SAR EVALUATION REPORT

FCC 47 CFR § 2.1093
IEEE Std 1528-2013

For
Tablet Device

FCC ID: BCGA1652
Model Name: A1652

Report Number: 14U19185-S1V3
Issue Date: 9/15/2015

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Date	Revisions	Revised By
V1	9/1/2015	Initial Issue	--
V2	9/11/2015	Report revised based on Reviewer's comments: 1. Sec. 6.1., 9.2., 12.: Updated	Kenneth Mak
V3	9/15/2015	Report revised based on Reviewer's comments: 1. Sec. 4.3., 8., 9.6., 10.18.: Updated 2. Appendix B, F: Updated	Kenneth Mak

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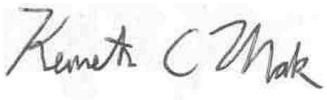
1. Attestation of Test Results

Applicant Name	APPLE INC.			
FCC ID	BCGA1652			
Model Name	A1652			
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
SAR Limits (W/Kg)				
Exposure Category	Peak spatial-average(1g of tissue)			
General population / Uncontrolled exposure	1.6			
The Highest Reported SAR (W/kg)				
RF Exposure Conditions	**Equipment Class**			
	Licensed	**DTS**	**U-NII**	**DSS (BT)**
Standalone	1.190	1.110	1.190	0.237
Simultaneous TX	1.456	1.336	1.456	1.456
Date Tested	7/20/2015 to 8/7/2015; 9/14/2015			
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.	Kenneth C. Mak Laboratory 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:

- 248227 D01 802.11 Wi-Fi SAR v02r01
- 447498 D01 General RF Exposure Guidance v05r02
- 447498 D03 Supplement C Cross-Reference v01
- 616217 D04 SAR for laptop and tablets v01r01
- 690783 D01 SAR Listings on Grants v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r01
- 941225 D01 3G SAR Procedures v03
- 941225 D05 SAR for LTE Devices v02r03
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r01
- 941225 D06 Hotspot Mode v02

3. Facilities and Accreditation

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

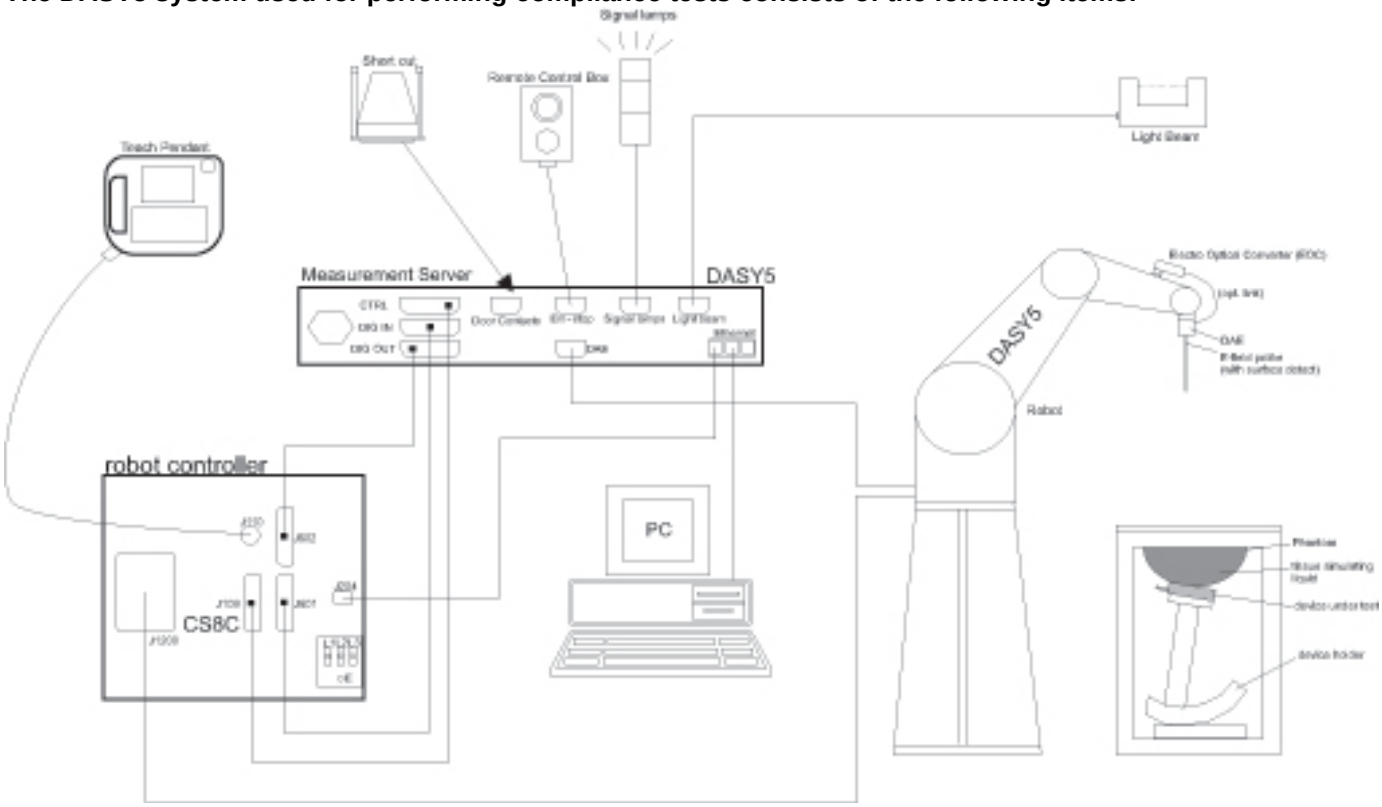
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	
SAR Lab G	
SAR Lab H	

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

<table>
<tr><td></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td>Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td>Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
</table>

Step 3: Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the area scan based *1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Step 4: Power drift measurement

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

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	MY4000980	4/17/2016
Dielectric Probe kit	SPEAG	DAK-3.5	1082	9/16/2015
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Control Company	Traceable	122529163	10/8/2015
Dielectric Probe kit	SPEAG	DAK-3.5	1087	11/11/2015
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Traceable Calibration Control Co.	4242	122529162	10/8/2015

