 22.27 | 22.48 | 22.49 | 22.40 | 3 | 22.5 | 21.83 | 21.77 | 21.68 | 21.69 | 21.63 | 1.5 | 22.5 |
| | | 50 | 24 | 22.30 | 22.42 | 22.35 | 22.43 | 22.26 | 3 | 22.5 | 21.78 | 21.75 | 21.65 | 21.74 | 21.60 | 1.5 | 22.5 |
| | | 50 | 50 | 22.33 | 22.44 | 22.34 | 22.43 | 22.26 | 3 | 22.5 | 21.79 | 21.77 | 21.63 | 21.74 | 21.59 | 1.5 | 22.5 |
| | | 100 | 0 | 22.34 | 22.47 | 22.43 | 22.48 | 22.33 | 3 | 22.5 | 21.85 | 21.80 | 21.72 | 21.80 | 21.66 | 1.5 | 22.5 |
| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 24.88 | 24.79 | 24.73 | 24.76 | 24.64 | 0 | 25.5 | 23.42 | 23.28 | 23.25 | 23.21 | 23.10 | 0 | 24 |
| | | 1 | 37 | 24.87 | 24.75 | 24.71 | 24.76 | 24.64 | 0 | 25.5 | 23.37 | 23.27 | 23.22 | 23.26 | 23.08 | 0 | 24 |
| | | 1 | 74 | 24.86 | 24.75 | 24.69 | 24.75 | 24.63 | 0 | 25.5 | 23.38 | 23.30 | 23.20 | 23.23 | 23.06 | 0 | 24 |
| | | 36 | 0 | 24.42 | 24.35 | 24.43 | 24.43 | 24.36 | 1 | 24.5 | 23.33 | 23.22 | 23.15 | 23.12 | 23.03 | 0 | 24 |
| | | 36 | 20 | 24.42 | 24.31 | 24.43 | 24.31 | 24.36 | 1 | 24.5 | 23.32 | 23.22 | 23.15 | 23.19 | 23.03 | 0 | 24 |
| | | 36 | 39 | 24.42 | 24.31 | 24.41 | 24.49 | 24.36 | 1 | 24.5 | 23.31 | 23.22 | 23.14 | 23.17 | 23.02 | 0 | 24 |
| | | 75 | 0 | 24.43 | 24.34 | 24.48 | 24.34 | 24.41 | 1 | 24.5 | 23.38 | 23.26 | 23.20 | 23.23 | 23.09 | 0 | 24 |
| | 16QAM | 1 | 0 | 24.33 | 24.20 | 24.18 | 24.16 | 24.03 | 1 | 24.5 | 23.39 | 23.17 | 23.21 | 23.20 | 23.06 | 0 | 24 |
| | | 1 | 37 | 24.30 | 24.11 | 24.12 | 24.19 | 24.02 | 1 | 24.5 | 23.36 | 23.18 | 23.21 | 23.21 | 23.02 | 0 | 24 |
| | | 1 | 74 | 24.38 | 24.12 | 24.11 | 24.16 | 24.03 | 1 | 24.5 | 23.39 | 23.17 | 23.16 | 23.22 | 23.02 | 0 | 24 |
| | | 36 | 0 | 23.42 | 23.45 | 23.36 | 23.41 | 23.36 | 2 | 23.5 | 22.76 | 22.67 | 22.59 | 22.57 | 22.49 | 0.5 | 23.5 |
| | | 36 | 20 | 23.44 | 23.42 | 23.42 | 23.49 | 23.36 | 2 | 23.5 | 22.76 | 22.65 | 22.59 | 22.64 | 22.50 | 0.5 | 23.5 |
| | | 36 | 39 | 23.43 | 23.41 | 23.41 | 23.47 | 23.34 | 2 | 23.5 | 22.75 | 22.65 | 22.57 | 22.62 | 22.48 | 0.5 | 23.5 |
| | | 75 | 0 | 23.50 | 23.46 | 23.48 | 23.43 | 23.41 | 2 | 23.5 | 22.83 | 22.69 | 22.64 | 22.68 | 22.55 | 0.5 | 23.5 |
| | 64QAM | 1 | 0 | 23.46 | 23.46 | 23.49 | 23.44 | 23.41 | 2 | 23.5 | 22.79 | 22.92 | 22.81 | 22.69 | 22.71 | 0.5 | 23.5 |
| | | 1 | 37 | 23.49 | 23.44 | 23.45 | 23.47 | 23.45 | 2 | 23.5 | 22.78 | 22.87 | 22.78 | 22.76 | 22.67 | 0.5 | 23.5 |
| | | 1 | 74 | 23.47 | 23.49 | 23.45 | 23.43 | 23.45 | 2 | 23.5 | 22.86 | 22.85 | 22.76 | 22.70 | 22.65 | 0.5 | 23.5 |
| | | 36 | 0 | 22.48 | 22.44 | 22.40 | 22.43 | 22.32 | 3 | 22.5 | 21.79 | 21.75 | 21.65 | 21.65 | 21.55 | 1.5 | 22.5 |
| | | 36 | 20 | 22.41 | 22.49 | 22.42 | 22.47 | 22.32 | 3 | 22.5 | 21.78 | 21.74 | 21.64 | 21.73 | 21.55 | 1.5 | 22.5 |
| | | 36 | 39 | 22.40 | 22.50 | 22.41 | 22.45 | 22.31 | 3 | 22.5 | 21.77 | 21.74 | 21.62 | 21.72 | 21.53 | 1.5 | 22.5 |
| | | 75 | 0 | 22.46 | 22.44 | 22.47 | 22.40 | 22.37 | 3 | 22.5 | 21.83 | 21.77 | 21.69 | 21.76 | 21.61 | 1.5 | 22.5 |
| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 24.86 | 24.83 | 24.73 | 24.69 | 24.63 | 0 | 25.5 | 23.38 | 23.32 | 23.26 | 23.25 | 23.19 | 0 | 24 |
| | | 1 | 25 | 24.84 | 24.75 | 24.70 | 24.72 | 24.59 | 0 | 25.5 | 23.35 | 23.26 | 23.24 | 23.26 | 23.13 | 0 | 24 |
| | | 1 | 49 | 24.90 | 24.80 | 24.71 | 24.73 | 24.63 | 0 | 25.5 | 23.39 | 23.32 | 23.27 | 23.28 | 23.17 | 0 | 24 |
| | | 25 | 0 | 24.41 | 24.46 | 24.40 | 24.39 | 24.35 | 1 | 24.5 | 23.31 | 23.24 | 23.14 | 23.17 | 23.03 | 0 | 24 |
| | | 25 | 12 | 24.50 | 24.49 | 24.38 | 24.45 | 24.34 | 1 | 24.5 | 23.30 | 23.20 | 23.12 | 23.22 | 23.02 | 0 | 24 |
| | | 25 | 25 | 24.41 | 24.40 | 24.38 | 24.46 | 24.34 | 1 | 24.5 | 23.31 | 23.22 | 23.13 | 23.22 | 23.02 | 0 | 24 |
| | | 50 | 0 | 24.45 | 24.41 | 24.40 | 24.49 | 24.35 | 1 | 24.5 | 23.36 | 23.24 | 23.16 | 23.23 | 23.05 | 0 | 24 |
| | 16QAM | 1 | 0 | 24.43 | 24.20 | 24.15 | 24.21 | 24.11 | 1 | 24.5 | 23.48 | 23.25 | 23.20 | 23.34 | 23.07 | 0 | 24 |
| | | 1 | 25 | 24.36 | 24.09 | 24.10 | 24.24 | 24.17 | 1 | 24.5 | 23.40 | 23.21 | 23.20 | 23.37 | 23.02 | 0 | 24 |
| | | 1 | 49 | 24.45 | 24.13 | 24.16 | 24.23 | 24.03 | 1 | 24.5 | 23.48 | 23.22 | 23.25 | 23.36 | 23.05 | 0 | 24 |
| | | 25 | 0 | 23.42 | 23.36 | 23.21 | 23.26 | 23.48 | 2 | 23.5 | 22.75 | 22.70 | 22.62 | 22.62 | 22.51 | 0.5 | 23.5 |
| | | 25 | 12 | 23.39 | 23.29 | 23.26 | 23.33 | 23.46 | 2 | 23.5 | 22.73 | 22.63 | 22.60 | 22.66 | 22.50 | 0.5 | 23.5 |
| | | 25 | 25 | 23.41 | 23.31 | 23.27 | 23.34 | 23.46 | 2 | 23.5 | 22.73 | 22.65 | 22.61 | 22.66 | 22.51 | 0.5 | 23.5 |
| | | 50 | 0 | 23.46 | 23.33 | 23.31 | 23.38 | 23.50 | 2 | 23.5 | 22.79 | 22.67 | 22.66 | 22.71 | 22.52 | 0.5 | 23.5 |
| | 64QAM | 1 | 0 | 23.49 | 23.48 | 23.40 | 23.42 | 23.37 | 2 | 23.5 | 22.87 | 22.86 | 22.85 | 22.71 | 22.65 | 0.5 | 23.5 |
| | | 1 | 25 | 23.48 | 23.45 | 23.43 | 23.40 | 23.29 | 2 | 23.5 | 22.86 | 22.83 | 22.80 | 22.71 | 22.63 | 0.5 | 23.5 |
| | | 1 | 49 | 23.44 | 23.41 | 23.41 | 23.41 | 23.36 | 2 | 23.5 | 22.88 | 22.82 | 22.78 | 22.72 | 22.63 | 0.5 | 23.5 |
| | | 25 | 0 | 22.41 | 22.49 | 22.34 | 22.30 | 22.26 | 3 | 22.5 | 21.77 | 21.74 | 21.61 | 21.59 | 21.56 | 1.5 | 22.5 |
| | | 25 | 12 | 22.40 | 22.42 | 22.33 | 22.35 | 22.23 | 3 | 22.5 | 21.74 | 21.71 | 21.59 | 21.65 | 21.54 | 1.5 | 22.5 |
| | | 25 | 25 | 22.41 | 22.44 | 22.34 | 22.36 | 22.24 | 3 | 22.5 | 21.76 | 21.71 | 21.60 | 21.66 | 21.53 | 1.5 | 22.5 |
| | | 50 | 0 | 22.48 | 22.46 | 22.39 | 22.42 | 22.28 | 3 | 22.5 | 21.82 | 21.73 | 21.66 | 21.72 | 21.58 | 1.5 | 22.5 |

## LTE Band 41 Power Class 3 Measured Results (ANT1) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 24.88 | 24.82 | 24.69 | 24.69 | 24.62 | 0 | 25.5 | 23.42 | 23.37 | 23.25 | 23.20 | 23.15 | 0 | 24 |
| | | 1 | 12 | 24.86 | 24.73 | 24.69 | 24.68 | 24.59 | 0 | 25.5 | 23.37 | 23.29 | 23.23 | 23.22 | 23.10 | 0 | 24 |
| | | 1 | 24 | 24.89 | 24.78 | 24.69 | 24.73 | 24.63 | 0 | 25.5 | 23.39 | 23.33 | 23.25 | 23.25 | 23.13 | 0 | 24 |
| | | 12 | 0 | 24.46 | 24.42 | 24.40 | 24.36 | 24.29 | 1 | 24.5 | 23.28 | 23.22 | 23.16 | 23.09 | 23.01 | 0 | 24 |
| | | 12 | 7 | 24.44 | 24.44 | 24.42 | 24.41 | 24.28 | 1 | 24.5 | 23.28 | 23.18 | 23.14 | 23.15 | 22.99 | 0 | 24 |
| | | 12 | 13 | 24.45 | 24.44 | 24.44 | 24.42 | 24.29 | 1 | 24.5 | 23.28 | 23.18 | 23.15 | 23.16 | 23.00 | 0 | 24 |
| | | 25 | 0 | 24.47 | 24.46 | 24.45 | 24.44 | 24.29 | 1 | 24.5 | 23.31 | 23.20 | 23.15 | 23.18 | 23.03 | 0 | 24 |
| | 16QAM | 1 | 0 | 24.30 | 24.41 | 24.24 | 24.11 | 24.21 | 1 | 24.5 | 23.39 | 23.46 | 23.25 | 23.16 | 23.29 | 0 | 24 |
| | | 1 | 12 | 24.30 | 24.35 | 24.21 | 24.14 | 24.16 | 1 | 24.5 | 23.34 | 23.42 | 23.23 | 23.21 | 23.25 | 0 | 24 |
| | | 1 | 24 | 24.32 | 24.31 | 24.24 | 24.22 | 24.25 | 1 | 24.5 | 23.35 | 23.45 | 23.22 | 23.22 | 23.25 | 0 | 24 |
| | | 12 | 0 | 23.40 | 23.33 | 23.35 | 23.30 | 23.47 | 2 | 23.5 | 22.76 | 22.72 | 22.66 | 22.60 | 22.48 | 0.5 | 23.5 |
| | | 12 | 7 | 23.39 | 23.34 | 23.31 | 23.34 | 23.43 | 2 | 23.5 | 22.74 | 22.64 | 22.61 | 22.67 | 22.46 | 0.5 | 23.5 |
| | | 12 | 13 | 23.38 | 23.35 | 23.29 | 23.33 | 23.43 | 2 | 23.5 | 22.75 | 22.63 | 22.60 | 22.69 | 22.45 | 0.5 | 23.5 |
| | | 25 | 0 | 23.39 | 23.35 | 23.27 | 23.35 | 23.49 | 2 | 23.5 | 22.77 | 22.65 | 22.60 | 22.69 | 22.48 | 0.5 | 23.5 |
| | 64QAM | 1 | 0 | 23.44 | 23.32 | 23.38 | 23.48 | 23.37 | 2 | 23.5 | 22.99 | 22.84 | 22.76 | 22.84 | 22.69 | 0.5 | 23.5 |
| | | 1 | 12 | 23.38 | 23.31 | 23.49 | 23.49 | 23.30 | 2 | 23.5 | 23.00 | 22.84 | 22.81 | 22.82 | 22.61 | 0.5 | 23.5 |
| | | 1 | 24 | 23.45 | 23.48 | 23.35 | 23.35 | 23.32 | 2 | 23.5 | 23.03 | 22.86 | 22.77 | 22.84 | 22.64 | 0.5 | 23.5 |
| | | 12 | 0 | 22.48 | 22.45 | 22.36 | 22.30 | 22.24 | 3 | 22.5 | 21.76 | 21.69 | 21.61 | 21.57 | 21.49 | 1.5 | 22.5 |
| | | 12 | 7 | 22.46 | 22.38 | 22.36 | 22.36 | 22.25 | 3 | 22.5 | 21.76 | 21.67 | 21.60 | 21.65 | 21.51 | 1.5 | 22.5 |
| | | 12 | 13 | 22.43 | 22.39 | 22.35 | 22.36 | 22.24 | 3 | 22.5 | 21.76 | 21.68 | 21.61 | 21.66 | 21.52 | 1.5 | 22.5 |
| | | 25 | 0 | 22.49 | 22.38 | 22.32 | 22.40 | 22.22 | 3 | 22.5 | 21.80 | 21.69 | 21.58 | 21.69 | 21.53 | 1.5 | 22.5 |

## LTE Band 41 Power Class 3 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 21.06 | 21.11 | 21.13 | 21.07 | 21.07 | 0 | 21.2 | 22.65 | 22.63 | 22.50 | 22.51 | 22.33 | 0 | 22.7 |
| | | 1 | 49 | 21.12 | 21.20 | 21.20 | 21.10 | 21.10 | 0 | 21.2 | 22.70 | 22.70 | 22.54 | 22.60 | 22.40 | 0 | 22.7 |
| | | 1 | 99 | 21.08 | 21.02 | 21.00 | 21.01 | 21.01 | 0 | 21.2 | 22.64 | 22.61 | 22.48 | 22.51 | 22.18 | 0 | 22.7 |
| | | 50 | 0 | 21.00 | 21.19 | 21.02 | 20.95 | 20.95 | 0 | 21.2 | 21.88 | 21.91 | 21.79 | 21.71 | 21.53 | 0.7 | 22 |
| | | 50 | 24 | 21.08 | 21.20 | 21.03 | 20.97 | 20.97 | 0 | 21.2 | 22.00 | 22.00 | 21.97 | 21.93 | 21.83 | 0.7 | 22 |
| | | 50 | 50 | 21.04 | 21.15 | 20.97 | 20.94 | 20.94 | 0 | 21.2 | 21.99 | 21.90 | 21.93 | 21.91 | 21.78 | 0.7 | 22 |
| | | 100 | 0 | 21.14 | 21.18 | 21.07 | 21.04 | 21.04 | 0 | 21.2 | 21.97 | 21.91 | 21.92 | 21.91 | 21.81 | 0.7 | 22 |
| | 16QAM | 1 | 0 | 20.55 | 21.10 | 20.79 | 20.75 | 20.75 | 0 | 21.2 | 21.79 | 21.94 | 21.71 | 22.00 | 21.93 | 0.7 | 22 |
| | | 1 | 49 | 20.54 | 21.00 | 20.68 | 20.69 | 20.69 | 0 | 21.2 | 21.78 | 21.88 | 21.91 | 21.97 | 21.73 | 0.7 | 22 |
| | | 1 | 99 | 20.60 | 20.94 | 20.68 | 20.69 | 20.69 | 0 | 21.2 | 21.81 | 21.91 | 21.93 | 22.00 | 21.71 | 0.7 | 22 |
| | | 50 | 0 | 20.35 | 20.76 | 20.54 | 20.50 | 20.50 | 0.2 | 21 | 20.97 | 20.98 | 20.81 | 20.79 | 20.58 | 1.7 | 21 |
| | | 50 | 24 | 20.43 | 20.69 | 20.57 | 20.52 | 20.52 | 0.2 | 21 | 20.99 | 20.94 | 20.82 | 20.76 | 20.54 | 1.7 | 21 |
| | | 50 | 50 | 20.39 | 20.70 | 20.51 | 20.49 | 20.49 | 0.2 | 21 | 20.96 | 20.97 | 20.78 | 20.74 | 20.49 | 1.7 | 21 |
| | | 100 | 0 | 20.50 | 20.75 | 20.64 | 20.59 | 20.59 | 0.2 | 21 | 20.79 | 20.71 | 20.89 | 20.84 | 20.62 | 1.7 | 21 |
| | 64QAM | 1 | 0 | 20.76 | 20.95 | 20.73 | 20.77 | 20.83 | 0.2 | 21 | 20.56 | 20.59 | 20.35 | 20.18 | 20.50 | 1.7 | 21 |
| | | 1 | 49 | 20.73 | 20.87 | 20.71 | 20.86 | 20.92 | 0.2 | 21 | 20.48 | 20.28 | 20.30 | 20.29 | 20.34 | 1.7 | 21 |
| | | 1 | 99 | 20.78 | 20.94 | 20.76 | 20.93 | 20.92 | 0.2 | 21 | 20.57 | 20.60 | 20.30 | 20.41 | 20.36 | 1.7 | 21 |
| | | 50 | 0 | 19.93 | 19.98 | 19.95 | 19.81 | 19.82 | 1.2 | 20 | 19.44 | 19.35 | 19.15 | 19.21 | 19.27 | 2.7 | 20 |
| | | 50 | 24 | 19.97 | 19.92 | 19.95 | 19.83 | 19.86 | 1.2 | 20 | 19.47 | 19.30 | 19.17 | 19.26 | 19.31 | 2.7 | 20 |
| | | 50 | 50 | 19.95 | 19.96 | 19.94 | 19.82 | 19.87 | 1.2 | 20 | 19.48 | 19.37 | 19.14 | 19.28 | 19.31 | 2.7 | 20 |
| | | 100 | 0 | 19.83 | 19.95 | 19.99 | 19.86 | 19.94 | 1.2 | 20 | 19.54 | 19.36 | 19.23 | 19.33 | 19.39 | 2.7 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 20.45 | 20.94 | 20.67 | 20.64 | 20.44 | 0 | 21.2 | 22.43 | 22.50 | 22.35 | 22.26 | 22.06 | 0 | 22.7 |
| | | 1 | 37 | 20.53 | 20.84 | 20.65 | 20.59 | 20.37 | 0 | 21.2 | 22.48 | 22.44 | 22.33 | 22.28 | 22.03 | 0 | 22.7 |
| | | 1 | 74 | 20.50 | 20.83 | 20.53 | 20.52 | 20.25 | 0 | 21.2 | 22.39 | 22.46 | 22.25 | 22.24 | 21.92 | 0 | 22.7 |
| | | 36 | 0 | 20.42 | 20.81 | 20.52 | 20.51 | 20.29 | 0 | 21.2 | 21.71 | 21.99 | 21.83 | 21.79 | 21.55 | 0.7 | 22 |
| | | 36 | 20 | 20.48 | 20.76 | 20.57 | 20.53 | 20.25 | 0 | 21.2 | 21.75 | 21.95 | 21.84 | 21.83 | 21.52 | 0.7 | 22 |
| | | 36 | 39 | 20.47 | 20.77 | 20.52 | 20.49 | 20.24 | 0 | 21.2 | 21.99 | 21.96 | 21.80 | 21.80 | 21.54 | 0.7 | 22 |
| | | 75 | 0 | 20.53 | 20.83 | 20.61 | 20.57 | 20.33 | 0 | 21.2 | 21.73 | 22.00 | 21.88 | 21.88 | 21.59 | 0.7 | 22 |
| | 16QAM | 1 | 0 | 20.42 | 20.97 | 20.66 | 20.61 | 20.40 | 0 | 21.2 | 21.95 | 21.77 | 21.86 | 21.83 | 21.64 | 0.7 | 22 |
| | | 1 | 37 | 20.49 | 20.80 | 20.61 | 20.57 | 20.32 | 0 | 21.2 | 21.99 | 21.94 | 21.81 | 21.81 | 21.58 | 0.7 | 22 |
| | | 1 | 74 | 20.50 | 20.79 | 20.47 | 20.48 | 20.14 | 0 | 21.2 | 21.72 | 21.97 | 21.73 | 21.77 | 21.43 | 0.7 | 22 |
| | | 36 | 0 | 20.36 | 20.78 | 20.48 | 20.46 | 20.27 | 0.2 | 21 | 20.96 | 20.95 | 20.75 | 20.74 | 20.53 | 1.7 | 21 |
| | | 36 | 20 | 20.43 | 20.73 | 20.52 | 20.47 | 20.23 | 0.2 | 21 | 20.97 | 20.92 | 20.80 | 20.76 | 20.49 | 1.7 | 21 |
| | | 36 | 39 | 20.43 | 20.74 | 20.49 | 20.44 | 20.22 | 0.2 | 21 | 20.97 | 20.92 | 20.76 | 20.72 | 20.48 | 1.7 | 21 |
| | | 75 | 0 | 20.43 | 20.79 | 20.57 | 20.52 | 20.32 | 0.2 | 21 | 20.74 | 20.97 | 20.85 | 20.80 | 20.58 | 1.7 | 21 |
| | 64QAM | 1 | 0 | 20.76 | 20.95 | 20.79 | 20.74 | 20.84 | 0.2 | 21 | 20.53 | 20.48 | 20.30 | 20.25 | 20.35 | 1.7 | 21 |
| | | 1 | 37 | 20.84 | 20.93 | 20.83 | 20.87 | 20.87 | 0.2 | 21 | 20.60 | 20.42 | 20.31 | 20.36 | 20.32 | 1.7 | 21 |
| | | 1 | 74 | 20.70 | 20.89 | 20.73 | 20.93 | 20.80 | 0.2 | 21 | 20.52 | 20.41 | 20.24 | 20.43 | 20.29 | 1.7 | 21 |
| | | 36 | 0 | 19.90 | 19.91 | 19.91 | 19.93 | 19.80 | 1.2 | 20 | 19.48 | 19.32 | 19.14 | 19.19 | 19.28 | 2.7 | 20 |
| | | 36 | 20 | 19.92 | 19.93 | 19.97 | 19.82 | 19.99 | 1.2 | 20 | 19.49 | 19.34 | 19.19 | 19.26 | 19.24 | 2.7 | 20 |
| | | 36 | 39 | 19.93 | 19.92 | 19.93 | 19.82 | 19.85 | 1.2 | 20 | 19.45 | 19.36 | 19.17 | 19.26 | 19.29 | 2.7 | 20 |
| | | 75 | 0 | 19.97 | 19.94 | 19.80 | 19.86 | 19.79 | 1.2 | 20 | 18.49 | 18.37 | 18.23 | 18.30 | 18.33 | 2.7 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 20.42 | 20.93 | 20.66 | 20.58 | 20.43 | 0 | 21.2 | 22.38 | 22.43 | 22.30 | 22.21 | 22.02 | 0 | 22.7 |
| | | 1 | 25 | 20.48 | 20.84 | 20.68 | 20.55 | 20.34 | 0 | 21.2 | 22.39 | 22.40 | 22.31 | 22.22 | 21.94 | 0 | 22.7 |
| | | 1 | 49 | 20.50 | 20.88 | 20.69 | 20.55 | 20.35 | 0 | 21.2 | 22.43 | 22.45 | 22.29 | 22.22 | 21.98 | 0 | 22.7 |
| | | 25 | 0 | 20.43 | 20.82 | 20.57 | 20.49 | 20.29 | 0 | 21.2 | 21.71 | 21.97 | 21.79 | 21.75 | 21.53 | 0.7 | 22 |
| | | 25 | 12 | 20.45 | 20.75 | 20.54 | 20.51 | 20.26 | 0 | 21.2 | 21.99 | 21.90 | 21.80 | 21.79 | 21.50 | 0.7 | 22 |
| | | 25 | 25 | 20.44 | 20.76 | 20.52 | 20.50 | 20.28 | 0 | 21.2 | 21.98 | 21.92 | 21.79 | 21.79 | 21.54 | 0.7 | 22 |
| | | 50 | 0 | 20.52 | 20.78 | 20.56 | 20.56 | 20.33 | 0 | 21.2 | 21.75 | 21.93 | 21.84 | 21.85 | 21.58 | 0.7 | 22 |
| | 16QAM | 1 | 0 | 20.56 | 20.90 | 20.64 | 20.67 | 20.36 | 0 | 21.2 | 21.79 | 21.70 | 21.85 | 21.93 | 21.60 | 0.7 | 22 |
| | | 1 | 25 | 20.56 | 20.81 | 20.64 | 20.69 | 20.29 | 0 | 21.2 | 21.79 | 21.88 | 21.80 | 21.91 | 21.45 | 0.7 | 22 |
| | | 1 | 49 | 20.57 | 20.81 | 20.61 | 20.63 | 20.23 | 0 | 21.2 | 21.82 | 21.92 | 21.77 | 21.89 | 21.49 | 0.7 | 22 |
| | | 25 | 0 | 20.36 | 20.78 | 20.51 | 20.44 | 20.26 | 0.2 | 21 | 20.94 | 20.94 | 20.79 | 20.69 | 20.48 | 1.7 | 21 |
| | | 25 | 12 | 20.38 | 20.71 | 20.54 | 20.46 | 20.22 | 0.2 | 21 | 20.90 | 20.89 | 20.83 | 20.72 | 20.44 | 1.7 | 21 |
| | | 25 | 25 | 20.36 | 20.72 | 20.51 | 20.44 | 20.23 | 0.2 | 21 | 20.89 | 20.91 | 20.82 | 20.70 | 20.46 | 1.7 | 21 |
| | | 50 | 0 | 20.45 | 20.74 | 20.54 | 20.51 | 20.30 | 0.2 | 21 | 20.96 | 20.92 | 20.90 | 20.76 | 20.53 | 1.7 | 21 |
| | 64QAM | 1 | 0 | 20.65 | 21.00 | 20.74 | 20.71 | 20.87 | 0.2 | 21 | 20.44 | 20.51 | 20.26 | 20.24 | 20.37 | 1.7 | 21 |
| | | 1 | 25 | 20.63 | 20.92 | 20.79 | 20.80 | 20.79 | 0.2 | 21 | 20.36 | 20.39 | 20.26 | 20.24 | 20.31 | 1.7 | 21 |
| | | 1 | 49 | 20.71 | 20.97 | 20.81 | 20.81 | 20.87 | 0.2 | 21 | 20.51 | 20.43 | 20.27 | 20.27 | 20.36 | 1.7 | 21 |
| | | 25 | 0 | 19.95 | 19.86 | 19.87 | 19.93 | 19.81 | 1.2 | 20 | 19.49 | 19.28 | 19.07 | 19.15 | 19.25 | 2.7 | 20 |
| | | 25 | 12 | 19.93 | 19.83 | 19.91 | 19.97 | 19.99 | 1.2 | 20 | 19.46 | 19.25 | 19.12 | 19.19 | 19.23 | 2.7 | 20 |
| | | 25 | 25 | 19.94 | 19.87 | 19.91 | 20.00 | 19.85 | 1.2 | 20 | 19.44 | 19.29 | 19.13 | 19.21 | 19.28 | 2.7 | 20 |
| | | 50 | 0 | 19.98 | 19.89 | 19.97 | 19.83 | 19.89 | 1.2 | 20 | 19.50 | 19.32 | 19.17 | 19.25 | 19.32 | 2.7 | 20 |

## LTE Band 41 Power Class 3 Measured Results (ANT2) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | | | Power Mode B (dBm) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit | 39750 | 40185 | 40620 | 41055 | 41490 | MPR | Tune-up Limit |
| | | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 20.50 | 20.96 | 20.68 | 20.64 | 20.36 | 0 | 21.2 | 22.42 | 22.43 | 22.34 | 22.27 | 21.96 | 0 | 22.7 |
| | | 1 | 12 | 20.53 | 20.89 | 20.69 | 20.65 | 20.35 | 0 | 21.2 | 22.46 | 22.36 | 22.34 | 22.29 | 21.92 | 0 | 22.7 |
| | | 1 | 24 | 20.57 | 20.93 | 20.68 | 20.65 | 20.35 | 0 | 21.2 | 22.43 | 22.43 | 22.34 | 22.31 | 21.93 | 0 | 22.7 |
| | | 12 | 0 | 20.39 | 20.83 | 20.56 | 20.47 | 20.25 | 0 | 21.2 | 21.88 | 21.71 | 21.80 | 21.79 | 21.44 | 0.7 | 22 |
| | | 12 | 7 | 20.41 | 20.78 | 20.61 | 20.53 | 20.23 | 0 | 21.2 | 21.90 | 21.94 | 21.85 | 21.81 | 21.43 | 0.7 | 22 |
| | | 12 | 13 | 20.39 | 20.79 | 20.60 | 20.53 | 20.26 | 0 | 21.2 | 21.84 | 21.95 | 21.85 | 21.81 | 21.49 | 0.7 | 22 |
| | | 25 | 0 | 20.45 | 20.80 | 20.63 | 20.56 | 20.29 | 0 | 21.2 | 21.92 | 21.96 | 21.88 | 21.81 | 21.53 | 0.7 | 22 |
| | 16QAM | 1 | 0 | 20.42 | 21.14 | 20.69 | 20.70 | 20.38 | 0 | 21.2 | 21.72 | 21.83 | 21.71 | 21.87 | 21.55 | 0.7 | 22 |
| | | 1 | 12 | 20.42 | 21.08 | 20.66 | 20.75 | 20.38 | 0 | 21.2 | 21.76 | 21.75 | 21.73 | 21.82 | 21.54 | 0.7 | 22 |
| | | 1 | 24 | 20.46 | 21.08 | 20.68 | 20.78 | 20.35 | 0 | 21.2 | 21.79 | 21.78 | 21.74 | 21.88 | 21.54 | 0.7 | 22 |
| | | 12 | 0 | 20.34 | 20.83 | 20.53 | 20.49 | 20.27 | 0.2 | 21 | 20.90 | 20.98 | 20.81 | 20.70 | 20.46 | 1.7 | 21 |
| | | 12 | 7 | 20.38 | 20.78 | 20.58 | 20.51 | 20.22 | 0.2 | 21 | 20.92 | 20.95 | 20.84 | 20.77 | 20.44 | 1.7 | 21 |
| | | 12 | 13 | 20.38 | 20.77 | 20.57 | 20.51 | 20.23 | 0.2 | 21 | 20.85 | 20.95 | 20.84 | 20.77 | 20.50 | 1.7 | 21 |
| | | 25 | 0 | 20.42 | 20.76 | 20.61 | 20.53 | 20.24 | 0.2 | 21 | 20.93 | 20.96 | 20.85 | 20.75 | 20.52 | 1.7 | 21 |
| | 64QAM | 1 | 0 | 20.72 | 20.88 | 20.76 | 20.76 | 20.93 | 0.2 | 21 | 20.52 | 20.52 | 20.07 | 20.29 | 20.39 | 1.7 | 21 |
| | | 1 | 12 | 20.76 | 20.95 | 20.79 | 20.82 | 20.96 | 0.2 | 21 | 20.52 | 20.64 | 20.40 | 20.28 | 20.47 | 1.7 | 21 |
| | | 1 | 24 | 20.77 | 20.89 | 20.77 | 20.85 | 20.83 | 0.2 | 21 | 20.59 | 20.44 | 20.29 | 20.30 | 20.41 | 1.7 | 21 |
| | | 12 | 0 | 19.81 | 19.85 | 19.87 | 19.91 | 19.99 | 1.2 | 20 | 19.35 | 19.33 | 19.01 | 19.17 | 19.21 | 2.7 | 20 |
| | | 12 | 7 | 19.90 | 19.85 | 19.96 | 19.92 | 19.97 | 1.2 | 20 | 19.43 | 19.27 | 19.19 | 19.20 | 19.21 | 2.7 | 20 |
| | | 12 | 13 | 19.88 | 19.97 | 19.95 | 19.96 | 19.99 | 1.2 | 20 | 19.34 | 19.32 | 19.14 | 19.21 | 19.23 | 2.7 | 20 |
| | | 25 | 0 | 19.93 | 19.87 | 19.93 | 19.97 | 19.85 | 1.2 | 20 | 19.44 | 19.31 | 19.18 | 19.19 | 19.27 | 2.7 | 20 |

