



SAR EVALUATION REPORT

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

For
Cellular Phone with Bluetooth and WLAN Radios

**FCC ID: BCG-E3092A
Model Name: A1784**

**Report Number: 16U23366-S1V9
Issue Date: 9/1/2016**

Prepared for
**APPLE, INC.
1 INFINITE LOOP, MS 26A
CUPERTINO, CA 95014-2084**

Prepared by
**UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**



NVLAP LAB CODE 200065-0

Revision History

Rev.	Date	Revisions	Revised By
V1	7/29/2016	Initial Issue	--
V2	7/31/2016	Report revised based on reviewer's feedback: 1. Sec. 2.: Updated 2. Sec.6.3: Updated Table. 3. Sec. 9.3, 10.6, 11, 12.14 and 12.48: Added LTE Band 2	Art Thammanavarat
V3	8/2/2016	Report revised based on reviewer's feedback: 1. Sec. 10: Added note.	Art Thammanavarat
V4	8/8/2016	Report revised based on reviewer's feedback: 1. Sec. 9.3. & 10.10.: LTE Band 12 UAT corrected typo	Kenneth Mak
V5	8/10/2016	Report revised based on reviewer's feedback: 1. Sec. 9.4: Updated Table.	Art Thammanavarat
V6	8/17/2016	Report revised based on reviewer's feedback: 1. Sec. 1., 4.3., 8., 10., 12.: Updated for additional testing for LTE CA Band 7 and 41. 2. Sec. 9: Added note for Wi-Fi power 3. Sec. 9.4: Updated tables and notes 4. Appendixes B, C: Updated.	Kenneth Mak
V7	8/27/2016	Report revised based on reviewer's feedback: 1. Sec.1: Updated Table. Rounded values to 2 decimal places. 2. Sec.2: Updated note. 3. Sec. 6.1: Update DUT description. 4. Sec. 6.3.: Updated table. 5. Sec. 6.2 to 6.5.: Added note. 6. Sec. 7: Added note. 7. Sec. 9.4: Update. 8. Sec. 9.6-9.9: Added note. 9. Sec. 9.10.: Updated. 10. Sec. 10: Added note. 11. Sec. 10.27: Updated table. 12. Sec. 10.28: Updated. 13. Sec. 11.: Updated table. 14. Sec. 12.: Updated table 15. Appendix B & C: Updated	Ray Su
V8	8/31/2016	Report revised based on reviewer's feedback: 1. Sec.2: Updated note. 2. Sec. 6.2 to 6.5.: Updated note. 3. Sec. 9.4: Updated statement. 4. Sec. 9.5 to 9.8: Updated note. 5. Sec. 9.9.: Added note. 6. Sec. 10: Added note. 7. Sec. 12.2.: Removed table	Ray Su
V9	9/1/2016	Report revised based on reviewer's feedback: 1. Sec. 9.4: Added statement and measured output power tables for LTE-2CA SAR test cases	Kenneth Mak

Table of Contents

1.	Attestation of Test Results	7
2.	Test Specification, Methods and Procedures.....	8
3.	Facilities and Accreditation	9
4.	SAR Measurement System & Test Equipment	10
4.1.	<i>SAR Measurement System.....</i>	<i>10</i>
4.2.	<i>SAR Scan Procedures.....</i>	<i>11</i>
4.3.	<i>Test Equipment.....</i>	<i>13</i>
5.	Measurement Uncertainty.....	17
6.	Device Under Test (DUT) Information	18
6.1.	<i>DUT Description</i>	<i>18</i>
6.2.	<i>Wireless Technologies.....</i>	<i>19</i>
6.3.	<i>Maximum Output Power from Tune-up Procedure</i>	<i>20</i>
6.3.1.	<i>WLAN SISO (P_{Cell_ON})</i>	<i>22</i>
6.3.2.	<i>WLAN MIMO (P_{Cell_ON})</i>	<i>26</i>
6.3.3.	<i>WLAN SISO (P_{Cell_OFF})</i>	<i>30</i>
6.3.4.	<i>WLAN MIMO (P_{Cell_OFF})</i>	<i>34</i>
6.4.	<i>General LTE SAR Test and Reporting Considerations.....</i>	<i>38</i>
6.5.	<i>LTE (TDD) Considerations.....</i>	<i>41</i>
7.	RF Exposure Conditions (Test Configurations)	42
8.	Dielectric Property Measurements & System Check	44
8.1.	<i>Dielectric Property Measurements</i>	<i>44</i>
8.2.	<i>System Check.....</i>	<i>52</i>
9.	Conducted Output Power Measurements.....	56
9.1.	<i>GSM</i>	<i>56</i>
9.2.	<i>W-CDMA</i>	<i>58</i>
9.3.	<i>LTE.....</i>	<i>64</i>
9.4.	<i>LTE Rel. 11 Carrier Aggregation.....</i>	<i>90</i>
9.5.	<i>WLAN SISO (P_{Cell_ON})</i>	<i>103</i>
9.6.	<i>WLAN MIMO (P_{Cell_ON})</i>	<i>104</i>
9.7.	<i>WLAN SISO (P_{Cell_OFF})</i>	<i>105</i>
9.8.	<i>WLAN MIMO (P_{Cell_OFF})</i>	<i>106</i>
9.9.	<i>Bluetooth</i>	<i>107</i>
10.	Measured and Reported (Scaled) SAR Results.....	108

10.1.	GSM850	110
10.2.	GSM1900	111
10.3.	W-CDMA Band V	112
10.4.	W-CDMA Band IV	113
10.5.	W-CDMA Band II.....	114
10.6.	LTE Band 2 (20MHz Bandwidth)	115
10.7.	LTE Band 4 (20MHz Bandwidth)	116
10.8.	LTE Band 5 (10MHz Bandwidth)	118
10.9.	LTE Band 7 (20MHz Bandwidth)	119
10.10.	LTE Band 12 (10MHz Bandwidth)	121
10.11.	LTE Band 13 (10MHz Bandwidth)	122
10.12.	LTE Band 17 (10MHz Bandwidth)	123
10.13.	LTE Band 25 (20MHz Bandwidth)	124
10.14.	LTE Band 26 (10MHz Bandwidth)	126
10.15.	LTE Band 27 (10MHz Bandwidth)	127
10.16.	LTE Band 30 (10MHz Bandwidth)	128
10.17.	LTE Band 41 (20MHz Bandwidth)	129
10.18.	LTE-2CA Band 7 (20MHz + 20MHz BW).....	131
10.19.	LTE-2CA Band 41 (20MHz + 20MHz BW).....	131
10.20.	Wi-Fi (DTS Band).....	132
10.21.	Wi-Fi (U-NII-1 and U-NII-2A Band).....	134
10.22.	Wi-Fi (U-NII-2C Band)	136
10.23.	Wi-Fi (U-NII-3 Band).....	138
10.24.	Wi-Fi Variant 2 Spot Check	140
10.25.	Bluetooth.....	142
11.	SAR Measurement Variability.....	143
12.	Simultaneous Transmission SAR Analysis.....	144
12.1.	Sum of the SAR for Wi-Fi (Cell Off) & BT(P_{high})	145
12.2.	Sum of the SAR for GSM850 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low}).....	146
12.3.	Sum of the SAR for GSM850 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	146
12.4.	Sum of the SAR for GSM1900 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low}).....	147
12.5.	Sum of the SAR for GSM1900 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	147
12.6.	Sum of the SAR for W-CDMA V (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	148
12.7.	Sum of the SAR for W-CDMA V (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low}).....	148
12.8.	Sum of the SAR for W-CDMA IV (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	149
12.9.	Sum of the SAR for W-CDMA IV (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low}).....	149
12.10.	Sum of the SAR for W-CDMA II (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low}).....	150

12.11.	Sum of the SAR for W-CDMA II (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	150
12.12.	Sum of the SAR for LTE Band 2 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	151
12.13.	Sum of the SAR for LTE Band 2 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	151
12.14.	Sum of the SAR for LTE Band 4 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	152
12.15.	Sum of the SAR for LTE Band 4 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	152
12.16.	Sum of the SAR for LTE Band 5 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	153
12.17.	Sum of the SAR for LTE Band 5 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	153
12.18.	Sum of the SAR for LTE Band 7 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	154
12.19.	Sum of the SAR for LTE Band 7 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	154
12.20.	Sum of the SAR for LTE Band 12 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	155
12.21.	Sum of the SAR for LTE Band 12 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	155
12.22.	Sum of the SAR for LTE Band 13 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	156
12.23.	Sum of the SAR for LTE Band 13 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	156
12.24.	Sum of the SAR for LTE Band 17 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	157
12.25.	Sum of the SAR for LTE Band 17 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	157
12.26.	Sum of the SAR for LTE Band 25 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	158
12.27.	Sum of the SAR for LTE Band 25 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	158
12.28.	Sum of the SAR for LTE Band 26 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	159
12.29.	Sum of the SAR for LTE Band 26 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	159
12.30.	Sum of the SAR for LTE Band 27 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	160
12.31.	Sum of the SAR for LTE Band 27 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	160
12.32.	Sum of the SAR for LTE Band 30 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	161
12.33.	Sum of the SAR for LTE Band 30 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	161
12.34.	Sum of the SAR for LTE Band 41 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	162
12.35.	Sum of the SAR for LTE Band 41 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	162
12.36.	Sum of the SAR for LTE-2CA Band 7 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	163
12.37.	Sum of the SAR for LTE-2CA Band 41 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})	163
12.38.	Sum of the SAR for GSM850 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	164
12.39.	Sum of the SAR for GSM850 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	164
12.40.	Sum of the SAR for GSM1900 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	165
12.41.	Sum of the SAR for GSM1900 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	165
12.42.	Sum of the SAR for W-CDMA V (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	166
12.43.	Sum of the SAR for W-CDMA V (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	166
12.44.	Sum of the SAR for W-CDMA IV (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	167
12.45.	Sum of the SAR for W-CDMA IV (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	167
12.46.	Sum of the SAR for W-CDMA II (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	168
12.47.	Sum of the SAR for W-CDMA II (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	168

12.48.	Sum of the SAR for LTE Band 2 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	169
12.49.	Sum of the SAR for LTE Band 2 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	169
12.50.	Sum of the SAR for LTE Band 4 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	170
12.51.	Sum of the SAR for LTE Band 4 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	170
12.52.	Sum of the SAR for LTE Band 5 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	171
12.53.	Sum of the SAR for LTE Band 5 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	171
12.54.	Sum of the SAR for LTE Band 7 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	172
12.55.	Sum of the SAR for LTE Band 7 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	172
12.56.	Sum of the SAR for LTE Band 12 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	173
12.57.	Sum of the SAR for LTE Band 12 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	173
12.58.	Sum of the SAR for LTE Band 13 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	174
12.59.	Sum of the SAR for LTE Band 13 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	174
12.60.	Sum of the SAR for LTE Band 17 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	175
12.61.	Sum of the SAR for LTE Band 17 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	175
12.62.	Sum of the SAR for LTE Band 25 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	176
12.63.	Sum of the SAR for LTE Band 25 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	176
12.64.	Sum of the SAR for LTE Band 26 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	177
12.65.	Sum of the SAR for LTE Band 26 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	177
12.66.	Sum of the SAR for LTE Band 27 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	178
12.67.	Sum of the SAR for LTE Band 27 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	178
12.68.	Sum of the SAR for LTE Band 30 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	179
12.69.	Sum of the SAR for LTE Band 30 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	179
12.70.	Sum of the SAR for LTE Band 41 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	180
12.71.	Sum of the SAR for LTE Band 41 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	180
12.72.	Sum of the SAR for LTE-2CA Band 7 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	181
12.73.	Sum of the SAR for LTE-2CA Band 41 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})	181

Appendixes	182
16U23366-S1V1 SAR_App A Setup Photos (STC_180days)	182
16U23366-S1V3 SAR_App B System Check Plots	182
16U23366-S1V4 SAR_App C Highest Test Plots	182
16U23366-S1V1 SAR_App D Tissue Ingredients	182
16U23366-S1V1 SAR_App E Probe Cal. Certificates	182
16U23366-S1V1 SAR_App F Dipole Cal. Certificates	182

1. Attestation of Test Results

Applicant Name	APPLE, INC.			
FCC ID	BCG-E3092A			
Model Name	A1784			
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
Exposure Category	SAR Limits (W/Kg)			
	Peak spatial-average(1g of tissue)			
General population / Uncontrolled exposure	1.6			
RF Exposure Conditions	Equipment Class - Highest Reported SAR (W/kg)			
	PCE	DTS	NII	DSS
Head	1.09	1.12	1.19	0.54
Body-worn	1.14	0.73	1.19	0.29
Hotspot/Airplay	1.14	0.73	1.19	N/A
Simultaneous TX	Head	1.42	1.37	1.42
	Body-worn	1.54	1.54	1.53
	Hotspot/Airplay	1.54	1.54	N/A
Date Tested	7/8/2016 to 7/28/2016; Additional LTE CA testing: 8/15/2016 to 8/17/2016; Additional Bluetooth testing: 8/25/2016			
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:
	
Bobby Bayani Senior Engineer UL Verification Services Inc.	Chakrit Thammanavarat Engineer 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 & manufacturer KDB inquiries:

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

Additional Guidance: Manufacturer KDB enquiry.

- Carrier Aggregation – KDB guidance to identify test cases with uplink carrier aggregation enabled in conjunction with FCC PAG Guidance for the test cases mentioned in Sec. 10.
- Detect Mode – KDB guidance related to SAR testing for proprietary detection mode used to determine proximity to head or body and set power accordingly for Wi-Fi and Cellular Transmitters.
- Cellular State Dependent Wi-Fi Power control – KDB guidance related to power control mechanism for Wi-Fi and Bluetooth transmitters based on the operational state of the Wi-Fi and Cellular Transmitters. The Wi-Fi and Bluetooth power configuration are listed as follows:
 - For Wi-Fi
 - P_{Cell_ON} : This will be used when both Cellular and Wi-Fi radios are ON.
 - P_{Cell_OFF} : This will be used when only Wi-Fi radio is ON
 - For Bluetooth
 - Bluetooth P_{high} is used when Wi-Fi antenna is active and Cellular antenna is inactive.
 - Bluetooth P_{low} is used with Wi-Fi and Cellular antenna is active or Wi-Fi antenna inactive and Cellular antenna is active.
 - Bluetooth $P_{standalone}$ is used with Wi-Fi and Cellular antennas are inactive.

The above power configurations for Wi-Fi and Bluetooth are triggered by all of the Cellular Bands with respect to the different Antennas and Exposure Conditions – Head, Body, and Hotspot has been verified and validated by the Manufacturer. Also, all of the UL CA conditions operate correctly with the intended maximum output power levels in simulated normal operating conditions using the Base Station Simulator and has been verified and validated by the Manufacturer.

3. Facilities and Accreditation

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

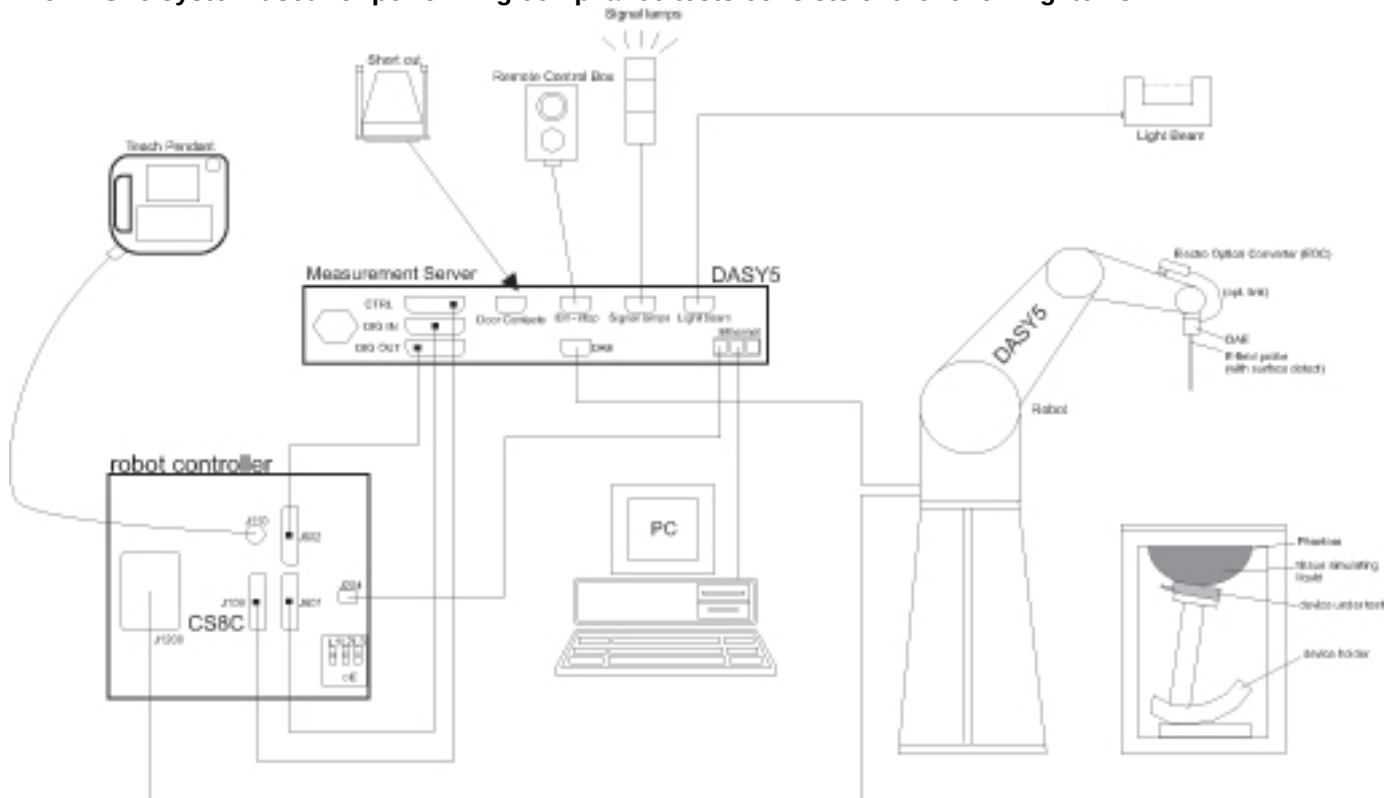
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	
SAR Lab G	
SAR Lab H	

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

Step 3: Zoom Scan

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

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

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

Step 4: Power drift measurement

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

Step 5: Z-Scan (FCC only)

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

4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	8753ES	MY40000980	4/27/2017
Dielectric Probe kit	SPEAG	DAK-3.5	1082	9/15/2016
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Traceable Calibration Control Co.	4242	140562250	8/24/2016
Network Analyzer	Agilent	8753ES	MY40001647	7/28/2016
Dielectric Probe kit	SPEAG	DAK-3.5	1087	11/10/2016
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	11/10/2016
Thermometer	Fisher Scientific	Traceable	140493798	8/4/2016

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	Agilent	N5181A	MY50140610	5/9/2017
Power Meter	Agilent	N1912A	MY50001018	10/19/2016
Power Sensor	Agilent	E9323A	MY53070007	2/27/2017
Power Sensor	Agilent	E9323A	MY53070002	3/22/2017
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795093	N/A
Directional coupler	Werlatone	C8060-102	2149	N/A
DC Power Supply	AMETEK	XT 15-4	1319A02778	N/A
Synthesized Signal Generator	Agilent	8665B	CCS-167	9/4/2016
Power Meter	HP	437B	3125U11347	8/28/2016
Power Meter	HP	437B	3125U11364	8/10/2016
Power Sensor	HP	8481A	2702A76223	9/3/2016
Power Sensor	HP	8481A	3318A95392	9/16/2016
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8000-102	2710	N/A
DC Power Supply	BK PRECISION	1611	215-02292	N/A
Signal Generator	Agilent	N5181A	MY50140630	5/9/2017
Power Meter	HP	437B	3125U12345	7/31/2016
Power Sensor	HP	8481A	1926A27048	12/17/2016
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Bi-directional coupler	Werlatone, Inc.	C8060-102	2141	N/A
DC Power Supply	HP	6296A	2841A-05955	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3751	11/18/2016
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	3991	5/12/2017
E-Field Probe (SAR Lab C)	SPEAG	EX3DV4	3902	5/17/2017
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	3885	9/18/2016
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	7335	3/22/2017
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3749	1/26/2017
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3990	3/22/2017
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	3989	2/23/2017
E-Field Probe (SAR Lab 1)	SPEAG	EX3DV4	3929	3/22/2017
E-Field Probe (SAR Lab 2)	SPEAG	EX3DV4	3772	2/23/2017
E-Field Probe (SAR Lab 3)	SPEAG	EX3DV4	3901	1/26/2017
E-Field Probe (SAR Lab 4)	SPEAG	EX3DV4	3773	4/19/2017
E-Field Probe (SAR Lab 5)	SPEAG	EX3DV4	3871	8/14/2016
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1377	9/14/2016
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1259	1/21/2017
Data Acquisition Electronics (SAR Lab C)	SPEAG	DAE4	500	5/19/2017
Data Acquisition Electronics (SAR Lab D)	SPEAG	DAE4	1433	3/17/2017
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1472	3/24/2017
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1352	11/11/2016
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1359	2/19/2017
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1357	2/19/2017
Data Acquisition Electronics (SAR Lab 1)	SPEAG	DAE4	1434	4/15/2017
Data Acquisition Electronics (SAR Lab 2)	SPEAG	DAE4	1257	9/16/2016
Data Acquisition Electronics (SAR Lab 3)	SPEAG	DAE4	1360	3/16/2017
Data Acquisition Electronics (SAR Lab 4)	SPEAG	DAE4	1239	4/14/2017
Data Acquisition Electronics (SAR Lab 5)	SPEAG	DAE4	1258	5/10/2017
Thermometer (SAR Lab A)	EXTECH	445703	CCS-249	9/16/2016
Thermometer (SAR Lab B)	EXTECH	445703	CCS-206	3/17/2017
Thermometer (SAR Lab C)	EXTECH	445703	CCS-202	3/17/2017
Thermometer (SAR Lab D)	EXTECH	445703	CCS-201	5/10/2017
Thermometer (SAR Lab E,F,G,H)	EXTECH	445703	CCS-282	1/11/2017
Thermometer (SAR Lab 1)	EXTECH	445703	CCS-205	3/24/2017
Thermometer (SAR Lab 2)	EXTECH	445703	CCS-203	3/24/2017
Thermometer (SAR Lab 3)	EXTECH	445703	CCS-237	6/6/2017
Thermometer (SAR Lab 4)	EXTECH	445703	CCS-238	6/6/2017
Thermometer (SAR Lab 5)	EXTECH	445703	CCS-239	6/13/2017

Dipoles

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
System Validation Dipole	SPEAG	D750V3	1071	11/12/2016
System Validation Dipole	SPEAG	D835V2	4d002	11/12/2016
System Validation Dipole	SPEAG	D835V2	4d142	9/23/2016
System Validation Dipole	SPEAG	D1750V2	1053	8/11/2016
System Validation Dipole	SPEAG	D1750V2	1077	9/22/2016
System Validation Dipole	SPEAG	D1750V2	1050	4/13/2017
System Validation Dipole	SPEAG	D1900V2	5d043	11/17/2016
System Validation Dipole	SPEAG	D1900V2	5d163	9/21/2016
System Validation Dipole	SPEAG	D1900V2	5d140	4/12/2017
System Validation Dipole	SPEAG	D2300V2	1002	3/18/2017
System Validation Dipole	SPEAG	D2450V2	706	5/10/2017
System Validation Dipole	SPEAG	D2450V2	748	2/22/2017
System Validation Dipole	SPEAG	D2600V2	1006	9/21/2016
System Validation Dipole	SPEAG	D2600V2	1036	3/18/2017
System Validation Dipole	SPEAG	D5GHzV2	1003	2/24/2017
System Validation Dipole	SPEAG	D5GHzV2	1138	9/23/2016
System Validation Dipole	SPEAG	D5GHzV2	1168	11/13/2016

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Power Meter	Agilent	N1912A	MY55196009	5/3/2017
Power Sensor	Agilent	N1921A	MY53020038	3/22/2017
Base Station Simulator	R & S	CMW500	137877	8/10/2016
Base Station Simulator	R & S	CMW500	134855	5/26/2017
Base Station Simulator	R & S	CMW500	135393	3/21/2017
Base Station Simulator	R & S	CMW500	104245	1/28/2017
Base Station Simulator	R & S	CMW500	135390	4/13/2017

Notes:

1. Equipment was not used after their calibration due date.

Additional LTE CA testing 8/15/2016 to 8/17/2016:**Dielectric Property Measurements**

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	8753ES	MY40000980	4/27/2017
Dielectric Probe kit	SPEAG	DAK-3.5	1082	9/15/2016
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Traceable Calibration Control Co.	4242	140562250	8/24/2016

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	Agilent	N5181A	MY50140610	5/9/2017
Power Meter	Agilent	N1912A	MY50001018	10/19/2016
Power Sensor	Agilent	E9323A	MY53070007	2/27/2017
Power Sensor	Agilent	E9323A	MY53070002	3/22/2017
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795093	N/A
Directional coupler	Werlatone	C8060-102	2149	N/A
DC Power Supply	AMETEK	XT 15-4	1319A02778	N/A
Signal Generator	Agilent	N5181A	MY50140630	5/9/2017
Power Meter	HP	437B	3125U09248	9/3/2016
Power Sensor	Agilent	8481A	3318A92374	9/16/2016
Power Sensor	HP	8481A	1926A27048	12/17/2016
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Bi-directional coupler	Werlatone, Inc.	C8060-102	2141	N/A
DC Power Supply	HP	6296A	2841A-05955	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3751	11/18/2016
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	3991	5/12/2017
E-Field Probe (SAR Lab C)	SPEAG	EX3DV4	3902	5/17/2017
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1377	9/14/2016
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1259	1/21/2017
Data Acquisition Electronics (SAR Lab C)	SPEAG	DAE3	500	5/19/2017
Thermometer (SAR Lab A)	EXTECH	445703	CCS-249	9/16/2016
Thermometer (SAR Lab B)	EXTECH	445703	CCS-206	3/17/2017
Thermometer (SAR Lab C)	EXTECH	445703	CCS-202	3/17/2017

Dipoles

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
System Validation Dipole	SPEAG	D2600V2	1006	9/21/2016

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Base Station Simulator	R & S	CMW500	143093	8/10/2017
Base Station Simulator	R & S	CMW500	118023	8/11/2017
Base Station Simulator	R & S	CMW500	137873	7/8/2017

5. Measurement Uncertainty

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

6. Device Under Test (DUT) Information

6.1. DUT Description

Model A1784 is a mobile phone with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/HSUPA, LTE FDD/TDD & Carrier Aggregation, VoLTE radio, IEEE 802.11a/b/g/n/ac radio 2x2 MIMO, Bluetooth radio and NFC. The rechargeable battery is not user accessible.

This device has two cellular antennas (UAT and LAT) as well as multiple Wi-Fi/Bluetooth antennas (Chain 0 and Chain 1).

The device is capable of switching between the LAT and UAT based on signal strength.

The antenna switching is implemented with a physical, “break-before-make” switch such that only one antenna can be used for cellular transmission at a time.

There are two vendors of the Wi-Fi/Bluetooth radio modules: Variant 1 and Variant 2 and they have the same mechanical outline, same on board antenna, matching circuit, antenna structure and same specification. Complete SAR evaluation is performed on Variant 1. The worst case configurations for each operation mode and frequency band are repeated for Variant 2. It is confirmed that Variant 1 represents the worst case.

Device Dimension	Overall (Length x Width): 158.2 mm x 77.9 mm Overall Diagonal: 166 mm Display Diagonal: 140 mm
Back Cover	☒ The rechargeable battery is not user accessible.
Battery Options	☒ The rechargeable battery is not user accessible.
Accessory	Headset
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☐ Mobile Hotspot (Wi-Fi 5 GHz)
AirPlay	AirPlay mode enabled devices transfer data directly between each other ☒ AirPlay (Wi-Fi 2.4 GHz) ☒ AirPlay (Wi-Fi 5 GHz)

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☒ Class 10 - 2 Up, 4 Down ☐ Class 12 - 4 Up, 4 Down ☐ Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 FDD Band 27 FDD Band 30 TDD Band 41	QPSK 16QAM ☒ Rel. 11 Carrier Aggregation (2 Uplinks and 3 Downlinks), UE Category 10		100% (FDD) 63.3% (TDD) This device supports uplink-downlink configuration 0-6. The configuration with the highest duty cycle was used (config. 0 at 63.3%).
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)		100%
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)		100%
	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 4.2 LE		77.5% (DH5)

Notes:

- The Bluetooth protocol is considered source-based averaging. Bluetooth EDR, GFSK (DH5) was verified to have the highest duty cycle of 77.5% and is considered and used for SAR testing. Under LTE mode, the duty cycle is at 50%

6.3. Maximum Output Power from Tune-up Procedure

KDB 447498 sec.4.1.(3) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit. The following values include tolerance. The selection between UAT and LAT in application is based on RSSI based antenna selection. The selection between head and body power levels is based on body-detect mechanism as described in the KDB guidance for test cases approved through Manufacturer KDB inquiry - Detect mode. Hotspot exposure condition is evaluated using body powers.

RF Air interface	Mode	Max. Avg. RF Output Power (dBm)							
		UAT				LAT			
		Head		Body		Head		Body	
		Burst	Frame	Burst	Frame	Burst	Frame	Burst	Frame
GSM850	Voice/GPRS (1 slot)	31.0	22.0	31.0	22.0	33.5	24.5	33.5	24.5
	GPRS 2 slots	30.0	24.0	30.0	24.0	32.5	26.5	32.5	26.5
	EGPRS 1 slot	26.5	17.5	26.5	17.5	29.0	20.0	29.0	20.0
	EGPRS 2 slots	25.5	19.5	25.5	19.5	28.0	22.0	28.0	22.0
GSM1900	Voice/GPRS (1 slot)	26.2	17.2	26.2	17.2	31.5	22.5	29.8	20.7
	GPRS 2 slots	25.0	19.0	25.2	19.2	30.5	24.5	26.8	20.7
	EGPRS 1 slot	24.5	15.5	24.5	15.5	28.0	19.0	28.0	19.0
	EGPRS 2 slots	23.5	17.5	23.5	17.5	27.0	21.0	25.8	19.7

RF Air interface	Mode	Max. Avg. RF Output Power (dBm)			
		UAT		LAT	
		Head	Body	Head	Body
W-CDMA Band V	R99	23.0	23.0	25.0	25.0
	HSDPA	23.0	23.0	25.0	25.0
	HSUPA	23.0	23.0	25.0	25.0
	DC-HSDPA	23.0	23.0	25.0	25.0
	HSPA+	23.0	23.0	25.0	25.0
W-CDMA Band IV	R99	19.3	21.3	25.2	22.0
	HSDPA	19.3	21.3	25.2	22.0
	HSUPA	19.3	21.3	25.2	22.0
	DC-HSDPA	19.3	21.3	25.2	22.0
	HSPA+	19.3	21.3	25.2	22.0
W-CDMA Band II	R99	18.8	21.5	25.2	20.8
	HSDPA	18.8	21.5	25.2	20.8
	HSUPA	18.8	21.5	25.2	20.8
	DC-HSDPA	18.8	21.5	25.2	20.8
	HSPA+	18.8	21.5	25.2	20.8
LTE Band 2	QPSK	18.8	21.0	25.0	20.8
LTE Band 4	QPSK	19.3	21.0	25.0	22.0
LTE Band 5	QPSK	22.5	22.5	24.0	24.0
LTE Band 7	QPSK	16.3	19.0	25.0	19.0
LTE Band 12	QPSK	23.5	23.5	25.0	25.0
LTE Band 13	QPSK	23.5	23.5	25.0	25.0
LTE Band 17	QPSK	23.5	23.5	25.0	25.0
LTE Band 25	QPSK	18.8	21.0	24.0	20.8
LTE Band 26	QPSK	22.5	22.5	24.0	24.0
LTE Band 27	QPSK	22.5	22.5	24.0	24.0
LTE Band 30	QPSK	17.5	20.0	24.0	19.5
LTE Band 41	QPSK	18.5	20.0	24.5	19.8
LTE-2CA Band 7	QPSK	16.3	19.0	24.0	19.0
LTE-2CA Band 41	QPSK	18.5	19.5	24.0	19.8
RF Air interface	Mode	Max. Avg. RF Output Power (dBm)			
Bluetooth P _{high}		13.0			
Bluetooth P _{low}		10.0			
Bluetooth P _{standalone}		16.5			

Notes:

1. LTE QPSK configuration has the highest maximum average output power per 3GPP standard.
2. Bluetooth P_{high} is used when Wi-Fi antenna is active and Cellular antenna is inactive.
3. Bluetooth P_{low} is used with Wi-Fi and Cellular antennas are active or with Wi-Fi inactive and Cellular antenna is active.
4. Bluetooth P_{standalone} is used with Wi-Fi and Cellular antennas are inactive.

6.3.1. WLAN SISO (P_{Cell_ON})

P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
2.4	802.11b	1 Tx	1	2412	12.8	19.0	17.0	15.0	Yes
			6	2437	12.8	19.0	17.0	15.0	
			11	2462	12.8	19.0	17.0	15.0	
			12	2467	12.8	17.5	17.0	15.0	
			13	2472	12.8	13.5	13.5	13.5	
	802.11g	1 Tx	1	2412	12.8	15.0	15.0	15.0	No
			2	2417	12.8	17.5	17.0	15.0	
			3	2422	12.8	19.0	17.0	15.0	
			6	2437	12.8	19.0	17.0	15.0	
			9	2452	12.8	19.0	17.0	15.0	
			10	2457	12.8	16.0	16.0	15.0	
			11	2462	12.8	14.5	14.5	14.5	
			12	2467	12.5	12.5	12.5	12.5	
			13	2472	2.5	2.5	2.5	2.5	
	802.11n	1 Tx HT20	1	2412	12.8	15.0	15.0	15.0	No
			2	2417	12.8	17.5	17.0	15.0	
			3	2422	12.8	19.0	17.0	15.0	
			6	2437	12.8	19.0	17.0	15.0	
			9	2452	12.8	19.0	17.0	15.0	
			10	2457	12.8	16.0	16.0	15.0	
			11	2462	12.8	14.5	14.5	14.5	
			12	2467	12.5	12.5	12.5	12.5	
			13	2472	2.5	2.5	2.5	2.5	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.2	802.11a	1 Tx	36	5180	6.3	17.5	15.8	11.0	Yes
			40	5200	6.3	19.0	15.8	11.0	
			44	5220	6.3	20.5	15.8	11.0	
			48	5240	6.3	19.5	15.8	11.0	
	802.11n	1 Tx HT20	36	5180	6.3	17.5	15.8	11.0	No
			40	5200	6.3	19.0	15.8	11.0	
			44	5220	6.3	20.5	15.8	11.0	
			48	5240	6.3	19.5	15.8	11.0	
		1 Tx HT40	38	5190	6.3	15.5	15.5	11.0	Yes
			46	5230	6.3	18.5	15.8	11.0	
	802.11ac	1 Tx VHT20	36	5180	6.3	17.5	15.8	11.0	No
			40	5200	6.3	19.0	15.8	11.0	
			44	5220	6.3	20.5	15.8	11.0	
			48	5240	6.3	19.5	15.8	11.0	
		1 Tx VHT40	38	5190	6.3	15.5	15.5	11.0	No
			46	5230	6.3	18.5	15.8	11.0	
		1 Tx VHT80	42	5210	6.3	15.0	15.0	11.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.3	802.11a	1 Tx	52	5260	5.0	19.5	13.5	9.3	No
			56	5280	5.0	20.0	13.5	9.3	
			60	5300	5.0	19.0	13.5	9.3	
			64	5320	5.0	16.5	13.5	9.3	
	802.11n	1 Tx HT20	52	5260	5.0	19.5	13.5	9.3	No
			56	5280	5.0	20.0	13.5	9.3	
			60	5300	5.0	19.0	13.5	9.3	
			64	5320	5.0	16.5	13.5	9.3	
		1 Tx HT40	54	5270	5.0	18.5	13.5	9.3	No
			62	5310	5.0	14.5	13.5	9.3	
	802.11ac	1 Tx VHT20	52	5260	5.0	19.5	13.5	9.3	No
			56	5280	5.0	20.0	13.5	9.3	
			60	5300	5.0	19.0	13.5	9.3	
			64	5320	5.0	16.5	13.5	9.3	
		1 Tx VHT40	54	5270	5.0	18.5	13.5	9.3	No
			62	5310	5.0	14.5	13.5	9.3	
		1 Tx VHT80	58	5290	5.0	14.5	13.5	9.3	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.5	802.11a	1 Tx	100	5500	5.0	16.5	11.0	8.5	No
			104	5520	5.0	19.0	11.0	8.5	
			108	5540	5.0	19.5	11.0	8.5	
			112	5560	5.0	19.5	11.0	8.5	
			116	5580	5.0	19.5	11.0	8.5	
			120	5600	5.0	19.5	11.0	8.5	
			124	5620	5.0	19.5	11.0	8.5	
			128	5640	5.0	19.5	11.0	8.5	
			132	5660	5.0	19.5	11.0	8.5	
			136	5680	5.0	19.0	11.0	8.5	
			140	5700	5.0	16.5	11.0	8.5	
			144	5720	5.0	19.0	11.0	8.5	
	802.11n	1 Tx HT20	100	5500	5.0	16.5	11.0	8.5	No
			104	5520	5.0	19.0	11.0	8.5	
			108	5540	5.0	19.5	11.0	8.5	
			112	5560	5.0	19.5	11.0	8.5	
			116	5580	5.0	19.5	11.0	8.5	
			120	5600	5.0	19.5	11.0	8.5	
			124	5620	5.0	19.5	11.0	8.5	
			128	5640	5.0	19.5	11.0	8.5	
			132	5660	5.0	19.5	11.0	8.5	
			136	5680	5.0	19.0	11.0	8.5	
			140	5700	5.0	16.5	11.0	8.5	
			144	5720	5.0	19.0	11.0	8.5	
		1 Tx HT40	102	5510	5.0	15.5	11.0	8.5	Yes
			110	5550	5.0	18.5	11.0	8.5	
			118	5590	5.0	19.5	11.0	8.5	
			126	5630	5.0	18.5	11.0	8.5	
			134	5670	5.0	17.5	11.0	8.5	
			142	5710	5.0	19.0	11.0	8.5	
	802.11ac	1 Tx VHT20	100	5500	5.0	16.5	11.0	8.5	No
			104	5520	5.0	19.0	11.0	8.5	
			108	5540	5.0	19.5	11.0	8.5	
			112	5560	5.0	19.5	11.0	8.5	
			116	5580	5.0	19.5	11.0	8.5	
			120	5600	5.0	19.5	11.0	8.5	
			124	5620	5.0	19.5	11.0	8.5	
			128	5640	5.0	19.5	11.0	8.5	
			132	5660	5.0	19.5	11.0	8.5	
			136	5680	5.0	19.0	11.0	8.5	
			140	5700	5.0	16.5	11.0	8.5	
			144	5720	5.0	19.0	11.0	8.5	
		1 Tx VHT40	102	5510	5.0	15.5	11.0	8.5	No
			110	5550	5.0	18.5	11.0	8.5	
			118	5590	5.0	19.5	11.0	8.5	
			126	5630	5.0	18.5	11.0	8.5	
			134	5670	5.0	17.5	11.0	8.5	
			142	5710	5.0	19.0	11.0	8.5	
1 Tx VHT80		106	5530	5.0	14.0	11.0	8.5	Yes	
		122	5610	5.0	19.0	11.0	8.5		
		138	5690	5.0	19.0	11.0	8.5		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.8	802.11a	1 Tx	149	5745	5.0	19.5	11.3	13.5	Yes
			153	5765	5.0	20.0	11.3	13.5	
			157	5785	5.0	20.0	11.3	13.5	
			161	5805	5.0	20.0	11.3	13.5	
			165	5825	5.0	19.5	11.3	13.5	
	802.11n	1 Tx HT20	149	5745	5.0	19.5	11.3	13.5	No
			153	5765	5.0	20.0	11.3	13.5	
			157	5785	5.0	20.0	11.3	13.5	
			161	5805	5.0	20.0	11.3	13.5	
			165	5825	5.0	19.5	11.3	13.5	
		1 Tx HT40	151	5755	5.0	19.0	11.3	13.5	No
			159	5795	5.0	19.0	11.3	13.5	
	802.11ac	1 Tx VHT20	149	5745	5.0	19.5	11.3	13.5	No
			153	5765	5.0	20.0	11.3	13.5	
			157	5785	5.0	20.0	11.3	13.5	
			161	5805	5.0	20.0	11.3	13.5	
			165	5825	5.0	19.5	11.3	13.5	
		1 Tx VHT40	151	5755	5.0	19.0	11.3	13.5	No
			159	5795	5.0	19.0	11.3	13.5	
		1 Tx VHT80	155	5775	5.0	19.0	11.3	13.5	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.2. WLAN MIMO (P_{Cell_ON})

P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max.Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
2.4	802.11g	2 Tx CDD	1	2412	12.8	15.0	15.0	15.0	Yes
			2	2417	12.8	17.5	17.0	15.0	
			3	2422	12.8	19.0	17.0	15.0	
			6	2437	12.8	19.0	17.0	15.0	
			9	2452	12.8	19.0	17.0	15.0	
			10	2457	12.8	16.0	16.0	15.0	
			11	2462	12.8	14.5	14.5	14.5	
			12	2467	12.5	12.5	12.5	12.5	
			13	2472	2.5	2.5	2.5	2.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	1	2412	12.8	14.5	14.5	14.5	No
			2	2417	12.8	17.5	17.0	15.0	
			3	2422	12.8	19.0	17.0	15.0	
			6	2437	12.8	19.0	17.0	15.0	
			9	2452	12.8	19.0	17.0	15.0	
			10	2457	12.8	16.0	16.0	15.0	
			11	2462	12.8	14.0	14.0	14.0	
			12	2467	12.0	12.0	12.0	12.0	
			13	2472	2.5	2.5	2.5	2.5	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.2	802.11a	2 Tx CDD	36	5180	6.3	17.0	15.8	11.0	No
			40	5200	6.3	18.0	15.8	11.0	
			44	5220	6.3	18.0	15.8	11.0	
			48	5240	6.3	18.0	15.8	11.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	36	5180	6.3	17.0	15.8	11.0	No
			40	5200	6.3	18.0	15.8	11.0	
			44	5220	6.3	18.0	15.8	11.0	
			48	5240	6.3	18.0	15.8	11.0	
		2 Tx HT40 CDD/STBC/SDM	38	5190	6.3	13.5	13.5	11.0	Yes
			46	5230	6.3	17.5	15.8	11.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	36	5180	6.3	17.0	15.8	11.0	No
			40	5200	6.3	18.0	15.8	11.0	
			44	5220	6.3	18.0	15.8	11.0	
			48	5240	6.3	18.0	15.8	11.0	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	6.3	13.5	13.5	11.0	No
			46	5230	6.3	17.5	15.8	11.0	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	6.3	13.0	13.0	11.0	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.3	802.11a	2 Tx CDD	52	5260	5.0	18.0	13.5	9.3	No
			56	5280	5.0	18.0	13.5	9.3	
			60	5300	5.0	18.0	13.5	9.3	
			64	5320	5.0	16.5	13.5	9.3	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	52	5260	5.0	18.0	13.5	9.3	No
			56	5280	5.0	18.0	13.5	9.3	
			60	5300	5.0	18.0	13.5	9.3	
			64	5320	5.0	16.5	13.5	9.3	
		2 Tx HT40 CDD/STBC/SDM	54	5270	5.0	18.5	13.5	9.3	Yes
			62	5310	5.0	14.0	13.5	9.3	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	52	5260	5.0	18.0	13.5	9.3	No
			56	5280	5.0	18.0	13.5	9.3	
			60	5300	5.0	18.0	13.5	9.3	
			64	5320	5.0	16.5	13.5	9.3	
		2 Tx VHT40 CDD/STBC/SDM	54	5270	5.0	18.5	13.5	9.3	No
			62	5310	5.0	14.0	13.5	9.3	
		2 Tx VHT80 CDD/STBC/SDM	58	5290	5.0	14.0	13.5	9.3	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.5	802.11a	2 Tx CDD	100	5500	5.0	16.5	11.0	8.5	No
			104	5520	5.0	18.0	11.0	8.5	
			108	5540	5.0	18.0	11.0	8.5	
			112	5560	5.0	18.0	11.0	8.5	
			116	5580	5.0	18.0	11.0	8.5	
			120	5600	5.0	18.0	11.0	8.5	
			124	5620	5.0	18.0	11.0	8.5	
			128	5640	5.0	18.0	11.0	8.5	
			132	5660	5.0	18.0	11.0	8.5	
			136	5680	5.0	18.0	11.0	8.5	
			140	5700	5.0	15.5	11.0	8.5	
			144	5720	5.0	18.0	11.0	8.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	100	5500	5.0	16.5	11.0	8.5	No
			104	5520	5.0	18.0	11.0	8.5	
			108	5540	5.0	18.0	11.0	8.5	
			112	5560	5.0	18.0	11.0	8.5	
			116	5580	5.0	18.0	11.0	8.5	
			120	5600	5.0	18.0	11.0	8.5	
			124	5620	5.0	18.0	11.0	8.5	
			128	5640	5.0	18.0	11.0	8.5	
			132	5660	5.0	18.0	11.0	8.5	
			136	5680	5.0	18.0	11.0	8.5	
			140	5700	5.0	15.5	11.0	8.5	
			144	5720	5.0	18.0	11.0	8.5	
		2 Tx HT40 CDD/STBC/ SDM	102	5510	5.0	14.0	11.0	8.5	Yes
			110	5550	5.0	18.5	11.0	8.5	
			118	5590	5.0	19.5	11.0	8.5	
			126	5630	5.0	18.5	11.0	8.5	
			134	5670	5.0	15.5	11.0	8.5	
			142	5710	5.0	19.0	11.0	8.5	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	100	5500	5.0	16.5	11.0	8.5	No
			104	5520	5.0	18.0	11.0	8.5	
			108	5540	5.0	18.0	11.0	8.5	
			112	5560	5.0	18.0	11.0	8.5	
			116	5580	5.0	18.0	11.0	8.5	
			120	5600	5.0	18.0	11.0	8.5	
			124	5620	5.0	18.0	11.0	8.5	
			128	5640	5.0	18.0	11.0	8.5	
			132	5660	5.0	18.0	11.0	8.5	
			136	5680	5.0	18.0	11.0	8.5	
			140	5700	5.0	15.5	11.0	8.5	
			144	5720	5.0	18.0	11.0	8.5	
2 Tx VHT40 CDD/STBC/ SDM		102	5510	5.0	14.0	11.0	8.5	No	
		110	5550	5.0	18.5	11.0	8.5		
		118	5590	5.0	19.5	11.0	8.5		
		126	5630	5.0	18.5	11.0	8.5		
		134	5670	5.0	15.5	11.0	8.5		
		142	5710	5.0	19.0	11.0	8.5		
2 Tx VHT80 CDD/STBC/ SDM		106	5530	5.0	14.0	11.0	8.5	Yes	
		122	5610	5.0	19.0	11.0	8.5		
		138	5690	5.0	19.0	11.0	8.5		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.8	802.11a	2 Tx CDD	149	5745	5.0	19.5	11.3	13.5	Yes
			153	5765	5.0	20.0	11.3	13.5	
			157	5785	5.0	20.0	11.3	13.5	
			161	5805	5.0	20.0	11.3	13.5	
			165	5825	5.0	19.5	11.3	13.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	5.0	19.5	11.3	13.5	No
			153	5765	5.0	20.0	11.3	13.5	
			157	5785	5.0	20.0	11.3	13.5	
			161	5805	5.0	20.0	11.3	13.5	
			165	5825	5.0	19.5	11.3	13.5	
		2 Tx HT40 CDD/STBC/SDM	151	5755	5.0	19.0	11.3	13.5	No
			159	5795	5.0	19.0	11.3	13.5	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	5.0	19.5	11.3	13.5	No
			153	5765	5.0	20.0	11.3	13.5	
			157	5785	5.0	20.0	11.3	13.5	
			161	5805	5.0	20.0	11.3	13.5	
			165	5825	5.0	19.5	11.3	13.5	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	5.0	19.0	11.3	13.5	No
			159	5795	5.0	19.0	11.3	13.5	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	5.0	17.0	11.3	13.5	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.3. WLAN SISO (P_{Cell_OFF})