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	HP	8665B	1000622	5/8/2016
Power Meter	Agilent	N1912A	MY50001018	9/3/2015
Power Sensor	Agilent	E9323A	US40411556	8/27/2015
Power Sensor	Agilent	E9323A	MY53070007	3/2/2016
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	HP	8665B	3744A01155	3/18/2016
Power Meter	HP	437B	3125U11364	8/27/2015
Power Meter	HP	437B	3125U12345	8/15/2015
Power Sensor	HP	8481A	1926A27048	8/15/2015
Power Sensor	HP	8481A	2702A76223	9/17/2015
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2141	N/A
DC Power Supply	BK PRECISION	1611	215-02292	N/A
E-Field Probe (SAR Lab C)	SPEAG	EX3DV4	3885	9/15/2015
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3772	2/23/2016
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3929	4/22/2016
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3686	2/23/2016
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3991	5/19/2016
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	7335	3/13/2016
Data Acquisition Electronics (SAR Lab C)	SPEAG	DAE3	427	1/14/2016
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1257	9/29/2015
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1359	2/18/2016
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1433	3/12/2016
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1472	3/5/2016
System Validation Dipole	SPEAG	D750V3	1019	3/11/2016
System Validation Dipole	SPEAG	D835V2	4d002	11/13/2015
System Validation Dipole	SPEAG	D1750V2	1050	4/15/2016
System Validation Dipole	SPEAG	D1750V2	1077	9/11/2015
System Validation Dipole	SPEAG	D1900V2	5d043	11/7/2015
System Validation Dipole	SPEAG	D2600V2	1006	9/10/2015
System Validation Dipole	SPEAG	D2450V2	899	3/13/2016
System Validation Dipole	SPEAG	D5GHzV2	1003	2/20/2016
System Validation Dipole	SPEAG	D5GHzV2	1168	12/4/2015

9/14/2015 - Additional Testing

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	HP	8665B	3744A01155	3/18/2016
Power Meter	HP	437B	3125U16345	6/15/2016
Power Meter	HP	437B	3125U12345	7/31/2016
Power Sensor	HP	8481A	2702A76223	9/3/2016
Power Sensor	HP	8481A	1926A27048	8/3/2016
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2141	N/A
DC Power Supply	BK PRECISION	1611	215-02292	N/A
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3772	2/23/2016
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1439	7/30/2016
System Validation Dipole	SPEAG	D2450V2	748	2/20/2016

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Power Meter	Agilent	N1912A	MY53040016	3/26/2016
Power Sensor	Agilent	N1921A	MY52260001	10/11/2015
Power Sensor	Agilent	N1921A	MY52270022	12/12/2015
Base Station Simulator	R & S	CMW500	112268	4/2/2016
Base Station Simulator	R & S	CMW500	134854	4/28/2016
Base Station Simulator	R & S	CMW500	104245	1/14/2016
Base Station Simulator	R & S	CMW500	134853	6/30/2016
Base Station Simulator	R & S	CMW500	124593	7/15/2016

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, 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 A1652 is a tablet with multimedia functions (music, application support, and video)

Cellular GSM/GPRS/EGPRS/CDMA2000 1xAdvanced/EVDO Rev. A/EVDO Rev. B/WCDMA/HSPA+/DC-HSPA/LTE FDD & Carrier Aggregation/TDD-LTE radio

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

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

Module 1 = Wi-Fi/BT module vendor 1

Module 2 = Wi-Fi/BT module vendor 2

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

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

Device Dimension	Overall (Length x Width): 305 mm x 220 mm Overall Diagonal: 370 mm Display Diagonal: 330 mm
Back Cover	☒ The rechargeable battery is not user accessible.
Battery Options	☒ The rechargeable battery is not user accessible.
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ 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	GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☒ Class 10 - 2 Up, 4 Down	(E)GPRS: 1 Slot: 12.5% 2 Slots: 25%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
CDMA (CDMA2000)	BC0 BC1 BC10 BC15	1xRTT 1xEV-DO Rel. 0 1xEV-DO Rev. A 1xAdvanced 1xEV-DO Rev. B (BC0 only)		100%
	Does this device support SV-DO (1xRTT-1xEVDO)? ☐ 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 13 FDD Band 17 FDD Band 25 FDD Band 26 TDD Band 41	QPSK 16QAM ☐ Rel. 10 Does not support Carrier Aggregation (CA) ☒ Rel. 10 Carrier Aggregation (1 Uplink and 2 Downlinks) ☐ Rel. 11 Carrier Aggregation (2 Uplink and 2 Downlinks)		100% (FDD) 63.3% (TDD)
	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? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	Version 4.2 LE		77.5% (DH5)