## LTE Band 66 Measured Results (ANT1)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 132072 | 132322 | 132572 | MPR | Tune-up Limit | 132072 | 132322 | 132572 | MPR | Tune-up Limit |
| | | | | 1720 MHz | 1745 MHz | 1770 MHz | | | 1720 MHz | 1745 MHz | 1770 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 25.22 | 25.25 | 25.17 | 0 | 25.5 | 20.85 | 20.86 | 20.87 | 0 | 21 |
| | | 1 | 49 | 25.40 | 25.26 | 25.30 | 0 | 25.5 | 20.97 | 21.00 | 20.90 | 0 | 21 |
| | | 1 | 99 | 25.32 | 25.25 | 25.21 | 0 | 25.5 | 20.95 | 20.97 | 20.87 | 0 | 21 |
| | | 50 | 0 | 24.32 | 24.26 | 24.16 | 1 | 24.5 | 20.95 | 20.86 | 20.74 | 0 | 21 |
| | | 50 | 24 | 24.34 | 24.28 | 24.30 | 1 | 24.5 | 20.99 | 20.90 | 20.80 | 0 | 21 |
| | | 50 | 50 | 24.28 | 24.26 | 24.24 | 1 | 24.5 | 20.94 | 20.90 | 20.85 | 0 | 21 |
| | | 100 | 0 | 24.38 | 24.31 | 24.26 | 1 | 24.5 | 20.92 | 20.94 | 20.86 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.02 | 24.18 | 24.04 | 1 | 24.5 | 20.65 | 20.60 | 20.59 | 0 | 21 |
| | | 1 | 49 | 24.13 | 24.17 | 23.99 | 1 | 24.5 | 20.78 | 20.66 | 20.49 | 0 | 21 |
| | | 1 | 99 | 24.13 | 24.21 | 24.09 | 1 | 24.5 | 20.82 | 20.76 | 20.58 | 0 | 21 |
| | | 50 | 0 | 22.85 | 22.75 | 22.64 | 2 | 23.5 | 20.86 | 20.80 | 20.67 | 0 | 21 |
| | | 50 | 24 | 22.87 | 22.77 | 22.70 | 2 | 23.5 | 20.90 | 20.83 | 20.73 | 0 | 21 |
| | | 50 | 50 | 22.81 | 22.75 | 22.74 | 2 | 23.5 | 20.87 | 20.83 | 20.77 | 0 | 21 |
| | | 100 | 0 | 22.91 | 22.81 | 22.75 | 2 | 23.5 | 20.93 | 20.86 | 20.79 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.05 | 23.07 | 22.86 | 2 | 23.5 | 20.95 | 20.98 | 20.87 | 0 | 21 |
| | | 1 | 49 | 23.19 | 23.09 | 22.79 | 2 | 23.5 | 20.91 | 21.00 | 20.79 | 0 | 21 |
| | | 1 | 99 | 23.20 | 23.18 | 22.85 | 2 | 23.5 | 20.94 | 20.93 | 20.82 | 0 | 21 |
| | | 50 | 0 | 21.84 | 21.80 | 21.73 | 3 | 22.5 | 20.82 | 20.74 | 20.63 | 0 | 21 |
| | | 50 | 24 | 21.86 | 21.83 | 21.79 | 3 | 22.5 | 20.86 | 20.78 | 20.67 | 0 | 21 |
| | | 50 | 50 | 21.82 | 21.84 | 21.84 | 3 | 22.5 | 20.84 | 20.76 | 20.71 | 0 | 21 |
| | | 100 | 0 | 21.90 | 21.88 | 21.84 | 3 | 22.5 | 20.89 | 20.82 | 20.71 | 0 | 21 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 132047 | 132322 | 132597 | MPR | Tune-up Limit | 132047 | 132322 | 132597 | MPR | Tune-up Limit |
| | | | | 1717.5 MHz | 1745 MHz | 1772.5 MHz | | | 1717.5 MHz | 1745 MHz | 1772.5 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 24.73 | 24.69 | 24.69 | 0 | 25.5 | 20.76 | 20.75 | 20.74 | 0 | 21 |
| | | 1 | 37 | 24.80 | 24.75 | 24.73 | 0 | 25.5 | 20.88 | 20.85 | 20.84 | 0 | 21 |
| | | 1 | 74 | 24.79 | 24.75 | 24.72 | 0 | 25.5 | 20.87 | 20.87 | 20.81 | 0 | 21 |
| | | 36 | 0 | 23.77 | 23.72 | 23.70 | 1 | 24.5 | 20.82 | 20.80 | 20.80 | 0 | 21 |
| | | 36 | 20 | 23.80 | 23.76 | 23.72 | 1 | 24.5 | 20.87 | 20.82 | 20.83 | 0 | 21 |
| | | 36 | 39 | 23.81 | 23.79 | 23.75 | 1 | 24.5 | 20.88 | 20.84 | 20.81 | 0 | 21 |
| | | 75 | 0 | 23.82 | 23.77 | 23.76 | 1 | 24.5 | 20.88 | 20.82 | 20.78 | 0 | 21 |
| | 16QAM | 1 | 0 | 23.98 | 24.01 | 23.94 | 1 | 24.5 | 20.89 | 20.95 | 20.78 | 0 | 21 |
| | | 1 | 37 | 24.10 | 24.09 | 23.97 | 1 | 24.5 | 20.99 | 20.99 | 20.93 | 0 | 21 |
| | | 1 | 74 | 24.07 | 24.05 | 23.97 | 1 | 24.5 | 20.80 | 20.96 | 20.89 | 0 | 21 |
| | | 36 | 0 | 22.81 | 22.72 | 22.72 | 2 | 23.5 | 20.34 | 20.29 | 20.32 | 0 | 21 |
| | | 36 | 20 | 22.84 | 22.76 | 22.73 | 2 | 23.5 | 20.38 | 20.34 | 20.29 | 0 | 21 |
| | | 36 | 39 | 22.86 | 22.78 | 22.75 | 2 | 23.5 | 20.40 | 20.37 | 20.30 | 0 | 21 |
| | | 75 | 0 | 22.85 | 22.76 | 22.75 | 2 | 23.5 | 20.40 | 20.34 | 20.31 | 0 | 21 |
| | 64QAM | 1 | 0 | 22.88 | 23.01 | 23.01 | 2 | 23.5 | 20.42 | 20.45 | 20.49 | 0 | 21 |
| | | 1 | 37 | 23.02 | 23.05 | 23.06 | 2 | 23.5 | 20.30 | 20.40 | 20.37 | 0 | 21 |
| | | 1 | 74 | 23.01 | 23.09 | 23.06 | 2 | 23.5 | 20.32 | 20.36 | 20.39 | 0 | 21 |
| | | 36 | 0 | 21.82 | 21.82 | 21.80 | 3 | 22.5 | 20.30 | 20.25 | 20.27 | 0 | 21 |
| | | 36 | 20 | 21.86 | 21.86 | 21.84 | 3 | 22.5 | 20.33 | 20.27 | 20.30 | 0 | 21 |
| | | 36 | 39 | 21.90 | 21.88 | 21.86 | 3 | 22.5 | 20.36 | 20.31 | 20.32 | 0 | 21 |
| | | 75 | 0 | 21.86 | 21.83 | 21.85 | 3 | 22.5 | 20.34 | 20.27 | 20.26 | 0 | 21 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 132022 | 132322 | 132622 | MPR | Tune-up Limit | 132022 | 132322 | 132622 | MPR | Tune-up Limit |
| | | | | 1715 MHz | 1745 MHz | 1775 MHz | | | 1715 MHz | 1745 MHz | 1775 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 24.74 | 24.69 | 24.79 | 0 | 25.5 | 20.78 | 20.82 | 20.84 | 0 | 21 |
| | | 1 | 25 | 24.85 | 24.72 | 24.82 | 0 | 25.5 | 20.87 | 20.83 | 20.85 | 0 | 21 |
| | | 1 | 49 | 24.91 | 24.74 | 24.77 | 0 | 25.5 | 20.95 | 20.89 | 20.84 | 0 | 21 |
| | | 25 | 0 | 23.80 | 23.71 | 23.72 | 1 | 24.5 | 20.88 | 20.79 | 20.82 | 0 | 21 |
| | | 25 | 12 | 23.81 | 23.72 | 23.74 | 1 | 24.5 | 20.89 | 20.82 | 20.83 | 0 | 21 |
| | | 25 | 25 | 23.85 | 23.77 | 23.78 | 1 | 24.5 | 20.92 | 20.86 | 20.87 | 0 | 21 |
| | | 50 | 0 | 23.84 | 23.73 | 23.76 | 1 | 24.5 | 20.90 | 20.83 | 20.85 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.05 | 24.02 | 24.02 | 1 | 24.5 | 20.62 | 20.61 | 20.71 | 0 | 21 |
| | | 1 | 25 | 24.11 | 24.04 | 24.01 | 1 | 24.5 | 20.77 | 20.63 | 20.75 | 0 | 21 |
| | | 1 | 49 | 24.21 | 24.10 | 24.04 | 1 | 24.5 | 20.80 | 20.66 | 20.69 | 0 | 21 |
| | | 25 | 0 | 22.81 | 22.77 | 22.82 | 2 | 23.5 | 20.92 | 20.92 | 20.96 | 0 | 21 |
| | | 25 | 12 | 22.82 | 22.78 | 22.83 | 2 | 23.5 | 20.91 | 20.84 | 20.87 | 0 | 21 |
| | | 25 | 25 | 22.85 | 22.82 | 22.86 | 2 | 23.5 | 20.91 | 20.88 | 20.90 | 0 | 21 |
| | | 50 | 0 | 22.81 | 22.79 | 22.83 | 2 | 23.5 | 20.85 | 20.84 | 20.88 | 0 | 21 |
| | 64QAM | 1 | 0 | 22.98 | 22.96 | 22.92 | 2 | 23.5 | 20.97 | 20.91 | 20.98 | 0 | 21 |
| | | 1 | 25 | 23.03 | 23.00 | 23.01 | 2 | 23.5 | 20.91 | 20.90 | 20.91 | 0 | 21 |
| | | 1 | 49 | 23.18 | 22.95 | 23.00 | 2 | 23.5 | 21.00 | 20.94 | 20.84 | 0 | 21 |
| | | 25 | 0 | 21.90 | 21.80 | 21.80 | 3 | 22.5 | 20.79 | 20.80 | 20.81 | 0 | 21 |
| | | 25 | 12 | 21.91 | 21.81 | 21.82 | 3 | 22.5 | 20.81 | 20.81 | 20.82 | 0 | 21 |
| | | 25 | 25 | 21.93 | 21.85 | 21.85 | 3 | 22.5 | 20.86 | 20.83 | 20.84 | 0 | 21 |
| | | 50 | 0 | 21.90 | 21.81 | 21.83 | 3 | 22.5 | 20.83 | 20.80 | 20.82 | 0 | 21 |

## LTE Band 66 Measured Results (ANT1) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 131997 | 132322 | 132647 | MPR | Tune-up Limit | 131997 | 132322 | 132647 | MPR | Tune-up Limit |
| | | | | 1712.5 MHz | 1745 MHz | 1777.5 MHz | | | 1712.5 MHz | 1745 MHz | 1777.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 24.74 | 24.79 | 24.80 | 0 | 25.5 | 20.81 | 20.87 | 20.85 | 0 | 21 |
| | | 1 | 12 | 24.76 | 24.79 | 24.82 | 0 | 25.5 | 20.86 | 20.87 | 20.86 | 0 | 21 |
| | | 1 | 24 | 24.84 | 24.81 | 24.77 | 0 | 25.5 | 20.92 | 20.92 | 20.83 | 0 | 21 |
| | | 12 | 0 | 23.74 | 23.79 | 23.83 | 1 | 24.5 | 20.80 | 20.81 | 20.86 | 0 | 21 |
| | | 12 | 7 | 23.78 | 23.79 | 23.82 | 1 | 24.5 | 20.87 | 20.83 | 20.86 | 0 | 21 |
| | | 12 | 13 | 23.78 | 23.80 | 23.75 | 1 | 24.5 | 20.88 | 20.84 | 20.80 | 0 | 21 |
| | | 25 | 0 | 23.80 | 23.81 | 23.83 | 1 | 24.5 | 20.90 | 20.84 | 20.89 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.13 | 24.12 | 24.21 | 1 | 24.5 | 20.72 | 20.63 | 20.79 | 0 | 21 |
| | | 1 | 12 | 24.14 | 24.10 | 24.18 | 1 | 24.5 | 20.74 | 20.67 | 20.80 | 0 | 21 |
| | | 1 | 24 | 24.16 | 24.16 | 24.14 | 1 | 24.5 | 20.79 | 20.74 | 20.75 | 0 | 21 |
| | | 12 | 0 | 22.75 | 22.81 | 22.86 | 2 | 23.5 | 20.88 | 20.88 | 20.93 | 0 | 21 |
| | | 12 | 7 | 22.86 | 22.80 | 22.86 | 2 | 23.5 | 20.93 | 20.88 | 20.93 | 0 | 21 |
| | | 12 | 13 | 22.91 | 22.84 | 22.78 | 2 | 23.5 | 20.94 | 20.91 | 20.86 | 0 | 21 |
| | | 25 | 0 | 22.87 | 22.79 | 22.85 | 2 | 23.5 | 20.92 | 20.89 | 20.91 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.01 | 23.03 | 23.22 | 2 | 23.5 | 20.55 | 20.55 | 20.62 | 0 | 21 |
| | | 1 | 12 | 23.05 | 23.01 | 23.17 | 2 | 23.5 | 20.60 | 20.52 | 20.60 | 0 | 21 |
| | | 1 | 24 | 23.11 | 23.10 | 23.12 | 2 | 23.5 | 20.63 | 20.59 | 20.54 | 0 | 21 |
| | | 12 | 0 | 21.81 | 21.83 | 21.85 | 3 | 22.5 | 20.77 | 20.79 | 20.88 | 0 | 21 |
| | | 12 | 7 | 21.82 | 21.92 | 21.86 | 3 | 22.5 | 20.82 | 20.81 | 20.82 | 0 | 21 |
| | | 12 | 13 | 21.84 | 21.92 | 21.80 | 3 | 22.5 | 20.82 | 20.81 | 20.77 | 0 | 21 |
| | | 25 | 0 | 21.86 | 21.88 | 21.85 | 3 | 22.5 | 20.82 | 20.80 | 20.81 | 0 | 21 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 131987 | 132322 | 132657 | MPR | Tune-up Limit | 131987 | 132322 | 132657 | MPR | Tune-up Limit |
| | | | | 1711.5 MHz | 1745 MHz | 1778.5 MHz | | | 1711.5 MHz | 1745 MHz | 1778.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 24.72 | 24.72 | 24.82 | 0 | 25.5 | 20.78 | 20.81 | 20.86 | 0 | 21 |
| | | 1 | 8 | 24.78 | 24.78 | 24.81 | 0 | 25.5 | 20.83 | 20.89 | 20.83 | 0 | 21 |
| | | 1 | 14 | 24.76 | 24.76 | 24.76 | 0 | 25.5 | 20.88 | 20.85 | 20.79 | 0 | 21 |
| | | 8 | 0 | 23.80 | 23.80 | 23.84 | 1 | 24.5 | 20.84 | 20.84 | 20.87 | 0 | 21 |
| | | 8 | 4 | 23.79 | 23.79 | 23.76 | 1 | 24.5 | 20.83 | 20.84 | 20.79 | 0 | 21 |
| | | 8 | 7 | 23.80 | 23.80 | 23.77 | 1 | 24.5 | 20.84 | 20.85 | 20.81 | 0 | 21 |
| | | 15 | 0 | 23.80 | 23.80 | 23.76 | 1 | 24.5 | 20.84 | 20.84 | 20.81 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.00 | 24.00 | 24.09 | 1 | 24.5 | 20.60 | 20.54 | 20.74 | 0 | 21 |
| | | 1 | 8 | 24.07 | 24.07 | 24.09 | 1 | 24.5 | 20.66 | 20.65 | 20.70 | 0 | 21 |
| | | 1 | 14 | 24.03 | 24.03 | 24.01 | 1 | 24.5 | 20.74 | 20.66 | 20.63 | 0 | 21 |
| | | 8 | 0 | 22.82 | 22.82 | 22.89 | 2 | 23.5 | 20.90 | 20.89 | 20.96 | 0 | 21 |
| | | 8 | 4 | 22.81 | 22.81 | 22.80 | 2 | 23.5 | 20.90 | 20.89 | 20.87 | 0 | 21 |
| | | 8 | 7 | 22.83 | 22.83 | 22.78 | 2 | 23.5 | 20.91 | 20.93 | 20.87 | 0 | 21 |
| | | 15 | 0 | 22.77 | 22.77 | 22.76 | 2 | 23.5 | 20.87 | 20.90 | 20.84 | 0 | 21 |
| | 64QAM | 1 | 0 | 22.92 | 22.96 | 23.03 | 2 | 23.5 | 20.45 | 20.48 | 20.08 | 0 | 21 |
| | | 1 | 8 | 22.90 | 23.00 | 23.04 | 2 | 23.5 | 20.53 | 20.57 | 20.48 | 0 | 21 |
| | | 1 | 14 | 22.90 | 23.08 | 22.92 | 2 | 23.5 | 20.47 | 20.52 | 20.50 | 0 | 21 |
| | | 8 | 0 | 21.79 | 21.92 | 21.93 | 3 | 22.5 | 20.82 | 20.94 | 20.95 | 0 | 21 |
| | | 8 | 4 | 21.80 | 21.92 | 21.90 | 3 | 22.5 | 20.81 | 20.93 | 20.86 | 0 | 21 |
| | | 8 | 7 | 21.81 | 21.94 | 21.90 | 3 | 22.5 | 20.84 | 20.95 | 20.87 | 0 | 21 |
| | | 15 | 0 | 21.76 | 21.88 | 21.85 | 3 | 22.5 | 20.79 | 20.88 | 20.83 | 0 | 21 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 131979 | 132322 | 132665 | MPR | Tune-up Limit | 131979 | 132322 | 132665 | MPR | Tune-up Limit |
| | | | | 1710.7 MHz | 1745 MHz | 1779.3 MHz | | | 1710.7 MHz | 1745 MHz | 1779.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 24.79 | 24.83 | 24.82 | 0 | 25.5 | 20.82 | 20.89 | 20.89 | 0 | 21 |
| | | 1 | 3 | 24.80 | 24.76 | 24.76 | 0 | 25.5 | 20.81 | 20.88 | 20.81 | 0 | 21 |
| | | 1 | 5 | 24.84 | 24.80 | 24.79 | 0 | 25.5 | 20.84 | 20.92 | 20.80 | 0 | 21 |
| | | 3 | 0 | 24.71 | 24.78 | 24.79 | 0 | 25.5 | 20.80 | 20.88 | 20.80 | 0 | 21 |
| | | 3 | 1 | 24.70 | 24.77 | 24.79 | 0 | 25.5 | 20.79 | 20.87 | 20.79 | 0 | 21 |
| | | 3 | 3 | 24.70 | 24.78 | 24.72 | 0 | 25.5 | 20.79 | 20.87 | 20.78 | 0 | 21 |
| | | 6 | 0 | 23.75 | 23.78 | 23.78 | 1 | 24.5 | 20.82 | 20.86 | 20.79 | 0 | 21 |
| | 16QAM | 1 | 0 | 24.06 | 24.08 | 23.98 | 1 | 24.5 | 20.63 | 20.75 | 20.58 | 0 | 21 |
| | | 1 | 3 | 24.00 | 24.04 | 23.96 | 1 | 24.5 | 20.62 | 20.75 | 20.56 | 0 | 21 |
| | | 1 | 5 | 24.03 | 24.08 | 23.99 | 1 | 24.5 | 20.60 | 20.77 | 20.52 | 0 | 21 |
| | | 3 | 0 | 23.89 | 23.89 | 23.90 | 1 | 24.5 | 20.56 | 20.52 | 20.54 | 0 | 21 |
| | | 3 | 1 | 23.88 | 23.90 | 23.89 | 1 | 24.5 | 20.56 | 20.51 | 20.53 | 0 | 21 |
| | | 3 | 3 | 23.85 | 23.89 | 23.92 | 1 | 24.5 | 20.56 | 20.51 | 20.53 | 0 | 21 |
| | | 6 | 0 | 22.84 | 22.88 | 22.87 | 2 | 23.5 | 20.51 | 20.54 | 20.49 | 0 | 21 |
| | 64QAM | 1 | 0 | 23.04 | 22.99 | 23.15 | 2 | 23.5 | 20.87 | 20.49 | 20.65 | 0 | 21 |
| | | 1 | 3 | 22.94 | 23.00 | 23.11 | 2 | 23.5 | 20.88 | 20.47 | 20.52 | 0 | 21 |
| | | 1 | 5 | 22.89 | 23.02 | 23.12 | 2 | 23.5 | 20.81 | 20.42 | 20.50 | 0 | 21 |
| | | 3 | 0 | 22.85 | 22.92 | 22.95 | 2 | 23.5 | 20.75 | 20.82 | 20.87 | 0 | 21 |
| | | 3 | 1 | 22.84 | 22.90 | 22.95 | 2 | 23.5 | 20.75 | 20.82 | 20.88 | 0 | 21 |
| | | 3 | 3 | 22.86 | 22.93 | 22.93 | 2 | 23.5 | 20.77 | 20.81 | 20.89 | 0 | 21 |
| | | 6 | 0 | 21.87 | 21.90 | 21.86 | 2.5 | 23 | 20.77 | 20.81 | 20.77 | 0 | 21 |

## LTE Band 66 Measured Results (ANT2)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 132072 | 132322 | 132572 | MPR | Tune-up Limit | 132072 | 132322 | 132572 | MPR | Tune-up Limit |
| | | | | 1720 MHz | 1745 MHz | 1770 MHz | | | 1720 MHz | 1745 MHz | 1770 MHz | | |
| 20 MHz | QPSK | 1 | 0 | 20.56 | 20.45 | 20.58 | 0 | 20.7 | 21.43 | 21.45 | 21.45 | 0 | 21.5 |
| | | 1 | 49 | 20.60 | 20.50 | 20.64 | 0 | 20.7 | 21.50 | 21.50 | 21.47 | 0 | 21.5 |
| | | 1 | 99 | 20.55 | 20.44 | 20.54 | 0 | 20.7 | 21.42 | 21.44 | 21.41 | 0 | 21.5 |
| | | 50 | 0 | 20.37 | 20.32 | 20.29 | 0 | 20.7 | 21.05 | 21.01 | 21.02 | 0 | 21.5 |
| | | 50 | 24 | 20.40 | 20.40 | 20.30 | 0 | 20.7 | 21.10 | 21.10 | 21.10 | 0 | 21.5 |
| | | 50 | 50 | 20.38 | 20.36 | 20.28 | 0 | 20.7 | 21.05 | 21.03 | 20.99 | 0 | 21.5 |
| | | 100 | 0 | 20.21 | 20.37 | 20.32 | 0 | 20.7 | 21.09 | 21.06 | 21.04 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 20.31 | 20.34 | 20.25 | 0 | 20.7 | 21.18 | 21.15 | 21.19 | 0 | 21.5 |
| | | 1 | 49 | 20.29 | 20.31 | 20.21 | 0 | 20.7 | 21.01 | 20.90 | 20.89 | 0 | 21.5 |
| | | 1 | 99 | 20.26 | 20.35 | 20.22 | 0 | 20.7 | 21.04 | 20.95 | 20.95 | 0 | 21.5 |
| | | 50 | 0 | 19.37 | 19.32 | 19.31 | 0 | 20.7 | 20.06 | 20.03 | 20.01 | 0.5 | 21 |
| | | 50 | 24 | 19.38 | 19.34 | 19.29 | 0 | 20.7 | 20.06 | 20.03 | 19.99 | 0.5 | 21 |
| | | 50 | 50 | 19.38 | 19.37 | 19.30 | 0 | 20.7 | 20.06 | 20.04 | 19.99 | 0.5 | 21 |
| | | 100 | 0 | 19.21 | 19.38 | 19.34 | 0 | 20.7 | 20.10 | 20.05 | 20.04 | 0.5 | 21 |
| | 64QAM | 1 | 0 | 19.36 | 19.09 | 19.38 | 0 | 20.7 | 19.93 | 19.96 | 19.76 | 0.5 | 21 |
| | | 1 | 49 | 19.30 | 19.04 | 19.30 | 0 | 20.7 | 20.14 | 20.09 | 19.86 | 0.5 | 21 |
| | | 1 | 99 | 19.34 | 19.13 | 19.28 | 0 | 20.7 | 20.13 | 20.12 | 19.86 | 0.5 | 21 |
| | | 50 | 0 | 18.38 | 18.40 | 18.34 | 0.7 | 20 | 19.03 | 19.07 | 19.03 | 1.5 | 20 |
| | | 50 | 24 | 18.38 | 18.39 | 18.32 | 0.7 | 20 | 19.03 | 19.06 | 19.00 | 1.5 | 20 |
| | | 50 | 50 | 18.38 | 18.22 | 18.30 | 0.7 | 20 | 19.02 | 19.08 | 19.00 | 1.5 | 20 |
| | | 100 | 0 | 18.22 | 18.22 | 18.34 | 0.7 | 20 | 19.06 | 19.10 | 19.03 | 1.5 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 132047 | 132322 | 132597 | MPR | Tune-up Limit | 132047 | 132322 | 132597 | MPR | Tune-up Limit |
| | | | | 1717.5 MHz | 1745 MHz | 1772.5 MHz | | | 1717.5 MHz | 1745 MHz | 1772.5 MHz | | |
| 15 MHz | QPSK | 1 | 0 | 20.59 | 20.57 | 20.61 | 0 | 20.7 | 21.41 | 21.44 | 21.42 | 0 | 21.5 |
| | | 1 | 37 | 20.58 | 20.57 | 20.55 | 0 | 20.7 | 21.42 | 21.43 | 21.42 | 0 | 21.5 |
| | | 1 | 74 | 20.56 | 20.56 | 20.53 | 0 | 20.7 | 21.38 | 21.42 | 21.39 | 0 | 21.5 |
| | | 36 | 0 | 20.33 | 20.37 | 20.35 | 0 | 20.7 | 21.02 | 20.82 | 21.00 | 0 | 21.5 |
| | | 36 | 20 | 20.35 | 20.40 | 20.36 | 0 | 20.7 | 21.18 | 21.04 | 21.01 | 0 | 21.5 |
| | | 36 | 39 | 20.34 | 20.22 | 20.36 | 0 | 20.7 | 21.17 | 21.04 | 21.00 | 0 | 21.5 |
| | | 75 | 0 | 20.36 | 20.20 | 20.39 | 0 | 20.7 | 21.00 | 21.06 | 21.17 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 19.80 | 19.90 | 19.84 | 0 | 20.7 | 21.42 | 21.50 | 21.34 | 0 | 21.5 |
| | | 1 | 37 | 19.86 | 19.91 | 19.82 | 0 | 20.7 | 21.31 | 21.46 | 21.36 | 0 | 21.5 |
| | | 1 | 74 | 19.81 | 19.90 | 19.79 | 0 | 20.7 | 21.44 | 21.48 | 21.47 | 0 | 21.5 |
| | | 36 | 0 | 19.55 | 19.59 | 19.58 | 0 | 20.7 | 20.78 | 20.84 | 20.82 | 0.5 | 21 |
| | | 36 | 20 | 19.56 | 19.60 | 19.60 | 0 | 20.7 | 20.80 | 20.86 | 20.82 | 0.5 | 21 |
| | | 36 | 39 | 19.54 | 19.62 | 19.59 | 0 | 20.7 | 20.78 | 20.85 | 20.77 | 0.5 | 21 |
| | | 75 | 0 | 19.57 | 19.62 | 19.60 | 0 | 20.7 | 20.80 | 20.85 | 20.79 | 0.5 | 21 |
| | 64QAM | 1 | 0 | 19.72 | 19.77 | 19.93 | 0 | 20.7 | 20.99 | 20.95 | 20.84 | 0.5 | 21 |
| | | 1 | 37 | 19.78 | 19.74 | 19.84 | 0 | 20.7 | 20.98 | 20.89 | 20.99 | 0.5 | 21 |
| | | 1 | 74 | 19.74 | 19.75 | 19.81 | 0 | 20.7 | 20.96 | 20.92 | 20.99 | 0.5 | 21 |
| | | 36 | 0 | 19.32 | 19.34 | 19.33 | 0.7 | 20 | 19.83 | 19.86 | 19.84 | 1.5 | 20 |
| | | 36 | 20 | 19.34 | 19.36 | 19.34 | 0.7 | 20 | 19.84 | 19.87 | 19.86 | 1.5 | 20 |
| | | 36 | 39 | 19.33 | 19.35 | 19.34 | 0.7 | 20 | 19.82 | 19.87 | 19.85 | 1.5 | 20 |
| | | 75 | 0 | 19.33 | 19.34 | 19.35 | 0.7 | 20 | 19.83 | 19.87 | 19.84 | 1.5 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 132022 | 132322 | 132622 | MPR | Tune-up Limit | 132022 | 132322 | 132622 | MPR | Tune-up Limit |
| | | | | 1715 MHz | 1745 MHz | 1775 MHz | | | 1715 MHz | 1745 MHz | 1775 MHz | | |
| 10 MHz | QPSK | 1 | 0 | 20.66 | 20.52 | 20.56 | 0 | 20.7 | 21.02 | 21.06 | 21.06 | 0 | 21.5 |
| | | 1 | 25 | 20.65 | 20.68 | 20.54 | 0 | 20.7 | 20.99 | 21.02 | 21.03 | 0 | 21.5 |
| | | 1 | 49 | 20.69 | 20.54 | 20.55 | 0 | 20.7 | 21.03 | 21.07 | 21.04 | 0 | 21.5 |
| | | 25 | 0 | 20.66 | 20.68 | 20.65 | 0 | 20.7 | 21.03 | 21.02 | 21.03 | 0 | 21.5 |
| | | 25 | 12 | 20.66 | 20.68 | 20.65 | 0 | 20.7 | 21.02 | 21.01 | 21.02 | 0 | 21.5 |
| | | 25 | 25 | 20.68 | 20.69 | 20.66 | 0 | 20.7 | 21.03 | 21.03 | 21.03 | 0 | 21.5 |
| | | 50 | 0 | 20.67 | 20.69 | 20.66 | 0 | 20.7 | 20.97 | 21.02 | 21.03 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 19.82 | 19.88 | 19.92 | 0 | 20.7 | 20.98 | 21.01 | 21.09 | 0 | 21.5 |
| | | 1 | 25 | 19.83 | 19.87 | 19.86 | 0 | 20.7 | 20.97 | 21.01 | 21.06 | 0 | 21.5 |
| | | 1 | 49 | 19.87 | 19.87 | 19.94 | 0 | 20.7 | 20.97 | 21.01 | 21.07 | 0 | 21.5 |
| | | 25 | 0 | 19.58 | 19.60 | 19.59 | 0 | 20.7 | 20.49 | 20.55 | 20.56 | 0.5 | 21 |
| | | 25 | 12 | 19.58 | 19.60 | 19.59 | 0 | 20.7 | 20.48 | 20.55 | 20.55 | 0.5 | 21 |
| | | 25 | 25 | 19.60 | 19.62 | 19.60 | 0 | 20.7 | 20.48 | 20.55 | 20.56 | 0.5 | 21 |
| | | 50 | 0 | 19.57 | 19.60 | 19.59 | 0 | 20.7 | 20.46 | 20.55 | 20.54 | 0.5 | 21 |
| | 64QAM | 1 | 0 | 19.74 | 19.83 | 19.87 | 0 | 20.7 | 20.55 | 20.50 | 20.53 | 0.5 | 21 |
| | | 1 | 25 | 19.79 | 19.72 | 19.83 | 0 | 20.7 | 20.67 | 20.67 | 20.53 | 0.5 | 21 |
| | | 1 | 49 | 19.81 | 19.79 | 19.83 | 0 | 20.7 | 20.59 | 20.51 | 20.60 | 0.5 | 21 |
| | | 25 | 0 | 19.31 | 19.39 | 19.39 | 0.7 | 20 | 19.56 | 19.56 | 19.55 | 1.5 | 20 |
| | | 25 | 12 | 19.31 | 19.38 | 19.38 | 0.7 | 20 | 19.57 | 19.55 | 19.54 | 1.5 | 20 |
| | | 25 | 25 | 19.33 | 19.40 | 19.40 | 0.7 | 20 | 19.58 | 19.58 | 19.56 | 1.5 | 20 |
| | | 50 | 0 | 19.31 | 19.39 | 19.37 | 0.7 | 20 | 19.56 | 19.57 | 19.55 | 1.5 | 20 |

## LTE Band 66 Measured Results (ANT2) (continued)

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 131997 | 132322 | 132647 | MPR | Tune-up Limit | 131997 | 132322 | 132647 | MPR | Tune-up Limit |
| | | | | 1712.5 MHz | 1745 MHz | 1777.5 MHz | | | 1712.5 MHz | 1745 MHz | 1777.5 MHz | | |
| 5 MHz | QPSK | 1 | 0 | 20.64 | 20.60 | 20.63 | 0 | 20.7 | 21.43 | 21.43 | 21.42 | 0 | 21.5 |
| | | 1 | 12 | 20.60 | 20.57 | 20.59 | 0 | 20.7 | 21.39 | 21.40 | 21.41 | 0 | 21.5 |
| | | 1 | 24 | 20.61 | 20.61 | 20.62 | 0 | 20.7 | 21.42 | 21.45 | 21.43 | 0 | 21.5 |
| | | 12 | 0 | 20.36 | 20.39 | 20.22 | 0 | 20.7 | 21.02 | 21.04 | 21.03 | 0 | 21.5 |
| | | 12 | 7 | 20.34 | 20.39 | 20.21 | 0 | 20.7 | 21.00 | 21.02 | 21.02 | 0 | 21.5 |
| | | 12 | 13 | 20.35 | 20.21 | 20.20 | 0 | 20.7 | 21.01 | 21.02 | 21.01 | 0 | 21.5 |
| | | 25 | 0 | 20.36 | 20.21 | 20.23 | 0 | 20.7 | 21.02 | 21.03 | 21.04 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 20.32 | 20.46 | 20.58 | 0 | 20.7 | 21.02 | 21.09 | 21.17 | 0 | 21.5 |
| | | 1 | 12 | 20.33 | 20.42 | 20.54 | 0 | 20.7 | 20.97 | 21.04 | 21.12 | 0 | 21.5 |
| | | 1 | 24 | 20.37 | 20.46 | 20.53 | 0 | 20.7 | 20.99 | 21.13 | 21.13 | 0 | 21.5 |
| | | 12 | 0 | 20.08 | 20.12 | 20.16 | 0 | 20.7 | 20.55 | 20.56 | 20.61 | 0.5 | 21 |
| | | 12 | 7 | 20.08 | 20.13 | 20.16 | 0 | 20.7 | 20.54 | 20.54 | 20.56 | 0.5 | 21 |
| | | 12 | 13 | 20.09 | 20.14 | 20.16 | 0 | 20.7 | 20.53 | 20.55 | 20.57 | 0.5 | 21 |
| | | 25 | 0 | 20.06 | 20.13 | 20.16 | 0 | 20.7 | 20.54 | 20.54 | 20.56 | 0.5 | 21 |
| | 64QAM | 1 | 0 | 18.82 | 18.86 | 18.98 | 0 | 20.7 | 20.05 | 20.04 | 20.18 | 0.5 | 21 |
| | | 1 | 12 | 18.83 | 18.83 | 18.93 | 0 | 20.7 | 20.04 | 20.05 | 20.16 | 0.5 | 21 |
| | | 1 | 24 | 18.85 | 18.84 | 18.95 | 0 | 20.7 | 20.10 | 20.03 | 20.16 | 0.5 | 21 |
| | | 12 | 0 | 18.32 | 18.32 | 18.39 | 0.7 | 20 | 19.06 | 19.11 | 19.06 | 1.5 | 20 |
| | | 12 | 7 | 18.36 | 18.30 | 18.38 | 0.7 | 20 | 19.02 | 19.10 | 19.04 | 1.5 | 20 |
| | | 12 | 13 | 18.34 | 18.34 | 18.37 | 0.7 | 20 | 19.01 | 19.11 | 19.03 | 1.5 | 20 |
| | | 25 | 0 | 18.36 | 18.31 | 18.37 | 0.7 | 20 | 19.04 | 19.07 | 19.04 | 1.5 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 131987 | 132322 | 132657 | MPR | Tune-up Limit | 131987 | 132322 | 132657 | MPR | Tune-up Limit |
| | | | | 1711.5 MHz | 1745 MHz | 1778.5 MHz | | | 1711.5 MHz | 1745 MHz | 1778.5 MHz | | |
| 3 MHz | QPSK | 1 | 0 | 20.57 | 20.53 | 20.63 | 0 | 20.7 | 21.50 | 21.50 | 21.50 | 0 | 21.5 |
| | | 1 | 8 | 20.62 | 20.60 | 20.66 | 0 | 20.7 | 21.50 | 21.50 | 21.50 | 0 | 21.5 |
| | | 1 | 14 | 20.56 | 20.53 | 20.58 | 0 | 20.7 | 21.50 | 21.50 | 21.50 | 0 | 21.5 |
| | | 8 | 0 | 20.31 | 20.30 | 20.31 | 0 | 20.7 | 21.01 | 21.02 | 21.02 | 0 | 21.5 |
| | | 8 | 4 | 20.31 | 20.30 | 20.30 | 0 | 20.7 | 21.01 | 21.01 | 21.01 | 0 | 21.5 |
| | | 8 | 7 | 20.31 | 20.30 | 20.31 | 0 | 20.7 | 21.01 | 21.01 | 21.01 | 0 | 21.5 |
| | | 15 | 0 | 20.31 | 20.30 | 20.29 | 0 | 20.7 | 21.01 | 21.02 | 21.01 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 20.31 | 20.33 | 20.36 | 0 | 20.7 | 20.65 | 20.60 | 20.66 | 0 | 21.5 |
| | | 1 | 8 | 20.33 | 20.40 | 20.42 | 0 | 20.7 | 20.73 | 20.65 | 20.67 | 0 | 21.5 |
| | | 1 | 14 | 20.35 | 20.31 | 20.38 | 0 | 20.7 | 20.65 | 20.65 | 20.60 | 0 | 21.5 |
| | | 8 | 0 | 20.15 | 20.15 | 20.16 | 0 | 20.7 | 20.34 | 20.36 | 20.37 | 0.5 | 21 |
| | | 8 | 4 | 20.15 | 20.16 | 20.15 | 0 | 20.7 | 20.54 | 20.56 | 20.56 | 0.5 | 21 |
| | | 8 | 7 | 20.15 | 20.16 | 20.17 | 0 | 20.7 | 20.56 | 20.57 | 20.57 | 0.5 | 21 |
| | | 15 | 0 | 20.11 | 20.12 | 20.13 | 0 | 20.7 | 20.51 | 20.51 | 20.54 | 0.5 | 21 |
| | 64QAM | 1 | 0 | 19.78 | 19.77 | 19.74 | 0 | 20.7 | 20.68 | 20.57 | 20.72 | 0.5 | 21 |
| | | 1 | 8 | 19.78 | 19.76 | 19.77 | 0 | 20.7 | 20.73 | 20.70 | 20.74 | 0.5 | 21 |
| | | 1 | 14 | 19.69 | 19.69 | 19.75 | 0 | 20.7 | 20.67 | 20.66 | 20.73 | 0.5 | 21 |
| | | 8 | 0 | 19.43 | 19.40 | 19.41 | 0.7 | 20 | 19.58 | 19.58 | 19.59 | 1.5 | 20 |
| | | 8 | 4 | 19.41 | 19.39 | 19.38 | 0.7 | 20 | 19.58 | 19.58 | 19.58 | 1.5 | 20 |
| | | 8 | 7 | 19.42 | 19.42 | 19.38 | 0.7 | 20 | 19.59 | 19.57 | 19.55 | 1.5 | 20 |
| | | 15 | 0 | 19.35 | 19.38 | 19.35 | 0.7 | 20 | 19.53 | 19.55 | 19.53 | 1.5 | 20 |

| BW (MHz) | Mode | RB Allocation | RB offset | Power Mode A (dBm) | | | | | Power Mode B (dBm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 131979 | 132322 | 132665 | MPR | Tune-up Limit | 131979 | 132322 | 132665 | MPR | Tune-up Limit |
| | | | | 1710.7 MHz | 1745 MHz | 1779.3 MHz | | | 1710.7 MHz | 1745 MHz | 1779.3 MHz | | |
| 1.4 MHz | QPSK | 1 | 0 | 20.69 | 20.68 | 20.66 | 0 | 20.7 | 21.44 | 21.44 | 21.37 | 0 | 21.5 |
| | | 1 | 3 | 20.66 | 20.66 | 20.65 | 0 | 20.7 | 21.41 | 21.42 | 21.33 | 0 | 21.5 |
| | | 1 | 5 | 20.70 | 20.69 | 20.66 | 0 | 20.7 | 21.44 | 21.43 | 21.36 | 0 | 21.5 |
| | | 3 | 0 | 20.63 | 20.66 | 20.65 | 0 | 20.7 | 21.39 | 21.42 | 21.36 | 0 | 21.5 |
| | | 3 | 1 | 20.58 | 20.66 | 20.61 | 0 | 20.7 | 21.39 | 21.41 | 21.36 | 0 | 21.5 |
| | | 3 | 3 | 20.57 | 20.65 | 20.63 | 0 | 20.7 | 21.37 | 21.41 | 21.35 | 0 | 21.5 |
| | | 6 | 0 | 20.58 | 20.66 | 20.63 | 0 | 20.7 | 21.40 | 21.41 | 21.35 | 0 | 21.5 |
| | 16QAM | 1 | 0 | 20.33 | 20.50 | 20.28 | 0 | 20.7 | 21.19 | 21.26 | 21.11 | 0 | 21.5 |
| | | 1 | 3 | 20.40 | 20.44 | 20.23 | 0 | 20.7 | 21.15 | 21.24 | 21.04 | 0 | 21.5 |
| | | 1 | 5 | 20.41 | 20.52 | 20.29 | 0 | 20.7 | 21.20 | 21.25 | 21.10 | 0 | 21.5 |
| | | 3 | 0 | 19.74 | 19.79 | 19.68 | 0 | 20.7 | 20.54 | 20.53 | 20.46 | 0.5 | 21 |
| | | 3 | 1 | 19.73 | 19.78 | 19.71 | 0 | 20.7 | 20.52 | 20.52 | 20.45 | 0.5 | 21 |
| | | 3 | 3 | 19.70 | 19.80 | 19.70 | 0 | 20.7 | 20.53 | 20.53 | 20.46 | 0.5 | 21 |
| | | 6 | 0 | 19.67 | 19.68 | 19.64 | 0 | 20.7 | 20.49 | 20.46 | 20.41 | 0.5 | 21 |
| | 64QAM | 1 | 0 | 19.71 | 20.01 | 19.75 | 0 | 20.7 | 20.53 | 20.75 | 20.67 | 0.5 | 21 |
| | | 1 | 3 | 19.71 | 19.96 | 19.79 | 0 | 20.7 | 20.48 | 20.73 | 20.61 | 0.5 | 21 |
| | | 1 | 5 | 19.71 | 20.00 | 19.85 | 0 | 20.7 | 20.53 | 20.77 | 20.67 | 0.5 | 21 |
| | | 3 | 0 | 19.65 | 19.82 | 19.70 | 0 | 20.7 | 19.79 | 19.89 | 19.89 | 1.5 | 20 |
| | | 3 | 1 | 19.63 | 19.83 | 19.68 | 0 | 20.7 | 19.79 | 19.86 | 19.83 | 1.5 | 20 |
| | | 3 | 3 | 19.66 | 19.82 | 19.67 | 0 | 20.7 | 19.79 | 19.90 | 19.82 | 1.5 | 20 |
| | | 6 | 0 | 19.38 | 19.46 | 19.42 | 0.7 | 20 | 19.46 | 19.50 | 19.51 | 1.5 | 20 |

## 9.5. LTE Carrier Aggregation

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

For inter-band carrier aggregation with uplink assigned to one E-UTRA band (Table 5.6A-1), the requirements in subclause 6.2.3 apply.