P_{Cell_OFF}: This will be used when only Wi-Fi radios is ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
2.4	802.11b	1 Tx	1	2412	18.0	19.0	19.0	19.0	Yes
			6	2437	18.0	19.0	19.0	19.0	
			11	2462	18.0	19.0	19.0	19.0	
			12	2467	17.5	17.5	17.5	17.5	
			13	2472	13.5	13.5	13.5	13.5	
	802.11g	1 Tx	1	2412	15.0	15.0	15.0	15.0	No
			2	2417	17.5	17.5	17.5	17.5	
			3	2422	18.0	19.0	19.0	19.0	
			6	2437	18.0	19.0	19.0	19.0	
			9	2452	18.0	19.0	19.0	19.0	
			10	2457	16.0	16.0	16.0	16.0	
			11	2462	14.5	14.5	14.5	14.5	
			12	2467	12.5	12.5	12.5	12.5	
			13	2472	2.5	2.5	2.5	2.5	
	802.11n	1 Tx HT20	1	2412	15.0	15.0	15.0	15.0	No
			2	2417	17.5	17.5	17.5	17.5	
			3	2422	18.0	19.0	19.0	19.0	
			6	2437	18.0	19.0	19.0	19.0	
			9	2452	18.0	19.0	19.0	19.0	
			10	2457	16.0	16.0	16.0	16.0	
			11	2462	14.5	14.5	14.5	14.5	
			12	2467	12.5	12.5	12.5	12.5	
			13	2472	2.5	2.5	2.5	2.5	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.2	802.11a	1 Tx	36	5180	14.0	17.5	17.5	17.5	Yes
			40	5200	14.0	19.0	19.0	17.8	
			44	5220	14.0	20.5	21.0	17.8	
			48	5240	14.0	19.5	19.5	17.8	
	802.11n	1 Tx HT20	36	5180	14.0	17.5	17.5	17.5	No
			40	5200	14.0	19.0	19.0	17.8	
			44	5220	14.0	20.5	21.0	17.8	
			48	5240	14.0	19.5	19.5	17.8	
		1 Tx HT40	38	5190	14.0	15.5	15.5	15.5	Yes
			46	5230	14.0	18.5	18.5	17.8	
	802.11ac	1 Tx VHT20	36	5180	14.0	17.5	17.5	17.5	No
			40	5200	14.0	19.0	19.0	17.8	
			44	5220	14.0	20.5	21.0	17.8	
			48	5240	14.0	19.5	19.5	17.8	
		1 Tx VHT40	38	5190	14.0	15.5	15.5	15.5	No
			46	5230	14.0	18.5	18.5	17.8	
		1 Tx VHT80	42	5210	14.0	15.0	15.0	15.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.3	802.11a	1 Tx	52	5260	12.8	19.5	18.8	16.3	Yes
			56	5280	12.8	20.5	18.8	16.3	
			60	5300	12.8	19.0	18.8	16.3	
			64	5320	12.8	16.5	16.5	16.3	
	802.11n	1 Tx HT20	52	5260	12.8	19.5	18.8	16.3	No
			56	5280	12.8	20.5	18.8	16.3	
			60	5300	12.8	19.0	18.8	16.3	
			64	5320	12.8	16.5	16.5	16.3	
		1 Tx HT40	54	5270	12.8	18.5	18.5	16.3	No
			62	5310	12.8	14.5	14.5	14.5	
	802.11ac	1 Tx VHT20	52	5260	12.8	19.5	18.8	16.3	No
			56	5280	12.8	20.5	18.8	16.3	
			60	5300	12.8	19.0	18.8	16.3	
			64	5320	12.8	16.5	16.5	16.3	
		1 Tx VHT40	54	5270	12.8	18.5	18.5	16.3	No
			62	5310	12.8	14.5	14.5	14.5	
		1 Tx VHT80	58	5290	12.8	14.5	14.5	14.5	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)	
					HEAD		BODY			
					Chain 0	Chain 1	Chain 0	Chain 1		
5.5	802.11a	1 Tx	100	5500	12.8	16.5	16.5	15.3	Yes	
			104	5520	12.8	19.0	16.5	15.3		
			108	5540	12.8	20.5	16.5	15.3		
			112	5560	12.8	20.5	16.5	15.3		
			116	5580	12.8	20.5	16.5	15.3		
			120	5600	12.8	20.5	16.5	15.3		
			124	5620	12.8	20.5	16.5	15.3		
			128	5640	12.8	20.5	16.5	15.3		
			132	5660	12.8	20.5	16.5	15.3		
			136	5680	12.8	19.0	16.5	15.3		
			140	5700	12.8	16.5	16.5	15.3		
			144	5720	12.8	19.0	16.5	15.3		
	802.11n	1 Tx HT20	100	5500	12.8	16.5	16.5	15.3	No	
			104	5520	12.8	19.0	16.5	15.3		
			108	5540	12.8	20.5	16.5	15.3		
			112	5560	12.8	20.5	16.5	15.3		
			116	5580	12.8	20.5	16.5	15.3		
			120	5600	12.8	20.5	16.5	15.3		
			124	5620	12.8	20.5	16.5	15.3		
			128	5640	12.8	20.5	16.5	15.3		
			132	5660	12.8	20.5	16.5	15.3		
			136	5680	12.8	19.0	16.5	15.3		
			140	5700	12.8	16.5	16.5	15.3		
			144	5720	12.8	19.0	16.5	15.3		
		1 Tx HT40	102	5510	12.8	15.5	15.5	15.3	No	
			110	5550	12.8	18.5	16.5	15.3		
			118	5590	12.8	19.5	16.5	15.3		
			126	5630	12.8	18.5	16.5	15.3		
			134	5670	12.8	17.5	16.5	15.3		
			142	5710	12.8	19.0	16.5	15.3		
		802.11ac	1 Tx VHT20	100	5500	12.8	16.5	16.5	15.3	No
				104	5520	12.8	19.0	16.5	15.3	
				108	5540	12.8	20.5	16.5	15.3	
				112	5560	12.8	20.5	16.5	15.3	
				116	5580	12.8	20.5	16.5	15.3	
				120	5600	12.8	20.5	16.5	15.3	
	124			5620	12.8	20.5	16.5	15.3		
	128			5640	12.8	20.5	16.5	15.3		
	132			5660	12.8	20.5	16.5	15.3		
	136			5680	12.8	19.0	16.5	15.3		
	140			5700	12.8	16.5	16.5	15.3		
	144			5720	12.8	19.0	16.5	15.3		
	1 Tx VHT40		102	5510	12.8	15.5	15.5	15.3	No	
			110	5550	12.8	18.5	16.5	15.3		
			118	5590	12.8	19.5	16.5	15.3		
			126	5630	12.8	18.5	16.5	15.3		
			134	5670	12.8	17.5	16.5	15.3		
			142	5710	12.8	19.0	16.5	15.3		
1 Tx VHT80	106		5530	12.8	14.0	14.0	14.0	Yes		
	122		5610	12.8	19.0	16.5	15.3			
	138		5690	12.8	19.0	16.5	15.3			

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.8	802.11a	1 Tx	149	5745	12.8	19.5	16.5	19.5	Yes
			153	5765	12.8	20.5	16.5	20.3	
			157	5785	12.8	20.5	16.5	20.3	
			161	5805	12.8	20.5	16.5	20.3	
			165	5825	12.8	19.5	16.5	19.5	
	802.11n	1 Tx HT20	149	5745	12.8	19.5	16.5	19.5	No
			153	5765	12.8	20.5	16.5	20.3	
			157	5785	12.8	20.5	16.5	20.3	
			161	5805	12.8	20.5	16.5	20.3	
			165	5825	12.8	19.5	16.5	19.5	
		1 Tx HT40	151	5755	12.8	19.0	16.5	19.0	No
			159	5795	12.8	19.0	16.5	19.0	
	802.11ac	1 Tx VHT20	149	5745	12.8	19.5	16.5	19.5	No
			153	5765	12.8	20.5	16.5	20.3	
			157	5785	12.8	20.5	16.5	20.3	
			161	5805	12.8	20.5	16.5	20.3	
			165	5825	12.8	19.5	16.5	19.5	
		1 Tx VHT40	151	5755	12.8	19.0	16.5	19.0	No
			159	5795	12.8	19.0	16.5	19.0	
		1 Tx VHT80	155	5775	12.8	19.0	16.5	19.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.4. WLAN MIMO (P_{Cell_OFF})

P_{Cell_OFF}: This will be used when only Wi-Fi radios is ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
2.4	802.11g	2 Tx CDD	1	2412	14.5	14.5	14.5	14.5	Yes
			2	2417	17.5	17.5	17.5	17.5	
			3	2422	18.0	19.0	19.0	19.0	
			6	2437	18.0	19.0	19.0	19.0	
			9	2452	18.0	19.0	19.0	19.0	
			10	2457	16.0	16.0	16.0	16.0	
			11	2462	14.0	14.0	14.0	14.0	
			12	2467	12.5	12.5	12.5	12.5	
			13	2472	2.5	2.5	2.5	2.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	1	2412	14.5	14.5	14.5	14.5	No
			2	2417	17.5	17.5	17.5	17.5	
			3	2422	18.0	19.0	19.0	19.0	
			6	2437	18.0	19.0	19.0	19.0	
			9	2452	18.0	19.0	19.0	19.0	
			10	2457	16.0	16.0	16.0	16.0	
			11	2462	14.0	14.0	14.0	14.0	
			12	2467	12.0	12.0	12.0	12.0	
			13	2472	2.5	2.5	2.5	2.5	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.2	802.11a	2 Tx CDD	36	5180	14.0	17.0	17.0	17.0	No
			40	5200	14.0	18.0	18.0	17.8	
			44	5220	14.0	18.0	18.0	17.8	
			48	5240	14.0	18.0	18.0	17.8	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	36	5180	14.0	17.0	17.0	17.0	No
			40	5200	14.0	18.0	18.0	17.8	
			44	5220	14.0	18.0	18.0	17.8	
			48	5240	14.0	18.0	18.0	17.8	
		2 Tx HT40 CDD/STBC/SDM	38	5190	13.5	13.5	13.5	13.5	No
			46	5230	14.0	17.5	17.5	17.5	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	36	5180	14.0	17.0	17.0	17.0	No
			40	5200	14.0	18.0	18.0	17.8	
			44	5220	14.0	18.0	18.0	17.8	
			48	5240	14.0	18.0	18.0	17.8	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	13.5	13.5	13.5	13.5	No
			46	5230	14.0	17.5	17.5	17.5	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	13.0	13.0	13.0	13.0	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.3	802.11a	2 Tx CDD	52	5260	12.8	18.0	18.0	16.3	No
			56	5280	12.8	18.0	18.0	16.3	
			60	5300	12.8	18.0	18.0	16.3	
			64	5320	12.8	16.5	16.5	16.3	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	52	5260	12.8	18.0	18.0	16.3	No
			56	5280	12.8	18.0	18.0	16.3	
			60	5300	12.8	18.0	18.0	16.3	
			64	5320	12.8	16.5	16.5	16.3	
		2 Tx HT40 CDD/STBC/SDM	54	5270	12.8	18.5	18.5	16.3	Yes
			62	5310	12.8	14.0	14.0	14.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	52	5260	12.8	18.0	18.0	16.3	No
			56	5280	12.8	18.0	18.0	16.3	
			60	5300	12.8	18.0	18.0	16.3	
			64	5320	12.8	16.5	16.5	16.3	
		2 Tx VHT40 CDD/STBC/SDM	54	5270	12.8	18.5	18.5	16.3	No
			62	5310	12.8	14.0	14.0	14.0	
		2 Tx VHT80 CDD/STBC/SDM	58	5290	12.8	14.0	14.0	14.0	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.5	802.11a	2 Tx CDD	100	5500	12.8	16.5	16.5	15.3	No
			104	5520	12.8	18.0	16.5	15.3	
			108	5540	12.8	18.0	16.5	15.3	
			112	5560	12.8	18.0	16.5	15.3	
			116	5580	12.8	18.0	16.5	15.3	
			120	5600	12.8	18.0	16.5	15.3	
			124	5620	12.8	18.0	16.5	15.3	
			128	5640	12.8	18.0	16.5	15.3	
			132	5660	12.8	18.0	16.5	15.3	
			136	5680	12.8	18.0	16.5	15.3	
			140	5700	12.8	15.5	15.5	15.3	
			144	5720	12.8	18.0	16.5	15.3	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	100	5500	12.8	16.5	16.5	15.3	No
			104	5520	12.8	18.0	16.5	15.3	
			108	5540	12.8	18.0	16.5	15.3	
			112	5560	12.8	18.0	16.5	15.3	
			116	5580	12.8	18.0	16.5	15.3	
			120	5600	12.8	18.0	16.5	15.3	
			124	5620	12.8	18.0	16.5	15.3	
			128	5640	12.8	18.0	16.5	15.3	
			132	5660	12.8	18.0	16.5	15.3	
			136	5680	12.8	18.0	16.5	15.3	
			140	5700	12.8	15.5	15.5	15.3	
			144	5720	12.8	18.0	16.5	15.3	
		2 Tx HT40 CDD/STBC/ SDM	102	5510	12.8	14.0	14.0	14.0	Yes
			110	5550	12.8	18.5	16.5	15.3	
			118	5590	12.8	19.5	16.5	15.3	
			126	5630	12.8	18.5	16.5	15.3	
			134	5670	12.8	15.5	15.5	15.3	
			142	5710	12.8	19.0	16.5	15.3	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	100	5500	12.8	16.5	16.5	15.3	No
			104	5520	12.8	18.0	16.5	15.3	
			108	5540	12.8	18.0	16.5	15.3	
			112	5560	12.8	18.0	16.5	15.3	
			116	5580	12.8	18.0	16.5	15.3	
			120	5600	12.8	18.0	16.5	15.3	
			124	5620	12.8	18.0	16.5	15.3	
			128	5640	12.8	18.0	16.5	15.3	
			132	5660	12.8	18.0	16.5	15.3	
			136	5680	12.8	18.0	16.5	15.3	
			140	5700	12.8	15.5	15.5	15.3	
			144	5720	12.8	18.0	16.5	15.3	
2 Tx VHT40 CDD/STBC/ SDM		102	5510	12.8	14.0	14.0	14.0	No	
		110	5550	12.8	18.5	16.5	15.3		
		118	5590	12.8	19.5	16.5	15.3		
		126	5630	12.8	18.5	16.5	15.3		
		134	5670	12.8	15.5	15.5	15.3		
		142	5710	12.8	19.0	16.5	15.3		
2 Tx VHT80 CDD/STBC/ SDM		106	5530	12.8	14.0	14.0	14.0	Yes	
		122	5610	12.8	19.0	16.5	15.3		
		138	5690	12.8	19.0	16.5	15.3		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					HEAD		BODY		
					Chain 0	Chain 1	Chain 0	Chain 1	
5.8	802.11a	2 Tx CDD	149	5745	12.8	19.5	16.5	19.5	Yes
			153	5765	12.8	20.5	16.5	20.3	
			157	5785	12.8	20.5	16.5	20.3	
			161	5805	12.8	20.5	16.5	20.3	
			165	5825	12.8	19.5	16.5	19.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	12.8	19.5	16.5	19.5	No
			153	5765	12.8	20.5	16.5	20.3	
			157	5785	12.8	20.5	16.5	20.3	
			161	5805	12.8	20.5	16.5	20.3	
			165	5825	12.8	19.5	16.5	19.5	
		2 Tx HT40 CDD/STBC/SDM	151	5755	12.8	19.0	16.5	19.0	No
			159	5795	12.8	19.0	16.5	19.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	12.8	19.5	16.5	19.5	No
			153	5765	12.8	20.5	16.5	20.3	
			157	5785	12.8	20.5	16.5	20.3	
			161	5805	12.8	20.5	16.5	20.3	
			165	5825	12.8	19.5	16.5	19.5	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	12.8	19.0	16.5	19.0	No
			159	5795	12.8	19.0	16.5	19.0	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	12.8	17.0	16.5	17.0	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.4. General LTE SAR Test and Reporting Considerations

Item	Description						
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	18700/ 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					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
	Mid	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			20450/ 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					
		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					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	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					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23205/ 779.5		
	Mid			23230/ 782	23230/ 782		
	High				23255/ 784.5		

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 17	Frequency range: 704 - 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23755/ 706.5		
	Mid			23790/ 710	23790/ 710		
	High				23825/ 713.5		
	Band 25	Frequency range: 1850 - 1915 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	26140/ 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					
		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 27	Frequency range: 814 - 824 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				27135/ 816.5	27125/ 815.5	27117/ 814.7
	Mid			27160/ 819	27160/ 819	27160/ 819	27160/ 819
	High				27185/ 821.5	27195/ 822.5	27203/ 823.3
	Band 30	Frequency range: 2305 - 2315 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				27685/ 2307.5		
	Mid			27710/ 2310	27710/ 2310		
	High				27735/ 2312.5		
	Band 41	Frequency range: 2496 - 2690 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
		39750 / 2506.0					
		40185 / 2549.5					
		40620 / 2593.0					
		41055 / 2636.5					
		41490 / 2680.0					

General LTE SAR Test and Reporting Considerations (Continued)

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

Notes:

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

6.5. LTE (TDD) Considerations

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

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

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

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

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

Calculated Duty Cycle

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

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

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

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

where

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

Notes:

1. This device supports uplink-downlink configuration 0-6. The configuration with the highest duty cycle was used (config. 0 at 63.3%).

7. RF Exposure Conditions (Test Configurations)

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

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

The Body-worn accessory test configurations were tested using a conservative minimum test 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	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	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			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	
WLAN (Chain 0)	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	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot / Airplay	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			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	

Notes:

- SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
- 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.

Lower Antenna

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN	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	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			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	
WLAN (Chain 1)	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	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot / Airplay	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			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	

Notes:

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.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

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

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

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

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 ϵ_r and σ may be relaxed to $\pm 10\%$. 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	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
A	7/13/2016	1750	Body	1750	51.30	53.44	-4.01	1.52	1.49	2.01
				1710	51.43	53.54	-3.95	1.48	1.46	0.92
				1755	51.21	53.43	-4.15	1.55	1.49	3.74
A	7/13/2016	1750	Head	1750	39.66	40.08	-1.06	1.34	1.37	-2.12
				1710	39.78	40.15	-0.91	1.30	1.35	-3.22
				1755	39.54	40.08	-1.34	1.36	1.37	-0.79
A	7/16/2016	1750	Head	1750	41.97	40.08	4.70	1.34	1.37	-2.04
				1710	42.10	40.15	4.87	1.30	1.35	-3.30
				1755	41.94	40.08	4.65	1.35	1.37	-1.81
A	7/16/2016	1750	Body	1750	51.59	53.44	-3.46	1.51	1.49	1.67
				1710	51.71	53.54	-3.42	1.47	1.46	0.31
				1755	51.56	53.43	-3.50	1.52	1.49	1.86
A	7/20/2016	1750	Body	1750	51.32	53.44	-3.97	1.50	1.49	1.07
				1710	51.40	53.54	-4.00	1.46	1.46	0.17
				1755	51.30	53.43	-3.98	1.51	1.49	1.26
A	7/22/2016	5200	Body	5200	49.55	49.02	1.08	5.27	5.29	-0.39
				5150	49.65	49.09	1.15	5.23	5.24	-0.08
				5350	49.28	48.82	0.95	5.47	5.47	-0.05
A	7/24/2016	1750	Body	1750	54.40	53.44	1.79	1.48	1.49	-0.21
				1710	54.53	53.54	1.84	1.44	1.46	-1.34
				1755	54.40	53.43	1.82	1.49	1.49	-0.02
A	7/26/2016	5600	Body	5600	48.51	48.48	0.07	5.87	5.76	1.89
				5500	48.69	48.61	0.16	5.73	5.64	1.55
				5725	48.32	48.31	0.02	6.04	5.91	2.29
B	7/12/2016	2600	Head	2600	37.46	39.01	-3.98	2.03	1.96	3.61
				2495	37.83	39.14	-3.35	1.92	1.85	3.75
				2690	37.17	38.90	-4.44	2.13	2.06	3.38
B	7/12/2016	2600	Body	2600	51.29	52.51	-2.32	2.23	2.16	2.97
				2495	51.60	52.64	-1.98	2.10	2.01	4.26
				2690	51.03	52.40	-2.61	2.33	2.29	2.00
B	7/16/2016	2600	Head	2600	38.26	39.01	-1.92	2.04	1.96	4.02
				2495	38.66	39.14	-1.23	1.92	1.85	4.02
				2690	37.90	38.90	-2.56	2.13	2.06	3.57
B	7/16/2016	2600	Body	2600	50.39	52.51	-4.04	2.17	2.16	0.56
				2495	50.69	52.64	-3.71	2.05	2.01	1.63
				2690	50.10	52.40	-4.38	2.28	2.29	-0.14
B	7/20/2016	2600	Head	2600	40.00	39.01	2.54	1.95	1.96	-0.42
				2495	40.33	39.14	3.03	1.84	1.85	-0.47
				2690	39.72	38.90	2.12	2.05	2.06	-0.51
B	7/20/2016	2600	Body	2600	52.93	52.51	0.80	2.16	2.16	0.15
				2495	53.23	52.64	1.11	2.04	2.01	1.23
				2690	52.66	52.40	0.50	2.27	2.29	-0.84

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
C	7/13/2016	1900	Head	1900	39.63	40.00	-0.92	1.45	1.40	3.36
				1850	39.84	40.00	-0.40	1.41	1.40	0.43
				1920	39.58	40.00	-1.05	1.46	1.40	4.50
C	7/13/2016	1900	Body	1900	52.47	53.30	-1.56	1.58	1.52	3.82
				1850	52.65	53.30	-1.22	1.54	1.52	1.18
				1920	52.43	53.30	-1.63	1.59	1.52	4.67
C	7/16/2016	1900	Head	1900	39.49	40.00	-1.28	1.43	1.40	2.07
				1850	39.71	40.00	-0.72	1.39	1.40	-0.86
				1920	39.44	40.00	-1.40	1.45	1.40	3.29
C	7/16/2016	1900	Body	1900	55.75	53.30	4.60	1.55	1.52	2.17
				1850	55.93	53.30	4.93	1.51	1.52	-0.72
				1920	55.72	53.30	4.54	1.57	1.52	3.36
C	7/19/2016	1900	Head	1900	41.02	40.00	2.55	1.45	1.40	3.36
				1850	41.22	40.00	3.05	1.40	1.40	-0.21
				1920	40.96	40.00	2.40	1.47	1.40	4.79
C	7/19/2016	1900	Body	1900	52.14	53.30	-2.18	1.51	1.52	-0.46
				1850	52.24	53.30	-1.99	1.47	1.52	-3.29
				1920	52.13	53.30	-2.20	1.53	1.52	0.72
C	7/22/2016	5600	Head	5600	35.69	35.53	0.44	4.86	5.06	-4.00
				5500	35.84	35.65	0.54	4.75	4.96	-4.19
				5725	35.50	35.39	0.31	4.98	5.19	-4.07
D	7/16/2016	2600	Head	2600	38.86	39.01	-0.39	2.00	1.96	1.72
				2495	39.25	39.14	0.27	1.88	1.85	1.86
				2690	38.52	38.90	-0.97	2.09	2.06	1.39
D	7/19/2016	2600	Head	2600	39.43	39.01	1.07	2.03	1.96	3.61
				2495	39.78	39.14	1.63	1.92	1.85	3.70
				2690	39.13	38.90	0.60	2.13	2.06	3.33
D	7/23/2016	2600	Head	2600	38.14	39.01	-2.23	2.04	1.96	3.97
				2495	38.50	39.14	-1.64	1.92	1.85	4.08
				2690	37.83	38.90	-2.74	2.14	2.06	3.91
D	7/23/2016	2600	Body	2600	51.14	52.51	-2.61	2.11	2.16	-2.17
				2495	51.41	52.64	-2.34	1.99	2.01	-1.10
				2690	50.91	52.40	-2.84	2.22	2.29	-2.99
D	7/26/2016	5600	Head	5600	36.21	35.53	1.90	5.09	5.06	0.55
				5500	36.36	35.65	2.00	4.98	4.96	0.38
				5725	35.98	35.39	1.66	5.23	5.19	0.73

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
E	7/11/2016	5800	Head	5800	35.75	35.30	1.27	5.16	5.27	-2.16
				5700	35.93	35.42	1.44	5.05	5.16	-2.18
				5850	35.71	35.30	1.16	5.20	5.27	-1.40
E	7/14/2016	5600	Head	5600	36.56	35.53	2.89	4.93	5.06	-2.63
				5500	36.70	35.65	2.95	4.82	4.96	-2.70
				5725	36.41	35.39	2.88	5.06	5.19	-2.45
E	7/14/2016	5800	Head	5800	36.27	35.30	2.75	5.14	5.27	-2.47
				5700	36.42	35.42	2.82	5.04	5.16	-2.30
				5850	36.23	35.30	2.63	5.20	5.27	-1.35
E	7/17/2016	5600	Head	5600	37.03	35.53	4.21	4.99	5.06	-1.76
				5500	37.16	35.65	4.24	4.87	4.96	-1.71
				5725	36.87	35.39	4.18	5.11	5.19	-1.43
E	7/21/2016	5600	Head	5600	35.93	35.53	1.11	5.06	5.06	-0.06
				5500	36.10	35.65	1.27	4.95	4.96	-0.18
				5725	35.78	35.39	1.10	5.19	5.19	0.00
E	7/21/2016	5800	Head	5800	35.63	35.30	0.93	5.26	5.27	-0.21
				5700	35.79	35.42	1.05	5.16	5.16	-0.05
				5850	35.57	35.30	0.76	5.32	5.27	0.93
E	7/25/2016	5600	Head	5600	35.90	35.53	1.03	4.86	5.06	-3.96
				5500	36.05	35.65	1.13	4.77	4.96	-3.79
				5725	35.77	35.39	1.07	4.99	5.19	-3.82
E	7/25/2016	5800	Head	5800	35.73	35.30	1.22	5.06	5.27	-3.91
				5700	35.81	35.42	1.10	4.96	5.16	-4.00
				5850	35.64	35.30	0.96	5.11	5.27	-3.02
F	7/11/2016	2450	Head	2450	39.02	39.20	-0.46	1.88	1.80	4.56
				2400	39.21	39.30	-0.22	1.82	1.75	3.96
				2480	38.93	39.16	-0.59	1.91	1.83	4.45
F	7/11/2016	2450	Body	2450	50.81	52.70	-3.59	1.97	1.95	0.82
				2400	50.94	52.77	-3.47	1.92	1.90	0.95
				2480	50.77	52.66	-3.59	2.00	1.99	0.14
F	7/15/2016	2450	Head	2450	38.56	39.20	-1.63	1.79	1.80	-0.56
				2400	38.75	39.30	-1.39	1.73	1.75	-1.46
				2480	38.47	39.16	-1.77	1.82	1.83	-0.46
F	7/15/2016	2450	Body	2450	52.11	52.70	-1.12	1.92	1.95	-1.69
				2400	52.20	52.77	-1.08	1.86	1.90	-2.16
				2480	52.06	52.66	-1.14	1.95	1.99	-2.12
F	7/19/2016	2450	Head	2450	39.12	39.20	-0.20	1.74	1.80	-3.11
				2400	39.31	39.30	0.03	1.69	1.75	-3.58
				2480	39.04	39.16	-0.31	1.78	1.83	-3.08
F	7/19/2016	2450	Body	2450	51.29	52.70	-2.68	1.99	1.95	1.85
				2400	51.35	52.77	-2.70	1.93	1.90	1.63
				2480	51.24	52.66	-2.70	2.02	1.99	1.50
F	7/23/2016	2450	Head	2450	38.68	39.20	-1.33	1.88	1.80	4.28
				2400	38.86	39.30	-1.11	1.82	1.75	3.85
				2480	38.54	39.16	-1.59	1.91	1.83	4.29

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
G	7/11/2016	5800	Body	5800	48.40	48.20	0.41	6.22	6.00	3.63
				5700	48.63	48.34	0.60	6.08	5.88	3.44
				5850	48.34	48.20	0.29	6.28	6.00	4.60
G	7/15/2016	5600	Body	5600	48.29	48.48	-0.39	5.86	5.76	1.63
				5500	48.39	48.61	-0.46	5.72	5.64	1.29
				5725	48.05	48.31	-0.53	6.02	5.91	1.93
G	7/15/2016	5800	Body	5800	47.90	48.20	-0.62	6.14	6.00	2.30
				5700	48.13	48.34	-0.44	6.00	5.88	2.15
				5850	47.81	48.20	-0.81	6.19	6.00	3.13
G	7/18/2016	5600	Body	5600	46.96	48.48	-3.13	5.89	5.76	2.29
				5500	47.15	48.61	-3.01	5.75	5.64	1.78
				5725	46.74	48.31	-3.25	6.07	5.91	2.73
G	7/22/2016	5200	Body	5200	47.65	49.02	-2.79	5.46	5.29	3.05
				5150	47.76	49.09	-2.70	5.42	5.24	3.41
				5350	47.35	48.82	-3.00	5.65	5.47	3.35
G	7/26/2016	5800	Body	5800	46.43	48.20	-3.67	6.19	6.00	3.12
				5700	46.60	48.34	-3.60	6.05	5.88	2.88
				5850	46.34	48.20	-3.86	6.26	6.00	4.32
H	7/11/2016	5200	Head	5200	37.35	35.99	3.78	4.47	4.65	-3.81
				5150	37.41	36.05	3.78	4.42	4.60	-3.93
				5350	37.15	35.82	3.72	4.61	4.80	-3.98
H	7/14/2016	5200	Head	5200	36.27	35.99	0.78	4.51	4.65	-3.05
				5150	36.35	36.05	0.84	4.45	4.60	-3.17
				5350	36.12	35.82	0.84	4.66	4.80	-3.01
H	7/15/2016	5200	Body	5200	48.85	49.02	-0.35	5.32	5.29	0.50
				5150	48.95	49.09	-0.28	5.26	5.24	0.41
				5350	48.69	48.82	-0.26	5.52	5.47	0.83
H	7/18/2016	5200	Head	5200	36.61	35.99	1.72	4.53	4.65	-2.71
				5150	36.65	36.05	1.67	4.47	4.60	-2.74
				5350	36.53	35.82	1.98	4.70	4.80	-2.28
H	7/22/2016	5200	Head	5200	37.26	35.99	3.53	4.48	4.65	-3.59
				5150	37.32	36.05	3.53	4.44	4.60	-3.56
				5350	37.04	35.82	3.41	4.62	4.80	-3.76

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
1	7/8/2016	835	Body	835	53.13	55.20	-3.75	1.02	0.97	4.85
				805	53.37	55.33	-3.55	0.98	0.97	1.72
				905	52.35	55.00	-4.82	1.09	1.05	3.56
1	7/8/2016	835	Head	835	41.22	41.50	-0.67	0.91	0.90	1.28
				805	41.63	41.68	-0.12	0.89	0.90	-0.94
				905	40.35	41.50	-2.77	0.98	0.97	0.37
1	7/11/2016	835	Head	835	40.46	41.50	-2.51	0.91	0.90	1.20
				805	40.66	41.68	-2.45	0.88	0.90	-1.96
				905	39.50	41.50	-4.82	0.97	0.97	-0.21
1	7/11/2016	835	Body	835	53.04	55.20	-3.91	1.01	0.97	4.54
				805	53.26	55.33	-3.75	0.99	0.97	2.17
				905	52.29	55.00	-4.93	1.08	1.05	2.99
1	7/18/2016	2300	Body	2300	51.80	52.90	-2.09	1.85	1.80	2.30
				2350	51.66	52.84	-2.23	1.90	1.85	2.71
				2400	51.45	52.77	-2.51	1.96	1.90	3.48
1	7/18/2016	2300	Head	2300	37.79	39.47	-4.26	1.71	1.66	2.54
				2350	37.62	39.38	-4.48	1.76	1.71	3.18
				2400	37.38	39.30	-4.88	1.82	1.75	3.85
1	7/22/2016	2300	Head	2300	38.25	39.47	-3.10	1.66	1.66	-0.16
				2350	38.02	39.38	-3.46	1.71	1.71	0.37
				2400	37.78	39.30	-3.86	1.77	1.75	1.16
1	7/22/2016	2300	Body	2300	51.48	52.90	-2.69	1.83	1.80	1.19
				2350	51.23	52.84	-3.04	1.89	1.85	2.23
				2400	51.01	52.77	-3.34	1.96	1.90	3.21
3	7/14/2016	1900	Head	1900	38.99	40.00	-2.53	1.38	1.40	-1.29
				1850	39.20	40.00	-2.00	1.34	1.40	-4.57
				1920	38.88	40.00	-2.80	1.40	1.40	0.07
3	7/14/2016	1900	Body	1900	51.39	53.30	-3.58	1.50	1.52	-1.25
				1850	51.60	53.30	-3.19	1.45	1.52	-4.74
				1920	51.29	53.30	-3.77	1.52	1.52	-0.26
3	7/17/2016	1900	Head	1900	39.48	40.00	-1.30	1.43	1.40	2.43
				1850	39.71	40.00	-0.72	1.38	1.40	-1.64
				1920	39.40	40.00	-1.50	1.45	1.40	3.79
3	7/17/2016	1900	Body	1900	51.59	53.30	-3.21	1.55	1.52	2.24
				1850	51.76	53.30	-2.89	1.49	1.52	-1.78
				1920	51.46	53.30	-3.45	1.58	1.52	3.68
3	7/20/2016	5600	Body	5600	47.14	48.48	-2.76	5.82	5.76	0.99
				5500	47.15	48.61	-3.01	5.64	5.64	-0.08
				5725	47.04	48.31	-2.63	5.99	5.91	1.48
3	7/20/2016	5800	Body	5800	46.84	48.20	-2.82	6.07	6.00	1.13
				5700	46.87	48.34	-3.05	5.96	5.88	1.45
				5850	46.73	48.20	-3.05	6.14	6.00	2.25
3	7/23/2016	5800	Body	5800	48.08	48.20	-0.25	6.06	6.00	1.02
				5700	48.24	48.34	-0.21	5.90	5.88	0.35
				5850	48.00	48.20	-0.41	6.12	6.00	2.02

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
4	7/5/2016	750	Body	750	53.52	55.55	-3.65	0.96	0.96	-0.10
				695	54.16	55.76	-2.87	0.91	0.96	-4.65
				790	52.89	55.39	-4.52	1.01	0.97	4.02
4	7/6/2016	750	Head	750	39.72	41.96	-5.34	0.92	0.89	2.79
				695	40.46	42.24	-4.22	0.87	0.89	-1.91
				790	39.11	41.76	-6.34	0.95	0.90	6.08
4	7/7/2016	750	Head	750	39.80	41.96	-5.15	0.90	0.89	1.14
				695	40.63	42.24	-3.82	0.85	0.89	-4.62
				790	39.24	41.76	-6.03	0.94	0.90	4.69
4	7/8/2016	750	Head	750	40.29	41.96	-3.98	0.91	0.89	2.25
				695	41.07	42.24	-2.78	0.86	0.89	-2.69
				790	39.83	41.76	-4.61	0.95	0.90	5.73
4	7/11/2016	750	Head	750	39.89	41.96	-4.94	0.91	0.89	2.06
				695	40.65	42.24	-3.77	0.86	0.89	-2.86
				790	39.33	41.76	-5.81	0.95	0.90	5.68
4	7/11/2016	750	Body	750	53.21	55.55	-4.21	0.97	0.96	0.44
				695	53.77	55.76	-3.56	0.91	0.96	-4.78
				790	52.80	55.39	-4.68	1.01	0.97	4.02
4	7/15/2016	1900	Head	1900	38.16	40.00	-4.60	1.44	1.40	3.07
				1850	38.38	40.00	-4.05	1.40	1.40	0.07
				1920	38.06	40.00	-4.85	1.47	1.40	4.71
4	7/15/2016	1900	Body	1900	52.01	53.30	-2.42	1.49	1.52	-2.11
				1850	52.24	53.30	-1.99	1.45	1.52	-4.67
				1920	51.97	53.30	-2.50	1.51	1.52	-0.39
4	7/18/2016	750	Head	750	40.27	41.96	-4.03	0.93	0.89	3.62
				695	40.94	42.24	-3.09	0.88	0.89	-1.38
				725	40.72	42.09	-3.25	0.91	0.89	2.04
5	7/5/2016	835	Head	835	41.49	41.50	-0.02	0.94	0.90	4.62
				805	41.54	41.68	-0.33	0.91	0.90	0.96
				905	40.37	41.50	-2.72	0.99	0.97	1.81
5	7/5/2016	835	Body	835	52.56	55.20	-4.78	0.99	0.97	1.59
				805	52.95	55.33	-4.31	0.96	0.97	-1.06
				905	52.28	55.00	-4.95	1.07	1.05	1.19
5	7/8/2016	835	Head	835	40.51	41.50	-2.39	0.90	0.90	0.51
				805	40.95	41.68	-1.75	0.88	0.90	-2.04
				905	39.67	41.50	-4.41	0.97	0.97	-0.31
5	7/8/2016	835	Body	835	54.05	55.20	-2.08	0.99	0.97	2.25
				805	54.43	55.33	-1.63	0.97	0.97	-0.21
				905	53.26	55.00	-3.16	1.06	1.05	0.71
5	7/19/2016	750	Body	750	53.38	55.55	-3.90	0.96	0.96	-0.08
				695	53.98	55.76	-3.19	0.91	0.96	-4.94
				790	52.99	55.39	-4.34	1.00	0.97	3.71

Additional LTE CA testing 8/15/2016 to 8/17/2016:

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
A	8/15/2016	2600	Head	2600	38.57	39.01	-1.13	2.03	1.96	3.46
				2495	38.96	39.14	-0.47	1.92	1.85	3.97
				2690	38.17	38.90	-1.87	2.13	2.06	3.28
A	8/15/2016	2600	Body	2600	52.46	52.51	-0.10	2.22	2.16	2.55
				2495	52.66	52.64	0.03	2.09	2.01	3.96
				2690	52.23	52.40	-0.32	2.33	2.29	1.91
B	8/15/2016	2600	Head	2600	38.29	39.01	-1.85	2.01	1.96	2.44
				2495	38.61	39.14	-1.36	1.90	1.85	2.72
				2690	37.99	38.90	-2.33	2.11	2.06	2.31
B	8/15/2016	2600	Body	2600	51.51	52.51	-1.91	2.16	2.16	0.10
				2495	51.74	52.64	-1.72	2.05	2.01	1.73
				2690	51.27	52.40	-2.15	2.27	2.29	-0.80
C	8/15/2016	2600	Head	2600	40.38	39.01	3.51	2.05	1.96	4.37
				2495	40.70	39.14	3.98	1.93	1.85	4.51
				2690	40.04	38.90	2.94	2.16	2.06	4.78
C	8/15/2016	2600	Body	2600	51.82	52.51	-1.32	2.23	2.16	3.29
				2495	52.15	52.64	-0.94	2.11	2.01	4.86
				2690	51.48	52.40	-1.75	2.35	2.29	2.65

Additional Bluetooth testing 8/25/2016:

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta $\pm 5\%$	Measured	Target	Delta $\pm 5\%$
E	8/24/2016	2450	Head	2450	39.69	39.20	1.25	1.78	1.80	-1.00
				2400	39.85	39.30	1.41	1.72	1.75	-1.64
				2480	39.57	39.16	1.04	1.81	1.83	-1.01
G	8/24/2016	2450	Head	2450	40.31	39.20	2.83	1.77	1.80	-1.56
				2400	40.47	39.30	2.99	1.72	1.75	-2.04
				2480	40.19	39.16	2.62	1.81	1.83	-1.44
G	8/24/2016	2450	Body	2450	50.78	52.70	-3.64	1.92	1.95	-1.49
				2400	50.93	52.77	-3.49	1.86	1.90	-2.27
				2480	50.66	52.66	-3.80	1.96	1.99	-1.61

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.

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 $\pm 10\%$	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta $\pm 10\%$	
A	7/13/2016	Body	D1750V2 SN:1077	9/22/2016	3.890	38.90	35.80	8.66	2.030	20.30	19.00	6.84	1,2
A	7/13/2016	Head	D1750V2 SN:1077	9/22/2016	3.560	35.60	36.90	-3.52	1.870	18.70	19.50	-4.10	
A	7/16/2016	Head	D1750V2 SN:1053	8/11/2016	3.420	34.20	37.10	-7.82	1.800	18.00	19.80	-9.09	3,4
A	7/16/2016	Body	D1750V2 SN:1053	8/11/2016	3.710	37.10	37.50	-1.07	1.930	19.30	20.30	-4.93	
A	7/20/2016	Body	D1750V2 SN:1053	8/11/2016	3.740	37.40	37.50	-0.27	1.930	19.30	20.30	-4.93	
A	7/22/2016	Body	D5GHZV2 SN:1003 (5.2 GHz)	2/25/2017	7.720	77.20	73.30	5.32	2.150	21.50	20.60	4.37	5,6
A	7/24/2016	Body	D1750V2 SN:1053	8/11/2016	3.870	38.70	37.50	3.20	2.010	20.10	20.30	-0.99	
A	7/26/2016	Body	D5GHZV2 SN:1003 (5.6 GHz)	2/25/2017	7.740	77.40	79.80	-3.01	2.130	21.30	22.40	-4.91	
B	7/12/2016	Head	D2600V2 SN:1006	9/21/2016	6.020	60.20	56.90	5.80	2.600	26.00	25.50	1.96	
B	7/12/2016	Body	D2600V2 SN:1006	9/21/2016	5.860	58.60	55.30	5.97	2.510	25.10	24.80	1.21	7,8
B	7/16/2016	Head	D2600V2 SN:1006	9/21/2016	5.730	57.30	56.90	0.70	2.490	24.90	25.50	-2.35	
B	7/16/2016	Body	D2600V2 SN:1006	9/21/2016	5.700	57.00	55.30	3.07	2.420	24.20	24.80	-2.42	
B	7/20/2016	Head	D2600V2 SN:1006	9/21/2016	5.370	53.70	56.90	-5.62	2.320	23.20	25.50	-9.02	
B	7/20/2016	Body	D2600V2 SN:1006	9/21/2016	5.730	57.30	55.30	3.62	2.450	24.50	24.80	-1.21	
C	7/13/2016	Head	D1900V2 SN:5d140	4/12/2017	4.100	41.00	38.30	7.05	2.080	20.80	20.00	4.00	9,10
C	7/13/2016	Body	D1900V2 SN:5d140	4/12/2017	4.080	40.80	39.30	3.82	2.050	20.50	20.80	-1.44	
C	7/16/2016	Head	D1900V2 SN:5d140	4/12/2017	4.090	40.90	38.30	6.79	2.070	20.70	20.00	3.50	
C	7/16/2016	Body	D1900V2 SN:5d140	4/12/2017	3.880	38.80	39.30	-1.27	1.960	19.60	20.80	-5.77	
C	7/19/2016	Head	D1900V2 SN:5d140	4/12/2017	3.570	35.70	38.30	-6.79	1.810	18.10	20.00	-9.50	
C	7/20/2016	Body	D1900V2 SN:5d140	4/12/2017	4.190	41.90	39.30	6.62	2.110	21.10	20.80	1.44	
C	7/22/2016	Head	D5GHZV2 SN:1138 (5.6 GHz)	9/23/2016	7.740	77.40	84.70	-8.62	2.210	22.10	24.20	-8.68	11,12
D	7/16/2016	Head	D2600V2 SN:1036	3/18/2017	5.610	56.10	55.40	1.26	2.450	24.50	24.60	-0.41	
D	7/19/2016	Head	D2600V2 SN:1036	3/18/2017	5.180	51.80	55.40	-6.50	2.260	22.60	24.60	-8.13	
D	7/23/2016	Head	D2600V2 SN:1036	3/18/2017	5.930	59.30	55.40	7.04	2.590	25.90	24.60	5.28	13,14
D	7/23/2016	Body	D2600V2 SN:1036	3/18/2017	5.210	52.10	53.40	-2.43	2.270	22.70	23.80	-4.62	
D	7/26/2016	Head	D5GHZV2 SN:1168 (5.6 GHz)	11/13/2016	8.120	81.20	87.60	-7.31	2.300	23.00	24.80	-7.26	15,16
E	7/11/2016	Head	D5GHZV2 SN:1003 (5.8 GHz)	2/25/2017	7.050	70.50	77.10	-8.56	2.000	20.00	21.90	-8.68	
E	7/14/2016	Head	D5GHZV2 SN:1003 (5.6 GHz)	2/25/2017	7.800	78.00	81.70	-4.53	2.210	22.10	23.40	-5.56	
E	7/14/2016	Head	D5GHZV2 SN:1003 (5.8 GHz)	2/25/2017	7.530	75.30	77.10	-2.33	2.130	21.30	21.90	-2.74	
E	7/17/2016	Head	D5GHZV2 SN:1003 (5.6 GHz)	2/25/2017	7.530	75.30	81.70	-7.83	2.130	21.30	23.40	-8.97	
E	7/21/2016	Head	D5GHZV2 SN:1003 (5.6 GHz)	2/25/2017	8.050	80.50	81.70	-1.47	2.280	22.80	23.40	-2.56	
E	7/21/2016	Head	D5GHZV2 SN:1003 (5.8 GHz)	2/25/2017	7.450	74.50	77.10	-3.37	2.110	21.10	21.90	-3.65	
E	7/25/2016	Head	D5GHZV2 SN:1003 (5.6 GHz)	2/25/2017	7.640	76.40	81.70	-6.49	2.170	21.70	23.40	-7.26	
E	7/25/2016	Head	D5GHZV2 SN:1003 (5.8 GHz)	2/25/2017	7.040	70.40	77.10	-8.69	2.000	20.00	21.90	-8.68	17,18
F	7/11/2016	Head	D2450V2 SN:748	2/22/2017	5.490	54.90	50.90	7.86	2.460	24.60	23.70	3.80	19,20
F	7/11/2016	Body	D2450V2 SN:748	2/22/2017	4.860	48.60	49.80	-2.41	2.240	22.40	23.20	-3.45	
F	7/15/2016	Head	D2450V2 SN:748	2/22/2017	4.880	48.80	50.90	-4.13	2.200	22.00	23.70	-7.17	
F	7/15/2016	Body	D2450V2 SN:748	2/22/2017	4.870	48.70	49.80	-2.21	2.220	22.20	23.20	-4.31	
F	7/19/2016	Head	D2450V2 SN:748	2/22/2017	5.260	52.60	50.90	3.34	2.380	23.80	23.70	0.42	
F	7/19/2016	Body	D2450V2 SN:748	2/22/2017	5.220	52.20	49.80	4.82	2.390	23.90	23.20	3.02	
F	7/23/2016	Head	D2450V2 SN:748	2/22/2017	4.940	49.40	50.90	-2.95	2.240	22.40	23.70	-5.49	

SAR Lab	Date	Tissue Type	Dipole Type Serial #	Dipole Cal. Due Date	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	7/11/2016	Body	D5GHZV2 SN:1168 (5.8 GHz)	11/13/2016	7.200	72.00	78.10	-7.81	2.010	20.10	21.60	-6.94	
G	7/15/2016	Body	D5GHZV2 SN:1168 (5.6 GHz)	11/13/2016	8.350	83.50	82.50	1.21	2.330	23.30	23.00	1.30	
G	7/15/2016	Body	D5GHZV2 SN:1168 (5.8 GHz)	11/13/2016	7.200	72.00	78.10	-7.81	2.010	20.10	21.60	-6.94	
G	7/18/2016	Body	D5GHZV2 SN:1168 (5.6 GHz)	11/13/2016	7.530	75.30	82.50	-8.73	2.090	20.90	23.00	-9.13	21,22
G	7/22/2016	Body	D5GHZV2 SN:1168 (5.2 GHz)	11/13/2016	7.360	73.60	75.00	-1.87	2.070	20.70	21.00	-1.43	
G	7/26/2016	Body	D5GHZV2 SN:1168 (5.8 GHz)	11/13/2016	7.570	75.70	78.10	-3.07	2.120	21.20	21.60	-1.85	
H	7/11/2016	Head	D5GHZV2 SN:1168 (5.2 GHz)	11/13/2016	8.120	81.20	78.40	3.57	2.370	23.70	22.50	5.33	
H	7/14/2016	Head	D5GHZV2 SN:1168 (5.2 GHz)	11/13/2016	7.540	75.40	78.40	-3.83	2.170	21.70	22.50	-3.56	
H	7/15/2016	Body	D5GHZV2 SN:1168 (5.2 GHz)	11/13/2016	7.020	70.20	75.00	-6.40	1.970	19.70	21.00	-6.19	
H	7/18/2016	Head	D5GHZV2 SN:1168 (5.2 GHz)	11/13/2016	7.200	72.00	78.40	-8.16	2.070	20.70	22.50	-8.00	23,24
H	7/22/2016	Head	D5GHZV2 SN:1168 (5.2 GHz)	11/13/2016	7.390	73.90	78.40	-5.74	2.140	21.40	22.50	-4.89	
1	7/8/2016	Body	D835V2 SN:4d142	9/23/2016	1.020	10.20	9.41	8.40	0.676	6.76	6.18	9.39	25,26
1	7/8/2016	Head	D835V2 SN:4d142	9/23/2016	0.976	9.76	9.27	5.29	0.647	6.47	6.01	7.65	
1	7/11/2016	Head	D835V2 SN:4d142	9/23/2016	0.997	9.97	9.27	7.55	0.659	6.59	6.01	9.65	
1	7/11/2016	Body	D835V2 SN:4d142	9/23/2016	1.010	10.10	9.41	7.33	0.667	6.67	6.18	7.93	
1	7/18/2016	Body	D2300V2 SN:1002	3/18/2017	4.880	48.80	47.50	2.74	2.350	23.50	23.10	1.73	
1	7/18/2016	Head	D2300V2 SN:1002	3/18/2017	5.490	54.90	50.50	8.71	2.550	25.50	24.20	5.37	27,28
1	7/22/2016	Head	D2300V2 SN:1002	3/18/2017	5.210	52.10	50.50	3.17	2.430	24.30	24.20	0.41	
1	7/22/2016	Body	D2300V2 SN:1002	3/18/2017	4.780	47.80	47.50	0.63	2.300	23.00	23.10	-0.43	
3	7/14/2016	Head	D1900V2 SN:5d163	9/21/2016	3.780	37.80	40.10	-5.74	2.010	20.10	21.00	-4.29	29,30
3	7/14/2016	Body	D1900V2 SN:5d163	9/21/2016	3.830	38.30	39.90	-4.01	1.990	19.90	21.00	-5.24	
3	7/17/2016	Head	D1900V2 SN:5d163	9/21/2016	4.040	40.40	40.10	0.75	2.100	21.00	21.00	0.00	
3	7/17/2016	Body	D1900V2 SN:5d163	9/21/2016	3.940	39.40	39.90	-1.25	2.070	20.70	21.00	-1.43	
3	7/20/2016	Body	D5GHZV2 SN:1003 (5.6 GHz)	2/25/2017	8.160	81.60	79.80	2.26	2.280	22.80	22.40	1.79	
3	7/20/2016	Body	D5GHZV2 SN:1003 (5.8 GHz)	2/25/2017	7.810	78.10	75.50	3.44	2.180	21.80	21.00	3.81	31,32
3	7/24/2016	Body	D5GHZV2 SN:1138 (5.8 GHz)	9/23/2016	7.250	72.50	77.90	-6.93	2.020	20.20	21.60	-6.48	33,34
4	7/5/2016	Body	D750V3 SN:1071	11/12/2016	0.874	8.74	8.74	0.00	0.583	5.83	5.81	0.34	
4	7/6/2016	Head	D750V3 SN:1071	11/12/2016	0.854	8.54	8.21	4.02	0.559	5.59	5.38	3.90	
4	7/11/2016	Head	D750V3 SN:1071	11/12/2016	0.875	8.75	8.21	6.58	0.574	5.74	5.38	6.69	
4	7/11/2016	Body	D750V3 SN:1071	11/12/2016	0.890	8.90	8.74	1.83	0.594	5.94	5.81	2.24	
4	7/15/2016	Head	D1900V2 SN:5d163	9/21/2016	4.290	42.90	40.10	6.98	2.220	22.20	21.00	5.71	35,36
4	7/15/2016	Body	D1900V2 SN:5d163	9/21/2016	3.900	39.00	39.90	-2.26	2.080	20.80	21.00	-0.95	
4	7/18/2016	Head	D750V3 SN:1071	11/12/2016	0.886	8.86	8.21	7.92	0.580	5.80	5.38	7.81	37,38
5	7/5/2016	Head	D835V2 SN:4d142	9/23/2016	0.999	9.99	9.27	7.77	0.660	6.60	6.01	9.82	39,40
5	7/5/2016	Body	D835V2 SN:4d142	9/23/2016	0.945	9.45	9.41	0.43	0.625	6.25	6.18	1.13	
5	7/8/2016	Head	D835V2 SN:4d142	9/23/2016	0.992	9.92	9.27	7.01	0.655	6.55	6.01	8.99	
5	7/8/2016	Body	D835V2 SN:4d142	9/23/2016	0.984	9.84	9.41	4.57	0.651	6.51	6.18	5.34	
5	7/19/2016	Body	D750V3 SN:1071	11/12/2016	0.941	9.41	8.74	7.67	0.625	6.25	5.81	7.57	41,42

Additional LTE CA testing 8/15/2016 to 8/17/2016:

SAR Room	Date	Tissue Type	Dipole Type Serial #	Dipole Cal. Due Date	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	8/15/2016	Head	D2600V2 SN:1006	9/21/2016	5.980	59.80	56.90	5.10	2.600	26.00	25.50	1.96	
A	8/15/2016	Body	D2600V2 SN:1006	9/21/2016	5.880	58.80	55.30	6.33	2.550	25.50	24.80	2.82	43,44
B	8/15/2016	Head	D2600V2 SN:1006	9/21/2016	5.790	57.90	56.90	1.76	2.530	25.30	25.50	-0.78	
B	8/15/2016	Body	D2600V2 SN:1006	9/21/2016	5.820	58.20	55.30	5.24	2.510	25.10	24.80	1.21	45,46
C	8/15/2016	Head	D2600V2 SN:1006	9/21/2016	6.120	61.20	56.90	7.56	2.650	26.50	25.50	3.92	47,48
C	8/15/2016	Body	D2600V2 SN:1006	9/21/2016	5.680	56.80	55.30	2.71	2.470	24.70	24.80	-0.40	