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

RF Air interface	Mode	Max Output Power (dBm)	
		Emission Power	Body Power
GSM 850	GPRS 1 slot	33.50	28.75
	GPRS 2 slots	32.50	25.75
	EGPRS 1 slot	29.00	28.75
	EGPRS 2 slots	29.00	25.75
GSM 1900	GPRS 1 slot	30.50	23.75
	GPRS 2 slots	29.50	20.75
	EGPRS 1 slot	28.00	23.75
	EGPRS 2 slots	28.00	20.75
W-CDMA Band V	R99	25.00	18.75
	HSDPA	25.00	18.75
	HSUPA	25.00	18.75
	DC-HSDPA	25.00	18.75
	HSPA+	25.00	18.75
W-CDMA Band IV	R99	24.50	13.75
	HSDPA	24.50	13.75
	HSUPA	24.50	13.75
	DC-HSDPA	24.50	13.75
	HSPA+	24.50	13.75
W-CDMA Band II	R99	23.75	14.25
	HSDPA	23.75	14.25
	HSUPA	23.75	14.25
	DC-HSDPA	23.75	14.25
	HSPA+	23.75	14.25
CDMA BC0	1xRTT	24.50	18.75
	1xAdvanced	24.50	18.75
	1xEVDO Rel. 0	24.50	18.75
	1xEVDO Rev. A	24.50	18.75
	1xEVDO Rev. B	22.00	18.75
CDMA BC1	1xRTT	23.75	14.25
	1xAdvanced	23.75	14.25
	1xEVDO Rel. 0	23.75	14.25
	1xEVDO Rev. A	23.75	14.25
CDMA BC10	1xRTT	25.00	18.75
	1xAdvanced	25.00	18.75
	1xEVDO Rel. 0	25.00	18.75
	1xEVDO Rev. A	25.00	18.75
CDMA BC15	1xRTT	24.50	13.50
	1xAdvanced	24.50	13.50
	1xEVDO Rel. 0	24.50	13.50
	1xEVDO Rev. A	24.50	13.50
LTE Band 2	QPSK	23.75	14.25
LTE Band 4	QPSK	24.00	14.00
LTE Band 5	QPSK	24.50	18.75
LTE Band 13	QPSK	24.00	19.00
LTE Band 17	QPSK	24.00	19.00
LTE Band 25	QPSK	23.75	14.25
LTE Band 26	QPSK	24.00	18.75
LTE Band 41	QPSK	22.30	17.25
Bluetooth	GFSK	10.0	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
2.4	1 Tx	802.11b	1	2412	16.0	16.0	Yes
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	16.0	16.0	
			12	2467	16.0	16.0	
			13	2472	13.0	13.0	
		802.11g	1	2412	16.0	16.0	No
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	14.5	14.5	
			12	2467	11.5	11.5	
			13	2472	3.5	3.5	
		802.11n HT20	1	2412	16.0	16.0	No
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	14.5	14.5	
			12	2467	11.5	11.5	
			13	2472	3.5	3.5	
	2 Tx	802.11g CDD	1	2412	14.0	14.0	Yes
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	14.0	14.0	
			12	2467	10.0	10.0	
			13	2472	2.5	2.5	
		802.11n HT20 CDD	1	2412	14.0	14.0	No
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	14.0	14.0	
			12	2467	10.0	10.0	
			13	2472	2.5	2.5	
		802.11n HT20 STBC	1	2412	14.0	14.0	No
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	14.0	14.0	
			12	2467	10.0	10.0	
			13	2472	2.5	2.5	
		802.11n HT20 SDM	1	2412	14.0	14.0	No
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	14.0	14.0	
			12	2467	10.0	10.0	
			13	2472	2.5	2.5	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.2	1 Tx	802.11a	36	5180	16.5	16.5	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11n HT20	36	5180	16.5	16.5	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11n HT40	38	5190	14.5	14.5	Yes (Antenna A)
			46	5230	17.0	17.0	
		802.11ac VHT20	36	5180	16.5	16.5	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11ac VHT40	38	5190	14.5	14.5	No
			46	5230	17.0	17.0	
		802.11ac VHT80	42	5210	13.0	13.0	No
5.2	2 Tx	802.11a CDD	36	5180	15.0	15.0	No
			40	5200	16.5	16.5	
			44	5220	16.5	16.5	
			48	5240	16.5	16.5	
		802.11n HT20 CDD	36	5180	15.0	15.0	No
			40	5200	16.5	16.5	
			44	5220	16.5	16.5	
			48	5240	16.5	16.5	
		802.11n HT20 STBC	36	5180	15.0	15.0	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11n HT20 SDM	36	5180	15.0	15.0	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11n HT40 CDD	38	5190	13.0	13.0	No
			46	5230	16.5	16.5	
		802.11n HT40 STBC	38	5190	13.0	13.0	Yes
			46	5230	17.0	17.0	
		802.11n HT40 SDM	38	5190	13.0	13.0	No
			46	5230	17.0	17.0	
		802.11ac VHT20 CDD	36	5180	15.0	15.0	No
			40	5200	16.5	16.5	
			44	5220	16.5	16.5	
			48	5240	16.5	16.5	
		802.11ac VHT20 STBC	36	5180	15.0	15.0	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11ac VHT20 SDM	36	5180	15.0	15.0	No
			40	5200	17.0	17.0	
			44	5220	17.0	17.0	
			48	5240	17.0	17.0	
		802.11ac VHT40 CDD	38	5190	13.0	13.0	No
			46	5230	16.5	16.5	
		802.11ac VHT40 STBC	38	5190	13.0	13.0	No
			46	5230	17.0	17.0	
		802.11ac VHT40 SDM	38	5190	13.0	13.0	No
			46	5230	17.0	17.0	
		802.11ac VHT80 CDD	42	5210	12.5	12.5	No
		802.11ac VHT80 STBC	42	5210	12.5	12.5	No
		802.11ac VHT80 SDM	42	5210	12.5	12.5	No

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.3	1 Tx	802.11a	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	16.5	16.5	
		802.11n HT20	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	16.5	16.5	
		802.11n HT40	54	5270	16.5	17.0	Yes (Antenna B)
			62	5310	14.5	14.5	
		802.11ac VHT20	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	16.5	16.5	
		802.11ac VHT40	54	5270	16.5	17.0	No
			62	5310	14.5	14.5	
		802.11ac VHT80	58	5290	14.5	14.5	No
5.3	2 Tx	802.11a CDD	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	15.0	15.0	
		802.11n HT20 CDD	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	15.0	15.0	
		802.11n HT20 STBC	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	15.0	15.0	
		802.11n HT20 SDM	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	15.0	15.0	
		802.11n HT40 CDD	54	5270	16.0	16.0	No
			62	5310	13.5	13.5	
		802.11n HT40 STBC	54	5270	16.5	17.0	No
			62	5310	13.5	13.5	
		802.11n HT40 SDM	54	5270	16.5	17.0	No
			62	5310	13.5	13.5	
		802.11ac VHT20 CDD	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	15.0	15.0	
		802.11ac VHT20 STBC	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	15.0	15.0	
		802.11ac VHT20 SDM	52	5260	16.5	17.0	No
			56	5280	16.5	17.0	
			60	5300	16.5	17.0	
			64	5320	15.0	15.0	
		802.11ac VHT40 CDD	54	5270	16.0	16.0	No
			62	5310	13.5	13.5	
		802.11ac VHT40 STBC	54	5270	16.5	17.0	No
			62	5310	13.5	13.5	
		802.11ac VHT40 SDM	54	5270	16.5	17.0	No
			62	5310	13.5	13.5	
		802.11ac VHT80 CDD	58	5290	13.0	13.0	No
		802.11ac VHT80 STBC	58	5290	13.0	13.0	No
		802.11ac VHT80 SDM	58	5290	13.0	13.0	No