For inter-band carrier aggregation with one component carrier per operating band and the uplink active in two E-UTRA bands, the requirements in subclause 6.2.3 apply for each uplink component carrier.

For intra-band contiguous carrier aggregation the allowed Maximum Power Reduction (MPR) for the maximum output power applicable to the DUT in table below. In case the modulation format is different on different component carriers then the MPR is determined by the rules applied to higher order of those modulations.

| Modulation | CA bandwidth Class B and C / Smallest Component Carrier Transmission Bandwidth Configuration | | | | MPR (dB) |
|---|---|---|---|---|---|
| | 25 RB | 50 RB | 75 RB | 100 RB | |
| QPSK | > 8 and ≤ 25 | > 12 and ≤ 50 | > 16 and ≤ 75 | > 18 and ≤ 100 | ≤ 1 |
| QPSK | > 25 | > 50 | > 75 | > 100 | ≤ 2 |
| 16 QAM | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 |
| 16 QAM | > 8 and ≤ 25 | > 12 and ≤ 50 | > 16 and ≤ 75 | > 18 and ≤ 100 | ≤ 2 |
| 16 QAM | > 25 | > 50 | > 75 | > 100 | ≤ 3 |
| 64 QAM | ≤ 8 and allocation wholly contained within a single CC | ≤ 12 and allocation wholly contained within a single CC | ≤ 16 and allocation wholly contained within a single CC | ≤ 18 and allocation wholly contained within a single CC | ≤ 2 |
| 64 QAM | > 8 or allocation extends across two CC's | > 12 or allocation extends across two CC's | > 16 or allocation extends across two CC's | > 18 or allocation extends across two CC's | ≤ 3 |

For PUCCH and SRS transmissions, the allowed MPR is according to that specified for PUSCH WPDK modulation for the corresponding transmission bandwidth.

For intra-band contiguous carrier aggregation bandwidth class C with non-contiguous resource allocation, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2A-1 is specified as follows

$$MPR = CEIL \{\min(M_A, M_{IM5}), 0.5\}$$

Where $M_A$ is defined as follows

$$M_A = \begin{cases} 8.2 & ;0 \le A < 0.025 \\ 9.2 - 40A & ;0.025 \le A < 0.05 \\ 8 - 16A & ;0.05 \le A < 0.25 \\ 4.83 - 3.33A & ;0.25 \le A \le 0.4 \\ 3.83 - 0.83A & ;0.4 \le A \le 1 \end{cases}$$

and $M_{IM5}$ is defined as follows

$$M_{IM5} = \begin{cases} 4.5 & ; \Delta_{IM5} < 1.5 * BW_{Channel\_CA} \\ 6.0 & ; 1.5 * BW_{Channel\_CA} \le \Delta_{IM5} < BW_{Channel\_CA}/2 + \Delta f_{ooB} \\ M_A & ; \Delta_{IM5} \ge BW_{Channel\_CA}/2 + \Delta f_{ooB} \end{cases}$$

Where

$A = N_{RB\_alloc} / N_{RB\_agg}$

$\Delta_{IM5} = \max(\left| F_{C\_agg} - (3*F_{agg\_alloc\_low} - 2*F_{agg\_alloc\_high}) \right|, \left| F_{C\_agg} - (3*F_{agg\_alloc\_high} - 2*F_{agg\_alloc\_low}) \right|)$

$CEIL\{M_A, 0.5\}$ means rounding upwards to closest 0.5dB, i.e. MPR $\in$ [3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5]

For intra-band carrier aggregation, the MPR is evaluated per slot and given by the maximum value taken over the transmission(s) on all component carriers within the slot; the maximum MPR over the two slots is then applied for the entire subframe.

For intra-band non-contiguous carrier aggregation with one uplink carrier on the PCC, the requirements in the subclause 6.2.3 apply. For intra-band non-contiguous aggregation with two uplink carriers the MPR is defined tfor those E-UTRA bands where maximum possible $W_{GAP} \le 42.2$ MHz as follows

$$MPR = CEIL\{M_A, 0.5\}$$

Where $M_N$ is defined as follows

$$M_N = \begin{cases} -0.125N + 18.25 & ; 2 \le N \le 50 \\ -0.0333 N + 13.67 & ; 50 < N \le 200 \end{cases}$$

Where $N = N_{RB\_alloc}$ is the number of allocated resource blocks.

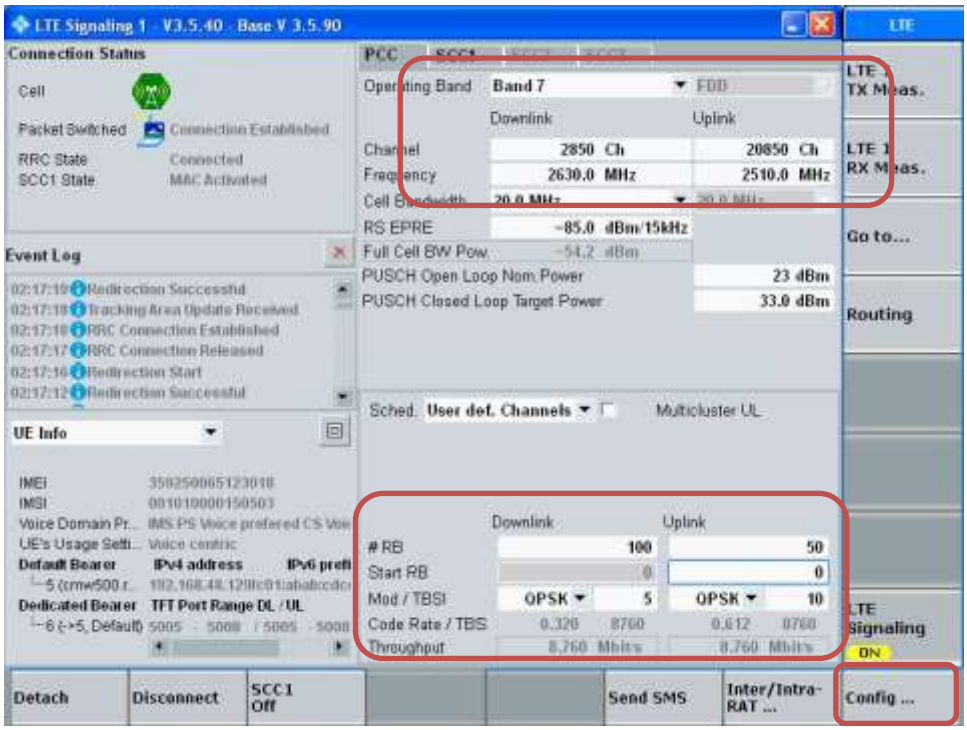
For the UE maximum output power modified by MPR, the power limits specified in subclause 6.2.5A apply.

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

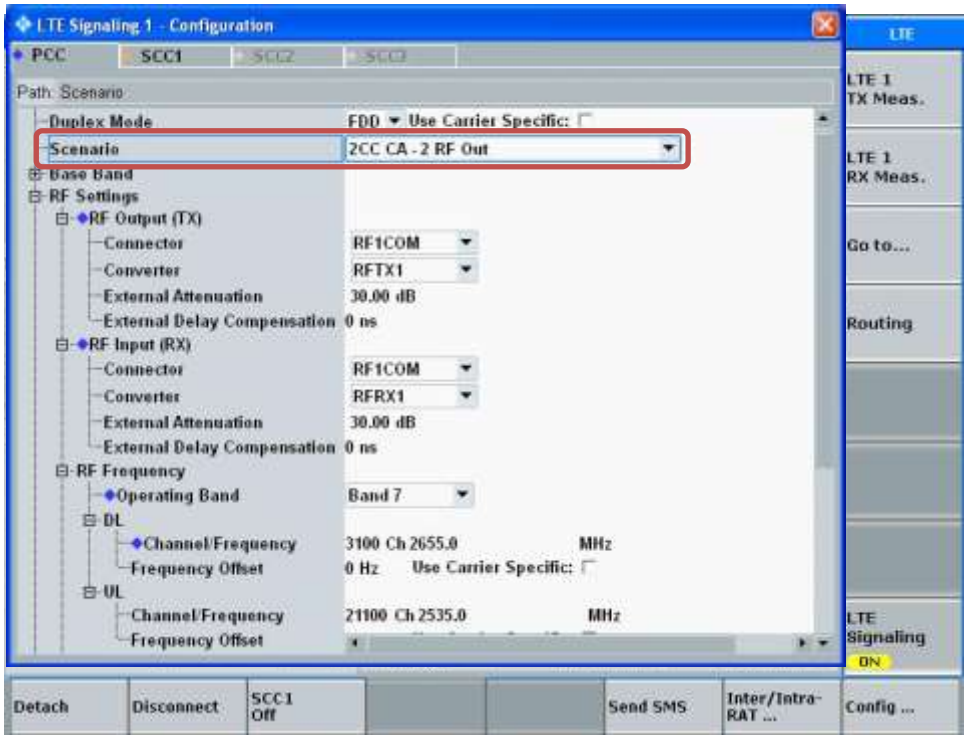
**(Use normal LTE set-up procedure in addition with the following steps)**

Set to CMW-500 with following parameters:

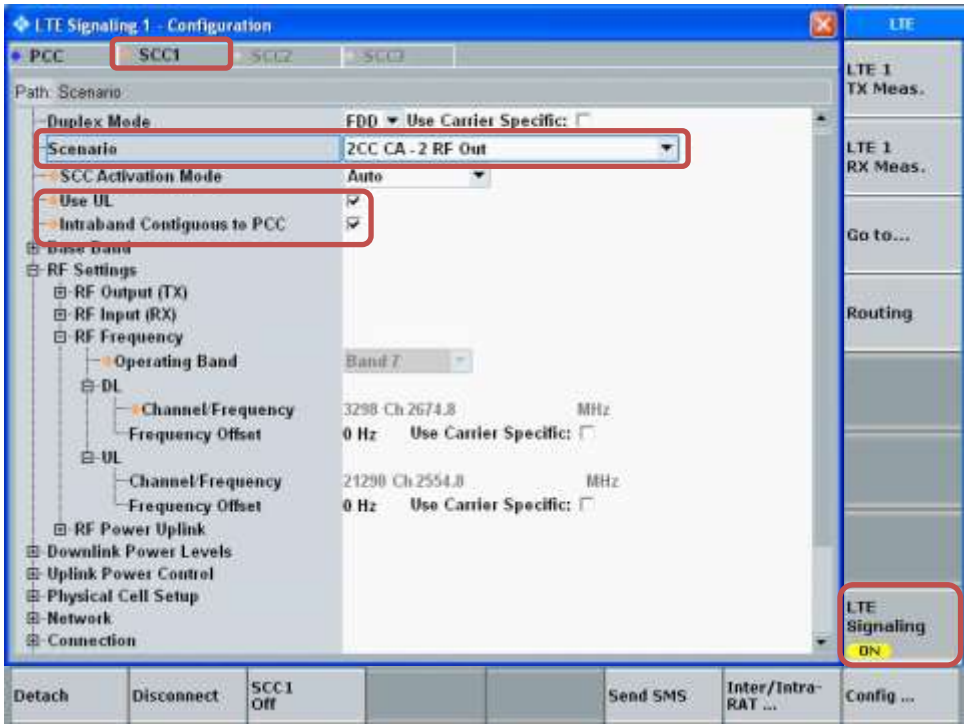
- PCC tab:
  - Select the testing Operating Band, Channel, Frequency, Cell Bandwidth, Uplink RBs
- Go to “Config….”



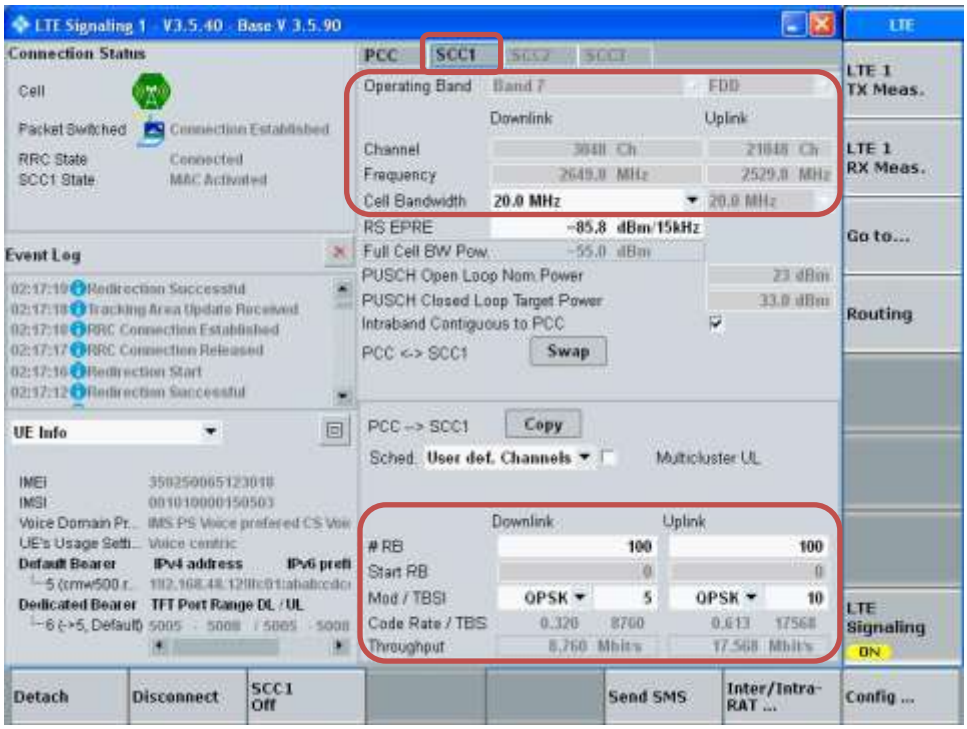

- Go to “Scenario”
- Set to “2CC CA – 2 RF Out”



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

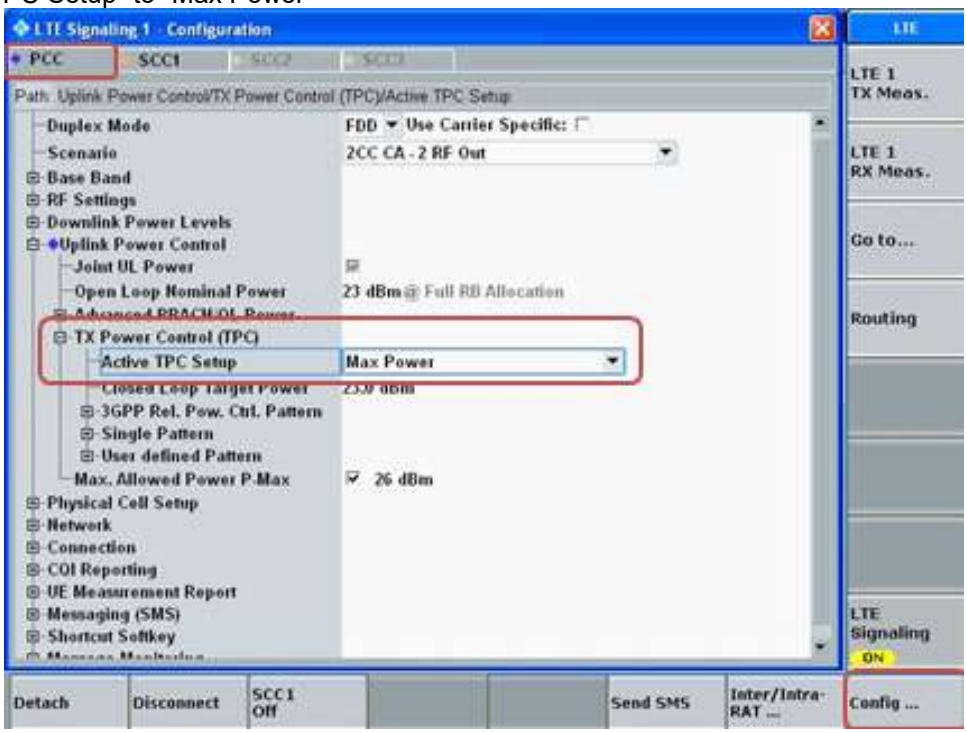



- Select “SCC1” tab
  - Select the testing Cell Bandwidth, Uplink RBs

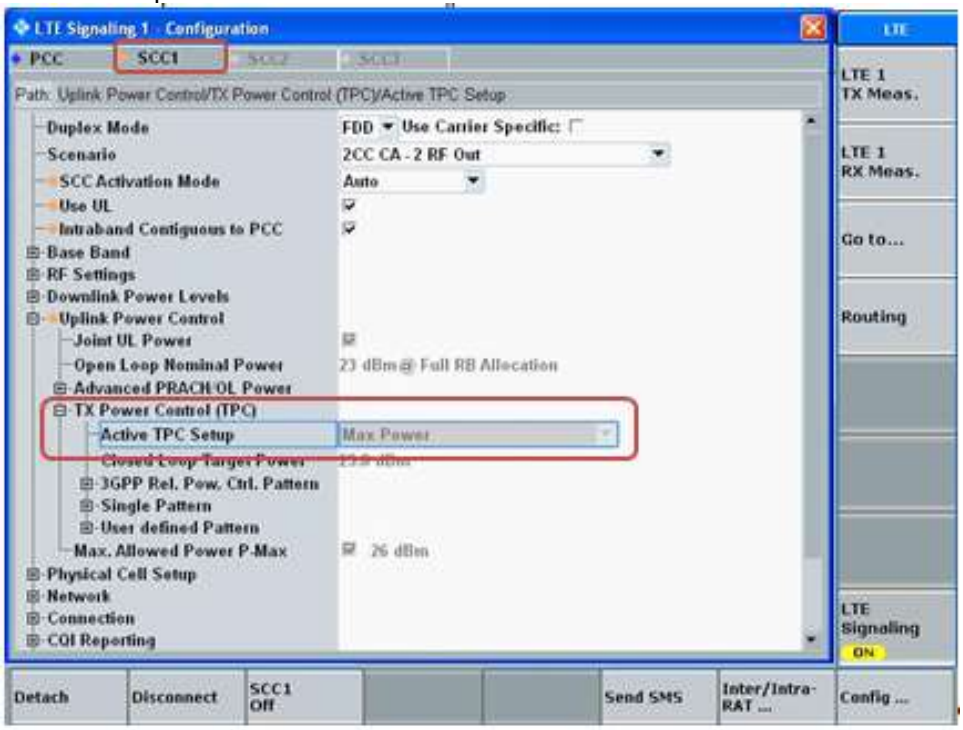


**Max Power Setting**

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

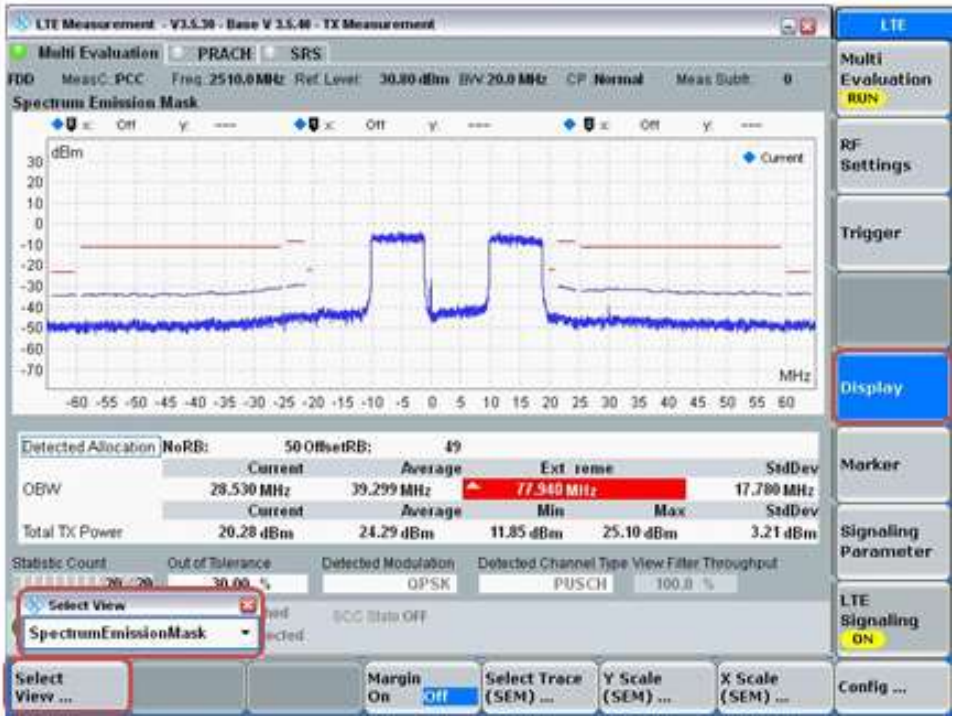



- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



**View TX Power**

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



## LTE Up-Link Carrier Aggregation

### Maximum Output Power (Tune-up Limit) for LTE UL Carrier Aggregation

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

UL CA power measurements were performed for each antennas (ANT1 and ANT2) at with QPSK modulation based on the worst-case standalone SAR. The tune-up limits are provided in table below.

The UL CA mode power measurements represent the total power across both carriers. Measurements were made for all supported PCC bandwidths using the channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions (highest maximum power with MPR of 0 dB).

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

According to November 2017 TCB workshop, Uplink CA SAR Test Guidance as follows:

a) When the maximum output for UL CA is ≤ standalone LTE mode (without CA)
   - PCC is configured according to the highest standalone SAR configuration tested
   - SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC

b) When the Reported SAR for UL CA configuration, described above, is > 1.2 W/kg, UL CA SAR is also required for all required test channels(PCC based)

c) UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level

SAR measurement is not required for the 16QAM and 64QAM. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

| Intra-Band Contiguous | Mode | Maximum Output Power (Tune-up Limit) (dBm) | | | |
|---|---|---|---|---|---|
| | | ANT1 | | ANT2 | |
| | | Mode A | Mode B | Mode A | Mode B |
| CA_7C | QPSK | 25.00 | 21.00 | 19.70 | 21.50 |
| CA_41C (PC3) | QPSK | 25.00 | 24.00 | 21.20 | 22.50 |

## LTE CA_7C Measured Results

| RF Exposure Conditions | Antenna | E-UTRA CA configuration (BCS) | Modulation | Bands | | UL | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PCC | SCC | PCC | | | | SCC | | | | Standalone (dBm) | PCC+SCC | | |
| | | | | 1st | 2nd | BW | RB | Offset | Freq | BW | RB | Offset | Freq | | Tune-Up Limit | CA Power (Total PCC+SCC) | Delta |
| Body | ANT 1 | CA_7C | QPSK | 7C | 7C | 20 | 1 | 99 | 2510 | 20 | 1 | 0 | 2529.8 | 20.8 | 21.0 | 20.6 | -0.2 |
| Body | ANT 1 | CA_7C | QPSK | 7C | 7C | 20 | 1 | 99 | 2525.1 | 20 | 1 | 0 | 2544.9 | 20.8 | 21.0 | 20.6 | -0.2 |
| Body | ANT 1 | CA_7C | QPSK | 7C | 7C | 20 | 1 | 99 | 2540.2 | 20 | 1 | 0 | 2560 | 20.8 | 21.0 | 20.7 | -0.1 |
| Body | ANT 2 | CA_7C | QPSK | 7C | 7C | 20 | 1 | 99 | 2510 | 20 | 1 | 0 | 2529.8 | 21.3 | 21.5 | 21.0 | -0.3 |
| Body | ANT 2 | CA_7C | QPSK | 7C | 7C | 20 | 1 | 99 | 2525.1 | 20 | 1 | 0 | 2544.9 | 21.3 | 21.5 | 21.2 | -0.1 |
| Body | ANT 2 | CA_7C | QPSK | 7C | 7C | 20 | 1 | 99 | 2540.2 | 20 | 1 | 0 | 2560 | 21.2 | 21.5 | 21.1 | -0.1 |

**Note(s):**
Standalone power is reference from Sec. 9.4 - LTE B7 power.

## LTE CA_41C (PC3) Measured Results

| RF Exposure Conditions | Antenna | E-UTRA CA configuration (BCS) | Modulation | Bands | | UL | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PCC | SCC | PCC | | | | SCC | | | | Standalone (dBm) | PCC+SCC | | |
| | | | | 1st | 2nd | BW | RB | Offset | Freq | BW | RB | Offset | Freq | | Tune-Up Limit | CA Power (Total PCC+SCC) | Delta |
| Body | ANT 1 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2506 | 20 | 1 | 0 | 2525.8 | 23.9 | 24.0 | 23.7 | -0.2 |
| Body | ANT 1 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2539.6 | 20 | 1 | 0 | 2559.4 | 23.9 | 24.0 | 23.7 | -0.2 |
| Body | ANT 1 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2583.1 | 20 | 1 | 0 | 2602.9 | 24.0 | 24.0 | 23.7 | -0.3 |
| Body | ANT 1 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2626.6 | 20 | 1 | 0 | 2646.4 | 23.9 | 24.0 | 23.8 | -0.1 |
| Body | ANT 1 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2660.2 | 20 | 1 | 0 | 2680 | 23.9 | 24.0 | 23.7 | -0.2 |
| Body | ANT 2 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2506 | 20 | 1 | 0 | 2525.8 | 22.2 | 22.5 | 21.9 | -0.3 |
| Body | ANT 2 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2539.6 | 20 | 1 | 0 | 2559.4 | 22.3 | 22.5 | 22.0 | -0.3 |
| Body | ANT 2 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2583.1 | 20 | 1 | 0 | 2602.9 | 22.3 | 22.5 | 22.0 | -0.3 |
| Body | ANT 2 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2626.6 | 20 | 1 | 0 | 2646.4 | 22.2 | 22.5 | 21.9 | -0.3 |
| Body | ANT 2 | CA_41C | QPSK | 41C | 41C | 20 | 1 | 99 | 2660.2 | 20 | 1 | 0 | 2680 | 22.2 | 22.5 | 21.9 | -0.3 |

**Note(s):**
Standalone power is reference from Sec. 9.4 - LTE B41 power.

**LTE Down-Link Carrier Aggregation**

The tables below show the supported frequency bands of the device for DL Inter-band and DL Intra-band combinations.

Power measurements were performed on the channel with the highest maximum output power from Tune-up Procedure on ANT1 antenna.

When carrier aggregation is limited to downlink only, uplink maximum output power (single carrier) is measured for the supported combinations of downlink carrier aggregation listed in the table below. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs (far right most configuration highlighted in the table below).

| Index | 2CC | Restriction | Completely Covered by Measurement Superset |
|---|---|---|---|
| **Intra-Band Contiguous** | | | |
| 2CC # 1 | CA_2C | | No |
| 2CC # 2 | CA_5B | | 4CC #5 |
| 2CC # 3 | CA_7B | | No |
| 2CC # 4 | CA_7C | | No |
| 2CC # 5 | CA_12B | | 3CC #20 |
| 2CC # 6 | CA_38C | | No |
| 2CC # 7 | CA_41C | | No |
| 2CC # 8 | CA_41D | | No |
| 2CC # 9 | CA_41E | | No |
| 2CC # 10 | CA_46C | B46 SCC Only | 3CC #35 |
| 2CC # 11 | CA_46D | B46 SCC Only | 3CC #37 |
| 2CC # 12 | CA_46E | B46 SCC Only | B46 DL Only |
| 2CC # 13 | CA_66B | | 3CC #5 |
| 2CC # 14 | CA_66C | | 3CC #6 |
| 2CC # 15 | CA_66D | | No |
| **Intra-Band Non-Contiguous** | | | |
| 2CC # 16 | CA_2A-2A | | 3CC #1 |
| 2CC # 17 | CA_4A-4A | | 3CC #13 |
| 2CC # 18 | CA_7A-7A | | No |
| 2CC # 19 | CA_25A-25A | | No |
| 2CC # 20 | CA_41A-41A | | No |
| 2CC # 21 | CA_41A-41C | | No |
| 2CC # 22 | CA_41A-41C | | No |
| 2CC # 23 | CA_41A-41D | | No |
| 2CC # 24 | CA_41C-41C | | No |
| 2CC # 25 | CA_41C-41D | | No |
| 2CC # 26 | CA_46A-46A | B46 SCC Only | B46 DL Only |
| 2CC # 27 | CA_46A-46C | B46 SCC Only | B46 DL Only |
| 2CC # 28 | CA_46A-46D | B46 SCC Only | B46 DL Only |
| 2CC # 29 | CA_66A-66A | | 3CC #38 |
| 2CC # 30 | CA_66A-66B | | No |
| 2CC # 31 | CA_66A-66C | | No |
| **Inter-Band** | | | |
| 2CC # 32 | CA_2A-2A-4A | | 3CC #1 |
| 2CC # 33 | CA_2A-2A-4A-4A | | No |
| 2CC # 34 | CA_2A-2A-5A | | 3CC #3 |
| 2CC # 35 | CA_2A-2A-12A | | 3CC #7 |
| 2CC # 36 | CA_2A-2A-12B | | No |
| 2CC # 37 | CA_2A-2A-13A | | 3CC #9 |
| 2CC # 38 | CA_2A-2A-14A | | 3CC #10 |
| 2CC # 39 | CA_2A-2A-29A | B29 SCC Only | 3CC #11 |
| 2CC # 40 | CA_2A-2A-30A | | 3CC #12 |
| 2CC # 41 | CA_2A-2A-46A | B46 SCC Only | No |
| 2CC # 42 | CA_2A-2A-46C | B46 SCC Only | No |
| 2CC # 43 | CA_2A-2A-46D | B46 SCC Only | No |

| Index | 3CC | Restriction | Completely Covered by Measurement Superset |
|---|---|---|---|
| **Inter-Band** | | | |
| 3CC # 1 | CA_2A-2A-4A-5A | | No |
| 3CC # 2 | CA_2A-2A-4A-12A | | No |
| 3CC # 3 | CA_2A-2A-5A-30A | | No |
| 3CC # 4 | CA_2A-2A-5A-66A | | No |
| 3CC # 5 | CA_2A-2A-5A-66B | | No |
| 3CC # 6 | CA_2A-2A-5A-66C | | No |
| 3CC # 7 | CA_2A-2A-12A-30A | | No |
| 3CC # 8 | CA_2A-2A-12A-66A | | No |
| 3CC # 9 | CA_2A-2A-13A-66A | | No |
| 3CC # 10 | CA_2A-2A-14A-66A | | No |
| 3CC # 11 | CA_2A-2A-29A-30A | B29 SCC Only | No |
| 3CC # 12 | CA_2A-2A-30A-66A | | No |
| 3CC # 13 | CA_2A-4A-4A-5A | | No |
| 3CC # 14 | CA_2A-4A-4A-12A | | No |
| 3CC # 15 | CA_2A-4A-5A | | 4CC #1 |
| 3CC # 16 | CA_2A-4A-5B | | No |
| 3CC # 17 | CA_2A-4A-5B | | No |
| 3CC # 18 | CA_2A-4A-12A | | 4CC #2 |
| 3CC # 19 | CA_2A-4A-12A | | 4CC #2 |
| 3CC # 20 | CA_2A-4A-12B | | No |
| 3CC # 21 | CA_2A-4A-12B | | No |
| 3CC # 22 | CA_2A-4A-13A | | No |
| 3CC # 23 | CA_2A-4A-13A | | No |
| 3CC # 24 | CA_2A-4A-29A | B29 SCC Only | 4CC #2 |
| 3CC # 25 | CA_2A-4A-30A | | 4CC #2 |
| 3CC # 26 | CA_2A-5A-30A | | 4CC #1 |
| 3CC # 27 | CA_2A-5A-66A | | 4CC #4 |
| 3CC # 28 | CA_2A-5A-66A | | 4CC #4 |
| 3CC # 29 | CA_2A-5A-66B | | No |
| 3CC # 30 | CA_2A-5A-66C | | No |
| 3CC # 31 | CA_2A-46A-66A | B46 SCC Only | No |
| 3CC # 32 | CA_2A-46A-66A | B46 SCC Only | No |
| 3CC # 33 | CA_2A-46C-66A | B46 SCC Only | No |
| 3CC # 34 | CA_2A-46C-66A | B46 SCC Only | No |
| 3CC # 35 | CA_2A-46D-66A | B46 SCC Only | No |
| 3CC # 36 | CA_2A-5A-66A-66A | | 4CC #4 |
| 3CC # 37 | CA_2A-5B-30A | | 4CC #5 |
| 3CC # 38 | CA_2A-5B-66A | | 4CC #5 |
| 3CC # 39 | CA_2A-5B-66A | | 4CC #5 |
| 3CC # 40 | CA_2A-5B-66A-66A | | 4CC #5 |
| 3CC # 41 | CA_2A-5B-66C | | No |
| 3CC # 42 | CA_2A-12A-30A | | 4CC #6 |
| 3CC # 43 | CA_2A-12A-66A | | 4CC #6 |
| 3CC # 44 | CA_2A-12A-66A | | 4CC #6 |
| 3CC # 45 | CA_2A-12A-66A-66A | | 4CC #6 |

| Index | 4CC | Restriction | Completely Covered by Measurement Superset |
|---|---|---|---|
| **Inter-Band** | | | |
| 4CC # 1 | CA_2A-4A-5A-30A | | No |
| 4CC # 2 | CA_2A-4A-12A-30A | | No |
| 4CC # 3 | CA_2A-4A-29A-30A | B29 SCC Only | No |
| 4CC # 4 | CA_2A-5A-30A-66A | | No |
| 4CC # 5 | CA_2A-5B-30A-66A | | No |
| 4CC # 6 | CA_2A-12A-30A-66A | | No |
| 4CC # 7 | CA_2A-14A-30A-66A | | No |
| 4CC # 8 | CA_2A-29A-30A-66A | B29 SCC Only | No |

| | | | |
|---|---|---|---|
| 2CC # 44 | CA_2A-2A-66A | | 3CC #4 |
| 2CC # 45 | CA_2A-2A-66A-66A | | No |
| 2CC # 46 | CA_2A-2A-66A-66B | | No |
| 2CC # 47 | CA_2A-2A-66A-66C | | No |
| 2CC # 48 | CA_2A-2A-66B | | 3CC #5 |
| 2CC # 49 | CA_2A-2A-66C | | 3CC #6 |
| 2CC # 50 | CA_2A-4A | | 3CC #1 |
| 2CC # 51 | CA_2A-4A | | 3CC #1 |
| 2CC # 52 | CA_2A-4A-4A | | 3CC #13 |
| 2CC # 53 | CA_2A-5A | | 3CC #1 |
| 2CC # 54 | CA_2A-5B | | 3CC #16 |
| 2CC # 55 | CA_2A-12A | | 3CC #18 |
| 2CC # 56 | CA_2A-12B | | 3CC #20 |
| 2CC # 57 | CA_2A-13A | | 3CC #22 |
| 2CC # 58 | CA_2A-14A | | 3CC #10 |
| 2CC # 59 | CA_2A-17A | | No |
| 2CC # 60 | CA_2A-29A | B29 SCC Only | 3CC #11 |
| 2CC # 61 | CA_2A-30A | | 3CC #12 |
| 2CC # 62 | CA_2A-46A | | 3CC #33 |
| 2CC # 63 | CA_2A-46A-46A | B46 SCC Only | No |
| 2CC # 64 | CA_2A-46A-46C | B46 SCC Only | No |
| 2CC # 65 | CA_2A-46A-46D | B46 SCC Only | No |
| 2CC # 66 | CA_2A-46C | B46 SCC Only | 2CC #66 |
| 2CC # 67 | CA_2A-46D | B46 SCC Only | 2CC #67 |
| 2CC # 68 | CA_2A-46E | B46 SCC Only | No |
| 2CC # 69 | CA_2A-66A | | 3CC #52 |
| 2CC # 70 | CA_2A-66B | | 3CC #55 |
| 2CC # 71 | CA_2A-66B | | 3CC #55 |
| 2CC # 72 | CA_2A-66C | | 3CC #56 |
| 2CC # 73 | CA_2A-66C | | 3CC #56 |
| 2CC # 74 | CA_2A-66A-66A | | 3CC #38 |
| 2CC # 75 | CA_2A-66A-66B | | No |
| 2CC # 76 | CA_2A-66A-66C | | No |
| 2CC # 77 | CA_2C-5A | | No |
| 2CC # 78 | CA_2C-12A | | No |
| 2CC # 79 | CA_2C-29A | B29 SCC Only | No |
| 2CC # 80 | CA_2C-30A | | No |
| 2CC # 81 | CA_2C-30A | | No |
| 2CC # 82 | CA_2C-66A | | No |
| 2CC # 83 | CA_2C-66A | | No |
| 2CC # 84 | CA_4A-4A-5A | | 3CC #13 |
| 2CC # 85 | CA_4A-4A-5B | | No |
| 2CC # 86 | CA_4A-4A-7A | | No |
| 2CC # 87 | CA_4A-4A-12A | | 3CC #14 |
| 2CC # 88 | CA_4A-4A-12B | | No |
| 2CC # 89 | CA_4A-4A-13A | | No |
| 2CC # 90 | CA_4A-4A-29A | B29 SCC Only | No |
| 2CC # 91 | CA_4A-4A-30A | | 3CC #69 |
| 2CC # 92 | CA_4A-5A | | 3CC #1 |
| 2CC # 93 | CA_4A-5B | | 3CC #16 |
| 2CC # 94 | CA_4A-7A | | 2CC #100 |
| 2CC # 95 | CA_4A-7A | | 2CC #100 |
| 2CC # 96 | CA_4A-7A-7A | | No |
| 2CC # 97 | CA_4A-12A | | 3CC #2 |
| 2CC # 98 | CA_4A-12B | | 3CC #20 |
| 2CC # 99 | CA_4A-13A | | 3CC #22 |
| 2CC # 100 | CA_4A-17A | | No |
| 2CC # 101 | CA_4A-29A | B29 SCC Only | 3CC #24 |
| 2CC # 102 | CA_4A-30A | | 3CC #25 |
| 2CC # 103 | CA_4A-30A | | 3CC #25 |
| 2CC # 104 | CA_4A-46A | B46 SCC Only | No |