Additional Bluetooth testing 8/25/2016:

SAR Room	Date	Tissue Type	Dipole Type Serial #	Dipole Cal. Due Date	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 %	
E	8/24/2016	Head	D2450V2 SN:706	5/10/2017	4.930	49.30	50.50	-2.38	2.220	22.20	23.60	-5.93	49,50
G	8/24/2016	Head	D2450V2 SN:706	5/10/2017	4.920	49.20	50.50	-2.57	2.220	22.20	23.60	-5.93	
G	8/24/2016	Body	D2450V2 SN:706	5/10/2017	5.280	52.80	49.50	6.67	2.400	24.00	23.30	3.00	51,52

9. Conducted Output Power Measurements

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

GSM850 Measured Results

GPRS (GMSK) - Coding Scheme: CS1

Band	Ch No.	Freq. (MHz)	UAT				LAT			
			HEAD		BODY		HEAD		BODY	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	128	824.2	31.0	30.0	31.0	30.0	33.5	32.5	33.5	32.5
	190	836.6	31.0	30.0	31.0	30.0	33.5	32.5	33.5	32.5
	251	848.8	31.0	30.0	31.0	30.0	33.5	32.5	33.5	32.5
Frame Power (dBm)										
850	128	824.2	22.0	24.0	22.0	24.0	24.5	26.5	24.5	26.5
	190	836.6	22.0	24.0	22.0	24.0	24.5	26.5	24.5	26.5
	251	848.8	22.0	24.0	22.0	24.0	24.5	26.5	24.5	26.5

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	UAT				LAT			
			HEAD		BODY		HEAD		BODY	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850.0	128.0	824.2	26.4	25.3	26.3	25.5	28.8	27.8	29.0	28.0
	190.0	836.6	26.4	25.4	26.3	25.4	28.9	28.0	28.8	27.9
	251.0	848.8	26.4	25.4	26.3	25.4	28.8	27.9	28.9	27.8
Frame Power (dBm)										
850.0	128.0	824.2	17.4	19.3	17.3	19.5	19.8	21.8	20.0	22.0
	190.0	836.6	17.4	19.4	17.3	19.4	19.9	22.0	19.8	21.9
	251.0	848.8	17.4	19.4	17.3	19.4	19.8	21.9	19.9	21.8

Notes:

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

- GMSK (GPRS) mode with 2 time slots based on the maximum output power from Tune-up Procedure.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

GSM1900 Measured Results**GPRS (GMSK) - Coding Scheme: CS1**

Band	Ch No.	Freq. (MHz)	UAT				LAT			
			HEAD		BODY		HEAD		BODY	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
			Burst Power (dBm)				Burst Power (dBm)			
1900.0	512.0	1850.2	26.2	25.0	26.2	25.0	31.5	30.5	29.7	26.8
	661.0	1880.0	26.2	24.8	26.2	24.8	31.5	30.5	29.7	26.7
	810.0	1909.8	26.2	24.8	26.2	24.8	31.5	30.5	29.7	26.8
			Frame Power (dBm)				Frame Power (dBm)			
1900.0	512.0	1850.2	17.2	19.0	17.2	19.0	22.5	24.5	20.7	20.7
	661.0	1880.0	17.2	18.8	17.2	18.8	22.5	24.5	20.7	20.7
	810.0	1909.8	17.2	18.8	17.2	18.8	22.5	24.5	20.7	20.7

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	UAT				LAT			
			HEAD		BODY		HEAD		BODY	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
			Burst Power (dBm)				Burst Power (dBm)			
1900.0	512.0	1850.2	24.4	23.4	24.3	23.3	27.9	27.0	27.8	25.7
	661.0	1880.0	24.3	23.4	24.3	23.3	28.0	27.0	28.0	25.6
	810.0	1909.8	24.5	23.4	24.3	23.5	28.0	27.0	27.8	25.7
			Frame Power (dBm)				Frame Power (dBm)			
1900.0	512.0	1850.2	15.4	17.4	15.3	17.3	18.9	21.0	18.8	19.7
	661.0	1880.0	15.3	17.4	15.3	17.3	19.0	21.0	19.0	19.6
	810.0	1909.8	15.5	17.4	15.3	17.5	19.0	21.0	18.8	19.7

Notes:

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

- GMSK (GPRS) mode with 2 time slots based on the maximum output power from Tune-up Procedure.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

9.2. W-CDMA

Release 99 Setup Procedures used to establish the test signals

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

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 2
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c/β_d	8/15

HSDPA Setup Procedures used to establish the test signals

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

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

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

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

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

DC-HSDPA Setup Procedures used to establish the test signals

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

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

Table E.5.0: Levels for HSDPA connection setup

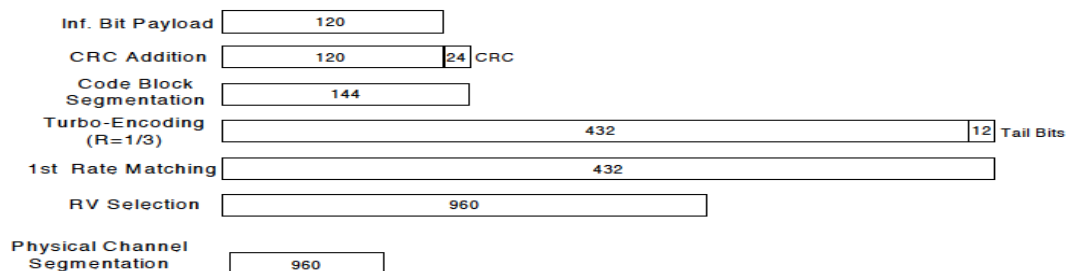
Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

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

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

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

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

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

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

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

HSPA+

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

W-CDMA Band V Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)			
						UAT		LAT	
						HEAD	BODY	HEAD	BODY
W-CDMA Band V	Rel 99	RMC, 12.2 kbps	4132	826.4	N/A	23.0	23.0	24.5	24.5
			4183	836.6	N/A	23.0	23.0	24.5	24.5
			4233	846.6	N/A	23.0	23.0	24.5	24.5
	HSDPA	Subtest 1	4132	826.4	0	22.9	22.8	24.3	24.5
			4183	836.6	0	22.9	22.9	24.3	24.3
			4233	846.6	0	22.9	23.0	24.5	24.3
		Subtest 2	4132	826.4	0	22.9	22.8	24.4	24.4
			4183	836.6	0	22.9	22.9	24.3	24.3
			4233	846.6	0	22.8	22.8	24.3	24.5
		Subtest 3	4132	826.4	0.5	22.4	22.3	23.9	23.8
			4183	836.6	0.5	22.4	22.4	23.8	23.8
			4233	846.6	0.5	22.3	22.3	23.8	23.8
		Subtest 4	4132	826.4	0.5	22.5	22.4	23.9	24.0
			4183	836.6	0.5	22.3	22.4	23.9	23.9
			4233	846.6	0.5	22.5	22.5	23.9	23.9
	HSUPA	Subtest 1	4132	826.4	0	23.0	22.9	24.3	24.4
			4183	836.6	0	23.0	22.9	24.4	24.3
			4233	846.6	0	22.9	22.8	24.5	24.3
		Subtest 2	4132	826.4	2	20.8	20.8	22.3	22.4
			4183	836.6	2	20.8	20.9	22.4	22.4
			4233	846.6	2	20.9	20.9	22.5	22.5
		Subtest 3	4132	826.4	1	21.9	21.9	23.4	23.3
			4183	836.6	1	21.9	21.9	23.4	23.4
			4233	846.6	1	21.9	22.0	23.3	23.3
		Subtest 4	4132	826.4	2	20.9	20.8	22.4	22.5
			4183	836.6	2	21.0	20.9	22.3	22.5
			4233	846.6	2	20.9	20.8	22.5	22.4
		Subtest 5	4132	826.4	0	23.0	22.9	24.4	24.5
			4183	836.6	0	22.8	23.0	24.3	24.4
			4233	846.6	0	22.8	23.0	24.4	24.3
	DC-HSDPA	Subtest 1	4132	826.4	0	22.8	23.0	24.5	24.4
			4183	836.6	0	22.9	23.0	24.4	24.3
			4233	846.6	0	22.8	22.9	24.4	24.3
		Subtest 2	4132	826.4	0	22.9	23.0	24.5	24.4
			4183	836.6	0	22.8	22.9	24.3	24.3
			4233	846.6	0	22.8	22.9	24.3	24.3
		Subtest 3	4132	826.4	0.5	22.3	22.5	24.0	23.9
			4183	836.6	0.5	22.4	22.4	23.9	23.9
			4233	846.6	0.5	22.3	22.4	24.0	23.8
		Subtest 4	4132	826.4	0.5	22.3	22.4	23.9	23.9
			4183	836.6	0.5	22.3	22.4	23.9	23.8
			4233	846.6	0.5	22.4	22.5	23.8	23.9

W-CDMA Band IV Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)			
						UAT		LAT	
						HEAD	BODY	HEAD	BODY
W-CDMA Band IV	Rel 99	RMC, 12.2 kbps	1312	1712.4	N/A	18.8	20.8	24.3	22.0
			1413	1732.6	N/A	18.8	20.8	24.3	22.0
			1513	1752.6	N/A	18.8	20.8	24.3	22.0
	HSDPA	Subtest 1	1312	1712.4	0	18.7	20.7	24.3	21.8
			1413	1732.6	0	18.7	20.7	24.1	21.9
			1513	1752.6	0	18.6	20.6	24.1	21.8
		Subtest 2	1312	1712.4	0	18.6	20.7	24.1	21.9
			1413	1732.6	0	18.7	20.7	24.2	21.9
			1513	1752.6	0	18.7	20.7	24.2	22.0
		Subtest 3	1312	1712.4	0.5	18.3	20.3	23.6	21.3
			1413	1732.6	0.5	18.2	20.1	23.8	21.4
			1513	1752.6	0.5	18.1	20.1	23.7	21.4
		Subtest 4	1312	1712.4	0.5	18.2	20.1	23.7	21.3
			1413	1732.6	0.5	18.1	20.2	23.8	21.4
			1513	1752.6	0.5	18.3	20.1	23.8	21.5
	HSUPA	Subtest 1	1312	1712.4	0	18.7	20.8	24.2	21.8
			1413	1732.6	0	18.7	20.7	24.1	21.9
			1513	1752.6	0	18.7	20.8	24.2	21.8
		Subtest 2	1312	1712.4	2	16.6	18.7	22.3	19.9
			1413	1732.6	2	16.6	18.6	22.3	19.8
			1513	1752.6	2	16.7	18.6	22.1	20.0
		Subtest 3	1312	1712.4	1	17.8	19.7	23.1	20.8
			1413	1732.6	1	17.7	19.6	23.3	20.8
			1513	1752.6	1	17.6	19.7	23.1	20.9
		Subtest 4	1312	1712.4	2	16.6	18.7	22.3	19.9
			1413	1732.6	2	16.6	18.6	22.3	19.8
			1513	1752.6	2	16.8	18.6	22.3	19.9
		Subtest 5	1312	1712.4	0	18.6	20.7	24.3	21.9
			1413	1732.6	0	18.7	20.7	24.2	21.8
			1513	1752.6	0	18.6	20.6	24.1	21.8
	DC-HSDPA	Subtest 1	1312	1712.4	0	18.7	20.7	24.2	22.0
			1413	1732.6	0	18.8	20.7	24.3	21.8
			1513	1752.6	0	18.6	20.6	24.3	21.9
		Subtest 2	1312	1712.4	0	18.6	20.7	24.2	21.8
			1413	1732.6	0	18.6	20.7	24.1	21.9
			1513	1752.6	0	18.6	20.7	24.1	21.8
		Subtest 3	1312	1712.4	0.5	18.2	20.1	23.7	21.4
			1413	1732.6	0.5	18.1	20.2	23.6	21.4
			1513	1752.6	0.5	18.3	20.3	23.6	21.3
		Subtest 4	1312	1712.4	0.5	18.1	20.1	23.7	21.3
			1413	1732.6	0.5	18.3	20.1	23.8	21.3
			1513	1752.6	0.5	18.2	20.2	23.8	21.4

W-CDMA Band II Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)			
						UAT		LAT	
						HEAD	BODY	HEAD	BODY
W-CDMA Band II	Rel 99	RMC, 12.2 kbps	9262	1852.4	N/A	18.5	21.4	23.9	20.8
			9400	1880.0	N/A	18.7	21.4	24.0	20.8
			9538	1907.6	N/A	18.7	21.5	23.9	20.7
	HSDPA	Subtest 1	9262	1852.4	0	18.3	21.2	23.9	20.7
			9400	1880.0	0	18.6	21.3	23.9	20.5
			9538	1907.6	0	18.6	21.4	23.8	20.6
		Subtest 2	9262	1852.4	0	18.3	21.2	23.7	20.7
			9400	1880.0	0	18.5	21.2	23.8	20.5
			9538	1907.6	0	18.7	21.3	23.8	20.6
		Subtest 3	9262	1852.4	0.5	17.9	20.8	23.3	20.1
			9400	1880.0	0.5	18.0	20.8	23.4	20.1
			9538	1907.6	0.5	18.1	20.9	23.3	20.1
		Subtest 4	9262	1852.4	0.5	17.9	20.8	23.3	20.0
			9400	1880.0	0.5	18.0	20.8	23.4	20.2
			9538	1907.6	0.5	18.1	20.9	23.4	20.0
	HSUPA	Subtest 1	9262	1852.4	0	18.5	21.2	23.8	20.5
			9400	1880.0	0	18.7	21.4	23.8	20.5
			9538	1907.6	0	18.5	21.5	23.8	20.6
		Subtest 2	9262	1852.4	2	16.5	19.2	21.9	18.6
			9400	1880.0	2	16.6	19.3	21.9	18.7
			9538	1907.6	2	16.5	19.4	21.7	18.5
		Subtest 3	9262	1852.4	1	17.4	20.3	22.7	19.7
			9400	1880.0	1	17.5	20.2	22.9	19.7
			9538	1907.6	1	17.5	20.4	22.7	19.5
		Subtest 4	9262	1852.4	2	16.4	19.3	21.8	18.7
			9400	1880.0	2	16.5	19.4	21.8	18.6
			9538	1907.6	2	16.6	19.3	21.7	18.5
		Subtest 5	9262	1852.4	0	18.4	21.4	23.7	20.6
			9400	1880.0	0	18.5	21.3	23.8	20.5
			9538	1907.6	0	18.5	21.3	23.7	20.7
	DC-HSDPA	Subtest 1	9262	1852.4	0	18.5	21.2	23.7	20.6
			9400	1880.0	0	18.7	21.3	24.0	20.6
			9538	1907.6	0	18.6	21.3	23.7	20.6
		Subtest 2	9262	1852.4	0	18.3	21.3	23.8	20.5
			9400	1880.0	0	18.7	21.3	23.8	20.6
			9538	1907.6	0	18.6	21.3	23.9	20.6
		Subtest 3	9262	1852.4	0.5	17.9	20.8	23.4	20.2
			9400	1880.0	0.5	18.0	20.7	23.4	20.1
			9538	1907.6	0.5	18.0	20.9	23.4	20.0
		Subtest 4	9262	1852.4	0.5	17.8	20.8	23.2	20.0
			9400	1880.0	0.5	18.1	20.7	23.3	20.2
			9538	1907.6	0.5	18.2	20.8	23.4	20.0

9.3. LTE

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

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

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

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".

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

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

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

LTE Band 2 Average Power (dBm) Measured Results

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD				UAT / BODY			Target MPR	LAT / HEAD				LAT / BODY		
						1860 MHz	1880 MHz	1900 MHz		1860 MHz	1880 MHz	1900 MHz		1860 MHz	1880 MHz	1900 MHz				
LTE Band 2	20	QPSK	1	0	0				0	24.8	24.9	24.8								
			1	49	0				0	24.9	25.0	25.0								
			1	99	0				0	24.9	25.0	24.8								
			50	0	0				1	23.9	23.9	23.9								
			50	24	0				1	23.9	24.0	24.0								
			50	49	0				1	23.8	23.8	23.9								
		16QAM	100	0	0				1	23.9	24.0	23.9								
			1	0	0				1	23.8	23.9	23.7								
			1	49	0				1	23.9	24.0	23.9								
			1	99	0				1	23.8	23.9	23.7								
			50	0	0				2	22.8	22.8	22.9								
			50	24	0				2	22.9	22.9	23.0								
			50	49	0				2	22.7	22.7	23.0								
			100	0	0				2	22.8	22.9	22.9								
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1857.5 MHz	1880 MHz	1902.5 MHz		1857.5 MHz	1880 MHz	1902.5 MHz		1857.5 MHz	1880 MHz	1902.5 MHz		1857.5 MHz	1880 MHz	1902.5 MHz
LTE Band 2	15	QPSK	1	0	0				0	24.9	24.8	24.8								
			1	36	0				0	24.9	25.0	24.9								
			1	74	0				0	24.9	24.9	24.8								
			36	0	0				1	23.9	23.9	23.8								
			36	18	0				1	23.8	23.8	23.9								
			36	37	0				1	23.8	24.0	24.0								
		16QAM	75	0	0				1	23.7	23.9	23.8								
			1	0	0				1	23.8	23.8	23.8								
			1	36	0				1	24.0	23.9	23.9								
			1	74	0				1	23.9	23.9	23.8								
			36	0	0				2	22.9	22.8	22.8								
			36	18	0				2	22.7	22.8	22.9								
			36	37	0				2	22.7	23.0	23.0								
			75	0	0				2	22.6	22.9	22.6								
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1855 MHz	1880 MHz	1905 MHz		1855 MHz	1880 MHz	1905 MHz		1855 MHz	1880 MHz	1905 MHz		1855 MHz	1880 MHz	1905 MHz
LTE Band 2	10	QPSK	1	0	0				0	24.9	25.0	24.9								
			1	24	0				0	24.9	24.9	24.9								
			1	49	0				0	24.9	24.9	24.9								
			25	0	0				1	23.9	23.8	24.0								
			25	12	0				1	23.9	23.9	23.8								
			25	24	0				1	24.0	23.9	24.0								
		16QAM	50	0	0				1	23.7	23.9	23.7								
			1	0	0				1	23.8	23.9	23.9								
			1	24	0				1	23.8	23.8	23.7								
			1	49	0				1	23.9	23.8	23.8								
			25	0	0				2	22.9	22.8	23.0								
			25	12	0				2	22.8	22.9	22.8								
			25	24	0				2	22.9	22.8	22.9								
			50	0	0				2	22.8	22.9	22.8								

LTE Band 2 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1852.5 MHz	1880 MHz	1907.5 MHz		1852.5 MHz	1880 MHz	1907.5 MHz		1852.5 MHz	1880 MHz	1907.5 MHz		1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2	5	QPSK	1	0	0									0	25.0	24.9	24.8			
			1	12	0									0	25.0	25.0	24.9			
			1	24	0									0	25.0	24.9	25.0			
			12	0	0									1	23.9	23.9	23.9			
			12	7	0									1	23.9	23.9	23.9			
			12	13	0									1	23.9	23.9	23.9			
		16QAM	25	0	0									1	23.9	24.0	23.8			
			1	0	0									1	24.0	24.0	23.9			
			1	12	0									1	24.0	23.9	23.9			
			1	24	0									1	24.0	24.0	23.9			
			12	0	0									2	23.0	22.9	22.8			
			12	7	0									2	22.9	22.8	22.9			
			12	13	0									2	22.9	23.0	23.0			
			25	0	0									2	23.0	23.0	22.9			
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1851.5 MHz	1880 MHz	1908.5 MHz		1851.5 MHz	1880 MHz	1908.5 MHz		1851.5 MHz	1880 MHz	1908.5 MHz		1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2	3	QPSK	1	0	0									0	25.0	25.0	25.0			
			1	8	0									0	24.9	25.0	24.8			
			1	14	0									0	24.9	24.9	24.9			
			8	0	0									1	23.9	23.9	23.9			
			8	4	0									1	23.9	23.9	23.9			
			8	7	0									1	23.9	23.9	23.9			
		16QAM	15	0	0									1	23.9	23.9	23.9			
			1	0	0									1	24.0	24.0	24.0			
			1	8	0									1	23.8	23.9	23.9			
			1	14	0									1	23.8	23.9	23.9			
			8	0	0									2	23.0	23.0	23.0			
			8	4	0									2	22.9	22.9	22.9			
			8	7	0									2	22.9	23.0	22.9			
			15	0	0									2	22.9	22.9	22.9			
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1850.7 MHz	1880 MHz	1909.3 MHz		1850.7 MHz	1880 MHz	1909.3 MHz		1850.7 MHz	1880 MHz	1909.3 MHz		1850.7 MHz	1880 MHz	1909.3 MHz
LTE Band 2	1.4	QPSK	1	0	0									0	25.0	25.0	24.8			
			1	3	0									0	25.0	24.9	24.8			
			1	5	0									0	24.8	24.9	25.0			
			3	0	0									0	25.0	24.9	25.0			
			3	1	0									0	24.9	24.9	24.8			
			3	3	0									0	24.9	25.0	24.9			
		16QAM	6	0	0									1	24.0	23.9	23.8			
			1	0	0									1	24.0	23.9	24.0			
			1	3	0									1	23.9	23.9	24.0			
			1	5	0									1	23.9	23.9	24.0			
			3	0	0									1	23.8	23.9	24.0			
			3	1	0									1	23.9	23.9	24.0			
			3	3	0									1	23.9	23.9	23.8			
			6	0	0									2	22.9	22.9	22.9			

LTE Band 4 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0.0	18.6	18.5	18.7	0.0	20.8	20.8	20.7	0.0	24.8	24.8	24.7	0.0	21.8	21.8	21.7
			1	49	0.0	18.7	18.7	18.7	0.0	20.9	20.9	20.9	0.0	24.9	24.9	24.9	0.0	21.8	21.8	21.8
			1	99	0.0	18.5	18.7	18.7	0.0	20.8	20.9	20.8	0.0	24.9	24.9	24.8	0.0	21.7	21.8	21.8
			50	0	0.0	18.6	18.6	18.5	1.0	19.7	19.8	19.8	1.0	23.6	23.8	23.8	0.0	21.8	21.9	21.9
			50	24	0.0	18.7	18.7	18.7	1.0	19.9	19.9	19.9	1.0	23.8	23.8	23.8	0.0	21.9	22.0	22.0
			50	49	0.0	18.5	18.5	18.7	1.0	19.8	19.8	19.8	1.0	23.6	23.6	23.6	0.0	21.7	21.8	21.9
			100	0	0.0	18.6	18.7	18.7	1.0	19.7	19.9	19.8	1.0	23.7	23.8	23.7	0.0	22.0	22.0	21.9
		16QAM	1	0	0.0	18.6	18.5	18.7	1.0	19.7	19.7	19.6	1.0	23.7	23.7	23.6	0.0	21.8	21.7	21.7
			1	49	0.0	18.6	18.7	18.7	1.0	19.9	19.9	19.9	1.0	23.9	23.8	23.8	0.0	21.7	21.8	21.7
			1	99	0.0	18.4	18.7	18.6	1.0	19.8	19.9	19.7	1.0	23.9	23.8	23.8	0.0	21.6	21.7	21.8
			50	0	0.3	18.3	18.3	18.2	2.0	18.6	18.8	18.7	2.0	22.6	22.7	22.8	0.0	21.8	21.9	21.8
			50	24	0.3	18.4	18.4	18.3	2.0	18.9	18.9	18.8	2.0	22.8	22.8	22.7	0.0	21.8	21.9	21.9
			50	49	0.3	18.2	18.2	18.3	2.0	18.7	18.7	18.7	2.0	22.5	22.6	22.6	0.0	21.7	21.7	21.9
			100	0	0.3	18.3	18.4	18.4	2.0	18.6	18.9	18.8	2.0	22.6	22.7	22.6	0.0	21.9	21.9	21.9
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz
LTE Band 4	15	QPSK	1	0	0.0	18.5	18.6	18.5	0.0	20.8	20.8	20.9	0.0	24.8	24.9	24.7	0.0	21.7	21.8	21.6
			1	36	0.0	18.6	18.5	18.5	0.0	20.7	20.8	20.8	0.0	24.7	24.8	24.9	0.0	21.6	21.6	21.6
			1	74	0.0	18.5	18.7	18.5	0.0	20.8	20.8	20.7	0.0	24.7	24.7	24.7	0.0	21.8	21.7	21.7
			36	0	0.0	18.6	18.7	18.5	1.0	19.9	19.7	19.8	1.0	23.6	23.7	23.8	0.0	21.7	22.0	21.8
			36	18	0.0	18.6	18.6	18.6	1.0	19.9	19.8	19.8	1.0	23.6	23.7	23.6	0.0	21.8	21.9	21.8
			36	37	0.0	18.6	18.7	18.6	1.0	19.8	19.7	19.9	1.0	23.8	23.8	23.6	0.0	21.8	22.0	21.9
			75	0	0.0	18.6	18.5	18.3	1.0	19.5	19.8	19.6	1.0	23.4	23.6	23.6	0.0	21.8	21.9	21.7
		16QAM	1	0	0.0	18.5	18.6	18.4	1.0	19.7	19.7	19.8	1.0	23.8	23.8	23.6	0.0	21.7	21.7	21.5
			1	36	0.0	18.6	18.4	18.5	1.0	19.6	19.7	19.7	1.0	23.7	23.7	23.8	0.0	21.6	21.6	21.6
			1	74	0.0	18.4	18.6	18.4	1.0	19.7	19.7	19.7	1.0	23.6	23.6	23.6	0.0	21.8	21.7	21.6
			36	0	0.3	18.3	18.3	18.1	2.0	18.9	18.7	18.7	2.0	22.6	22.6	22.7	0.0	21.6	21.9	21.7
			36	18	0.3	18.3	18.3	18.3	2.0	18.8	18.8	18.7	2.0	22.6	22.7	22.5	0.0	21.7	21.8	21.8
			36	37	0.3	18.3	18.3	18.2	2.0	18.8	18.6	18.8	2.0	22.7	22.8	22.6	0.0	21.8	21.9	21.8
			75	0	0.3	18.2	18.1	18.0	2.0	18.4	18.8	18.5	2.0	22.3	22.5	22.5	0.0	21.7	21.8	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0.0	18.6	18.6	18.6	0.0	20.8	20.8	20.7	0.0	24.9	24.7	24.8	0.0	21.7	21.6	21.7
			1	24	0.0	18.6	18.6	18.6	0.0	20.8	20.9	20.7	0.0	24.8	24.8	24.9	0.0	21.8	21.6	21.7
			1	49	0.0	18.5	18.7	18.5	0.0	20.8	20.8	20.8	0.0	24.8	24.7	24.7	0.0	21.7	21.8	21.6
			25	0	0.0	18.6	18.5	18.5	1.0	19.7	19.7	19.9	1.0	23.7	23.6	23.7	0.0	21.7	21.8	21.8
			25	12	0.0	18.5	18.7	18.5	1.0	19.8	19.8	19.7	1.0	23.7	23.8	23.6	0.0	21.7	21.9	21.9
			25	24	0.0	18.6	18.7	18.6	1.0	19.8	19.8	19.9	1.0	23.7	23.6	23.6	0.0	21.9	21.8	22.0
			50	0	0.0	18.3	18.5	18.4	1.0	19.5	19.8	19.5	1.0	23.6	23.6	23.6	0.0	21.9	21.8	21.6
		16QAM	1	0	0.0	18.5	18.5	18.6	1.0	19.7	19.8	19.6	1.0	23.8	23.6	23.7	0.0	21.7	21.5	21.7
			1	24	0.0	18.5	18.5	18.6	1.0	19.7	19.8	19.6	1.0	23.7	23.8	23.9	0.0	21.7	21.5	21.6
			1	49	0.0	18.5	18.6	18.4	1.0	19.7	19.8	19.7	1.0	23.7	23.7	23.7	0.0	21.6	21.7	21.5
			25	0	0.3	18.2	18.1	18.2	2.0	18.6	18.7	18.8	2.0	22.7	22.5	22.6	0.0	21.6	21.7	21.8
			25	12	0.3	18.2	18.4	18.2	2.0	18.8	18.7	18.6	2.0	22.6	22.7	22.5	0.0	21.7	21.9	21.8
			25	24	0.3	18.3	18.4	18.3	2.0	18.7	18.7	18.8	2.0	22.7	22.5	22.5	0.0	21.9	21.8	21.9
			50	0	0.3	17.9	18.2	18.1	2.0	18.4	18.7	18.5	2.0	22.5	22.5	22.6	0.0	21.9	21.7	21.6

LTE Band 4 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz
LTE Band 4	5	QPSK	1	0	0.0	18.7	18.5	18.5	0.0	20.8	20.7	20.7	0.0	24.8	24.7	24.8	0.0	21.7	21.6	21.6
			1	12	0.0	18.7	18.7	18.6	0.0	20.7	20.7	20.8	0.0	24.7	24.8	24.8	0.0	21.7	21.6	21.6
			1	24	0.0	18.6	18.6	18.7	0.0	20.7	20.7	20.9	0.0	24.8	24.8	24.8	0.0	21.6	21.8	21.6
			12	0	0.0	18.5	18.5	18.7	1.0	19.7	19.9	19.8	1.0	23.6	23.7	23.7	0.0	21.9	21.9	21.8
			12	7	0.0	18.5	18.5	18.7	1.0	19.9	19.7	19.8	1.0	23.8	23.7	23.7	0.0	21.9	22.0	21.9
			12	13	0.0	18.6	18.6	18.6	1.0	19.8	19.7	19.7	1.0	23.6	23.6	23.6	0.0	21.8	21.9	21.9
			25	0	0.0	18.4	18.7	18.3	1.0	19.8	19.8	19.8	1.0	23.5	23.7	23.6	0.0	21.8	21.9	22.0
		16QAM	1	0	0.0	18.6	18.5	18.5	1.0	19.7	19.6	19.6	1.0	23.7	23.7	23.8	0.0	21.6	21.5	21.6
			1	12	0.0	18.6	18.6	18.5	1.0	19.6	19.6	19.8	1.0	23.6	23.7	23.7	0.0	21.7	21.6	21.5
			1	24	0.0	18.5	18.5	18.7	1.0	19.6	19.7	19.8	1.0	23.7	23.7	23.7	0.0	21.5	21.8	21.6
			12	0	0.3	18.2	18.2	18.4	2.0	18.7	18.8	18.7	2.0	22.5	22.6	22.6	0.0	21.8	21.8	21.7
			12	7	0.3	18.2	18.1	18.4	2.0	18.8	18.6	18.7	2.0	22.7	22.7	22.6	0.0	21.8	21.9	21.9
			12	13	0.3	18.3	18.3	18.2	2.0	18.8	18.6	18.6	2.0	22.5	22.5	22.5	0.0	21.7	21.8	21.9
			25	0	0.3	18.0	18.4	18.0	2.0	18.7	18.8	18.8	2.0	22.4	22.6	22.5	0.0	21.8	21.8	21.9
			25	0	0.3	18.0	18.4	18.0	2.0	18.7	18.8	18.8	2.0	22.4	22.6	22.5	0.0	21.8	21.8	21.9
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz
LTE Band 4	3	QPSK	1	0	0.0	18.6	18.7	18.6	0.0	20.8	20.7	20.8	0.0	24.7	24.9	24.7	0.0	21.8	21.7	21.6
			1	8	0.0	18.5	18.6	18.7	0.0	20.8	20.8	20.8	0.0	24.7	24.8	24.7	0.0	21.7	21.7	21.6
			1	14	0.0	18.6	18.6	18.7	0.0	20.7	20.8	20.7	0.0	24.8	24.7	24.8	0.0	21.8	21.7	21.7
			8	0	0.0	18.7	18.5	18.6	1.0	19.7	19.9	19.8	1.0	23.7	23.6	23.6	0.0	21.8	21.8	21.9
			8	4	0.0	18.7	18.5	18.5	1.0	19.8	19.8	19.8	1.0	23.6	23.8	23.6	0.0	21.9	21.8	21.9
			8	7	0.0	18.6	18.5	18.6	1.0	19.7	19.8	19.9	1.0	23.8	23.7	23.8	0.0	21.8	21.9	22.0
			15	0	0.0	18.4	18.6	18.4	1.0	19.7	19.8	19.6	1.0	23.7	23.8	23.5	0.0	21.7	22.0	21.7
		16QAM	1	0	0.0	18.5	18.6	18.6	1.0	19.7	19.7	19.8	1.0	23.7	23.9	23.7	0.0	21.7	21.7	21.5
			1	8	0.0	18.4	18.5	18.6	1.0	19.7	19.8	19.7	1.0	23.6	23.8	23.6	0.0	21.6	21.6	21.5
			1	14	0.0	18.6	18.5	18.6	1.0	19.6	19.8	19.7	1.0	23.7	23.6	23.8	0.0	21.7	21.6	21.7
			8	0	0.3	18.4	18.2	18.3	2.0	18.6	18.9	18.8	2.0	22.6	22.5	22.5	0.0	21.7	21.7	21.9
			8	4	0.3	18.3	18.1	18.2	2.0	18.7	18.7	18.7	2.0	22.5	22.7	22.5	0.0	21.9	21.7	21.8
			8	7	0.3	18.3	18.1	18.2	2.0	18.6	18.7	18.9	2.0	22.8	22.6	22.7	0.0	21.7	21.8	21.9
			15	0	0.3	18.1	18.3	18.1	2.0	18.6	18.8	18.6	2.0	22.6	22.8	22.4	0.0	21.6	21.9	21.7
			15	0	0.3	18.1	18.3	18.1	2.0	18.6	18.8	18.6	2.0	22.6	22.8	22.4	0.0	21.6	21.9	21.7
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE Band 4	1.4	QPSK	1	0	0.0	18.5	18.6	18.5	0.0	20.9	20.7	20.8	0.0	24.8	24.9	24.8	0.0	21.6	21.7	21.6
			1	3	0.0	18.6	18.6	18.5	0.0	20.8	20.8	20.9	0.0	24.7	24.7	24.8	0.0	21.7	21.6	21.7
			1	5	0.0	18.5	18.6	18.5	0.0	20.7	20.8	20.9	0.0	24.9	24.8	24.8	0.0	21.7	21.6	21.8
			3	0	0.0	18.6	18.6	18.5	0.0	20.8	20.7	20.9	0.0	24.8	24.8	24.6	0.0	21.8	21.9	22.0
			3	1	0.0	18.7	18.7	18.7	0.0	20.9	20.9	20.8	0.0	24.7	24.8	24.7	0.0	21.9	22.0	22.0
			3	3	0.0	18.5	18.7	18.6	0.0	20.9	20.8	20.7	0.0	24.6	24.7	24.8	0.0	21.7	21.8	22.0
			6	0	0.0	18.4	18.6	18.4	1.0	19.8	19.9	19.7	1.0	23.7	23.7	23.7	0.0	21.7	21.9	21.9
		16QAM	1	0	0.0	18.5	18.5	18.4	1.0	19.9	19.7	19.7	1.0	23.7	23.8	23.7	0.0	21.6	21.7	21.5
			1	3	0.0	18.5	18.5	18.4	1.0	19.7	19.8	19.9	1.0	23.6	23.7	23.8	0.0	21.6	21.5	21.6
			1	5	0.0	18.4	18.5	18.4	1.0	19.7	19.7	19.8	1.0	23.9	23.8	23.8	0.0	21.7	21.6	21.8
			3	0	0.3	18.6	18.5	18.4	1.0	19.7	19.6	19.8	1.0	23.8	23.7	23.5	0.0	21.7	21.8	22.0
			3	1	0.3	18.6	18.6	18.6	1.0	19.9	19.8	19.7	1.0	23.6	23.7	23.6	0.0	21.8	21.9	22.0
			3	3	0.3	18.5	18.6	18.5	1.0	19.9	19.8	19.6	1.0	23.5	23.7	23.7	0.0	21.7	21.7	21.9
			6	0	0.3	18.1	18.3	18.0	2.0	18.7	18.8	18.6	2.0	22.7	22.7	22.6	0.0	21.6	21.8	21.8
			6	0	0.3	18.1	18.3	18.0	2.0	18.7	18.8	18.6	2.0	22.7	22.7	22.6	0.0	21.6	21.8	21.8

LTE Band 5 Average Power (dBm) Measured Results

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

LTE Band 7 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz
LTE Band 7	20	QPSK	1	0	0.0	16.0	16.0	16.0	0.0	18.8	18.8	18.9	0.0	24.9	24.8	24.9	0.0	18.8	18.8	18.8
			1	49	0.0	16.2	16.2	16.1	0.0	18.9	18.9	18.9	0.0	25.0	25.0	25.0	0.0	18.9	19.0	18.9
			1	99	0.0	16.0	16.2	16.1	0.0	18.7	18.9	18.8	0.0	25.0	24.8	24.9	0.0	18.7	18.9	18.9
			50	0	0.0	15.9	15.9	15.8	0.0	18.9	18.8	18.8	1.0	23.9	23.8	23.7	0.0	18.8	18.9	18.8
			50	24	0.0	16.1	16.1	16.0	0.0	19.0	19.0	19.0	1.0	23.9	23.9	23.9	0.0	19.0	19.0	19.0
			50	49	0.0	16.0	15.9	15.9	0.0	18.8	18.8	18.9	1.0	23.9	23.9	23.7	0.0	19.0	18.9	18.9
			100	0	0.0	16.0	16.2	16.0	0.0	18.9	19.0	18.8	1.0	23.7	23.9	23.8	0.0	18.7	18.8	18.7
		16QAM	1	0	0.0	16.0	15.9	16.0	0.0	18.7	18.7	18.8	1.0	23.8	23.7	23.9	0.0	18.7	18.8	18.7
			1	49	0.0	16.2	16.1	16.0	0.0	18.8	18.8	18.8	1.0	24.0	23.9	23.9	0.0	18.8	19.0	18.8
			1	99	0.0	16.0	16.1	16.0	0.0	18.6	18.8	18.7	1.0	23.9	23.7	23.9	0.0	18.7	18.8	18.9
			50	0	0.0	15.8	15.8	15.8	0.0	18.8	18.8	18.8	2.0	22.8	22.7	22.6	0.0	18.7	18.9	18.7
			50	24	0.0	16.1	16.1	15.9	0.0	18.9	19.0	19.0	2.0	22.9	22.9	22.8	0.0	19.0	18.9	18.9
			50	49	0.0	16.0	15.8	15.9	0.0	18.7	18.7	18.8	2.0	22.9	22.9	22.7	0.0	19.0	18.8	18.8
			100	0	0.0	15.9	16.1	15.9	0.0	18.8	19.0	18.8	2.0	22.6	22.8	22.7	0.0	18.6	18.7	18.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						2507.5 MHz	2535 MHz	2562.5 MHz		2507.5 MHz	2535 MHz	2562.5 MHz		2507.5 MHz	2535 MHz	2562.5 MHz		2507.5 MHz	2535 MHz	2562.5 MHz
LTE Band 7	15	QPSK	1	0	0.0	16.2	16.0	16.0	0.0	18.8	18.7	18.7	0.0	24.8	24.9	25.0	0.0	18.8	18.9	18.9
			1	36	0.0	16.2	16.1	16.0	0.0	18.8	18.9	18.7	0.0	25.0	25.0	24.9	0.0	18.8	18.8	18.7
			1	74	0.0	16.1	16.0	16.1	0.0	18.9	18.9	18.9	0.0	25.0	24.8	25.0	0.0	18.9	18.9	18.9
			36	0	0.0	15.9	16.0	15.9	0.0	19.0	18.9	18.9	1.0	23.7	23.7	23.9	0.0	18.8	18.9	18.9
			36	18	0.0	15.9	15.9	16.0	0.0	19.0	18.9	18.8	1.0	23.7	23.9	23.7	0.0	18.9	18.9	18.8
			36	37	0.0	15.9	15.9	15.9	0.0	18.8	18.9	18.8	1.0	23.9	23.9	23.7	0.0	19.0	18.8	18.8
			75	0	0.0	15.9	16.2	15.8	0.0	18.8	18.8	18.6	1.0	23.6	23.8	23.8	0.0	18.4	18.6	18.4
		16QAM	1	0	0.0	16.1	15.9	15.9	0.0	18.7	18.7	18.6	1.0	23.8	23.8	23.9	0.0	18.8	18.8	18.9
			1	36	0.0	16.1	16.1	15.9	0.0	18.7	18.9	18.6	1.0	23.9	24.0	23.8	0.0	18.7	18.7	18.6
			1	74	0.0	16.1	16.0	16.1	0.0	18.8	18.8	18.9	1.0	24.0	23.7	23.9	0.0	18.8	18.9	18.8
			36	0	0.0	15.8	15.9	15.8	0.0	18.9	18.8	18.9	2.0	22.6	22.7	22.9	0.0	18.8	18.8	18.9
			36	18	0.0	15.8	15.9	16.0	0.0	18.9	18.9	18.7	2.0	22.6	22.8	22.7	0.0	18.8	18.8	18.7
			36	37	0.0	15.9	15.9	15.9	0.0	18.7	18.8	18.7	2.0	22.8	22.8	22.6	0.0	18.9	18.7	18.7
			75	0	0.0	15.8	16.1	15.7	0.0	18.8	18.7	18.5	2.0	22.5	22.7	22.7	0.0	18.4	18.6	18.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz
LTE Band 7	10	QPSK	1	0	0.0	16.0	16.0	16.1	0.0	18.8	18.9	18.8	0.0	24.9	24.8	24.9	0.0	18.8	18.9	18.8
			1	24	0.0	16.0	16.2	15.9	0.0	18.7	18.8	18.8	0.0	24.9	24.9	24.8	0.0	18.8	19.0	18.7
			1	49	0.0	16.1	16.0	16.0	0.0	18.8	18.8	18.7	0.0	24.8	25.0	24.9	0.0	18.9	18.9	18.9
			25	0	0.0	16.1	16.0	15.8	0.0	18.8	18.8	18.9	1.0	23.8	23.8	23.7	0.0	18.8	18.8	18.8
			25	12	0.0	15.9	15.9	15.8	0.0	18.9	19.0	18.9	1.0	23.7	23.8	23.7	0.0	18.9	18.8	18.8
			25	24	0.0	16.1	15.9	15.8	0.0	18.8	19.0	18.9	1.0	23.7	23.7	23.8	0.0	18.9	18.9	18.9
			50	0	0.0	15.8	16.1	16.2	0.0	18.8	18.8	18.9	1.0	23.7	23.7	23.6	0.0	18.4	18.7	18.4
		16QAM	1	0	0.0	16.0	15.9	16.0	0.0	18.8	18.9	18.7	1.0	23.8	23.8	23.9	0.0	18.7	18.9	18.7
			1	24	0.0	15.9	16.2	15.8	0.0	18.6	18.7	18.8	1.0	23.9	23.9	23.7	0.0	18.8	18.9	18.6
			1	49	0.0	16.0	16.0	15.9	0.0	18.8	18.7	18.6	1.0	23.7	23.9	23.9	0.0	18.8	18.8	18.8
			25	0	0.0	16.1	15.9	15.7	0.0	18.7	18.7	18.8	2.0	22.7	22.7	22.6	0.0	18.7	18.8	18.7
			25	12	0.0	15.9	15.9	15.7	0.0	18.8	19.0	18.9	2.0	22.6	22.8	22.6	0.0	18.9	18.8	18.7
			25	24	0.0	16.0	15.9	15.8	0.0	18.8	18.9	18.9	2.0	22.6	22.6	22.7	0.0	18.8	18.9	18.8
			50	0	0.0	15.8	16.0	16.2	0.0	18.8	18.8	18.9	2.0	22.6	22.7	22.5	0.0	18.3	18.6	18.4

LTE Band 7 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz
LTE Band 7	5	QPSK	1	0	0.0	16.1	16.1	15.9	0.0	18.7	18.8	18.7	0.0	24.9	24.9	25.0	0.0	18.8	18.9	18.7
			1	12	0.0	16.0	16.2	15.9	0.0	18.7	18.7	18.9	0.0	24.9	25.0	24.8	0.0	18.9	19.0	18.8
			1	24	0.0	16.2	16.0	16.0	0.0	18.8	18.8	18.8	0.0	24.9	24.9	24.9	0.0	18.8	18.8	18.8
			12	0	0.0	15.9	16.1	15.8	0.0	18.8	18.8	19.0	1.0	23.8	23.7	23.8	0.0	18.8	19.0	18.9
			12	7	0.0	16.0	15.9	16.0	0.0	18.8	18.8	18.9	1.0	23.7	23.9	23.7	0.0	18.8	18.8	18.8
			12	13	0.0	16.1	16.0	15.8	0.0	19.0	18.9	18.9	1.0	23.7	23.8	23.7	0.0	18.9	19.0	18.8
			25	0	0.0	16.0	16.1	16.1	0.0	18.9	18.8	18.8	1.0	23.6	23.8	23.7	0.0	18.5	18.6	18.6
		16QAM	1	0	0.0	16.1	16.1	15.8	0.0	18.7	18.8	18.6	1.0	23.9	23.8	24.0	0.0	18.8	18.8	18.6
			1	12	0.0	15.9	16.1	15.8	0.0	18.6	18.6	18.8	1.0	23.8	23.9	23.8	0.0	18.8	18.9	18.8
			1	24	0.0	16.1	16.0	15.9	0.0	18.7	18.8	18.7	1.0	23.8	23.8	23.9	0.0	18.7	18.7	18.7
			12	0	0.0	15.8	16.1	15.8	0.0	18.7	18.8	18.9	2.0	22.7	22.6	22.7	0.0	18.8	18.9	18.8
			12	7	0.0	15.9	15.9	15.9	0.0	18.7	18.7	18.9	2.0	22.6	22.8	22.7	0.0	18.8	18.8	18.8
			12	13	0.0	16.1	15.9	15.8	0.0	18.9	18.8	18.8	2.0	22.6	22.7	22.7	0.0	18.9	19.0	18.7
			25	0	0.0	15.9	16.0	16.0	0.0	18.8	18.8	18.8	2.0	22.5	22.7	22.7	0.0	18.5	18.5	18.6

LTE Band 12 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						704 MHz	707.5 MHz	711 MHz		704 MHz	707.5 MHz	711 MHz		704 MHz	707.5 MHz	711 MHz		704 MHz	707.5 MHz	711 MHz
LTE Band 12	10	QPSK	1	0	0	23.4	23.4	23.4	0	23.5	23.5	23.4	0	24.9	24.9	24.9	0	24.9	24.8	25.0
			1	24	0	23.5	23.5	23.5	0	23.5	23.5	23.5	0	25.0	25.0	25.0	0	25.0	25.0	25.0
			1	49	0	23.3	23.4	23.5	0	23.5	23.5	23.5	0	25.0	24.8	24.8	0	24.9	24.9	25.0
			25	0	1	22.5	22.4	22.4	1	22.4	22.4	22.5	1	23.8	24.0	23.8	1	23.9	24.0	23.8
			25	12	1	22.5	22.5	22.5	1	22.5	22.5	22.5	1	24.0	24.0	24.0	1	24.0	24.0	24.0
			25	24	1	22.4	22.5	22.5	1	22.5	22.4	22.4	1	24.0	23.8	24.0	1	23.8	24.0	23.9
			50	0	1	22.5	22.5	22.4	1	22.4	22.5	22.4	1	23.9	24.0	23.8	1	24.0	24.0	23.9
		16QAM	1	0	1	22.5	22.4	22.5	1	22.5	22.4	22.5	1	23.8	23.8	23.8	1	23.9	23.7	23.9
			1	24	1	22.5	22.3	22.5	1	22.4	22.4	22.4	1	23.9	23.9	23.9	1	23.9	23.9	23.9
			1	49	1	22.4	22.4	22.5	1	22.5	22.4	22.5	1	24.0	23.7	23.7	1	23.8	23.9	23.9
			25	0	2	21.4	21.4	21.4	2	21.4	21.5	21.5	2	22.8	22.9	22.7	2	22.8	22.9	22.8
			25	12	2	21.4	21.5	21.4	2	21.5	21.4	21.5	2	23.0	23.0	22.9	2	22.9	22.9	22.9
			25	24	2	21.4	21.5	21.3	2	21.4	21.4	21.5	2	22.9	22.8	22.9	2	22.8	22.9	22.8
			50	0	2	21.4	21.4	21.4	2	21.4	21.4	21.5	2	22.9	22.9	22.8	2	23.0	22.9	22.9
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz
LTE Band 12	5	QPSK	1	0	0	23.5	23.4	23.4	0	23.5	23.4	23.4	0	24.9	24.9	24.9	0	25.0	24.9	24.8
			1	12	0	23.4	23.5	23.4	0	23.4	23.5	23.5	0	25.0	25.0	24.8	0	24.9	25.0	24.8
			1	24	0	23.3	23.4	23.5	0	23.3	23.4	23.5	0	24.9	25.0	24.8	0	24.9	24.9	24.9
			12	0	1	22.4	22.4	22.4	1	22.3	22.4	22.4	1	23.9	23.9	23.8	1	23.9	23.9	23.8
			12	7	1	22.4	22.5	22.3	1	22.4	22.5	22.4	1	23.9	23.9	23.9	1	23.8	23.8	23.8
			12	13	1	22.4	22.5	22.4	1	22.5	22.4	22.4	1	23.9	23.8	23.9	1	23.9	23.8	23.9
			25	0	1	22.5	22.4	22.5	1	22.5	22.5	22.5	1	23.8	23.9	23.7	1	23.8	23.8	23.9
		16QAM	1	0	1	22.5	22.3	22.4	1	22.5	22.4	22.4	1	23.8	23.8	23.8	1	23.9	23.8	23.7
			1	12	1	22.4	22.5	22.4	1	22.4	22.4	22.4	1	23.9	23.9	23.7	1	23.8	23.9	23.7
			1	24	1	22.4	22.4	22.4	1	22.5	22.4	22.4	1	23.8	23.9	23.7	1	23.8	23.8	23.8
			12	0	2	21.4	21.3	21.5	2	21.4	21.5	21.4	2	22.8	22.8	22.8	2	22.9	22.8	22.8
			12	7	2	21.5	21.4	21.4	2	21.5	21.5	21.3	2	22.8	22.8	22.8	2	22.7	22.7	22.7
			12	13	2	21.5	21.4	21.5	2	21.3	21.5	21.4	2	22.9	22.7	22.8	2	22.8	22.7	22.8
			25	0	2	21.5	21.5	21.5	2	21.4	21.5	21.5	2	22.8	22.9	22.6	2	22.7	22.7	22.9
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz
LTE Band 12	3	QPSK	1	0	0	23.5	23.3	23.5	0	23.4	23.4	23.5	0	24.8	24.8	24.8	0	25.0	24.9	24.9
			1	8	0	23.4	23.5	23.5	0	23.5	23.4	23.4	0	25.0	24.9	24.8	0	24.8	24.9	24.9
			1	14	0	23.4	23.4	23.4	0	23.4	23.3	23.4	0	24.9	24.8	24.9	0	25.0	24.8	25.0
			8	0	1	22.4	22.4	22.4	1	22.4	22.4	22.4	1	23.9	23.8	23.9	1	23.8	24.0	23.8
			8	4	1	22.5	22.5	22.4	1	22.4	22.4	22.4	1	23.9	23.9	23.9	1	23.8	23.9	23.9
			8	7	1	22.4	22.4	22.4	1	22.4	22.4	22.5	1	23.8	23.9	23.8	1	23.8	23.9	23.9
			15	0	1	22.4	22.5	22.5	1	22.4	22.5	22.5	1	23.7	23.9	23.8	1	23.6	23.9	23.9
		16QAM	1	0	1	22.5	22.5	22.5	1	22.4	22.4	22.5	1	23.7	23.8	23.7	1	24.0	23.8	23.8
			1	8	1	22.4	22.4	22.4	1	22.5	22.4	22.5	1	23.9	23.8	23.8	1	23.8	23.9	23.9
			1	14	1	22.4	22.4	22.5	1	22.5	22.4	22.4	1	23.9	23.8	23.8	1	24.0	23.7	24.0
			8	0	2	21.4	21.3	21.5	2	21.4	21.5	21.5	2	22.8	22.8	22.8	2	22.7	22.9	22.7
			8	4	2	21.5	21.4	21.4	2	21.4	21.4	21.4	2	22.8	22.8	22.8	2	22.7	22.8	22.8
			8	7	2	21.4	21.4	21.4	2	21.4	21.5	21.3	2	22.7	22.8	22.7	2	22.8	22.8	22.9
			15	0	2	21.4	21.5	21.5	2	21.4	21.5	21.4	2	22.6	22.9	22.8	2	22.5	22.8	22.8