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	1 Tx	802.11a	100	5500	15.5	15.5	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	15.0	15.0	
			144	5720	15.5	16.0	
		802.11n HT20	100	5500	15.5	15.5	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	15.0	15.0	
			144	5720	15.5	16.0	
		802.11n HT40	102	5510	14.5	14.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	15.5	15.5	
			142	5710	15.0	15.0	
		802.11ac VHT20	100	5500	15.5	15.5	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	15.0	15.0	
			144	5720	15.5	16.0	
		802.11ac VHT40	102	5510	14.5	14.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	15.5	15.5	
			142	5710	15.0	15.0	
		802.11ac VHT80	106	5530	14.5	14.5	Yes
			122	5610	15.5	16.0	
			138	5690	15.5	16.0	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	2 Tx	802.11a CDD	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	
		802.11n HT20 CDD	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	
		802.11n HT20 STBC	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	
		802.11n HT20 SDM	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	2 Tx	802.11n HT40 CDD	102	5510	13.5	13.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	14.5	14.5	
			142	5710	14.5	14.5	
		802.11n HT40 STBC	102	5510	13.5	13.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	14.5	14.5	
			142	5710	14.5	14.5	
		802.11n HT40 SDM	102	5510	13.5	13.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	14.5	14.5	
			142	5710	14.5	14.5	
		802.11ac VHT20 CDD	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	
		802.11ac VHT20 STBC	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	
		802.11ac VHT20 SDM	100	5500	15.0	15.0	No
			104	5520	15.5	16.0	
			108	5540	15.5	16.0	
			112	5560	15.5	16.0	
			116	5580	15.5	16.0	
			120	5600	15.5	16.0	
			124	5620	15.5	16.0	
			128	5640	15.5	16.0	
			132	5660	15.5	16.0	
			136	5680	15.5	16.0	
			140	5700	14.5	14.5	
			144	5720	15.5	16.0	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	2 Tx	802.11ac VHT40 CDD	102	5510	13.5	13.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	14.5	14.5	
			142	5710	14.5	14.5	
		802.11ac VHT40 STBC	102	5510	13.5	13.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	14.5	14.5	
			142	5710	14.5	14.5	
		802.11ac VHT40 SDM	102	5510	13.5	13.5	No
			110	5550	15.5	16.0	
			118	5590	15.5	16.0	
			126	5630	15.5	16.0	
			134	5670	14.5	14.5	
			142	5710	14.5	14.5	
		802.11ac VHT80 CDD	106	5530	13.5	13.5	Yes
			122	5610	15.5	16.0	
			138	5690	15.5	16.0	
		802.11ac VHT80 STBC	106	5530	13.5	13.5	No
			122	5610	15.5	16.0	
			138	5690	15.5	16.0	
		802.11ac VHT80 SDM	106	5530	13.5	13.5	No
			122	5610	15.5	16.0	
			138	5690	15.5	16.0	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.8	1 Tx	802.11a	149	5745	15.5	15.5	Yes (Antenna B)
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	16.0	16.0	
		802.11n HT20	149	5745	15.5	15.5	
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	16.0	16.0	
		802.11n HT40	151	5755	15.0	15.0	Yes (Antenna A)
			159	5795	16.0	16.0	
		802.11ac VHT20	149	5745	15.5	15.5	
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	16.0	16.0	
		802.11ac VHT40	151	5755	15.0	15.0	
			159	5795	16.0	16.0	
		802.11ac VHT80	155	5775	14.5	14.5	

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Max. RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.8	2 Tx	802.11a CDD	149	5745	15.0	15.0	Yes
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11n HT20 CDD	149	5745	15.0	15.0	No
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11n HT20 STBC	149	5745	15.0	15.0	No
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11n HT20 SDM	149	5745	15.0	15.0	No
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11n HT40 CDD	151	5755	14.5	14.5	No
			159	5795	15.5	15.5	
		802.11n HT40 STBC	151	5755	14.5	14.5	No
			159	5795	15.5	15.5	
		802.11n HT40 SDM	151	5755	14.5	14.5	No
			159	5795	15.5	15.5	
		802.11ac HT20 CDD	149	5745	15.0	15.0	No
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11ac HT20 STBC	149	5745	15.0	15.0	No
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11ac HT20 SDM	149	5745	15.0	15.0	No
			153	5765	16.0	16.5	
			157	5785	16.0	16.5	
			161	5805	16.0	16.5	
			165	5825	15.5	15.5	
		802.11ac HT40 CDD	151	5755	14.5	14.5	No
			159	5795	15.5	15.5	
		802.11ac HT40 STBC	151	5755	14.5	14.5	No
			159	5795	15.5	15.5	
		802.11ac HT40 SDM	151	5755	14.5	14.5	No
			159	5795	15.5	15.5	
		802.11ac VHT80 CDD	155	5775	14.0	14.0	No
		802.11ac VHT80 STBC	155	5775	14.0	14.0	No
		802.11ac VHT80 SDM	155	5775	14.0	14.0	No

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 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 - 824 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low				26715/ 816.5	26705/ 815.5	26697/ 814.7
Mid			26740/ 819	26740/ 819	26740/ 819	26740/ 819
High				26765/ 821.5	26775/ 822.5	26783/ 823.3

Band 41	Frequency range: 2496 - 2690 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	39750/ 2506.0	39725/ 2503.5	39700/ 2501	39675/ 2498.5		
Low-Mid	40185/ 2549.5	40173/ 2548.3	40160/ 2547.0	40148/ 2545.8		
Mid	40620/ 2593.0	40620/ 2593.0	40620/ 2593.0	40620/ 2593.0		
Mid-High	41055/ 2636.5	41068/ 2547.8	41080/ 2639.0	41093/ 2640.3		
High	41490/ 2680.0	41515/ 2682.5	41540/ 2685.0	41565/ 2687.5		

LTE transmitter and antenna implementation

LTE has one (1) TX/RX antennas and one (1) RX antennas

Maximum power reduction (MPR)

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

MPR Built-in by design

A-MPR (additional MPR) was disabled during SAR testing

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.

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 Band 41 supports 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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Calculated Duty Cycle

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

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

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:
Calculated Duty Cycle = 5120 x [1/(15000 x 2048)] x 2 + 6 ms = 63.33%
where
T_s = 1/(15000 x 2048) seconds

6.6. Antenna Dimensions and Separation Distances

Refer to separate filing document.