| | | | |
|---|---|---|---|
| 3CC # 46 | CA_2A-12A-66C | | No |
| 3CC # 47 | CA_2A-13A-46A | B46 SCC Only | No |
| 3CC # 48 | CA_2A-13A-46C | B46 SCC Only | No |
| 3CC # 49 | CA_2A-13A-46D | B46 SCC Only | No |
| 3CC # 50 | CA_2A-13A-66A | | No |
| 3CC # 51 | CA_2A-13A-66A | | No |
| 3CC # 52 | CA_2A-13A-66A-66A | | No |
| 3CC # 53 | CA_2A-13A-66B | | No |
| 3CC # 54 | CA_2A-13A-66C | | No |
| 3CC # 55 | CA_2A-14A-30A | | 4CC #7 |
| 3CC # 56 | CA_2A-14A-66A | | 4CC #7 |
| 3CC # 57 | CA_2A-14A-66A | | 4CC #7 |
| 3CC # 58 | CA_2A-14A-66A-66A | | 4CC #7 |
| 3CC # 59 | CA_2A-29A-30A | B29 SCC Only | 4CC #8 |
| 3CC # 60 | CA_2A-29A-66A | B29 SCC Only | 4CC #8 |
| 3CC # 61 | CA_2A-29A-66A | B29 SCC Only | 4CC #8 |
| 3CC # 62 | CA_2A-30A-66A | | 4CC #8 |
| 3CC # 63 | CA_2A-30A-66A | | 4CC #8 |
| 3CC # 64 | CA_2A-30A-66A | | 4CC #8 |
| 3CC # 65 | CA_4A-4A-5A-30A | | 4CC #1 |
| 3CC # 66 | CA_4A-4A-12A-30A | | 4CC #2 |
| 3CC # 67 | CA_4A-5A-30A | | 4CC #1 |
| 3CC # 68 | CA_4A-7A-12A | | No |
| 3CC # 69 | CA_4A-12A-30A | | 4CC #2 |
| 3CC # 70 | CA_4A-29A-30A | B29 SCC Only | 4CC #2 |
| 3CC # 71 | CA_5A-30A-66A | | No |
| 3CC # 72 | CA_5A-30A-66A-66A | | No |
| 3CC # 73 | CA_5B-30A-66A | | No |
| 3CC # 74 | CA_5B-30A-66A-66A | | No |
| 3CC # 75 | CA_12A-30A-66A | | 4CC #6 |
| 3CC # 76 | CA_12A-30A-66A-66A | | 4CC #6 |
| 3CC # 77 | CA_13A-46A-66A | B46 SCC Only | No |
| 3CC # 78 | CA_13A-46C-66A | B46 SCC Only | No |
| 3CC # 79 | CA_13A-46D-66A | B46 SCC Only | No |
| 3CC # 80 | CA_14A-30A-66A | | 4CC #7 |
| 3CC # 81 | CA_14A-30A-66A-66A | | 4CC #7 |
| 3CC # 82 | CA_29A-30A-66A | B29 SCC Only | 4CC #8 |

| | | | | |
|---|---|---|---|---|
| 2CC # | 105 | CA_4A-46A-46A | B46 SCC Only | No |
| 2CC # | 106 | CA_4A-46A-46C | B46 SCC Only | No |
| 2CC # | 107 | CA_4A-46A-46D | B46 SCC Only | No |
| 2CC # | 108 | CA_4A-46C | B46 SCC Only | No |
| 2CC # | 109 | CA_4A-46D | B46 SCC Only | No |
| 2CC # | 110 | CA_5A-7A | | No |
| 2CC # | 111 | CA_5A-25A | | No |
| 2CC # | 112 | CA_5A-30A | | 3CC #3 |
| 2CC # | 113 | CA_5A-41A | | No |
| 2CC # | 114 | CA_5A-46A | B46 SCC Only | No |
| 2CC # | 115 | CA_5A-46C | B46 SCC Only | No |
| 2CC # | 116 | CA_5A-46D | B46 SCC Only | No |
| 2CC # | 117 | CA_5A-66A | | 3CC #4 |
| 2CC # | 118 | CA_5A-66B | | 3CC #5 |
| 2CC # | 119 | CA_5A-66C | | 3CC #6 |
| 2CC # | 120 | CA_5A-66D | | No |
| 2CC # | 121 | CA_5A-66A-66A | | 3CC #27 |
| 2CC # | 122 | CA_5A-66A-66B | | No |
| 2CC # | 123 | CA_5A-66A-66C | | No |
| 2CC # | 124 | CA_5B-30A | | 3CC #39 |
| 2CC # | 125 | CA_5B-66A | | 3CC #40 |
| 2CC # | 126 | CA_5B-66A-66A | | 3CC #42 |
| 2CC # | 127 | CA_5B-66C | | 3CC #43 |
| 2CC # | 128 | CA_7A-12A | | No |
| 2CC # | 129 | CA_7A-46A | B46 SCC Only | No |
| 2CC # | 130 | CA_7A-46C | B46 SCC Only | No |
| 2CC # | 131 | CA_7A-46D | B46 SCC Only | No |
| 2CC # | 132 | CA_7A-66A | | No |
| 2CC # | 133 | CA_7A-66A | | No |
| 2CC # | 134 | CA_12A-30A | | 3CC #7 |
| 2CC # | 135 | CA_12A-66A | | 3CC #8 |
| 2CC # | 136 | CA_12A-66A-66A | | 3CC #80 |
| 2CC # | 137 | CA_12A-66C | | 3CC #48 |
| 2CC # | 138 | CA_13A-46A | B46 SCC Only | 3CC #49 |
| 2CC # | 139 | CA_13A-46C | B46 SCC Only | 3CC #50 |
| 2CC # | 140 | CA_13A-46D | B46 SCC Only | 3CC #51 |
| 2CC # | 141 | CA_13A-46E | B46 SCC Only | No |
| 2CC # | 142 | CA_13A-66A | | 3CC #54 |
| 2CC # | 143 | CA_13A-66A-66A | | 3CC #54 |
| 2CC # | 144 | CA_13A-66A-66B | | No |
| 2CC # | 145 | CA_13A-66A-66C | | No |
| 2CC # | 146 | CA_13A-66B | | 3CC #55 |
| 2CC # | 147 | CA_13A-66C | | 3CC #56 |
| 2CC # | 148 | CA_14A-30A | | 3CC #57 |
| 2CC # | 149 | CA_14A-66A | | 3CC #58 |
| 2CC # | 150 | CA_14A-66A-66A | | 3CC #60 |
| 2CC # | 151 | CA_25A-26A | | No |
| 2CC # | 152 | CA_25A-25A-26A | | No |
| 2CC # | 153 | CA_29A-30A | B29 SCC Only | 3CC #61 |
| 2CC # | 154 | CA_29A-66A | B29 SCC Only | 3CC #62 |
| 2CC # | 155 | CA_29A-66A-66A | B29 SCC Only | No |
| 2CC # | 156 | CA_30A-66A | | 3CC #64 |
| 2CC # | 157 | CA_30A-66A | | 3CC #64 |
| 2CC # | 158 | CA_30A-66A-66A | | 3CC #76 |
| 2CC # | 159 | CA_46A-46A-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 160 | CA_46A-46C-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 161 | CA_46A-46D-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 162 | CA_46A-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 163 | CA_46A-66A-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 164 | CA_46C-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 165 | CA_46C-66A-66A | B46 SCC Only | B46 DL Only |

| | | | | |
|---|---|---|---|---|
| 2CC # | 166 | CA_46D-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 167 | CA_46D-66A-66A | B46 SCC Only | B46 DL Only |
| 2CC # | 168 | CA_46E-66A | B46 SCC Only | B46 DL Only |

In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the CA configuration with the largest aggregated DL CA BW in each frequency band, independently for contiguous and non-contiguous CA; however, if the same frequency band is used for both contiguous and non-contiguous CA, power measurement was performed using the configuration with the largest aggregated BW and maximum output power among contiguous and non-contiguous CA.

## DL Intra-Band Contiguous Measured Results

| E-UTRA CA configuration (BCS) | 3GPP Rel. # | CC1 (UL) | | | | | CC2 (DL) | | | CC3 (DL) | | | CC4 (DL) | | | CC5 (DL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mode | BW (MHz) | Channel | Freq (MHz) | RB,Offset | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | Aggregated BW | MPR | CA Inactive (dBm) | CA Active (dBm) | Delta |
| CA_2C | 12 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | | | | | | | | | | 40 | 0 | 25.42 | 25.37 | -0.05 |
| CA_7B | 13 | QPSK | 15 | 21076 | 2532.6 | 1,49 | 5 | 3169 | 2661.9 | | | | | | | | | | 20 | 0 | 25.47 | 25.39 | -0.08 |
| CA_7C | 13 | QPSK | 20 | 21001 | 2525.1 | 1,49 | 20 | 3199 | 2664.9 | | | | | | | | | | 40 | 0 | 25.41 | 25.32 | -0.09 |
| CA_38C | 11 | QPSK | 20 | 37901 | 2585.1 | 1,49 | 20 | 38099 | 2604.9 | | | | | | | | | | 40 | 0 | 25.33 | 25.25 | -0.08 |
| CA_41C | 13 | QPSK | 20 | 40521 | 2583.1 | 1,49 | 20 | 40719 | 2602.9 | | | | | | | | | | 40 | 0 | 25.27 | 25.19 | -0.08 |
| CA_41D | 12 | QPSK | 20 | 40422 | 2573.2 | 1,49 | 20 | 40620 | 2593 | 20 | 40818 | 2612.8 | | | | | | | 60 | 0 | 25.32 | 25.28 | -0.04 |
| CA_41E | 14 | QPSK | 20 | 40320 | 2563 | 1,49 | 20 | 40520 | 2583 | 20 | 40720 | 2603 | 20 | 40920 | 2623 | | | | 80 | 0 | 25.30 | 25.23 | -0.07 |
| CA_46E | 14 | QPSK | 20 | 50490 | 5520 | 1,49 | 20 | 50688 | 5539.8 | 20 | 50889 | 5559.9 | 20 | 51090 | 5580 | | | | 80 | 0 | DL only | DL only | DL only |
| CA_66D | 14 | QPSK | 20 | 132224 | 1735.2 | 1,49 | 20 | 66886 | 2155 | 20 | 67084 | 2174.8 | | | | | | | 60 | 0 | 25.35 | 25.26 | -0.09 |

## DL Intra-Band Non-Contiguous Measured Results

| E-UTRA CA configuration | 3GPP Rel. # | CC1 (UL) | | | | | CC2 (DL) | | | CC3 (DL) | | | CC4 (DL) | | | CC5 (DL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mode | BW (MHz) | Channel | Freq (MHz) | RB,Offset | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | Aggregated BW | MPR | CA Inactive (dBm) | CA Active (dBm) | Delta |
| CA_7A-7A | 12 | QPSK | 20 | 20850 | 2510 | 1,49 | 20 | 3350 | 2680 | | | | | | | | | | 40 | 0 | 25.46 | 25.43 | -0.03 |
| CA_25A-25A | 12 | QPSK | 20 | 26140 | 1860 | 1,49 | 20 | 8590 | 1985 | | | | | | | | | | 40 | 0 | 25.43 | 25.40 | -0.03 |
| CA_41A-41A | 12 | QPSK | 20 | 39750 | 2506 | 1,49 | 20 | 41490 | 2680 | | | | | | | | | | 40 | 0 | 25.37 | 25.32 | -0.05 |
| CA_41A-41C | 12 | QPSK | 20 | 39750 | 2506 | 1,49 | 20 | 41292 | 2660.2 | 20 | 41490 | 2680 | | | | | | | 60 | 0 | 25.37 | 25.33 | -0.04 |
| CA_41A-41D | 13 | QPSK | 20 | 39750 | 2506 | 1,49 | 20 | 41094 | 2640.4 | 20 | 41292 | 2660.2 | 20 | 41490 | 2680 | | | | 80 | 0 | 25.37 | 25.36 | -0.01 |
| CA_41C-41C | 13 | QPSK | 20 | 39750 | 2506 | 1,49 | 20 | 39948 | 2525.8 | 20 | 41292 | 2660.2 | 20 | 41490 | 2680 | | | | 80 | 0 | 25.37 | 25.35 | -0.02 |
| CA_41C-41D | 14 | QPSK | 20 | 40521 | 2583.1 | 1,49 | 20 | 40719 | 2602.9 | 20 | 39750 | 2506 | 20 | 39948 | 2525.8 | 20 | 40146 | 2545.6 | 100 | 0 | 25.41 | 25.38 | -0.03 |
| CA_66A-66B | 14 | QPSK | 20 | 132072 | 1720 | 1,49 | 10 | 67187 | 2185.1 | 10 | 67286 | 2195 | | | | | | | 40 | 0 | 25.45 | 25.39 | -0.06 |
| CA_66A-66C | 14 | QPSK | 20 | 132072 | 1720 | 1,49 | 20 | 67038 | 2170.2 | 20 | 67236 | 2190 | | | | | | | 60 | 0 | 25.45 | 25.40 | -0.05 |

## DL Inter-Band (2 Bands) Measured Results

| E-UTRA CA configuration | 3GPP Rel. # | CC1 (UL) | | | | | CC2 (DL) | | | CC3 (DL) | | | CC4 (DL) | | | CC5 (DL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mode | BW (MHz) | Channel | Freq (MHz) | RB,Offset | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | Aggregated BW | MPR | CA Inactive (dBm) | CA Active (dBm) | Delta |
| CA_2A-2A-4A-4A | 13 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 2050 | 2120 | 20 | 2300 | 2145 | | | | 80 | 0 | 25.47 | 25.38 | -0.09 |
| CA_2A-2A-12B | 13 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 5 | 5048 | 732.8 | 10 | 5120 | 740 | | | | 55 | 0 | 25.47 | 25.39 | -0.08 |
| CA_2A-2A-46A | 15 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 50690 | 5540 | | | | | | | 60 | 0 | 25.47 | 25.41 | -0.06 |
| CA_2A-2A-46C | 15 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | 80 | 0 | 25.47 | 25.38 | -0.09 |
| CA_2A-2A-46D | 15 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | 100 | 0 | 25.47 | 25.37 | -0.10 |
| CA_2A-2A-66A-66A | 14 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 66536 | 2120 | 20 | 67236 | 2190 | | | | 80 | 0 | 25.47 | 25.42 | -0.05 |
| CA_2A-2A-66A-66B | 14 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 66536 | 2120 | 10 | 67187 | 2185.1 | 10 | 67286 | 2195 | 80 | 0 | 25.47 | 25.45 | -0.02 |
| CA_2A-2A-66A-66C | 14 | QPSK | 20 | 18700 | 1860 | 1,49 | 20 | 1100 | 1980 | 20 | 66536 | 2120 | 20 | 67038 | 2170.2 | 20 | 67236 | 2190 | 100 | 0 | 25.47 | 25.43 | -0.04 |
| CA_2A-17A | 11 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5790 | 740 | | | | | | | | | | 30 | 0 | 25.39 | 25.32 | -0.07 |
| CA_2A-46A-46A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 46890 | 5160 | 20 | 54340 | 5905 | | | | | | | 60 | 0 | 25.39 | 25.35 | -0.04 |
| CA_2A-46A-46C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 50690 | 5540 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | 80 | 0 | 25.39 | 25.37 | -0.02 |
| CA_2A-46A-46D | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 50690 | 5540 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | 100 | 0 | 25.39 | 25.35 | -0.04 |
| CA_2A-46E | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 50490 | 5520 | 20 | 50688 | 5539.8 | 20 | 50889 | 5559.9 | 20 | 51090 | 5580 | 100 | 0 | 25.39 | 25.31 | -0.08 |
| CA_2A-66A-66B | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 66536 | 2120 | 10 | 67187 | 2185.1 | 10 | 67286 | 2195 | | | | 60 | 0 | 25.39 | 25.33 | -0.06 |
| CA_2A-66A-66C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 66536 | 2120 | 20 | 67038 | 2170.2 | 20 | 67236 | 2190 | | | | 80 | 0 | 25.39 | 25.35 | -0.04 |
| CA_2C-5A | 13 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 10 | 2525 | 881.5 | | | | | | | 50 | 0 | 25.42 | 25.34 | -0.08 |
| CA_2C-12A | 13 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 10 | 5095 | 737.5 | | | | | | | 50 | 0 | 25.42 | 25.39 | -0.03 |
| CA_2C-29A | 12 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 10 | 9715 | 722.5 | | | | | | | 50 | 0 | 25.42 | 25.37 | -0.05 |
| CA_2C-30A | 13 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 10 | 9820 | 2355 | | | | | | | 50 | 0 | 25.42 | 25.38 | -0.04 |
| CA_2C-30A | 13 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 10 | 9820 | 2355 | | | | | | | 50 | 0 | 25.42 | 25.35 | -0.07 |
| CA_2C-66A | 15 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 20 | 66786 | 2145 | | | | | | | 60 | 0 | 25.42 | 25.36 | -0.06 |
| CA_2C-66A | 15 | QPSK | 20 | 18801 | 1870.1 | 1,49 | 20 | 999 | 1969.9 | 20 | 66786 | 2145 | | | | | | | 60 | 0 | 25.42 | 25.36 | -0.06 |
| CA_4A-4A-5B | 14 | QPSK | 20 | 20050 | 1720 | 1,49 | 20 | 2300 | 2145 | 5 | 2510 | 880 | 3 | 2549 | 883.9 | | | | 48 | 0 | 25.47 | 25.43 | -0.04 |
| CA_4A-4A-7A | 12 | QPSK | 20 | 20050 | 1720 | 1,49 | 20 | 2300 | 2145 | 20 | 3100 | 2655 | | | | | | | 60 | 0 | 25.47 | 25.44 | -0.03 |
| CA_4A-4A-12B | 14 | QPSK | 20 | 20050 | 1720 | 1,49 | 20 | 2300 | 2145 | 5 | 5048 | 732.8 | 10 | 5120 | 740 | | | | 55 | 0 | 25.47 | 25.42 | -0.05 |
| CA_4A-4A-13A | 12 | QPSK | 20 | 20050 | 1720 | 1,49 | 20 | 2300 | 2145 | 10 | 5230 | 751 | | | | | | | 50 | 0 | 25.47 | 25.39 | -0.08 |
| CA_4A-4A-29A | 13 | QPSK | 20 | 20050 | 1720 | 1,49 | 20 | 2300 | 2145 | 10 | 9715 | 722.5 | | | | | | | 50 | 0 | 25.47 | 25.38 | -0.09 |
| CA_4A-7A-7A | 12 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 2850 | 2630 | 20 | 3350 | 2680 | | | | | | | 60 | 0 | 25.48 | 25.42 | -0.06 |
| CA_4A-17A | 11 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 10 | 5790 | 740 | | | | | | | | | | 30 | 0 | 25.48 | 25.43 | -0.05 |
| CA_4A-46A | 13 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 50690 | 5540 | | | | | | | | | | 40 | 0 | 25.48 | 25.44 | -0.04 |
| CA_4A-46A-46A | 14 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 46890 | 5160 | 20 | 54340 | 5905 | | | | | | | 60 | 0 | 25.48 | 25.43 | -0.05 |
| CA_4A-46A-46C | 14 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 50690 | 5540 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | 80 | 0 | 25.48 | 25.45 | -0.03 |
| CA_4A-46A-46D | 14 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 50690 | 5540 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | 100 | 0 | 25.48 | 25.46 | -0.02 |
| CA_4A-46C | 14 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | | | | 60 | 0 | 25.48 | 25.41 | -0.07 |
| CA_4A-46D | 14 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | | | | 80 | 0 | 25.48 | 25.43 | -0.05 |
| CA_5A-7A | 12 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 3100 | 2655 | | | | | | | | | | 30 | 0 | 25.43 | 25.38 | -0.05 |
| CA_5A-25A | 12 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 8365 | 1962.5 | | | | | | | | | | 30 | 0 | 25.43 | 25.39 | -0.04 |
| CA_5A-41A | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 40620 | 2593 | | | | | | | | | | 30 | 0 | 25.43 | 25.41 | -0.02 |
| CA_5A-46A | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 50690 | 5540 | | | | | | | | | | 30 | 0 | 25.43 | 25.37 | -0.06 |
| CA_5A-46C | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | | | | 50 | 0 | 25.43 | 25.36 | -0.07 |
| CA_5A-46D | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | | | | 70 | 0 | 25.43 | 25.38 | -0.05 |
| CA_5A-66D | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 66688 | 2135.2 | 20 | 66886 | 2155 | 20 | 67084 | 2174.8 | | | | 70 | 0 | 25.43 | 25.34 | -0.09 |
| CA_5A-66A-66B | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 66536 | 2120 | 10 | 67187 | 2185.1 | 10 | 67286 | 2195 | | | | 50 | 0 | 25.43 | 25.36 | -0.07 |
| CA_5A-66A-66C | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 20 | 66536 | 2120 | 20 | 67038 | 2170.2 | 20 | 67236 | 2190 | | | | 70 | 0 | 25.43 | 25.34 | -0.09 |
| CA_7A-12A | 12 | QPSK | 20 | 21100 | 2535 | 1,49 | 10 | 5095 | 737.5 | | | | | | | | | | 30 | 0 | 25.45 | 25.39 | -0.06 |
| CA_7A-46A | 13 | QPSK | 20 | 21100 | 2535 | 1,49 | 20 | 50690 | 5540 | | | | | | | | | | 40 | 0 | 25.45 | 25.41 | -0.04 |
| CA_7A-46C | 14 | QPSK | 20 | 21100 | 2535 | 1,49 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | | | | 60 | 0 | 25.45 | 25.39 | -0.06 |
| CA_7A-46D | 14 | QPSK | 20 | 21100 | 2535 | 1,49 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | | | | 80 | 0 | 25.45 | 25.38 | -0.07 |
| CA_7A-66A | 14 | QPSK | 20 | 21100 | 2535 | 1,49 | 20 | 66786 | 2145 | | | | | | | | | | 40 | 0 | 25.45 | 25.35 | -0.10 |
| CA_7A-66A | 14 | QPSK | 20 | 21100 | 2535 | 1,49 | 20 | 66786 | 2145 | | | | | | | | | | 40 | 0 | 25.45 | 25.34 | -0.11 |
| CA_13A-46E | 14 | QPSK | 10 | 23230 | 782 | 1,24 | 20 | 50490 | 5520 | 20 | 50688 | 5539.8 | 20 | 50889 | 5559.9 | 20 | 51090 | 5580 | 90 | 0 | 25.45 | 25.38 | -0.07 |
| CA_13A-66A-66B | 14 | QPSK | 10 | 23230 | 782 | 1,24 | 20 | 66536 | 2120 | 10 | 67187 | 2185.1 | 10 | 67286 | 2195 | | | | 50 | 0 | 25.45 | 25.39 | -0.06 |
| CA_13A-66A-66C | 14 | QPSK | 10 | 23230 | 782 | 1,24 | 20 | 66536 | 2120 | 20 | 67038 | 2170.2 | 20 | 67236 | 2190 | | | | 70 | 0 | 25.45 | 25.41 | -0.04 |
| CA_25A-26A | 13 | QPSK | 20 | 26365 | 1882.5 | 1,49 | 10 | 8865 | 876.5 | | | | | | | | | | 30 | 0 | 25.46 | 25.42 | -0.04 |
| CA_25A-25A-26A | 15 | QPSK | 20 | 26140 | 1860 | 1,49 | 20 | 8590 | 1985 | 10 | 8865 | 876.5 | | | | | | | 50 | 0 | 25.43 | 25.38 | -0.05 |
| CA_29A-66A-66A | 14 | QPSK | DL only | DL only | DL only | DL only | 20 | 66536 | 2120 | 20 | 67236 | 2190 | | | | | | | 40 | 0 | DL only | DL only | DL only |

## DL Inter-Band (3 Bands) Measured Results

| E-UTRA CA configuration | 3GPP Rel. # | CC1 (UL) | | | | | CC2 (DL) | | | CC3 (DL) | | | CC4 (DL) | | | CC5 (DL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mode | BW (MHz) | Channel | Freq (MHz) | RB,Offset | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | Aggregated BW | MPR | CA Inactive (dBm) | CA Active (dBm) | Delta |
| CA_2A-2A-4A-5A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 20 | 2175 | 2132.5 | 10 | 2525 | 881.5 | | | | 70 | 0 | 25.45 | 25.39 | -0.06 |
| CA_2A-2A-4A-12A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 20 | 2175 | 2132.5 | 10 | 5095 | 737.5 | | | | 70 | 0 | 25.45 | 25.40 | -0.05 |
| CA_2A-2A-5A-30A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 2525 | 881.5 | 10 | 9820 | 2355 | | | | 60 | 0 | 25.45 | 25.42 | -0.03 |
| CA_2A-2A-5A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 2525 | 881.5 | 20 | 66786 | 2145 | | | | 70 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-2A-5A-66B | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 2525 | 881.5 | 10 | 66837 | 2150.1 | 10 | 66936 | 2160 | 70 | 0 | 25.45 | 25.42 | -0.03 |
| CA_2A-2A-5A-66C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 2525 | 881.5 | 20 | 66787 | 2145.1 | 20 | 66985 | 2164.9 | 90 | 0 | 25.45 | 25.40 | -0.05 |
| CA_2A-2A-12A-30A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 5095 | 737.5 | 10 | 9820 | 2355 | | | | 60 | 0 | 25.45 | 25.38 | -0.07 |
| CA_2A-2A-12A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 5095 | 737.5 | 20 | 66786 | 2145 | | | | 70 | 0 | 25.45 | 25.39 | -0.06 |
| CA_2A-2A-13A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 5230 | 751 | 20 | 66786 | 2145 | | | | 70 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-2A-14A-66A | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 5330 | 763 | 20 | 66786 | 2145 | | | | 70 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-2A-29A-30A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 9715 | 722.5 | 10 | 9820 | 2355 | | | | 60 | 0 | 25.45 | 25.42 | -0.03 |
| CA_2A-2A-30A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 1100 | 1980 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | 70 | 0 | 25.45 | 25.44 | -0.01 |
| CA_2A-4A-4A-5A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2050 | 2120 | 20 | 2300 | 2145 | 10 | 2525 | 881.5 | | | | 70 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-4A-4A-12A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2050 | 2120 | 20 | 2300 | 2145 | 10 | 5095 | 737.5 | | | | 70 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-4A-5B | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2175 | 2132.5 | 10 | 2476 | 876.6 | 10 | 2575 | 886.5 | | | | 60 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-4A-12B | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2175 | 2132.5 | 5 | 5048 | 732.8 | 10 | 5120 | 740 | | | | 55 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-4A-13A | 12 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2175 | 2132.5 | 10 | 5230 | 751 | | | | | | | 50 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-5A-66B | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 2525 | 881.5 | 10 | 66837 | 2150.1 | 10 | 66936 | 2160 | | | | 50 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-5A-66C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 2525 | 881.5 | 20 | 66787 | 2145.1 | 20 | 66985 | 2164.9 | | | | 70 | 0 | 25.45 | 25.40 | -0.05 |
| CA_2A-5B-66C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 2476 | 876.6 | 10 | 2575 | 886.5 | 20 | 66787 | 2145.1 | 20 | 66985 | 2164.9 | 80 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-12A-66C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5095 | 737.5 | 20 | 66787 | 2145.1 | 20 | 66985 | 2164.9 | | | | 70 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-13A-46A | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 50690 | 5540 | | | | | | | 50 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-13A-46C | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | | | | 70 | 0 | 25.45 | 25.42 | -0.03 |
| CA_2A-13A-46D | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | 90 | 0 | 25.45 | 25.40 | -0.05 |
| CA_2A-13A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 66786 | 2145 | | | | | | | 50 | 0 | 25.45 | 25.39 | -0.06 |
| CA_2A-13A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 66786 | 2145 | | | | | | | 50 | 0 | 25.45 | 25.38 | -0.07 |
| CA_2A-13A-66A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 66536 | 2120 | 20 | 67236 | 2190 | | | | 70 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-13A-66B | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 10 | 66837 | 2150.1 | 10 | 66936 | 2160 | | | | 50 | 0 | 25.45 | 25.41 | -0.04 |
| CA_2A-13A-66C | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5230 | 751 | 20 | 66787 | 2145.1 | 20 | 66985 | 2164.9 | | | | 70 | 0 | 25.45 | 25.40 | -0.05 |
| CA_2A-46A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 50690 | 5540 | 20 | 66786 | 2145 | | | | | | | 60 | 0 | 25.45 | 25.42 | -0.03 |
| CA_2A-46C-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | 20 | 66786 | 2145 | | | | 80 | 0 | 25.45 | 25.43 | -0.02 |
| CA_2A-46D-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | 20 | 66786 | 2145 | 100 | 0 | 25.45 | 25.41 | -0.04 |
| CA_4A-7A-12A | 12 | QPSK | 20 | 20175 | 1732.5 | 1,49 | 20 | 3100 | 2655 | 10 | 5095 | 737.5 | | | | | | | 50 | 0 | 25.48 | 25.39 | -0.09 |
| CA_5A-30A-66A | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | | | | 40 | 0 | 25.46 | 25.36 | -0.10 |
| CA_5A-30A-66A-66A | 14 | QPSK | 10 | 20525 | 836.5 | 1,24 | 10 | 9820 | 2355 | 20 | 66536 | 2120 | 20 | 67236 | 2190 | | | | 60 | 0 | 25.46 | 25.41 | -0.05 |
| CA_5B-30A-66A | 14 | QPSK | 10 | 20476 | 831.6 | 1,24 | 10 | 2575 | 886.5 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | 50 | 0 | 25.46 | 25.42 | -0.04 |
| CA_5B-30A-66A-66A | 15 | QPSK | 10 | 20476 | 831.6 | 1,24 | 10 | 2575 | 886.5 | 10 | 9820 | 2355 | 20 | 66536 | 2120 | 20 | 67236 | 2190 | 70 | 0 | 25.46 | 25.43 | -0.03 |
| CA_13A-46A-66A | 15 | QPSK | 10 | 23230 | 782 | 1,24 | 20 | 50690 | 5540 | 20 | 66786 | 2145 | | | | | | | 50 | 0 | 25.42 | 25.38 | -0.04 |
| CA_13A-46C-66A | 15 | QPSK | 10 | 23230 | 782 | 1,24 | 20 | 50692 | 5540.2 | 20 | 50890 | 5560 | 20 | 66786 | 2145 | | | | 70 | 0 | 25.42 | 25.39 | -0.03 |
| CA_13A-46D-66A | 15 | QPSK | 10 | 23230 | 782 | 1,24 | 20 | 50492 | 5520.2 | 20 | 50690 | 5540 | 20 | 50888 | 5559.8 | 20 | 66786 | 2145 | 90 | 0 | 25.42 | 25.37 | -0.05 |

## DL Inter-Band (4 Bands) Measured Results

| E-UTRA CA configuration | 3GPP Rel. # | CC1 (UL) | | | | | CC2 (DL) | | | CC3 (DL) | | | CC4 (DL) | | | CC5 (DL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mode | BW (MHz) | Channel | Freq (MHz) | RB,Offset | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | BW (MHz) | Channel | Freq (MHz) | Aggregated BW | MPR | CA Inactive (dBm) | CA Active (dBm) | Delta |
| CA_2A-4A-5A-30A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2175 | 2132.5 | 10 | 2525 | 881.5 | 10 | 9820 | 2355 | | | | 60 | 0 | 25.40 | 25.36 | -0.04 |
| CA_2A-4A-12A-30A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2175 | 2132.5 | 10 | 5095 | 737.5 | 10 | 9820 | 2355 | | | | 60 | 0 | 25.40 | 25.34 | -0.06 |
| CA_2A-4A-29A-30A | 13 | QPSK | 20 | 18900 | 1880 | 1,49 | 20 | 2175 | 2132.5 | 10 | 9715 | 722.5 | 10 | 9820 | 2355 | | | | 60 | 0 | 25.40 | 25.37 | -0.03 |
| CA_2A-5A-30A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 2525 | 881.5 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | 60 | 0 | 25.40 | 25.38 | -0.02 |
| CA_2A-5B-30A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 2476 | 876.6 | 10 | 2575 | 886.5 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | 70 | 0 | 25.40 | 25.35 | -0.05 |
| CA_2A-12A-30A-66A | 14 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5095 | 737.5 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | 60 | 0 | 25.40 | 25.36 | -0.04 |
| CA_2A-14A-30A-66A | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 5330 | 763 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | 60 | 0 | 25.40 | 25.33 | -0.07 |
| CA_2A-29A-30A-66A | 15 | QPSK | 20 | 18900 | 1880 | 1,49 | 10 | 9715 | 722.5 | 10 | 9820 | 2355 | 20 | 66786 | 2145 | | | | 60 | 0 | 25.40 | 25.34 | -0.06 |

## 9.6. Wi-Fi 2.4 GHz (DTS Band)

**Wi-Fi 2.4 GHz ($P_{cell\_OFF}$ and $P_{cell\_ON}$)**

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

According to KDB publication 248227 D01, simultaneous SAR provisions in KDB Publication 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

For 2.4 GHz band, there are two use cases:

- $P_{Cell\_ON}$: This will be used when both WWAN and Wi-Fi radios are ON.
- $P_{Cell\_OFF}$: This will be used when only Wi-Fi radio is ON

| Mode | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ANT5 | | ANT2 | | ANT5 | | ANT2 | |
| | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| 802.11b DSSS (SISO) | 1 | 2412 | 20.50 | 20.50 | 19.75 | 20.50 | 20.50 | 16.75 | 16.50 | 18.50 |
| | 2 | 2417 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 3 | 2422 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 4 | 2427 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 5 | 2432 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 6 | 2437 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 7 | 2442 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 8 | 2447 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 9 | 2452 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 10 | 2457 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 11 | 2462 | 22.00 | 22.00 | 19.75 | 21.75 | 22.00 | 16.75 | 16.50 | 18.50 |
| | 12 | 2467 | 20.50 | 20.50 | 19.75 | 20.50 | 20.50 | 16.75 | 16.50 | 18.50 |
| | 13 | 2472 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 16.75 | 16.50 | 18.50 |

| Mode | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ANT5 | | ANT2 | | ANT5 | | ANT2 | |
| | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| 802.11g/n OFDM (SISO) | 1 | 2412 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 16.75 | 16.50 | 17.50 |
| | 2 | 2417 | 19.50 | 19.50 | 19.50 | 19.50 | 19.50 | 16.75 | 16.50 | 18.50 |
| | 3 | 2422 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 4 | 2427 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 5 | 2432 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 6 | 2437 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 7 | 2442 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 8 | 2447 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 9 | 2452 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 10 | 2457 | 19.50 | 19.50 | 19.50 | 19.50 | 19.50 | 16.75 | 16.50 | 18.50 |
| | 11 | 2462 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 16.75 | 16.50 | 17.50 |
| | 12 | 2467 | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| | 13 | 2472 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |

| Mode | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ANT5 | | ANT2 | | ANT5 | | ANT2 | |
| | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| 802.11n OFDM (MIMO) | 1 | 2412 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 |
| | 2 | 2417 | 18.50 | 18.50 | 18.50 | 18.50 | 18.50 | 16.75 | 16.50 | 18.50 |
| | 3 | 2422 | 20.00 | 20.00 | 19.75 | 20.00 | 20.00 | 16.75 | 16.50 | 18.50 |
| | 4 | 2427 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 5 | 2432 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 6 | 2437 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 7 | 2442 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 8 | 2447 | 21.50 | 21.50 | 19.75 | 21.50 | 21.50 | 16.75 | 16.50 | 18.50 |
| | 9 | 2452 | 20.00 | 20.00 | 19.75 | 20.00 | 20.00 | 16.75 | 16.50 | 18.50 |
| | 10 | 2457 | 18.50 | 18.50 | 18.50 | 18.50 | 18.50 | 16.75 | 16.50 | 18.50 |
| | 11 | 2462 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 |
| | 12 | 2467 | 14.50 | 14.50 | 14.50 | 14.50 | 14.50 | 14.50 | 14.50 | 14.50 |
| | 13 | 2472 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |

## Wi-Fi 2.4 GHz Measured Results

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

SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

| Power Mode | Antenna | Mode | Data Rate | Ch # | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Meas Pwr | Tune-up | SAR Test (Yes/No) | Meas Pwr | Tune-up | SAR Test (Yes/No) |
| Pcell OFF | ANT5 | DSSS 802.11b | 1 Mbps | 1 | 2412 | 20.50 | 20.50 | Yes | 20.50 | 20.50 | Yes |
| | | | | 2 | 2417 | 22.00 | 22.00 | | 22.00 | 22.00 | |
| | | | | 6 | 2437 | 22.00 | 22.00 | | 22.00 | 22.00 | |
| | | | | 11 | 2462 | 22.00 | 22.00 | | 22.00 | 22.00 | |
| | | | | 12 | 2467 | 20.50 | 20.50 | | 20.50 | 20.50 | |
| | | | | 13 | 2472 | 19.00 | 19.00 | | 19.00 | 19.00 | |
| | ANT2 | DSSS 802.11b | 1 Mbps | 1 | 2412 | 19.75 | 19.75 | Yes | 20.50 | 20.50 | Yes |
| | | | | 2 | 2417 | 19.75 | 19.75 | | 21.75 | 21.75 | |
| | | | | 6 | 2437 | 19.75 | 19.75 | | 21.75 | 21.75 | |
| | | | | 11 | 2462 | 19.75 | 19.75 | | 21.75 | 21.75 | |
| | | | | 12 | 2467 | 19.65 | 19.75 | | 20.50 | 20.50 | |
| | | | | 13 | 2472 | 19.00 | 19.00 | | 19.00 | 19.00 | |

| Power Mode | Antenna | Mode | Data Rate | Ch # | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Meas Pwr | Tune-up | SAR Test (Yes/No) | Meas Pwr | Tune-up | SAR Test (Yes/No) |
| Pcell ON | ANT5 | DSSS 802.11b | 1 Mbps | 1 | 2412 | 20.50 | 20.50 | Yes | 16.60 | 16.75 | Yes |
| | | | | 2 | 2417 | 21.95 | 22.00 | | 16.60 | 16.75 | |
| | | | | 6 | 2437 | 22.00 | 22.00 | | 16.75 | 16.75 | |
| | | | | 11 | 2462 | 22.00 | 22.00 | | 16.75 | 16.75 | |
| | | | | 12 | 2467 | 20.50 | 20.50 | | 16.60 | 16.75 | |
| | | | | 13 | 2472 | 18.90 | 19.00 | | 16.60 | 16.75 | |
| | ANT2 | DSSS 802.11b | 1 Mbps | 1 | 2412 | 16.50 | 16.50 | Yes | 18.50 | 18.50 | Yes |
| | | | | 6 | 2437 | 16.50 | 16.50 | | 18.50 | 18.50 | |
| | | | | 11 | 2462 | 16.50 | 16.50 | | 18.50 | 18.50 | |
| | | | | 12 | 2467 | 16.40 | 16.50 | | 18.40 | 18.50 | |
| | | | | 13 | 2472 | 16.40 | 16.50 | | 18.40 | 18.50 | |

## 9.7. Wi-Fi 5 GHz (U-NII Bands)

**Wi-Fi 5 GHz ($P_{cell\_OFF}$ and $P_{cell\_ON}$)**

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

When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

According to KDB publication 248227 D01, simultaneous SAR provisions in KDB Publication 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

For 5GHz band, there are two use cases:

- $P_{Cell\_ON}$: This will be used when both WWAN and Wi-Fi radios are ON.
- $P_{Cell\_OFF}$: This will be used when only Wi-Fi radio is ON

| Mode | Bandwidth | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANT5 | | ANT4 | | ANT5 | | ANT4 | |
| | | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| U-NII-1 5.2 GHz (SISO) | 802.11a/n/ac 20 MHz | 36 | 5180 | 19.00 | 19.00 | 19.00 | 16.50 | 19.00 | 14.50 | 18.50 | 12.25 |
| | | 40 | 5200 | 21.00 | 21.00 | 21.00 | 16.50 | 21.00 | 14.50 | 18.50 | 12.25 |
| | | 44 | 5220 | 21.00 | 21.00 | 21.00 | 16.50 | 21.00 | 14.50 | 18.50 | 12.25 |
| | | 48 | 5240 | 21.00 | 21.00 | 21.00 | 16.50 | 21.00 | 14.50 | 18.50 | 12.25 |
| | 802.11n/ac 40 MHz | 38 | 5190 | 18.00 | 18.00 | 18.00 | 16.50 | 18.00 | 14.50 | 18.00 | 12.25 |
| | | 46 | 5230 | 19.50 | 19.50 | 19.50 | 16.50 | 19.50 | 14.50 | 18.50 | 12.25 |
| | 802.11ac 80 MHz | 42 | 5210 | 17.50 | 17.50 | 17.50 | 16.50 | 17.50 | 14.50 | 17.50 | 12.25 |
| U-NII-2A 5.3 GHz (SISO) | 802.11a/n/ac 20 MHz | 52 | 5260 | 21.00 | 20.25 | 21.00 | 15.75 | 21.00 | 13.50 | 17.50 | 11.50 |
| | | 56 | 5280 | 21.00 | 20.25 | 21.00 | 15.75 | 21.00 | 13.50 | 17.50 | 11.50 |
| | | 60 | 5300 | 21.00 | 20.25 | 21.00 | 15.75 | 21.00 | 13.50 | 17.50 | 11.50 |
| | | 64 | 5320 | 19.00 | 19.00 | 19.00 | 15.75 | 19.00 | 13.50 | 17.50 | 11.50 |
| | 802.11n/ac 40 MHz | 54 | 5270 | 19.50 | 19.50 | 19.50 | 15.75 | 19.50 | 13.50 | 17.50 | 11.50 |
| | | 62 | 5310 | 18.00 | 18.00 | 18.00 | 15.75 | 18.00 | 13.50 | 17.50 | 11.50 |
| | 802.11ac 80 MHz | 58 | 5290 | 17.50 | 17.50 | 17.50 | 15.75 | 17.50 | 13.50 | 17.50 | 11.50 |

| Mode | Bandwidth | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANT5 | | ANT4 | | ANT5 | | ANT4 | |
| | | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| U-NII-2C 5.5 GHz (SISO) | 802.11a/n/ac 20 MHz | 100 | 5500 | 19.00 | 19.00 | 19.00 | 16.25 | 19.00 | 12.50 | 19.00 | 12.00 |
| | | 104 | 5520 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 108 | 5540 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 112 | 5560 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 116 | 5580 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 120 | 5600 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 124 | 5620 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 128 | 5640 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 132 | 5660 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 136 | 5680 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | | 140 | 5700 | 19.00 | 19.00 | 19.00 | 16.25 | 19.00 | 12.50 | 19.00 | 12.00 |
| | | 144 | 5720 | 21.00 | 19.25 | 21.00 | 16.25 | 21.00 | 12.50 | 19.00 | 12.00 |
| | 802.11n/ac 40 MHz | 102 | 5510 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 110 | 5550 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 118 | 5590 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 126 | 5630 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 134 | 5670 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 142 | 5710 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | 802.11ac 80 MHz | 106 | 5530 | 17.50 | 17.50 | 17.50 | 16.25 | 17.50 | 12.50 | 17.50 | 12.00 |
| | | 122 | 5610 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 138 | 5690 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |

| Mode | Bandwidth | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANT5 | | ANT4 | | ANT5 | | ANT4 | |
| | | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| U-NII-3 5.8 GHz (SISO) | 802.11a/n/ac 20 MHz | 149 | 5745 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 153 | 5765 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 157 | 5785 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 161 | 5805 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 165 | 5825 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | 802.11n/ac 40 MHz | 151 | 5755 | 19.50 | 18.50 | 19.50 | 16.75 | 19.50 | 11.75 | 19.50 | 12.50 |
| | | 159 | 5795 | 19.50 | 18.50 | 19.50 | 16.75 | 19.50 | 11.75 | 19.50 | 12.50 |
| | 802.11ac 80 MHz | 155 | 5775 | 19.50 | 18.50 | 19.50 | 16.75 | 19.50 | 11.75 | 19.50 | 12.50 |

| Mode | Bandwidth | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANT5 | | ANT4 | | ANT5 | | ANT4 | |
| | | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| U-NII-1 5.2 GHz (MIMO) | 802.11a/n/ac 20 MHz | 36 | 5180 | 18.00 | 18.00 | 18.00 | 16.50 | 18.00 | 14.50 | 18.00 | 12.25 |
| | | 40 | 5200 | 18.00 | 18.00 | 18.00 | 16.50 | 18.00 | 14.50 | 18.00 | 12.25 |
| | | 44 | 5220 | 18.00 | 18.00 | 18.00 | 16.50 | 18.00 | 14.50 | 18.00 | 12.25 |
| | | 48 | 5240 | 18.00 | 18.00 | 18.00 | 16.50 | 18.00 | 14.50 | 18.00 | 12.25 |
| | 802.11n/ac 40 MHz | 38 | 5190 | 17.00 | 17.00 | 17.00 | 16.50 | 17.00 | 14.50 | 17.00 | 12.25 |
| | | 46 | 5230 | 19.50 | 19.50 | 19.50 | 16.50 | 19.50 | 14.50 | 18.50 | 12.25 |
| | 802.11ac 80 MHz | 42 | 5210 | 16.50 | 16.50 | 16.50 | 16.50 | 16.50 | 14.50 | 16.50 | 12.25 |
| U-NII-2A 5.3 GHz (MIMO) | 802.11a/n/ac 20 MHz | 52 | 5260 | 18.00 | 18.00 | 18.00 | 15.75 | 18.00 | 13.50 | 17.50 | 11.50 |
| | | 56 | 5280 | 18.00 | 18.00 | 18.00 | 15.75 | 18.00 | 13.50 | 17.50 | 11.50 |
| | | 60 | 5300 | 18.00 | 18.00 | 18.00 | 15.75 | 18.00 | 13.50 | 17.50 | 11.50 |
| | | 64 | 5320 | 18.00 | 18.00 | 18.00 | 15.75 | 18.00 | 13.50 | 17.50 | 11.50 |
| | 802.11n/ac 40 MHz | 54 | 5270 | 19.50 | 19.50 | 19.50 | 15.75 | 19.50 | 13.50 | 17.50 | 11.50 |
| | | 62 | 5310 | 17.00 | 17.00 | 17.00 | 15.75 | 17.00 | 13.50 | 17.00 | 11.50 |
| | 802.11ac 80 MHz | 58 | 5290 | 16.50 | 16.50 | 16.50 | 15.75 | 16.50 | 13.50 | 16.50 | 11.50 |

| Mode | Bandwidth | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANT5 | | ANT4 | | ANT5 | | ANT4 | |
| | | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| U-NII-2C 5.5 GHz (MIMO) | 802.11a/n/ac 20 MHz | 100 | 5500 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 104 | 5520 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 108 | 5540 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 112 | 5560 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 116 | 5580 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 120 | 5600 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 124 | 5620 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 128 | 5640 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 132 | 5660 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 136 | 5680 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 140 | 5700 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | | 144 | 5720 | 18.00 | 18.00 | 18.00 | 16.25 | 18.00 | 12.50 | 18.00 | 12.00 |
| | 802.11n/ac 40 MHz | 102 | 5510 | 17.00 | 17.00 | 17.00 | 16.25 | 17.00 | 12.50 | 17.00 | 12.00 |
| | | 110 | 5550 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 118 | 5590 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 126 | 5630 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 134 | 5670 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 142 | 5710 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | 802.11ac 80 MHz | 106 | 5530 | 16.50 | 16.50 | 16.50 | 16.25 | 16.50 | 12.50 | 16.50 | 12.00 |
| | | 122 | 5610 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |
| | | 138 | 5690 | 19.50 | 19.25 | 19.50 | 16.25 | 19.50 | 12.50 | 19.00 | 12.00 |

| Mode | Bandwidth | Channel | Frequency | Pcell OFF | | | | Pcell ON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANT5 | | ANT4 | | ANT5 | | ANT4 | |
| | | | | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| U-NII-3 5.8 GHz (MIMO) | 802.11a/n/ac 20 MHz | 149 | 5745 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 153 | 5765 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 157 | 5785 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 161 | 5805 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | | 165 | 5825 | 21.50 | 18.50 | 21.50 | 16.75 | 21.50 | 11.75 | 20.00 | 12.50 |
| | 802.11n/ac 40 MHz | 151 | 5755 | 19.50 | 18.50 | 19.50 | 16.75 | 19.50 | 11.75 | 19.50 | 12.50 |
| | | 159 | 5795 | 19.50 | 18.50 | 19.50 | 16.75 | 19.50 | 11.75 | 19.50 | 12.50 |
| | 802.11ac 80 MHz | 155 | 5775 | 19.50 | 18.50 | 19.50 | 16.75 | 19.50 | 11.75 | 19.50 | 12.50 |

**Wi-Fi 5 GHz Measured Results**

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

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

SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

| Power Mode | Antenna | Mode | Mode | Ch # | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Meas Pwr | Tune-up | SAR Test (Yes/No) | Meas Pwr | Tune-up | SAR Test (Yes/No) |
| Pcell OFF | ANT5 | U-NII-2A | 802.11a HT20 | 52 | 5260 | 21.00 | 21.00 | Yes | | | |
| | | | | 56 | 5280 | 21.00 | 21.00 | | | | |
| | | | | 60 | 5300 | 21.00 | 21.00 | | | | |
| | | U-NII-1 | 802.11a HT20 | 40 | 5200 | | | | 21.00 | 21.00 | Yes |
| | | | | 44 | 5220 | | | | 21.00 | 21.00 | Yes |
| | | | | 48 | 5240 | | | | 21.00 | 21.00 | Yes |
| | | U-NII-2C | 802.11a HT20 | 104 | 5520 | 21.00 | 21.00 | Yes | | | |
| | | | | 120 | 5600 | 21.00 | 21.00 | | | | |
| | | | | 144 | 5720 | 21.00 | 21.00 | | | | |
| | | | 802.11ac VHT80 | 106 | 5530 | | | | 17.50 | 17.50 | Yes |
| | | | | 122 | 5610 | | | | 19.25 | 19.25 | |
| | | | | 138 | 5690 | | | | 19.25 | 19.25 | |
| | | U-NII-3 | 802.11a HT20 | 149 | 5745 | 21.50 | 21.50 | Yes | | | |
| | | | | 157 | 5785 | 21.50 | 21.50 | | | | |
| | | | | 165 | 5825 | 21.40 | 21.50 | | | | |
| | | | 802.11ac VHT80 | 155 | 5775 | | | | 18.50 | 18.50 | Yes |
| | ANT4 | U-NII-2A | 802.11a HT20 | 52 | 5260 | 21.00 | 21.00 | Yes | | | |
| | | | | 56 | 5280 | 21.00 | 21.00 | | | | |
| | | | | 60 | 5300 | 21.00 | 21.00 | | | | |
| | | U-NII-1 | 802.11ac VHT80 | 42 | 5210 | | | | 16.50 | 16.50 | Yes |
| | | U-NII-2C | 802.11a HT20 | 104 | 5520 | 21.00 | 21.00 | Yes | | | |
| | | | | 120 | 5600 | 21.00 | 21.00 | | | | |
| | | | | 144 | 5720 | 21.00 | 21.00 | | | | |
| | | | 802.11ac VHT80 | 106 | 5530 | | | | 16.25 | 16.25 | Yes |
| | | | | 122 | 5610 | | | | 16.25 | 16.25 | |
| | | | | 138 | 5690 | | | | 16.25 | 16.25 | |
| | | U-NII-3 | 802.11a HT20 | 149 | 5745 | 21.50 | 21.50 | Yes | | | |
| | | | | 157 | 5785 | 21.50 | 21.50 | | | | |
| | | | | 165 | 5825 | 21.50 | 21.50 | | | | |
| | | | 802.11ac VHT80 | 155 | 5775 | | | | 16.75 | 16.75 | Yes |

| Power Mode | Antenna | Mode | Mode | Ch # | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Meas Pwr | Tune-up | SAR Test (Yes/No) | Meas Pwr | Tune-up | SAR Test (Yes/No) |
| Pcell ON | ANT5 | U-NII-2A | 802.11a HT20 | 52 | 5260 | 21.00 | 21.00 | Yes | | | |
| | | | | 56 | 5280 | 21.00 | 21.00 | | | | |
| | | | | 60 | 5300 | 21.00 | 21.00 | | | | |
| | | U-NII-1 | 802.11ac VHT80 | 42 | 5210 | | | | 14.50 | 14.50 | Yes |
| | | U-NII-2C | 802.11a HT20 | 104 | 5520 | 21.00 | 21.00 | Yes | | | |
| | | | | 120 | 5600 | 21.00 | 21.00 | | | | |
| | | | | 144 | 5720 | 21.00 | 21.00 | | | | |
| | | | 802.11ac VHT80 | 106 | 5530 | | | | 12.50 | 12.50 | Yes |
| | | | | 122 | 5610 | | | | 12.50 | 12.50 | |
| | | | | 138 | 5690 | | | | 12.50 | 12.50 | |
| | | U-NII-3 | 802.11a HT20 | 149 | 5745 | 21.50 | 21.50 | Yes | | | |
| | | | | 157 | 5785 | 21.50 | 21.50 | | | | |
| | | | | 165 | 5825 | 21.40 | 21.50 | | | | |
| | | | 802.11ac VHT80 | 155 | 5775 | | | | 11.75 | 11.75 | Yes |
| | ANT4 | U-NII-1 | 802.11n/ac HT40 | 38 | 5190 | 18.00 | 18.00 | Yes | | | |
| | | | | 46 | 5230 | 18.50 | 18.50 | | | | |
| | | | 802.11ac VHT80 | 42 | 5210 | | | | 12.25 | 12.25 | Yes |
| | | U-NII-2C | 802.11ac VHT80 | 106 | 5530 | 17.50 | 17.50 | Yes | 12.00 | 12.00 | Yes |
| | | | | 122 | 5610 | 19.00 | 19.00 | | 12.00 | 12.00 | |
| | | | | 138 | 5690 | 19.00 | 19.00 | | 12.00 | 12.00 | |
| | | U-NII-3 | 802.11a HT20 | 149 | 5745 | 20.00 | 20.00 | Yes | | | |
| | | | | 157 | 5785 | 20.00 | 20.00 | | | | |
| | | | | 165 | 5825 | 20.00 | 20.00 | | | | |
| | | | 802.11ac VHT80 | 155 | 5775 | | | | 12.50 | 12.50 | Yes |

## 9.8. Bluetooth

From October 2016 TCB workshop, this device power and SAR measured is performed with test software, the duty cycle is 100%.

### Bluetooth ($P_{low}$, $P_{high}$, and $P_{standalone}$)

For Bluetooth, there are three use cases:

- Bluetooth $P_{low}$ is used with Wi-Fi and WWAN antennas are active.
- Bluetooth $P_{high}$ is used when Wi-Fi antenna is active and WWAN antenna is inactive or with Wi-Fi inactive and WWAN antenna is active.
- Bluetooth $P_{standalone}$ is used with Wi-Fi and WWAN antennas are inactive.

| Mode | Maximum Output Power (Tune-up Limit) (dBm) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bluetooth $P_{low}$ | | | | Bluetooth $P_{high}$ | | | | Bluetooth $P_{standalone}$ | | | |
| | ANT5 | | ANT2 | | ANT5 | | ANT2 | | ANT5 | | ANT2 | |
| | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B | Mode A | Mode B |
| GFSK | 16.0 | 12.5 | 10.0 | 10.5 | 20.0 | 16.5 | 15.5 | 17.5 | 20.0 | 19.0 | 18.0 | 20.0 |
| EDR | 7.5 | 7.5 | 7.5 | 7.5 | 17.0 | 16.5 | 15.5 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 |
| LE | 10.0 | 10.0 | 10.0 | 10.0 | 20.0 | 16.5 | 15.5 | 17.5 | 20.0 | 19.0 | 18.0 | 20.0 |

### Bluetooth Measured Results

SAR measurement is not required for the 8PSK and BLE. When the secondary mode is ≤ ¼ dB higher than the primary mode.

| Power Mode | Antenna | Mode | Ch # | Freq. (MHz) | Power Mode A (dBm) | | | Power Mode B (dBm) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Meas Pwr | Tune-up | SAR Test (Yes/No) | Meas Pwr | Tune-up | SAR Test (Yes/No) |
| Bluetooth $P_{low}$ | ANT5 | GFSK | 0 | 2402 | 16.00 | 16.00 | Yes | 12.50 | 12.50 | Yes |
| | | | 39 | 2441 | 16.00 | 16.00 | | 12.50 | 12.50 | |
| | | | 78 | 2480 | 16.00 | 16.00 | | 12.50 | 12.50 | |
| | ANT2 | GFSK | 0 | 2402 | 10.00 | 10.00 | Yes | 10.50 | 10.50 | Yes |
| | | | 39 | 2441 | 10.00 | 10.00 | | 10.50 | 10.50 | |
| | | | 78 | 2480 | 10.00 | 10.00 | | 10.50 | 10.50 | |
| Bluetooth $P_{high}$ | ANT5 | GFSK | 0 | 2402 | 20.00 | 20.00 | Yes | 16.50 | 16.50 | Yes |
| | | | 39 | 2441 | 20.00 | 20.00 | | 16.50 | 16.50 | |
| | | | 78 | 2480 | 20.00 | 20.00 | | 16.50 | 16.50 | |
| | ANT2 | GFSK | 0 | 2402 | 15.50 | 15.50 | Yes | 17.50 | 17.50 | Yes |
| | | | 39 | 2441 | 15.50 | 15.50 | | 17.50 | 17.50 | |
| | | | 78 | 2480 | 15.50 | 15.50 | | 17.50 | 17.50 | |
| Bluetooth $P_{standalone}$ | ANT5 | GFSK | 0 | 2402 | 20.00 | 20.00 | Yes | 19.00 | 19.00 | Yes |
| | | | 39 | 2441 | 20.00 | 20.00 | | 19.00 | 19.00 | |
| | | | 78 | 2480 | 20.00 | 20.00 | | 19.00 | 19.00 | |
| | ANT2 | GFSK | 0 | 2402 | 18.00 | 18.00 | Yes | 20.00 | 20.00 | Yes |
| | | | 39 | 2441 | 18.00 | 18.00 | | 20.00 | 20.00 | |
| | | | 78 | 2480 | 18.00 | 18.00 | | 20.00 | 20.00 | |

**Duty Factor Measured Results**

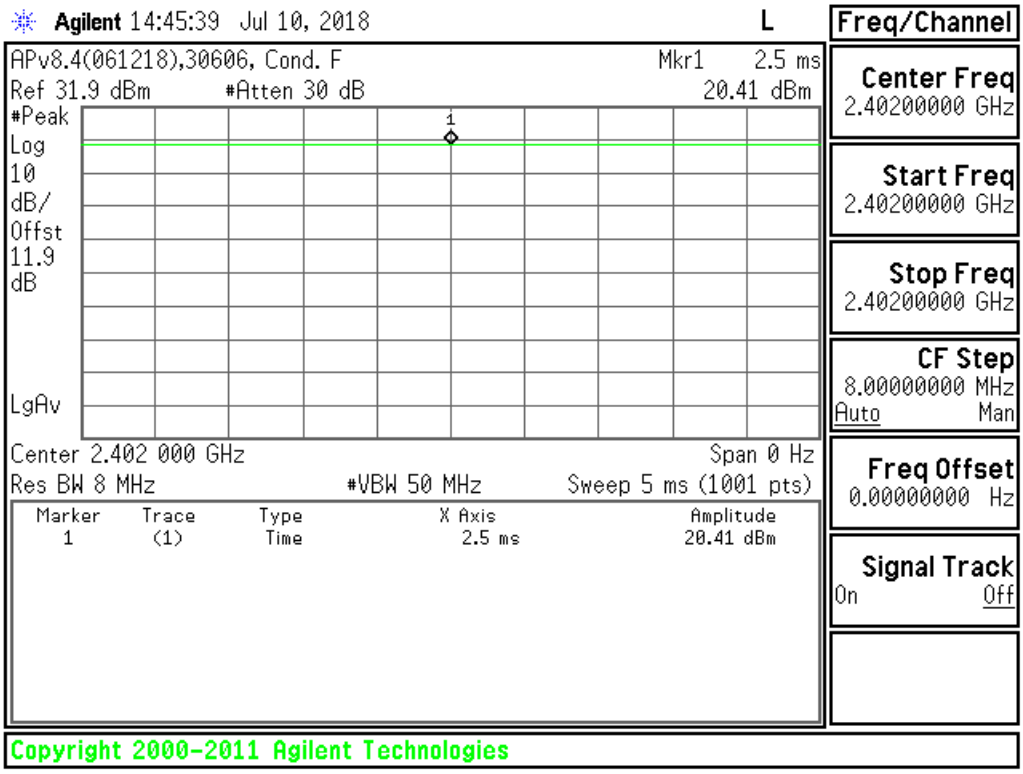
| Mode | Type | T on (ms) | Period (ms) | Duty Cycle | Crest Factor (1/duty cycle) |
|---|---|---|---|---|---|
| GFSK | DH5 | 1 | 1 | 100.00% | 1.00 |

**Note(s):**

Duty Cycle = (T on / period) * 100%

## Duty Cycle plots

GFSK



# 10. Measured and Reported (Scaled) SAR Results

SAR Testing was performed based on the power measurement results from Sec. 9. Output power from both power modes: Mode A and Mode B were applied for each respective antenna. Mode A power is used when the device is used against the user's head, or away from the body. Mode B is used when the device is used in a body-worn configuration by the user.

Test Tables were organized and labeled by antenna, ANT1 and ANT2 for WWAN technologies. And for Wi-Fi/Bluetooth technologies, Test Tables were organized and labeled by power configuration and antenna ANT2 and ANT5 (Wi-Fi/BT 2.4 GHz), ANT4 and ANT5 (Wi-Fi 5 GHz), Applicable SAR Test Reductions have been applied accordingly following the SAR KDB Procedure as follows:

**SAR Test Reduction criteria are as follows:**

- Reported SAR(W/kg) for WWAN = Measured SAR *Tune-up Scaling Factor
- Reported SAR(W/kg) for Wi-Fi and Bluetooth = Measured SAR * Tune-up scaling factor * Duty Cycle scaling factor
- Duty Cycle scaling factor = 1 / Duty cycle (%)

**Per October 2016 TCB Workshop for DUT Holder Perturbations:**

When the highest reported SAR of an antenna is > 1.2 W/kg for 1-g SAR and 3.0 W/kg for 10-g SAR, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands.

**KDB 447498 D01 General RF Exposure Guidance:**

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

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 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
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

**KDB 648474 D04 Handset SAR:**

With headset attached, when the reported SAR for body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.
Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.

**KDB 941225 D01 SAR test for 3G SAR Test Reduction Procedure:**

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

**GSM Guidance**

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Please refer to section 9. for GSM power verification.

SAR is not required for EDGE (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GPRS/EDGE (GMSK) or the adjusted SAR of the highest reported SAR of GPRS/EDGE (GMSK) is ≤ 1.2W/kg.

**W-CDMA Guidance**

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC (Head) and other spreading codes and multiple $DPDCH_n$ configurations supported by the handset with 12.2 kbps RMC (Body-Worn Accessory) as the primary mode.

SAR measurement is not required for the HSDPA, HSUPA, DC-HSDPA and $HSPA^+$. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

**CDMA 2000 Guidance**

SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55. The 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode

Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 D01 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration ($FCH+SCH_n$), with FCH only as the primary mode.

When VOIP is supported by Ev-Do devices for next to the ear use, head exposure SAR is required.

SAR measurement is not required for the 1xEVDO Rev. A, Rev. B and 1x-Advanced. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

**KDB 941225 D05 SAR for LTE Devices:**

SAR test reduction is applied using the following criteria:

- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
- Testing for 16-QAM and 64-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply. Please refer to section 6.3. is determiner non-overlapping channels for LTE bands.

**KDB 248227 D01 SAR meas for 802.11:**

When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

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

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

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.

- > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the ***initial test position*** to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the ***reported*** SAR is ≤ 0.8 W/kg or all required test positions are tested.
  - For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the ***initial test position*** and subsequent test positions, when the ***reported*** SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the ***reported*** SAR is ≤ 1.2 W/kg or all required test channels are considered.
  - The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.
- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

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

## 10.1. GSM850

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | GPRS 2 Slots | Mode A | 0 | Left Touch | 190 | 836.6 | 32.00 | 31.98 | 0.293 | 0.295 | 0.213 | 0.214 | 1 |
| | | | | | Left Tilt | 190 | 836.6 | 32.00 | 31.98 | 0.120 | 0.121 | 0.094 | 0.095 | |
| | | | | | Right Touch | 190 | 836.6 | 32.00 | 31.98 | 0.251 | 0.252 | 0.195 | 0.196 | |
| | | | | | Right Tilt | 190 | 836.6 | 32.00 | 31.98 | 0.140 | 0.141 | 0.110 | 0.111 | |
| | Body & Hotspot | GPRS 2 Slots | Mode B | 5 | Rear | 190 | 836.6 | 32.00 | 31.98 | 0.720 | 0.724 | 0.436 | 0.438 | 2 |
| | | | | | Front | 190 | 836.6 | 32.00 | 31.98 | 0.176 | 0.177 | 0.111 | 0.112 | |
| | Hotspot | GPRS 2 Slots | Mode B | 5 | Edge 2 | 190 | 836.6 | 32.00 | 31.98 | 0.139 | 0.140 | 0.091 | 0.092 | |
| | | | | | Edge 3 | 190 | 836.6 | 32.00 | 31.98 | 0.198 | 0.199 | 0.098 | 0.099 | |
| | | | | | Edge 4 | 190 | 836.6 | 32.00 | 31.98 | 0.349 | 0.351 | 0.228 | 0.229 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | GPRS 2 Slots | Mode A | 0 | Left Touch | 190 | 836.6 | 30.00 | 29.98 | 0.417 | 0.419 | 0.297 | 0.298 | 3 |
| | | | | | Left Tilt | 190 | 836.6 | 30.00 | 29.98 | 0.386 | 0.388 | 0.194 | 0.195 | |
| | | | | | Right Touch | 190 | 836.6 | 30.00 | 29.98 | 0.359 | 0.360 | 0.214 | 0.215 | |
| | | | | | Right Tilt | 190 | 836.6 | 30.00 | 29.98 | 0.285 | 0.286 | 0.157 | 0.158 | |
| | Body & Hotspot | GPRS 2 Slots | Mode B | 5 | Rear | 190 | 836.6 | 30.00 | 29.98 | 0.296 | 0.297 | 0.160 | 0.161 | 4 |
| | | | | | Front | 190 | 836.6 | 30.00 | 29.98 | 0.205 | 0.206 | 0.118 | 0.118 | |
| | Hotspot | GPRS 2 Slots | Mode B | 5 | Edge 1 | 190 | 836.6 | 30.00 | 29.98 | 0.259 | 0.260 | 0.124 | 0.124 | |
| | | | | | Edge 2 | 190 | 836.6 | 30.00 | 29.98 | 0.336 | 0.337 | 0.217 | 0.218 | 5 |
| | | | | | Edge 4 | 190 | 836.6 | 30.00 | 29.98 | 0.135 | 0.136 | 0.086 | 0.087 | |

## 10.2. GSM1900

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | GPRS 2 Slots | Mode A | 0 | Left Touch | 661 | 1880.0 | 30.50 | 30.41 | 0.281 | 0.287 | 0.173 | 0.177 | |
| | | | | | Left Tilt | 661 | 1880.0 | 30.50 | 30.41 | 0.195 | 0.199 | 0.111 | 0.113 | |
| | | | | | Right Touch | 661 | 1880.0 | 30.50 | 30.41 | 0.300 | 0.306 | 0.193 | 0.197 | 6 |
| | | | | | Right Tilt | 661 | 1880.0 | 30.50 | 30.41 | 0.282 | 0.288 | 0.163 | 0.166 | |
| | Body & Hotspot | GPRS 2 Slots | Mode B | 5 | Rear | 512 | 1850.2 | 26.50 | 26.40 | 1.070 | 1.095 | 0.537 | 0.549 | 7 |
| | | | | | | 661 | 1880.0 | 26.50 | 26.44 | 1.040 | 1.055 | 0.517 | 0.525 | |
| | | | | | | 810 | 1909.8 | 26.50 | 26.43 | 1.050 | 1.067 | 0.514 | 0.522 | |
| | | | | | Front | 661 | 1880.0 | 26.50 | 26.44 | 0.627 | 0.636 | 0.328 | 0.333 | |
| | Hotspot | GPRS 2 Slots | Mode B | 5 | Edge 2 | 661 | 1880.0 | 26.50 | 26.44 | 0.411 | 0.417 | 0.223 | 0.226 | |
| | | | | | Edge 3 | 661 | 1880.0 | 26.50 | 26.44 | 0.713 | 0.723 | 0.318 | 0.323 | |
| | | | | | Edge 4 | 661 | 1880.0 | 26.50 | 26.44 | 0.080 | 0.081 | 0.045 | 0.046 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | GPRS 2 Slots | Mode A | 0 | Left Touch | 661 | 1880.0 | 26.00 | 25.95 | 0.281 | 0.284 | 0.148 | 0.150 | |
| | | | | | Left Tilt | 661 | 1880.0 | 26.00 | 25.95 | 0.384 | 0.388 | 0.188 | 0.190 | |
| | | | | | Right Touch | 512 | 1850.2 | 26.00 | 25.95 | 0.749 | 0.758 | 0.385 | 0.390 | |
| | | | | | | 661 | 1880.0 | 26.00 | 25.95 | 0.782 | 0.790 | 0.395 | 0.399 | |
| | | | | | | 810 | 1909.8 | 26.00 | 25.88 | 0.845 | 0.869 | 0.416 | 0.428 | |
| | | | | | Right Tilt | 512 | 1850.2 | 26.00 | 25.95 | 0.740 | 0.749 | 0.340 | 0.344 | |
| | | | | | | 661 | 1880.0 | 26.00 | 25.95 | 0.799 | 0.807 | 0.364 | 0.368 | |
| | | | | | | 810 | 1909.8 | 26.00 | 25.88 | 0.853 | 0.877 | 0.385 | 0.396 | 8 |
| | Body & Hotspot | GPRS 2 Slots | Mode B | 5 | Rear | 512 | 1850.2 | 26.00 | 25.95 | 0.780 | 0.789 | 0.380 | 0.385 | |
| | | | | | | 661 | 1880.0 | 26.00 | 25.95 | 0.815 | 0.824 | 0.376 | 0.380 | |
| | | | | | | 810 | 1909.8 | 26.00 | 25.88 | 0.872 | 0.896 | 0.417 | 0.429 | 9 |
| | | | | | Front | 661 | 1880.0 | 26.00 | 25.95 | 0.405 | 0.409 | 0.204 | 0.206 | |
| | Hotspot | GPRS 2 Slots | Mode B | 5 | Edge 1 | 661 | 1880.0 | 26.00 | 25.95 | 0.515 | 0.520 | 0.219 | 0.221 | |
| | | | | | Edge 2 | 661 | 1880.0 | 26.00 | 25.95 | 0.165 | 0.167 | 0.091 | 0.092 | |
| | | | | | Edge 4 | 661 | 1880.0 | 26.00 | 25.95 | 0.409 | 0.413 | 0.213 | 0.215 | |

## 10.3. W-CDMA Band 2

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | Rel 99 RMC 12.2 kbps | Mode A | 0 | Left Touch | 9400 | 1880.0 | 25.50 | 25.25 | 0.342 | 0.362 | 0.218 | 0.231 | |
| | | | | | Left Tilt | 9400 | 1880.0 | 25.50 | 25.25 | 0.252 | 0.267 | 0.143 | 0.151 | |
| | | | | | Right Touch | 9400 | 1880.0 | 25.50 | 25.25 | 0.391 | 0.414 | 0.252 | 0.267 | 10 |
| | | | | | Right Tilt | 9400 | 1880.0 | 25.50 | 25.25 | 0.338 | 0.358 | 0.194 | 0.205 | |
| | Body & Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Rear | 9262 | 1852.4 | 20.00 | 19.77 | 0.933 | 0.985 | 0.456 | 0.481 | |
| | | | | | | 9400 | 1880.0 | 20.00 | 19.76 | 0.966 | 1.021 | 0.469 | 0.495 | |
| | | | | | | 9538 | 1907.6 | 20.00 | 19.70 | 0.985 | 1.056 | 0.465 | 0.499 | 11 |
| | | | | | Front | 9400 | 1880.0 | 20.00 | 19.76 | 0.520 | 0.549 | 0.278 | 0.294 | |
| | Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Edge 2 | 9400 | 1880.0 | 20.00 | 19.76 | 0.359 | 0.379 | 0.196 | 0.207 | |
| | | | | | Edge 3 | 9400 | 1880.0 | 20.00 | 19.76 | 0.649 | 0.686 | 0.289 | 0.305 | |
| | | | | | Edge 4 | 9400 | 1880.0 | 20.00 | 19.76 | 0.114 | 0.120 | 0.063 | 0.067 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | Rel 99 RMC 12.2 kbps | Mode A | 0 | Left Touch | 9400 | 1880.0 | 19.50 | 19.14 | 0.227 | 0.246 | 0.118 | 0.128 | |
| | | | | | Left Tilt | 9400 | 1880.0 | 19.50 | 19.14 | 0.272 | 0.295 | 0.136 | 0.148 | |
| | | | | | Right Touch | 9262 | 1852.4 | 19.50 | 19.28 | 0.764 | 0.804 | 0.391 | 0.412 | |
| | | | | | | 9400 | 1880.0 | 19.50 | 19.14 | 0.762 | 0.827 | 0.383 | 0.416 | |
| | | | | | | 9538 | 1907.6 | 19.50 | 19.21 | 0.779 | 0.832 | 0.383 | 0.409 | |
| | | | | | Right Tilt | 9262 | 1852.4 | 19.50 | 19.28 | 0.745 | 0.784 | 0.345 | 0.363 | |
| | | | | | | 9400 | 1880.0 | 19.50 | 19.14 | 0.752 | 0.816 | 0.345 | 0.374 | |
| | | | | | | 9538 | 1907.6 | 19.50 | 19.21 | 0.781 | 0.834 | 0.353 | 0.377 | 12 |
| | Body & Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Rear | 9262 | 1852.4 | 19.20 | 18.97 | 0.723 | 0.762 | 0.352 | 0.371 | |
| | | | | | | 9400 | 1880.0 | 19.20 | 18.88 | 0.703 | 0.757 | 0.339 | 0.365 | |
| | | | | | | 9538 | 1907.6 | 19.20 | 18.91 | 0.711 | 0.761 | 0.335 | 0.358 | 13 |
| | | | | | Front | 9400 | 1880.0 | 19.20 | 18.88 | 0.352 | 0.379 | 0.177 | 0.191 | |
| | Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Edge 1 | 9400 | 1880.0 | 19.20 | 18.88 | 0.498 | 0.536 | 0.204 | 0.220 | |
| | | | | | Edge 2 | 9400 | 1880.0 | 19.20 | 18.88 | 0.102 | 0.110 | 0.054 | 0.058 | |
| | | | | | Edge 4 | 9400 | 1880.0 | 19.20 | 18.88 | 0.413 | 0.445 | 0.221 | 0.238 | |

## 10.4. W-CDMA Band 4

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | Rel 99 RMC 12.2 kbps | Mode A | 0 | Left Touch | 1413 | 1732.6 | 25.50 | 25.37 | 0.389 | 0.401 | 0.251 | 0.259 | 14 |
| | | | | | Left Tilt | 1413 | 1732.6 | 25.50 | 25.37 | 0.209 | 0.216 | 0.122 | 0.126 | |
| | | | | | Right Touch | 1413 | 1732.6 | 25.50 | 25.37 | 0.231 | 0.238 | 0.151 | 0.156 | |
| | | | | | Right Tilt | 1413 | 1732.6 | 25.50 | 25.37 | 0.196 | 0.202 | 0.122 | 0.126 | |
| | Body & Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Rear | 1312 | 1712.4 | 21.00 | 20.80 | 0.675 | 0.707 | 0.364 | 0.381 | |
| | | | | | | 1413 | 1732.6 | 21.00 | 20.90 | 0.894 | 0.915 | 0.458 | 0.469 | |
| | | | | | | 1513 | 1752.6 | 21.00 | 20.90 | 0.995 | 1.018 | 0.469 | 0.480 | 15 |
| | | | | | Front | 1413 | 1732.6 | 21.00 | 20.90 | 0.463 | 0.474 | 0.255 | 0.261 | |
| | Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Edge 2 | 1413 | 1732.6 | 21.00 | 20.90 | 0.247 | 0.253 | 0.134 | 0.137 | |
| | | | | | Edge 3 | 1413 | 1732.6 | 21.00 | 20.90 | 0.039 | 0.040 | 0.021 | 0.021 | |
| | | | | | Edge 4 | 1413 | 1732.6 | 21.00 | 20.90 | 0.306 | 0.313 | 0.170 | 0.174 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | Rel 99 RMC 12.2 kbps | Mode A | 0 | Left Touch | 1413 | 1732.6 | 20.70 | 20.52 | 0.338 | 0.353 | 0.184 | 0.192 | |
| | | | | | Left Tilt | 1413 | 1732.6 | 20.70 | 20.52 | 0.418 | 0.436 | 0.227 | 0.237 | |
| | | | | | Right Touch | 1312 | 1712.4 | 20.70 | 20.59 | 0.768 | 0.788 | 0.397 | 0.407 | |
| | | | | | | 1413 | 1732.6 | 20.70 | 20.52 | 0.778 | 0.812 | 0.403 | 0.420 | |
| | | | | | | 1513 | 1752.6 | 20.70 | 20.63 | 0.829 | 0.842 | 0.425 | 0.431 | 16 |
| | | | | | Right Tilt | 1413 | 1732.6 | 20.70 | 20.52 | 0.766 | 0.799 | 0.371 | 0.387 | |
| | Body & Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Rear | 1413 | 1732.6 | 21.50 | 21.40 | 0.710 | 0.727 | 0.356 | 0.364 | 17 |
| | | | | | Front | 1413 | 1732.6 | 21.50 | 21.40 | 0.435 | 0.445 | 0.229 | 0.234 | |
| | Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Edge 1 | 1413 | 1732.6 | 21.50 | 21.40 | 0.401 | 0.410 | 0.185 | 0.189 | |
| | | | | | Edge 2 | 1413 | 1732.6 | 21.50 | 21.40 | 0.043 | 0.044 | 0.024 | 0.025 | |
| | | | | | Edge 4 | 1413 | 1732.6 | 21.50 | 21.40 | 0.467 | 0.478 | 0.259 | 0.265 | |