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz
LTE Band 12	1.4	QPSK	1	0	0	23.4	23.4	23.5	0	23.4	23.4	23.4	0	24.9	24.8	24.9	0	24.8	24.8	24.9
			1	2	0	23.5	23.4	23.4	0	23.5	23.4	23.5	0	24.9	24.8	24.8	0	24.8	24.9	24.9
			1	5	0	23.4	23.4	23.4	0	23.4	23.5	23.4	0	24.8	24.9	25.0	0	24.9	24.9	24.8
			3	0	0	23.4	23.4	23.4	0	23.4	23.4	23.5	0	24.9	24.8	25.0	0	24.9	24.9	25.0
			3	1	0	23.5	23.4	23.5	0	23.5	23.4	23.5	0	24.9	24.8	24.8	0	24.9	24.8	25.0
			3	2	0	23.4	23.4	23.5	0	23.4	23.3	23.4	0	24.9	24.9	25.0	0	24.9	24.9	24.8
		16QAM	6	0	1	22.5	22.4	22.3	1	22.5	22.5	22.5	1	23.7	23.9	23.9	1	23.9	23.8	23.8
			1	0	1	22.4	22.5	22.4	1	22.5	22.4	22.3	1	23.8	23.8	23.8	1	23.7	23.7	23.9
			1	2	1	22.5	22.4	22.4	1	22.4	22.4	22.3	1	23.8	23.7	23.7	1	23.7	23.8	23.9
			1	5	1	22.4	22.4	22.4	1	22.4	22.4	22.5	1	23.7	23.8	23.9	1	23.8	23.9	23.7
			3	0	1	22.4	22.4	22.4	1	22.4	22.3	22.3	1	23.8	23.7	23.9	1	23.8	23.8	23.9
			3	1	1	22.4	22.4	22.4	1	22.3	22.4	22.5	1	23.8	23.7	23.7	1	23.8	23.7	24.0
			3	2	1	22.4	22.4	22.4	1	22.4	22.5	22.4	1	23.9	23.8	23.9	1	23.8	23.8	23.8
			6	0	2	21.5	21.4	21.5	2	21.4	21.4	21.4	2	22.6	22.9	22.9	2	22.8	22.7	22.7

LTE Band 13 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
							782 MHz				782 MHz				782 MHz				782 MHz	
LTE Band 13	10	QPSK	1	0	0		23.3		0		23.3		0		24.8		0		25.0	
			1	24	0		23.5		0		23.5		0		25.0		0		25.0	
			1	49	0		23.4		0		23.3		0		24.8		0		24.8	
			25	0	1		22.4		1		22.5		1		23.9		1		23.8	
			25	12	1		22.5		1		22.5		1		24.0		1		24.0	
			25	24	1		22.4		1		22.3		1		23.8		1		23.9	
		16QAM	50	0	1		22.5		1		22.5		1		24.0		1		24.0	
			1	0	1		22.3		1		22.3		1		23.7		1		24.0	
			1	24	1		22.4		1		22.5		1		23.9		1		23.9	
			1	49	1		22.4		1		22.2		1		23.7		1		23.7	
			25	0	2		21.3		2		21.4		2		22.8		2		22.7	
			25	12	2		21.5		2		21.5		2		22.9		2		22.9	
			25	24	2		21.3		2		21.2		2		22.8		2		22.8	
			50	0	2		21.4		2		21.4		2		22.9		2		23.0	
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						779.5 MHz	782 MHz	784.5 MHz		779.5 MHz	782 MHz	784.5 MHz		779.5 MHz	782 MHz	784.5 MHz		779.5 MHz	782 MHz	784.5 MHz
LTE Band 13	5	QPSK	1	0	0	23.3	23.3	23.3	0	23.3	23.3	23.3	0	24.8	24.9	24.8	0	24.9	24.8	24.8
			1	12	0	23.4	23.4	23.4	0	23.3	23.3	23.4	0	24.8	25.0	24.8	0	24.9	24.8	24.8
			1	24	0	23.5	23.3	23.4	0	23.4	23.3	23.3	0	24.8	24.8	24.8	0	24.9	24.9	25.0
			12	0	1	22.3	22.4	22.3	1	22.3	22.4	22.4	1	23.8	23.9	23.9	1	23.9	23.8	23.8
			12	7	1	22.3	22.4	22.4	1	22.5	22.4	22.3	1	23.9	23.8	23.8	1	23.9	24.0	23.9
			12	13	1	22.3	22.3	22.5	1	22.4	22.3	22.3	1	23.8	23.9	23.9	1	23.8	24.0	23.8
		16QAM	25	0	1	22.3	22.4	22.4	1	22.3	22.4	22.5	1	23.7	23.8	23.8	1	23.8	24.0	23.9
			1	0	1	22.2	22.2	22.2	1	22.2	22.2	22.2	1	23.7	23.8	23.8	1	23.9	23.7	23.7
			1	12	1	22.3	22.3	22.3	1	22.2	22.3	22.3	1	23.7	23.9	23.7	1	23.8	23.7	23.7
			1	24	1	22.4	22.2	22.3	1	22.3	22.2	22.3	1	23.7	23.7	23.7	1	23.8	23.9	24.0
			12	0	2	21.3	21.4	21.3	2	21.2	21.3	21.4	2	22.8	22.8	22.9	2	22.9	22.7	22.7
			12	7	2	21.2	21.3	21.4	2	21.4	21.3	21.2	2	22.8	22.7	22.7	2	22.8	22.9	22.8
			12	13	2	21.2	21.2	21.5	2	21.3	21.2	21.2	2	22.7	22.8	22.9	2	22.7	22.9	22.7
			25	0	2	21.2	21.4	21.3	2	21.2	21.4	21.4	2	22.7	22.7	22.8	2	22.8	23.0	22.9

Note(s):

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

LTE Band 17 Average Power (dBm) Measured Results

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

LTE Band 25 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	20	QPSK	1	0	0.0	18.5	18.4	18.3	0.0	20.9	20.9	20.9	0.0	23.8	23.9	23.8	0.0	20.1	20.1	20.2
			1	49	0.0	18.7	18.5	18.5	0.0	21.0	21.0	21.0	0.0	24.0	24.0	24.0	0.0	20.3	20.3	20.3
			1	99	0.0	18.6	18.3	18.3	0.0	20.9	20.9	20.8	0.0	24.0	23.9	23.8	0.0	20.2	20.1	20.2
			50	0	0.0	18.7	18.5	18.5	1.0	20.0	19.7	19.9	1.0	23.0	22.8	22.9	0.0	20.3	20.1	20.3
			50	24	0.0	18.7	18.7	18.7	1.0	20.0	19.9	19.9	1.0	23.0	23.0	23.0	0.0	20.3	20.3	20.3
			50	49	0.0	18.7	18.6	18.5	1.0	20.0	19.7	19.7	1.0	22.8	22.8	22.8	0.0	20.2	20.3	20.2
			100	0	0.0	18.5	18.7	18.7	1.0	19.8	19.9	19.9	1.0	22.8	23.0	22.9	0.0	20.2	20.3	20.3
		16QAM	1	0	0.0	18.5	18.4	18.2	1.0	19.8	19.9	19.8	1.0	22.7	22.8	22.7	0.0	20.1	20.0	20.1
			1	49	0.0	18.6	18.4	18.4	1.0	19.9	19.9	19.9	1.0	22.9	22.9	22.9	0.0	20.2	20.2	20.2
			1	99	0.0	18.5	18.2	18.2	1.0	19.9	19.8	19.8	1.0	23.0	22.9	22.8	0.0	20.1	20.0	20.1
			50	0	0.0	18.7	18.5	18.5	2.0	19.0	18.6	18.9	2.0	21.9	21.7	21.8	0.0	20.3	20.0	20.3
			50	24	0.0	18.6	18.6	18.6	2.0	18.9	18.8	18.9	2.0	21.9	21.9	22.0	0.0	20.2	20.3	20.2
			50	49	0.0	18.7	18.5	18.5	2.0	19.0	18.6	18.6	2.0	21.7	21.7	21.8	0.0	20.2	20.2	20.1
			100	0	0.0	18.5	18.6	18.6	2.0	18.7	18.9	18.8	2.0	21.7	21.9	21.8	0.0	20.1	20.3	20.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz
LTE Band 25	15	QPSK	1	0	0.0	18.7	18.4	18.4	0.0	21.0	20.9	21.0	0.0	24.0	23.9	23.8	0.0	20.1	20.2	20.3
			1	36	0.0	18.6	18.3	18.5	0.0	20.9	20.8	20.8	0.0	23.8	23.8	24.0	0.0	20.2	20.2	20.1
			1	74	0.0	18.5	18.4	18.4	0.0	20.8	20.8	20.9	0.0	23.9	24.0	23.9	0.0	20.1	20.1	20.1
			36	0	0.0	18.7	18.6	18.5	1.0	19.9	19.8	19.8	1.0	22.9	22.9	22.9	0.0	20.1	20.3	20.3
			36	18	0.0	18.6	18.5	18.5	1.0	19.8	19.7	19.8	1.0	23.0	23.0	22.9	0.0	20.2	20.2	20.1
			36	37	0.0	18.6	18.6	18.7	1.0	19.8	19.7	19.8	1.0	22.8	23.0	22.9	0.0	20.1	20.3	20.1
		16QAM	75	0	0.0	18.4	18.5	18.5	1.0	19.5	19.9	19.8	1.0	23.0	22.9	22.7	0.0	20.1	20.2	20.2
			1	0	0.0	18.7	18.4	18.3	1.0	19.9	19.8	19.9	1.0	23.0	22.9	22.7	0.0	20.0	20.1	20.2
			1	36	0.0	18.5	18.2	18.4	1.0	19.8	19.7	19.7	1.0	22.7	22.7	23.0	0.0	20.1	20.1	20.1
			1	74	0.0	18.4	18.4	18.4	1.0	19.7	19.7	19.9	1.0	22.9	23.0	22.9	0.0	20.0	20.1	20.0
			36	0	0.0	18.6	18.6	18.5	2.0	18.8	18.7	18.8	2.0	21.8	21.8	21.8	0.0	20.1	20.2	20.2
			36	18	0.0	18.6	18.5	18.5	2.0	18.8	18.6	18.7	2.0	21.9	21.9	21.8	0.0	20.1	20.1	20.1
			36	37	0.0	18.6	18.5	18.6	2.0	18.7	18.6	18.7	2.0	21.7	22.0	21.8	0.0	20.1	20.2	20.1
			75	0	0.0	18.3	18.4	18.5	2.0	18.4	18.8	18.7	2.0	21.9	21.9	21.7	0.0	20.0	20.1	20.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz
LTE Band 25	10	QPSK	1	0	0.0	18.5	18.3	18.4	0.0	20.8	20.9	20.8	0.0	24.0	23.8	23.9	0.0	20.2	20.1	20.2
			1	24	0.0	18.5	18.4	18.3	0.0	20.8	20.8	20.9	0.0	24.0	24.0	24.0	0.0	20.2	20.2	20.2
			1	49	0.0	18.7	18.3	18.4	0.0	20.9	20.8	20.9	0.0	23.9	23.9	23.9	0.0	20.2	20.3	20.2
			25	0	0.0	18.6	18.6	18.6	1.0	19.9	19.7	19.7	1.0	22.9	23.0	22.8	0.0	20.1	20.2	20.2
			25	12	0.0	18.5	18.6	18.5	1.0	19.8	19.7	19.8	1.0	22.9	22.9	22.9	0.0	20.3	20.2	20.1
			25	24	0.0	18.6	18.5	18.5	1.0	19.8	19.9	19.7	1.0	22.8	22.9	22.9	0.0	20.1	20.1	20.3
		16QAM	50	0	0.0	18.3	18.5	18.4	1.0	19.7	19.8	19.5	1.0	22.9	22.8	22.8	0.0	20.1	20.3	20.1
			1	0	0.0	18.4	18.2	18.3	1.0	19.7	19.8	19.8	1.0	22.9	22.7	22.8	0.0	20.2	20.0	20.1
			1	24	0.0	18.4	18.3	18.2	1.0	19.7	19.7	19.8	1.0	22.9	23.0	23.0	0.0	20.1	20.1	20.1
			1	49	0.0	18.6	18.3	18.4	1.0	19.8	19.7	19.8	1.0	22.8	22.8	22.8	0.0	20.1	20.2	20.2
			25	0	0.0	18.5	18.5	18.5	2.0	18.9	18.6	18.6	2.0	21.8	21.9	21.7	0.0	20.0	20.2	20.1
			25	12	0.0	18.4	18.5	18.5	2.0	18.7	18.7	18.8	2.0	21.8	21.8	21.8	0.0	20.3	20.2	20.1
			25	24	0.0	18.5	18.5	18.4	2.0	18.8	18.8	18.7	2.0	21.8	21.9	21.9	0.0	20.1	20.0	20.2
			50	0	0.0	18.3	18.4	18.4	2.0	18.7	18.8	18.4	2.0	21.9	21.7	21.8	0.0	20.0	20.2	20.0

LTE Band 25 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz
LTE Band 25	5	QPSK	1	0	0.0	18.5	18.4	18.3	0.0	20.9	20.8	20.9	0.0	23.9	24.0	24.0	0.0	20.1	20.1	20.1
			1	12	0.0	18.6	18.4	18.4	0.0	21.0	20.9	21.0	0.0	23.9	23.9	23.9	0.0	20.3	20.2	20.3
			1	24	0.0	18.5	18.3	18.4	0.0	21.0	21.0	21.0	0.0	23.8	23.9	24.0	0.0	20.2	20.2	20.2
			12	0	0.0	18.5	18.5	18.7	1.0	19.8	19.8	19.8	1.0	22.9	22.8	22.8	0.0	20.2	20.2	20.2
			12	7	0.0	18.5	18.5	18.5	1.0	19.8	19.8	19.8	1.0	22.9	23.0	23.0	0.0	20.1	20.2	20.1
			12	13	0.0	18.5	18.6	18.7	1.0	19.8	19.8	19.9	1.0	22.9	22.9	22.8	0.0	20.2	20.2	20.1
		16QAM	25	0	0.0	18.3	18.5	18.4	1.0	19.7	19.8	19.8	1.0	22.8	22.8	22.8	0.0	19.9	20.3	20.1
			1	0	0.0	18.4	18.4	18.2	1.0	19.9	19.7	19.8	1.0	22.9	22.9	23.0	0.0	20.0	20.1	20.0
			1	12	0.0	18.5	18.3	18.4	1.0	19.9	19.8	20.0	1.0	22.8	22.8	22.9	0.0	20.2	20.1	20.3
			1	24	0.0	18.4	18.2	18.4	1.0	19.9	19.9	19.9	1.0	22.7	22.9	22.9	0.0	20.1	20.1	20.2
			12	0	0.0	18.5	18.4	18.6	2.0	18.7	18.8	18.7	2.0	21.9	21.7	21.8	0.0	20.1	20.1	20.1
			12	7	0.0	18.4	18.4	18.4	2.0	18.7	18.8	18.7	2.0	21.8	21.9	21.9	0.0	20.0	20.1	20.0
			12	13	0.0	18.4	18.6	18.6	2.0	18.7	18.7	18.8	2.0	21.9	21.8	21.8	0.0	20.2	20.1	20.0
			25	0	0.0	18.2	18.5	18.3	2.0	18.6	18.7	18.7	2.0	21.8	21.8	21.7	0.0	19.9	20.3	20.0
						UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz
LTE Band 25	3	QPSK	1	0	0.0	18.6	18.4	18.3	0.0	21.0	20.9	21.0	0.0	23.8	23.8	23.8	0.0	20.1	20.2	20.2
			1	8	0.0	18.6	18.5	18.4	0.0	20.9	20.8	20.9	0.0	23.8	24.0	23.8	0.0	20.1	20.2	20.2
			1	14	0.0	18.5	18.5	18.4	0.0	21.0	20.9	20.8	0.0	24.0	23.8	23.8	0.0	20.2	20.3	20.2
			8	0	0.0	18.6	18.7	18.6	1.0	20.0	19.8	19.8	1.0	22.8	22.8	22.8	0.0	20.2	20.1	20.1
			8	4	0.0	18.6	18.6	18.7	1.0	20.0	19.8	19.7	1.0	22.8	22.8	23.0	0.0	20.1	20.2	20.2
			8	7	0.0	18.7	18.6	18.5	1.0	19.9	19.8	19.7	1.0	22.9	23.0	22.9	0.0	20.1	20.1	20.3
		16QAM	15	0	0.0	18.5	18.7	18.5	1.0	19.9	19.7	19.6	1.0	22.8	22.9	22.8	0.0	19.9	20.3	20.0
			1	0	0.0	18.5	18.4	18.3	1.0	19.9	19.8	19.9	1.0	22.7	22.7	22.7	0.0	20.0	20.2	20.1
			1	8	0.0	18.5	18.5	18.3	1.0	19.8	19.8	19.9	1.0	22.7	22.9	22.7	0.0	20.0	20.1	20.1
			1	14	0.0	18.4	18.4	18.4	1.0	19.9	19.8	19.8	1.0	22.9	22.7	22.7	0.0	20.1	20.2	20.2
			8	0	0.0	18.6	18.6	18.6	2.0	18.9	18.7	18.7	2.0	21.7	21.7	21.7	0.0	20.2	20.0	20.1
			8	4	0.0	18.5	18.5	18.6	2.0	18.9	18.7	18.6	2.0	21.7	21.7	21.9	0.0	20.0	20.1	20.2
			8	7	0.0	18.7	18.5	18.4	2.0	18.8	18.8	18.6	2.0	21.8	21.9	21.9	0.0	20.0	20.1	20.2
			15	0	0.0	18.4	18.6	18.4	2.0	18.8	18.7	18.5	2.0	21.7	21.8	21.7	0.0	19.8	20.2	19.9
						UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz
LTE Band 25	1.4	QPSK	1	0	0.0	18.5	18.4	18.4	0.0	20.9	20.9	21.0	0.0	24.0	23.9	23.8	0.0	20.3	20.2	20.1
			1	3	0.0	18.7	18.3	18.4	0.0	21.0	20.8	20.9	0.0	24.0	23.9	23.8	0.0	20.2	20.1	20.1
			1	5	0.0	18.5	18.3	18.5	0.0	21.0	20.9	21.0	0.0	23.8	23.9	23.8	0.0	20.1	20.1	20.2
			3	0	0.0	18.5	18.6	18.6	0.0	20.8	20.7	20.9	0.0	23.8	23.9	23.9	0.0	20.1	20.1	20.2
			3	1	0.0	18.5	18.6	18.5	0.0	20.8	20.7	20.9	0.0	24.0	23.9	23.9	0.0	20.3	20.2	20.2
			3	3	0.0	18.5	18.6	18.6	0.0	21.0	20.7	20.7	0.0	23.9	23.8	23.8	0.0	20.2	20.1	20.2
		16QAM	6	0	0.0	18.3	18.5	18.7	1.0	19.9	19.7	19.6	1.0	22.6	23.0	22.6	0.0	20.3	20.1	20.1
			1	0	0.0	18.4	18.3	18.3	1.0	19.8	19.9	19.9	1.0	23.0	22.8	22.8	0.0	20.2	20.1	20.0
			1	3	0.0	18.7	18.3	18.3	1.0	19.9	19.7	19.8	1.0	22.9	22.9	22.8	0.0	20.2	20.1	20.0
			1	5	0.0	18.4	18.2	18.4	1.0	19.9	19.8	20.0	1.0	22.8	22.8	22.7	0.0	20.1	20.1	20.1
			3	0	0.0	18.5	18.5	18.5	1.0	19.7	19.6	19.9	1.0	22.8	22.8	22.8	0.0	20.1	20.0	20.2
			3	1	0.0	18.4	18.5	18.5	1.0	19.7	19.6	19.8	1.0	22.9	22.9	22.9	0.0	20.2	20.2	20.1
			3	3	0.0	18.4	18.5	18.5	1.0	19.9	19.6	19.6	1.0	22.9	22.8	22.8	0.0	20.2	20.0	20.1
			6	0	0.0	18.2	18.4	18.7	2.0	18.8	18.7	18.5	2.0	21.5	21.9	21.5	0.0	20.2	20.0	20.1

LTE Band 26 (Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz
LTE Band 26	10	QPSK	1	0	0	22.4	22.3	22.5	0	22.3	22.4	22.3	0	23.9	23.9	23.9	0	23.8	23.9	24.0
			1	24	0	22.5	22.5	22.5	0	22.5	22.5	22.5	0	24.0	24.0	24.0	0	24.0	24.0	24.0
			1	49	0	22.4	22.5	22.5	0	22.4	22.4	22.3	0	23.9	24.0	23.9	0	23.8	23.9	23.9
			25	0	1	21.3	21.3	21.3	1	21.3	21.4	21.3	1	22.9	22.8	22.9	1	22.8	22.9	23.0
			25	12	1	21.5	21.5	21.5	1	21.5	21.5	21.5	1	23.0	23.0	23.0	1	23.0	23.0	23.0
			25	24	1	21.5	21.3	21.3	1	21.3	21.3	21.3	1	22.8	22.8	22.8	1	22.9	22.8	23.0
			50	0	1	21.3	21.5	21.3	1	21.5	21.5	21.4	1	22.9	23.0	22.9	1	22.9	23.0	23.0
		16QAM	1	0	1	21.3	21.2	21.5	1	21.2	21.3	21.3	1	22.8	22.9	22.9	1	22.7	22.8	22.9
			1	24	1	21.5	21.4	21.5	1	21.5	21.5	21.4	1	22.9	22.9	23.0	1	22.9	23.0	23.0
			1	49	1	21.3	21.4	21.4	1	21.3	21.3	21.2	1	22.9	22.9	22.9	1	22.8	22.9	22.9
			25	0	2	20.2	20.2	20.3	2	20.3	20.4	20.2	2	21.8	21.8	21.8	2	21.7	21.9	21.9
			25	12	2	20.5	20.4	20.4	2	20.4	20.5	20.4	2	21.9	21.9	22.0	2	22.0	21.9	21.9
			25	24	2	20.4	20.3	20.2	2	20.2	20.3	20.2	2	21.7	21.7	21.7	2	21.8	21.7	22.0
			50	0	2	20.3	20.5	20.3	2	20.4	20.5	20.3	2	21.9	22.0	21.8	2	21.8	21.9	21.9
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz
LTE Band 26	5	QPSK	1	0	0	22.4	22.4	22.3	0	22.4	22.3	22.4	0	24.0	23.9	23.9	0	23.8	23.8	23.8
			1	12	0	22.4	22.5	22.4	0	22.4	22.5	22.3	0	23.9	23.8	23.8	0	23.8	24.0	23.8
			1	24	0	22.3	22.5	22.5	0	22.3	22.4	22.3	0	23.8	23.8	24.0	0	23.8	23.8	23.9
			12	0	1	21.3	21.4	21.3	1	21.4	21.5	21.5	1	22.9	22.9	22.9	1	22.8	22.9	22.8
			12	7	1	21.4	21.4	21.3	1	21.5	21.4	21.4	1	22.8	22.8	23.0	1	22.9	23.0	22.9
			12	13	1	21.4	21.3	21.4	1	21.3	21.3	21.4	1	22.9	22.8	22.9	1	23.0	23.0	22.9
		16QAM	25	0	1	21.3	21.5	21.2	1	21.4	21.3	21.3	1	22.7	22.9	22.7	1	22.7	22.8	22.6
			1	0	1	21.3	21.3	21.3	1	21.4	21.2	21.3	1	22.9	22.9	22.8	1	22.7	22.7	22.7
			1	12	1	21.4	21.4	21.3	1	21.3	21.5	21.3	1	22.8	22.7	22.7	1	22.7	23.0	22.7
			1	24	1	21.2	21.5	21.4	1	21.3	21.4	21.2	1	22.8	22.7	22.9	1	22.7	22.7	22.8
			12	0	2	20.2	20.4	20.3	2	20.3	20.4	20.4	2	21.9	21.8	21.8	2	21.8	21.8	21.7
			12	7	2	20.3	20.3	20.2	2	20.4	20.4	20.3	2	21.8	21.8	21.9	2	21.9	21.9	21.8
			12	13	2	20.4	20.2	20.4	2	20.2	20.2	20.4	2	21.8	21.7	21.9	2	22.0	21.9	21.8
			25	0	2	20.2	20.4	20.1	2	20.3	20.2	20.3	2	21.6	21.8	21.6	2	21.7	21.7	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz
LTE Band 26	3	QPSK	1	0	0	22.4	22.4	22.5	0	22.4	22.5	22.3	0	23.9	23.8	23.9	0	23.9	23.8	23.8
			1	8	0	22.4	22.3	22.4	0	22.4	22.4	22.3	0	23.9	24.0	23.8	0	23.8	23.8	23.8
			1	14	0	22.4	22.4	22.4	0	22.4	22.4	22.4	0	23.9	23.8	23.9	0	23.8	24.0	24.0
			8	0	1	21.5	21.5	21.4	1	21.5	21.4	21.3	1	22.8	22.8	22.9	1	22.9	22.9	22.8
			8	4	1	21.3	21.4	21.4	1	21.3	21.5	21.4	1	22.8	22.9	22.8	1	22.8	22.9	23.0
			8	7	1	21.3	21.4	21.4	1	21.4	21.5	21.5	1	23.0	22.9	23.0	1	22.8	23.0	23.0
		16QAM	15	0	1	21.2	21.3	21.1	1	21.2	21.3	21.4	1	22.7	22.8	22.8	1	22.7	22.9	23.0
			1	0	1	21.4	21.3	21.4	1	21.3	21.4	21.3	1	22.9	22.8	22.8	1	22.8	22.7	22.7
			1	8	1	21.3	21.2	21.4	1	21.4	21.3	21.3	1	22.9	22.9	22.7	1	22.7	22.7	22.7
			1	14	1	21.3	21.3	21.4	1	21.4	21.3	21.4	1	22.9	22.8	22.9	1	22.7	23.0	23.0
			8	0	2	20.5	20.5	20.3	2	20.4	20.3	20.2	2	21.8	21.8	21.8	2	21.9	21.8	21.7
			8	4	2	20.2	20.4	20.3	2	20.3	20.5	20.3	2	21.7	21.8	21.8	2	21.8	21.8	21.9
			8	7	2	20.2	20.3	20.4	2	20.3	20.4	20.5	2	21.9	21.9	22.0	2	21.8	21.9	22.0
			15	0	2	20.2	20.2	20.1	2	20.1	20.3	20.4	2	21.6	21.7	21.7	2	21.7	21.8	21.9

LTE Band 26 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
						814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz
LTE Band 26	1.4	QPSK	1	0	0	22.4	22.3	22.5	0	22.3	22.5	22.3	0	23.9	23.8	23.8	0	23.9	23.8	24.0
			1	3	0	22.5	22.3	22.4	0	22.5	22.3	22.4	0	24.0	23.8	23.9	0	23.9	23.8	23.8
			1	5	0	22.4	22.4	22.3	0	22.4	22.4	22.3	0	23.8	23.9	24.0	0	24.0	23.8	23.8
			3	0	0	22.4	22.5	22.4	0	22.3	22.3	22.5	0	23.8	23.9	23.8	0	23.9	24.0	23.8
			3	1	0	22.3	22.4	22.3	0	22.4	22.5	22.4	0	23.8	24.0	23.9	0	24.0	23.8	24.0
			3	3	0	22.5	22.3	22.3	0	22.3	22.3	22.5	0	23.9	23.8	23.8	0	23.8	23.9	23.8
		16QAM	6	0	1	21.3	21.3	21.3	1	21.3	21.4	21.3	1	22.7	22.8	22.7	1	22.7	23.0	22.9
			1	0	1	21.3	21.2	21.4	1	21.2	21.4	21.2	1	22.9	22.7	22.8	1	22.9	22.8	23.0
			1	3	1	21.4	21.3	21.3	1	21.4	21.2	21.3	1	22.9	22.8	22.9	1	22.8	22.8	22.8
			1	5	1	21.3	21.3	21.3	1	21.4	21.3	21.2	1	22.7	22.9	23.0	1	23.0	22.7	22.7
			3	0	1	21.3	21.4	21.3	1	21.2	21.2	21.4	1	22.7	22.8	22.8	1	22.9	22.9	22.7
			3	1	1	21.3	21.3	21.2	1	21.3	21.4	21.4	1	22.7	22.9	22.9	1	22.9	22.7	23.0
			3	3	1	21.4	21.3	21.2	1	21.2	21.2	21.4	1	22.8	22.7	22.7	1	22.7	22.8	22.7
			6	0	2	20.2	20.2	20.3	2	20.2	20.4	20.2	2	21.6	21.7	21.6	2	21.6	22.0	21.9

LTE Band 27 Average Power (dBm) Measured Results

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

LTE Band 30 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
LTE Band 30	10	QPSK	1	0	0.0		2310 MHz		0.0		2310 MHz		0.0		2310 MHz		0.0		2310 MHz	
			1	24	0.0		17.3		0.0		19.8		0.0		24.0		0.0		19.4	
			1	49	0.0		17.5		0.0		20.0		0.0		24.0		0.0		19.5	
			1	49	0.0		17.4		0.0		19.9		0.0		23.9		0.0		19.4	
			25	0	0.0		17.4		1.0		18.8		1.0		22.8		0.0		19.3	
			25	12	0.0		17.5		1.0		18.9		1.0		23.0		0.0		19.5	
		16QAM	25	24	0.0		17.4		1.0		18.7		1.0		22.8		0.0		19.4	
			50	0	0.0		17.5		1.0		19.0		1.0		23.0		0.0		19.5	
			1	0	0.0		17.2		1.0		18.7		1.0		22.9		0.0		19.3	
			1	24	0.0		17.4		1.0		18.9		1.0		22.9		0.0		19.5	
			1	49	0.0		17.4		1.0		18.9		1.0		22.8		0.0		19.3	
			25	0	0.0		17.4		2.0		17.7		2.0		21.7		0.0		19.3	
			25	12	0.0		17.5		2.0		17.8		2.0		21.9		0.0		19.4	
			25	24	0.0		17.4		2.0		17.7		2.0		21.7		0.0		19.3	
			50	0	0.0		17.4		2.0		17.9		2.0		21.9		0.0		19.4	
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD			Target MPR	UAT / BODY			Target MPR	LAT / HEAD			Target MPR	LAT / BODY		
LTE Band 30	5	QPSK	1	0	0.0	2307.5 MHz	2310 MHz	2312.5 MHz	0.0	2307.5 MHz	2310 MHz	2312.5 MHz	0.0	2307.5 MHz	2310 MHz	2312.5 MHz	0.0	2307.5 MHz	2310 MHz	2312.5 MHz
			1	12	0.0	17.3	17.3	17.4	0.0	19.8	19.9	19.8	0.0	23.8	23.8	23.9	0.0	19.5	19.4	19.3
			1	24	0.0	17.4	17.4	17.5	0.0	19.9	19.8	19.9	0.0	23.9	24.0	23.8	0.0	19.5	19.5	19.4
			1	24	0.0	17.5	17.4	17.4	0.0	20.0	19.8	19.9	0.0	23.8	23.8	24.0	0.0	19.4	19.4	19.4
			12	0	0.0	17.4	17.3	17.3	1.0	18.9	18.7	18.7	1.0	22.8	23.0	22.8	0.0	19.3	19.3	19.5
			12	7	0.0	17.5	17.4	17.4	1.0	18.7	18.8	18.7	1.0	23.0	22.8	22.9	0.0	19.5	19.3	19.3
		16QAM	12	13	0.0	17.3	17.4	17.3	1.0	18.7	18.9	18.8	1.0	22.8	22.8	22.8	0.0	19.4	19.4	19.5
			25	0	0.0	17.2	17.3	17.3	1.0	18.8	18.9	18.8	1.0	22.8	22.9	22.8	0.0	19.3	19.4	19.1
			1	0	0.0	17.2	17.3	17.3	1.0	18.7	18.8	18.7	1.0	22.8	22.7	22.9	0.0	19.4	19.4	19.3
			1	12	0.0	17.3	17.3	17.4	1.0	18.9	18.7	18.8	1.0	22.8	22.9	22.7	0.0	19.5	19.4	19.4
			1	24	0.0	17.4	17.4	17.3	1.0	19.0	18.8	18.9	1.0	22.8	22.7	22.9	0.0	19.4	19.3	19.3
			12	0	0.0	17.4	17.2	17.2	2.0	17.9	17.7	17.6	2.0	21.7	21.9	21.7	0.0	19.2	19.3	19.4
			12	7	0.0	17.5	17.4	17.4	2.0	17.7	17.7	17.6	2.0	22.0	21.7	21.8	0.0	19.5	19.3	19.2
			12	13	0.0	17.2	17.3	17.2	2.0	17.6	17.8	17.8	2.0	21.8	21.8	21.7	0.0	19.3	19.3	19.5
			25	0	0.0	17.1	17.3	17.2	2.0	17.8	17.9	17.7	2.0	21.8	21.8	21.8	0.0	19.2	19.3	19.0

Note(s):

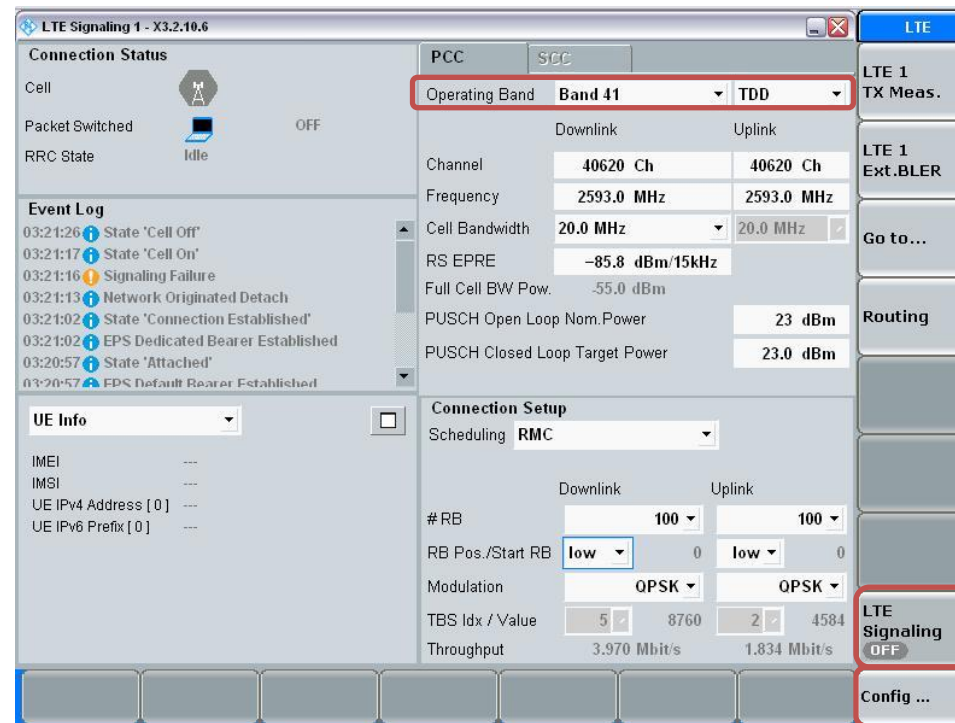
10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05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

LTE TDD Bands Measured Results

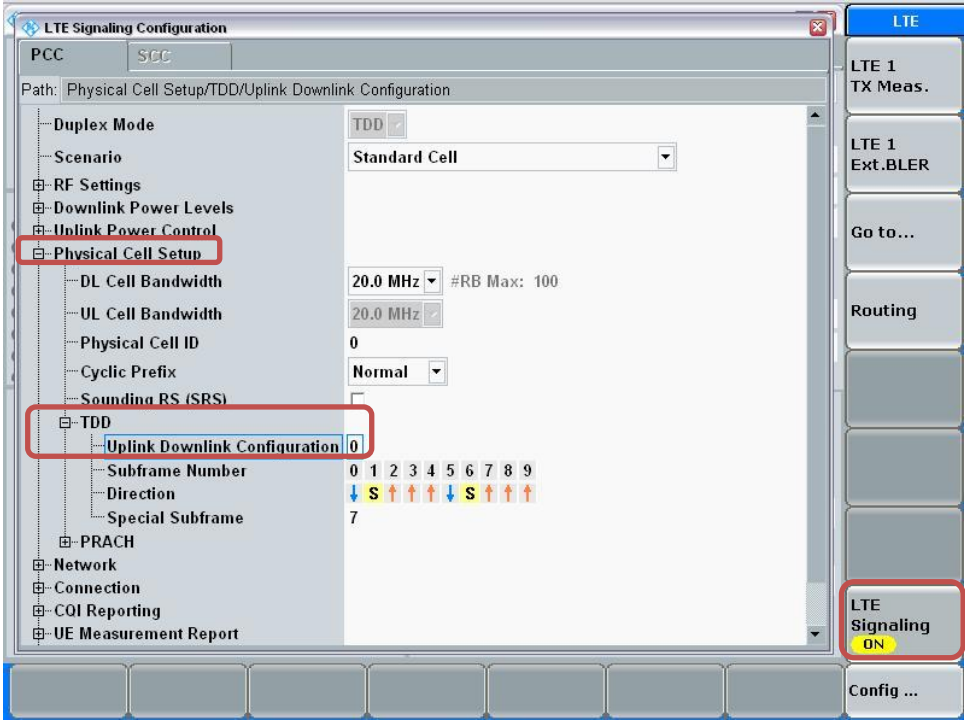
Procedure used to establish SAR test signal for LTE TDD Bands

Set to CMW-500 with following parameters:

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

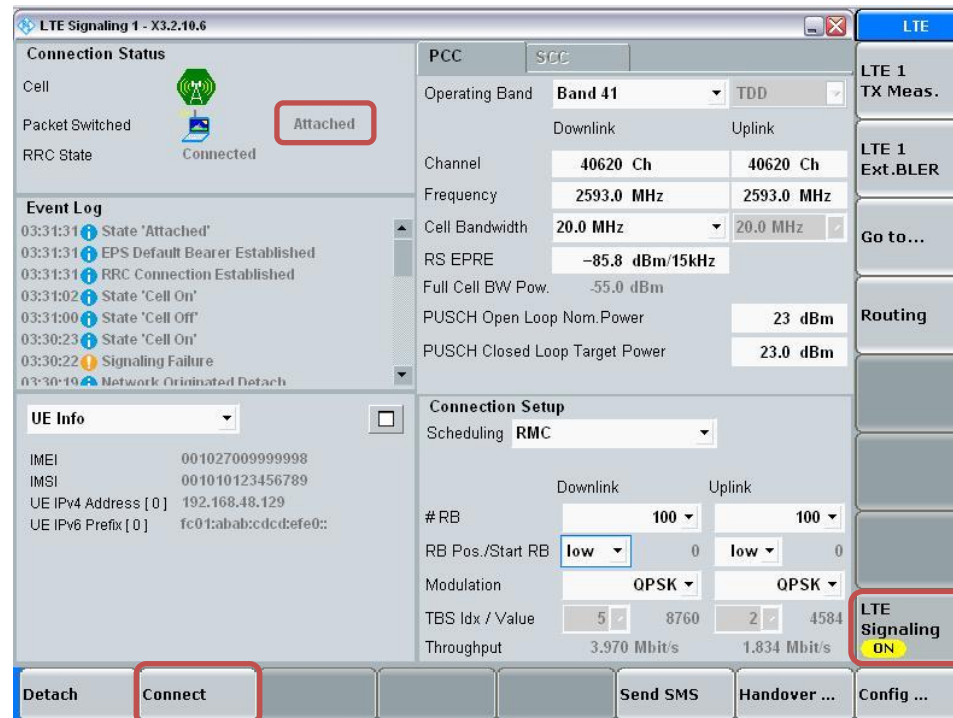


- Go to “Physical Cell Setup”
- Select “TDD” and Set “Uplink Downlink Configuration” to “0”
- Turn the cell on using “ON | OFF” key



Connect to EUT

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

**Max Power Setting**

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

LTE Signaling 1 - X3.2.10.6

Connection Status

Cell

Packet Switched

RRC State

Connection Established

Connected

Event Log

03:33:07 State 'Connection Established'

03:33:07 EPS Dedicated Bearer Established

03:31:31 State 'Attached'

03:31:31 EPS Default Bearer Established

03:31:31 RRC Connection Established

03:31:02 State 'Cell On'

03:31:00 State 'Cell Off'

03:30:23 State 'Cell On'

UE Info

IMEI 00102700999998

IMSI 001010123456789

UE IPv4 Address [0] 192.168.48.129

UE IPv6 Prefix [0] fc01:abab:cdcd:efe0::

PCC

SCC

Operating Band

Band 41

TDD

Downlink

Channel 40620 Ch

Frequency 2593.0 MHz

Cell Bandwidth 20.0 MHz

RS EPRE -85.8 dBm/15kHz

Full Cell BW Pow. -55.0 dBm

Uplink

Channel 40620 Ch

Frequency 2593.0 MHz

Cell Bandwidth 20.0 MHz

PUSCH Open Loop Nom.Power 23 dBm

PUSCH Closed Loop Target Power 23.0 dBm

Connection Setup

Scheduling RMC

#RB 100

RB Pos./Start RB low 0

Modulation QPSK

TBS Idx / Value 5 8760

Throughput 3.970 Mbit/s

Uplink

#RB 100

RB Pos./Start RB low 0

Modulation QPSK

TBS Idx / Value 2 4584

Throughput 1.834 Mbit/s

LTE

LTE 1 TX Meas.

LTE 1 Ext.BLER

Go to...

Routing

LTE Signaling ON

Detach

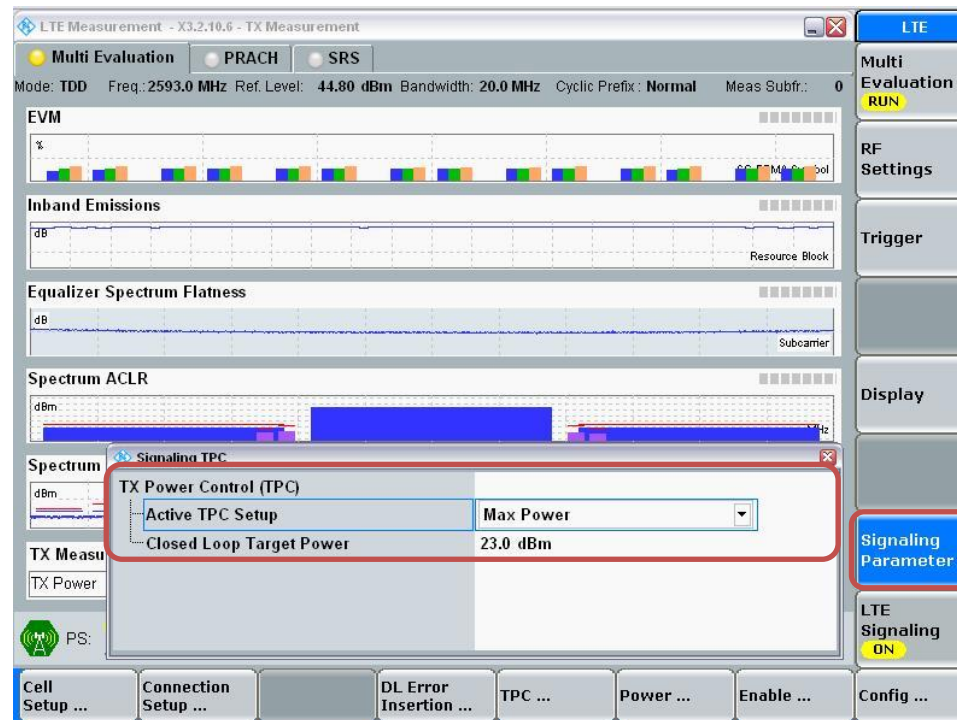
Disconnect

Send SMS

Handover ...

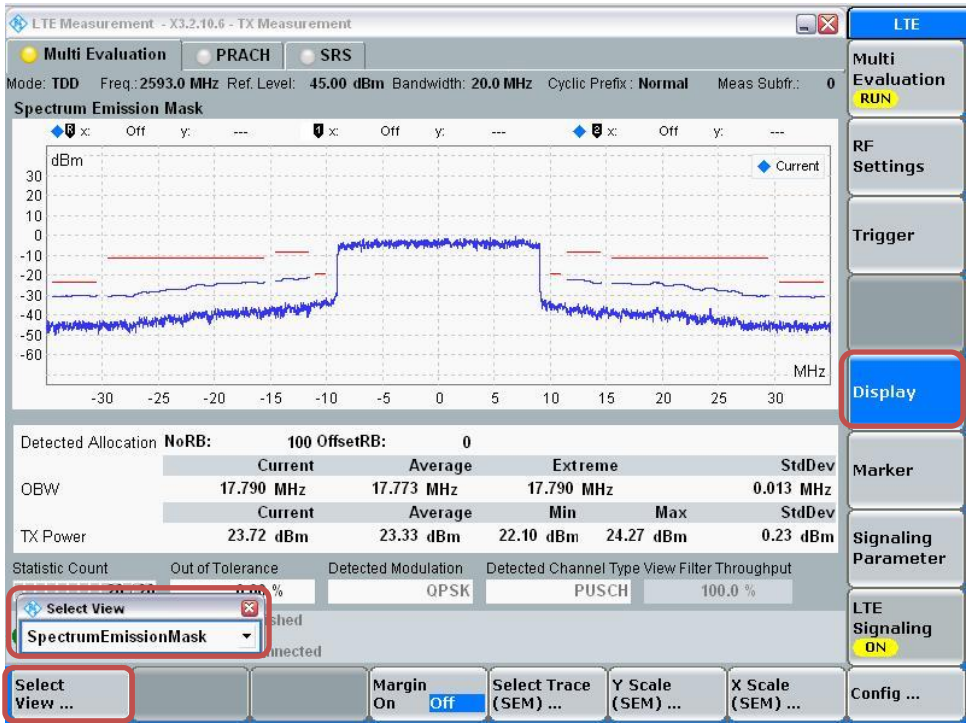
Config ...