7. RF Exposure Conditions (Test Configurations)

7.1. Standalone SAR Test Exclusion Considerations

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

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

7.1.1. SAR Test Exclusion Calculations for WWAN

Antennas < 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
GPRS 2 Slots	848.8	25.75	94	1.8	2.3	48.8	293	117.7		17.3 -MEASURE-	17.3 -MEASURE-	18 -EXEMPT-	> 50 mm	> 50 mm	
GPRS 2 Slots	1909.8	20.75	30	1.8	2.3	48.8	293	117.7		8.3 -MEASURE-	8.3 -MEASURE-	0.8 -EXEMPT-	> 50 mm	> 50 mm	
W-CDMA II	1907.6	14.25	27	1.8	2.3	48.8	293	117.7		7.5 -MEASURE-	7.5 -MEASURE-	0.8 -EXEMPT-	> 50 mm	> 50 mm	
W-CDMA IV	1752.6	13.75	24	1.8	2.3	48.8	293	117.7		6.4 -MEASURE-	6.4 -MEASURE-	0.6 -EXEMPT-	> 50 mm	> 50 mm	
W-CDMA V	846.6	18.75	75	1.8	2.3	48.8	293	117.7		13.8 -MEASURE-	13.8 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
CDMA BC0	848.31	18.75	75	1.8	2.3	48.8	293	117.7		13.8 -MEASURE-	13.8 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
CDMA BC1	1908.75	14.25	27	1.8	2.3	48.8	293	117.7		7.5 -MEASURE-	7.5 -MEASURE-	0.8 -EXEMPT-	> 50 mm	> 50 mm	
CDMA BC10	823.1	18.75	75	1.8	2.3	48.8	293	117.7		13.6 -MEASURE-	13.6 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
CDMA BC15	1753.75	13.50	22	1.8	2.3	48.8	293	117.7		5.8 -MEASURE-	5.8 -MEASURE-	0.6 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 2	1900	14.25	27	1.8	2.3	48.8	293	117.7		7.4 -MEASURE-	7.4 -MEASURE-	0.8 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 4	1754.3	14.00	25	1.8	2.3	48.8	293	117.7		6.6 -MEASURE-	6.6 -MEASURE-	0.7 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 5	844	18.75	75	1.8	2.3	48.8	293	117.7		13.8 -MEASURE-	13.8 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 13	782	19.00	79	1.8	2.3	48.8	293	117.7		14 -MEASURE-	14 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 17	710	19.00	79	1.8	2.3	48.8	293	117.7		13.3 -MEASURE-	13.3 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 25	1905	14.25	27	1.8	2.3	48.8	293	117.7		7.5 -MEASURE-	7.5 -MEASURE-	0.8 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 26	841.4	18.75	75	1.8	2.3	48.8	293	117.7		13.8 -MEASURE-	13.8 -MEASURE-	14 -EXEMPT-	> 50 mm	> 50 mm	
LTE Band 41	2680	17.25	53	1.8	2.3	48.8	293	117.7		17.4 -MEASURE-	17.4 -MEASURE-	18 -EXEMPT-	> 50 mm	> 50 mm	

Antennas > 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
GPRS 2 Slots	848.8	25.75	94	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1537.9 mW -EXEMPT-	545.9 mW -EXEMPT-	
GPRS 2 Slots	1909.8	20.75	30	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2538.5 mW -EXEMPT-	785.5 mW -EXEMPT-	
W-CDMA II	1907.6	14.25	27	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2538.6 mW -EXEMPT-	785.6 mW -EXEMPT-	
W-CDMA IV	1752.6	13.75	24	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2543.3 mW -EXEMPT-	790.3 mW -EXEMPT-	
W-CDMA V	846.6	18.75	75	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1534.5 mW -EXEMPT-	545.1mW -EXEMPT-	
CDMA BC0	848.31	18.75	75	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1537.1mW -EXEMPT-	545.7 mW -EXEMPT-	
CDMA BC1	1908.75	14.25	27	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2538.6 mW -EXEMPT-	785.6 mW -EXEMPT-	
CDMA BC10	823.1	18.75	75	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1498.8 mW -EXEMPT-	536.8 mW -EXEMPT-	
CDMA BC15	1753.75	13.50	22	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2543.3 mW -EXEMPT-	790.3 mW -EXEMPT-	
LTE Band 2	1900	14.25	27	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2538.8 mW -EXEMPT-	785.8 mW -EXEMPT-	
LTE Band 4	1754.3	14.00	25	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2543.3 mW -EXEMPT-	790.3 mW -EXEMPT-	
LTE Band 5	844	18.75	75	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1530.6 mW -EXEMPT-	544.2 mW -EXEMPT-	
LTE Band 13	782	19.00	79	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1436.5 mW -EXEMPT-	522.6 mW -EXEMPT-	
LTE Band 17	710	19.00	79	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1328.2 mW -EXEMPT-	498.5 mW -EXEMPT-	
LTE Band 25	1905	14.25	27	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	2538.7 mW -EXEMPT-	785.7 mW -EXEMPT-	
LTE Band 26	841.4	18.75	75	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	1526.6 mW -EXEMPT-	543.3 mW -EXEMPT-	
LTE Band 41	2680	17.25	53	1.8	2.3	48.8	293	117.7		< 50 mm	< 50 mm	< 50 mm	25216 mW -EXEMPT-	768.6 mW -EXEMPT-	

Note(s):

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

7.1.2. SAR Test Exclusion Calculations for WLAN SISO

Antennas < 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	132.7	3.1	46.4		10.5 -MEASURE-	> 50 mm	> 50 mm	12.6 -MEASURE-	14 -EXEMPT-	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	132.7	3.1	46.4		19.1 -MEASURE-	> 50 mm	> 50 mm	22.9 -MEASURE-	2.5 -EXEMPT-	
Wi-Fi 5.3 GHz	5320	16.5	45	6	291.7	132.7	3.1	46.4		17.3 -MEASURE-	> 50 mm	> 50 mm	20.8 -MEASURE-	2.3 -EXEMPT-	
Wi-Fi 5.5 GHz	5700	15.5	35	6	291.7	132.7	3.1	46.4		13.9 -MEASURE-	> 50 mm	> 50 mm	16.7 -MEASURE-	18 -EXEMPT-	
Wi-Fi 5.8 GHz	5825	16.0	40	6	291.7	132.7	3.1	46.4		16.1 -MEASURE-	> 50 mm	> 50 mm	19.3 -MEASURE-	2.1 -EXEMPT-	
Bluetooth	2480	10.0	10	6	291.7	132.7	3.1	46.4		2.6 -EXEMPT-	> 50 mm	> 50 mm	3.1 -MEASURE-	0.3 -EXEMPT-	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	46.4	3.1	132.7		10.5 -MEASURE-	> 50 mm	14 -EXEMPT-	12.6 -MEASURE-	> 50 mm	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	46.4	3.1	132.7		19.1 -MEASURE-	> 50 mm	2.5 -EXEMPT-	22.9 -MEASURE-	> 50 mm	
Wi-Fi 5.3 GHz	5320	17.0	50	6	291.7	46.4	3.1	132.7		19.2 -MEASURE-	> 50 mm	2.5 -EXEMPT-	23.1 -MEASURE-	> 50 mm	
Wi-Fi 5.5 GHz	5700	16.0	40	6	291.7	46.4	3.1	132.7		15.9 -MEASURE-	> 50 mm	2.1 -EXEMPT-	19.1 -MEASURE-	> 50 mm	
Wi-Fi 5.8 GHz	5825	16.5	45	6	291.7	46.4	3.1	132.7		18.1 -MEASURE-	> 50 mm	2.4 -EXEMPT-	21.7 -MEASURE-	> 50 mm	