## 10.5. W-CDMA Band 5

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | Rel 99 RMC 12.2 kbps | Mode A | 0 | Left Touch | 4183 | 836.6 | 25.50 | 25.20 | 0.080 | 0.086 | 0.062 | 0.066 | |
| | | | | | Left Tilt | 4183 | 836.6 | 25.50 | 25.20 | 0.149 | 0.160 | 0.116 | 0.124 | |
| | | | | | Right Touch | 4183 | 836.6 | 25.50 | 25.20 | 0.298 | 0.319 | 0.225 | 0.241 | 18 |
| | | | | | RighttTilt | 4183 | 836.6 | 25.50 | 25.20 | 0.085 | 0.091 | 0.065 | 0.070 | |
| | Body & Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Rear | 4132 | 826.4 | 25.50 | 25.30 | 0.775 | 0.812 | 0.472 | 0.494 | |
| | | | | | | 4183 | 836.6 | 25.50 | 25.20 | 0.823 | 0.882 | 0.502 | 0.538 | |
| | | | | | | 4233 | 846.6 | 25.50 | 25.20 | 0.882 | 0.945 | 0.536 | 0.574 | 19 |
| | | | | | Front | 4183 | 836.6 | 25.50 | 25.20 | 0.331 | 0.355 | 0.206 | 0.221 | |
| | Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Edge 2 | 4183 | 836.6 | 25.50 | 25.20 | 0.225 | 0.241 | 0.146 | 0.156 | |
| | | | | | Edge 3 | 4183 | 836.6 | 25.50 | 25.20 | 0.417 | 0.447 | 0.205 | 0.220 | |
| | | | | | Edge 4 | 4183 | 836.6 | 25.50 | 25.20 | 0.740 | 0.793 | 0.483 | 0.518 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | Rel 99 RMC 12.2 kbps | Mode A | 0 | Left Touch | 4183 | 836.6 | 24.20 | 24.12 | 0.483 | 0.492 | 0.315 | 0.321 | 20 |
| | | | | | Left Tilt | 4183 | 836.6 | 24.20 | 24.12 | 0.430 | 0.438 | 0.224 | 0.228 | |
| | | | | | Right Touch | 4183 | 836.6 | 24.20 | 24.12 | 0.465 | 0.473 | 0.280 | 0.285 | |
| | | | | | Right Tilt | 4183 | 836.6 | 24.20 | 24.12 | 0.368 | 0.375 | 0.205 | 0.209 | |
| | Body & Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Rear | 4183 | 836.6 | 24.20 | 24.12 | 0.430 | 0.438 | 0.236 | 0.240 | 21 |
| | | | | | Front | 4183 | 836.6 | 24.20 | 24.12 | 0.326 | 0.332 | 0.182 | 0.185 | |
| | Hotspot | Rel 99 RMC 12.2 kbps | Mode B | 5 | Edge 1 | 4183 | 836.6 | 24.20 | 24.12 | 0.372 | 0.379 | 0.176 | 0.179 | |
| | | | | | Edge 2 | 4183 | 836.6 | 24.20 | 24.12 | 0.417 | 0.424 | 0.269 | 0.274 | |
| | | | | | Edge 4 | 4183 | 836.6 | 24.20 | 24.12 | 0.077 | 0.078 | 0.042 | 0.043 | |

## 10.6. CDMA BC0

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | 1xRTT RC3 SO55 | Mode A | 0 | Left Touch | 384 | 836.5 | 25.50 | 25.20 | 0.367 | 0.393 | 0.276 | 0.296 | 22 |
| | | | | | Left Tilt | 384 | 836.5 | 25.50 | 25.20 | 0.148 | 0.159 | 0.114 | 0.122 | |
| | | | | | Right Touch | 384 | 836.5 | 25.50 | 25.20 | 0.313 | 0.335 | 0.233 | 0.250 | |
| | | | | | Right Tilt | 384 | 836.5 | 25.50 | 25.20 | 0.183 | 0.196 | 0.140 | 0.150 | |
| | | 1xEVDO Rel. 0 | Mode A | 0 | Left Touch | 384 | 836.5 | 25.50 | 25.20 | 0.345 | 0.370 | 0.248 | 0.266 | |
| | | | | | Left Tilt | 384 | 836.5 | 25.50 | 25.20 | 0.173 | 0.185 | 0.133 | 0.143 | |
| | | | | | Right Touch | 384 | 836.5 | 25.50 | 25.20 | 0.307 | 0.329 | 0.232 | 0.249 | |
| | | | | | Right Tilt | 384 | 836.5 | 25.50 | 25.20 | 0.158 | 0.169 | 0.124 | 0.133 | |
| | Body & Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Rear | 384 | 836.5 | 25.50 | 25.20 | 0.704 | 0.754 | 0.423 | 0.453 | 23 |
| | | | | | Front | 384 | 836.5 | 25.50 | 25.20 | 0.362 | 0.388 | 0.224 | 0.240 | |
| | Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Edge 2 | 384 | 836.5 | 25.50 | 25.20 | 0.280 | 0.300 | 0.182 | 0.195 | |
| | | | | | Edge 3 | 384 | 836.5 | 25.50 | 25.20 | 0.352 | 0.377 | 0.176 | 0.189 | |
| | | | | | Edge 4 | 384 | 836.5 | 25.50 | 25.20 | 0.739 | 0.792 | 0.479 | 0.513 | 24 |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | 1xRTT RC3 SO55 | Mode A | 0 | Left Touch | 384 | 836.5 | 24.20 | 24.00 | 0.706 | 0.739 | 0.477 | 0.499 | 25 |
| | | | | | Left Tilt | 384 | 836.5 | 24.20 | 24.00 | 0.626 | 0.656 | 0.321 | 0.336 | |
| | | | | | Right Touch | 384 | 836.5 | 24.20 | 24.00 | 0.617 | 0.646 | 0.372 | 0.390 | |
| | | | | | Right Tilt | 384 | 836.5 | 24.20 | 24.00 | 0.535 | 0.560 | 0.294 | 0.308 | |
| | | 1xEVDO Rel. 0 | Mode A | 0 | Left Touch | 384 | 836.5 | 24.20 | 24.00 | 0.296 | 0.310 | 0.224 | 0.235 | |
| | | | | | Left Tilt | 384 | 836.5 | 24.20 | 24.00 | 0.140 | 0.147 | 0.107 | 0.112 | |
| | | | | | Right Touch | 384 | 836.5 | 24.20 | 24.00 | 0.326 | 0.341 | 0.242 | 0.253 | |
| | | | | | Right Tilt | 384 | 836.5 | 24.20 | 24.00 | 0.186 | 0.195 | 0.143 | 0.150 | |
| | Body & Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Rear | 384 | 836.5 | 24.20 | 24.00 | 0.563 | 0.590 | 0.303 | 0.317 | 26 |
| | | | | | Front | 384 | 836.5 | 24.20 | 24.00 | 0.423 | 0.443 | 0.239 | 0.250 | |
| | Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Edge 1 | 384 | 836.5 | 24.20 | 24.00 | 0.577 | 0.604 | 0.270 | 0.283 | 27 |
| | | | | | Edge 2 | 384 | 836.5 | 24.20 | 24.00 | 0.509 | 0.533 | 0.330 | 0.346 | |
| | | | | | Edge 4 | 384 | 836.5 | 24.20 | 24.00 | 0.129 | 0.135 | 0.083 | 0.087 | |

## 10.7. CDMA BC1

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | 1xRTT RC3 SO55 | Mode A | 0 | Left Touch | 600 | 1880.0 | 25.50 | 25.00 | 0.375 | 0.421 | 0.244 | 0.274 | |
| | | | | | Left Tilt | 600 | 1880.0 | 25.50 | 25.00 | 0.293 | 0.329 | 0.167 | 0.187 | |
| | | | | | Right Touch | 600 | 1880.0 | 25.50 | 25.00 | 0.428 | 0.480 | 0.276 | 0.310 | |
| | | | | | Right Tilt | 600 | 1880.0 | 25.50 | 25.00 | 0.342 | 0.384 | 0.202 | 0.227 | |
| | | 1xEVDO Rel. 0 | Mode A | 0 | Left Touch | 600 | 1880.0 | 25.50 | 25.00 | 0.329 | 0.369 | 0.216 | 0.242 | |
| | | | | | Left Tilt | 600 | 1880.0 | 25.50 | 25.00 | 0.267 | 0.300 | 0.148 | 0.166 | |
| | | | | | Right Touch | 600 | 1880.0 | 25.50 | 25.00 | 0.453 | 0.508 | 0.284 | 0.319 | 28 |
| | | | | | Right Tilt | 600 | 1880.0 | 25.50 | 25.00 | 0.273 | 0.306 | 0.164 | 0.184 | |
| | Body & Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Rear | 25 | 1851.3 | 20.00 | 19.90 | 1.020 | 1.044 | 0.498 | 0.510 | |
| | | | | | | 600 | 1880.0 | 20.00 | 19.90 | 1.040 | 1.064 | 0.506 | 0.518 | 29 |
| | | | | | | 1175 | 1908.8 | 20.00 | 19.90 | 1.020 | 1.044 | 0.483 | 0.494 | |
| | | | | | Front | 600 | 1880.0 | 20.00 | 19.90 | 0.552 | 0.565 | 0.291 | 0.298 | |
| | Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Edge 2 | 600 | 1880.0 | 20.00 | 19.90 | 0.455 | 0.466 | 0.242 | 0.248 | |
| | | | | | Edge 3 | 600 | 1880.0 | 20.00 | 19.90 | 0.735 | 0.752 | 0.323 | 0.331 | |
| | | | | | Edge 4 | 600 | 1880.0 | 20.00 | 19.90 | 0.134 | 0.137 | 0.075 | 0.077 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | 1xRTT RC3 SO55 | Mode A | 0 | Left Touch | 600 | 1880.0 | 19.50 | 19.30 | 0.295 | 0.309 | 0.153 | 0.160 | |
| | | | | | Left Tilt | 600 | 1880.0 | 19.50 | 19.30 | 0.295 | 0.309 | 0.144 | 0.151 | |
| | | | | | Right Touch | 25 | 1851.3 | 19.50 | 19.40 | 0.800 | 0.819 | 0.408 | 0.418 | |
| | | | | | | 600 | 1880.0 | 19.50 | 19.30 | 0.789 | 0.826 | 0.394 | 0.413 | |
| | | | | | | 1175 | 1908.8 | 19.50 | 19.30 | 0.794 | 0.831 | 0.389 | 0.407 | |
| | | | | | Right Tilt | 25 | 1851.3 | 19.50 | 19.40 | 0.790 | 0.808 | 0.361 | 0.369 | |
| | | | | | | 600 | 1880.0 | 19.50 | 19.30 | 0.788 | 0.825 | 0.356 | 0.373 | |
| | | | | | | 1175 | 1908.8 | 19.50 | 19.30 | 0.816 | 0.854 | 0.363 | 0.380 | |
| | | 1xEVDO Rel. 0 | Mode A | 0 | Left Touch | 600 | 1880.0 | 19.50 | 19.30 | 0.094 | 0.098 | 0.060 | 0.062 | |
| | | | | | Left Tilt | 600 | 1880.0 | 19.50 | 19.30 | 0.063 | 0.066 | 0.037 | 0.039 | |
| | | | | | Right Touch | 25 | 1851.3 | 19.50 | 19.40 | 0.807 | 0.826 | 0.402 | 0.411 | |
| | | | | | | 600 | 1880.0 | 19.50 | 19.30 | 0.795 | 0.832 | 0.395 | 0.414 | |
| | | | | | | 1175 | 1908.8 | 19.50 | 19.30 | 0.798 | 0.836 | 0.387 | 0.405 | |
| | | | | | Right Tilt | 25 | 1851.3 | 19.50 | 19.40 | 0.810 | 0.829 | 0.359 | 0.367 | |
| | | | | | | 600 | 1880.0 | 19.50 | 19.30 | 0.798 | 0.836 | 0.352 | 0.369 | |
| | | | | | | 1175 | 1908.8 | 19.50 | 19.30 | 0.832 | 0.871 | 0.362 | 0.379 | 30 |
| | Body & Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Rear | 600 | 1880.0 | 19.20 | 19.00 | 0.753 | 0.788 | 0.362 | 0.379 | 31 |
| | | | | | Front | 600 | 1880.0 | 19.20 | 19.00 | 0.456 | 0.477 | 0.230 | 0.241 | |
| | Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Edge 1 | 600 | 1880.0 | 19.20 | 19.00 | 0.465 | 0.487 | 0.196 | 0.205 | |
| | | | | | Edge 2 | 600 | 1880.0 | 19.20 | 19.00 | 0.082 | 0.086 | 0.045 | 0.047 | |
| | | | | | Edge 4 | 600 | 1880.0 | 19.20 | 19.00 | 0.374 | 0.392 | 0.199 | 0.208 | |

## 10.8. CDMA BC10

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | 1xRTT RC3 SO55 | Mode A | 0 | Left Touch | 560 | 820.0 | 25.50 | 25.40 | 0.247 | 0.253 | 0.188 | 0.192 | |
| | | | | | Left Tilt | 560 | 820.0 | 25.50 | 25.40 | 0.119 | 0.122 | 0.092 | 0.094 | |
| | | | | | Right Touch | 560 | 820.0 | 25.50 | 25.40 | 0.216 | 0.221 | 0.163 | 0.167 | |
| | | | | | Right Tilt | 560 | 820.0 | 25.50 | 25.40 | 0.120 | 0.123 | 0.094 | 0.096 | |
| | | 1xEVDO Rel. 0 | Mode A | 0 | Left Touch | 560 | 820.0 | 25.50 | 25.40 | 0.259 | 0.265 | 0.194 | 0.199 | 32 |
| | | | | | Left Tilt | 560 | 820.0 | 25.50 | 25.40 | 0.139 | 0.142 | 0.109 | 0.112 | |
| | | | | | Right Touch | 560 | 820.0 | 25.50 | 25.40 | 0.198 | 0.203 | 0.157 | 0.161 | |
| | | | | | Right Tilt | 560 | 820.0 | 25.50 | 25.40 | 0.122 | 0.125 | 0.094 | 0.096 | |
| | Body & Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Rear | 450 | 817.3 | 25.50 | 25.30 | 0.507 | 0.531 | 0.314 | 0.329 | |
| | | | | | | 560 | 820.0 | 25.50 | 25.40 | 0.845 | 0.865 | 0.495 | 0.507 | 33 |
| | | | | | | 670 | 822.8 | 25.50 | 25.40 | 0.537 | 0.550 | 0.331 | 0.339 | |
| | | | | | Front | 560 | 820.0 | 25.50 | 25.40 | 0.388 | 0.397 | 0.243 | 0.249 | |
| | Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Edge 2 | 560 | 820.0 | 25.50 | 25.40 | 0.242 | 0.248 | 0.159 | 0.163 | |
| | | | | | Edge 3 | 560 | 820.0 | 25.50 | 25.40 | 0.319 | 0.326 | 0.163 | 0.167 | |
| | | | | | Edge 4 | 560 | 820.0 | 25.50 | 25.40 | 0.587 | 0.601 | 0.384 | 0.393 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | 1xRTT RC3 SO55 | Mode A | 0 | Left Touch | 560 | 820.0 | 24.20 | 24.10 | 0.680 | 0.696 | 0.457 | 0.468 | |
| | | | | | Left Tilt | 560 | 820.0 | 24.20 | 24.10 | 0.604 | 0.618 | 0.323 | 0.331 | |
| | | | | | Right Touch | 560 | 820.0 | 24.20 | 24.10 | 0.626 | 0.641 | 0.380 | 0.389 | |
| | | | | | Right Tilt | 560 | 820.0 | 24.20 | 24.10 | 0.547 | 0.560 | 0.300 | 0.307 | |
| | | 1xEVDO Rel. 0 | Mode A | 0 | Left Touch | 560 | 820.0 | 24.20 | 24.10 | 0.530 | 0.542 | 0.342 | 0.350 | |
| | | | | | Left Tilt | 560 | 820.0 | 24.20 | 24.10 | 0.582 | 0.596 | 0.308 | 0.315 | |
| | | | | | Right Touch | 560 | 820.0 | 24.20 | 24.10 | 0.687 | 0.703 | 0.422 | 0.432 | |
| | | | | | Right Tilt | 560 | 820.0 | 24.20 | 24.10 | 0.705 | 0.721 | 0.385 | 0.394 | 34 |
| | Body & Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Rear | 560 | 820.0 | 24.20 | 24.10 | 0.642 | 0.657 | 0.353 | 0.361 | 35 |
| | | | | | Front | 560 | 820.0 | 24.20 | 24.10 | 0.515 | 0.527 | 0.299 | 0.306 | |
| | Hotspot | 1xRTT RC3 SO32 | Mode B | 5 | Edge 1 | 560 | 820.0 | 24.20 | 24.10 | 0.519 | 0.531 | 0.253 | 0.259 | |
| | | | | | Edge 2 | 560 | 820.0 | 24.20 | 24.10 | 0.555 | 0.568 | 0.365 | 0.374 | |
| | | | | | Edge 4 | 560 | 820.0 | 24.20 | 24.10 | 0.170 | 0.174 | 0.111 | 0.114 | |

# 10.9. LTE Band 7 (20MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 21100 | 2535.0 | 1 | 49 | 25.50 | 25.44 | 0.502 | 0.509 | 0.261 | 0.265 | 36 |
| | | | | | | | | 50 | 24 | 24.50 | 24.42 | 0.498 | 0.507 | 0.259 | 0.264 | |
| | | | | | Left Tilt | 21100 | 2535.0 | 1 | 49 | 25.50 | 25.44 | 0.128 | 0.130 | 0.067 | 0.068 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.42 | 0.129 | 0.131 | 0.068 | 0.069 | |
| | | | | | Right Touch | 21100 | 2535.0 | 1 | 49 | 25.50 | 25.44 | 0.242 | 0.245 | 0.135 | 0.137 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.42 | 0.237 | 0.241 | 0.131 | 0.133 | |
| | | | | | Right Tilt | 21100 | 2535.0 | 1 | 49 | 25.50 | 25.44 | 0.204 | 0.207 | 0.105 | 0.106 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.42 | 0.203 | 0.207 | 0.103 | 0.105 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 20850 | 2510.0 | 1 | 49 | 21.00 | 20.95 | 0.949 | 0.959 | 0.434 | 0.439 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.98 | 0.957 | 0.962 | 0.438 | 0.440 | |
| | | | | | | 21100 | 2535.0 | 1 | 49 | 21.00 | 20.92 | 1.030 | 1.049 | 0.465 | 0.473 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.92 | 1.030 | 1.050 | 0.460 | 0.469 | |
| | | | | | | | | 100 | 0 | 21.00 | 20.95 | 1.050 | 1.062 | 0.469 | 0.474 | |
| | | | | | | 21350 | 2560.0 | 1 | 49 | 21.00 | 20.90 | 1.070 | 1.095 | 0.501 | 0.513 | 37 |
| | | | | | | | | 50 | 24 | 21.00 | 20.95 | 1.080 | 1.094 | 0.504 | 0.510 | |
| | | | | | Front | 21100 | 2535.0 | 1 | 49 | 21.00 | 20.92 | 0.617 | 0.628 | 0.284 | 0.289 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.92 | 0.620 | 0.632 | 0.285 | 0.290 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 21100 | 2535.0 | 1 | 49 | 21.00 | 20.92 | 0.040 | 0.041 | 0.021 | 0.021 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.92 | 0.037 | 0.038 | 0.019 | 0.019 | |
| | | | | | Edge 3 | 21100 | 2535.0 | 1 | 49 | 21.00 | 20.92 | 0.554 | 0.564 | 0.203 | 0.207 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.92 | 0.552 | 0.563 | 0.201 | 0.205 | |
| | | | | | Edge 4 | 20850 | 2510.0 | 1 | 49 | 21.00 | 20.95 | 0.970 | 0.980 | 0.424 | 0.428 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.98 | 1.030 | 1.035 | 0.454 | 0.456 | |
| | | | | | | 21100 | 2535.0 | 1 | 49 | 21.00 | 20.92 | 0.797 | 0.811 | 0.345 | 0.351 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.92 | 0.856 | 0.872 | 0.365 | 0.372 | |
| | | | | | | | | 100 | 0 | 21.00 | 20.95 | 0.775 | 0.784 | 0.340 | 0.344 | |
| | | | | | | 21350 | 2560.0 | 1 | 49 | 21.00 | 20.90 | 0.859 | 0.879 | 0.381 | 0.390 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.95 | 0.974 | 0.986 | 0.416 | 0.421 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 20850 | 2510.0 | 1 | 49 | 19.70 | 19.70 | 0.808 | 0.808 | 0.343 | 0.343 | 38 |
| | | | | | | 21100 | 2535.0 | 1 | 49 | 19.70 | 19.45 | 0.763 | 0.808 | 0.324 | 0.343 | |
| | | | | | | | | 50 | 24 | 19.70 | 19.50 | 0.737 | 0.772 | 0.312 | 0.327 | |
| | | | | | | 21350 | 2560.0 | 1 | 49 | 19.70 | 19.50 | 0.710 | 0.743 | 0.299 | 0.313 | |
| | | | | | Left Tilt | 21100 | 2535.0 | 1 | 49 | 19.70 | 19.45 | 0.672 | 0.712 | 0.268 | 0.284 | |
| | | | | | | | | 50 | 24 | 19.70 | 19.50 | 0.672 | 0.704 | 0.267 | 0.280 | |
| | | | | | Right Touch | 21100 | 2535.0 | 1 | 49 | 19.70 | 19.45 | 0.442 | 0.468 | 0.204 | 0.216 | |
| | | | | | | | | 50 | 24 | 19.70 | 19.50 | 0.427 | 0.447 | 0.196 | 0.205 | |
| | | | | | Right Tilt | 21100 | 2535.0 | 1 | 49 | 19.70 | 19.45 | 0.516 | 0.547 | 0.225 | 0.238 | |
| | | | | | | | | 50 | 24 | 19.70 | 19.50 | 0.508 | 0.532 | 0.221 | 0.231 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 20850 | 2510.0 | 1 | 49 | 21.50 | 21.50 | 0.611 | 0.611 | 0.266 | 0.266 | |
| | | | | | | 21100 | 2535.0 | 1 | 49 | 21.50 | 21.49 | 0.894 | 0.896 | 0.376 | 0.377 | 39 |
| | | | | | | | | 50 | 24 | 21.50 | 21.50 | 0.783 | 0.783 | 0.335 | 0.335 | |
| | | | | | | 21350 | 2560 | 1 | 49 | 21.50 | 21.30 | 0.688 | 0.720 | 0.289 | 0.303 | |
| | | | | | Front | 21100 | 2535.0 | 1 | 49 | 21.50 | 21.49 | 0.515 | 0.516 | 0.217 | 0.217 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.50 | 0.545 | 0.545 | 0.227 | 0.227 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 21100 | 2535.0 | 1 | 49 | 21.50 | 21.49 | 0.465 | 0.466 | 0.200 | 0.200 | |
| | | | | | | | | 1 | 49 | 21.50 | 21.50 | 0.469 | 0.469 | 0.203 | 0.203 | |
| | | | | | Edge 2 | 21100 | 2535.0 | 1 | 49 | 21.50 | 21.49 | 0.783 | 0.784 | 0.314 | 0.315 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.50 | 0.787 | 0.787 | 0.315 | 0.315 | |
| | | | | | Edge 4 | 21100 | 2535.0 | 1 | 49 | 21.50 | 21.49 | 0.138 | 0.138 | 0.062 | 0.062 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.50 | 0.139 | 0.139 | 0.062 | 0.062 | |

# 10.10. LTE Band 12 (10MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.364 | 0.365 | 0.286 | 0.287 | 40 |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.280 | 0.285 | 0.220 | 0.224 | |
| | | | | | Left Tilt | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.181 | 0.182 | 0.146 | 0.146 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.147 | 0.150 | 0.118 | 0.120 | |
| | | | | | Right Touch | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.304 | 0.305 | 0.236 | 0.237 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.236 | 0.240 | 0.185 | 0.188 | |
| | | | | | Right Tilt | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.181 | 0.182 | 0.144 | 0.144 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.144 | 0.147 | 0.115 | 0.117 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.956 | 0.959 | 0.558 | 0.560 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.957 | 0.974 | 0.558 | 0.568 | 41 |
| | | | | | | | | 50 | 0 | 24.50 | 24.44 | 0.823 | 0.834 | 0.447 | 0.453 | |
| | | | | | Front | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.615 | 0.617 | 0.360 | 0.361 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.609 | 0.620 | 0.356 | 0.362 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.586 | 0.588 | 0.393 | 0.394 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.590 | 0.601 | 0.395 | 0.402 | |
| | | | | | Edge 3 | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.686 | 0.688 | 0.332 | 0.333 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.696 | 0.709 | 0.337 | 0.343 | |
| | | | | | Edge 4 | 23095 | 707.5 | 1 | 24 | 25.50 | 25.49 | 0.904 | 0.907 | 0.623 | 0.625 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.42 | 0.720 | 0.733 | 0.495 | 0.504 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.574 | 0.574 | 0.389 | 0.389 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.461 | 0.472 | 0.312 | 0.319 | |
| | | | | | Left Tilt | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.616 | 0.616 | 0.344 | 0.344 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.480 | 0.491 | 0.268 | 0.274 | |
| | | | | | Right Touch | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.627 | 0.627 | 0.357 | 0.357 | 42 |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.499 | 0.511 | 0.284 | 0.291 | |
| | | | | | Right Tilt | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.609 | 0.609 | 0.325 | 0.325 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.493 | 0.504 | 0.263 | 0.269 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.413 | 0.413 | 0.291 | 0.291 | 43 |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.388 | 0.397 | 0.273 | 0.279 | |
| | | | | | Front | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.314 | 0.314 | 0.189 | 0.189 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.253 | 0.259 | 0.195 | 0.200 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.353 | 0.353 | 0.170 | 0.170 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.273 | 0.279 | 0.132 | 0.135 | |
| | | | | | Edge 2 | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.668 | 0.668 | 0.448 | 0.448 | 44 |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.531 | 0.543 | 0.355 | 0.363 | |
| | | | | | Edge 4 | 23095 | 707.5 | 1 | 24 | 24.20 | 24.20 | 0.275 | 0.275 | 0.182 | 0.182 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.217 | 0.222 | 0.144 | 0.147 | |

# 10.11. LTE Band 13 (10MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.374 | 0.374 | 0.296 | 0.296 | 45 |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.288 | 0.288 | 0.228 | 0.228 | |
| | | | | | Left Tilt | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.206 | 0.206 | 0.165 | 0.165 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.167 | 0.167 | 0.135 | 0.135 | |
| | | | | | Right Touch | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.324 | 0.324 | 0.254 | 0.254 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.249 | 0.249 | 0.196 | 0.196 | |
| | | | | | Right Tilt | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.193 | 0.193 | 0.155 | 0.155 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.152 | 0.152 | 0.121 | 0.121 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.959 | 0.959 | 0.540 | 0.540 | 46 |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.767 | 0.767 | 0.430 | 0.430 | |
| | | | | | Front | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.591 | 0.591 | 0.348 | 0.348 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.463 | 0.463 | 0.273 | 0.273 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.618 | 0.618 | 0.409 | 0.409 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.496 | 0.496 | 0.327 | 0.327 | |
| | | | | | Edge 3 | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 0.807 | 0.807 | 0.383 | 0.383 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 0.719 | 0.719 | 0.334 | 0.334 | |
| | | | | | Edge 4 | 23230 | 782.0 | 1 | 24 | 25.50 | 25.50 | 1.090 | 1.090 | 0.742 | 0.742 | 47 |
| | | | | | | | | 25 | 12 | 24.50 | 24.50 | 1.050 | 1.050 | 0.694 | 0.694 | |
| | | | | | | | | 50 | 0 | 24.50 | 24.42 | 1.050 | 1.070 | 0.692 | 0.705 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.323 | 0.323 | 0.212 | 0.212 | |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.254 | 0.254 | 0.167 | 0.167 | |
| | | | | | Left Tilt | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.304 | 0.304 | 0.169 | 0.169 | |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.240 | 0.240 | 0.133 | 0.133 | |
| | | | | | Right Touch | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.579 | 0.579 | 0.350 | 0.350 | 48 |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.462 | 0.462 | 0.279 | 0.279 | |
| | | | | | Right Tilt | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.259 | 0.259 | 0.144 | 0.144 | |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.207 | 0.207 | 0.115 | 0.115 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.492 | 0.492 | 0.284 | 0.284 | 49 |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.398 | 0.398 | 0.229 | 0.229 | |
| | | | | | Front | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.391 | 0.391 | 0.229 | 0.229 | |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.314 | 0.314 | 0.184 | 0.184 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.400 | 0.400 | 0.195 | 0.195 | |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.324 | 0.324 | 0.158 | 0.158 | |
| | | | | | Edge 2 | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.779 | 0.779 | 0.514 | 0.514 | 50 |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.641 | 0.641 | 0.423 | 0.423 | |
| | | | | | Edge 4 | 23230 | 782.0 | 1 | 24 | 23.70 | 23.70 | 0.390 | 0.390 | 0.257 | 0.257 | |
| | | | | | | | | 25 | 12 | 22.70 | 22.70 | 0.313 | 0.313 | 0.206 | 0.206 | |

# 10.12. LTE Band 14 (10MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.390 | 0.393 | 0.307 | 0.310 | 51 |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.303 | 0.305 | 0.237 | 0.238 | |
| | | | | | Left Tilt | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.215 | 0.217 | 0.172 | 0.173 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.163 | 0.164 | 0.130 | 0.131 | |
| | | | | | Right Touch | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.282 | 0.284 | 0.220 | 0.222 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.221 | 0.222 | 0.172 | 0.173 | |
| | | | | | Right Tilt | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.226 | 0.228 | 0.177 | 0.178 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.176 | 0.177 | 0.136 | 0.137 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 1.080 | 1.089 | 0.590 | 0.595 | 52 |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.875 | 0.880 | 0.472 | 0.475 | |
| | | | | | | | | 50 | 0 | 24.50 | 24.48 | 0.864 | 0.868 | 0.467 | 0.469 | |
| | | | | | Front | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.675 | 0.681 | 0.375 | 0.378 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.537 | 0.540 | 0.298 | 0.300 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.410 | 0.413 | 0.268 | 0.270 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.321 | 0.323 | 0.210 | 0.211 | |
| | | | | | Edge 3 | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 0.834 | 0.841 | 0.387 | 0.390 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.671 | 0.675 | 0.312 | 0.314 | |
| | | | | | Edge 4 | 23330 | 793.0 | 1 | 24 | 25.50 | 25.46 | 1.020 | 1.029 | 0.667 | 0.673 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.48 | 0.813 | 0.818 | 0.534 | 0.537 | |
| | | | | | | | | 50 | 0 | 24.50 | 24.48 | 1.080 | 1.085 | 0.709 | 0.712 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.320 | 0.320 | 0.202 | 0.202 | 53 |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.254 | 0.260 | 0.160 | 0.164 | |
| | | | | | Left Tilt | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.310 | 0.310 | 0.171 | 0.171 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.246 | 0.252 | 0.135 | 0.138 | |
| | | | | | Right Touch | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.256 | 0.256 | 0.161 | 0.161 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.203 | 0.208 | 0.127 | 0.130 | |
| | | | | | Right Tilt | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.285 | 0.285 | 0.158 | 0.158 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.223 | 0.228 | 0.123 | 0.126 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.483 | 0.483 | 0.274 | 0.274 | 54 |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.369 | 0.378 | 0.209 | 0.214 | |
| | | | | | Front | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.396 | 0.396 | 0.225 | 0.225 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.317 | 0.324 | 0.179 | 0.183 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.393 | 0.393 | 0.187 | 0.187 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.313 | 0.320 | 0.149 | 0.152 | |
| | | | | | Edge 2 | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.637 | 0.637 | 0.417 | 0.417 | 55 |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.507 | 0.519 | 0.331 | 0.339 | |
| | | | | | Edge 4 | 23330 | 793.0 | 1 | 24 | 24.20 | 24.20 | 0.266 | 0.266 | 0.174 | 0.174 | |
| | | | | | | | | 25 | 12 | 23.20 | 23.10 | 0.216 | 0.221 | 0.141 | 0.144 | |

# 10.13. LTE Band 25 (20MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 26365 | 1882.5 | 1 | 49 | 25.50 | 25.22 | 0.309 | 0.329 | 0.197 | 0.210 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.24 | 0.308 | 0.327 | 0.197 | 0.209 | |
| | | | | | Left Tilt | 26365 | 1882.5 | 1 | 49 | 25.50 | 25.22 | 0.213 | 0.227 | 0.122 | 0.130 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.24 | 0.215 | 0.228 | 0.122 | 0.129 | |
| | | | | | Right Touch | 26365 | 1882.5 | 1 | 49 | 25.50 | 25.22 | 0.336 | 0.358 | 0.216 | 0.230 | 56 |
| | | | | | | | | 50 | 24 | 24.50 | 24.24 | 0.335 | 0.355 | 0.215 | 0.228 | |
| | | | | | Right Tilt | 26365 | 1882.5 | 1 | 49 | 25.50 | 25.22 | 0.315 | 0.336 | 0.180 | 0.192 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.24 | 0.314 | 0.333 | 0.180 | 0.191 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 26140 | 1860.0 | 1 | 49 | 20.00 | 19.83 | 1.040 | 1.081 | 0.505 | 0.525 | |
| | | | | | | | | 50 | 24 | 20.00 | 19.90 | 1.010 | 1.034 | 0.490 | 0.501 | |
| | | | | | | 26365 | 1882.5 | 1 | 49 | 20.00 | 19.77 | 0.999 | 1.054 | 0.484 | 0.511 | |
| | | | | | | | | 50 | 24 | 20.00 | 19.72 | 1.010 | 1.077 | 0.488 | 0.520 | |
| | | | | | | | | 100 | 0 | 20.00 | 19.80 | 1.030 | 1.078 | 0.494 | 0.517 | |
| | | | | | | 26590 | 1905.0 | 1 | 49 | 20.00 | 19.78 | 1.030 | 1.084 | 0.488 | 0.514 | 57 |
| | | | | | | | | 50 | 24 | 20.00 | 19.84 | 1.020 | 1.057 | 0.480 | 0.498 | |
| | | | | | Front | 26365 | 1882.5 | 1 | 49 | 20.00 | 19.77 | 0.546 | 0.576 | 0.289 | 0.305 | |
| | | | | | | | | 50 | 24 | 20.00 | 19.72 | 0.540 | 0.576 | 0.286 | 0.305 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 26365 | 1882.5 | 1 | 49 | 20.00 | 19.77 | 0.352 | 0.371 | 0.190 | 0.200 | |
| | | | | | | | | 50 | 24 | 20.00 | 19.72 | 0.347 | 0.370 | 0.187 | 0.199 | |
| | | | | | Edge 3 | 26365 | 1882.5 | 1 | 49 | 20.00 | 19.77 | 0.619 | 0.653 | 0.271 | 0.286 | |
| | | | | | | | | 50 | 24 | 20.00 | 19.72 | 0.612 | 0.652 | 0.268 | 0.286 | |
| | | | | | Edge 4 | 26365 | 1882.5 | 1 | 49 | 20.00 | 19.77 | 0.101 | 0.107 | 0.057 | 0.060 | |
| | | | | | | | | 50 | 24 | 20.00 | 19.72 | 0.105 | 0.112 | 0.060 | 0.064 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 26365 | 1882.5 | 1 | 49 | 19.50 | 19.10 | 0.269 | 0.295 | 0.142 | 0.156 | |
| | | | | | | | | 50 | 24 | 19.50 | 19.10 | 0.263 | 0.288 | 0.138 | 0.151 | |
| | | | | | Left Tilt | 26365 | 1882.5 | 1 | 49 | 19.50 | 19.10 | 0.316 | 0.346 | 0.156 | 0.171 | |
| | | | | | | | | 50 | 24 | 19.50 | 19.10 | 0.312 | 0.342 | 0.153 | 0.168 | |
| | | | | | Right Touch | 26140 | 1860.0 | 1 | 49 | 19.50 | 19.27 | 0.747 | 0.787 | 0.379 | 0.399 | |
| | | | | | | 26365 | 1882.5 | 1 | 49 | 19.50 | 19.10 | 0.731 | 0.802 | 0.365 | 0.400 | |
| | | | | | | | | 50 | 24 | 19.50 | 19.10 | 0.720 | 0.789 | 0.360 | 0.395 | |
| | | | | | | 26590 | 1905.0 | 1 | 49 | 19.50 | 19.30 | 0.750 | 0.785 | 0.368 | 0.385 | |
| | | | | | Right Tilt | 26140 | 1860.0 | 1 | 49 | 19.50 | 19.27 | 0.773 | 0.814 | 0.353 | 0.372 | |
| | | | | | | | | 50 | 24 | 19.50 | 19.40 | 0.749 | 0.766 | 0.341 | 0.349 | |
| | | | | | | 26365 | 1882.5 | 1 | 49 | 19.50 | 19.10 | 0.742 | 0.814 | 0.334 | 0.366 | |
| | | | | | | | | 50 | 24 | 19.50 | 19.10 | 0.732 | 0.803 | 0.331 | 0.363 | |
| | | | | | | | | 100 | 0 | 19.50 | 19.23 | 0.763 | 0.812 | 0.351 | 0.374 | |
| | | | | | | 26590 | 1905.0 | 1 | 49 | 19.50 | 19.30 | 0.787 | 0.824 | 0.351 | 0.368 | |
| | | | | | | | | 50 | 24 | 19.50 | 19.10 | 0.774 | 0.849 | 0.345 | 0.378 | 58 |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 26365 | 1882.5 | 1 | 49 | 19.20 | 19.10 | 0.728 | 0.745 | 0.352 | 0.360 | 59 |
| | | | | | | | | 50 | 24 | 19.20 | 19.05 | 0.715 | 0.740 | 0.346 | 0.358 | |
| | | | | | Front | 26365 | 1882.5 | 1 | 49 | 19.20 | 19.10 | 0.397 | 0.406 | 0.199 | 0.204 | |
| | | | | | | | | 50 | 24 | 19.20 | 19.05 | 0.381 | 0.394 | 0.191 | 0.198 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 26365 | 1882.5 | 1 | 49 | 19.20 | 19.10 | 0.466 | 0.477 | 0.198 | 0.203 | |
| | | | | | | | | 50 | 24 | 19.20 | 19.05 | 0.454 | 0.470 | 0.192 | 0.199 | |
| | | | | | Edge 2 | 26365 | 1882.5 | 1 | 49 | 19.20 | 19.10 | 0.088 | 0.090 | 0.047 | 0.048 | |
| | | | | | | | | 50 | 24 | 19.20 | 19.05 | 0.085 | 0.088 | 0.046 | 0.048 | |
| | | | | | Edge 4 | 26365 | 1882.5 | 1 | 49 | 19.20 | 19.10 | 0.346 | 0.354 | 0.186 | 0.190 | |
| | | | | | | | | 50 | 24 | 19.20 | 19.05 | 0.340 | 0.352 | 0.182 | 0.188 | |