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



View TX Power

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



LTE Band 41 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD					Target MPR	UAT / BODY					Target MPR	LAT / HEAD					Target MPR	LAT / BODY				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	20	QPSK	1	0	0.0	17.9	17.9	17.9	17.8	17.9	0.0	19.9	19.9	20.0	19.9	19.8	0.0	24.4	24.3	24.4	24.3	24.3	0.0	19.5	19.6	19.7	19.6	19.7
			1	49	0.0	18.0	18.1	18.0	18.0	18.1	0.0	20.0	20.0	20.0	20.0	20.0	0.0	24.5	24.5	24.5	24.5	24.5	0.0	19.8	19.8	19.8	19.8	19.8
			1	99	0.0	18.0	18.0	17.9	17.9	17.9	0.0	20.0	20.0	19.9	19.9	19.9	0.0	24.5	24.4	24.3	24.4	24.3	0.0	19.7	19.7	19.6	19.6	19.7
			50	0	0.0	18.1	18.1	18.0	17.9	18.1	1.0	18.8	18.9	19.0	19.0	19.0	0.5	23.3	23.3	23.5	23.3	23.3	0.0	19.7	19.6	19.5	19.6	19.6
			50	24	0.0	18.1	18.1	18.2	18.1	18.1	1.0	19.0	19.0	19.0	19.0	19.0	0.5	23.4	23.4	23.4	23.4	23.4	0.0	19.8	19.8	19.8	19.8	19.8
			50	49	0.0	17.9	17.9	18.1	18.0	17.9	1.0	18.8	18.9	19.0	18.9	18.8	0.5	23.4	23.3	23.4	23.3	23.3	0.0	19.7	19.6	19.6	19.6	19.7
		16QAM	100	0	0.0	18.1	18.1	18.1	17.9	18.1	1.0	18.9	18.8	19.0	18.9	18.8	0.5	23.3	23.3	23.5	23.5	23.4	0.0	19.7	19.7	19.8	19.6	19.6
			1	0	0.0	17.9	17.9	17.8	17.8	17.8	1.0	18.8	18.9	18.9	18.9	18.7	0.5	23.9	23.8	23.8	23.7	23.7	0.0	19.4	19.6	19.6	19.6	19.6
			1	49	0.0	17.9	18.0	18.0	18.0	18.0	1.0	18.9	19.0	18.9	18.9	18.9	0.5	23.9	23.9	23.9	23.9	23.9	0.0	19.7	19.6	19.6	19.7	19.6
			1	99	0.0	17.9	17.9	17.8	17.9	17.8	1.0	19.0	18.9	18.8	18.8	18.8	0.5	23.9	23.8	23.7	23.8	23.7	0.0	19.6	19.7	19.5	19.5	19.6
			50	0	0.5	17.6	17.5	17.4	17.3	17.5	2.0	17.7	17.8	17.9	17.9	18.0	1.5	22.2	22.2	22.4	22.3	22.2	0.0	19.6	19.5	19.4	19.5	19.5
			50	24	0.5	17.6	17.6	17.6	17.5	17.5	2.0	17.9	18.0	17.9	18.0	18.0	1.5	22.5	22.4	22.4	22.5	22.4	0.0	19.6	19.7	19.7	19.7	19.7
			50	49	0.5	17.3	17.4	17.6	17.4	17.3	2.0	17.7	17.8	17.9	17.8	17.7	1.5	22.3	22.2	22.5	22.5	22.3	0.0	19.6	19.5	19.5	19.5	19.6
			100	0	0.5	17.6	17.5	17.5	17.3	17.5	2.0	17.8	17.8	17.9	17.9	17.7	1.5	22.2	22.3	22.5	22.4	22.4	0.0	19.6	19.7	19.7	19.5	19.5
LTE Band 41	15	QPSK	1	0	0.0	17.9	18.0	18.0	17.9	17.9	0.0	19.8	20.0	19.8	19.8	19.9	0.0	24.3	24.5	24.4	24.4	24.4	0.0	19.6	19.7	19.7	19.5	19.6
			1	36	0.0	17.8	18.1	17.8	18.0	18.1	0.0	19.8	19.8	19.8	19.8	19.9	0.0	24.5	24.3	24.4	24.5	24.4	0.0	19.7	19.6	19.6	19.7	19.7
			1	74	0.0	17.9	17.9	17.8	17.8	18.0	0.0	19.8	20.0	19.8	20.0	19.9	0.0	24.3	24.3	24.4	24.4	24.3	0.0	19.6	19.7	19.6	19.6	19.6
			36	0	0.0	17.9	17.9	18.0	18.0	17.9	1.0	19.0	19.0	18.8	18.9	18.8	0.5	23.3	23.3	23.5	23.4	23.5	0.0	19.5	19.7	19.7	19.7	19.6
			36	18	0.0	18.0	18.0	18.0	17.9	18.0	1.0	18.9	19.0	18.8	19.0	18.8	0.5	23.3	23.5	23.4	23.4	23.4	0.0	19.6	19.5	19.7	19.7	19.7
			36	37	0.0	18.0	18.0	18.1	17.9	17.9	1.0	19.0	18.8	18.9	18.9	19.0	0.5	23.5	23.5	23.5	23.4	23.4	0.0	19.7	19.6	19.6	19.6	19.5
		16QAM	75	0	0.0	17.9	17.8	18.0	17.8	17.7	1.0	18.6	18.7	18.9	18.6	18.8	0.5	23.4	23.1	23.3	23.3	23.1	0.0	19.5	19.5	19.6	19.5	19.6
			1	0	0.0	17.8	17.9	18.0	17.9	17.9	1.0	18.8	18.9	18.7	18.7	18.8	0.5	23.8	23.9	23.9	23.8	23.8	0.0	19.5	19.6	19.7	19.5	19.6
			1	36	0.0	17.7	18.0	17.8	17.9	18.0	1.0	18.8	18.7	18.7	18.7	18.9	0.5	24.0	23.7	23.8	24.0	23.9	0.0	19.7	19.6	19.5	19.6	19.6
			1	74	0.0	17.9	17.9	17.7	17.8	17.9	1.0	18.7	18.9	18.8	18.9	18.8	0.5	23.7	23.8	23.9	23.8	23.8	0.0	19.6	19.6	19.6	19.5	19.5
			36	0	0.5	17.3	17.4	17.4	17.4	17.3	2.0	18.0	17.9	17.8	17.8	17.7	1.5	22.2	22.2	22.4	22.4	22.5	0.0	19.5	19.7	19.6	19.6	19.5
			36	18	0.5	17.5	17.5	17.4	17.4	17.4	2.0	17.8	18.0	17.7	17.9	17.7	1.5	22.2	22.4	22.4	22.3	22.3	0.0	19.5	19.4	19.7	19.6	19.6
			36	37	0.5	17.5	17.4	17.5	17.3	17.4	2.0	17.9	17.7	17.8	17.8	18.0	1.5	22.5	22.4	22.4	22.3	22.4	0.0	19.7	19.6	19.5	19.6	19.4
			75	0	0.5	17.3	17.2	17.4	17.2	17.1	2.0	17.5	17.7	17.8	17.5	17.7	1.5	22.3	22.0	22.3	22.3	22.0	0.0	19.4	19.5	19.5	19.4	19.5
LTE Band 41	10	QPSK	1	0	0.0	18.0	18.1	18.0	17.9	18.0	0.0	19.9	19.9	19.9	19.8	20.0	0.0	24.4	24.5	24.5	24.5	24.4	0.0	19.6	19.7	19.6	19.5	19.5
			1	24	0.0	17.8	17.9	17.8	17.9	18.1	0.0	19.9	20.0	19.8	19.8	19.8	0.0	24.4	24.4	24.3	24.4	24.4	0.0	19.6	19.6	19.6	19.6	19.6
			1	49	0.0	17.9	18.0	17.8	17.8	17.9	0.0	20.0	20.0	19.9	19.9	19.8	0.0	24.4	24.3	24.4	24.5	24.5	0.0	19.7	19.7	19.5	19.7	19.7
			25	0	0.0	17.9	18.1	18.1	18.1	17.9	1.0	18.9	18.9	18.9	18.9	18.8	0.5	23.3	23.4	23.3	23.5	23.3	0.0	19.5	19.7	19.5	19.7	19.6
			25	12	0.0	17.9	17.9	18.1	17.9	17.9	1.0	18.9	18.8	19.0	18.8	18.9	0.5	23.3	23.3	23.4	23.4	23.3	0.0	19.7	19.5	19.6	19.7	19.5
			25	24	0.0	18.0	18.1	18.0	17.9	17.9	1.0	18.8	18.9	18.8	18.8	18.8	0.5	23.5	23.4	23.5	23.4	23.5	0.0	19.5	19.6	19.6	19.7	19.6
		16QAM	50	0	0.0	17.9	17.9	18.0	17.8	17.8	1.0	19.0	19.0	18.8	19.0	18.6	0.5	23.3	23.2	23.3	23.3	23.2	0.0	19.4	19.3	19.6	19.5	19.5
			1	0	0.0	17.9	18.1	17.9	17.8	17.9	1.0	18.8	18.8	18.8	18.7	18.9	0.5	23.9	24.0	24.0	23.9	23.8	0.0	19.5	19.6	19.5	19.4	19.4
			1	24	0.0	17.7	17.8	17.7	17.8	18.0	1.0	18.8	18.9	18.7	18.7	18.8	0.5	23.8	23.9	23.7	23.8	23.9	0.0	19.5	19.6	19.5	19.6	19.6
			1	49	0.0	17.9	17.9	17.7	17.7	17.9	1.0	19.0	19.0	18.8	18.8	18.7	0.5	23.8	23.8	23.8	23.9	24.0	0.0	19.6	19.7	19.5	19.6	19.7
			25	0	0.5	17.4	17.6	17.6	17.5	17.3	2.0	17.8	17.8	17.9	17.9	17.7	1.5	22.2	22.3	22.2	22.4	22.3	0.0	19.4	19.6	19.5	19.6	19.5
			25	12	0.5	17.4	17.3	17.5	17.4	17.3	2.0	17.8	17.8	18.0	17.7	17.8	1.5	22.2	22.3	22.4	22.4	22.2	0.0	19.6	19.5	19.6	19.7	19.5
			25	24	0.5	17.4	17.5	17.4	17.3	17.3	2.0	17.8	17.8	17.8	17.8	17.8	1.5	22.4	22.3	22.4	22.3	22.4	0.0	19.4	19.5	19.6	19.6	19.5
			50	0	0.5	17.3	17.3	17.5	17.3	17.2	2.0	18.0	18.0	17.7	18.0	17.6	1.5	22.2	22.1	22.2	22.2	22.1	0.0	19.3	19.2	19.5	19.5	19.5

LTE Band 41 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	UAT / HEAD					Target MPR	UAT / BODY					Target MPR	LAT / HEAD					Target MPR	LAT / BODY				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	5	QPSK	1	0	0.0	18.0	18.0	18.0	17.9	17.9	0.0	19.9	19.8	19.9	19.9	19.8	0.0	24.4	24.3	24.4	24.3	24.5	0.0	19.7	19.5	19.5	19.7	19.7
			1	12	0.0	17.8	18.0	18.0	18.0	17.9	0.0	20.0	19.9	19.9	19.8	19.9	0.0	24.3	24.4	24.3	24.4	24.3	0.0	19.5	19.7	19.6	19.7	19.6
			1	24	0.0	17.9	18.1	17.8	17.9	18.1	0.0	19.8	19.8	20.0	19.8	19.8	0.0	24.5	24.3	24.3	24.4	24.4	0.0	19.5	19.6	19.5	19.7	19.7
			12	0	0.0	18.0	17.9	18.0	18.0	18.0	1.0	18.9	18.9	18.8	18.9	19.0	0.5	23.3	23.4	23.3	23.3	23.5	0.0	19.7	19.6	19.5	19.6	19.6
			12	7	0.0	18.0	18.0	18.1	18.0	17.9	1.0	18.9	18.8	18.8	18.8	18.8	0.5	23.5	23.4	23.3	23.4	23.3	0.0	19.6	19.6	19.6	19.6	19.7
			12	13	0.0	18.0	18.0	18.0	17.9	18.1	1.0	18.9	18.9	18.9	18.8	18.8	0.5	23.4	23.3	23.4	23.4	23.4	0.0	19.7	19.6	19.7	19.6	19.6
		16QAM	25	0	0.0	17.9	18.1	18.1	17.8	17.8	1.0	18.7	18.8	19.0	18.8	18.8	0.5	23.1	23.3	23.5	23.1	23.2	0.0	19.5	19.6	19.7	19.4	19.7
			1	0	0.0	18.0	18.0	17.9	17.9	17.8	1.0	18.8	18.7	18.8	18.8	18.8	0.5	23.8	23.8	23.8	23.8	23.9	0.0	19.7	19.4	19.4	19.6	19.7
			1	12	0.0	17.7	17.9	17.9	17.9	17.9	1.0	19.0	18.8	18.9	18.8	18.8	0.5	23.8	23.8	23.7	23.8	23.7	0.0	19.5	19.6	19.5	19.6	19.6
			1	24	0.0	17.8	18.1	17.8	17.9	18.1	1.0	18.8	18.8	18.9	18.8	18.8	0.5	24.0	23.8	23.7	23.8	23.8	0.0	19.5	19.5	19.4	19.6	19.7
			12	0	0.5	17.4	17.3	17.5	17.5	17.4	2.0	17.9	17.9	17.7	17.8	18.0	1.5	22.2	22.3	22.2	22.2	22.4	0.0	19.6	19.5	19.5	19.5	19.5
			12	7	0.5	17.5	17.5	17.6	17.4	17.3	2.0	17.9	17.7	17.8	17.8	17.7	1.5	22.4	22.3	22.2	22.3	22.2	0.0	19.5	19.5	19.5	19.5	19.7
			12	13	0.5	17.4	17.4	17.4	17.3	17.5	2.0	17.8	17.9	17.8	17.8	17.8	1.5	22.4	22.2	22.3	22.3	22.3	0.0	19.7	19.5	19.6	19.5	19.5
			25	0	0.5	17.3	17.5	17.5	17.3	17.3	2.0	17.7	17.7	18.0	17.8	17.7	1.5	22.0	22.3	22.5	22.1	22.1	0.0	19.4	19.5	19.7	19.3	19.6

9.4. LTE Rel. 11 Carrier Aggregation

LTE Carrier Aggregation Test Signal Set-up Procedure

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

Set to CMW-500 with following parameters:

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

LTE Signaling 1 - V3.5.40 - Base V 3.5.90

Connection Status

Cell: Connection Established

Packet Switched: Connected

RRC State: Connected

SCC1 State: MAC Activated

Event Log

02:17:19 Redirection Successful

02:17:18 Tracking Area Update Received

02:17:18 RRC Connection Established

02:17:17 RRC Connection Released

02:17:16 Redirection Start

02:17:12 Redirection Successful

UE Info

IMEI: 359250065123018

IMSI: 001010000150503

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

UE's Usage Setti...: Voice centric

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

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

PCC | SCC1 | SCC2 | SCC3

Operating Band: **Band 7** | FDD

Downlink: 2850 Ch | 2630.0 MHz

Uplink: 20850 Ch | 2510.0 MHz

Cell Bandwidth: 20.0 MHz | 20.0 MHz

RS EPRE: -85.0 dBm/15kHz

Full Cell BW Pow.: -54.2 dBm

PUSCH Open Loop Nom.Power: 23 dBm

PUSCH Closed Loop Target Power: 33.0 dBm

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

#RB: 100 | 50

Start RB: 0 | 0

Mod / TBSI: QPSK | 5 | QPSK | 10

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

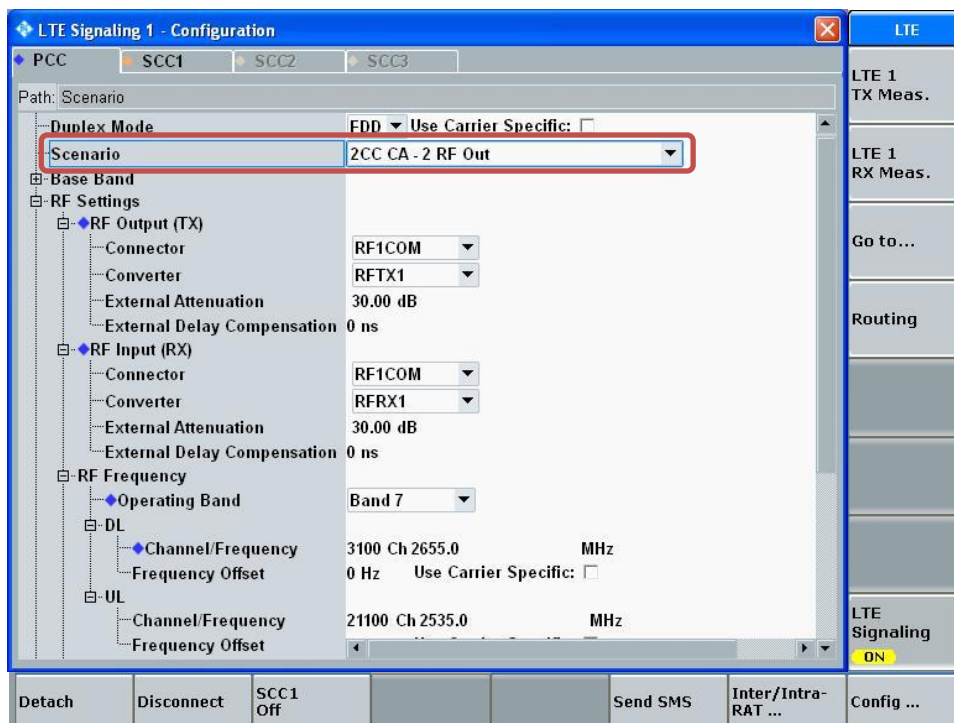
Throughput: 8.760 Mbit/s | 8.760 Mbit/s

LTE Signaling **ON**

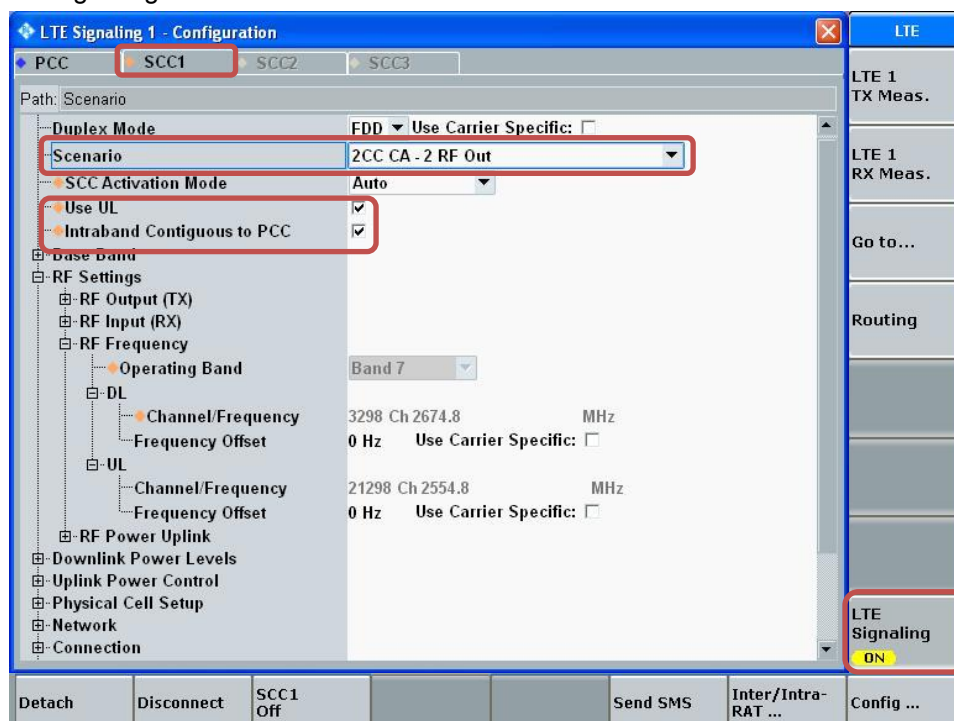
Config ...

- Go to "Config...."

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



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



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

LTE Signaling 1 - V3.5.40 - Base V 3.5.90

Connection Status

Cell:  Connection Established

RRC State: Connected

SCC1 State: MAC Activated

Event Log

02:17:19 Redirection Successful

02:17:18 Tracking Area Update Received

02:17:18 RRC Connection Established

02:17:17 RRC Connection Released

02:17:16 Redirection Start

02:17:12 Redirection Successful

UE Info

IMEI: 359250065123018

IMSI: 001010000150503

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

UE's Usage Settl...: Voice centric

Default Bearer: IPv4 address: 192.168.48.129 IPv6 pref: cdca:abab:fc01:129f:4816:168.192

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

SCC1

Operating Band: Band 7 FDD

Channel: 3048 Ch 21048 Ch

Frequency: 2649.8 MHz 2529.8 MHz

Cell Bandwidth: 20.0 MHz 20.0 MHz

RS EPRE: -85.8 dBm/15kHz

Full Cell BW Pow: -55.0 dBm

PUSCH Open Loop Nom.Power: 23 dBm

PUSCH Closed Loop Target Power: 33.0 dBm

Intraband Contiguous to PCC: ☒

PCC <-> SCC1 Swap

PCC -> SCC1 Copy

Sched. User def. Channels Multicenter UL

#RB: 100 100

Start RB: 0 0

Mod / TBSI: QPSK 5 QPSK 10

Code Rate / TBS: 0.320 8760 0.613 17568

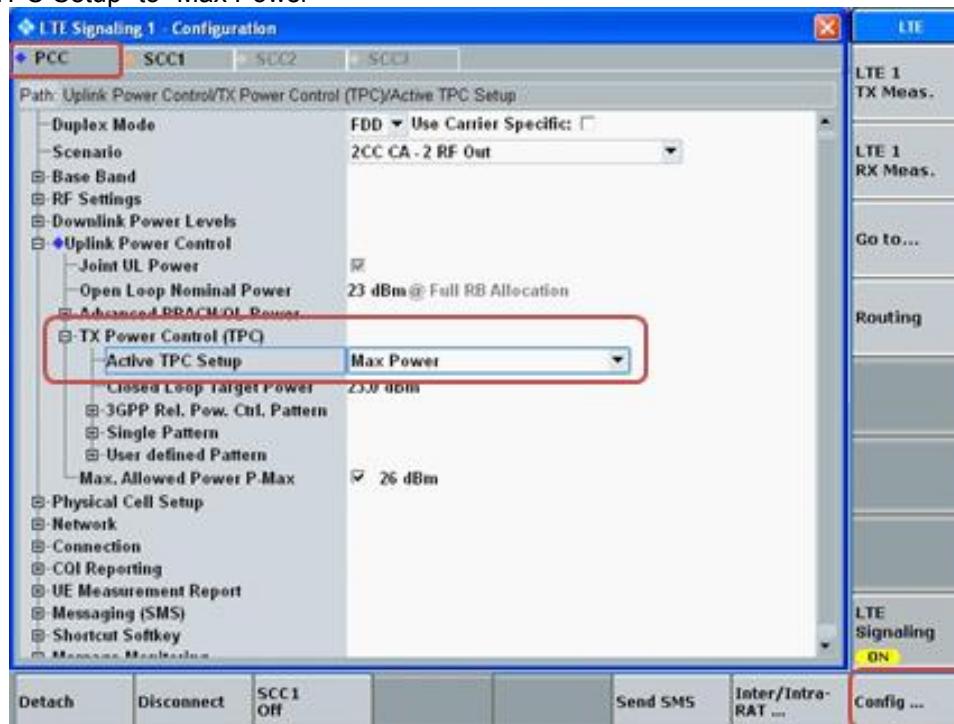
Throughput: 8.760 Mbit/s 17.568 Mbit/s

LTE Signaling: ON

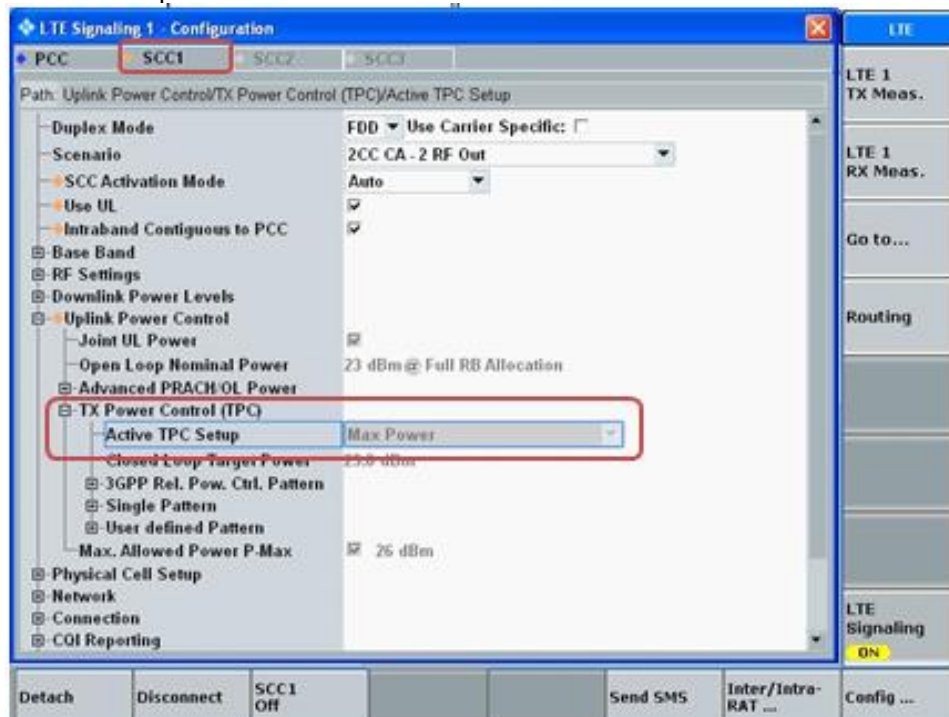
Detach Disconnect SCC1 Off Send SMS Inter/Intra-RAT ... Config ...

Max Power Setting

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

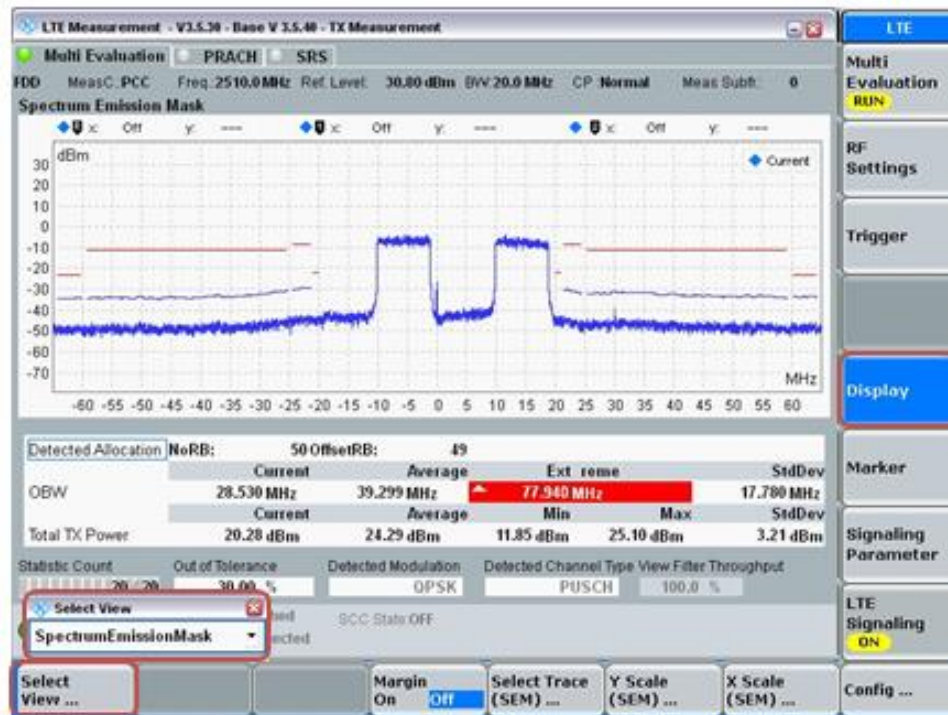


- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



View TX Power

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



The device supports LTE Advanced Rel-11, UE Category 10 Carrier Aggregation (CA) on downlink for Inter and Intra band. Uplink CA is supported for Intra band only. Supported bands and bandwidths are provided in Tables below.

Inter-Band

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth					
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
CA_2A_4A (0) (1) (2)	2	Yes	Yes	Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
	2			Yes	Yes		
	4			Yes	Yes		
	2			Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
CA_2A_5A (0)	2			Yes	Yes	Yes	Yes
	5			Yes	Yes		
CA_2A_12A (0) (1)	2			Yes	Yes	Yes	Yes
	12			Yes	Yes		
	2			Yes	Yes	Yes	Yes
	12		Yes	Yes	Yes		
CA_2A_12B (0)	2			Yes	Yes	Yes	Yes
	12	See CA_12B (0)					
CA_2A_2A_12A (0)	2	See CA_2A_2A (0)					
	12			Yes	Yes		
CA_2A_13A (0) (1)	2			Yes	Yes	Yes	Yes
	13				Yes		
	2			Yes	Yes		
	13				Yes		
CA_2A_2A_13A (0)	2	See CA_2A_2A (0)					
	13				Yes		
CA_2A_17A (0)	2			Yes	Yes		
	17			Yes	Yes		
CA_2A_29A (0) (1) (2)	2			Yes	Yes		
	29		Yes	Yes	Yes		
	2			Yes	Yes		
	29			Yes	Yes		
	2			Yes	Yes	Yes	Yes
	29			Yes	Yes		
CA_2A_30A (0)	2			Yes	Yes	Yes	Yes
	30			Yes	Yes		
CA_4A_5A (0) (1)	4			Yes	Yes		
	5			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	5			Yes	Yes		
CA_4A_7A (0)	4			Yes	Yes		
	7			Yes	Yes	Yes	Yes
CA_4A_4A_7A (0)	4	See CA_4A_4A (0)					
	7			Yes	Yes		
CA_4A_12A (0) (1) (2) (3) (4)	4	Yes	Yes	Yes	Yes		
	12			Yes	Yes		
	4	Yes	Yes	Yes	Yes	Yes	Yes
	12			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	12		Yes	Yes	Yes		
	4			Yes	Yes		

	12			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	12			Yes	Yes		
CA_4A_4A_12A (0)	4	See CA_4A_4A (0)					
	12			Yes	Yes		
CA_4A_12B (0)	4			Yes	Yes	Yes	Yes
	12	See CA_12B (0)					
	4			Yes	Yes	Yes	Yes
CA_4A_13A (0) (1)	13				Yes		
	4			Yes	Yes		
	13				Yes		
CA_4A_4A_13A (0)	4	See CA_4A_4A (0)					
	13				Yes		
CA_4A_17A (0)	4			Yes	Yes		
	17			Yes	Yes		
	4			Yes	Yes		
CA_4A_29A (0) (1) (2)	29		Yes	Yes	Yes		
	4			Yes	Yes		
	29			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	29			Yes	Yes		
CA_4A_30A (0)	4			Yes	Yes	Yes	Yes
	30			Yes	Yes		
CA_5A_7A (0)	5	Yes	Yes	Yes	Yes		
	7				Yes	Yes	Yes
CA_5A_30A (0)	5			Yes	Yes		
	30			Yes	Yes		
CA_12A_30A (0)	12			Yes	Yes		
	30			Yes	Yes		
CA_25A_26A (0)	25		Yes	Yes	Yes	Yes	Yes
	26		Yes	Yes	Yes	Yes	
CA_29A_30A (0)	29			Yes	Yes		
	30			Yes	Yes		
CA_2A_4A_12A (0)	2			Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
	12			Yes	Yes		
CA_2A_4A_13A (0)	2			Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
	13				Yes		
CA_2A_5A_30A (0)	2			Yes	Yes	Yes	Yes
	5			Yes	Yes		
	30			Yes	Yes		
CA_2A_12A_30A (0)	2			Yes	Yes	Yes	Yes
	12			Yes	Yes		
	30			Yes	Yes		
CA_2A_29A_30A (0)	2			Yes	Yes	Yes	Yes
	29			Yes	Yes		
	30			Yes	Yes		
CA_4A_5A_30A (0)	4			Yes	Yes	Yes	Yes
	5			Yes	Yes		
	30			Yes	Yes		
CA_4A_12A_30A (0)	4			Yes	Yes	Yes	Yes
	12			Yes	Yes		
	30			Yes	Yes		
CA_4A_29A_30A (0)	4			Yes	Yes	Yes	Yes
	29			Yes	Yes		
	30			Yes	Yes		
CA_2C_12A (0)	2	See CA_2C (0)					
	12			Yes	Yes		
CA_2C_13A (0)	2	See CA_2C (0)					

	13			Yes	Yes		
CA_4C_7A (0)	4	See CA_4C (0)					
	7			Yes	Yes		
CA_4C_12A (0)	4	See CA_4C (0)					
	12			Yes	Yes		
CA_4C_13A (0)	4	See CA_4C (0)					
	13				Yes		

Intra-Band Non-Contiguous

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

Intra-Band Contiguous

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

Carrier Aggregation Power Measurements:**Inter-Band**

DL									UL																
PCC	SCC	TCC	PCC			SCC			TCC	PCC								SCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency		Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	
2	4		1.4	1960	20	2132.5				QPSK	1	3	1880	0	25.0	24.9	-0.1								
2	4		3	1960	20	2132.5				QPSK	1	8	1880	0	25.0	24.9	-0.1								
2	4		5	1960	20	2132.5				QPSK	1	12	1880	0	25.0	25.0	0								
2	4		10	1960	20	2132.5				QPSK	1	24	1880	0	25.0	24.9	-0.1								
2	4		15	1960	20	2132.5				QPSK	1	36	1880	0	24.9	24.9	0								
2	4		20	1960	20	2132.5				QPSK	1	49	1880	0	24.9	24.9	0								
2	5		5	1960	10	881.5				QPSK	1	12	1880	0	24.9	24.9	0								
2	5		10	1960	10	881.5				QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	5		15	1960	10	881.5				QPSK	1	36	1880	0	25.0	24.9	-0.1								
2	5		20	1960	10	881.5				QPSK	1	49	1880	0	25.0	24.9	-0.1								
2	12		5	1960	10	737.5				QPSK	1	12	1880	0	24.9	24.9	0								
2	12		10	1960	10	737.5				QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	12		15	1960	10	737.5				QPSK	1	36	1880	0	24.9	24.8	-0.1								
2	12		20	1960	10	737.5				QPSK	1	49	1880	0	24.9	24.9	0								
2	13		5	1960	10	751				QPSK	1	12	1880	0	24.9	24.8	-0.1								
2	13		10	1960	10	751				QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	13		15	1960	10	751				QPSK	1	36	1880	0	24.9	24.8	-0.1								
2	13		20	1960	10	751				QPSK	1	49	1880	0	24.9	24.9	0								
2	17		5	1960	10	740				QPSK	1	12	1880	0	25.0	24.9	-0.1								
2	17		10	1960	10	740				QPSK	1	24	1880	0	25.0	24.9	-0.1								
2	29		5	1960	10	722.5				QPSK	1	12	1880	0	25.0	24.9	-0.1								
2	29		10	1960	10	722.5				QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	29		15	1960	10	722.5				QPSK	1	36	1880	0	25.0	24.9	-0.1								
2	29		20	1960	10	722.5				QPSK	1	49	1880	0	24.9	24.8	-0.1								
2	30		5	1960	10	2355				QPSK	1	12	1880	0	24.9	24.8	-0.1								
2	30		10	1960	10	2355				QPSK	1	24	1880	0	24.9	24.9	0								
2	30		15	1960	10	2355				QPSK	1	36	1880	0	24.9	24.8	-0.1								
2	30		20	1960	10	2355				QPSK	1	49	1880	0	24.9	24.8	-0.1								
4	2		5	2132.5	20	1960				QPSK	1	12	1732.5	0	24.9	24.9	0								
4	2		10	2132.5	20	1960				QPSK	1	24	1732.5	0	24.9	24.8	-0.1								
4	2		15	2132.5	20	1960				QPSK	1	36	1732.5	0	24.9	24.9	0								
4	2		20	2132.5	20	1960				QPSK	1	49	1732.5	0	24.9	24.8	-0.1								
5	2		5	881.5	20	1960				QPSK	1	12	836.5	0	24.0	23.9	-0.1								
5	2		10	881.5	20	1960				QPSK	1	24	836.5	0	23.9	23.9	0								
7	4		5	2655	10	2132.5				QPSK	1	12	2535	0	25.0	24.9	-0.1								
7	4		10	2655	10	2132.5				QPSK	1	24	2535	0	25.0	24.9	-0.1								
7	4		15	2655	10	2132.5				QPSK	1	36	2535	0	25.0	24.9	-0.1								
7	4		20	2655	10	2132.5				QPSK	1	49	2535	0	24.9	24.9	0								
12	2		3	737.5	20	1960				QPSK	1	8	707.5	0	24.9	24.8	-0.1								
12	2		5	737.5	20	1960				QPSK	1	12	707.5	0	25.0	25.0	0								
12	2		10	737.5	20	1960				QPSK	1	24	707.5	0	24.9	24.8	-0.1								
13	2		10	751	20	1960				QPSK	1	24	782	0	24.9	24.8	-0.1								
17	2		5	740	20	1960				QPSK	1	12	710	0	24.9	24.8	-0.1								
17	2		10	740	20	1960				QPSK	1	24	710	0	24.9	24.8	-0.1								

DL									UL															
PCC	SCC	TCC	PCC		SCC		TCC		PCC								SCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	
25	26		3	1962.5	15	876.5			QPSK	1	8	1882.5	0	24.0	23.9	-0.1								
25	26		5	1962.5	15	876.5			QPSK	1	12	1882.5	0	24.0	23.9	-0.1								
25	26		10	1962.5	15	876.5			QPSK	1	24	1882.5	0	23.9	23.8	-0.1								
25	26		15	1962.5	15	876.5			QPSK	1	36	1882.5	0	23.9	23.8	-0.1								
25	26		20	1962.5	15	876.5			QPSK	1	49	1882.5	0	23.9	23.9	0								
26	25		3	876.5	20	1962.5			QPSK	1	8	831.5	0	23.9	23.8	-0.1								
26	25		5	876.5	20	1962.5			QPSK	1	12	831.5	0	24.0	23.9	-0.1								
26	25		10	876.5	20	1962.5			QPSK	1	24	831.5	0	24.0	23.9	-0.1								
26	25		15	876.5	20	1962.5			QPSK	1	36	831.5	0	23.9	23.9	0								
30	2		5	2355	20	1960			QPSK	1	12	2310	0	24.0	24.0	0								
30	2		10	2355	20	1960			QPSK	1	24	2310	0	23.9	23.8	-0.1								
2	4	12	5	1960	20	2132.5	10	737.5	QPSK	1	12	1880	0	25.0	25.0	0								
2	4	12	10	1960	20	2132.5	10	737.5	QPSK	1	24	1880	0	24.9	24.9	0								
2	4	12	15	1960	20	2132.5	10	737.5	QPSK	1	36	1880	0	24.9	24.8	-0.1								
2	4	12	20	1960	20	2132.5	10	737.5	QPSK	1	49	1880	0	25.0	24.9	-0.1								
2	4	13	5	1960	20	2132.5	10	751	QPSK	1	12	1880	0	25.0	24.9	-0.1								
2	4	13	10	1960	20	2132.5	10	751	QPSK	1	24	1880	0	24.9	24.9	0								
2	4	13	15	1960	20	2132.5	10	751	QPSK	1	36	1880	0	25.0	25.0	0								
2	4	13	20	1960	20	2132.5	10	751	QPSK	1	49	1880	0	24.9	24.9	0								
2	5	30	5	1960	10	881.5	10	2355	QPSK	1	12	1880	0	24.9	24.8	-0.1								
2	5	30	10	1960	10	881.5	10	2355	QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	5	30	15	1960	10	881.5	10	2355	QPSK	1	36	1880	0	24.9	24.8	-0.1								
2	5	30	20	1960	10	881.5	10	2355	QPSK	1	49	1880	0	24.9	24.9	0								
2	12	30	5	1960	10	737.5	10	2355	QPSK	1	12	1880	0	24.9	24.8	-0.1								
2	12	30	10	1960	10	737.5	10	2355	QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	12	30	15	1960	10	737.5	10	2355	QPSK	1	36	1880	0	24.9	24.8	-0.1								
2	12	30	20	1960	10	737.5	10	2355	QPSK	1	49	1880	0	25.0	24.9	-0.1								
2	29	30	5	1960	10	722.5	10	2355	QPSK	1	12	1880	0	24.9	24.8	-0.1								
2	29	30	10	1960	10	722.5	10	2355	QPSK	1	24	1880	0	24.9	24.8	-0.1								
2	29	30	15	1960	10	722.5	10	2355	QPSK	1	36	1880	0	25.0	25.0	0								
2	29	30	20	1960	10	722.5	10	2355	QPSK	1	49	1880	0	24.9	24.9	0								
4	2	12	5	2132.5	20	1960	10	737.5	QPSK	1	12	1732.5	0	25.0	24.9	-0.1								
4	2	12	10	2132.5	20	1960	10	737.5	QPSK	1	24	1732.5	0	24.9	24.8	-0.1								
4	2	12	15	2132.5	20	1960	10	737.5	QPSK	1	36	1732.5	0	24.9	24.9	0								
4	2	12	20	2132.5	20	1960	10	737.5	QPSK	1	49	1732.5	0	24.9	24.9	0								
5	2	30	5	881.5	20	1960	10	2355	QPSK	1	12	836.5	0	24.0	23.9	-0.1								
5	2	30	10	881.5	20	1960	10	2355	QPSK	1	24	836.5	0	23.9	23.9	0								
12	2	4	5	737.5	20	1960	20	2132.5	QPSK	1	12	707.5	0	24.9	24.8	-0.1								
12	2	4	10	737.5	20	1960	20	2132.5	QPSK	1	24	707.5	0	25.0	25.0	0								
13	2	4	10	751	20	1960	20	2132.5	QPSK	1	24	782	0	25.0	25.0	0								
30	2	5	5	2355	20	1960	10	881.5	QPSK	1	12	2310	0	24.0	23.9	-0.1								
30	2	5	10	2355	20	1960	10	881.5	QPSK	1	24	2310	0	23.9	23.9	0								
12A	2A	2A	5	737.5	20	1960	20	1960	QPSK	1	12	707.5	0	24.9	24.9	0								
12A	2A	2A	10	737.5	20	1960	20	1960	QPSK	1	24	707.5	0	25.0	24.9	-0.1								

DL									UL															
PCC	SCC	TCC	PCC		SCC		TCC		PCC								SCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	
12B	2A	12B	5	737.5	20	1960	10	737.5	QPSK	1	12	707.5	0	24.9	24.8	-0.1								
12B	2A	12B	10	737.5	20	1960	5	737.5	QPSK	1	24	707.5	0	25.0	24.9	-0.1								
13A	2A	2A	10	751	20	1960	20	1960	QPSK	1	24	782	0	25.0	24.9	-0.1								
2A	12B	12B	5	1960	5	737.5	10	737.5	QPSK	1	12	1880	0	24.9	24.8	-0.1								
2A	12B	12B	10	1960	5	737.5	10	737.5	QPSK	1	24	1880	0	24.9	24.8	-0.1								
2A	12B	12B	15	1960	5	737.5	10	737.5	QPSK	1	36	1880	0	24.9	24.8	-0.1								
2A	12B	12B	20	1960	5	737.5	10	737.5	QPSK	1	49	1880	0	25.0	24.9	-0.1								
2C	2C	12A	5	1960	20	1960	10	737.5	QPSK	1	12	1880	0	24.9	24.9	0								
2C	2C	12A	10	1960	20	1960	10	737.5	QPSK	1	24	1880	0	25.0	24.9	-0.1								
2C	2C	12A	15	1960	20	1960	10	737.5	QPSK	1	36	1880	0	24.9	24.8	-0.1								
2C	2C	12A	20	1960	20	1960	10	737.5	QPSK	1	49	1880	0	24.9	24.8	-0.1								
4A	12B	12B	5	2132.5	5	737.5	10	737.5	QPSK	1	12	1732.5	0	24.9	24.9	0								
4A	12B	12B	10	2132.5	5	737.5	10	737.5	QPSK	1	24	1732.5	0	25.0	24.9	-0.1								
4A	12B	12B	15	2132.5	5	737.5	10	737.5	QPSK	1	36	1732.5	0	24.9	24.9	0								
4A	12B	12B	20	2132.5	5	737.5	10	737.5	QPSK	1	49	1732.5	0	24.9	24.8	-0.1								
4C	4C	12A	5	2132.5	20	2132.5	10	737.5	QPSK	1	12	1732.5	0	24.9	24.8	-0.1								
4C	4C	12A	10	2132.5	20	2132.5	10	737.5	QPSK	1	24	1732.5	0	24.9	24.9	0								
4C	4C	12A	15	2132.5	20	2132.5	10	737.5	QPSK	1	36	1732.5	0	24.9	24.8	-0.1								
4C	4C	12A	20	2132.5	20	2132.5	10	737.5	QPSK	1	49	1732.5	0	25.0	24.9	-0.1								
7A	4A	4A	5	2655	20	2132.5	20	2132.5	QPSK	1	12	2535	0	25.0	25.0	0								
7A	4A	4A	10	2655	20	2132.5	20	2132.5	QPSK	1	24	2535	0	25.0	24.9	-0.1								

Power measurements were performed on the highest maximum output power from Tune-up Procedure on LAT antenna, Head power table on QPSK modulation following the Manufacturer KDB inquiry - Carrier Aggregation. Uplink output power for UL CA is the total power measured across the PCC and SCC.

The standalone power measurement is the power for the primary or secondary carriers in the non-CA mode (i.e. single carrier power) measured with an average power meter. The values are slightly different between PCC and SCC. The UL CA mode power measurements are made using the same wideband average power meter and represent the total power across both carriers. Some of the measured values are the same for PCC and SCC. In all cases the CA total power is less than the single carrier (non-CA mode) case.

Intra-Band Non-Contiguous

DL									UL															
PCC	SCC	TCC	PCC		SCC		TCC		PCC								SCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	
2	2		5	1932.5	20	1980			QPSK	1	12	1852.5	0	25.0	24.9	-0.1								
2	2		10	1935	20	1980			QPSK	1	24	1855	0	24.9	24.9	0								
2	2		15	1937.5	20	1980			QPSK	1	36	1857.5	0	24.9	24.9	0								
2	2		20	1940	20	1980			QPSK	1	49	1860	0	24.9	24.8	-0.1								
4	4		5	2112.5	20	2145			QPSK	1	12	1712.5	0	24.9	24.8	-0.1								
4	4		10	2115	20	2145			QPSK	1	24	1715	0	25.0	25.0	0								
4	4		15	2117.5	20	2145			QPSK	1	36	1717.5	0	25.0	24.9	-0.1								
4	4		20	2120	20	2145			QPSK	1	49	1720	0	24.9	24.8	-0.1								
7	7		5	2622.5	15	2682.5			QPSK	1	12	2502.5	0	24.9	24.8	-0.1								
7	7		10	2625	10	2685			QPSK	1	24	2505	0	24.9	24.8	-0.1								
7	7		10	2625	15	2682.5			QPSK	1	24	2505	0	25.0	25.0	0								
7	7		15	2627.5	15	2682.5			QPSK	1	36	2507.5	0	25.0	24.9	-0.1								
7	7		15	2627.5	20	2680			QPSK	1	36	2507.5	0	24.9	24.9	0								
7	7		20	2630	20	2680			QPSK	1	49	2510	0	25.0	25.0	0								
25	25		5	1932.5	20	1985			QPSK	1	12	1852.5	0	23.9	23.8	-0.1								
25	25		10	1935	20	1985			QPSK	1	24	1855	0	24.0	24.0	0								
25	25		15	1937.5	20	1985			QPSK	1	36	1857.5	0	24.0	23.9	-0.1								
25	25		20	1940	20	1985			QPSK	1	49	1860	0	24.0	23.9	-0.1								
41	41		5	2498.5	20	2680			QPSK	1	12	2498.5	0	24.4	24.4	0								
41	41		10	2501	20	2680			QPSK	1	24	2501	0	24.5	24.4	-0.1								
41	41		15	2503.5	20	2680			QPSK	1	36	2503.5	0	24.4	24.4	0								
41	41		20	2506	20	2680			QPSK	1	49	2506	0	24.4	24.4	0								
41A	41C	41C	5	2498.5	20	2593	20	2680	QPSK	1	12	2498.5	0	24.4	24.3	-0.1								
41A	41C	41C	10	2501	20	2593	20	2680	QPSK	1	24	2501	0	24.5	24.4	-0.1								
41A	41C	41C	15	2503.5	20	2593	20	2680	QPSK	1	36	2503.5	0	24.5	24.5	0								
41A	41C	41C	20	2506	20	2593	20	2680	QPSK	1	49	2506	0	24.4	24.4	0								
41C	41C	41A	5	2498.5	20	2593	20	2680	QPSK	1	12	2498.5	0	24.4	24.4	0								
41C	41C	41A	10	2501	20	2593	20	2680	QPSK	1	24	2501	0	24.4	24.3	-0.1								
41C	41C	41A	15	2503.5	20	2593	20	2680	QPSK	1	36	2503.5	0	24.4	24.3	-0.1								
41C	41C	41A	20	2506	20	2593	20	2680	QPSK	1	49	2506	0	24.4	24.3	-0.1								

Intra-Band Contiguous

DL									UL															
PCC	SCC	TCC	PCC		SCC		TCC		PCC								SCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta	
2C	2C		5	1960	20	1972.5			QPSK	1	12	1880	0	24.9	24.8	-0.1								
2C	2C		10	1960	20	1975			QPSK	1	24	1880	0	25.0	25.0	0								
2C	2C		15	1960	20	1977.5			QPSK	1	36	1880	0	25.0	24.9	-0.1								
2C	2C		20	1960	20	1980			QPSK	1	49	1880	0	25.0	25.0	0								
7B	7B		5	2655	15	2665			QPSK	1	12	2535	0	24.9	24.9	0								
7B	7B		15	2655	5	2665			QPSK	1	36	2535	0	24.9	24.9	0								
7C	7C		10	2655	20	2670			QPSK	1	24	2535	0	25.0	24.9	-0.1								
7C	7C		15	2655	20	2672.5			QPSK	1	36	2535	0	25.0	24.9	-0.1								
7C	7C		20	2655	20	2675			QPSK	1	49	2535	0	24.9	24.8	-0.1								
12B	12B		5	737.5	5	742.5			QPSK	1	12	707.5	0	24.9	24.8	-0.1								
12B	12B		5	737.5	10	745			QPSK	1	12	707.5	0	24.9	24.8	-0.1								
12B	12B		10	737.5	5	745			QPSK	1	24	707.5	0	24.9	24.9	0								
41C	41C		5	2593	20	2605.5			QPSK	1	12	2593	0	24.4	24.3	-0.1								
41C	41C		10	2593	20	2608			QPSK	1	24	2593	0	24.5	24.4	-0.1								
41C	41C		15	2593	20	2610.5			QPSK	1	36	2593	0	24.5	24.4	-0.1								
41C	41C		20	2593	20	2613			QPSK	1	49	2593	0	24.4	24.3	-0.1								
7C	7C		10	2655	20	2670			QPSK	1	24	2535	0	24.9	23.9	-1	1	49	2550	0	25.0	24.0	-1	
7C	7C		15	2655	20	2672.5			QPSK	1	36	2535	0	24.9	23.9	-1	1	49	2552.5	0	24.9	23.8	-1.1	
7C	7C		20	2655	20	2675			QPSK	1	49	2535	0	25.0	24.0	-1	1	49	2555	0	24.9	23.9	-1	
41C	41C		5	2593	20	2605.5			QPSK	1	12	2593	0	24.5	23.9	-0.6	1	49	2605.5	0	24.5	24.0	-0.5	
41C	41C		10	2593	20	2608			QPSK	1	24	2593	0	24.4	23.8	-0.6	1	49	2608	0	24.4	23.8	-0.6	
41C	41C		15	2593	20	2610.5			QPSK	1	36	2593	0	24.4	23.8	-0.6	1	49	2610.5	0	24.4	23.8	-0.6	
41C	41C		20	2593	20	2613			QPSK	1	49	2593	0	24.5	23.9	-0.6	1	49	2613	0	24.4	23.9	-0.5	
41D	41D	41D	10	2593	20	2608	20	2628	QPSK	1	24	2593	0	24.5	24.5	0								
41D	41D	41D	15	2593	20	2610.5	20	2630.5	QPSK	1	36	2593	0	24.4	24.4	0								
41D	41D	41D	20	2593	20	2613	20	2633	QPSK	1	49	2593	0	24.4	24.4	0								

UL CA test cases selected based on FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allows both selections to have contiguous CA were measured for output power. Uplink output power for UL CA is the total power measured across the PCC and SCC.:

LTE-2CA Band 7

Antenna	RF Exposure Conditions	Mode	PCC					SCC					Power (dBm)	
			Bandwidth (MHz)	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Bandwidth (MHz)	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.
LAT	Body & Hotspot	QPSK	20	20850	2510.0	50	24	20	21048	2529.8	100	0	19.0	19.0

LTE-2CA Band 41

Antenna	RF Exposure Conditions	Mode	PCC					SCC					Power (dBm)	
			Bandwidth (MHz)	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Bandwidth (MHz)	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.
UAT	Head	QPSK	20	41055	2636.5	50	24	20	40857	2616.7	50	24	18.5	18.5

9.5. WLAN SISO (P_{Cell_ON})

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON} : This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF} : This will be used when only Wi-Fi radio is ON

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
2.4	802.11b	1 Tx	1	2412	12.8	19.0	16.9	15.0
			6	2437	12.8	19.0	16.9	15.0
			11	2462	12.8	19.0	16.9	15.0
			12	2467	12.8	17.5	16.9	15.0
			13	2472	12.8	13.5	13.5	13.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.2	802.11a	1 Tx	40	5200	Not required	19.0	Not required	Not required
			44	5220		19.3		
			48	5240		19.3		
	802.11n	1 Tx HT40	38	5190	Not required	Not required	15.5	Not required
			46	5230			15.8	
	802.11ac	1 Tx VHT80	42	5210	6.2	Not required	Not required	10.8
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.5	802.11n	1 Tx HT40	110	5550	Not required	18.5	Not required	Not required
			118	5590		19.3		
			142	5710		19.0		
	802.11ac	1 Tx VHT80	106	5530	5.0	Not required	11.0	8.5
			122	5610	5.0		11.0	8.5
			138	5690	5.0		11.0	8.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.8	802.11a	1 Tx	153	5765	Not required	20.0	Not required	Not required
			157	5785		20.0		
			161	5805		20.0		
	802.11ac	1 Tx VHT80	155	5775	5.0	Not required	11.3	13.5

Note(s):

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

9.6. WLAN MIMO (P_{Cell_ON})

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF}: This will be used when only Wi-Fi radio is ON

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
2.4	802.11g	2 Tx CDD	1	2412	12.8	15.0	15.0	15.0
			2	2417	12.8	17.5	17.0	15.0
			3	2422	12.8	19.0	17.0	15.0
			6	2437	12.8	19.0	17.0	15.0
			9	2452	12.8	19.0	17.0	15.0
			10	2457	12.8	16.0	16.0	15.0
			11	2462	12.8	14.5	14.5	14.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.2	802.11n	2 Tx HT40 CDD/STBC/SDM	38	5190	Not required		13.5	11.0
			46	5230			15.7	11.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.3	802.11n	2 Tx HT40 CDD/STBC/SDM	54	5270	5.0	18.5	Not required	
			62	5310	5.0	14.0		
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.5	802.11n	2 Tx HT40 CDD/STBC/SDM	110	5550	5.0	18.1	Not required	
			118	5590	5.0	18.1		
			142	5710	5.0	18.0		
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	106	5530	Not required		11.0	8.5
			122	5610			11.0	8.5
			138	5690			11.0	8.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.8	802.11a	2 Tx CDD	153	5765	5.0	19.3	Not required	
			157	5785	5.0	19.3		
			161	5805	5.0	19.3		
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	155	5775	Not required		11.3	13.5

Note(s):

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

9.7. WLAN SISO (P_{Cell_OFF})

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF}: This will be used when only Wi-Fi radio is ON

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
2.4	802.11b	1 Tx	1	2412	17.4	19.0	18.8	19.0
			6	2437	17.4	19.0	18.8	19.0
			11	2462	17.5	19.0	18.8	19.0
			12	2467	17.5	17.5	17.5	17.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.2	802.11a	1 Tx	40	5200	Not required	Not required	19.0	Not required
			44	5220			21.0	
			48	5240			19.5	
	802.11n	1 Tx HT40	38	5190	Not required	Not required	Not required	15.3
			46	5230			Not required	17.7
	802.11ac	1 Tx VHT80	42	5210	14.0	Not required	Not required	Not required
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.3	802.11a	1 Tx	52	5260	Not required	19.3	Not required	Not required
			56	5280		19.3		
			60	5300		19.0		
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.5	802.11a	1 Tx	108	5540	Not required	20.3	Not required	Not required
			120	5600		20.3		
			132	5660		20.3		
	802.11ac	1 Tx VHT80	106	5530	12.8	Not required	14.0	14.0
			122	5610	12.8		16.5	15.3
			138	5690	12.8		16.5	15.3
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.8	802.11a	1 Tx	153	5765	Not required	20.3	Not required	19.7
			157	5785		20.3		19.7
			161	5805		20.3		19.7
	802.11ac	1 Tx VHT80	155	5775	12.8	Not required	16.5	Not required

Note(s):

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

9.8. WLAN MIMO ($P_{\text{Cell_OFF}}$)

For 2.4 & 5GHz band, there are two use cases:

- $P_{\text{Cell_ON}}$: This will be used when both Cellular and Wi-Fi radios are ON.
- $P_{\text{Cell_OFF}}$: This will be used when only Wi-Fi radio is ON

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
2.4	802.11g	2 Tx CDD	1	2412	15.0	15.0	15.0	15.0
			2	2417	17.5	17.5	17.5	17.5
			3	2422	18.0	19.0	18.0	19.0
			6	2437	18.0	19.0	18.0	19.0
			9	2452	18.0	19.0	18.0	19.0
			10	2457	16.0	16.0	16.0	16.0
			11	2462	14.5	14.5	14.5	14.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.3	802.11n	2 Tx HT40 CDD/STBC/SDM	54	5270	12.8	18.5	18.5	16.3
			62	5310	12.8	14.0	14.0	14.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.5	802.11n	2 Tx HT40 CDD/STBC/SDM	110	5550	12.7	18.1	Not required	
			118	5590	12.7	18.1		
			142	5710	12.7	18.1		
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	106	5530	Not required		14.0	14.0
			122	5610			16.5	15.3
			138	5690			16.5	15.3
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
					HEAD		BODY	
					Chain 0	Chain 1	Chain 0	Chain 1
5.8	802.11a	2 Tx CDD	153	5765	12.8	19.3	16.5	19.0
			157	5785	12.7	19.3	16.5	19.0
			161	5805	12.8	19.3	16.3	19.0

Note(s):

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

9.9. Bluetooth

P_{High}

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)
2.4	V3.0 + EDR, GFSK	0	2402	12.9
		39	2441	12.9
		78	2480	12.9

P_{Low}

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)
2.4	V3.0 + EDR, GFSK	0	2402	9.9
		39	2441	9.9
		78	2480	9.9

$P_{Standalone}$

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)
2.4	V3.0 + EDR, GFSK	0	2402	16.5
		39	2441	16.5
		78	2480	16.5

Notes:

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

10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

KDB 447498 D01 General RF Exposure Guidance:

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

- ≤ 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.