Antennas > 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	132.7	3.1	46.4		< 50 mm	2512.6 mW -EXEMPT-	922.6 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	132.7	3.1	46.4		< 50 mm	2482.5 mW -EXEMPT-	892.5 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.3 GHz	5320	16.5	45	6	291.7	132.7	3.1	46.4		< 50 mm	2482 mW -EXEMPT-	892 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.5 GHz	5700	15.5	35	6	291.7	132.7	3.1	46.4		< 50 mm	2479.8 mW -EXEMPT-	889.8 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.8 GHz	5825	16.0	40	6	291.7	132.7	3.1	46.4		< 50 mm	2479.2 mW -EXEMPT-	889.2 mW -EXEMPT-	< 50 mm	< 50 mm	
Bluetooth	2480	10.0	10	6	291.7	132.7	3.1	46.4		< 50 mm	2512.3 mW -EXEMPT-	922.3 mW -EXEMPT-	< 50 mm	< 50 mm	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	46.4	3.1	132.7		< 50 mm	2512.6 mW -EXEMPT-	< 50 mm	< 50 mm	922.6 mW -EXEMPT-	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	46.4	3.1	132.7		< 50 mm	2482.5 mW -EXEMPT-	< 50 mm	< 50 mm	892.5 mW -EXEMPT-	
Wi-Fi 5.3 GHz	5320	17.0	50	6	291.7	46.4	3.1	132.7		< 50 mm	2482 mW -EXEMPT-	< 50 mm	< 50 mm	892 mW -EXEMPT-	
Wi-Fi 5.5 GHz	5700	16.0	40	6	291.7	46.4	3.1	132.7		< 50 mm	2479.8 mW -EXEMPT-	< 50 mm	< 50 mm	889.8 mW -EXEMPT-	
Wi-Fi 5.8 GHz	5825	16.5	45	6	291.7	46.4	3.1	132.7		< 50 mm	2479.2 mW -EXEMPT-	< 50 mm	< 50 mm	889.2 mW -EXEMPT-	

Note(s):

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

7.1.3. SAR Test Exclusion Calculations for WLAN MIMO

Antennas < 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	132.7	3.1	46.4		10.5 -MEASURE-	> 50 mm	> 50 mm	12.6 -MEASURE-	14 -EXEMPT-	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	132.7	3.1	46.4		19.1 -MEASURE-	> 50 mm	> 50 mm	22.9 -MEASURE-	2.5 -EXEMPT-	
Wi-Fi 5.3 GHz	5320	16.5	45	6	291.7	132.7	3.1	46.4		17.3 -MEASURE-	> 50 mm	> 50 mm	20.8 -MEASURE-	2.3 -EXEMPT-	
Wi-Fi 5.5 GHz	5700	15.5	35	6	291.7	132.7	3.1	46.4		13.9 -MEASURE-	> 50 mm	> 50 mm	16.7 -MEASURE-	18 -EXEMPT-	
Wi-Fi 5.8 GHz	5825	16.0	40	6	291.7	132.7	3.1	46.4		16.1 -MEASURE-	> 50 mm	> 50 mm	19.3 -MEASURE-	2.1 -EXEMPT-	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	46.4	3.1	132.7		10.5 -MEASURE-	> 50 mm	14 -EXEMPT-	12.6 -MEASURE-	> 50 mm	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	46.4	3.1	132.7		19.1 -MEASURE-	> 50 mm	2.5 -EXEMPT-	22.9 -MEASURE-	> 50 mm	
Wi-Fi 5.3 GHz	5320	17.0	50	6	291.7	46.4	3.1	132.7		19.2 -MEASURE-	> 50 mm	2.5 -EXEMPT-	23.1 -MEASURE-	> 50 mm	
Wi-Fi 5.5 GHz	5700	16.0	40	6	291.7	46.4	3.1	132.7		15.9 -MEASURE-	> 50 mm	2.1 -EXEMPT-	19.1 -MEASURE-	> 50 mm	
Wi-Fi 5.8 GHz	5825	16.5	45	6	291.7	46.4	3.1	132.7		18.1 -MEASURE-	> 50 mm	2.4 -EXEMPT-	21.7 -MEASURE-	> 50 mm	

Antennas > 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	132.7	3.1	46.4		< 50 mm	2512.6 mW -EXEMPT-	922.6 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	132.7	3.1	46.4		< 50 mm	2482.5 mW -EXEMPT-	892.5 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.3 GHz	5320	16.5	45	6	291.7	132.7	3.1	46.4		< 50 mm	2482 mW -EXEMPT-	892 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.5 GHz	5700	15.5	35	6	291.7	132.7	3.1	46.4		< 50 mm	2479.8 mW -EXEMPT-	889.8 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.8 GHz	5825	16.0	40	6	291.7	132.7	3.1	46.4		< 50 mm	2479.2 mW -EXEMPT-	889.2 mW -EXEMPT-	< 50 mm	< 50 mm	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.0	40	6	291.7	46.4	3.1	132.7		< 50 mm	2512.6 mW -EXEMPT-	< 50 mm	< 50 mm	922.6 mW -EXEMPT-	
Wi-Fi 5.2 GHz	5240	17.0	50	6	291.7	46.4	3.1	132.7		< 50 mm	2482.5 mW -EXEMPT-	< 50 mm	< 50 mm	892.5 mW -EXEMPT-	
Wi-Fi 5.3 GHz	5320	17.0	50	6	291.7	46.4	3.1	132.7		< 50 mm	2482 mW -EXEMPT-	< 50 mm	< 50 mm	892 mW -EXEMPT-	
Wi-Fi 5.5 GHz	5700	16.0	40	6	291.7	46.4	3.1	132.7		< 50 mm	2479.8 mW -EXEMPT-	< 50 mm	< 50 mm	889.8 mW -EXEMPT-	
Wi-Fi 5.8 GHz	5825	16.5	45	6	291.7	46.4	3.1	132.7		< 50 mm	2479.2 mW -EXEMPT-	< 50 mm	< 50 mm	889.2 mW -EXEMPT-	

Note(s):