# 10.14. LTE Band 26 (10MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.304 | 0.311 | 0.230 | 0.235 | 60 |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.248 | 0.260 | 0.185 | 0.194 | |
| | | | | | Left Tilt | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.167 | 0.171 | 0.130 | 0.133 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.134 | 0.140 | 0.103 | 0.108 | |
| | | | | | Right Touch | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.241 | 0.247 | 0.186 | 0.190 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.218 | 0.228 | 0.164 | 0.172 | |
| | | | | | Right Tilt | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.158 | 0.162 | 0.122 | 0.125 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.123 | 0.129 | 0.096 | 0.101 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.522 | 0.534 | 0.330 | 0.338 | 61 |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.410 | 0.429 | 0.259 | 0.271 | |
| | | | | | Front | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.352 | 0.360 | 0.223 | 0.228 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.272 | 0.285 | 0.173 | 0.181 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.292 | 0.299 | 0.190 | 0.194 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.224 | 0.235 | 0.146 | 0.153 | |
| | | | | | Edge 3 | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.394 | 0.403 | 0.197 | 0.202 | |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.301 | 0.315 | 0.149 | 0.156 | |
| | | | | | Edge 4 | 26865 | 831.5 | 1 | 24 | 25.50 | 25.40 | 0.712 | 0.729 | 0.466 | 0.477 | 62 |
| | | | | | | | | 25 | 12 | 24.50 | 24.30 | 0.554 | 0.580 | 0.362 | 0.379 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.605 | 0.605 | 0.451 | 0.451 | 63 |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.481 | 0.492 | 0.358 | 0.366 | |
| | | | | | Left Tilt | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.528 | 0.528 | 0.289 | 0.289 | |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.419 | 0.429 | 0.230 | 0.235 | |
| | | | | | Right Touch | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.540 | 0.540 | 0.325 | 0.325 | |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.431 | 0.441 | 0.259 | 0.265 | |
| | | | | | Right Tilt | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.552 | 0.552 | 0.304 | 0.304 | |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.425 | 0.435 | 0.233 | 0.238 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.434 | 0.434 | 0.247 | 0.247 | 64 |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.342 | 0.350 | 0.195 | 0.200 | |
| | | | | | Front | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.355 | 0.355 | 0.205 | 0.205 | |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.278 | 0.284 | 0.161 | 0.165 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.493 | 0.493 | 0.236 | 0.236 | |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.354 | 0.362 | 0.171 | 0.175 | |
| | | | | | Edge 2 | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.549 | 0.549 | 0.360 | 0.360 | 65 |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.441 | 0.451 | 0.289 | 0.296 | |
| | | | | | Edge 4 | 26865 | 831.5 | 1 | 24 | 23.50 | 23.50 | 0.166 | 0.166 | 0.108 | 0.108 | |
| | | | | | | | | 25 | 12 | 22.50 | 22.40 | 0.133 | 0.136 | 0.087 | 0.089 | |

# 10.15. LTE Band 30 (10MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 27710 | 2310.0 | 1 | 24 | 23.50 | 23.40 | 0.869 | 0.889 | 0.482 | 0.493 | 66 |
| | | | | | | | | 25 | 12 | 23.50 | 23.40 | 0.684 | 0.700 | 0.378 | 0.387 | |
| | | | | | Left Tilt | 27710 | 2310.0 | 1 | 24 | 23.50 | 23.40 | 0.236 | 0.241 | 0.127 | 0.130 | |
| | | | | | | | | 25 | 12 | 23.50 | 23.40 | 0.182 | 0.186 | 0.097 | 0.099 | |
| | | | | | Right Touch | 27710 | 2310.0 | 1 | 24 | 23.50 | 23.40 | 0.432 | 0.442 | 0.249 | 0.255 | |
| | | | | | | | | 25 | 12 | 23.50 | 23.40 | 0.330 | 0.338 | 0.189 | 0.193 | |
| | | | | | Right Tilt | 27710 | 2310.0 | 1 | 24 | 23.50 | 23.40 | 0.422 | 0.432 | 0.242 | 0.248 | |
| | | | | | | | | 25 | 12 | 23.50 | 23.40 | 0.327 | 0.335 | 0.187 | 0.191 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 27710 | 2310.0 | 1 | 24 | 21.70 | 21.67 | 1.090 | 1.098 | 0.481 | 0.485 | 67 |
| | | | | | | | | 25 | 12 | 21.70 | 21.50 | 1.000 | 1.047 | 0.448 | 0.469 | |
| | | | | | | | | 50 | 0 | 21.70 | 21.48 | 1.020 | 1.073 | 0.453 | 0.477 | |
| | | | | | Front | 27710 | 2310.0 | 1 | 24 | 21.70 | 21.67 | 0.691 | 0.696 | 0.316 | 0.318 | |
| | | | | | | | | 25 | 12 | 21.70 | 21.50 | 0.721 | 0.755 | 0.317 | 0.332 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 27710 | 2310.0 | 1 | 24 | 21.70 | 21.67 | 0.155 | 0.156 | 0.068 | 0.069 | |
| | | | | | | | | 25 | 12 | 21.70 | 21.50 | 0.153 | 0.160 | 0.067 | 0.070 | |
| | | | | | Edge 3 | 27710 | 2310.0 | 1 | 24 | 21.70 | 21.67 | 0.645 | 0.650 | 0.233 | 0.235 | |
| | | | | | | | | 25 | 12 | 21.70 | 21.50 | 0.576 | 0.603 | 0.210 | 0.220 | |
| | | | | | Edge 4 | 27710 | 2310.0 | 1 | 24 | 21.70 | 21.67 | 0.814 | 0.820 | 0.414 | 0.417 | |
| | | | | | | | | 25 | 12 | 21.70 | 21.50 | 0.816 | 0.854 | 0.414 | 0.434 | |
| | | | | | | | | 50 | 0 | 21.70 | 21.48 | 0.820 | 0.863 | 0.415 | 0.437 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 27710 | 2310.0 | 1 | 24 | 19.50 | 19.50 | 0.898 | 0.898 | 0.383 | 0.383 | |
| | | | | | | | | 25 | 12 | 19.50 | 19.50 | 0.891 | 0.891 | 0.378 | 0.378 | |
| | | | | | | | | 50 | 0 | 19.50 | 19.49 | 0.852 | 0.853 | 0.363 | 0.364 | |
| | | | | | Left Tilt | 27710 | 2310.0 | 1 | 24 | 19.50 | 19.50 | 0.879 | 0.879 | 0.344 | 0.344 | |
| | | | | | | | | 25 | 12 | 19.50 | 19.50 | 0.875 | 0.875 | 0.342 | 0.342 | |
| | | | | | | | | 50 | 0 | 19.50 | 19.49 | 0.898 | 0.899 | 0.351 | 0.352 | 68 |
| | | | | | Right Touch | 27710 | 2310.0 | 1 | 24 | 19.50 | 19.50 | 0.803 | 0.803 | 0.336 | 0.336 | |
| | | | | | | | | 25 | 12 | 19.50 | 19.50 | 0.801 | 0.801 | 0.334 | 0.334 | |
| | | | | | | | | 50 | 0 | 19.50 | 19.49 | 0.806 | 0.807 | 0.337 | 0.338 | |
| | | | | | Right Tilt | 27710 | 2310.0 | 1 | 24 | 19.50 | 19.50 | 0.898 | 0.898 | 0.357 | 0.357 | |
| | | | | | | | | 25 | 12 | 19.50 | 19.50 | 0.895 | 0.895 | 0.354 | 0.354 | |
| | | | | | | | | 50 | 0 | 19.50 | 19.49 | 0.896 | 0.897 | 0.353 | 0.354 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 27710 | 2310.0 | 1 | 24 | 20.50 | 20.50 | 0.773 | 0.773 | 0.299 | 0.299 | 69 |
| | | | | | | | | 25 | 12 | 20.50 | 20.50 | 0.751 | 0.751 | 0.291 | 0.291 | |
| | | | | | Front | 27710 | 2310.0 | 1 | 24 | 20.50 | 20.50 | 0.486 | 0.486 | 0.205 | 0.205 | |
| | | | | | | | | 25 | 12 | 20.50 | 20.50 | 0.532 | 0.532 | 0.218 | 0.218 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 27710 | 2310.0 | 1 | 24 | 20.50 | 20.50 | 0.500 | 0.500 | 0.191 | 0.191 | |
| | | | | | | | | 25 | 12 | 20.50 | 20.50 | 0.519 | 0.519 | 0.194 | 0.194 | |
| | | | | | Edge 2 | 27710 | 2310.0 | 1 | 24 | 20.50 | 20.50 | 0.477 | 0.477 | 0.218 | 0.218 | |
| | | | | | | | | 25 | 12 | 20.50 | 20.50 | 0.416 | 0.416 | 0.195 | 0.195 | |
| | | | | | Edge 4 | 27710 | 2310.0 | 1 | 24 | 20.50 | 20.50 | 0.226 | 0.226 | 0.108 | 0.108 | |
| | | | | | | | | 25 | 12 | 20.50 | 20.50 | 0.222 | 0.222 | 0.107 | 0.107 | |

# 10.16. LTE Band 41 Power Class 3 (20MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 40620 | 2593.0 | 1 | 49 | 25.50 | 25.18 | 0.226 | 0.243 | 0.118 | 0.127 | 70 |
| | | | | | | | | 50 | 24 | 24.50 | 24.31 | 0.217 | 0.227 | 0.114 | 0.119 | |
| | | | | | Left Tilt | 40620 | 2593.0 | 1 | 49 | 25.50 | 25.18 | 0.056 | 0.060 | 0.028 | 0.030 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.31 | 0.053 | 0.055 | 0.026 | 0.027 | |
| | | | | | Right Touch | 40620 | 2593.0 | 1 | 49 | 25.50 | 25.18 | 0.100 | 0.108 | 0.054 | 0.058 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.31 | 0.117 | 0.122 | 0.062 | 0.065 | |
| | | | | | Right Tilt | 40620 | 2593.0 | 1 | 49 | 25.50 | 25.18 | 0.102 | 0.110 | 0.050 | 0.054 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.31 | 0.101 | 0.105 | 0.050 | 0.052 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 39750 | 2506.0 | 1 | 49 | 24.00 | 23.83 | 1.020 | 1.060 | 0.458 | 0.476 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.81 | 0.900 | 0.940 | 0.406 | 0.424 | |
| | | | | | | 40185 | 2549.5 | 1 | 49 | 24.00 | 23.90 | 0.900 | 0.921 | 0.416 | 0.426 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.80 | 0.796 | 0.834 | 0.368 | 0.385 | |
| | | | | | | 40620 | 2593.0 | 1 | 49 | 24.00 | 23.80 | 0.922 | 0.965 | 0.447 | 0.468 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.80 | 0.859 | 0.899 | 0.408 | 0.427 | |
| | | | | | | | | 100 | 0 | 24.00 | 23.72 | 0.787 | 0.839 | 0.372 | 0.396 | |
| | | | | | | 41055 | 2636.5 | 1 | 49 | 24.00 | 23.80 | 1.040 | 1.089 | 0.478 | 0.501 | 71 |
| | | | | | | | | 50 | 24 | 24.00 | 23.71 | 0.917 | 0.979 | 0.422 | 0.451 | |
| | | | | | | 41490 | 2680.0 | 1 | 49 | 24.00 | 23.70 | 0.746 | 0.799 | 0.364 | 0.390 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.60 | 0.659 | 0.723 | 0.320 | 0.351 | |
| | | | | | Front | 40620 | 2593.0 | 1 | 49 | 24.00 | 23.80 | 0.493 | 0.516 | 0.224 | 0.235 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.80 | 0.568 | 0.595 | 0.258 | 0.270 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 40620 | 2593.0 | 1 | 49 | 24.00 | 23.80 | 0.014 | 0.015 | 0.005 | 0.005 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.80 | 0.038 | 0.040 | 0.016 | 0.017 | |
| | | | | | Edge 3 | 40620 | 2593.0 | 1 | 49 | 24.00 | 23.80 | 0.313 | 0.328 | 0.118 | 0.124 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.80 | 0.313 | 0.328 | 0.118 | 0.124 | |
| | | | | | Edge 4 | 40620 | 2593.0 | 1 | 49 | 24.00 | 23.80 | 0.586 | 0.614 | 0.199 | 0.208 | |
| | | | | | | | | 50 | 24 | 24.00 | 23.80 | 0.583 | 0.610 | 0.243 | 0.254 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 39750 | 2506.0 | 1 | 49 | 21.20 | 21.08 | 0.833 | 0.855 | 0.352 | 0.361 | 72 |
| | | | | | | | | 50 | 24 | 21.20 | 21.08 | 0.824 | 0.847 | 0.346 | 0.356 | |
| | | | | | | 40185 | 2549.5 | 1 | 49 | 21.20 | 21.20 | 0.726 | 0.726 | 0.303 | 0.303 | |
| | | | | | | | | 50 | 24 | 21.20 | 21.20 | 0.727 | 0.727 | 0.301 | 0.301 | |
| | | | | | | 40620 | 2593.0 | 1 | 49 | 21.20 | 21.20 | 0.809 | 0.809 | 0.295 | 0.295 | |
| | | | | | | | | 50 | 24 | 21.20 | 21.03 | 0.778 | 0.810 | 0.286 | 0.298 | |
| | | | | | | | | 100 | 0 | 21.20 | 21.07 | 0.777 | 0.800 | 0.285 | 0.293 | |
| | | | | | | 41055 | 2636.5 | 1 | 49 | 21.20 | 21.10 | 0.712 | 0.729 | 0.259 | 0.265 | |
| | | | | | | | | 50 | 24 | 21.20 | 20.97 | 0.652 | 0.687 | 0.230 | 0.242 | |
| | | | | | | 41490 | 2680.0 | 1 | 49 | 21.20 | 21.10 | 0.622 | 0.636 | 0.221 | 0.226 | |
| | | | | | | | | 50 | 24 | 21.20 | 20.97 | 0.616 | 0.649 | 0.218 | 0.230 | |
| | | | | | Left Tilt | 40620 | 2593.0 | 1 | 49 | 21.20 | 21.20 | 0.557 | 0.557 | 0.222 | 0.222 | |
| | | | | | | | | 50 | 24 | 21.20 | 21.03 | 0.570 | 0.593 | 0.224 | 0.233 | |
| | | | | | Right Touch | 40620 | 2593.0 | 1 | 49 | 21.20 | 21.20 | 0.334 | 0.334 | 0.138 | 0.138 | |
| | | | | | | | | 50 | 24 | 21.20 | 21.03 | 0.329 | 0.342 | 0.137 | 0.143 | |
| | | | | | Right Tilt | 40620 | 2593.0 | 1 | 49 | 21.20 | 21.20 | 0.360 | 0.360 | 0.143 | 0.143 | |
| | | | | | | | | 50 | 24 | 21.20 | 21.03 | 0.358 | 0.373 | 0.144 | 0.150 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 39750 | 2506.0 | 1 | 49 | 22.70 | 22.70 | 0.540 | 0.540 | 0.244 | 0.244 | |
| | | | | | | 40185 | 2549.5 | 1 | 49 | 22.70 | 22.70 | 0.826 | 0.826 | 0.354 | 0.354 | |
| | | | | | | 40620 | 2593.0 | 1 | 49 | 22.70 | 22.70 | 0.835 | 0.835 | 0.348 | 0.348 | 73 |
| | | | | | | | | 50 | 24 | 22.00 | 21.97 | 0.558 | 0.562 | 0.234 | 0.236 | |
| | | | | | | 41055 | 2636.5 | 1 | 49 | 22.70 | 22.60 | 0.803 | 0.822 | 0.335 | 0.343 | |
| | | | | | | 41490 | 2680.0 | 1 | 49 | 22.70 | 22.40 | 0.734 | 0.786 | 0.303 | 0.325 | |
| | | | | | Front | 40620 | 2593.0 | 1 | 49 | 22.70 | 22.70 | 0.605 | 0.605 | 0.243 | 0.243 | |
| | | | | | | | | 50 | 24 | 22.00 | 21.97 | 0.510 | 0.514 | 0.207 | 0.209 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 40620 | 2593.0 | 1 | 49 | 22.70 | 22.70 | 0.471 | 0.471 | 0.208 | 0.208 | |
| | | | | | | | | 50 | 24 | 22.00 | 21.97 | 0.393 | 0.396 | 0.171 | 0.172 | |
| | | | | | Edge 2 | 40620 | 2593.0 | 1 | 49 | 22.70 | 22.70 | 0.586 | 0.586 | 0.229 | 0.229 | |
| | | | | | | | | 50 | 24 | 22.00 | 21.97 | 0.474 | 0.478 | 0.186 | 0.187 | |
| | | | | | Edge 4 | 40620 | 2593.0 | 1 | 49 | 22.70 | 22.70 | 0.155 | 0.155 | 0.064 | 0.064 | |
| | | | | | | | | 50 | 24 | 22.00 | 21.97 | 0.138 | 0.139 | 0.058 | 0.058 | |

## 10.17. LTE Band 41 Power Class 2 (20MHz Bandwidth)

From May 2017 TCB Workshop, SAR tested were performed using Power Class 3. SAR test for Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for UL-DL configurations is 1 the duty cycle is 43.3%.

Additional SAR testing for Power Class 2 is not required when:

- The reported SAR vs. output power can be linearly scaled with < 10%
- Discrepancy between power classes and all reported SAR are < 1.4 W/kg

**Reported SAR vs. Output Power linearly scaled**

| Antenna | RF Exposure Conditions | Power Class 2 | | | Power Class 3 | | | | PC2 linearly scaled Reported SAR (W/kg) | Linearly scaled (<10%) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Duty Cycle | Tune-up Power (dBm) | Frame Avg. Power (mW) | Duty Cycle | Tune-up Power (dBm) | Frame Avg. Power (mW) | Reported SAR (W/kg) | | |
| ANT1 | Head | 43.3% | 27.00 | 217.01 | 63.3% | 25.50 | 224.60 | 0.243 | 0.235 | 3.38% |

**Conclusion:**

SAR test for Power Class 2 is not required base on the reported SAR <1.4 W/kg and reported SAR vs. output power linearly scaled <10%.

# 10.18. LTE Band 66 (20MHz Bandwidth)

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT1 | Head | QPSK | Mode A | 0 | Left Touch | 132322 | 1745.0 | 1 | 49 | 25.50 | 25.26 | 0.394 | 0.416 | 0.251 | 0.265 | 74 |
| | | | | | | | | 50 | 24 | 24.50 | 24.28 | 0.390 | 0.410 | 0.248 | 0.261 | |
| | | | | | Left Tilt | 132322 | 1745.0 | 1 | 49 | 25.50 | 25.26 | 0.200 | 0.211 | 0.117 | 0.124 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.28 | 0.197 | 0.207 | 0.115 | 0.121 | |
| | | | | | Right Touch | 132322 | 1745.0 | 1 | 49 | 25.50 | 25.26 | 0.234 | 0.247 | 0.153 | 0.162 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.28 | 0.235 | 0.247 | 0.153 | 0.161 | |
| | | | | | Right Tilt | 132322 | 1745.0 | 1 | 49 | 25.50 | 25.26 | 0.180 | 0.190 | 0.115 | 0.121 | |
| | | | | | | | | 50 | 24 | 24.50 | 24.28 | 0.177 | 0.186 | 0.114 | 0.120 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 132072 | 1720.0 | 1 | 49 | 21.00 | 20.97 | 0.812 | 0.818 | 0.425 | 0.428 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.99 | 0.815 | 0.818 | 0.425 | 0.426 | |
| | | | | | | 132322 | 1745.0 | 1 | 49 | 21.00 | 21.00 | 0.964 | 0.965 | 0.487 | 0.487 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.90 | 0.962 | 0.983 | 0.485 | 0.496 | |
| | | | | | | | | 100 | 0 | 21.00 | 20.94 | 0.964 | 0.977 | 0.485 | 0.491 | |
| | | | | | | 132572 | 1770.0 | 1 | 49 | 21.00 | 20.90 | 1.050 | 1.074 | 0.521 | 0.533 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.80 | 1.040 | 1.088 | 0.514 | 0.538 | 75 |
| | | | | | Front | 132322 | 1745.0 | 1 | 49 | 21.00 | 21.00 | 0.518 | 0.518 | 0.284 | 0.284 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.90 | 0.482 | 0.493 | 0.263 | 0.269 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 2 | 132322 | 1745.0 | 1 | 49 | 21.00 | 21.00 | 0.243 | 0.243 | 0.138 | 0.138 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.90 | 0.272 | 0.278 | 0.152 | 0.155 | |
| | | | | | Edge 3 | 132072 | 1720.0 | 1 | 49 | 21.00 | 20.97 | 0.930 | 0.936 | 0.462 | 0.465 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.99 | 0.932 | 0.935 | 0.462 | 0.464 | |
| | | | | | | 132322 | 1745.0 | 1 | 49 | 21.00 | 21.00 | 1.090 | 1.091 | 0.543 | 0.543 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.90 | 1.070 | 1.094 | 0.509 | 0.520 | |
| | | | | | | | | 100 | 0 | 21.00 | 20.94 | 1.070 | 1.084 | 0.533 | 0.540 | |
| | | | | | | 132572 | 1770.0 | 1 | 49 | 21.00 | 20.90 | 1.050 | 1.074 | 0.523 | 0.535 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.80 | 1.050 | 1.099 | 0.521 | 0.545 | 76 |
| | | | | | Edge 4 | 132322 | 1745.0 | 1 | 49 | 21.00 | 21.00 | 0.315 | 0.315 | 0.174 | 0.174 | |
| | | | | | | | | 50 | 24 | 21.00 | 20.90 | 0.323 | 0.330 | 0.177 | 0.181 | |

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Head | QPSK | Mode A | 0 | Left Touch | 132322 | 1745.0 | 1 | 49 | 20.70 | 20.50 | 0.440 | 0.461 | 0.248 | 0.260 | |
| | | | | | | | | 50 | 24 | 20.70 | 20.40 | 0.349 | 0.374 | 0.196 | 0.210 | |
| | | | | | Left Tilt | 132322 | 1745.0 | 1 | 49 | 20.70 | 20.50 | 0.435 | 0.456 | 0.240 | 0.251 | |
| | | | | | | | | 50 | 24 | 20.70 | 20.40 | 0.353 | 0.378 | 0.195 | 0.209 | |
| | | | | | Right Touch | 132072 | 1720.0 | 1 | 49 | 20.70 | 20.60 | 0.783 | 0.801 | 0.413 | 0.423 | |
| | | | | | | 132322 | 1745.0 | 1 | 49 | 20.70 | 20.50 | 0.781 | 0.818 | 0.415 | 0.435 | |
| | | | | | | | | 50 | 24 | 20.70 | 20.40 | 0.700 | 0.750 | 0.370 | 0.396 | |
| | | | | | | 132572 | 1770.0 | 1 | 49 | 20.70 | 20.64 | 0.875 | 0.887 | 0.454 | 0.460 | 77 |
| | | | | | Right Tilt | 132072 | 1720.0 | 1 | 49 | 20.70 | 20.60 | 0.840 | 0.860 | 0.410 | 0.420 | |
| | | | | | | 132322 | 1745.0 | 1 | 49 | 20.70 | 20.50 | 0.809 | 0.847 | 0.385 | 0.403 | |
| | | | | | | | | 50 | 24 | 20.70 | 20.40 | 0.724 | 0.776 | 0.349 | 0.374 | |
| | | | | | | 132572 | 1770.0 | 1 | 49 | 20.70 | 20.64 | 0.872 | 0.884 | 0.414 | 0.420 | |
| | Body & Hotspot | QPSK | Mode B | 5 | Rear | 132072 | 1720.0 | 1 | 49 | 21.50 | 21.50 | 0.752 | 0.752 | 0.381 | 0.381 | |
| | | | | | | 132322 | 1745.0 | 1 | 49 | 21.50 | 21.50 | 0.804 | 0.804 | 0.405 | 0.405 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.10 | 0.675 | 0.740 | 0.340 | 0.373 | |
| | | | | | | 132572 | 1770.0 | 1 | 49 | 21.50 | 21.47 | 0.880 | 0.885 | 0.440 | 0.443 | 78 |
| | | | | | Front | 132322 | 1745.0 | 1 | 49 | 21.50 | 21.50 | 0.484 | 0.484 | 0.252 | 0.252 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.10 | 0.411 | 0.451 | 0.213 | 0.234 | |
| | Hotspot | QPSK | Mode B | 5 | Edge 1 | 132322 | 1745.0 | 1 | 49 | 21.50 | 21.50 | 0.705 | 0.705 | 0.329 | 0.329 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.10 | 0.635 | 0.696 | 0.293 | 0.321 | |
| | | | | | Edge 2 | 132322 | 1745.0 | 1 | 49 | 21.50 | 21.50 | 0.047 | 0.047 | 0.026 | 0.026 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.10 | 0.039 | 0.043 | 0.023 | 0.025 | |
| | | | | | Edge 4 | 132322 | 1745.0 | 1 | 49 | 21.50 | 21.50 | 0.386 | 0.386 | 0.219 | 0.219 | |
| | | | | | | | | 50 | 24 | 21.50 | 21.10 | 0.334 | 0.366 | 0.191 | 0.209 | |

## 10.19. LTE-uplink 2CA Band 7 (20MHz + 20MHz BW)

SAR Testing was performed on each antenna – ANT1 and ANT2 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition.

| Antenna | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | PCC UL | | | | SCC UL | | | | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ch #. | Freq. (MHz) | RB Allocation | RB offest | Ch #. | Freq. (MHz) | RB Allocation | RB offest | Tune-up limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT 1 | Body | QPSK | 5 | Rear | 21152 | 2540.2 | 1 | 99 | 21350 | 2560.0 | 1 | 0 | 21.00 | 20.70 | 0.812 | 0.870 | 0.371 | 0.398 | 118 |
| ANT 2 | Body | QPSK | 5 | Rear | 21001 | 2525.1 | 1 | 99 | 21199 | 2544.9 | 1 | 0 | 21.50 | 21.20 | 0.774 | 0.829 | 0.341 | 0.365 | |

## 10.20. LTE-uplink 2CA Band 41 PC3 (20MHz + 20MHz BW)

SAR Testing was performed on each antenna – ANT1 and ANT2 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition.

From May 2017 TCB Workshop, HPUE Power Class 2 allows 26±2 dBm and does not support uplink-downlink configurations 0 and 6 or inter-band CA

| Antenna | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | PCC UL | | | | SCC UL | | | | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ch #. | Freq. (MHz) | RB Allocation | RB offest | Ch #. | Freq. (MHz) | RB Allocation | RB offest | Tune-up limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT 1 | Body | QPSK | 5 | Rear | 40956 | 2626.6 | 1 | 99 | 41154 | 2646.4 | 1 | 0 | 24.00 | 23.80 | 0.948 | 0.993 | 0.452 | 0.473 | 119 |
| ANT 2 | Body | QPSK | 5 | Rear | 40521 | 2583.1 | 1 | 99 | 40719 | 2602.9 | 1 | 0 | 22.50 | 22.00 | 0.584 | 0.655 | 0.256 | 0.287 | |

## 10.21. Wi-Fi (DTS Band)

When the 802.11b reported SAR of the highest measured maximum output power channel is ≤ 0.8 W/kg, no further SAR testing is required. If SAR is > 0.8 W/kg and ≤ 1.2 W/kg, SAR is required for the next highest measured output power channel. Finally, if SAR is > 1.2 W/kg, SAR is required for the third channel.

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

ANT5 Power Mode A the $P_{Cell\_ON}$ is same as $P_{Cell\_OFF}$

| Antenna | WWAN Power | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell OFF | Head | 802.11b | Mode A | 0 | Left Touch | 6 | 2437 | 0.294 | 99.8% | 22.00 | 22.00 | 0.143 | 0.143 | 0.077 | 0.077 | 79 |
| | | | | | | Left Tilt | 6 | 2437 | 0.074 | 99.8% | 22.00 | 22.00 | | | | | |
| | | | | | | Right Touch | 6 | 2437 | 0.125 | 99.8% | 22.00 | 22.00 | | | | | |
| | | | | | | Right Tilt | 6 | 2437 | 0.110 | 99.8% | 22.00 | 22.00 | | | | | |
| | | Body & Hotspot | 802.11b | Mode B | 5 | Rear | 1 | 2412 | 1.070 | 99.8% | 22.00 | 22.00 | 0.966 | 0.968 | 0.409 | 0.410 | |
| | | | | | | | 6 | 2437 | 1.070 | 99.8% | 22.00 | 22.00 | 1.070 | 1.073 | 0.441 | 0.442 | 80 |
| | | | | | | | 11 | 2462 | 1.400 | 99.8% | 22.00 | 22.00 | 0.936 | 0.938 | 0.398 | 0.399 | |
| | | | | | | Front | 6 | 2437 | 0.302 | 99.8% | 22.00 | 22.00 | | | | | |
| | | Hotspot | 802.11b | Mode B | 5 | Edge 3 | 6 | 2437 | 0.213 | 99.8% | 22.00 | 22.00 | | | | | |
| | | | | | | Edge 4 | 6 | 2437 | 0.545 | 99.8% | 22.00 | 22.00 | 0.399 | 0.400 | 0.182 | 0.182 | |
| Antenna | WWAN Power | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Cell OFF | Head | 802.11b | Mode A | 0 | Left Touch | 1 | 2412 | 1.490 | 99.8% | 19.75 | 19.75 | 1.040 | 1.043 | 0.441 | 0.442 | |
| | | | | | | | 6 | 2437 | 1.600 | 99.8% | 19.75 | 19.75 | 1.060 | 1.063 | 0.433 | 0.434 | 81 |
| | | | | | | | 11 | 2462 | 1.040 | 99.8% | 19.75 | 19.75 | 0.790 | 0.792 | 0.338 | 0.339 | |
| | | | | | | Left Tilt | 6 | 2437 | 1.150 | 99.8% | 19.75 | 19.75 | 0.735 | 0.737 | 0.280 | 0.281 | |
| | | | | | | | 11 | 2462 | 0.985 | 99.8% | 19.75 | 19.75 | 0.668 | 0.670 | 0.281 | 0.282 | |
| | | | | | | Right Touch | 6 | 2437 | 0.462 | 99.8% | 19.75 | 19.75 | 0.394 | 0.395 | 0.154 | 0.154 | |
| | | | | | | Right Tilt | 6 | 2437 | 0.536 | 99.8% | 19.75 | 19.75 | 0.400 | 0.401 | 0.162 | 0.162 | |
| | | Body & Hotspot | 802.11b | Mode B | 5 | Rear | 1 | 2412 | 1.140 | 99.8% | 21.75 | 21.75 | 0.805 | 0.807 | 0.294 | 0.295 | |
| | | | | | | | 6 | 2437 | 1.900 | 99.8% | 21.75 | 21.75 | 1.120 | 1.123 | 0.386 | 0.387 | 82 |
| | | | | | | | 11 | 2462 | 1.360 | 99.8% | 21.75 | 21.75 | 0.953 | 0.955 | 0.345 | 0.346 | |
| | | | | | | Front | 6 | 2437 | 0.688 | 99.8% | 21.75 | 21.75 | 0.616 | 0.617 | 0.275 | 0.276 | |
| | | Hotspot | 802.11b | Mode B | 5 | Edge 1 | 6 | 2437 | 0.578 | 99.8% | 21.75 | 21.75 | | | | | |
| | | | | | | Edge 2 | 6 | 2437 | 0.888 | 99.8% | 21.75 | 21.75 | 0.607 | 0.608 | 0.245 | 0.246 | |
| Antenna | WWAN Power | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell ON | Body & Hotspot | 802.11b | Mode B | 5 | Rear | 6 | 2437 | 0.338 | 99.8% | 16.75 | 16.75 | 0.302 | 0.303 | 0.134 | 0.134 | 83 |
| | | | | | | Front | 6 | 2437 | 0.115 | 99.8% | 16.75 | 16.75 | | | | | |
| | | Hotspot | 802.11b | Mode B | 5 | Edge 3 | 6 | 2437 | 0.077 | 99.8% | 16.75 | 16.75 | | | | | |
| | | | | | | Edge 4 | 6 | 2437 | 0.181 | 99.8% | 16.75 | 16.75 | | | | | |
| Antenna | WWAN Power | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 | Cell ON | Head | 802.11b | Mode A | 0 | Left Touch | 6 | 2437 | 0.706 | 99.8% | 16.50 | 16.50 | 0.491 | 0.492 | 0.208 | 0.209 | 84 |
| | | | | | | Left Tilt | 6 | 2437 | 0.795 | 99.8% | 16.50 | 16.50 | 0.451 | 0.452 | 0.173 | 0.173 | |
| | | | | | | Right Touch | 6 | 2437 | 0.486 | 99.8% | 16.50 | 16.50 | | | | | |
| | | | | | | Right Tilt | 6 | 2437 | 0.550 | 99.8% | 16.50 | 16.50 | | | | | |
| | | Body & Hotspot | 802.11b | Mode B | 5 | Rear | 6 | 2437 | 0.718 | 99.8% | 18.50 | 18.50 | 0.448 | 0.449 | 0.196 | 0.196 | |
| | | | | | | Front | 6 | 2437 | 0.617 | 99.8% | 18.50 | 18.50 | 0.475 | 0.476 | 0.219 | 0.220 | 85 |
| | | Hotspot | 802.11b | Mode B | 5 | Edge 1 | 6 | 2437 | 0.475 | 99.8% | 18.50 | 18.50 | | | | | |
| | | | | | | Edge 2 | 6 | 2437 | 0.589 | 99.8% | 18.50 | 18.50 | | | | | |