KDB 648474 D04 Handset SAR (Phablet Only):

This device qualifies as a phablet (display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm as applicable), and phablet procedures have been applied. Extremity SAR (10g SAR) at 5mm for hot spot mode is not required as the 1g SAR values at 10mm are all less than 1.2W/Kg.

KDB 941225 D01 SAR test for 3G devices:

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

KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

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

KDB 248227 D01 SAR meas for 802.11:

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

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

- ≤ 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.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

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

Additional Guidance: Manufacturer KDB enquiry mentioned in Sec. 2 was used to apply published KDB guidance to proprietary power control implemented in this device.

10.1. GSM850**UAT**

RF Exposure Conditions	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	
Head (VoIP)	GPRS 2 Slots	0	Left Touch	128	824.2	30.0	30.0	1.060	1.060	0.609	0.609	1
				190	836.6	30.0	30.0	1.000	1.000	0.561	0.561	
				251	848.8	30.0	30.0	0.901	0.901	0.496	0.496	
			Left Tilt	128	824.2	30.0	30.0	1.010	1.010	0.489	0.489	
				190	836.6	30.0	30.0	0.863	0.863	0.418	0.418	
				251	848.8	30.0	30.0	0.895	0.895	0.423	0.423	
			Right Touch	128	824.2	30.0	30.0	1.030	1.030	0.656	0.656	
				190	836.6	30.0	30.0	0.929	0.929	0.580	0.580	
				251	848.8	30.0	30.0	0.837	0.837	0.518	0.518	
			Right Tilt	128	824.2	30.0	30.0	0.757	0.757	0.415	0.415	
				190	836.6	30.0	30.0	0.738	0.738	0.396	0.396	
				251	848.8	30.0	30.0	0.666	0.666	0.349	0.349	
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	190	836.6	30.0	30.0	0.650	0.650	0.373	0.373	
Front			190	836.6	30.0	30.0	0.542	0.542	0.319	0.319		
Edge 1			190	836.6	30.0	30.0	0.441	0.441	0.207	0.207		
Edge 2			190	836.6	30.0	30.0	0.561	0.561	0.372	0.372		
Edge 4			190	836.6	30.0	30.0	0.278	0.278	0.183	0.183		
Hotspot												

LAT

RF Exposure Conditions	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			
Head (VoIP)	GPRS 2 Slots	0	Left Touch	190	836.6	32.5	32.5	0.522	0.522	0.406	0.406			
			Left Tilt	190	836.6	32.5	32.5	0.263	0.263	0.207	0.207			
			Right Touch	190	836.6	32.5	32.5	0.404	0.404	0.315	0.315			
			Right Tilt	190	836.6	32.5	32.5	0.251	0.251	0.198	0.198			
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	190	836.6	32.5	32.5	0.633	0.633	0.408	0.408			
Front			190	836.6	32.5	32.5	0.738	0.738	0.444	0.444	2			
Hotspot			Edge 2	190	836.6	32.5	32.5	0.276	0.276	0.181	0.181			
			Edge 3	190	836.6	32.5	32.5	0.556	0.556	0.260	0.260			
			Edge 4	190	836.6	32.5	32.5	0.706	0.706	0.465	0.465			

10.2. GSM1900**UAT**

RF Exposure Conditions	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	
Head VoIP	GPRS 2 Slots	0	Left Touch	661	1880.0	25.0	24.8	0.485	0.508	0.247	0.259	
			Left Tilt	661	1880.0	25.0	24.8	0.486	0.509	0.236	0.247	
			Right Touch	512	1850.2	25.0	25.0	0.907	0.907	0.470	0.470	
				661	1880.0	25.0	24.8	0.908	0.951	0.482	0.505	
				810	1909.8	25.0	24.8	0.933	0.977	0.506	0.530	3
			Right Tilt	661	1880.0	25.0	24.8	0.740	0.775	0.354	0.371	
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	661	1880.0	25.2	24.8	0.249	0.273	0.129	0.141	
Front			661	1880.0	25.2	24.8	0.420	0.461	0.201	0.220		
Hotspot			Edge 1	661	1880.0	25.2	24.8	0.270	0.296	0.125	0.137	
			Edge 2	661	1880.0	25.2	24.8	0.021	0.023	0.012	0.013	
			Edge 4	661	1880.0	25.2	24.8	0.210	0.230	0.115	0.126	

LAT

RF Exposure Conditions	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	
Head VoIP	GPRS 2 Slots	0	Left Touch	661	1880.0	30.5	30.5	0.258	0.258	0.176	0.176	
			Left Tilt	661	1880.0	30.5	30.5	0.152	0.152	0.095	0.095	
			Right Touch	661	1880.0	30.5	30.5	0.499	0.499	0.322	0.322	
			Right Tilt	661	1880.0	30.5	30.5	0.153	0.153	0.095	0.095	
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	661	1880.0	26.8	26.7	0.721	0.729	0.411	0.416	
			Front	512	1850.2	26.8	26.8	0.949	0.949	0.536	0.536	
				661	1880.0	26.8	26.7	1.080	1.093	0.608	0.615	4
				810	1909.8	26.8	26.8	0.952	0.952	0.537	0.537	
Hotspot		Edge 2	661	1880.0	26.8	26.7	0.683	0.691	0.390	0.395		
		Edge 3	661	1880.0	26.8	26.7	0.727	0.735	0.349	0.353		
		Edge 4	661	1880.0	26.8	26.7	0.076	0.077	0.042	0.043		

10.3. W-CDMA Band V**UAT**

RF Exposure Conditions	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	
Head	Rel 99 RMC	0	Left Touch	4183	836.6	23.0	23.0	0.779	0.779	0.452	0.452	
			Left Tilt	4183	836.6	23.0	23.0	0.734	0.734	0.355	0.355	
			Right Touch	4132	826.4	23.0	23.0	0.700	0.700	0.442	0.442	
				4183	836.6	23.0	23.0	0.833	0.833	0.537	0.537	5
				4233	846.6	23.0	23.0	0.706	0.706	0.447	0.447	
			Right Tilt	4183	836.6	23.0	23.0	0.585	0.585	0.323	0.323	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	4183	836.6	23.0	23.0	0.477	0.477	0.289	0.289	
			Front	4183	836.6	23.0	23.0	0.468	0.468	0.293	0.293	
Hotspot	Rel 99 RMC	5	Edge 1	4183	836.6	23.0	23.0	0.274	0.274	0.130	0.130	
			Edge 2	4183	836.6	23.0	23.0	0.303	0.303	0.200	0.200	
			Edge 4	4183	836.6	23.0	23.0	0.095	0.095	0.057	0.057	

LAT

RF Exposure Conditions	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	
Head	Rel 99 RMC	0	Left Touch	4183	836.6	25.0	24.5	0.312	0.350	0.240	0.269	
			Left Tilt	4183	836.6	25.0	24.5	0.119	0.134	0.094	0.105	
			Right Touch	4183	836.6	25.0	24.5	0.237	0.266	0.185	0.208	
			Right Tilt	4183	836.6	25.0	24.5	0.117	0.131	0.092	0.103	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	4183	836.6	25.0	24.5	0.545	0.612	0.313	0.351	
			Front	4183	836.6	25.0	24.5	0.677	0.760	0.376	0.422	6
Hotspot	Rel 99 RMC	5	Edge 2	4183	836.6	25.0	24.5	0.197	0.221	0.130	0.146	
			Edge 3	4183	836.6	25.0	24.5	0.449	0.504	0.210	0.236	
			Edge 4	4183	836.6	25.0	24.5	0.554	0.622	0.366	0.411	

10.4. W-CDMA Band IV**UAT**

RF Exposure Conditions	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	
Head	Rel 99 RMC	0	Left Touch	1413	1732.6	19.3	18.8	0.441	0.495	0.235	0.264	
			Left Tilt	1413	1732.6	19.3	18.8	0.384	0.431	0.204	0.229	
			Right Touch	1312	1712.4	19.3	18.8	0.854	0.958	0.460	0.516	7
				1413	1732.6	19.3	18.8	0.838	0.940	0.456	0.512	
				1513	1752.6	19.3	18.8	0.828	0.929	0.456	0.512	
			Right Tilt	1413	1732.6	19.3	18.8	0.630	0.707	0.313	0.351	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	1413	1732.6	21.3	20.8	0.574	0.644	0.319	0.358	
			Front	1312	1712.4	21.3	20.8	0.825	0.926	0.369	0.414	
				1413	1732.6	21.3	20.8	0.733	0.822	0.414	0.465	
				1513	1752.6	21.3	20.8	0.866	0.972	0.431	0.484	8
Hotspot	Rel 99 RMC	5	Edge 1	1413	1732.6	21.3	20.8	0.661	0.742	0.431	0.484	
			Edge 2	1413	1732.6	21.3	20.8	0.047	0.053	0.026	0.029	
			Edge 4	1413	1732.6	21.3	20.8	0.541	0.607	0.300	0.337	

LAT

RF Exposure Conditions	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	
Head	Rel 99 RMC	0	Left Touch	1413	1732.6	25.2	24.3	0.196	0.241	0.235	0.289	
			Left Tilt	1413	1732.6	25.2	24.3	0.139	0.171	0.082	0.101	
			Right Touch	1413	1732.6	25.2	24.3	0.397	0.488	0.256	0.315	
			Right Tilt	1413	1732.6	25.2	24.3	0.123	0.151	0.077	0.095	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	1413	1732.6	22.0	22.0	0.797	0.797	0.454	0.454	
			Front	1413	1732.6	22.0	22.0	0.799	0.799	0.443	0.443	
Hotspot	Rel 99 RMC	5	Edge 2	1413	1732.6	22.0	22.0	0.080	0.080	0.044	0.044	
			Edge 3	1312	1712.4	22.0	22.0	1.020	1.020	0.489	0.489	
				1413	1732.6	22.0	22.0	1.050	1.050	0.505	0.505	9
				1513	1752.6	22.0	22.0	1.010	1.010	0.481	0.481	
			Edge 4	1413	1732.6	22.0	22.0	0.086	0.086	0.047	0.047	

10.5. W-CDMA Band II**UAT**

RF Exposure Conditions	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	
Head	Rel 99 RMC	0	Left Touch	9400	1880.0	18.8	18.7	0.441	0.446	0.235	0.238	
			Left Tilt	9400	1880.0	18.8	18.7	0.462	0.467	0.232	0.235	
			Right Touch	9262	1852.4	18.8	18.5	0.929	0.984	0.516	0.547	
				9400	1880.0	18.8	18.7	0.945	0.956	0.531	0.537	
				9538	1907.6	18.8	18.7	0.994	1.006	0.564	0.571	10
			Right Tilt	9262	1852.4	18.8	18.5	0.853	0.904	0.414	0.439	
				9400	1880.0	18.8	18.7	0.827	0.837	0.395	0.400	
				9538	1907.6	18.8	18.7	0.863	0.873	0.418	0.423	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	9400	1880.0	21.5	21.4	0.545	0.558	0.284	0.291	
			Front	9262	1852.4	21.5	21.4	0.975	0.998	0.473	0.484	
				9400	1880.0	21.5	21.4	0.785	0.803	0.390	0.399	
				9538	1907.6	21.5	21.5	0.978	0.978	0.488	0.488	
Hotspot	Rel 99 RMC	5	Edge 1	9400	1880.0	21.5	21.4	0.542	0.555	0.258	0.264	
			Edge 2	9400	1880.0	21.5	21.4	0.022	0.023	0.012	0.012	
			Edge 4	9400	1880.0	21.5	21.4	0.481	0.492	0.262	0.268	

LAT

RF Exposure Conditions	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	
Head	Rel 99 RMC	0	Left Touch	9400	1880.0	25.2	24.0	0.441	0.581	0.235	0.310	
			Left Tilt	9400	1880.0	25.2	24.0	0.193	0.254	0.117	0.154	
			Right Touch	9262	1852.4	25.2	23.9	0.627	0.846	0.410	0.553	
				9400	1880.0	25.2	24.0	0.685	0.903	0.443	0.584	
				9538	1907.6	25.2	23.9	0.714	0.963	0.459	0.619	
			Right Tilt	9400	1880.0	25.2	24.0	0.215	0.283	0.130	0.171	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	9262	1852.4	20.75	20.8	0.874	0.874	0.505	0.505	
				9400	1880.0	20.75	20.8	0.968	0.968	0.562	0.562	
				9538	1907.6	20.75	20.7	0.991	1.002	0.577	0.584	
			Front	9262	1852.4	20.75	20.8	0.977	0.977	0.548	0.548	
				9400	1880.0	20.75	20.8	1.000	1.000	0.569	0.569	
				9538	1907.6	20.75	20.7	1.010	1.022	0.570	0.577	11
Hotspot	Rel 99 RMC	5	Edge 2	9400	1880.0	20.75	20.8	0.734	0.734	0.423	0.423	
			Edge 3	9400	1880.0	20.75	20.8	0.707	0.707	0.348	0.348	
			Edge 4	9400	1880.0	20.75	20.8	0.086	0.086	0.050	0.050	

10.6. LTE Band 2 (20MHz Bandwidth)

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	18900	1880.0	1	49	25.0	25.0	0.265	0.265	0.235	0.235	
						50	24	24.0	24.0	0.215	0.215	0.145	0.145	
			Left Tilt	18900	1880.0	1	49	25.0	25.0	0.174	0.174	0.104	0.104	
						50	24	24.0	24.0	0.145	0.145	0.086	0.086	
			Right Touch	18900	1880.0	1	49	25.0	25.0	0.586	0.586	0.375	0.375	12
						50	24	24.0	24.0	0.481	0.481	0.308	0.308	
			Right Tilt	18900	1880.0	1	49	25.0	25.0	0.195	0.195	0.117	0.117	
						50	24	24.0	24.0	0.154	0.154	0.092	0.092	

With the exception of LAT Head, SAR for LTE Band 2 (Frequency range: 1850 – 1910 MHz) is covered by LTE Band 25 (Frequency range: 1850 – 1915 MHz) due to similar frequency range, same maximum tune-up limit and same channel bandwidth.

10.7. LTE Band 4 (20MHz Bandwidth)

UAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	20175	1732.5	1	49	19.3	18.7	0.427	0.490	0.229	0.263	
						50	24	19.3	18.7	0.487	0.559	0.261	0.300	
			Left Tilt	20175	1732.5	1	49	19.3	18.7	0.389	0.447	0.204	0.234	
						50	24	19.3	18.7	0.426	0.489	0.223	0.256	
			Right Touch	20050	1720.0	1	49	19.3	18.7	0.868	0.997	0.455	0.522	
						50	24	19.3	18.7	0.891	1.023	0.477	0.548	13
				20175	1732.5	1	49	19.3	18.7	0.819	0.940	0.428	0.491	
						50	24	19.3	18.7	0.844	0.969	0.454	0.521	
						100	0	19.3	18.7	0.823	0.945	0.444	0.510	
				20300	1745.0	1	49	19.3	18.7	0.767	0.881	0.406	0.466	
						50	24	19.3	18.7	0.830	0.953	0.451	0.518	
			Right Tilt	20050	1720.0	50	24	19.3	18.7	0.806	0.925	0.398	0.457	
				20175	1732.5	1	49	19.3	18.7	0.675	0.775	0.335	0.385	
						50	24	19.3	18.7	0.783	0.899	0.393	0.451	
				20300	1745.0	50	24	19.3	18.7	0.750	0.861	0.373	0.428	
Body-worn & Hotspot	QPSK	5	Rear	20175	1732.5	1	49	21.0	20.9	0.524	0.536	0.292	0.299	
						50	24	20.0	19.9	0.415	0.425	0.231	0.236	
			Front	20175	1732.5	1	49	21.0	20.9	0.747	0.764	0.377	0.386	
						50	24	20.0	19.9	0.594	0.608	0.298	0.305	
Hotspot	QPSK	5	Edge 1	20175	1732.5	1	49	21.0	20.9	0.602	0.616	0.300	0.307	
						50	24	20.0	19.9	0.487	0.498	0.242	0.248	
			Edge 2	20175	1732.5	1	49	21.0	20.9	0.042	0.043	0.023	0.024	
						50	24	20.0	19.9	0.040	0.041	0.021	0.021	
			Edge 4	20175	1732.5	1	49	21.0	20.9	0.631	0.646	0.346	0.354	
						50	24	20.0	19.9	0.489	0.500	0.268	0.274	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	20175	1732.5	1	49	25.0	24.9	0.183	0.187	0.126	0.129	
						50	24	24.0	23.8	0.152	0.159	0.103	0.108	
			Left Tilt	20175	1732.5	1	49	25.0	24.9	0.149	0.152	0.087	0.089	
						50	24	24.0	23.8	0.120	0.126	0.070	0.073	
			Right Touch	20175	1732.5	1	49	25.0	24.9	0.403	0.412	0.268	0.274	
						50	24	24.0	23.8	0.331	0.347	0.220	0.230	
			Right Tilt	20175	1732.5	1	49	25.0	24.9	0.139	0.142	0.087	0.089	
						50	24	24.0	23.8	0.113	0.118	0.071	0.074	
Body-worn & Hotspot	QPSK	5	Rear	20050	1720.0	1	49	22.0	21.8	0.740	0.775	0.420	0.440	
				20175	1732.5	1	49	22.0	21.8	0.766	0.802	0.433	0.453	
						50	24	22.0	22.0	0.756	0.756	0.427	0.427	
				20300	1745.0	1	49	22.0	21.8	0.804	0.842	0.455	0.476	
			Front	20050	1720.0	1	49	22.0	21.8	0.879	0.920	0.483	0.506	
						50	24	22.0	21.9	0.983	1.006	0.535	0.547	
				20175	1732.5	1	49	22.0	21.8	0.940	0.984	0.517	0.541	
						50	24	22.0	22.0	1.020	1.020	0.553	0.553	
						100	0	22.0	22.0	0.964	0.964	0.522	0.522	
						1	49	22.0	21.8	0.927	0.971	0.506	0.530	
				20300	1745.0	1	49	22.0	21.8	0.927	0.971	0.506	0.530	
						50	24	22.0	22.0	1.060	1.060	0.573	0.573	14
Hotspot	QPSK	5	Edge 2	20050	1720.0	1	49	22.0	21.8	0.842	0.882	0.457	0.479	
						50	24	22.0	21.9	0.837	0.856	0.456	0.467	
				20175	1732.5	1	49	22.0	21.8	0.853	0.893	0.476	0.498	
						50	24	22.0	22.0	0.857	0.857	0.464	0.464	
						100	0	22.0	22.0	0.869	0.869	0.483	0.483	
						1	49	22.0	21.8	0.873	0.914	0.487	0.510	
			Edge 3	20050	1720.0	1	49	22.0	21.8	0.886	0.928	0.419	0.439	
						50	24	22.0	21.9	0.892	0.913	0.419	0.429	
				20175	1732.5	1	49	22.0	21.8	0.897	0.939	0.423	0.443	
						50	24	22.0	22.0	0.914	0.914	0.431	0.431	
						100	0	22.0	22.0	0.920	0.920	0.433	0.433	
						1	49	22.0	21.8	1.020	1.068	0.474	0.496	
				20300	1745.0	1	49	22.0	21.8	1.020	1.068	0.474	0.496	
						50	24	22.0	22.0	1.070	1.070	0.497	0.497	15
			Edge 4	20175	1732.5	1	49	22.0	21.8	0.087	0.091	0.048	0.050	
						50	24	22.0	22.0	0.075	0.075	0.041	0.041	

10.8. LTE Band 5 (10MHz Bandwidth)

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

10.9. LTE Band 7 (20MHz Bandwidth)

UAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	21100	2535.0	1	49	16.3	16.2	0.282	0.285	0.126	0.127	
						50	24	16.3	16.1	0.267	0.276	0.115	0.119	
			Left Tilt	21100	2535.0	1	49	16.3	16.2	0.242	0.235	0.111	0.095	
						50	24	16.3	16.1	0.253	0.262	0.102	0.106	
			Right Touch	21100	2535.0	1	49	16.3	16.2	0.815	0.824	0.361	0.365	
				21100	2535.0	1	49	16.3	16.2	0.818	0.827	0.372	0.376	
						50	24	16.3	16.1	0.728	0.754	0.336	0.348	
						21350	2560.0	1	49	0.841	0.871	0.365	0.378	
			Right Tilt	20850	2510.0	1	49	16.3	16.2	0.842	0.852	0.348	0.352	
						50	24	16.3	16.1	0.849	0.879	0.346	0.358	
				21100	2535.0	1	49	16.3	16.2	0.846	0.856	0.359	0.363	
						50	24	16.3	16.1	0.815	0.844	0.323	0.334	
						100	0	16.3	16.2	0.841	0.851	0.332	0.336	
				21350	2560.0	1	49	16.3	16.1	0.824	0.853	0.320	0.331	
						50	24	16.3	16.0	0.838	0.888	0.324	0.343	16
Body-worn & Hotspot	QPSK	5	Rear	21100	2535.0	1	49	19.0	18.9	0.696	0.712	0.323	0.331	
						50	24	19.0	19.0	0.542	0.542	0.255	0.255	
			Front	21100	2535.0	1	49	19.0	18.9	0.655	0.670	0.327	0.335	
						50	24	19.0	19.0	0.722	0.722	0.356	0.356	
Hotspot	QPSK	5	Edge 1	21100	2535.0	1	49	19.0	18.9	0.418	0.428	0.135	0.138	
						50	24	19.0	19.0	0.376	0.376	0.120	0.120	
			Edge 2	21100	2535.0	1	49	19.0	18.9	0.292	0.299	0.127	0.130	
						50	24	19.0	19.0	0.228	0.228	0.099	0.099	
			Edge 4	21100	2535.0	1	49	19.0	18.9	0.583	0.597	0.278	0.284	
						50	24	19.0	19.0	0.571	0.571	0.272	0.272	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	21100	2535.0	1	49	25.0	25.0	0.655	0.655	0.359	0.359	
						50	24	24.0	23.9	0.654	0.669	0.356	0.364	
			Left Tilt	21100	2535.0	1	49	25.0	25.0	0.173	0.173	0.084	0.084	
						50	24	24.0	23.9	0.169	0.173	0.080	0.082	
			Right Touch	21100	2535.0	1	49	25.0	25.0	0.418	0.418	0.228	0.228	
						50	24	24.0	23.9	0.386	0.395	0.214	0.219	
			Right Tilt	21100	2535.0	1	49	25.0	25.0	0.291	0.291	0.154	0.154	
						50	24	24.0	23.9	0.282	0.289	0.150	0.153	
Body-worn & Hotspot	QPSK	5	Rear	20850	2510.0	50	24	19.0	18.9	0.959	0.981	0.397	0.406	
				21100	2535.0	1	49	19.0	19.0	0.792	0.792	0.356	0.356	
						50	24	19.0	19.0	0.922	0.922	0.417	0.417	
				21350	2560.0	50	24	19.0	18.9	0.877	0.897	0.433	0.443	
			Front	20850	2510.0	1	49	19.0	18.9	1.020	1.044	0.400	0.409	
						50	24	19.0	19.0	1.140	1.140	0.449	0.449	17
				21100	2535.0	1	49	19.0	19.0	0.891	0.891	0.358	0.358	
						50	24	19.0	19.0	0.991	0.991	0.402	0.402	
						100	0	19.0	18.8	1.010	1.058	0.409	0.428	
						1	49	19.0	18.9	0.753	0.771	0.316	0.323	
				21350	2560.0	1	49	19.0	18.9	0.753	0.771	0.316	0.323	
						50	24	19.0	19.0	0.839	0.839	0.359	0.359	
Hotspot	QPSK	5	Edge 2	21100	2535.0	1	49	19.0	19.0	0.083	0.083	0.039	0.039	
						50	24	19.0	19.0	0.113	0.113	0.052	0.052	
			Edge 3	21100	2535.0	1	49	19.0	19.0	0.574	0.574	0.185	0.185	
						50	24	19.0	19.0	0.703	0.703	0.226	0.226	
			Edge 4	21100	2535.0	1	49	19.0	19.0	0.519	0.519	0.225	0.225	
						50	24	19.0	19.0	0.649	0.649	0.282	0.282	

10.10. LTE Band 12 (10MHz Bandwidth)**UAT**

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	23095	707.5	1	24	23.5	23.5	0.412	0.412	0.286	0.286	18
						25	12	22.5	22.5	0.345	0.345	0.241	0.241	
			Left Tilt	23095	707.5	1	24	23.5	23.5	0.412	0.412	0.231	0.231	
						25	12	22.5	22.5	0.350	0.350	0.196	0.196	
			Right Touch	23095	707.5	1	24	23.5	23.5	0.518	0.518	0.333	0.333	
						25	12	22.5	22.5	0.439	0.439	0.283	0.283	
			Right Tilt	23095	707.5	1	24	23.5	23.5	0.376	0.376	0.218	0.218	
						25	12	22.5	22.5	0.316	0.316	0.183	0.183	
			Rear	23095	707.5	1	24	23.5	23.5	0.201	0.201	0.133	0.133	
						25	12	22.5	22.5	0.171	0.171	0.114	0.114	
Body-worn & Hotspot	QPSK	5	Front	23095	707.5	1	24	23.5	23.5	0.216	0.216	0.147	0.147	
						25	12	22.5	22.5	0.182	0.182	0.123	0.123	
			Edge 1	23095	707.5	1	24	23.5	23.5	0.079	0.079	0.039	0.039	
						25	12	22.5	22.5	0.071	0.071	0.035	0.035	
			Edge 2	23095	707.5	1	24	23.5	23.5	0.315	0.315	0.212	0.212	
						25	12	22.5	22.5	0.265	0.265	0.179	0.179	
Hotspot	QPSK	5	Edge 4	23095	707.5	1	24	23.5	23.5	0.176	0.176	0.119	0.119	
						25	12	22.5	22.5	0.146	0.146	0.099	0.099	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	23095	707.5	1	24	25.0	25.0	0.224	0.224	0.174	0.174	
						25	12	24.0	24.0	0.182	0.182	0.141	0.141	
			Left Tilt	23095	707.5	1	24	25.0	25.0	0.083	0.083	0.066	0.066	
						25	12	24.0	24.0	0.067	0.067	0.053	0.053	
			Right Touch	23095	707.5	1	24	25.0	25.0	0.185	0.185	0.144	0.144	
						25	12	24.0	24.0	0.146	0.146	0.114	0.114	
			Right Tilt	23095	707.5	1	24	25.0	25.0	0.082	0.082	0.065	0.065	
						25	12	24.0	24.0	0.065	0.065	0.052	0.052	
			Rear	23095	707.5	1	24	25.0	25.0	0.380	0.380	0.224	0.224	
						25	12	24.0	24.0	0.318	0.318	0.186	0.186	
Body-worn & Hotspot	QPSK	5	Front	23095	707.5	1	24	25.0	25.0	0.461	0.461	0.267	0.267	19
						25	12	24.0	24.0	0.373	0.373	0.216	0.216	
			Edge 2	23095	707.5	1	24	25.0	25.0	0.234	0.234	0.158	0.158	
						25	12	24.0	24.0	0.192	0.192	0.129	0.129	
			Edge 3	23095	707.5	1	24	25.0	25.0	0.308	0.308	0.148	0.148	
						25	12	24.0	24.0	0.253	0.253	0.120	0.120	
Hotspot	QPSK	5	Edge 4	23095	707.5	1	24	25.0	25.0	0.600	0.600	0.404	0.404	20
						25	12	24.0	24.0	0.467	0.467	0.315	0.315	

10.11. LTE Band 13 (10MHz Bandwidth)**UAT**

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	23230	782.0	1	24	23.5	23.5	0.385	0.385	0.232	0.232	
						25	12	22.5	22.5	0.321	0.321	0.219	0.219	
			Left Tilt	23230	782.0	1	24	23.5	23.5	0.369	0.369	0.185	0.185	
						25	12	22.5	22.5	0.321	0.321	0.167	0.167	
			Right Touch	23230	782.0	1	24	23.5	23.5	0.560	0.560	0.323	0.323	21
						25	12	22.5	22.5	0.428	0.428	0.244	0.244	
			Right Tilt	23230	782.0	1	24	23.5	23.5	0.406	0.406	0.206	0.206	
						25	12	22.5	22.5	0.346	0.346	0.178	0.178	
Body-worn & Hotspot	QPSK	5	Rear	23230	782.0	1	24	23.5	23.5	0.290	0.290	0.167	0.167	
						25	12	22.5	22.5	0.233	0.233	0.137	0.137	
			Front	23230	782.0	1	24	23.5	23.5	0.370	0.370	0.205	0.205	
						25	12	22.5	22.5	0.276	0.276	0.158	0.158	
Hotspot	QPSK	5	Edge 1	23230	782.0	1	24	23.5	23.5	0.335	0.335	0.154	0.154	
						25	12	22.5	22.5	0.247	0.247	0.116	0.116	
			Edge 2	23230	782.0	1	24	23.5	23.5	0.236	0.236	0.155	0.155	
						25	12	22.5	22.5	0.188	0.188	0.125	0.125	
			Edge 4	23230	782.0	1	24	23.5	23.5	0.065	0.065	0.039	0.039	
						25	12	22.5	22.5	0.046	0.046	0.028	0.028	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	23230	782.0	1	24	25.0	25.0	0.322	0.322	0.246	0.246	
						25	12	24.0	24.0	0.233	0.233	0.179	0.179	
			Left Tilt	23230	782.0	1	24	25.0	25.0	0.151	0.151	0.119	0.119	
						25	12	24.0	24.0	0.105	0.105	0.084	0.084	
			Right Touch	23230	782.0	1	24	25.0	25.0	0.231	0.231	0.181	0.181	
						25	12	24.0	24.0	0.188	0.188	0.146	0.146	
			Right Tilt	23230	782.0	1	24	25.0	25.0	0.119	0.119	0.095	0.095	
						25	12	24.0	24.0	0.105	0.105	0.083	0.083	
Body-worn & Hotspot	QPSK	5	Rear	23230	782.0	1	24	25.0	25.0	0.671	0.671	0.381	0.381	
						25	12	24.0	24.0	0.522	0.522	0.295	0.295	
			Front	23230	782.0	1	24	25.0	25.0	0.790	0.790	0.434	0.434	22
						25	12	24.0	24.0	0.635	0.635	0.346	0.346	
Hotspot	QPSK	5	Edge 2	23230	782.0	1	24	25.0	25.0	0.236	0.236	0.155	0.155	
						25	12	24.0	24.0	0.184	0.184	0.122	0.122	
			Edge 3	23230	782.0	1	24	25.0	25.0	0.524	0.524	0.246	0.246	
						25	12	24.0	24.0	0.482	0.482	0.224	0.224	
			Edge 4	23230	782.0	1	24	25.0	25.0	0.619	0.619	0.409	0.409	
						25	12	24.0	24.0	0.528	0.528	0.347	0.347	

10.12. LTE Band 17 (10MHz Bandwidth)

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

10.13. LTE Band 25 (20MHz Bandwidth)

UAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	26365	1882.5	1	49	18.8	18.5	0.577	0.604	0.294	0.308	
						50	24	18.8	18.7	0.565	0.565	0.288	0.288	
			Left Tilt	26365	1882.5	1	49	18.8	18.5	0.510	0.534	0.252	0.264	
						50	24	18.8	18.7	0.503	0.503	0.247	0.247	
			Right Touch	26140	1860.0	1	49	18.8	18.7	0.963	0.963	0.516	0.516	
				26365	1882.5	1	49	18.8	18.5	1.010	1.058	0.556	0.582	
						50	24	18.8	18.7	0.781	0.781	0.428	0.428	
				26590	1905.0	1	49	18.8	18.5	1.040	1.089	0.572	0.599	23
			Right Tilt	26140	1860.0	1	49	18.8	18.7	0.791	0.791	0.374	0.374	
				26365	1882.5	1	49	18.8	18.5	0.833	0.872	0.394	0.413	
						50	24	18.8	18.7	0.647	0.647	0.308	0.308	
				26590	1905.0	1	49	18.8	18.5	0.837	0.876	0.404	0.423	
Body-worn & Hotspot	QPSK	5	Rear	26140	1882.5	1	49	21.0	21.0	0.356	0.356	0.184	0.184	
						50	24	20.0	19.9	0.391	0.400	0.201	0.206	
			Front	26140	1882.5	1	49	21.0	21.0	0.549	0.549	0.268	0.268	
						50	24	20.0	19.9	0.614	0.628	0.296	0.303	
Hotspot	QPSK	5	Edge 1	26365	1882.5	1	49	21.0	21.0	0.375	0.375	0.175	0.175	
						50	24	20.0	19.9	0.340	0.348	0.160	0.164	
			Edge 2	26365	1882.5	1	49	21.0	21.0	0.033	0.033	0.019	0.019	
						50	24	20.0	19.9	0.027	0.028	0.015	0.015	
			Edge 4	26365	1882.5	1	49	21.0	21.0	0.303	0.303	0.165	0.165	
						50	24	20.0	19.9	0.299	0.306	0.163	0.167	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	26365	1882.5	1	49	24.0	24.0	0.441	0.441	0.235	0.235	
						50	24	23.0	23.0	0.134	0.134	0.092	0.092	
			Left Tilt	26365	1882.5	1	49	24.0	24.0	0.107	0.107	0.065	0.065	
						50	24	23.0	23.0	0.089	0.089	0.054	0.054	
			Right Touch	26365	1882.5	1	49	24.0	24.0	0.370	0.370	0.241	0.241	
						50	24	23.0	23.0	0.300	0.300	0.194	0.194	
			Right Tilt	26365	1882.5	1	49	24.0	24.0	0.110	0.110	0.067	0.067	
						50	24	23.0	23.0	0.091	0.091	0.055	0.055	
Body-worn & Hotspot	QPSK	5	Rear	26365	1882.5	1	49	20.8	20.3	0.580	0.643	0.338	0.375	
						50	24	20.8	20.3	0.611	0.678	0.351	0.389	
			Front	26140	1860.0	1	49	20.8	20.3	0.957	1.061	0.521	0.578	
						50	24	20.8	20.3	0.770	0.854	0.427	0.474	
				26365	1882.5	1	49	20.8	20.3	0.970	1.076	0.528	0.586	24
						50	24	20.8	20.3	0.790	0.876	0.438	0.486	
						100	0	20.8	20.3	0.786	0.872	0.437	0.485	
				26590	1905.0	1	49	20.8	20.3	0.964	1.069	0.526	0.583	
						50	24	20.8	20.3	0.772	0.856	0.431	0.478	
Hotspot	QPSK	5	Edge 2	26365	1882.5	1	49	20.8	20.3	0.492	0.546	0.282	0.313	
						50	24	20.8	20.3	0.488	0.541	0.279	0.309	
			Edge 3	26365	1882.5	1	49	20.8	20.3	0.476	0.528	0.232	0.257	
						50	24	20.8	20.3	0.399	0.443	0.194	0.215	
			Edge 4	26365	1882.5	1	49	20.8	20.3	0.049	0.054	0.028	0.031	
						50	24	20.8	20.3	0.061	0.068	0.034	0.038	

10.14. LTE Band 26 (10MHz Bandwidth)**UAT**

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	26865	831.5	1	24	22.5	22.5	0.486	0.486	0.292	0.292	
						25	12	21.5	21.5	0.393	0.393	0.227	0.227	
			Left Tilt	26865	831.5	1	24	22.5	22.5	0.423	0.423	0.203	0.203	
						25	12	21.5	21.5	0.301	0.301	0.145	0.145	
			Right Touch	26865	831.5	1	24	22.5	22.5	0.508	0.508	0.323	0.323	25
						25	12	21.5	21.5	0.419	0.419	0.264	0.264	
			Right Tilt	26865	831.5	1	24	22.5	22.5	0.354	0.354	0.191	0.191	
						25	12	21.5	21.5	0.286	0.286	0.134	0.134	
Body-worn & Hotspot	QPSK	5	Rear	26865	831.5	1	24	22.5	22.5	0.292	0.292	0.177	0.177	
						25	12	21.5	21.5	0.268	0.268	0.159	0.159	
			Front	26865	831.5	1	24	22.5	22.5	0.305	0.305	0.192	0.192	
						25	12	21.5	21.5	0.259	0.259	0.162	0.162	
Hotspot	QPSK	5	Edge 1	26865	831.5	1	24	22.5	22.5	0.178	0.178	0.085	0.085	
						25	12	21.5	21.5	0.126	0.126	0.060	0.060	
			Edge 2	26865	831.5	1	24	22.5	22.5	0.224	0.224	0.145	0.145	
						25	12	21.5	21.5	0.170	0.170	0.112	0.112	
			Edge 4	26865	831.5	1	24	22.5	22.5	0.073	0.073	0.048	0.048	
						25	12	21.5	21.5	0.055	0.055	0.036	0.036	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	26865	831.5	1	24	24.0	24.0	0.260	0.260	0.198	0.198	
						25	12	23.0	23.0	0.143	0.143	0.063	0.063	
			Left Tilt	26865	831.5	1	24	24.0	24.0	0.113	0.113	0.090	0.090	
						25	12	23.0	23.0	0.084	0.084	0.067	0.067	
			Right Touch	26865	831.5	1	24	24.0	24.0	0.200	0.200	0.158	0.158	
						25	12	23.0	23.0	0.158	0.158	0.121	0.121	
			Right Tilt	26865	831.5	1	24	24.0	24.0	0.094	0.094	0.075	0.075	
						25	12	23.0	23.0	0.071	0.071	0.057	0.057	
Body-worn & Hotspot	QPSK	5	Rear	26865	831.5	1	24	24.0	24.0	0.436	0.436	0.246	0.246	
						25	12	23.0	23.0	0.366	0.366	0.203	0.203	
			Front	26865	831.5	1	24	24.0	24.0	0.582	0.582	0.324	0.324	26
						25	12	23.0	23.0	0.510	0.510	0.282	0.282	
Hotspot	QPSK	5	Edge 2	26865	831.5	1	24	24.0	24.0	0.147	0.147	0.096	0.096	
						25	12	23.0	23.0	0.107	0.107	0.070	0.070	
			Edge 3	26865	831.5	1	24	24.0	24.0	0.399	0.399	0.182	0.182	
						25	12	23.0	23.0	0.326	0.326	0.147	0.147	
			Edge 4	26865	831.5	1	24	24.0	24.0	0.386	0.386	0.256	0.256	
						25	12	23.0	23.0	0.319	0.319	0.211	0.211	

10.15. LTE Band 27 (10MHz Bandwidth)

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

10.16. LTE Band 30 (10MHz Bandwidth)**UAT**

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	27710	2310.0	1	24	17.5	17.5	0.340	0.340	0.189	0.189	
						25	12	17.5	17.5	0.384	0.384	0.215	0.215	
			Left Tilt	27710	2310.0	1	24	17.5	17.5	0.320	0.320	0.150	0.150	
						25	12	17.5	17.5	0.383	0.383	0.178	0.178	
			Right Touch	27710	2310.0	1	24	17.5	17.5	0.814	0.814	0.405	0.405	
						25	12	17.5	17.5	0.948	0.948	0.472	0.472	
						50	0	17.5	17.5	0.997	0.997	0.497	0.497	27
			Right Tilt	27710	2310.0	1	24	17.5	17.5	0.620	0.620	0.279	0.279	
						25	12	17.5	17.5	0.771	0.771	0.351	0.351	
Body-worn & Hotspot	QPSK	5	Rear	27710	2310.0	1	24	20.0	20.0	0.780	0.780	0.392	0.392	
						25	12	19.0	18.9	0.627	0.642	0.315	0.322	
			Front	27710	2310.0	1	24	20.0	20.0	0.829	0.829	0.440	0.440	
						25	12	19.0	18.9	0.623	0.638	0.339	0.347	
						50	0	19.0	19.0	0.698	0.698	0.376	0.376	
Hotspot	QPSK	5	Edge 1	27710	2310.0	1	24	20.0	20.0	0.402	0.402	0.167	0.167	
						25	12	19.0	18.9	0.284	0.291	0.122	0.125	
			Edge 2	27710	2310.0	1	24	20.0	20.0	0.069	0.069	0.033	0.033	
						25	12	19.0	18.9	0.058	0.059	0.029	0.030	
			Edge 4	27710	2310.0	1	24	20.0	20.0	0.604	0.604	0.298	0.298	
						25	12	19.0	18.9	0.532	0.544	0.261	0.267	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	27710	2310.0	1	24	24.0	24.0	0.172	0.172	0.102	0.102	
						25	12	23.0	23.0	0.170	0.170	0.096	0.096	
			Left Tilt	27710	2310.0	1	24	24.0	24.0	0.203	0.203	0.102	0.102	
						25	12	23.0	23.0	0.203	0.203	0.102	0.102	
			Right Touch	27710	2310.0	1	24	24.0	24.0	0.470	0.470	0.268	0.268	
						25	12	23.0	23.0	0.460	0.460	0.264	0.264	
			Right Tilt	27710	2310.0	1	24	24.0	24.0	0.156	0.156	0.086	0.086	
						25	12	23.0	23.0	0.154	0.154	0.084	0.084	
Body-worn & Hotspot	QPSK	5	Rear	27710	2310.0	1	24	19.5	19.5	0.779	0.779	0.354	0.354	
						25	12	19.5	19.5	0.651	0.651	0.307	0.307	
						50	0	19.5	19.5	0.715	0.715	0.331	0.331	
			Front	27710	2310.0	1	24	19.5	19.5	1.070	1.070	0.475	0.475	28
						25	12	19.5	19.5	1.060	1.060	0.466	0.466	
						50	0	19.5	19.5	0.932	0.932	0.412	0.412	
Hotspot	QPSK	5	Edge 2	27710	2310.0	1	24	19.5	19.5	0.686	0.686	0.330	0.330	
						25	12	19.5	19.5	0.635	0.635	0.307	0.307	
			Edge 3	27710	2310.0	1	24	19.5	19.5	0.737	0.737	0.274	0.274	
						25	12	19.5	19.5	0.776	0.776	0.286	0.286	
			Edge 4	27710	2310.0	1	24	19.5	19.5	0.101	0.101	0.052	0.052	
						25	12	19.5	19.5	0.115	0.115	0.058	0.058	

10.17. LTE Band 41 (20MHz Bandwidth)

UAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	40620	2593.0	1	49	18.5	18.0	0.304	0.341	0.123	0.138	
						50	24	18.5	18.2	0.275	0.295	0.113	0.121	
			Left Tilt	40620	2593.0	1	49	18.5	18.0	0.274	0.307	0.112	0.126	
						50	24	18.5	18.2	0.248	0.266	0.103	0.110	
			Right Touch	39750	2506.0	1	49	18.5	18.0	0.821	0.921	0.392	0.440	
						50	24	18.5	18.1	0.867	0.951	0.417	0.457	
				40185	2549.5	1	49	18.5	18.1	0.708	0.776	0.327	0.359	
						50	24	18.5	18.1	0.751	0.823	0.335	0.367	
				40620	2593.0	1	49	18.5	18.0	0.794	0.891	0.322	0.361	
						50	24	18.5	18.2	0.780	0.836	0.320	0.343	
						100	0	18.5	18.1	0.828	0.908	0.342	0.375	
				41055	2636.5	1	49	18.5	18.0	0.870	0.976	0.332	0.373	
						50	24	18.5	18.1	0.952	1.044	0.363	0.398	
				41490	2680.0	1	49	18.5	18.1	0.829	0.909	0.312	0.342	
						50	24	18.5	18.1	0.843	0.924	0.320	0.351	
			Right Tilt	39750	2506.0	1	49	18.5	18.0	0.812	0.911	0.337	0.378	
						50	24	18.5	18.1	0.872	0.956	0.357	0.391	
				40185	2549.5	1	49	18.5	18.1	0.698	0.765	0.281	0.308	
						50	24	18.5	18.1	0.829	0.909	0.321	0.352	
				40620	2593.0	1	49	18.5	18.0	0.846	0.949	0.310	0.348	
						50	24	18.5	18.2	0.895	0.959	0.330	0.354	
						100	0	18.5	18.1	0.876	0.961	0.323	0.354	
				41055	2636.5	1	49	18.5	18.0	0.787	0.883	0.287	0.322	
						50	24	18.5	18.1	0.960	1.053	0.343	0.376	29
				41490	2680.0	1	49	18.5	18.1	0.680	0.746	0.263	0.288	
						50	24	18.5	18.1	0.752	0.825	0.293	0.321	
Body-worn & Hotspot	QPSK	5	Rear	40620	2593.0	1	49	20.0	20.0	0.353	0.353	0.139	0.139	
						50	24	19.0	19.0	0.272	0.272	0.106	0.106	
			Front	40620	2593.0	1	49	20.0	20.0	0.503	0.503	0.218	0.218	
						50	24	19.0	19.0	0.396	0.396	0.170	0.170	
Hotspot	QPSK	5	Edge 1	40620	2593.0	1	49	20.0	20.0	0.257	0.257	0.079	0.079	
						50	24	19.0	19.0	0.200	0.200	0.061	0.061	
			Edge 2	40620	2593.0	1	49	20.0	20.0	0.251	0.251	0.107	0.107	
						50	24	19.0	19.0	0.195	0.195	0.084	0.084	
			Edge 4	40620	2593.0	1	49	20.0	20.0	0.470	0.470	0.218	0.218	
						50	24	19.0	19.0	0.379	0.379	0.176	0.176	

LAT

RF Exposure Conditions	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	
Head	QPSK	0	Left Touch	40620	2593.0	1	49	24.5	24.5	0.302	0.302	0.160	0.160	
						50	24	23.5	23.4	0.297	0.304	0.158	0.162	
			Left Tilt	40620	2593.0	1	49	24.5	24.5	0.133	0.133	0.065	0.065	
						50	24	23.5	23.4	0.130	0.133	0.063	0.064	
			Right Touch	40620	2593.0	1	49	24.5	24.5	0.174	0.174	0.087	0.087	
						50	24	23.5	23.4	0.175	0.179	0.087	0.089	
			Right Tilt	40620	2593.0	1	49	24.5	24.5	0.121	0.121	0.054	0.054	
						50	24	23.5	23.4	0.125	0.128	0.058	0.059	
Body-worn & Hotspot	QPSK	5	Rear	40620	2593.0	1	49	19.8	19.8	0.488	0.488	0.218	0.218	
						50	24	19.8	19.8	0.470	0.470	0.215	0.215	
			Front	40620	2593.0	1	49	19.8	19.8	0.509	0.509	0.221	0.221	30
						50	24	19.8	19.8	0.350	0.350	0.160	0.160	
Hotspot	QPSK	5	Edge 1	40620	2593.0	1	49	19.8	19.8	0.157	0.157	0.070	0.070	
						50	24	19.8	19.8	0.144	0.144	0.065	0.065	
			Edge 3	40620	2593.0	1	49	19.8	19.8	0.231	0.231	0.077	0.077	
						50	24	19.8	19.8	0.215	0.215	0.072	0.072	
			Edge 4	40620	2593.0	1	49	19.8	19.8	0.331	0.331	0.141	0.141	
						50	24	19.8	19.8	0.337	0.337	0.144	0.144	

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

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	PCC				SCC				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
				Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Body & Hotspot	QPSK	5	Front	20850	2510.0	50	24	21048	2529.8	100	0	19.0	19.0	1.050	1.050	0.428	0.428	31

Notes:

From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allows both selections to have contiguous CA. Output power was measured and verified for these test cases.

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

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	PCC				SCC				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
				Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Right Tilt	41055	2636.5	50	24	40857	2616.7	50	24	18.5	18.5	0.782	0.782	0.283	0.283	32

Notes:

From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allows both selections to have contiguous CA. Output power was measured and verified for these test cases.