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

7.2. Required Test Configurations

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

Test Configurations	Rear	Edge 1 (Top Edge)	Edge 2 (Right Edge)	Edge 3 (Bottom Edge)	Edge 4 (Left Edge)
GSM850	Yes	Yes	No	No	No
GSM1900	Yes	Yes	No	No	No
W-CDMA Band 2	Yes	Yes	No	No	No
W-CDMA Band 4	Yes	Yes	No	No	No
W-CDMA Band 5	Yes	Yes	No	No	No
CDMA BC0	Yes	Yes	No	No	No
CDMA BC1	Yes	Yes	No	No	No
CDMA BC10	Yes	Yes	No	No	No
CDMA BC15	Yes	Yes	No	No	No
LTE Band 2	Yes	Yes	No	No	No
LTE Band 4	Yes	Yes	No	No	No
LTE Band 5	Yes	Yes	No	No	No
LTE Band 13	Yes	Yes	No	No	No
LTE Band 17	Yes	Yes	No	No	No
LTE Band 25	Yes	Yes	No	No	No
LTE Band 26	Yes	Yes	No	No	No
LTE Band 41	Yes	Yes	No	No	No
Wi-Fi 2.4 GHz SISO (Antenna A)	Yes	No	No	Yes	No
Wi-Fi 2.4 GHz SISO (Antenna B)	Yes	No	No	Yes	No
Wi-Fi 2.4 GHz MIMO	Yes	No	No	Yes	No
Wi-Fi 5 GHz SISO (Antenna A)	Yes	No	No	Yes	No
Wi-Fi 5 GHz SISO (Antenna B)	Yes	No	No	Yes	No
Wi-Fi 5 GHz MIMO	Yes	No	No	Yes	No
Bluetooth	No	No	No	Yes	No

Note(s):

Yes = Testing is required.

No = Testing is not required.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

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

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

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

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 C

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
8/4/2015	Body 5180	e'	48.0300	Relative Permittivity (ϵ_r):	48.03	49.05	-2.07	5
		e''	18.3700	Conductivity (σ):	5.29	5.27	0.37	5
	Body 5200	e'	47.9800	Relative Permittivity (ϵ_r):	47.98	49.02	-2.12	5
		e''	18.4300	Conductivity (σ):	5.33	5.29	0.64	5
	Body 5600	e'	47.3100	Relative Permittivity (ϵ_r):	47.31	48.48	-2.41	5
		e''	18.8200	Conductivity (σ):	5.86	5.76	1.72	5
	Body 5800	e'	46.9900	Relative Permittivity (ϵ_r):	46.99	48.20	-2.51	5
		e''	19.0200	Conductivity (σ):	6.13	6.00	2.23	5
	Body 5825	e'	46.9300	Relative Permittivity (ϵ_r):	46.93	48.20	-2.63	5
		e''	19.0100	Conductivity (σ):	6.16	6.00	2.62	5

SAR Lab E

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/22/2015	Body 750	e'	53.8100	Relative Permittivity (ε_r):	53.81	55.55	-3.13	5
		e''	22.8700	Conductivity (σ):	0.95	0.96	-0.97	5
	Body 700	e'	54.2400	Relative Permittivity (ε_r):	54.24	55.74	-2.69	5
		e''	23.4200	Conductivity (σ):	0.91	0.96	-4.97	5
	Body 790	e'	53.2600	Relative Permittivity (ε_r):	53.26	55.39	-3.85	5
		e''	22.6200	Conductivity (σ):	0.99	0.97	2.84	5
7/22/2015	Body 2600	e'	53.1000	Relative Permittivity (ε_r):	53.10	52.51	1.12	5
		e''	15.1200	Conductivity (σ):	2.19	2.16	1.16	5
	Body 2500	e'	53.3500	Relative Permittivity (ε_r):	53.35	52.64	1.35	5
		e''	14.8800	Conductivity (σ):	2.07	2.02	2.38	5
	Body 2700	e'	52.7700	Relative Permittivity (ε_r):	52.77	52.38	0.74	5
		e''	15.4200	Conductivity (σ):	2.31	2.30	0.59	5
7/27/2015	Body 750	e'	53.3200	Relative Permittivity (ε_r):	53.32	55.55	-4.01	5
		e''	23.2500	Conductivity (σ):	0.97	0.96	0.68	5
	Body 700	e'	53.8600	Relative Permittivity (ε_r):	53.86	55.74	-3.37	5
		e''	23.6000	Conductivity (σ):	0.92	0.96	-4.24	5
	Body 790	e'	52.8100	Relative Permittivity (ε_r):	52.81	55.39	-4.66	5
		e''	22.9100	Conductivity (σ):	1.01	0.97	4.16	5
7/28/2015	Body 2600	e'	51.1500	Relative Permittivity (ε_r):	51.15	52.51	-2.59	5
		e''	14.6600	Conductivity (σ):	2.12	2.16	-1.92	5
	Body 2500	e'	51.3400	Relative Permittivity (ε_r):	51.34	52.64	-2.46	5
		e''	14.3400	Conductivity (σ):	1.99	2.02	-1.33	5
	Body 2700	e'	50.8900	Relative Permittivity (ε_r):	50.89	52.38	-2.85	5
		e''	14.8800	Conductivity (σ):	2.23	2.30	-2.93	5
7/29/2015	Body 2450	e'	52.1100	Relative Permittivity (ε_r):	52.11	52.70	-1.12	5
		e''	14.0700	Conductivity (σ):	1.92	1.95	-1.71	5
	Body 2410	e'	52.1800	Relative Permittivity (ε_r):	52.18	52.76	-1.10	5
		e''	14.1000	Conductivity (σ):	1.89	1.91	-0.94	5
	Body 2475	e'	52.0800	Relative Permittivity (ε_r):	52.08	52.67	-1.12	5
		e''	14.1800	Conductivity (σ):	1.95	1.99	-1.70	5
8/3/2015	Body 2450	e'	54.2100	Relative Permittivity (ε_r):	54.21	52.70	2.87	5
		e''	14.0700	Conductivity (σ):	1.92	1.95	-1.71	5
	Body 2410	e'	54.3300	Relative Permittivity (ε_r):	54.33	52.76	2.98	5
		e''	14.0200	Conductivity (σ):	1.88	1.91	-1.51	5
	Body 2475	e'	54.1000	Relative Permittivity (ε_r):	54.10	52.67	2.72	5
		e''	14.1400	Conductivity (σ):	1.95	1.99	-1.98	5
8/6/2015	Body 2450	e'	50.9900	Relative Permittivity (ε_r):	50.99	52.70	-3.24	5
		e''	14.5000	Conductivity (σ):	1.98	1.95	1.30	5
	Body 2410	e'	51.0600	Relative Permittivity (ε_r):	51.06	52.76	-3.22	5
		e''	14.3900	Conductivity (σ):	1.93	1.91	1.09	5
	Body 2475	e'	50.9300	Relative Permittivity (ε_r):	50.93	52.67	-3.30	5
		e''	14.5700	Conductivity (σ):	2.01	1.99	1.01	5