# 10.22. Wi-Fi (U-NII Band)

| Antenna | WWAN Power | Band | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch # | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell OFF | U-NII-2A | Head | 802.11a | Mode A | 0 | Left Touch | 60 | 5300 | 0.195 | 99.0% | 21.00 | 21.00 | 0.073 | 0.074 | 0.022 | 0.022 | 86 |
| | | | | | | | Left Tilt | 60 | 5300 | 0.019 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | | | | | Right Touch | 60 | 5300 | 0.056 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | | | | | Right Tilt | 60 | 5300 | 0.054 | 99.0% | 21.00 | 21.00 | | | | | |
| | | U-NII-1 | Body & Airplay | 802.11a | Mode B | 5 | Rear | 40 | 5200 | 1.720 | 99.0% | 21.00 | 21.00 | 0.963 | 0.973 | 0.278 | 0.281 | |
| | | | | | | | | 44 | 5220 | 2.140 | 99.0% | 21.00 | 21.00 | 1.120 | 1.132 | 0.306 | 0.309 | 87 |
| | | | | | | | | 48 | 5240 | 1.530 | 99.0% | 21.00 | 21.00 | 0.991 | 1.001 | 0.286 | 0.289 | |
| | | | | | | | Front | 58 | 5290 | 0.316 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | Airplay | 802.11a | Mode B | 5 | Edge 3 | 58 | 5290 | 0.157 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | | | | | Edge 4 | 58 | 5290 | 0.223 | 99.0% | 21.00 | 21.00 | 0.113 | 0.114 | 0.038 | 0.038 | |
| Antenna | WWAN Power | Band | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch # | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell OFF | U-NII-2C | Head | 802.11a | Mode A | 0 | Left Touch | 144 | 5720 | 0.076 | 99.0% | 21.00 | 21.00 | 0.048 | 0.048 | 0.016 | 0.016 | 88 |
| | | | | | | | Left Tilt | 144 | 5720 | 0.044 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | | | | | Right Touch | 144 | 5720 | 0.048 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | | | | | Right Tilt | 144 | 5720 | 0.020 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 106 | 5530 | 0.683 | 95.6% | 17.50 | 17.50 | 0.429 | 0.449 | 0.127 | 0.133 | |
| | | | | | | | | 122 | 5610 | 1.400 | 95.6% | 19.25 | 19.25 | 0.797 | 0.833 | 0.252 | 0.263 | |
| | | | | | | | | 138 | 5690 | 1.470 | 95.6% | 19.25 | 19.25 | 0.995 | 1.040 | 0.265 | 0.277 | 89 |
| | | | | | | | Front | 138 | 5690 | 0.413 | 95.6% | 19.25 | 19.25 | 0.223 | 0.233 | 0.057 | 0.060 | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 3 | 138 | 5690 | 0.071 | 95.6% | 19.25 | 19.25 | | | | | |
| | | | | | | | Edge 4 | 138 | 5690 | 0.158 | 95.6% | 19.25 | 19.25 | | | | | |
| Antenna | WWAN Power | Band | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch # | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell OFF | U-NII-3 | Head | 802.11a | Mode A | 0 | Left Touch | 157 | 5785 | 0.085 | 99.0% | 21.50 | 21.50 | 0.046 | 0.046 | 0.017 | 0.017 | 90 |
| | | | | | | | Left Tilt | 157 | 5785 | 0.076 | 99.0% | 21.50 | 21.50 | | | | | |
| | | | | | | | Right Touch | 157 | 5785 | 0.032 | 99.0% | 21.50 | 21.50 | | | | | |
| | | | | | | | Right Tilt | 157 | 5785 | 0.104 | 99.0% | 21.50 | 21.50 | | | | | |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 155 | 5775 | 1.460 | 95.6% | 18.50 | 18.50 | 0.972 | 1.016 | 0.279 | 0.292 | 91 |
| | | | | | | | Front | 155 | 5775 | 0.844 | 95.6% | 18.50 | 18.50 | 0.404 | 0.422 | 0.117 | 0.122 | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 3 | 155 | 5775 | 0.199 | 95.6% | 18.50 | 18.50 | | | | | |
| | | | | | | | Edge 4 | 155 | 5775 | 0.304 | 95.6% | 18.50 | 18.50 | | | | | |
| Antenna | WWAN Power | Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch # | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT4 | Cell OFF | U-NII-2A | Head | 802.11a | Mode A | 0 | Left Touch | 56 | 5280 | 0.469 | 99.0% | 21.00 | 21.00 | | | | | |
| | | | | | | | Left Tilt | 56 | 5280 | 0.547 | 99.0% | 21.00 | 21.00 | 0.279 | 0.282 | 0.098 | 0.099 | |
| | | | | | | | Right Touch | 52 | 5260 | 1.420 | 99.0% | 21.00 | 21.00 | 0.723 | 0.731 | 0.217 | 0.219 | |
| | | | | | | | | 56 | 5280 | 1.010 | 99.0% | 21.00 | 21.00 | 0.729 | 0.737 | 0.210 | 0.212 | |
| | | | | | | | Right Tilt | 52 | 5260 | 1.480 | 99.0% | 21.00 | 21.00 | 0.782 | 0.790 | 0.198 | 0.200 | 92 |
| | | | | | | | | 56 | 5280 | 1.510 | 99.0% | 21.00 | 21.00 | 0.638 | 0.645 | 0.165 | 0.167 | |
| | | U-NII-1 | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 42 | 5210 | 1.280 | 95.6% | 16.50 | 16.50 | 0.958 | 1.002 | 0.241 | 0.252 | 93 |
| | | | | | | | Front | 42 | 5210 | 0.212 | 95.6% | 16.50 | 16.50 | 0.099 | 0.104 | 0.029 | 0.030 | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 1 | 42 | 5210 | 0.091 | 95.6% | 16.50 | 16.50 | | | | | |
| | | | | | | | Edge 4 | 42 | 5210 | 0.308 | 95.6% | 16.50 | 16.50 | 0.165 | 0.173 | 0.050 | 0.052 | |
| Antenna | WWAN Power | Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch # | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT4 | Cell OFF | U-NII-2C | Head | 802.11a | Mode A | 0 | Left Touch | 120 | 5600 | 1.170 | 99.0% | 21.00 | 21.00 | 0.569 | 0.575 | 0.176 | 0.178 | |
| | | | | | | | | 144 | 5720 | 1.690 | 99.0% | 21.00 | 21.00 | 0.796 | 0.804 | 0.236 | 0.238 | |
| | | | | | | | Left Tilt | 120 | 5600 | 1.390 | 99.0% | 21.00 | 21.00 | 0.697 | 0.704 | 0.210 | 0.212 | |
| | | | | | | | | 144 | 5720 | 1.690 | 99.0% | 21.00 | 21.00 | 0.833 | 0.842 | 0.250 | 0.253 | |
| | | | | | | | Right Touch | 104 | 5520 | 2.100 | 99.0% | 21.00 | 21.00 | 1.090 | 1.101 | 0.398 | 0.402 | 94 |
| | | | | | | | | 120 | 5600 | 1.620 | 99.0% | 21.00 | 21.00 | 0.879 | 0.888 | 0.266 | 0.269 | |
| | | | | | | | | 144 | 5720 | 1.620 | 99.0% | 21.00 | 21.00 | 0.913 | 0.923 | 0.251 | 0.254 | |
| | | | | | | | Right Tilt | 104 | 5520 | 1.590 | 99.0% | 21.00 | 21.00 | 0.778 | 0.786 | 0.216 | 0.218 | |
| | | | | | | | | 120 | 5600 | 1.930 | 99.0% | 21.00 | 21.00 | 0.870 | 0.879 | 0.234 | 0.236 | |
| | | | | | | | | 144 | 5720 | 2.050 | 99.0% | 21.00 | 21.00 | 0.904 | 0.913 | 0.237 | 0.239 | |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 106 | 5530 | 2.520 | 95.6% | 16.25 | 16.25 | 0.972 | 1.016 | 0.241 | 0.252 | |
| | | | | | | | | 122 | 5610 | 2.250 | 95.6% | 16.25 | 16.25 | 0.998 | 1.043 | 0.266 | 0.278 | |
| | | | | | | | | 138 | 5690 | 2.080 | 95.6% | 16.25 | 16.25 | 1.120 | 1.171 | 0.299 | 0.313 | 95 |
| | | | | | | | Front | 138 | 5690 | 0.154 | 95.6% | 16.25 | 16.25 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 1 | 138 | 5690 | 0.127 | 95.6% | 16.25 | 16.25 | | | | | |
| | | | | | | | Edge 4 | 138 | 5690 | 0.316 | 95.6% | 16.25 | 16.25 | 0.156 | 0.163 | 0.054 | 0.056 | |
| Antenna | WWAN Power | Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch # | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT4 | Cell OFF | U-NII-3 | Head | 802.11a | Mode A | 0 | Left Touch | 157 | 5785 | 1.180 | 99.0% | 21.50 | 21.50 | 0.599 | 0.605 | 0.193 | 0.195 | |
| | | | | | | | Left Tilt | 157 | 5785 | 0.677 | 99.0% | 21.50 | 21.50 | | | | | |
| | | | | | | | Right Touch | 149 | 5745 | 0.985 | 99.0% | 21.50 | 21.50 | 0.691 | 0.698 | 0.191 | 0.193 | |
| | | | | | | | | 157 | 5785 | 1.330 | 99.0% | 21.50 | 21.50 | 0.951 | 0.961 | 0.272 | 0.275 | |
| | | | | | | | | 165 | 5825 | 1.090 | 99.0% | 21.50 | 21.50 | 0.639 | 0.646 | 0.180 | 0.182 | |
| | | | | | | | Right Tilt | 149 | 5745 | 1.490 | 99.0% | 21.50 | 21.50 | 0.791 | 0.799 | 0.222 | 0.224 | |
| | | | | | | | | 157 | 5785 | 2.090 | 99.0% | 21.50 | 21.50 | 1.030 | 1.041 | 0.281 | 0.284 | 96 |
| | | | | | | | | 165 | 5825 | 1.740 | 99.0% | 21.50 | 21.50 | 0.728 | 0.736 | 0.185 | 0.187 | |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 155 | 5775 | 2.570 | 95.6% | 16.75 | 16.75 | 1.080 | 1.129 | 0.273 | 0.285 | 97 |
| | | | | | | | Front | 155 | 5775 | 0.216 | 95.6% | 16.75 | 16.75 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 1 | 155 | 5775 | 0.251 | 95.6% | 16.75 | 16.75 | | | | | |
| | | | | | | | Edge 4 | 155 | 5775 | 0.553 | 95.6% | 16.75 | 16.75 | 0.287 | 0.300 | 0.102 | 0.107 | |

ANT5 Power Mode A the $P_{Cell\_ON}$ is same as $P_{Cell\_OFF}$

| Antenna | WWAN Power | Band | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell ON | U-NII-1 | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 42 | 5210 | 0.285 | 95.6% | 14.50 | 14.50 | 0.202 | 0.211 | 0.052 | 0.055 | 98 |
| | | | | | | | Front | 42 | 5210 | 0.092 | 95.6% | 14.50 | 14.50 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 3 | 42 | 5210 | 0.022 | 95.6% | 14.50 | 14.50 | | | | | |
| | | | | | | | Edge 4 | 42 | 5210 | 0.042 | 95.6% | 14.50 | 14.50 | | | | | |
| Antenna | WWAN Power | Band | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell ON | U-NII-2C | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 138 | 5690 | 0.328 | 95.6% | 12.50 | 12.50 | 0.203 | 0.212 | 0.056 | 0.059 | 99 |
| | | | | | | | Front | 138 | 5690 | 0.158 | 95.6% | 12.50 | 12.50 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 3 | 138 | 5690 | 0.021 | 95.6% | 12.50 | 12.50 | | | | | |
| | | | | | | | Edge 4 | 138 | 5690 | 0.035 | 95.6% | 12.50 | 12.50 | | | | | |
| Antenna | WWAN Power | Band | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 | Cell ON | U-NII-3 | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 155 | 5775 | 0.344 | 95.6% | 11.75 | 11.75 | 0.189 | 0.198 | 0.057 | 0.060 | 100 |
| | | | | | | | Front | 155 | 5775 | 0.127 | 95.6% | 11.75 | 11.75 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 3 | 155 | 5775 | 0.051 | 95.6% | 11.75 | 11.75 | | | | | |
| | | | | | | | Edge 4 | 155 | 5775 | 0.068 | 95.6% | 11.75 | 11.75 | | | | | |
| Antenna | WWAN Power | Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT4 | Cell ON | U-NII-1 | Head | 802.11n (HT 40) | Mode A | 0 | Left Touch | 42 | 5210 | 0.227 | 97.8% | 18.50 | 18.50 | | | | | |
| | | | | | | | Left Tilt | 42 | 5210 | 0.331 | 97.8% | 18.50 | 18.50 | | | | | |
| | | | | | | | Right Touch | 42 | 5210 | 0.539 | 97.8% | 18.50 | 18.50 | 0.385 | 0.394 | 0.114 | 0.117 | 101 |
| | | | | | | | Right Tilt | 42 | 5210 | 0.667 | 97.8% | 18.50 | 18.50 | 0.341 | 0.349 | 0.091 | 0.093 | |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 42 | 5210 | 0.761 | 95.6% | 12.25 | 12.25 | 0.371 | 0.388 | 0.094 | 0.098 | 102 |
| | | | | | | | Front | 42 | 5210 | 0.067 | 95.6% | 12.25 | 12.25 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 1 | 42 | 5210 | 0.045 | 95.6% | 12.25 | 12.25 | | | | | |
| | | | | | | | Edge 4 | 42 | 5210 | 0.263 | 95.6% | 12.25 | 12.25 | 0.102 | 0.107 | 0.032 | 0.033 | |
| Antenna | WWAN Power | Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT4 | Cell ON | U-NII-2C | Head | 802.11ac (VHT80) | Mode A | 0 | Left Touch | 138 | 5690 | 0.234 | 95.6% | 19.00 | 19.00 | | | | | |
| | | | | | | | Left Tilt | 138 | 5690 | 0.201 | 95.6% | 19.00 | 19.00 | | | | | |
| | | | | | | | Right Touch | 138 | 5690 | 0.784 | 95.6% | 19.00 | 19.00 | 0.348 | 0.364 | 0.089 | 0.093 | |
| | | | | | | | Right Tilt | 138 | 5690 | 0.744 | 95.6% | 19.00 | 19.00 | 0.407 | 0.426 | 0.109 | 0.114 | 103 |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 138 | 5690 | 0.974 | 95.6% | 12.00 | 12.00 | 0.357 | 0.373 | 0.097 | 0.101 | 104 |
| | | | | | | | Front | 138 | 5690 | 0.155 | 95.6% | 12.00 | 12.00 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 1 | 138 | 5690 | 0.070 | 95.6% | 12.00 | 12.00 | | | | | |
| | | | | | | | Edge 4 | 138 | 5690 | 0.158 | 95.6% | 12.00 | 12.00 | 0.127 | 0.133 | 0.040 | 0.042 | |
| Antenna | WWAN Power | Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Area Scan Max. SAR (W/kg) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT4 | Cell ON | U-NII-3 | Head | 802.11a | Mode A | 0 | Left Touch | 157 | 5785 | 0.618 | 99.0% | 20.00 | 20.00 | | | | | |
| | | | | | | | Left Tilt | 157 | 5785 | 0.373 | 99.0% | 20.00 | 20.00 | | | | | |
| | | | | | | | Right Touch | 157 | 5785 | 0.465 | 99.0% | 20.00 | 20.00 | 0.385 | 0.389 | 0.109 | 0.110 | |
| | | | | | | | Right Tilt | 157 | 5785 | 0.652 | 99.0% | 20.00 | 20.00 | 0.409 | 0.413 | 0.113 | 0.114 | 105 |
| | | | Body & Airplay | 802.11ac (VHT80) | Mode B | 5 | Rear | 155 | 5775 | 0.647 | 95.6% | 12.50 | 12.50 | 0.385 | 0.403 | 0.102 | 0.107 | 106 |
| | | | | | | | Front | 155 | 5775 | 0.124 | 95.6% | 12.50 | 12.50 | | | | | |
| | | | Airplay | 802.11ac (VHT80) | Mode B | 5 | Edge 1 | 155 | 5775 | 0.135 | 95.6% | 12.50 | 12.50 | | | | | |
| | | | | | | | Edge 4 | 155 | 5775 | 0.278 | 95.6% | 12.50 | 12.50 | 0.086 | 0.090 | 0.027 | 0.028 | |

## 10.23. Bluetooth

ANT5 Power Mode A the $P_{high}$ is same as $P_{standalone}$

| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 $P_{low}$ | Head | GFSK | Mode A | 0 | Left Touch | 39 | 2441 | 100.0% | 16.00 | 16.00 | 0.030 | 0.030 | 0.015 | 0.015 | 107 |
| | | | | | Left Tilt | 39 | 2441 | 100.0% | 16.00 | 16.00 | 0.006 | 0.006 | 0.002 | 0.002 | |
| | | | | | Right Touch | 39 | 2441 | 100.0% | 16.00 | 16.00 | 0.019 | 0.019 | 0.007 | 0.007 | |
| | | | | | Right Tilt | 39 | 2441 | 100.0% | 16.00 | 16.00 | 0.014 | 0.014 | 0.006 | 0.006 | |
| | Body & Hotspot | GFSK | Mode B | 5 | Rear | 39 | 2441 | 100.0% | 12.50 | 12.50 | 0.076 | 0.076 | 0.033 | 0.033 | 108 |
| | | | | | Front | 39 | 2441 | 100.0% | 12.50 | 12.50 | 0.040 | 0.040 | 0.020 | 0.020 | |
| | Hotspot | GFSK | Mode B | 5 | Edge 3 | 39 | 2441 | 100.0% | 12.50 | 12.50 | 0.034 | 0.034 | 0.014 | 0.014 | |
| | | | | | Edge 4 | 39 | 2441 | 100.0% | 12.50 | 12.50 | 0.065 | 0.065 | 0.029 | 0.029 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 $P_{high}$ | Body & Hotspot | GFSK | Mode B | 5 | Rear | 39 | 2441 | 100.0% | 16.50 | 16.50 | 0.217 | 0.217 | 0.093 | 0.093 | 109 |
| | | | | | Front | 39 | 2441 | 100.0% | 16.50 | 16.50 | 0.055 | 0.055 | 0.027 | 0.027 | |
| | Hotspot | GFSK | Mode B | 5 | Edge 3 | 39 | 2441 | 100.0% | 16.50 | 16.50 | 0.046 | 0.046 | 0.020 | 0.020 | |
| | | | | | Edge 4 | 39 | 2441 | 100.0% | 16.50 | 16.50 | 0.103 | 0.103 | 0.159 | 0.159 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT5 $P_{standlone}$ | Head | GFSK | Mode A | 0 | Left Touch | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.125 | 0.125 | 0.069 | 0.069 | 110 |
| | | | | | Left Tilt | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.088 | 0.088 | 0.039 | 0.039 | |
| | | | | | Right Touch | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.072 | 0.072 | 0.078 | 0.078 | |
| | | | | | Right Tilt | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.051 | 0.051 | 0.025 | 0.025 | |
| | Body & Hotspot | GFSK | Mode B | 5 | Rear | 39 | 2441 | 100.0% | 19.00 | 19.00 | 0.411 | 0.411 | 0.168 | 0.168 | 111 |
| | | | | | Front | 39 | 2441 | 100.0% | 19.00 | 19.00 | 0.100 | 0.100 | 0.051 | 0.051 | |
| | Hotspot | GFSK | Mode B | 5 | Edge 3 | 39 | 2441 | 100.0% | 19.00 | 19.00 | 0.079 | 0.079 | 0.033 | 0.033 | |
| | | | | | Edge 4 | 39 | 2441 | 100.0% | 19.00 | 19.00 | 0.182 | 0.182 | 0.077 | 0.077 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 $P_{low}$ | Head | GFSK | Mode A | 0 | Left Touch | 39 | 2441 | 100.0% | 10.00 | 10.00 | 0.093 | 0.093 | 0.038 | 0.038 | 112 |
| | | | | | Left Tilt | 39 | 2441 | 100.0% | 10.00 | 10.00 | 0.089 | 0.089 | 0.124 | 0.124 | |
| | | | | | Right Touch | 39 | 2441 | 100.0% | 10.00 | 10.00 | 0.039 | 0.039 | 0.015 | 0.015 | |
| | | | | | Right Tilt | 39 | 2441 | 100.0% | 10.00 | 10.00 | 0.033 | 0.033 | 0.014 | 0.014 | |
| | Body & Hotspot | GFSK | Mode B | 5 | Rear | 39 | 2441 | 100.0% | 10.50 | 10.50 | 0.072 | 0.072 | 0.025 | 0.025 | 113 |
| | | | | | Front | 39 | 2441 | 100.0% | 10.50 | 10.50 | 0.070 | 0.070 | 0.026 | 0.026 | |
| | Hotspot | GFSK | Mode B | 5 | Edge 1 | 39 | 2441 | 100.0% | 10.50 | 10.50 | 0.097 | 0.097 | 0.035 | 0.035 | 120 |
| | | | | | Edge 2 | 39 | 2441 | 100.0% | 10.50 | 10.50 | 0.094 | 0.094 | 0.039 | 0.039 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 $P_{high}$ | Head | GFSK | Mode A | 0 | Left Touch | 39 | 2441 | 100.0% | 15.50 | 15.50 | 0.245 | 0.245 | 0.095 | 0.095 | 114 |
| | | | | | Left Tilt | 39 | 2441 | 100.0% | 15.50 | 15.50 | 0.189 | 0.189 | 0.078 | 0.078 | |
| | | | | | Right Touch | 39 | 2441 | 100.0% | 15.50 | 15.50 | 0.099 | 0.099 | 0.039 | 0.039 | |
| | | | | | Right Tilt | 39 | 2441 | 100.0% | 15.50 | 15.50 | 0.104 | 0.104 | 0.046 | 0.046 | |
| | Body & Hotspot | GFSK | Mode B | 5 | Rear | 39 | 2441 | 100.0% | 17.50 | 17.50 | 0.170 | 0.170 | 0.067 | 0.067 | |
| | | | | | Front | 39 | 2441 | 100.0% | 17.50 | 17.50 | 0.172 | 0.172 | 0.075 | 0.075 | 115 |
| | Hotspot | GFSK | Mode B | 5 | Edge 1 | 39 | 2441 | 100.0% | 17.50 | 17.50 | 0.206 | 0.206 | 0.077 | 0.077 | 121 |
| | | | | | Edge 2 | 39 | 2441 | 100.0% | 17.50 | 17.50 | 0.160 | 0.160 | 0.068 | 0.068 | |
| Antenna | RF Exposure Conditions | Mode | Power Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Duty Cycle | Power (dBm) | | 1-g SAR (W/kg) | | 10-g SAR (W/kg) | | Plot No. |
| | | | | | | | | | Tune-up Limit | Meas. | Meas. | Scaled | Meas. | Scaled | |
| ANT2 $P_{standlone}$ | Head | GFSK | Mode A | 0 | Left Touch | 39 | 2441 | 100.0% | 18.00 | 18.00 | 0.413 | 0.413 | 0.167 | 0.167 | 116 |
| | | | | | Left Tilt | 39 | 2441 | 100.0% | 18.00 | 18.00 | 0.291 | 0.291 | 0.114 | 0.114 | |
| | | | | | Right Touch | 39 | 2441 | 100.0% | 18.00 | 18.00 | 0.161 | 0.161 | 0.064 | 0.064 | |
| | | | | | Right Tilt | 39 | 2441 | 100.0% | 18.00 | 18.00 | 0.166 | 0.166 | 0.061 | 0.061 | |
| | Body & Hotspot | GFSK | Mode B | 5 | Rear | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.403 | 0.403 | 0.176 | 0.176 | 117 |
| | | | | | Front | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.286 | 0.286 | 0.131 | 0.131 | |
| | Hotspot | GFSK | Mode B | 5 | Edge 1 | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.425 | 0.425 | 0.175 | 0.175 | |
| | | | | | Edge 2 | 39 | 2441 | 100.0% | 20.00 | 20.00 | 0.443 | 0.443 | 0.180 | 0.180 | 122 |

# 11. SAR Measurement Variability

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

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

| Frequency Band (MHz) | Air Interface | RF Exposure Conditions | Test Position | Repeated SAR (Yes/No) | Highest Measured SAR (W/kg) | First Repeated | |
|---|---|---|---|---|---|---|---|
| | | | | | | Measured SAR (W/kg) | Largest to Smallest SAR Ratio |
| 700 | LTE Band 12 | Body & Hotspot | Rear | No | 0.957 | N/A | N/A |
| | LTE Band 13 | Hotspot | Edge 4 | Yes | 1.090 | 1.060 | 1.03 |
| | LTE Band 14 | Body & Hotspot | Rear | No | 1.080 | N/A | N/A |
| 850 | GSM 850 | Body & Hotspot | Rear | No | 0.720 | N/A | N/A |
| | WCDMA Band 5 | Body & Hotspot | Rear | Yes | 0.882 | 0.815 | 1.08 |
| | CDMA BC10 | Body & Hotspot | Rear | No | 0.845 | N/A | N/A |
| | CDMA BC0 | Hotspot | Edge 4 | No | 0.739 | N/A | N/A |
| | LTE Band 26 | Hotspot | Edge 4 | No | 0.712 | N/A | N/A |
| 1700 | WCDMA Band 4 | Body & Hotspot | Rear | No | 0.995 | N/A | N/A |
| | LTE Band 66 | Hotspot | Edge 3 | Yes | 1.090 | 1.020 | 1.07 |
| 1900 | GSM 1900 | Body & Hotspot | Rear | Yes | 1.070 | 1.050 | 1.02 |
| | WCDMA Band 2 | Body & Hotspot | Rear | No | 0.985 | N/A | N/A |
| | CDMA BC1 | Body & Hotspot | Rear | No | 1.040 | N/A | N/A |
| | LTE Band 25 | Body & Hotspot | Rear | No | 1.040 | N/A | N/A |
| 2300 | LTE Band 30 | Body & Hotspot | Rear | Yes | 1.090 | 1.040 | 1.05 |
| 2400 | Wi-Fi 802.11b/g/n | Body & Hotspot | Rear | Yes | 1.120 | 1.090 | 1.03 |
| | BT | Hotspot | Edge 2 | No | 0.443 | N/A | N/A |
| 2600 | LTE Band 7 | Body & Hotspot | Rear | Yes | 1.080 | 1.050 | 1.03 |
| | LTE Band 41 | Body & Hotspot | Rear | No | 1.040 | N/A | N/A |
| 5200 | Wi-Fi 802.11a/n/ac | Body & Airplay | Rear | Yes | 1.120 | 1.070 | 1.05 |
| 5300 | Wi-Fi 802.11a/n/ac | Head | Right Tilt | No | 0.782 | N/A | N/A |
| 5500 | Wi-Fi 802.11a/n/ac | Body & Airplay | Rear | Yes | 1.120 | 1.090 | 1.03 |
| 5800 | Wi-Fi 802.11a/n/ac | Body & Airplay | Rear | Yes | 1.080 | 1.070 | 1.01 |

**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 < 1.20.

# 12. Simultaneous Transmission Conditions

KDB 447498 D01 General RF Exposure Guidance provides two procedures for determining simultaneous transmission SAR test exclusion: Sum of SAR and SAR to Peak Location Ratio (SPLSR)

## Sum of SAR

To qualify for simultaneous transmission SAR test exclusion based upon Sum of SAR the sum of the reported standalone SARs for all simultaneously transmitting antennas shall be below the applicable standalone SAR limit. If the sum of the SARs is above the applicable limit then simultaneous transmission SAR test exclusion may still apply if the requirements of the SAR to Peak Location Ratio (SPLSR) evaluation are met.

## SAR to Peak Location Ratio (SPLSR)

KDB 447498 D01 General RF Exposure Guidance explains how to calculate the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$$

Where:

$SAR_1$ is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

$SAR_2$ is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

***Ri*** is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / Ri \leq 0.04$$

When an individual antenna transmits at on two bands simultaneously, the sum of the highest *reported* SAR for the frequency bands should be used to determine $SAR_1$.or $SAR_2$. When SPLSR is necessary, the smallest distance between the peak SAR locations for the antenna pair with respect to the peaks from each antenna should be used.

The antennas in all antenna pairs that do not qualify for simultaneous transmission SAR test exclusion must be tested for SAR compliance, according to the enlarged zoom scan and volume scan post-processing procedures in KDB Publication 865664 D01

## Simultaneous transmission SAR measurement

When simultaneous transmission SAR measurements are required in different frequency bands not covered by a single probe calibration point then separate tests for each frequency band are performed. The tests are performed using enlarged zoom scans which are processed, by means of superposition, using the DASY volume scan post-processing procedures to determine the 1-g SAR for the aggregate SAR distribution.

The spatial resolution used for all enlarged zoom scans is the same as used for the most stringent zoom scans. I.E. the scan parameters required for the highest frequency assessed are used for all enlarged zoom scans. The scans cover the complete area of the device to ensure all transmitting antennas and radiating structures are assessed.

DASY provides the ability to perform Multiband Evaluations according to the latest standards using the Volume Scan job as well as appropriate routines for the Post-processing.

In order to extract and process measurements within different frequency bands, the SEMCAD X Post-processor performs the combination and subsequent superposition of these measurement data via DASY = Combined MultiBand Averaged SAR.

Combined Multi Band Averaged SAR allows - in addition to the data extraction - an evaluation of the 1 g, 10 g and/or arbitrary averaged mass SAR.

Power Scaling Factor is used to allow the volume scans to be scaled by a value other than "1", this is important when the results need to be scaled to different maximum power levels. The Power Scaling Factor is applied to each individual point of the scan. When power scaling is used in multi-band combinations the scaling factor is applied to each individual point of the first scan, the second factor is then applied to each individual point of the second scan and so on. The scans are then combined.

According to KDB publication 248227 D01, simultaneous SAR provisions in KDB Publication 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

In Airplay mode, the device uses same power and power control mechanism as Wi-Fi. Airplay is not supported in hotspot mode. Airplay utilize the same 802.11 modes, modulation, MIMO, Channel Bandwidth, etc. as Wi-Fi does. Therefore Airplay usage is categorized by the Wi-Fi SAR testing contained in Section 10.

The simultaneous transmission possibilities for this device are listed as below.

| RF Exposure Condition | Item | Capable Transmit Configurations | | | | |
|---|---|---|---|---|---|---|
| Head<br>Body Worn Accessory<br>Hotspot (for 2.4 GHz)<br>Airplay (for 2.4/5 GHz) | 1 | WWAN OFF (CELLULAR ANTENNAS OFF) | + | (ANT4) Wi-Fi 5 GHz SISO | + | (ANT2) Bluetooth ($P_{High}$) |
| | 2 | | + | (ANT5) Wi-Fi 5 GHz SISO | + | (ANT2) Bluetooth ($P_{High}$) |
| | 3 | | + | Wi-Fi 5 GHz MIMO | + | (ANT2) Bluetooth ($P_{High}$) |
| | 4 | | + | (ANT4) Wi-Fi 5 GHz SISO | + | (ANT5) Bluetooth ($P_{High}$) |
| | 5 | | + | (ANT5) Wi-Fi 5 GHz SISO | + | (ANT5) Bluetooth ($P_{High}$) |
| | 6 | | + | Wi-Fi 5 GHz MIMO | + | (ANT5) Bluetooth ($P_{High}$) |
| | 7 | WWAN ON (CELLULAR ANTENNAS ON) | + | (ANT2) Wi-Fi 2.4 GHz SISO | | |
| | 8 | | + | (ANT5) Wi-Fi 2.4 GHz SISO | | |
| | 9 | | + | Wi-Fi 2.4 GHz MIMO | | |
| | 10 | | | | + | (ANT2) Bluetooth ($P_{High}$) |
| | 11 | | | | + | (ANT5) Bluetooth ($P_{High}$) |
| | 12 | | + | (ANT4) Wi-Fi 5 GHz SISO | | |
| | 13 | | + | (ANT5) Wi-Fi 5 GHz SISO | | |
| | 14 | | + | Wi-Fi 5 GHz MIMO | | |
| | 15 | | + | (ANT4) Wi-Fi 5 GHz SISO | + | (ANT2) Bluetooth ($P_{low}$) |
| | 16 | | + | (ANT5) Wi-Fi 5 GHz SISO | + | (ANT2) Bluetooth ($P_{low}$) |
| | 17 | | + | Wi-Fi 5 GHz MIMO | + | (ANT2) Bluetooth ($P_{low}$) |
| | 18 | | + | (ANT4) Wi-Fi 5 GHz SISO | + | (ANT5) Bluetooth ($P_{low}$) |
| | 19 | | + | (ANT5) Wi-Fi 5 GHz SISO | + | (ANT5) Bluetooth ($P_{low}$) |
| | 20 | | + | Wi-Fi 5 GHz MIMO | + | (ANT5) Bluetooth ($P_{low}$) |

**Note(s):**

1. Wi-Fi 2.4GHz & Bluetooth cannot transmit simultaneously.
2. Wi-Fi 2.4GHz & Wi-Fi 5GHz cannot transmit simultaneously.
3. WWAN ANT1 and ANT2 cannot transmit simultaneously.
4. Bluetooth $P_{low}$ is used with Wi-Fi and WWAN antennas are active.
5. Bluetooth $P_{high}$ is used when Wi-Fi antenna is active and WWAN antenna is inactive or with Wi-Fi inactive and WWAN antenna is active.
6. Bluetooth $P_{standalone}$ is used with Wi-Fi and WWAN antennas are inactive.
7. Condition 3 is covered by conditions 1 and 2.
8. Condition 6 is covered by conditions 4 and 5.
9. Condition 17 is covered by conditions 15 and 16.
10. Condition 20 is covered by conditions 18 and 19.

## 12.1. Sum of the SAR for WWAN Cell-off & Wi-Fi & BT results

| RF Exposure conditions | Test Position | Standalone SAR (W/kg) | | | | ∑ 1-g SAR (W/kg) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1+3 | 1+4 | 2+3 | 2+4 |
| | | Wi-Fi 5G ANT5 | Wi-Fi 5G ANT4 | BT($P_{high}$) ANT5 | BT($P_{high}$) ANT2 | | | | |
| Head | Left Touch | 0.074 | 0.804 | 0.125 | 0.245 | 0.199 | 0.319 | 0.929 | 1.049 |
| | Left Tilt | 0.074 | 0.842 | 0.088 | 0.189 | 0.162 | 0.263 | 0.930 | 1.031 |
| | Right Touch | 0.074 | 1.101 | 0.072 | 0.099 | 0.146 | 0.173 | 1.173 | 1.200 |
| | Right Tilt | 0.074 | 1.041 | 0.051 | 0.104 | 0.125 | 0.178 | 1.092 | 1.145 |
| Body-worn & Hotspot | Rear | 1.132 | 1.171 | 0.217 | 0.170 | 1.349 | 1.302 | 1.388 | 1.341 |
| | Front | 0.422 | 0.104 | 0.055 | 0.172 | 0.477 | 0.594 | 0.159 | 0.276 |
| Hotspot | Edge 1 | | 0.104 | | 0.206 | 0.000 | 0.206 | 0.104 | 0.310 |
| | Edge 2 | | | | 0.160 | 0.000 | 0.160 | 0.000 | 0.160 |
| | Edge 3 | 0.114 | | 0.046 | | 0.160 | 0.114 | 0.046 | 0.000 |
| | Edge 4 | 0.114 | 0.300 | 0.103 | | 0.217 | 0.114 | 0.403 | 0.300 |

## 12.2. Sum of the SAR for WWAN Cell-on(ANT1) & Wi-Fi & BT results

| RF Exposure conditions | Test Position | Standalone SAR (W/kg) | | | | | ∑ 1-g SAR (W/kg) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 6 | 7 | 1+2 | 1+3 | 1+6 | 1+7 |
| | | WWAN Cell-on ANT1 | Wi-Fi 2.4G ANT5 | Wi-Fi 2.4G ANT2 | BT($P_{high}$) ANT5 | BT($P_{high}$) ANT2 | | | | |
| Head | Left Touch | 0.889 | 0.143 | 0.492 | 0.125 | 0.245 | 1.033 | 1.381 | 1.014 | 1.134 |
| | Left Tilt | 0.329 | 0.143 | 0.452 | 0.088 | 0.189 | 0.472 | 0.781 | 0.417 | 0.518 |
| | Right Touch | 0.508 | 0.143 | 0.452 | 0.072 | 0.099 | 0.652 | 0.960 | 0.580 | 0.607 |
| | Right Tilt | 0.432 | 0.143 | 0.452 | 0.051 | 0.104 | 0.575 | 0.884 | 0.483 | 0.536 |
| Body-worn & Hotspot | Rear | 1.098 | 0.303 | 0.449 | 0.217 | 0.170 | 1.401 | 1.547 | 1.315 | 1.268 |
| | Front | 0.755 | 0.303 | 0.476 | 0.055 | 0.172 | 1.058 | 1.231 | 0.810 | 0.927 |
| Hotspot | Edge 2 | 0.618 | | 0.449 | | 0.160 | 0.618 | 1.067 | 0.618 | 0.778 |
| | Edge 3 | 1.099 | 0.303 | | 0.046 | | 1.402 | 1.099 | 1.145 | 1.099 |
| | Edge 4 | 1.090 | 0.303 | | 0.103 | | 1.393 | 1.090 | 1.193 | 1.090 |

| RF Exposure conditions | Test Position | Standalone SAR (W/kg) | | | | | ∑ 1-g SAR (W/kg) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 4 | 5 | 8 | 9 | 1+4+8 | 1+4+9 | 1+5+8 | 1+5+9 |
| | | WWAN Cell-on ANT1 | Wi-Fi 5G ANT5 | Wi-Fi 5G ANT4 | BT($P_{Low}$) ANT5 | BT($P_{Low}$) ANT2 | | | | |
| Head | Left Touch | 0.889 | 0.074 | 0.394 | 0.030 | 0.093 | 0.993 | 1.056 | 1.313 | 1.376 |
| | Left Tilt | 0.329 | 0.074 | 0.394 | 0.006 | 0.089 | 0.409 | 0.492 | 0.729 | 0.812 |
| | Right Touch | 0.508 | 0.074 | 0.394 | 0.019 | 0.039 | 0.601 | 0.621 | 0.921 | 0.941 |
| | Right Tilt | 0.432 | 0.074 | 0.426 | 0.014 | 0.033 | 0.520 | 0.539 | 0.872 | 0.891 |
| Body-worn & Airplay | Rear | 1.098 | 0.212 | 0.403 | 0.076 | 0.072 | 1.386 | 1.382 | 1.577 | 1.573 |
| | Front | 0.755 | 0.212 | 0.133 | 0.040 | 0.070 | 1.007 | 1.037 | 0.928 | 0.958 |
| Airplay | Edge 2 | 0.618 | | | | 0.094 | 0.618 | 0.712 | 0.618 | 0.712 |
| | Edge 3 | 1.099 | 0.212 | | 0.034 | | 1.345 | 1.311 | 1.133 | 1.099 |
| | Edge 4 | 1.090 | 0.212 | 0.133 | 0.065 | | 1.367 | 1.302 | 1.288 | 1.223 |

## 12.3. Sum of the SAR for WWAN Cell-on(ANT2) & Wi-Fi & BT results

| RF Exposure conditions | Test Position | Standalone SAR (W/kg) | | | | | ∑ 1-g SAR (W/kg) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 6 | 7 | 1+2 | 1+3 | 1+6 | 1+7 |
| | | WWAN Cell-on ANT2 | Wi-Fi 2.4G ANT5 | Wi-Fi 2.4G ANT2 | BT($P_{high}$) ANT5 | BT($P_{high}$) ANT2 | | | | |
| Head | Left Touch | 0.898 | 0.143 | 0.492 | 0.125 | 0.245 | 1.041 | 1.390 | 1.023 | 1.143 |
| | Left Tilt | 0.899 | 0.143 | 0.452 | 0.088 | 0.189 | 1.043 | 1.352 | 0.987 | 1.088 |
| | Right Touch | 0.887 | 0.143 | 0.452 | 0.072 | 0.099 | 1.030 | 1.339 | 0.959 | 0.986 |
| | Right Tilt | 0.898 | 0.143 | 0.452 | 0.051 | 0.104 | 1.041 | 1.350 | 0.949 | 1.002 |
| Body-worn & Hotspot | Rear | 0.896 | 0.303 | 0.449 | 0.217 | 0.170 | 1.199 | 1.345 | 1.113 | 1.066 |
| | Front | 0.605 | 0.303 | 0.476 | 0.055 | 0.172 | 0.908 | 1.081 | 0.660 | 0.777 |
| Hotspot | Edge 1 | 0.705 | | 0.449 | | 0.206 | 0.705 | 1.154 | 0.705 | 0.911 |
| | Edge 2 | 0.787 | | 0.449 | | 0.160 | 0.787 | 1.236 | 0.787 | 0.947 |
| | Edge 4 | 0.478 | 0.303 | | 0.103 | | 0.781 | 0.478 | 0.581 | 0.478 |

| RF Exposure conditions | Test Position | Standalone SAR (W/kg) | | | | | ∑ 1-g SAR (W/kg) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 4 | 5 | 8 | 9 | 1+4+8 | 1+4+9 | 1+5+8 | 1+5+9 |
| | | WWAN Cell-on ANT2 | Wi-Fi 5G ANT5 | Wi-Fi 5G ANT4 | BT($P_{Low}$) ANT5 | BT($P_{Low}$) ANT2 | | | | |
| Head | Left Touch | 0.898 | 0.074 | 0.394 | 0.030 | 0.093 | 1.002 | 1.065 | 1.322 | 1.385 |
| | Left Tilt | 0.899 | 0.074 | 0.394 | 0.006 | 0.089 | 0.979 | 1.062 | 1.299 | 1.382 |
| | Right Touch | 0.887 | 0.074 | 0.394 | 0.019 | 0.039 | 0.980 | 1.000 | 1.300 | 1.320 |
| | Right Tilt | 0.898 | 0.074 | 0.426 | 0.014 | 0.033 | 0.986 | 1.005 | 1.338 | 1.357 |
| Body-worn & Airplay | Rear | 0.896 | 0.212 | 0.403 | 0.076 | 0.072 | 1.184 | 1.180 | 1.375 | 1.371 |
| | Front | 0.605 | 0.212 | 0.133 | 0.040 | 0.070 | 0.857 | 0.887 | 0.778 | 0.808 |
| Airplay | Edge 1 | 0.705 | | 0.133 | | 0.097 | 0.705 | 0.802 | 0.838 | 0.935 |
| | Edge 2 | 0.787 | | | | 0.094 | 0.787 | 0.881 | 0.787 | 0.881 |
| | Edge 4 | 0.478 | 0.212 | 0.133 | 0.065 | | 0.755 | 0.690 | 0.676 | 0.611 |

# Appendixes

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

**12216366-S1V1 Appendix A: SAR Setup Photos**

**12216366-S1V1 Appendix B: SAR System Check Plots**

**12216366-S1V1 Appendix C: Highest SAR Test Plots**

**12216366-S1V1 Appendix D: SAR Liquid Tissue Ingredients**

**12216366-S1V1 Appendix E: SAR Probe Calibration Certificates**

**12216366-S1V1 Appendix F: SAR Dipole Calibration Certificates**

**END OF REPORT**