10.20. Wi-Fi (DTS Band)**Cell On**

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
2.4 GHz	Head	802.11b 20MHz	0	1 Tx	Left Touch	6	2437	12.8	12.8			0.109									
					Left Tilt	6	2437	12.8	12.8			0.106									
					Right Touch	6	2437	12.8	12.8			0.370	0.279	0.139	0.279	0.139					
					Right Tilt	6	2437	12.8	12.8			0.233									
					Left Touch	6	2437			19.0	19.0	0.127									
					Left Tilt	6	2437			19.0	19.0	0.058									
					Right Touch	6	2437			19.0	19.0	0.176					0.171	0.089	0.171	0.089	
					Right Tilt	6	2437			19.0	19.0	0.041									
		802.11g 20MHz	0	2 Tx	Left Touch	6	2437	12.8	12.8	19.0	19.0	0.188									
					Left Tilt	6	2437	12.8	12.8	19.0	19.0	0.177									
					Right Touch	6	2437	12.8	12.8	19.0	19.0	0.464	0.243	0.114	0.243	0.114	0.248	0.130	0.248	0.130	
					Right Tilt	6	2437	12.8	12.8	19.0	19.0	0.330									
	Body-worn & Hotspot & Airplay	802.11b 20MHz	5	1 Tx	Rear	6	2437	17.0	16.9			0.313									
					Front	6	2437	17.0	16.9			0.386	0.296	0.140	0.303	0.143					
					Edge 1	6	2437	17.0	16.9			0.129									
					Edge 2	6	2437	17.0	16.9			0.129									
					Edge 4	6	2437	17.0	16.9			0.317									
					Rear	6	2437			15.0	15.0	0.221									
					Front	6	2437			15.0	15.0	0.297					0.213	0.096	0.213	0.096	
					Edge 2	6	2437			15.0	15.0	0.165									
					Edge 3	6	2437			15.0	15.0	0.125									
					Edge 4	6	2437			15.0	15.0	0.011									
		802.11g 20MHz	5	2 Tx	Rear	6	2437	17.0	17.0	15.0	15.0	0.510	0.411	0.190	0.411	0.190	-	-	-	-	
					Front	6	2437	17.0	17.0	15.0	15.0	0.497	0.401	0.190	0.401	0.190	-	-	-	-	
					Edge 1	6	2437	17.0	17.0	15.0	15.0	0.230									
					Edge 2	6	2437	17.0	17.0	15.0	15.0	0.224									
					Edge 3	6	2437	17.0	17.0	15.0	15.0	0.130									
					Edge 4	6	2437	17.0	17.0	15.0	15.0	0.471									

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots		
								Chain 0		Chain 1			Chain 0				Chain 1						
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled				
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g			
2.4 GHz	Head	802.11b 20MHz	0	1 Tx	Left Touch	11	2462	18.0	17.5			0.435											
					Left Tilt	11	2462	18.0	17.5			0.417											
					Right Touch	6	2437	18.0	17.4			1.040	0.850	0.388	0.976	0.445							
						11	2462	18.0	17.5			1.210	0.916	0.430	1.028	0.482							
					Right Tilt	6	2437	18.0	17.4			1.170	0.781	0.312	0.897	0.358							
						11	2462	18.0	17.5			1.260	0.994	0.376	1.115	0.422					33		
					Left Touch	6	2437			19.0	19.0	0.127											
					Left Tilt	6	2437			19.0	19.0	0.058											
		Right Touch	6	2437			19.0	19.0	0.176					0.171	0.089	0.171	0.089						
		Right Tilt	6	2437			19.0	19.0	0.041														
		802.11g 20MHz	0	2 Tx	Left Touch	6	2437	18.0	18.0	19.0	19.0	0.484	0.329	0.159	0.329	0.159	-	-	-	-			
					Left Tilt	6	2437	18.0	18.0	19.0	19.0	0.440											
					Right Touch	6	2437	18.0	18.0	19.0	19.0	1.060	0.907	0.439	0.907	0.439	-	-	-	-			
						9	2452	18.0	18.0	19.0	19.0	1.590	1.020	0.469	1.020	0.469	-	-	-	-			
					Right Tilt	6	2437	18.0	18.0	19.0	19.0	1.020	0.841	0.352	0.841	0.352	-	-	-	-			
						9	2452	18.0	18.0	19.0	19.0	1.240	1.010	0.388	1.010	0.388	-	-	-	-			
	Body-worn & Airplay				802.11b 20MHz	5	1 Tx	Rear	6	2437	19.0	18.8			0.608								
								Front	6	2437	19.0	18.8			0.996	0.564	0.270	0.591	0.283				
		Edge 1	6	2437				19.0	18.8			0.204											
		Edge 2	6	2437				19.0	18.8			0.208											
		Edge 4	6	2437				19.0	18.8			0.889	0.562	0.279	0.588	0.292							
		Rear	6	2437						19.0	19.0	0.518					0.401	0.401	0.401	0.401			
		Front	6	2437						19.0	19.0	0.765					0.603	0.603	0.603	0.603			
		Edge 2	6	2437						19.0	19.0	0.353											
		Edge 3	6	2437			19.0	19.0	0.282														
		Edge 4	6	2437			19.0	19.0	0.064														
	802.11g 20MHz	5	2 Tx	Rear	6	2437	19.0	18.0	19.0	19.0	0.574	0.583	0.264	0.734	0.332	0.492	0.231	0.492	0.231	34			
				Front	6	2437	19.0	18.0	19.0	19.0	0.577	0.422	0.207		0.261	0.477	0.225	0.477	0.225				
				Edge 1	6	2437	19.0	18.0	19.0	19.0	0.290												
				Edge 2	6	2437	19.0	18.0	19.0	19.0	0.385												
				Edge 3	6	2437	19.0	18.0	19.0	19.0	0.279												
				Edge 4	6	2437	19.0	18.0	19.0	19.0	0.516												

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.21. Wi-Fi (U-NII-1 and U-NII-2A Band)**Cell On**

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.2 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	42	5210	6.3	6.2			0.120									
					Left Tilt	42	5210	6.3	6.2			0.100									
					Right Touch	42	5210	6.3	6.2			0.211	0.110	0.035	0.113	0.036					
					Right Tilt	42	5210	6.3	6.2			0.182									
5.2 GHz		802.11a	0	1 Tx	Left Touch	44	5220			20.5	19.3	0.199									
					Left Tilt	44	5220			20.5	19.3	0.074									
					Right Touch	44	5220			20.5	19.3	0.308					0.179	0.080	0.236	0.105	
					Right Tilt	44	5220			20.5	19.3	0.078									
5.3 GHz		802.11n HT40	0	2 Tx	Left Touch	54	5270	5.0	5.0	18.5	18.5	0.129									
					Left Tilt	54	5270	5.0	5.0	18.5	18.5	0.117									
					Right Touch	54	5270	5.0	5.0	18.5	18.5	0.214	0.113	0.035	0.113	0.035	0.112	0.049	0.112	0.049	
					Right Tilt	54	5270	5.0	5.0	18.5	18.5	0.127									
5.2 GHz	Body-worn & Airplay	802.11n HT40	5	1 Tx	Rear	46	5230	15.8	15.8			0.645	0.335	0.106	0.335	0.106					
					Front	46	5230	15.8	15.8			0.599									
					Edge 1	46	5230	15.8	15.8			0.546									
					Edge 2	46	5230	15.8	15.8			0.053									
					Edge 4	46	5230	15.8	15.8			0.318									
5.2 GHz		802.11ac VHT80	5	1 Tx	Rear	42	5210			11.0	10.8	0.086									
					Front	42	5210			11.0	10.8	0.584					0.236	0.042	0.247	0.044	
					Edge 2	42	5210			11.0	10.8	0.064									
					Edge 3	42	5210			11.0	10.8	0.090									
					Edge 4	42	5210			11.0	10.8	0.033									
5.2 GHz		802.11n HT40	5	2 Tx	Rear	46	5230	15.8	15.7	11.0	11.0	0.561									
					Front	46	5230	15.8	15.7	11.0	11.0	0.657	0.325	0.109	0.333	0.112	0.246	0.058	0.246	0.058	
					Edge 1	46	5230	15.8	15.7	11.0	11.0	0.419									
					Edge 2	46	5230	15.8	15.7	11.0	11.0	0.040									
					Edge 3	46	5230	15.8	15.7	11.0	11.0	0.073									

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.2 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	42	5210	14.0	14.0			1.010									35
					Left Tilt	42	5210	14.0	14.0			0.683									
					Right Touch	42	5210	14.0	14.0			1.680	1.180	0.388	1.180	0.388					
					Right Tilt	42	5210	14.0	14.0			1.180	0.506	0.174	0.506	0.174					
5.3 GHz		802.11a	0	1 Tx	Left Touch	56	5280			20.5	19.3	0.199									
					Left Tilt	56	5280			20.5	19.3	0.074									
					Right Touch	56	5280			20.5	19.3	0.308					0.179	0.080	0.236	0.105	
					Right Tilt	56	5280			20.5	19.3	0.078									
5.3 GHz		802.11n HT40	0	2 Tx	Left Touch	54	5270	12.8	12.8	18.5	18.5	1.230	0.612	0.208	0.612	0.208	-	-	-	-	
					Left Tilt	54	5270	12.8	12.8	18.5	18.5	0.534									
					Right Touch	54	5270	12.8	12.8	18.5	18.5	1.640	0.995	0.302	0.995	0.302	-	-	-	-	
					Right Tilt	62	5310	12.8	12.8	14.0	14.0	1.940	1.060	0.341	1.060	0.341	-	-	-	-	
5.2 GHz	Body-worn & Airplay	802.11a	5	1 Tx	Rear	44	5220	21.0	21.0			1.110	0.988	0.331	0.988	0.331					
						48	5240	19.5	19.5			2.550	1.080	0.363	1.080	0.363					
					Front	44	5220	21.0	21.0			1.540	1.080	0.347	1.080	0.347					
						48	5240	19.5	19.5			1.150	0.877	0.285	0.877	0.285					
					Edge 1	44	5220	21.0	21.0			1.810	0.927	0.293	0.927	0.293					
						48	5240	19.5	19.5			0.807	0.552	0.174	0.552	0.174					
					Edge 2	44	5220	21.0	21.0			0.148									
					Edge 4	44	5220	21.0	21.0			0.718	0.472	0.170	0.472	0.170					
5.2 GHz		802.11n HT40	5	1 Tx	Rear	46	5230			17.8	17.7	0.487					0.285	0.095	0.292	0.097	
					Front	38	5190			15.5	15.3	1.550					0.757	0.187	0.793	0.196	
						46	5230			17.8	17.7	3.810					1.140	0.281	1.167	0.288	
					Edge 2	46	5230			17.8	17.7	0.194									
					Edge 3	46	5230			17.8	17.7	0.386									
					Edge 4	46	5230			17.8	17.7	0.010									
5.3 GHz		802.11n HT40	5	2 Tx	Rear	54	5270	18.5	18.5	16.3	16.3	1.220	0.691	0.206	0.691	0.206	0.200	0.066	0.200	0.066	
					Front	54	5270	18.5	18.5	16.3	16.3	1.950	1.000	0.320	1.000	0.320	0.831	0.203	0.831	0.203	
						62	5310	14.0	14.0	14.0	14.0	1.410	0.352	0.110	0.352	0.110	0.491	0.117	0.491	0.117	
					Edge 1	54	5270	18.5	18.5	16.3	16.3	0.973									
					Edge 2	54	5270	18.5	18.5	16.3	16.3	0.301									
					Edge 3	54	5270	18.5	18.5	16.3	16.3	0.331									
Edge 4		54	5270	18.5	18.5	16.3	16.3	0.807													

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.22. Wi-Fi (U-NII-2C Band)

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.6 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	138	5690	5.0	5.0			0.221									
					Left Tilt	138	5690	5.0	5.0			0.220									
					Right Touch	138	5690	5.0	5.0			0.327	0.159	0.052	0.159	0.052					
					Right Tilt	138	5690	5.0	5.0			0.240									
		802.11n HT40	0	1 Tx	Left Touch	118	5590			19.5	19.3	0.148									
					Left Tilt	118	5590			19.5	19.3	0.080									
					Right Touch	118	5590			19.5	19.3	0.259					0.160	0.074	0.168	0.077	
					Right Tilt	118	5590			19.5	19.3	0.096									
		802.11n HT40	0	2 Tx	Left Touch	118	5590	5.0	5.0	19.5	18.1	0.229									
					Left Tilt	118	5590	5.0	5.0	19.5	18.1	0.197									
					Right Touch	118	5590	5.0	5.0	19.5	18.1	0.309	0.174	0.055	0.174	0.055	0.122	0.056	0.168	0.077	
					Right Tilt	118	5590	5.0	5.0	19.5	18.1	0.242									
5.6 GHz	Body-worn & Airplay	802.11ac VHT80	5	1 Tx	Rear	138	5690	11.0	11.0			0.435									
					Front	138	5690	11.0	11.0			0.572	0.339	0.339	0.339	0.339					
					Edge 1	138	5690	11.0	11.0			0.522									
					Edge 2	138	5690	11.0	11.0			0.053									
					Edge 4	138	5690	11.0	11.0			0.213									
		802.11ac VHT80	5	1 Tx	Rear	138	5690			8.5	8.5	0.069									
					Front	138	5690			8.5	8.5	0.307					0.152	0.041	0.152	0.041	
					Edge 2	138	5690			8.5	8.5	0.010									
					Edge 3	138	5690			8.5	8.5	0.037									
					Edge 4	138	5690			8.5	8.5	0.012									
		802.11ac VHT80	5	2 Tx	Rear	138	5690	11.0	11.0	8.5	8.5	0.448									
					Front	138	5690	11.0	11.0	8.5	8.5	0.615	0.301	0.096	0.301	0.096	0.176	0.042	0.176	0.042	
					Edge 1	138	5690	11.0	11.0	8.5	8.5	0.447									
					Edge 2	138	5690	11.0	11.0	8.5	8.5	0.052									
					Edge 3	138	5690	11.0	11.0	8.5	8.5	0.031									
					Edge 4	138	5690	11.0	11.0	8.5	8.5	0.174									

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.6 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	138	5690	12.8	12.8			1.300									
					Left Tilt	138	5690	12.8	12.8			1.350	0.778	0.306	0.778	0.306					
					Right Touch	122	5610	12.8	12.8			1.880	0.978	0.299	0.978	0.299					
						138	5690	12.8	12.8			1.980	1.190	0.355	1.190	0.355					37
					Right Tilt	122	5610	12.8	12.8			1.540	0.860	0.266	0.860	0.266					
						138	5690	12.8	12.8			1.830	0.917	0.291	0.917	0.291					
		802.11a	0	1 Tx	Left Touch	120	5600			20.5	20.3	0.182									
					Left Tilt	120	5600			20.5	20.3	0.106									
					Right Touch	120	5600			20.5	20.3	0.276					0.163	0.077	0.171	0.081	
					Right Tilt	120	5600			20.5	20.3	0.113									
		802.11n HT40	0	2 Tx	Left Touch	118	5590	12.8	12.7	19.5	18.1	1.100	0.520	0.198	0.526	0.200					
					Left Tilt	118	5590	12.8	12.7	19.5	18.1	0.987									
					Right Touch	118	5590	12.8	12.7	19.5	18.1	2.010	1.020	0.328	1.032	0.332	-	-	-	-	
						142	5710	12.8	12.7	19.0	18.1	2.420	1.040	0.299	1.052	0.302	-	-	-	-	
					Right Tilt	118	5590	12.8	12.7	19.5	18.1	1.840	0.689	0.213	0.697	0.215	-	-	-	-	
						142	5710	12.8	12.7	19.0	18.1	1.490	0.901	0.254	0.911	0.257	-	-	-	-	
5.6 GHz	Body-worn & Airplay	802.11ac VHT80	5	1 Tx	Rear	122	5610	16.5	16.5			1.550	0.834	0.269	0.834	0.269					
						138	5690	16.5	16.5			1.590	0.856	0.283	0.856	0.283					
					Front	122	5610	16.5	16.5			1.860	0.945	0.328	0.945	0.328					
						138	5690	16.5	16.5			2.010	1.160	0.359	1.160	0.359					
					Edge 1	122	5610	16.5	16.5			1.530	0.842	0.292	0.842	0.292					
						138	5690	16.5	16.5			1.640	0.882	0.301	0.882	0.301					
					Edge 2	138	5690	16.5	16.5			0.256									
					Edge 4	138	5690	16.5	16.5			0.693	0.366	0.136	0.366	0.136					
		802.11ac VHT80	5	1 Tx	Rear	138	5690			15.3	15.3	0.899					0.457	0.148	0.457	0.148	
					122	5610			15.3	15.3	2.140					1.140	0.284	1.140	0.284		
					Front	138	5690			15.3	15.3	1.490					0.797	0.209	0.797	0.209	
					138	5690			15.3	15.3	0.388										
					Edge 3	138	5690			15.3	15.3	0.664									
					Edge 4	138	5690			19.5	15.3	0.030									
		802.11ac VHT80	5	2 Tx	Rear	122	5610	16.5	16.5	15.3	15.3	2.110	1.090	0.364	1.090	0.364	0.576	0.193	0.576	0.193	
						138	5690	16.5	16.5	15.3	15.3	1.910	1.030	0.350	1.030	0.350	0.179	0.060	0.179	0.060	
					Front	122	5610	16.5	16.5	15.3	15.3	2.740	1.150	0.384	1.150	0.384	1.170	0.319	1.170	0.319	
						138	5690	16.5	16.5	15.3	15.3	2.300	1.190	0.394	1.190	0.394	0.698	0.186	0.698	0.186	38
					Edge 1	122	5610	16.5	16.5	15.3	15.3	1.610	0.931	0.326	0.931	0.326	0.094	0.027	0.094	0.027	
						138	5690	16.5	16.5	15.3	15.3	1.780	0.918	0.321	0.918	0.321	0.054	0.019	0.054	0.019	
					Edge 2	138	5690	16.5	16.5	15.3	15.3	0.294									
					Edge 3	138	5690	16.5	16.5	15.3	15.3	0.275									
		Edge 4	138	5690	16.5	16.5	15.3	15.3	0.671	0.384	0.142	0.384	0.142	0.009	0.003	0.009	0.003				

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.23. Wi-Fi (U-NII-3 Band)

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	155	5775	5.0	5.0			0.226									
					Left Tilt	155	5775	5.0	5.0			0.249									
					Right Touch	155	5775	5.0	5.0			2.060	0.181	0.057	0.181	0.057					
					Right Tilt	155	5775	5.0	5.0			0.308									
		802.11a	0	1 Tx	Left Touch	157	5785			20.0	20.0	0.115									
					Left Tilt	157	5785			20.0	20.0	0.069									
					Right Touch	157	5785			20.0	20.0	0.264					0.143	0.069	0.143	0.069	
					Right Tilt	157	5785			20.0	20.0	0.084									
		802.11a	0	2 Tx	Left Touch	161	5805	5.0	5.0	20.0	19.3	0.226									
					Left Tilt	161	5805	5.0	5.0	20.0	19.3	0.244									
					Right Touch	161	5805	5.0	5.0	20.0	19.3	0.381	0.195	0.062	0.195	0.062	0.150	0.073	0.176	0.086	
					Right Tilt	161	5805	5.0	5.0	20.0	19.3	0.347									
5.8 GHz	Body-worn & Airplay	802.11ac VHT80	5	1 Tx	Rear	155	5775	11.3	11.3			0.763									
					Front	155	5775	11.3	11.3			0.826	0.349	0.111	0.349	0.111					
					Edge 1	155	5775	11.3	11.3			0.470									
					Edge 2	155	5775	11.3	11.3			0.046									
		802.11ac VHT80	5	1 Tx	Edge 4	155	5775	11.3	11.3			0.288									
					Rear	155	5775			13.5	13.5	0.384									
					Front	155	5775			13.5	13.5	0.441					0.215	0.050	0.215	0.050	
					Edge 2	155	5775			13.5	13.5	0.172									
		802.11ac VHT80	5	2 Tx	Edge 3	155	5775			13.5	13.5	0.229									
					Edge 4	155	5775			13.5	13.5	0.009									
					Rear	155	5775	11.3	11.3	13.5	13.5	0.450									
					Front	155	5775	11.3	11.3	13.5	13.5	0.703	0.345	0.113	0.345	0.113	0.205	0.056	0.205	0.056	
					Edge 1	155	5775	11.3	11.3	13.5	13.5	0.416									
					Edge 2	155	5775	11.3	11.3	13.5	13.5	0.111									
					Edge 3	155	5775	11.3	11.3	13.5	13.5	0.124									
					Edge 4	155	5775	11.3	11.3	13.5	13.5	0.186									

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								Chain 0		Chain 1			Chain 0				Chain 1				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	155	5775	12.8	12.8			1.490	0.771	0.299	0.771	0.299					39
					Left Tilt	155	5775	12.8	12.8			1.870	0.853	0.318	0.853	0.318					
					Right Touch	155	5775	12.8	12.8			2.060	1.190	0.361	1.190	0.361					
					Right Tilt	155	5775	12.8	12.8			1.270	0.868	0.272	0.868	0.272					
		802.11a	0	1 Tx	Left Touch	157	5785			20.5	20.3	0.103									
					Left Tilt	157	5785			20.5	20.3	0.074									
					Right Touch	157	5785			20.5	20.3	0.231					0.150	0.157	0.157	0.164	
					Right Tilt	157	5785			20.5	20.3	0.090									
		802.11a	0	2 Tx	Left Touch	157	5785	12.8	12.7	20.5	19.3	1.340	0.815	0.315	0.834	0.322	-	-	-	-	
						161	5805	12.8	12.8	20.5	19.3	1.310	0.798	0.300	0.798	0.300	-	-	-	-	
					Left Tilt	157	5785	12.8	12.7	20.5	19.3	1.500	0.892	0.319	0.913	0.326	-	-	-	-	
						161	5805	12.8	12.8	20.5	19.3	1.460	0.851	0.314	0.851	0.314	-	-	-	-	
					Right Touch	157	5785	12.8	12.7	20.5	19.3	1.780	1.030	0.350	1.054	0.358	-	-	-	-	
						161	5805	12.8	12.8	20.5	19.3	2.110	1.170	0.353	1.170	0.353	-	-	-	-	
					Right Tilt	157	5785	12.8	12.7	20.5	19.3	1.320	0.803	0.271	0.822	0.277	-	-	-	-	
						161	5805	12.8	12.8	20.5	19.3	1.830	1.050	0.334	1.050	0.334	-	-	-	-	
5.8 GHz	Body-worn & Airplay	802.11ac VHT80	5	1 Tx	Rear	155	5775	16.5	16.5			1.630	0.783	0.294	0.783	0.294					
					Front	155	5775	16.5	16.5			2.160	1.080	0.370	1.080	0.370					
					Edge 1	155	5775	16.5	16.5			1.860	0.876	0.304	0.876	0.304					
					Edge 2	155	5775	16.5	16.5			0.136									
					Edge 4	155	5775	16.5	16.5			0.675	0.351	0.125	0.351	0.125					
		802.11a	5	1 Tx	Rear	157	5785			20.3	19.7	1.160					0.400	0.134	0.459	0.154	
					Front	157	5785			20.3	19.7	2.060					0.894	0.233	1.026	0.268	
						161	5805			20.3	19.7	1.970					0.858	0.220	0.985	0.253	
					Edge 2	157	5785			20.3	19.7	0.403									
					Edge 3	157	5785			20.3	19.7	0.407									
					Edge 4	157	5785			20.3	19.7	0.018									
		802.11a	5	2 Tx	Rear	157	5785	16.5	16.5	20.3	19.0	1.970	0.956	0.321	0.956	0.321	0.397	0.133	0.529	0.177	40
						161	5805	16.5	16.3	20.3	19.0	1.630	0.846	0.295	0.886	0.309	0.299	0.103	0.399	0.137	
					Front	157	5785	16.5	16.5	20.3	19.0	2.190	1.180	0.375	1.180	0.375	0.856	0.239	1.141	0.319	
						161	5805	16.5	16.3	20.3	19.0	1.980	1.000	0.338	1.047	0.354	0.631	0.163	0.841	0.217	
					Edge 1	157	5785	16.5	16.5	20.3	19.0	1.880	0.815	0.284	0.815	0.284	-	-	-	-	
						161	5805	16.5	16.3	20.3	19.0	1.430	0.750	0.267	0.785	0.280	-	-	-	-	
					Edge 2	157	5785	16.5	16.5	20.3	19.0	0.358									
					Edge 3	157	5785	16.5	16.5	20.3	19.0	0.455									
					Edge 4	157	5785	16.5	16.5	20.3	19.0	0.828	0.250	0.096	0.250	0.096	-	-	-	-	

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.24. Wi-Fi Variant 2 Spot Check

Wi-Fi (DTS Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									Chain 0		Chain 1		Chain 0				Chain 1			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	2.4 GHz	Head	802.11b	0	1 Tx	Right Tilt	9	2452	18.0	17.5			0.994	0.376	1.115	0.422				
		Body-worn & Airplay	802.11g 20 MHz	5	2 Tx	Front	6	2437	19.0	18.0	19.0	19.0	0.583	0.264	0.734	0.332	0.492	0.231	0.492	0.231
Variant 2 Spot Check	2.4 GHz	Head	802.11b	0	1 Tx	Right Tilt	9	2452	19.0	19.0			1.070	0.465	1.070	0.465				
		Body-worn & Airplay	802.11g 20 MHz	5	2 Tx	Front	6	2437	19.0	18.8	19.0	19.0	0.484	0.218	0.507	0.228	0.343	0.168	0.343	0.168

Notes:

For SAR results with "-", there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Wi-Fi (U-NII-1 and U-NII-2A Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									Chain 0		Chain 1		Chain 0				Chain 1			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.2 & 5.3 GHz	Head	802.11ac VHT80	0	1 Tx	Right Touch	42	5210	14.0	14.0			1.180	0.388	1.180	0.388				
		Body-worn & Airplay	802.11n HT40 CDD	5	1 Tx	Front	46	5230			17.8	17.7					1.140	0.281	1.167	0.288
Variant 2 Spot Check	5.2 & 5.3 GHz	Head	802.11ac VHT80	0	1 Tx	Right Touch	42	5210	14.0	14.0			1.100	0.334	1.100	0.334				
		Body-worn & Airplay	802.11n HT40 CDD	5	1 Tx	Front	46	5230			17.8	17.7					1.070	0.265	1.095	0.271

Notes:

For SAR results with "-", there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Wi-Fi (U-NII-2C Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									Chain 0		Chain 1		Chain 0				Chain 1			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.6 GHz	Head	802.11ac VHT80	0	1 Tx	Right Touch	138	5690	12.8	12.8			1.190	0.355	1.190	0.355				
		Body-worn & Airplay	802.11ac VHT80 CDD	5	2 Tx	Front	138	5690	16.5	16.5	15.3	15.3	1.190	0.394	1.190	0.394	0.698	0.186	0.698	0.186
Variant 2 Spot Check	5.6 GHz	Head	802.11ac VHT80	0	1 Tx	Right Touch	138	5690	12.8	12.8			1.100	0.322	1.100	0.322				
		Body-worn & Airplay	802.11ac VHT80 CDD	5	2 Tx	Front	138	5690	16.5	16.5	15.3	15.3	1.140	0.372	1.140	0.372	0.487	0.128	0.487	0.128

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Wi-Fi (U-NII-3 Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									Chain 0		Chain 1		Chain 0				Chain 1			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.8 GHz	Head	802.11n HT40	0	1 Tx	Right Touch	155	5775	12.8	12.8			1.190	0.361	1.190	0.361				
		Body-worn & Airplay	802.11ac VHT80 CDD	5	21 Tx	Front	157	5785	16.5	16.5	20.3	19.0	1.180	0.375	1.180	0.375	0.856	0.239	1.155	0.322
Variant 2 Spot Check	5.8 GHz	Head	802.11n HT40	0	1 Tx	Right Touch	155	5775	12.8	12.8			1.090	0.339	1.090	0.339				
		Body-worn & Airplay	802.11ac VHT80 CDD	5	21 Tx	Front	157	5785	16.5	16.5	20.3	19.0	1.030	0.341	1.030	0.341	0.710	0.191	0.958	0.258

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.25. Bluetooth

P_{low}

Frequency Band	RF Exposure Conditions	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	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	10.0	9.9	0.030	0.031	0.015	0.015	
				Left Tilt	39	2441.0	10.0	9.9	0.066	0.068	0.027	0.028	
				Right Touch	39	2441.0	10.0	9.9	0.091	0.093	0.043	0.044	
				Right Tilt	39	2441.0	10.0	9.9	0.095	0.097	0.036	0.037	
	Body-worn	GFSK	5	Rear	39	2441.0	10.0	9.9	0.013	0.013	0.006	0.006	
				Front	39	2441.0	10.0	9.9	0.038	0.039	0.019	0.019	

P_{high}

Frequency Band	RF Exposure Conditions	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	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	13.0	12.9	0.083	0.085	0.036	0.037	
				Left Tilt	39	2441.0	13.0	12.9	0.067	0.069	0.030	0.031	
				Right Touch	39	2441.0	13.0	12.9	0.226	0.231	0.107	0.109	41
				Right Tilt	39	2441.0	13.0	12.9	0.218	0.223	0.087	0.089	
	Body-worn	GFSK	5	Rear	39	2441.0	13.0	12.9	0.013	0.013	0.006	0.006	
				Front	39	2441.0	13.0	12.9	0.109	0.112	0.054	0.055	42

$P_{standalone}$

Frequency Band	RF Exposure Conditions	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	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	16.5	16.5	0.485	0.485	0.194	0.194	
				Left Tilt	39	2441.0	16.5	16.5	0.537	0.537	0.202	0.202	43
				Right Touch	39	2441.0	16.5	16.5	0.435	0.435	0.170	0.170	
				Right Tilt	39	2441.0	16.5	16.5	0.416	0.416	0.163	0.163	
	Body-worn	GFSK	5	Rear	39	2441.0	16.5	16.5	0.285	0.285	0.130	0.130	44
				Front	39	2441.0	16.5	16.5	0.254	0.254	0.107	0.107	

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 3 (1-g or 10-g respectively) or when the original or repeated measurement is ≥ 1.45 or 3.6 W/kg ($\sim 10\%$ from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 or 3 (1-g or 10-g respectively).

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
700	LTE Band 12	Hotspot	Edge 4	No	0.600	N/A	N/A	N/A	N/A	N/A
	LTE Band 13	Body & Hotspot	Front	No	0.790	N/A	N/A	N/A	N/A	N/A
850	GSM 850	Head	Left Touch	Yes	1.060	1.040	1.02	N/A	N/A	N/A
	WCDMA Band V	Head	Right Touch	No	0.833	N/A	N/A	N/A	N/A	N/A
	LTE Band 26	Body & Hotspot	Front	No	0.582	N/A	N/A	N/A	N/A	N/A
1900	GSM 1900	Body & Hotspot	Front	Yes	1.080	1.020	1.06	N/A	N/A	N/A
	WCDMA Band II	Body & Hotspot	Front	No	1.010	N/A	N/A	N/A	N/A	N/A
	LTE Band 2	Head	Right Touch	No	0.586	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Head	Right Touch	No	1.040	N/A	N/A	N/A	N/A	N/A
1700	LTE Band 4	Hotspot	Edge 3	Yes	1.070	1.030	1.04	N/A	N/A	N/A
	WCDMA Band IV	Hotspot	Edge 3	No	1.050	N/A	N/A	N/A	N/A	N/A
2300	LTE Band 30	Body & Hotspot	Front	Yes	1.070	1.050	1.02	N/A	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Head	Right Touch	Yes	1.020	1.010	1.01	N/A	N/A	N/A
	BT	Head	Left Tilt	No	0.537	N/A	N/A	N/A	N/A	N/A
2600	LTE Band 7	Body & Hotspot	Front	Yes	1.140	1.110	1.03	N/A	N/A	N/A
	LTE Band 41	Head	Right Tilt	No	0.960	N/A	N/A	N/A	N/A	N/A
5200	Wi-Fi 802.11a/n/ac	Head	Right Touch	Yes	1.180	1.180	1.00	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Body	Front	Yes	1.190	1.13	1.05	N/A	N/A	N/A
5800	Wi-Fi 802.11a/n/ac	Head	Right Touch	Yes	1.190	1.18	1.01	N/A	N/A	N/A

Note(s):

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

12. Simultaneous Transmission SAR Analysis

KDB 447498 D01 General RF Exposure Guidance introduces a new formula for calculating the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

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

Where:

SAR₁ is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR₂ is the highest measured 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:

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

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations			
Head Body Worn Accessory Hotspots Airplay	1	WWAN OFF	+ (Chain 1) Wi-Fi 2.4 GHz SISO		+ Bluetooth (P _{high})
	2		+ (Chain 0) Wi-Fi 5 GHz SISO		+ Bluetooth (P _{high})
	3		+ (Chain 1) Wi-Fi 5 GHz SISO		+ Bluetooth (P _{high})
	4		+ Wi-Fi 5 GHz MIMO		+ Bluetooth (P _{high})
	5	WWAN ON	+ (Chain 0) Wi-Fi 2.4 GHz SISO		
	6		+ (Chain 1) Wi-Fi 2.4 GHz SISO		
	7		+ Wi-Fi 2.4 GHz MIMO		
	8		+ Bluetooth (P _{low})		
	9		+ (Chain 1) Wi-Fi 2.4 GHz SISO		+ Bluetooth (P _{low})
	10		+ (Chain 0) Wi-Fi 5 GHz SISO		
	11		+ (Chain 1) Wi-Fi 5 GHz SISO		
	12		+ Wi-Fi 5 GHz MIMO		
	13		+ (Chain 0) Wi-Fi 5 GHz SISO		+ Bluetooth (P _{low})
	14		+ (Chain 1) Wi-Fi 5 GHz SISO		+ Bluetooth (P _{low})
	15		+ Wi-Fi 5 GHz MIMO		+ Bluetooth (P _{low})
Notes:					
1. (Chain 0) Wi-Fi 2.4GHz Radio cannot transmit simultaneously with Bluetooth Radio.					

12.1. Sum of the SAR for Wi-Fi (Cell Off) & BT(P_{high})

RF Exposure Conditions	Test Position	① Wi-Fi 2.4GHz (Chain 1)	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{high})	① + ⑤		② + ⑤		③ + ⑤		④ + ⑤	
							Σ 1-g SAR (mW/kg)	SPLSR (Yes/No)	Σ 1-g SAR (mW/kg)	SPLSR (Yes/No)	Σ 1-g SAR (mW/kg)	SPLSR (Yes/No)	Σ 1-g SAR (mW/kg)	SPLSR (Yes/No)
Head	Left Touch	0.171	1.190	0.236	0.834	0.085	0.256	No	1275	No	0.321	No	0.919	No
	Left Tilt	0.171	1.180	0.236	1.060	0.069	0.240	No	1249	No	0.305	No	1.129	No
	Right Touch	0.171	1.190	0.236	1.170	0.231	0.402	No	1421	No	0.467	No	1401	No
	Right Tilt	0.171	0.917	0.236	1.060	0.223	0.394	No	1140	No	0.459	No	1283	No
Body-worn Accessory & Hotspot	Rear	0.401	1.080	0.575	1.090	0.013	0.414	No	1093	No	0.588	No	1.103	No
	Front	0.603	1.160	1.167	1.190	0.112	0.715	No	1272	No	1.279	No	1.302	No

Conclusion:

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

12.2. Sum of the SAR for GSM850 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	1060	0.279	0.171	0.248	0.031	1339	No	1231	No	1308	No	1091	No	1262	No
	Left Tilt	1010	0.279	0.171	0.248	0.068	1289	No	1181	No	1258	No	1078	No	1249	No
	Right Touch	1030	0.279	0.171	0.248	0.093	1309	No	1201	No	1278	No	1123	No	1294	No
	Right Tilt	0.757	0.279	0.171	0.248	0.097	1036	No	0.928	No	1005	No	0.854	No	1025	No
Body-worn & Hotspot & Airplay	Rear	0.650	0.303	0.213	0.411	0.013	0.953	No	0.863	No	1061	No	0.663	No	0.876	No
	Front	0.542	0.303	0.213	0.401	0.039	0.845	No	0.755	No	0.943	No	0.581	No	0.794	No
Hotspot & Airplay	Edge 1	0.441	0.303	0.213	0.411		0.744	No	0.654	No	0.852	No				
	Edge 2	0.561	0.303	0.213	0.411		0.864	No	0.774	No	0.972	No				
	Edge 4	0.278	0.303	0.213	0.411		0.581	No	0.491	No	0.689	No				

12.3. Sum of the SAR for GSM850 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.522	0.279	0.171	0.248	0.031	0.801	No	0.693	No	0.770	No	0.553	No	0.724	No
	Left Tilt	0.263	0.279	0.171	0.248	0.068	0.542	No	0.434	No	0.511	No	0.331	No	0.502	No
	Right Touch	0.404	0.279	0.171	0.248	0.093	0.683	No	0.575	No	0.652	No	0.497	No	0.668	No
	Right Tilt	0.251	0.279	0.171	0.248	0.097	0.530	No	0.422	No	0.499	No	0.348	No	0.519	No
Body-worn & Hotspot & Airplay	Rear	0.633	0.303	0.213	0.411	0.013	0.936	No	0.846	No	1044	No	0.646	No	0.859	No
	Front	0.738	0.303	0.213	0.401	0.039	1041	No	0.951	No	1139	No	0.777	No	0.990	No
Hotspot & Airplay	Edge 2	0.276	0.303	0.213	0.411		0.579	No	0.489	No	0.687	No				
	Edge 3	0.556	0.303	0.213	0.411		0.859	No	0.769	No	0.967	No				
	Edge 4	0.706	0.303	0.213	0.411		1009	No	0.919	No	1117	No				

Conclusion:

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

12.4. Sum of the SAR for GSM1900 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.508	0.279	0.171	0.248	0.031	0.787	No	0.679	No	0.756	No	0.539	No	0.710	No
	Left Tilt	0.509	0.279	0.171	0.248	0.068	0.788	No	0.680	No	0.757	No	0.577	No	0.748	No
	Right Touch	0.977	0.279	0.171	0.248	0.093	1256	No	1148	No	1225	No	1070	No	1241	No
	Right Tilt	0.775	0.279	0.171	0.248	0.097	1054	No	0.946	No	1023	No	0.872	No	1043	No
Body-worn & Hotspot & Airplay	Rear	0.273	0.303	0.213	0.411	0.013	0.576	No	0.486	No	0.684	No	0.286	No	0.499	No
	Front	0.461	0.303	0.213	0.401	0.039	0.764	No	0.674	No	0.862	No	0.500	No	0.713	No
Hotspot & Airplay	Edge 1	0.296	0.303	0.213	0.411		0.599	No	0.509	No	0.707	No				
	Edge 2	0.023	0.303	0.213	0.411		0.326	No	0.236	No	0.434	No				
	Edge 4	0.230	0.303	0.213	0.411		0.533	No	0.443	No	0.641	No				

12.5. Sum of the SAR for GSM1900 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.258	0.279	0.171	0.248	0.031	0.537	No	0.429	No	0.506	No	0.289	No	0.460	No
	Left Tilt	0.152	0.279	0.171	0.248	0.068	0.431	No	0.323	No	0.400	No	0.220	No	0.391	No
	Right Touch	0.499	0.279	0.171	0.248	0.093	0.778	No	0.670	No	0.747	No	0.592	No	0.763	No
	Right Tilt	0.153	0.279	0.171	0.248	0.097	0.432	No	0.324	No	0.401	No	0.250	No	0.421	No
Body-worn & Hotspot & Airplay	Rear	0.729	0.303	0.213	0.411	0.013	1032	No	0.942	No	1140	No	0.742	No	0.955	No
	Front	1093	0.303	0.213	0.401	0.039	1396	No	1306	No	1494	No	1132	No	1345	No
Hotspot & Airplay	Edge 2	0.691	0.303	0.213	0.411		0.994	No	0.904	No	1102	No				
	Edge 3	0.735	0.303	0.213	0.411		1038	No	0.948	No	1146	No				
	Edge 4	0.077	0.303	0.213	0.411		0.380	No	0.290	No	0.488	No				

Conclusion:

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

12.6. Sum of the SAR for W-CDMA V (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.779	0.279	0.171	0.248	0.031	1058	No	0.950	No	1027	No	0.810	No	0.981	No
	Left Tilt	0.734	0.279	0.171	0.248	0.068	1013	No	0.905	No	0.982	No	0.802	No	0.973	No
	Right Touch	0.833	0.279	0.171	0.248	0.093	1112	No	1004	No	1081	No	0.926	No	1097	No
	Right Tilt	0.585	0.279	0.171	0.248	0.097	0.864	No	0.756	No	0.833	No	0.682	No	0.853	No
Body-worn & Hotspot & Airplay	Rear	0.477	0.303	0.213	0.411	0.013	0.780	No	0.690	No	0.888	No	0.490	No	0.703	No
	Front	0.468	0.303	0.213	0.401	0.039	0.771	No	0.681	No	0.869	No	0.507	No	0.720	No
Hotspot & Airplay	Edge 1	0.274	0.303	0.213	0.411		0.577	No	0.487	No	0.685	No				
	Edge 2	0.303	0.303	0.213	0.411		0.606	No	0.516	No	0.714	No				
	Edge 4	0.095	0.303	0.213	0.411		0.398	No	0.308	No	0.506	No				

12.7. Sum of the SAR for W-CDMA V (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.350	0.279	0.171	0.248	0.031	0.629	No	0.521	No	0.598	No	0.381	No	0.552	No
	Left Tilt	0.134	0.279	0.171	0.248	0.068	0.413	No	0.305	No	0.382	No	0.202	No	0.373	No
	Right Touch	0.266	0.279	0.171	0.248	0.093	0.545	No	0.437	No	0.514	No	0.359	No	0.530	No
	Right Tilt	0.131	0.279	0.171	0.248	0.097	0.410	No	0.302	No	0.379	No	0.228	No	0.399	No
Body-worn & Hotspot & Airplay	Rear	0.612	0.303	0.213	0.411	0.013	0.915	No	0.825	No	1023	No	0.625	No	0.838	No
	Front	0.760	0.303	0.213	0.401	0.039	1063	No	0.973	No	1161	No	0.799	No	1012	No
Hotspot & Airplay	Edge 2	0.221	0.303	0.213	0.411		0.524	No	0.434	No	0.632	No				
	Edge 3	0.504	0.303	0.213	0.411		0.807	No	0.717	No	0.915	No				
	Edge 4	0.622	0.303	0.213	0.411		0.925	No	0.835	No	1033	No				

Conclusion:

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

12.8. Sum of the SAR for W-CDMA IV (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.495	0.279	0.171	0.248	0.031	0.774	No	0.666	No	0.743	No	0.526	No	0.697	No
	Left Tilt	0.431	0.279	0.171	0.248	0.068	0.710	No	0.602	No	0.679	No	0.499	No	0.670	No
	Right Touch	0.958	0.279	0.171	0.248	0.093	1237	No	1129	No	1206	No	1051	No	1222	No
	Right Tilt	0.707	0.279	0.171	0.248	0.097	0.986	No	0.878	No	0.955	No	0.804	No	0.975	No
Body-worn & Hotspot & Airplay	Rear	0.644	0.303	0.213	0.411	0.013	0.947	No	0.857	No	1055	No	0.657	No	0.870	No
	Front	0.972	0.303	0.213	0.401	0.039	1275	No	1185	No	1373	No	1011	No	1224	No
Hotspot & Airplay	Edge 1	0.742	0.303	0.213	0.411		1045	No	0.955	No	1153	No				
	Edge 2	0.503	0.303	0.213	0.411		0.806	No	0.716	No	0.914	No				
	Edge 4	0.607	0.303	0.213	0.411		0.910	No	0.820	No	1018	No				

12.9. Sum of the SAR for W-CDMA IV (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.241	0.279	0.171	0.248	0.031	0.520	No	0.412	No	0.489	No	0.272	No	0.443	No
	Left Tilt	0.171	0.279	0.171	0.248	0.068	0.450	No	0.342	No	0.419	No	0.239	No	0.410	No
	Right Touch	0.488	0.279	0.171	0.248	0.093	0.767	No	0.659	No	0.736	No	0.581	No	0.752	No
	Right Tilt	0.151	0.279	0.171	0.248	0.097	0.430	No	0.322	No	0.399	No	0.248	No	0.419	No
Body-worn & Hotspot & Airplay	Rear	0.797	0.303	0.213	0.411	0.013	1100	No	1010	No	1208	No	0.810	No	1023	No
	Front	0.799	0.303	0.213	0.401	0.039	1102	No	1012	No	1200	No	0.838	No	1051	No
Hotspot & Airplay	Edge 2	0.080	0.303	0.213	0.411		0.383	No	0.293	No	0.491	No				
	Edge 3	1050	0.303	0.213	0.411		1353	No	1263	No	1461	No				
	Edge 4	0.086	0.303	0.213	0.411		0.389	No	0.299	No	0.497	No				

Conclusion:

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

12.10. Sum of the SAR for W-CDMA II (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	①	②	③	④	⑤	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
		WWAN	Wi-Fi 2.4GHz (Chain 0)	Wi-Fi 2.4GHz (Chain 1)	Wi-Fi 2.4GHz (MIMO)	Bluetooth (P _{low})	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.446	0.279	0.171	0.248	0.031	0.725	No	0.617	No	0.694	No	0.477	No	0.648	No
	Left Tilt	0.467	0.279	0.171	0.248	0.068	0.746	No	0.638	No	0.715	No	0.535	No	0.706	No
	Right Touch	1006	0.279	0.171	0.248	0.093	1285	No	1177	No	1254	No	1099	No	1270	No
	Right Tilt	0.904	0.279	0.171	0.248	0.097	1183	No	1075	No	1152	No	1001	No	1172	No
Body-worn & Hotspot & Airplay	Rear	0.558	0.303	0.213	0.411	0.013	0.861	No	0.771	No	0.969	No	0.571	No	0.784	No
	Front	0.998	0.303	0.213	0.401	0.039	1301	No	1211	No	1399	No	1037	No	1250	No
Hotspot & Airplay	Edge 1	0.555	0.303	0.213	0.411		0.858	No	0.768	No	0.966	No				
	Edge 2	0.023	0.303	0.213	0.411		0.326	No	0.236	No	0.434	No				
	Edge 4	0.492	0.303	0.213	0.411		0.795	No	0.705	No	0.903	No				

12.11. Sum of the SAR for W-CDMA II (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	①	②	③	④	⑤	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
		WWAN	Wi-Fi 2.4GHz (Chain 0)	Wi-Fi 2.4GHz (Chain 1)	Wi-Fi 2.4GHz (MIMO)	Bluetooth (P _{low})	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.581	0.279	0.171	0.248	0.031	0.860	No	0.752	No	0.829	No	0.612	No	0.783	No
	Left Tilt	0.254	0.279	0.171	0.248	0.068	0.533	No	0.425	No	0.502	No	0.322	No	0.493	No
	Right Touch	0.963	0.279	0.171	0.248	0.093	1242	No	1134	No	1211	No	1056	No	1227	No
	Right Tilt	0.283	0.279	0.171	0.248	0.097	0.562	No	0.454	No	0.531	No	0.380	No	0.551	No
Body-worn & Hotspot & Airplay	Rear	1002	0.303	0.213	0.411	0.013	1305	No	1215	No	1413	No	1015	No	1228	No
	Front	1022	0.303	0.213	0.401	0.039	1325	No	1235	No	1423	No	1061	No	1274	No
Hotspot & Airplay	Edge 2	0.734	0.303	0.213	0.411		1037	No	0.947	No	1145	No				
	Edge 3	0.707	0.303	0.213	0.411		1010	No	0.920	No	1118	No				
	Edge 4	0.086	0.303	0.213	0.411		0.389	No	0.299	No	0.497	No				

Conclusion:

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

12.12. Sum of the SAR for LTE Band 2 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.13. Sum of the SAR for LTE Band 2 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.14. Sum of the SAR for LTE Band 4 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.559	0.279	0.171	0.248	0.031	0.838	No	0.730	No	0.807	No	0.590	No	0.761	No
	Left Tilt	0.489	0.279	0.171	0.248	0.068	0.768	No	0.660	No	0.737	No	0.557	No	0.728	No
	Right Touch	1023	0.279	0.171	0.248	0.093	1302	No	1194	No	1271	No	1116	No	1287	No
	Right Tilt	0.925	0.279	0.171	0.248	0.097	1204	No	1096	No	1173	No	1022	No	1193	No
Body-worn & Hotspot & Airplay	Rear	0.536	0.303	0.213	0.411	0.013	0.839	No	0.749	No	0.947	No	0.549	No	0.762	No
	Front	0.764	0.303	0.213	0.401	0.039	1067	No	0.977	No	1165	No	0.803	No	1016	No
Hotspot & Airplay	Edge 1	0.615	0.303	0.213	0.411		0.918	No	0.828	No	1026	No				
	Edge 2	0.043	0.303	0.213	0.411		0.346	No	0.256	No	0.454	No				
	Edge 4	0.646	0.303	0.213	0.411		0.949	No	0.859	No	1057	No				

12.15. Sum of the SAR for LTE Band 4 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.187	0.279	0.171	0.248	0.031	0.466	No	0.358	No	0.435	No	0.218	No	0.389	No
	Left Tilt	0.152	0.279	0.171	0.248	0.068	0.431	No	0.323	No	0.400	No	0.220	No	0.391	No
	Right Touch	0.412	0.279	0.171	0.248	0.093	0.691	No	0.583	No	0.660	No	0.505	No	0.676	No
	Right Tilt	0.142	0.279	0.171	0.248	0.097	0.421	No	0.313	No	0.390	No	0.239	No	0.410	No
Body-worn & Hotspot & Airplay	Rear	0.842	0.303	0.213	0.411	0.013	1145	No	1055	No	1253	No	0.855	No	1068	No
	Front	1060	0.303	0.213	0.401	0.039	1363	No	1273	No	1461	No	1099	No	1312	No
Hotspot & Airplay	Edge 2	0.914	0.303	0.213	0.411		1217	No	1127	No	1325	No				
	Edge 3	1068	0.303	0.213	0.411		1371	No	1281	No	1479	No				
	Edge 4	0.091	0.303	0.213	0.411		0.394	No	0.304	No	0.502	No				

Conclusion:

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

12.16. Sum of the SAR for LTE Band 5 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.17. Sum of the SAR for LTE Band 5 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.18. Sum of the SAR for LTE Band 7 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.285	0.279	0.171	0.248	0.031	0.564	No	0.456	No	0.533	No	0.316	No	0.487	No
	Left Tilt	0.262	0.279	0.171	0.248	0.068	0.541	No	0.433	No	0.510	No	0.330	No	0.501	No
	Right Touch	0.871	0.279	0.171	0.248	0.093	1.150	No	1042	No	1119	No	0.964	No	1135	No
	Right Tilt	0.888	0.279	0.171	0.248	0.097	1.167	No	1059	No	1136	No	0.985	No	1.156	No
Body-worn & Hotspot & Airplay	Rear	0.712	0.303	0.213	0.411	0.013	1015	No	0.925	No	1123	No	0.725	No	0.938	No
	Front	0.722	0.303	0.213	0.401	0.039	1025	No	0.935	No	1123	No	0.761	No	0.974	No
Hotspot & Airplay	Edge 1	0.428	0.303	0.213	0.411		0.731	No	0.641	No	0.839	No				
	Edge 2	0.299	0.303	0.213	0.411		0.602	No	0.512	No	0.710	No				
	Edge 4	0.597	0.303	0.213	0.411		0.900	No	0.810	No	1008	No				

12.19. Sum of the SAR for LTE Band 7 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.669	0.279	0.171	0.248	0.031	0.948	No	0.840	No	0.917	No	0.700	No	0.871	No
	Left Tilt	0.173	0.279	0.171	0.248	0.068	0.452	No	0.344	No	0.421	No	0.241	No	0.412	No
	Right Touch	0.418	0.279	0.171	0.248	0.093	0.697	No	0.589	No	0.666	No	0.511	No	0.682	No
	Right Tilt	0.291	0.279	0.171	0.248	0.097	0.570	No	0.462	No	0.539	No	0.388	No	0.559	No
Body-worn & Hotspot & Airplay	Rear	0.981	0.303	0.213	0.411	0.013	1284	No	1194	No	1392	No	0.994	No	1207	No
	Front	1140	0.303	0.213	0.401	0.039	1443	No	1353	No	1541	No	1179	No	1392	No
Hotspot & Airplay	Edge 2	0.113	0.303	0.213	0.411		0.416	No	0.326	No	0.524	No				
	Edge 3	0.703	0.303	0.213	0.411		1006	No	0.916	No	1114	No				
	Edge 4	0.649	0.303	0.213	0.411		0.952	No	0.862	No	1060	No				

Conclusion:

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

12.20. Sum of the SAR for LTE Band 12 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.412	0.279	0.171	0.248	0.031	0.691	No	0.583	No	0.660	No	0.443	No	0.614	No
	Left Tilt	0.412	0.279	0.171	0.248	0.068	0.691	No	0.583	No	0.660	No	0.480	No	0.651	No
	Right Touch	0.518	0.279	0.171	0.248	0.093	0.797	No	0.689	No	0.766	No	0.611	No	0.782	No
	Right Tilt	0.376	0.279	0.171	0.248	0.097	0.655	No	0.547	No	0.624	No	0.473	No	0.644	No
Body-worn & Hotspot & Airplay	Rear	0.201	0.303	0.213	0.411	0.013	0.504	No	0.414	No	0.612	No	0.214	No	0.427	No
	Front	0.216	0.303	0.213	0.401	0.039	0.519	No	0.429	No	0.617	No	0.255	No	0.468	No
Hotspot & Airplay	Edge 1	0.079	0.303	0.213	0.411		0.382	No	0.292	No	0.490	No				
	Edge 2	0.315	0.303	0.213	0.411		0.618	No	0.528	No	0.726	No				
	Edge 4	0.176	0.303	0.213	0.411		0.479	No	0.389	No	0.587	No				

12.21. Sum of the SAR for LTE Band 12 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.224	0.279	0.171	0.248	0.031	0.503	No	0.395	No	0.472	No	0.255	No	0.426	No
	Left Tilt	0.083	0.279	0.171	0.248	0.068	0.362	No	0.254	No	0.331	No	0.151	No	0.322	No
	Right Touch	0.185	0.279	0.171	0.248	0.093	0.464	No	0.356	No	0.433	No	0.278	No	0.449	No
	Right Tilt	0.082	0.279	0.171	0.248	0.097	0.361	No	0.253	No	0.330	No	0.179	No	0.350	No
Body-worn & Hotspot & Airplay	Rear	0.380	0.303	0.213	0.411	0.013	0.683	No	0.593	No	0.791	No	0.393	No	0.606	No
	Front	0.461	0.303	0.213	0.401	0.039	0.764	No	0.674	No	0.862	No	0.500	No	0.713	No
Hotspot & Airplay	Edge 2	0.234	0.303	0.213	0.411		0.537	No	0.447	No	0.645	No				
	Edge 3	0.308	0.303	0.213	0.411		0.611	No	0.521	No	0.719	No				
	Edge 4	0.600	0.303	0.213	0.411		0.903	No	0.813	No	1.011	No				

Conclusion:

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

12.22. Sum of the SAR for LTE Band 13 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.385	0.279	0.171	0.248	0.031	0.664	No	0.556	No	0.633	No	0.416	No	0.587	No
	Left Tilt	0.369	0.279	0.171	0.248	0.068	0.648	No	0.540	No	0.617	No	0.437	No	0.608	No
	Right Touch	0.560	0.279	0.171	0.248	0.093	0.839	No	0.731	No	0.808	No	0.653	No	0.824	No
	Right Tilt	0.406	0.279	0.171	0.248	0.097	0.685	No	0.577	No	0.654	No	0.503	No	0.674	No
Body-worn & Hotspot & Airplay	Rear	0.290	0.303	0.213	0.411	0.013	0.593	No	0.503	No	0.701	No	0.303	No	0.516	No
	Front	0.370	0.303	0.213	0.401	0.039	0.673	No	0.583	No	0.771	No	0.409	No	0.622	No
Hotspot & Airplay	Edge 1	0.335	0.303	0.213	0.411		0.638	No	0.548	No	0.746	No				
	Edge 2	0.236	0.303	0.213	0.411		0.539	No	0.449	No	0.647	No				
	Edge 4	0.065	0.303	0.213	0.411		0.368	No	0.278	No	0.476	No				

12.23. Sum of the SAR for LTE Band 13 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.322	0.279	0.171	0.248	0.031	0.601	No	0.493	No	0.570	No	0.353	No	0.524	No
	Left Tilt	0.151	0.279	0.171	0.248	0.068	0.430	No	0.322	No	0.399	No	0.219	No	0.390	No
	Right Touch	0.231	0.279	0.171	0.248	0.093	0.510	No	0.402	No	0.479	No	0.324	No	0.495	No
	Right Tilt	0.119	0.279	0.171	0.248	0.097	0.398	No	0.290	No	0.367	No	0.216	No	0.387	No
Body-worn & Hotspot & Airplay	Rear	0.671	0.303	0.213	0.411	0.013	0.974	No	0.884	No	1082	No	0.684	No	0.897	No
	Front	0.790	0.303	0.213	0.401	0.039	1093	No	1003	No	1191	No	0.829	No	1042	No
Hotspot & Airplay	Edge 2	0.236	0.303	0.213	0.411		0.539	No	0.449	No	0.647	No				
	Edge 3	0.524	0.303	0.213	0.411		0.827	No	0.737	No	0.935	No				
	Edge 4	0.619	0.303	0.213	0.411		0.922	No	0.832	No	1030	No				

Conclusion:

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

12.24. Sum of the SAR for LTE Band 17 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.25. Sum of the SAR for LTE Band 17 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.26. Sum of the SAR for LTE Band 25 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.604	0.279	0.171	0.248	0.031	0.883	No	0.775	No	0.852	No	0.635	No	0.806	No
	Left Tilt	0.534	0.279	0.171	0.248	0.068	0.813	No	0.705	No	0.782	No	0.602	No	0.773	No
	Right Touch	1089	0.279	0.171	0.248	0.093	1368	No	1260	No	1337	No	1182	No	1353	No
	Right Tilt	0.876	0.279	0.171	0.248	0.097	1155	No	1047	No	1124	No	0.973	No	1144	No
Body-worn & Hotspot & Airplay	Rear	0.400	0.303	0.213	0.411	0.013	0.703	No	0.613	No	0.811	No	0.413	No	0.626	No
	Front	0.628	0.303	0.213	0.401	0.039	0.931	No	0.841	No	1029	No	0.667	No	0.880	No
Hotspot & Airplay	Edge 1	0.375	0.303	0.213	0.411		0.678	No	0.588	No	0.786	No				
	Edge 2	0.033	0.303	0.213	0.411		0.336	No	0.246	No	0.444	No				
	Edge 4	0.306	0.303	0.213	0.411		0.609	No	0.519	No	0.717	No				

12.27. Sum of the SAR for LTE Band 25 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.441	0.279	0.171	0.248	0.031	0.720	No	0.612	No	0.689	No	0.472	No	0.643	No
	Left Tilt	0.107	0.279	0.171	0.248	0.068	0.386	No	0.278	No	0.355	No	0.175	No	0.346	No
	Right Touch	0.370	0.279	0.171	0.248	0.093	0.649	No	0.541	No	0.618	No	0.463	No	0.634	No
	Right Tilt	0.110	0.279	0.171	0.248	0.097	0.389	No	0.281	No	0.358	No	0.207	No	0.378	No
Body-worn & Hotspot & Airplay	Rear	0.678	0.303	0.213	0.411	0.013	0.981	No	0.891	No	1089	No	0.691	No	0.904	No
	Front	1076	0.303	0.213	0.401	0.039	1379	No	1289	No	1477	No	1115	No	1328	No
Hotspot & Airplay	Edge 2	0.546	0.303	0.213	0.411		0.849	No	0.759	No	0.957	No				
	Edge 3	0.528	0.303	0.213	0.411		0.831	No	0.741	No	0.939	No				
	Edge 4	0.068	0.303	0.213	0.411		0.371	No	0.281	No	0.479	No				

Conclusion:

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

12.28. Sum of the SAR for LTE Band 26 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.486	0.279	0.171	0.248	0.031	0.765	No	0.657	No	0.734	No	0.517	No	0.688	No
	Left Tilt	0.423	0.279	0.171	0.248	0.068	0.702	No	0.594	No	0.671	No	0.491	No	0.662	No
	Right Touch	0.508	0.279	0.171	0.248	0.093	0.787	No	0.679	No	0.756	No	0.601	No	0.772	No
	Right Tilt	0.354	0.279	0.171	0.248	0.097	0.633	No	0.525	No	0.602	No	0.451	No	0.622	No
Body-worn & Hotspot & Airplay	Rear	0.292	0.303	0.213	0.411	0.013	0.595	No	0.505	No	0.703	No	0.305	No	0.518	No
	Front	0.305	0.303	0.213	0.401	0.039	0.608	No	0.518	No	0.706	No	0.344	No	0.557	No
Hotspot & Airplay	Edge 1	0.178	0.303	0.213	0.411		0.481	No	0.391	No	0.589	No				
	Edge 2	0.224	0.303	0.213	0.411		0.527	No	0.437	No	0.635	No				
	Edge 4	0.073	0.303	0.213	0.411		0.376	No	0.286	No	0.484	No				

12.29. Sum of the SAR for LTE Band 26 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.260	0.279	0.171	0.248	0.031	0.539	No	0.431	No	0.508	No	0.291	No	0.462	No
	Left Tilt	0.113	0.279	0.171	0.248	0.068	0.392	No	0.284	No	0.361	No	0.181	No	0.352	No
	Right Touch	0.200	0.279	0.171	0.248	0.093	0.479	No	0.371	No	0.448	No	0.293	No	0.464	No
	Right Tilt	0.094	0.279	0.171	0.248	0.097	0.373	No	0.265	No	0.342	No	0.191	No	0.362	No
Body-worn & Hotspot & Airplay	Rear	0.436	0.303	0.213	0.411	0.013	0.739	No	0.649	No	0.847	No	0.449	No	0.662	No
	Front	0.582	0.303	0.213	0.401	0.039	0.885	No	0.795	No	0.983	No	0.621	No	0.834	No
Hotspot & Airplay	Edge 2	0.147	0.303	0.213	0.411		0.450	No	0.360	No	0.558	No				
	Edge 3	0.399	0.303	0.213	0.411		0.702	No	0.612	No	0.810	No				
	Edge 4	0.386	0.303	0.213	0.411		0.689	No	0.599	No	0.797	No				

Conclusion:

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

12.30. Sum of the SAR for LTE Band 27 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.31. Sum of the SAR for LTE Band 27 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

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

12.32. Sum of the SAR for LTE Band 30 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.384	0.279	0.171	0.248	0.031	0.663	No	0.555	No	0.632	No	0.415	No	0.586	No
	Left Tilt	0.383	0.279	0.171	0.248	0.068	0.662	No	0.554	No	0.631	No	0.451	No	0.622	No
	Right Touch	0.997	0.279	0.171	0.248	0.093	1276	No	1168	No	1245	No	1090	No	1261	No
	Right Tilt	0.771	0.279	0.171	0.248	0.097	1050	No	0.942	No	1019	No	0.868	No	1039	No
Body-worn & Hotspot & Airplay	Rear	0.780	0.303	0.213	0.411	0.013	1083	No	0.993	No	1191	No	0.793	No	1006	No
	Front	0.829	0.303	0.213	0.401	0.039	1132	No	1042	No	1230	No	0.868	No	1081	No
Hotspot & Airplay	Edge 1	0.402	0.303	0.213	0.411		0.705	No	0.615	No	0.813	No				
	Edge 2	0.069	0.303	0.213	0.411		0.372	No	0.282	No	0.480	No				
	Edge 4	0.604	0.303	0.213	0.411		0.907	No	0.817	No	1015	No				

12.33. Sum of the SAR for LTE Band 30 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.172	0.279	0.171	0.248	0.031	0.451	No	0.343	No	0.420	No	0.203	No	0.374	No
	Left Tilt	0.203	0.279	0.171	0.248	0.068	0.482	No	0.374	No	0.451	No	0.271	No	0.442	No
	Right Touch	0.470	0.279	0.171	0.248	0.093	0.749	No	0.641	No	0.718	No	0.563	No	0.734	No
	Right Tilt	0.156	0.279	0.171	0.248	0.097	0.435	No	0.327	No	0.404	No	0.253	No	0.424	No
Body-worn & Hotspot & Airplay	Rear	0.779	0.303	0.213	0.411	0.013	1082	No	0.992	No	1190	No	0.792	No	1005	No
	Front	1070	0.303	0.213	0.401	0.039	1373	No	1283	No	1471	No	1109	No	1322	No
Hotspot & Airplay	Edge 2	0.686	0.303	0.213	0.411		0.989	No	0.899	No	1097	No				
	Edge 3	0.776	0.303	0.213	0.411		1079	No	0.989	No	1187	No				
	Edge 4	0.115	0.303	0.213	0.411		0.418	No	0.328	No	0.526	No				

Conclusion:

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

12.34. Sum of the SAR for LTE Band 41 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.341	0.279	0.171	0.248	0.031	0.620	No	0.512	No	0.589	No	0.372	No	0.543	No
	Left Tilt	0.307	0.279	0.171	0.248	0.068	0.586	No	0.478	No	0.555	No	0.375	No	0.546	No
	Right Touch	1044	0.279	0.171	0.248	0.093	1323	No	1215	No	1292	No	1137	No	1308	No
	Right Tilt	1053	0.279	0.171	0.248	0.097	1332	No	1224	No	1301	No	1150	No	1321	No
Body-worn & Hotspot & Airplay	Rear	0.353	0.303	0.213	0.411	0.013	0.656	No	0.566	No	0.764	No	0.366	No	0.579	No
	Front	0.503	0.303	0.213	0.401	0.039	0.806	No	0.716	No	0.904	No	0.542	No	0.755	No
Hotspot & Airplay	Edge 1	0.257	0.303	0.213	0.411		0.560	No	0.470	No	0.668	No				
	Edge 2	0.251	0.303	0.213	0.411		0.554	No	0.464	No	0.662	No				
	Edge 4	0.470	0.303	0.213	0.411		0.773	No	0.683	No	0.881	No				

12.35. Sum of the SAR for LTE Band 41 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	① + ②		① + ③		① + ④		① + ⑤		① + ③ + ⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.304	0.279	0.171	0.248	0.031	0.583	No	0.475	No	0.552	No	0.335	No	0.506	No
	Left Tilt	0.133	0.279	0.171	0.248	0.068	0.412	No	0.304	No	0.381	No	0.201	No	0.372	No
	Right Touch	0.179	0.279	0.171	0.248	0.093	0.458	No	0.350	No	0.427	No	0.272	No	0.443	No
	Right Tilt	0.128	0.279	0.171	0.248	0.097	0.407	No	0.299	No	0.376	No	0.225	No	0.396	No
Body-worn & Hotspot & Airplay	Rear	0.488	0.303	0.213	0.411	0.013	0.791	No	0.701	No	0.899	No	0.501	No	0.714	No
	Front	0.509	0.303	0.213	0.401	0.039	0.812	No	0.722	No	0.910	No	0.548	No	0.761	No
Hotspot & Airplay	Edge 2	0.157	0.303	0.213	0.411		0.460	No	0.370	No	0.568	No				
	Edge 3	0.231	0.303	0.213	0.411		0.534	No	0.444	No	0.642	No				
	Edge 4	0.337	0.303	0.213	0.411		0.640	No	0.550	No	0.748	No				

Conclusion:

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

12.36. Sum of the SAR for LTE-2CA Band 7 (LAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Body-worn Accessory & Hotspot	Front	1050	0.303	0.213	0.401	0.039	1089	No	0.342	No	0.252	No	0.440	No	1302	No	1490	No

12.37. Sum of the SAR for LTE-2CA Band 41 (UAT) & Wi-Fi DTS (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Chain 0)	③ Wi-Fi 2.4GHz (Chain 1)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Right Tilt	0.782	0.279	0.171	0.248	0.097	0.879	No	0.376	No	0.268	No	0.345	No	1050	No	1127	No

Conclusion:

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

12.38. Sum of the SAR for GSM850 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	1060	0.181	0.236	0.195	0.031	1241	No	1296	No	1255	No	1272	No	1327	No	1286	No
	Left Tilt	1010	0.181	0.236	0.195	0.068	1191	No	1246	No	1205	No	1259	No	1314	No	1273	No
	Right Touch	1030	0.181	0.236	0.195	0.093	1211	No	1266	No	1225	No	1304	No	1359	No	1318	No
	Right Tilt	0.757	0.181	0.236	0.195	0.097	0.938	No	0.993	No	0.952	No	1035	No	1090	No	1049	No
Body-worn Accessory & Airplay	Rear	0.650	0.349	0.247	0.345	0.013	0.999	No	0.897	No	0.995	No	1012	No	0.910	No	1008	No
	Front	0.542	0.349	0.247	0.345	0.039	0.891	No	0.789	No	0.887	No	0.930	No	0.828	No	0.926	No
Airplay	Edge 1	0.441	0.349	0.247	0.345		0.790	No	0.688	No	0.786	No						
	Edge 2	0.561	0.349	0.247	0.345		0.910	No	0.808	No	0.906	No						
	Edge 4	0.278	0.349	0.247	0.345		0.627	No	0.525	No	0.623	No						

12.39. Sum of the SAR for GSM850 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.522	0.181	0.236	0.195	0.031	0.703	No	0.758	No	0.717	No	0.734	No	0.789	No	0.748	No
	Left Tilt	0.263	0.181	0.236	0.195	0.068	0.444	No	0.499	No	0.458	No	0.512	No	0.567	No	0.526	No
	Right Touch	0.404	0.181	0.236	0.195	0.093	0.585	No	0.640	No	0.599	No	0.678	No	0.733	No	0.692	No
	Right Tilt	0.251	0.181	0.236	0.195	0.097	0.432	No	0.487	No	0.446	No	0.529	No	0.584	No	0.543	No
Body-worn Accessory & Airplay	Rear	0.633	0.349	0.247	0.345	0.013	0.982	No	0.880	No	0.978	No	0.995	No	0.893	No	0.991	No
	Front	0.738	0.349	0.247	0.345	0.039	1087	No	0.985	No	1083	No	1126	No	1024	No	1122	No
Airplay	Edge 2	0.276	0.349	0.247	0.345		0.625	No	0.523	No	0.621	No						
	Edge 3	0.556	0.349	0.247	0.345		0.905	No	0.803	No	0.901	No						
	Edge 4	0.706	0.349	0.247	0.345		1055	No	0.953	No	1051	No						

Conclusion:

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

12.40. Sum of the SAR for GSM1900 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.508	0.181	0.236	0.195	0.031	0.689	No	0.744	No	0.703	No	0.720	No	0.775	No	0.734	No
	Left Tilt	0.509	0.181	0.236	0.195	0.068	0.690	No	0.745	No	0.704	No	0.758	No	0.813	No	0.772	No
	Right Touch	0.977	0.181	0.236	0.195	0.093	1.158	No	1.213	No	1.172	No	1.251	No	1.306	No	1.265	No
	Right Tilt	0.775	0.181	0.236	0.195	0.097	0.956	No	1.011	No	0.970	No	1.053	No	1.108	No	1.067	No
Body-worn Accessory & Airplay	Rear	0.273	0.349	0.247	0.345	0.013	0.622	No	0.520	No	0.618	No	0.635	No	0.533	No	0.631	No
	Front	0.461	0.349	0.247	0.345	0.039	0.810	No	0.708	No	0.806	No	0.849	No	0.747	No	0.845	No
Airplay	Edge 1	0.296	0.349	0.247	0.345		0.645	No	0.543	No	0.641	No						
	Edge 2	0.023	0.349	0.247	0.345		0.372	No	0.270	No	0.368	No						
	Edge 4	0.230	0.349	0.247	0.345		0.579	No	0.477	No	0.575	No						

12.41. Sum of the SAR for GSM1900 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.258	0.181	0.236	0.195	0.031	0.439	No	0.494	No	0.453	No	0.470	No	0.525	No	0.484	No
	Left Tilt	0.152	0.181	0.236	0.195	0.068	0.333	No	0.388	No	0.347	No	0.401	No	0.456	No	0.415	No
	Right Touch	0.499	0.181	0.236	0.195	0.093	0.680	No	0.735	No	0.694	No	0.773	No	0.828	No	0.787	No
	Right Tilt	0.153	0.181	0.236	0.195	0.097	0.334	No	0.389	No	0.348	No	0.431	No	0.486	No	0.445	No
Body-worn Accessory & Airplay	Rear	0.729	0.349	0.247	0.345	0.013	1.078	No	0.976	No	1.074	No	1.091	No	0.989	No	1.087	No
	Front	1.093	0.349	0.247	0.345	0.039	1.442	No	1.340	No	1.438	No	1.481	No	1.379	No	1.477	No
Airplay	Edge 2	0.691	0.349	0.247	0.345		1.040	No	0.938	No	1.036	No						
	Edge 3	0.735	0.349	0.247	0.345		1.084	No	0.982	No	1.080	No						
	Edge 4	0.077	0.349	0.247	0.345		0.426	No	0.324	No	0.422	No						

Conclusion:

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

12.42. Sum of the SAR for W-CDMA V (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.779	0.181	0.236	0.195	0.031	0.960	No	1015	No	0.974	No	0.991	No	1046	No	1005	No
	Left Tilt	0.734	0.181	0.236	0.195	0.068	0.915	No	0.970	No	0.929	No	0.983	No	1038	No	0.997	No
	Right Touch	0.833	0.181	0.236	0.195	0.093	1014	No	1069	No	1028	No	1107	No	1162	No	1121	No
	Right Tilt	0.585	0.181	0.236	0.195	0.097	0.766	No	0.821	No	0.780	No	0.863	No	0.918	No	0.877	No
Body-worn Accessory & Airplay	Rear	0.477	0.349	0.247	0.345	0.013	0.826	No	0.724	No	0.822	No	0.839	No	0.737	No	0.835	No
	Front	0.468	0.349	0.247	0.345	0.039	0.817	No	0.715	No	0.813	No	0.856	No	0.754	No	0.852	No
Airplay	Edge 1	0.274	0.349	0.247	0.345		0.623	No	0.521	No	0.619	No						
	Edge 2	0.303	0.349	0.247	0.345		0.652	No	0.550	No	0.648	No						
	Edge 4	0.095	0.349	0.247	0.345		0.444	No	0.342	No	0.440	No						

12.43. Sum of the SAR for W-CDMA V (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.350	0.181	0.236	0.195	0.031	0.531	No	0.586	No	0.545	No	0.562	No	0.617	No	0.576	No
	Left Tilt	0.134	0.181	0.236	0.195	0.068	0.315	No	0.370	No	0.329	No	0.383	No	0.438	No	0.397	No
	Right Touch	0.266	0.181	0.236	0.195	0.093	0.447	No	0.502	No	0.461	No	0.540	No	0.595	No	0.554	No
	Right Tilt	0.131	0.181	0.236	0.195	0.097	0.312	No	0.367	No	0.326	No	0.409	No	0.464	No	0.423	No
Body-worn Accessory & Airplay	Rear	0.612	0.349	0.247	0.345	0.013	0.961	No	0.859	No	0.957	No	0.974	No	0.872	No	0.970	No
	Front	0.760	0.349	0.247	0.345	0.039	1109	No	1007	No	1105	No	1148	No	1046	No	1144	No
Airplay	Edge 2	0.221	0.349	0.247	0.345		0.570	No	0.468	No	0.566	No						
	Edge 3	0.504	0.349	0.247	0.345		0.853	No	0.751	No	0.849	No						
	Edge 4	0.622	0.349	0.247	0.345		0.971	No	0.869	No	0.967	No						

Conclusion:

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

12.44. Sum of the SAR for W-CDMA IV (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.495	0.181	0.236	0.195	0.031	0.676	No	0.731	No	0.690	No	0.707	No	0.762	No	0.721	No
	Left Tilt	0.431	0.181	0.236	0.195	0.068	0.612	No	0.667	No	0.626	No	0.680	No	0.735	No	0.694	No
	Right Touch	0.958	0.181	0.236	0.195	0.093	1.139	No	1.194	No	1.153	No	1.232	No	1.287	No	1.246	No
	Right Tilt	0.707	0.181	0.236	0.195	0.097	0.888	No	0.943	No	0.902	No	0.985	No	1.040	No	0.999	No
Body-worn Accessory & Airplay	Rear	0.644	0.349	0.247	0.345	0.013	0.993	No	0.891	No	0.989	No	1.006	No	0.904	No	1.002	No
	Front	0.972	0.349	0.247	0.345	0.039	1.321	No	1.219	No	1.317	No	1.360	No	1.258	No	1.356	No
Airplay	Edge 1	0.742	0.349	0.247	0.345		1.091	No	0.989	No	1.087	No						
	Edge 2	0.503	0.349	0.247	0.345		0.852	No	0.750	No	0.848	No						
	Edge 4	0.607	0.349	0.247	0.345		0.956	No	0.854	No	0.952	No						

12.45. Sum of the SAR for W-CDMA IV (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.241	0.181	0.236	0.195	0.031	0.422	No	0.477	No	0.436	No	0.453	No	0.508	No	0.467	No
	Left Tilt	0.171	0.181	0.236	0.195	0.068	0.352	No	0.407	No	0.366	No	0.420	No	0.475	No	0.434	No
	Right Touch	0.488	0.181	0.236	0.195	0.093	0.669	No	0.724	No	0.683	No	0.762	No	0.817	No	0.776	No
	Right Tilt	0.151	0.181	0.236	0.195	0.097	0.332	No	0.387	No	0.346	No	0.429	No	0.484	No	0.443	No
Body-worn Accessory & Airplay	Rear	0.797	0.349	0.247	0.345	0.013	1.146	No	1.044	No	1.142	No	1.159	No	1.057	No	1.155	No
	Front	0.799	0.349	0.247	0.345	0.039	1.148	No	1.046	No	1.144	No	1.187	No	1.085	No	1.183	No
Airplay	Edge 2	0.080	0.349	0.247	0.345		0.429	No	0.327	No	0.425	No						
	Edge 3	1.050	0.349	0.247	0.345		1.399	No	1.297	No	1.395	No						
	Edge 4	0.086	0.349	0.247	0.345		0.435	No	0.333	No	0.431	No						

Conclusion:

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

12.46. Sum of the SAR for W-CDMA II (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.446	0.181	0.236	0.195	0.031	0.627	No	0.682	No	0.641	No	0.658	No	0.713	No	0.672	No
	Left Tilt	0.467	0.181	0.236	0.195	0.068	0.648	No	0.703	No	0.662	No	0.716	No	0.771	No	0.730	No
	Right Touch	1006	0.181	0.236	0.195	0.093	1.187	No	1242	No	1201	No	1280	No	1335	No	1294	No
	Right Tilt	0.904	0.181	0.236	0.195	0.097	1085	No	1140	No	1099	No	1182	No	1237	No	1196	No
Body-worn Accessory & Airplay	Rear	0.558	0.349	0.247	0.345	0.013	0.907	No	0.805	No	0.903	No	0.920	No	0.818	No	0.916	No
	Front	0.998	0.349	0.247	0.345	0.039	1347	No	1245	No	1343	No	1386	No	1284	No	1382	No
Airplay	Edge 1	0.555	0.349	0.247	0.345		0.904	No	0.802	No	0.900	No						
	Edge 2	0.023	0.349	0.247	0.345		0.372	No	0.270	No	0.368	No						
	Edge 4	0.492	0.349	0.247	0.345		0.841	No	0.739	No	0.837	No						

12.47. Sum of the SAR for W-CDMA II (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.581	0.181	0.236	0.195	0.031	0.762	No	0.817	No	0.776	No	0.793	No	0.848	No	0.807	No
	Left Tilt	0.254	0.181	0.236	0.195	0.068	0.435	No	0.490	No	0.449	No	0.503	No	0.558	No	0.517	No
	Right Touch	0.963	0.181	0.236	0.195	0.093	1.144	No	1.199	No	1.158	No	1237	No	1292	No	1251	No
	Right Tilt	0.283	0.181	0.236	0.195	0.097	0.464	No	0.519	No	0.478	No	0.561	No	0.616	No	0.575	No
Body-worn Accessory & Airplay	Rear	1002	0.349	0.247	0.345	0.013	1351	No	1249	No	1347	No	1364	No	1262	No	1360	No
	Front	1022	0.349	0.247	0.345	0.039	1371	No	1269	No	1367	No	1410	No	1308	No	1406	No
Airplay	Edge 2	0.734	0.349	0.247	0.345		1083	No	0.981	No	1079	No						
	Edge 3	0.707	0.349	0.247	0.345		1056	No	0.954	No	1052	No						
	Edge 4	0.086	0.349	0.247	0.345		0.435	No	0.333	No	0.431	No						

Conclusion:

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

12.48. Sum of the SAR for LTE Band 2 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.49. Sum of the SAR for LTE Band 2 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.50. Sum of the SAR for LTE Band 4 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.559	0.181	0.236	0.195	0.031	0.740	No	0.795	No	0.754	No	0.771	No	0.826	No	0.785	No
	Left Tilt	0.489	0.181	0.236	0.195	0.068	0.670	No	0.725	No	0.684	No	0.738	No	0.793	No	0.752	No
	Right Touch	1023	0.181	0.236	0.195	0.093	1204	No	1259	No	1218	No	1297	No	1352	No	1311	No
	Right Tilt	0.925	0.181	0.236	0.195	0.097	1106	No	1161	No	1120	No	1203	No	1258	No	1217	No
Body-worn Accessory & Airplay	Rear	0.536	0.349	0.247	0.345	0.013	0.885	No	0.783	No	0.881	No	0.898	No	0.796	No	0.894	No
	Front	0.764	0.349	0.247	0.345	0.039	1.113	No	1.011	No	1.109	No	1.152	No	1.050	No	1.148	No
Airplay	Edge 1	0.615	0.349	0.247	0.345		0.964	No	0.862	No	0.960	No						
	Edge 2	0.043	0.349	0.247	0.345		0.392	No	0.290	No	0.388	No						
	Edge 4	0.646	0.349	0.247	0.345		0.995	No	0.893	No	0.991	No						

12.51. Sum of the SAR for LTE Band 4 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.187	0.181	0.236	0.195	0.031	0.368	No	0.423	No	0.382	No	0.399	No	0.454	No	0.413	No
	Left Tilt	0.152	0.181	0.236	0.195	0.068	0.333	No	0.388	No	0.347	No	0.401	No	0.456	No	0.415	No
	Right Touch	0.412	0.181	0.236	0.195	0.093	0.593	No	0.648	No	0.607	No	0.686	No	0.741	No	0.700	No
	Right Tilt	0.142	0.181	0.236	0.195	0.097	0.323	No	0.378	No	0.337	No	0.420	No	0.475	No	0.434	No
Body-worn Accessory & Airplay	Rear	0.842	0.349	0.247	0.345	0.013	1.191	No	1.089	No	1.187	No	1.204	No	1.102	No	1.200	No
	Front	1.060	0.349	0.247	0.345	0.039	1.409	No	1.307	No	1.405	No	1.448	No	1.346	No	1.444	No
Airplay	Edge 2	0.914	0.349	0.247	0.345		1.263	No	1.161	No	1.259	No						
	Edge 3	1.068	0.349	0.247	0.345		1.417	No	1.315	No	1.413	No						
	Edge 4	0.091	0.349	0.247	0.345		0.440	No	0.338	No	0.436	No						

Conclusion:

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

12.52. Sum of the SAR for LTE Band 5 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.53. Sum of the SAR for LTE Band 5 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.54. Sum of the SAR for LTE Band 7 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.285	0.181	0.236	0.195	0.031	0.466	No	0.521	No	0.480	No	0.497	No	0.552	No	0.511	No
	Left Tilt	0.262	0.181	0.236	0.195	0.068	0.443	No	0.498	No	0.457	No	0.511	No	0.566	No	0.525	No
	Right Touch	0.871	0.181	0.236	0.195	0.093	1052	No	1107	No	1066	No	1145	No	1200	No	1159	No
	Right Tilt	0.888	0.181	0.236	0.195	0.097	1069	No	1124	No	1083	No	1166	No	1221	No	1180	No
Body-worn Accessory & Airplay	Rear	0.712	0.349	0.247	0.345	0.013	1061	No	0.959	No	1057	No	1074	No	0.972	No	1070	No
	Front	0.722	0.349	0.247	0.345	0.039	1071	No	0.969	No	1067	No	1110	No	1008	No	1106	No
Airplay	Edge 1	0.428	0.349	0.247	0.345		0.777	No	0.675	No	0.773	No						
	Edge 2	0.299	0.349	0.247	0.345		0.648	No	0.546	No	0.644	No						
	Edge 4	0.597	0.349	0.247	0.345		0.946	No	0.844	No	0.942	No						

12.55. Sum of the SAR for LTE Band 7 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.669	0.181	0.236	0.195	0.031	0.850	No	0.905	No	0.864	No	0.881	No	0.936	No	0.895	No
	Left Tilt	0.173	0.181	0.236	0.195	0.068	0.354	No	0.409	No	0.368	No	0.422	No	0.477	No	0.436	No
	Right Touch	0.418	0.181	0.236	0.195	0.093	0.599	No	0.654	No	0.613	No	0.692	No	0.747	No	0.706	No
	Right Tilt	0.291	0.181	0.236	0.195	0.097	0.472	No	0.527	No	0.486	No	0.569	No	0.624	No	0.583	No
Body-worn Accessory & Airplay	Rear	0.981	0.349	0.247	0.345	0.013	1330	No	1228	No	1326	No	1343	No	1241	No	1339	No
	Front	1.140	0.349	0.247	0.345	0.039	1489	No	1387	No	1485	No	1528	No	1426	No	1524	No
Airplay	Edge 2	0.113	0.349	0.247	0.345		0.462	No	0.360	No	0.458	No						
	Edge 3	0.703	0.349	0.247	0.345		1052	No	0.950	No	1048	No						
	Edge 4	0.649	0.349	0.247	0.345		0.998	No	0.896	No	0.994	No						

Conclusion:

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

12.56. Sum of the SAR for LTE Band 12 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.412	0.181	0.236	0.195	0.031	0.593	No	0.648	No	0.607	No	0.624	No	0.679	No	0.638	No
	Left Tilt	0.412	0.181	0.236	0.195	0.068	0.593	No	0.648	No	0.607	No	0.661	No	0.716	No	0.675	No
	Right Touch	0.518	0.181	0.236	0.195	0.093	0.699	No	0.754	No	0.713	No	0.792	No	0.847	No	0.806	No
	Right Tilt	0.376	0.181	0.236	0.195	0.097	0.557	No	0.612	No	0.571	No	0.654	No	0.709	No	0.668	No
Body-worn Accessory & Airplay	Rear	0.201	0.349	0.247	0.345	0.013	0.550	No	0.448	No	0.546	No	0.563	No	0.461	No	0.559	No
	Front	0.216	0.349	0.247	0.345	0.039	0.565	No	0.463	No	0.561	No	0.604	No	0.502	No	0.600	No
Airplay	Edge 1	0.079	0.349	0.247	0.345		0.428	No	0.326	No	0.424	No						
	Edge 2	0.315	0.349	0.247	0.345		0.664	No	0.562	No	0.660	No						
	Edge 4	0.176	0.349	0.247	0.345		0.525	No	0.423	No	0.521	No						

12.57. Sum of the SAR for LTE Band 12 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.224	0.181	0.236	0.195	0.031	0.405	No	0.460	No	0.419	No	0.436	No	0.491	No	0.450	No
	Left Tilt	0.083	0.181	0.236	0.195	0.068	0.264	No	0.319	No	0.278	No	0.332	No	0.387	No	0.346	No
	Right Touch	0.185	0.181	0.236	0.195	0.093	0.366	No	0.421	No	0.380	No	0.459	No	0.514	No	0.473	No
	Right Tilt	0.082	0.181	0.236	0.195	0.097	0.263	No	0.318	No	0.277	No	0.360	No	0.415	No	0.374	No
Body-worn Accessory & Airplay	Rear	0.380	0.349	0.247	0.345	0.013	0.729	No	0.627	No	0.725	No	0.742	No	0.640	No	0.738	No
	Front	0.461	0.349	0.247	0.345	0.039	0.810	No	0.708	No	0.806	No	0.849	No	0.747	No	0.845	No
Airplay	Edge 2	0.234	0.349	0.247	0.345		0.583	No	0.481	No	0.579	No						
	Edge 3	0.308	0.349	0.247	0.345		0.657	No	0.555	No	0.653	No						
	Edge 4	0.600	0.349	0.247	0.345		0.949	No	0.847	No	0.945	No						

Conclusion:

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

12.58. Sum of the SAR for LTE Band 13 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.385	0.181	0.236	0.195	0.031	0.566	No	0.621	No	0.580	No	0.597	No	0.652	No	0.611	No
	Left Tilt	0.369	0.181	0.236	0.195	0.068	0.550	No	0.605	No	0.564	No	0.618	No	0.673	No	0.632	No
	Right Touch	0.560	0.181	0.236	0.195	0.093	0.741	No	0.796	No	0.755	No	0.834	No	0.889	No	0.848	No
	Right Tilt	0.406	0.181	0.236	0.195	0.097	0.587	No	0.642	No	0.601	No	0.684	No	0.739	No	0.698	No
Body-worn Accessory & Airplay	Rear	0.290	0.349	0.247	0.345	0.013	0.639	No	0.537	No	0.635	No	0.652	No	0.550	No	0.648	No
	Front	0.370	0.349	0.247	0.345	0.039	0.719	No	0.617	No	0.715	No	0.758	No	0.656	No	0.754	No
Airplay	Edge 1	0.335	0.349	0.247	0.345		0.684	No	0.582	No	0.680	No						
	Edge 2	0.236	0.349	0.247	0.345		0.585	No	0.483	No	0.581	No						
	Edge 4	0.065	0.349	0.247	0.345		0.414	No	0.312	No	0.410	No						

12.59. Sum of the SAR for LTE Band 13 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.322	0.181	0.236	0.195	0.031	0.503	No	0.558	No	0.517	No	0.534	No	0.589	No	0.548	No
	Left Tilt	0.151	0.181	0.236	0.195	0.068	0.332	No	0.387	No	0.346	No	0.400	No	0.455	No	0.414	No
	Right Touch	0.231	0.181	0.236	0.195	0.093	0.412	No	0.467	No	0.426	No	0.505	No	0.560	No	0.519	No
	Right Tilt	0.119	0.181	0.236	0.195	0.097	0.300	No	0.355	No	0.314	No	0.397	No	0.452	No	0.411	No
Body-worn Accessory & Airplay	Rear	0.671	0.349	0.247	0.345	0.013	1020	No	0.918	No	1016	No	1033	No	0.931	No	1029	No
	Front	0.790	0.349	0.247	0.345	0.039	1139	No	1037	No	1135	No	1178	No	1076	No	1174	No
Airplay	Edge 2	0.236	0.349	0.247	0.345		0.585	No	0.483	No	0.581	No						
	Edge 3	0.524	0.349	0.247	0.345		0.873	No	0.771	No	0.869	No						
	Edge 4	0.619	0.349	0.247	0.345		0.968	No	0.866	No	0.964	No						

Conclusion:

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

12.60. Sum of the SAR for LTE Band 17 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.61. Sum of the SAR for LTE Band 17 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.62. Sum of the SAR for LTE Band 25 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.604	0.181	0.236	0.195	0.031	0.785	No	0.840	No	0.799	No	0.816	No	0.871	No	0.830	No
	Left Tilt	0.534	0.181	0.236	0.195	0.068	0.715	No	0.770	No	0.729	No	0.783	No	0.838	No	0.797	No
	Right Touch	1089	0.181	0.236	0.195	0.093	1270	No	1325	No	1284	No	1363	No	1418	No	1377	No
	Right Tilt	0.876	0.181	0.236	0.195	0.097	1057	No	1112	No	1071	No	1154	No	1209	No	1168	No
Body-worn Accessory & Airplay	Rear	0.400	0.349	0.247	0.345	0.013	0.749	No	0.647	No	0.745	No	0.762	No	0.660	No	0.758	No
	Front	0.628	0.349	0.247	0.345	0.039	0.977	No	0.875	No	0.973	No	1016	No	0.914	No	1012	No
Airplay	Edge 1	0.375	0.349	0.247	0.345		0.724	No	0.622	No	0.720	No						
	Edge 2	0.033	0.349	0.247	0.345		0.382	No	0.280	No	0.378	No						
	Edge 4	0.306	0.349	0.247	0.345		0.655	No	0.553	No	0.651	No						

12.63. Sum of the SAR for LTE Band 25 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.441	0.181	0.236	0.195	0.031	0.622	No	0.677	No	0.636	No	0.653	No	0.708	No	0.667	No
	Left Tilt	0.107	0.181	0.236	0.195	0.068	0.288	No	0.343	No	0.302	No	0.356	No	0.411	No	0.370	No
	Right Touch	0.370	0.181	0.236	0.195	0.093	0.551	No	0.606	No	0.565	No	0.644	No	0.699	No	0.658	No
	Right Tilt	0.110	0.181	0.236	0.195	0.097	0.291	No	0.346	No	0.305	No	0.388	No	0.443	No	0.402	No
Body-worn Accessory & Airplay	Rear	0.678	0.349	0.247	0.345	0.013	1027	No	0.925	No	1023	No	1040	No	0.938	No	1036	No
	Front	1076	0.349	0.247	0.345	0.039	1425	No	1323	No	1421	No	1464	No	1362	No	1460	No
Airplay	Edge 2	0.546	0.349	0.247	0.345		0.895	No	0.793	No	0.891	No						
	Edge 3	0.528	0.349	0.247	0.345		0.877	No	0.775	No	0.873	No						
	Edge 4	0.068	0.349	0.247	0.345		0.417	No	0.315	No	0.413	No						

Conclusion:

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

12.64. Sum of the SAR for LTE Band 26 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.486	0.181	0.236	0.195	0.031	0.667	No	0.722	No	0.681	No	0.698	No	0.753	No	0.712	No
	Left Tilt	0.423	0.181	0.236	0.195	0.068	0.604	No	0.659	No	0.618	No	0.672	No	0.727	No	0.686	No
	Right Touch	0.508	0.181	0.236	0.195	0.093	0.689	No	0.744	No	0.703	No	0.782	No	0.837	No	0.796	No
	Right Tilt	0.354	0.181	0.236	0.195	0.097	0.535	No	0.590	No	0.549	No	0.632	No	0.687	No	0.646	No
Body-worn Accessory & Airplay	Rear	0.292	0.349	0.247	0.345	0.013	0.641	No	0.539	No	0.637	No	0.654	No	0.552	No	0.650	No
	Front	0.305	0.349	0.247	0.345	0.039	0.654	No	0.552	No	0.650	No	0.693	No	0.591	No	0.689	No
Airplay	Edge 1	0.178	0.349	0.247	0.345		0.527	No	0.425	No	0.523	No						
	Edge 2	0.224	0.349	0.247	0.345		0.573	No	0.471	No	0.569	No						
	Edge 4	0.073	0.349	0.247	0.345		0.422	No	0.320	No	0.418	No						

12.65. Sum of the SAR for LTE Band 26 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.260	0.181	0.236	0.195	0.031	0.441	No	0.496	No	0.455	No	0.472	No	0.527	No	0.486	No
	Left Tilt	0.113	0.181	0.236	0.195	0.068	0.294	No	0.349	No	0.308	No	0.362	No	0.417	No	0.376	No
	Right Touch	0.200	0.181	0.236	0.195	0.093	0.381	No	0.436	No	0.395	No	0.474	No	0.529	No	0.488	No
	Right Tilt	0.094	0.181	0.236	0.195	0.097	0.275	No	0.330	No	0.289	No	0.372	No	0.427	No	0.386	No
Body-worn Accessory & Airplay	Rear	0.436	0.349	0.247	0.345	0.013	0.785	No	0.683	No	0.781	No	0.798	No	0.696	No	0.794	No
	Front	0.582	0.349	0.247	0.345	0.039	0.931	No	0.829	No	0.927	No	0.970	No	0.868	No	0.966	No
Airplay	Edge 2	0.147	0.349	0.247	0.345		0.496	No	0.394	No	0.492	No						
	Edge 3	0.399	0.349	0.247	0.345		0.748	No	0.646	No	0.744	No						
	Edge 4	0.386	0.349	0.247	0.345		0.735	No	0.633	No	0.731	No						

Conclusion:

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

12.66. Sum of the SAR for LTE Band 27 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.67. Sum of the SAR for LTE Band 27 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

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

12.68. Sum of the SAR for LTE Band 30 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.384	0.181	0.236	0.195	0.031	0.565	No	0.620	No	0.579	No	0.596	No	0.651	No	0.610	No
	Left Tilt	0.383	0.181	0.236	0.195	0.068	0.564	No	0.619	No	0.578	No	0.632	No	0.687	No	0.646	No
	Right Touch	0.997	0.181	0.236	0.195	0.093	1.178	No	1.233	No	1.192	No	1.271	No	1.326	No	1.285	No
	Right Tilt	0.771	0.181	0.236	0.195	0.097	0.952	No	1.007	No	0.966	No	1.049	No	1.104	No	1.063	No
Body-worn Accessory & Airplay	Rear	0.780	0.349	0.247	0.345	0.013	1.129	No	1.027	No	1.125	No	1.142	No	1.040	No	1.138	No
	Front	0.829	0.349	0.247	0.345	0.039	1.178	No	1.076	No	1.174	No	1.217	No	1.115	No	1.213	No
Airplay	Edge 1	0.402	0.349	0.247	0.345		0.751	No	0.649	No	0.747	No						
	Edge 2	0.069	0.349	0.247	0.345		0.418	No	0.316	No	0.414	No						
	Edge 4	0.604	0.349	0.247	0.345		0.953	No	0.851	No	0.949	No						

12.69. Sum of the SAR for LTE Band 30 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.172	0.181	0.236	0.195	0.031	0.353	No	0.408	No	0.367	No	0.384	No	0.439	No	0.398	No
	Left Tilt	0.203	0.181	0.236	0.195	0.068	0.384	No	0.439	No	0.398	No	0.452	No	0.507	No	0.466	No
	Right Touch	0.470	0.181	0.236	0.195	0.093	0.651	No	0.706	No	0.665	No	0.744	No	0.799	No	0.758	No
	Right Tilt	0.156	0.181	0.236	0.195	0.097	0.337	No	0.392	No	0.351	No	0.434	No	0.489	No	0.448	No
Body-worn Accessory & Airplay	Rear	0.779	0.349	0.247	0.345	0.013	1.128	No	1.026	No	1.124	No	1.141	No	1.039	No	1.137	No
	Front	1.070	0.349	0.247	0.345	0.039	1.419	No	1.317	No	1.415	No	1.458	No	1.356	No	1.454	No
Airplay	Edge 2	0.686	0.349	0.247	0.345		1.035	No	0.933	No	1.031	No						
	Edge 3	0.776	0.349	0.247	0.345		1.125	No	1.023	No	1.121	No						
	Edge 4	0.115	0.349	0.247	0.345		0.464	No	0.362	No	0.460	No						

Conclusion:

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

12.70. Sum of the SAR for LTE Band 41 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.341	0.181	0.236	0.195	0.031	0.522	No	0.577	No	0.536	No	0.553	No	0.608	No	0.567	No
	Left Tilt	0.307	0.181	0.236	0.195	0.068	0.488	No	0.543	No	0.502	No	0.556	No	0.611	No	0.570	No
	Right Touch	1044	0.181	0.236	0.195	0.093	1225	No	1280	No	1239	No	1318	No	1373	No	1332	No
	Right Tilt	1053	0.181	0.236	0.195	0.097	1234	No	1289	No	1248	No	1331	No	1386	No	1345	No
Body-worn Accessory & Airplay	Rear	0.353	0.349	0.247	0.345	0.013	0.702	No	0.600	No	0.698	No	0.715	No	0.613	No	0.711	No
	Front	0.503	0.349	0.247	0.345	0.039	0.852	No	0.750	No	0.848	No	0.891	No	0.789	No	0.887	No
Airplay	Edge 1	0.257	0.349	0.247	0.345		0.606	No	0.504	No	0.602	No						
	Edge 2	0.251	0.349	0.247	0.345		0.600	No	0.498	No	0.596	No						
	Edge 4	0.470	0.349	0.247	0.345		0.819	No	0.717	No	0.815	No						

12.71. Sum of the SAR for LTE Band 41 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Left Touch	0.304	0.181	0.236	0.195	0.031	0.485	No	0.540	No	0.499	No	0.516	No	0.571	No	0.530	No
	Left Tilt	0.133	0.181	0.236	0.195	0.068	0.314	No	0.369	No	0.328	No	0.382	No	0.437	No	0.396	No
	Right Touch	0.179	0.181	0.236	0.195	0.093	0.360	No	0.415	No	0.374	No	0.453	No	0.508	No	0.467	No
	Right Tilt	0.128	0.181	0.236	0.195	0.097	0.309	No	0.364	No	0.323	No	0.406	No	0.461	No	0.420	No
Body-worn Accessory & Airplay	Rear	0.488	0.349	0.247	0.345	0.013	0.837	No	0.735	No	0.833	No	0.850	No	0.748	No	0.846	No
	Front	0.509	0.349	0.247	0.345	0.039	0.858	No	0.756	No	0.854	No	0.897	No	0.795	No	0.893	No
Airplay	Edge 2	0.157	0.349	0.247	0.345		0.506	No	0.404	No	0.502	No						
	Edge 3	0.231	0.349	0.247	0.345		0.580	No	0.478	No	0.576	No						
	Edge 4	0.337	0.349	0.247	0.345		0.686	No	0.584	No	0.682	No						

Conclusion:

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

12.72. Sum of the SAR for LTE-2CA Band 7 (LAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Body-worn Accessory & Hotspot	Front	1050	0.349	0.247	0.345	0.039	1089	No	0.388	No	0.286	No	0.384	No	1336	No	1434	No

12.73. Sum of the SAR for LTE-2CA Band 41 (UAT) & Wi-Fi UNII (Cell On) & BT(P_{low})

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Chain 0)	③ Wi-Fi 5GHz (Chain 1)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth (P _{low})	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)	Σ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	Right Tilt	0.782	0.181	0.236	0.195	0.097	0.879	No	0.278	No	0.333	No	0.292	No	1.15	No	1074	No

Conclusion:

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

Appendixes

Refer to separated files for the following appendixes.

16U23366-S1V1 SAR_App A Setup Photos (STC_180days)

16U23366-S1V3 SAR_App B System Check Plots

16U23366-S1V4 SAR_App C Highest Test Plots

16U23366-S1V1 SAR_App D Tissue Ingredients

16U23366-S1V1 SAR_App E Probe Cal. Certificates

16U23366-S1V1 SAR_App F Dipole Cal. Certificates

END OF REPORT