SAR Lab F

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/20/2015	Body 835	e'	53.4900	Relative Permittivity (ϵ_r):	53.49	55.20	-3.10	5
		e''	21.6800	Conductivity (σ):	1.01	0.97	3.77	5
	Body 820	e'	53.6100	Relative Permittivity (ϵ_r):	53.61	55.28	-3.02	5
		e''	21.9300	Conductivity (σ):	1.00	0.97	3.25	5
	Body 850	e'	53.4400	Relative Permittivity (ϵ_r):	53.44	55.16	-3.11	5
		e''	21.6400	Conductivity (σ):	1.02	0.99	3.61	5
7/23/2015	Body 835	e'	53.5900	Relative Permittivity (ϵ_r):	53.59	55.20	-2.92	5
		e''	21.8100	Conductivity (σ):	1.01	0.97	4.39	5
	Body 820	e'	53.7400	Relative Permittivity (ϵ_r):	53.74	55.28	-2.78	5
		e''	21.8400	Conductivity (σ):	1.00	0.97	2.82	5
	Body 850	e'	53.4100	Relative Permittivity (ϵ_r):	53.41	55.16	-3.17	5
		e''	21.7800	Conductivity (σ):	1.03	0.99	4.28	5
7/27/2015	Body 835	e'	52.7600	Relative Permittivity (ϵ_r):	52.76	55.20	-4.42	5
		e''	21.7800	Conductivity (σ):	1.01	0.97	4.25	5
	Body 820	e'	52.8700	Relative Permittivity (ϵ_r):	52.87	55.28	-4.35	5
		e''	21.9200	Conductivity (σ):	1.00	0.97	3.20	5
	Body 850	e'	52.7100	Relative Permittivity (ϵ_r):	52.71	55.16	-4.44	5
		e''	21.6200	Conductivity (σ):	1.02	0.99	3.51	5
7/29/2015	Body 5180	e'	48.9300	Relative Permittivity (ϵ_r):	48.93	49.05	-0.24	5
		e''	18.7000	Conductivity (σ):	5.39	5.27	2.18	5
	Body 5200	e'	48.9000	Relative Permittivity (ϵ_r):	48.90	49.02	-0.24	5
		e''	18.7700	Conductivity (σ):	5.43	5.29	2.50	5
	Body 5600	e'	48.3200	Relative Permittivity (ϵ_r):	48.32	48.48	-0.33	5
		e''	19.0800	Conductivity (σ):	5.94	5.76	3.13	5
	Body 5800	e'	48.0600	Relative Permittivity (ϵ_r):	48.06	48.20	-0.29	5
		e''	19.2200	Conductivity (σ):	6.20	6.00	3.31	5
	Body 5825	e'	48.0700	Relative Permittivity (ϵ_r):	48.07	48.20	-0.27	5
		e''	19.2900	Conductivity (σ):	6.25	6.00	4.13	5
8/3/2015	Body 5180	e'	48.0200	Relative Permittivity (ϵ_r):	48.02	49.05	-2.09	5
		e''	18.4900	Conductivity (σ):	5.33	5.27	1.03	5
	Body 5200	e'	47.9600	Relative Permittivity (ϵ_r):	47.96	49.02	-2.16	5
		e''	18.5300	Conductivity (σ):	5.36	5.29	1.19	5
	Body 5600	e'	47.3000	Relative Permittivity (ϵ_r):	47.30	48.48	-2.43	5
		e''	18.8800	Conductivity (σ):	5.88	5.76	2.04	5
	Body 5800	e'	46.9800	Relative Permittivity (ϵ_r):	46.98	48.20	-2.53	5
		e''	19.0800	Conductivity (σ):	6.15	6.00	2.55	5
	Body 5825	e'	46.9400	Relative Permittivity (ϵ_r):	46.94	48.20	-2.61	5
		e''	19.1200	Conductivity (σ):	6.19	6.00	3.21	5
8/6/2015	Body 5180	e'	49.3200	Relative Permittivity (ϵ_r):	49.32	49.05	0.56	5
		e''	18.3600	Conductivity (σ):	5.29	5.27	0.32	5
	Body 5200	e'	49.2700	Relative Permittivity (ϵ_r):	49.27	49.02	0.51	5
		e''	18.3800	Conductivity (σ):	5.31	5.29	0.37	5
	Body 5600	e'	48.7200	Relative Permittivity (ϵ_r):	48.72	48.48	0.50	5
		e''	18.8100	Conductivity (σ):	5.86	5.76	1.67	5
	Body 5800	e'	48.4100	Relative Permittivity (ϵ_r):	48.41	48.20	0.44	5
		e''	19.1100	Conductivity (σ):	6.16	6.00	2.72	5
	Body 5825	e'	48.3900	Relative Permittivity (ϵ_r):	48.39	48.20	0.39	5
		e''	19.0900	Conductivity (σ):	6.18	6.00	3.05	5

SAR Lab G

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/20/2015	Body 1750	e'	52.8900	Relative Permittivity (ϵ_r):	52.89	53.44	-1.03	5
		e''	15.0400	Conductivity (σ):	1.46	1.49	-1.53	5
	Body 1710	e'	53.1000	Relative Permittivity (ϵ_r):	53.10	53.54	-0.83	5
		e''	15.0000	Conductivity (σ):	1.43	1.46	-2.42	5
	Body 1755	e'	52.9400	Relative Permittivity (ϵ_r):	52.94	53.43	-0.91	5
		e''	15.1400	Conductivity (σ):	1.48	1.49	-0.79	5
7/23/2015	Body 1750	e'	52.5800	Relative Permittivity (ϵ_r):	52.58	53.44	-1.61	5
		e''	14.9000	Conductivity (σ):	1.45	1.49	-2.44	5
	Body 1710	e'	52.6200	Relative Permittivity (ϵ_r):	52.62	53.54	-1.72	5
		e''	14.8400	Conductivity (σ):	1.41	1.46	-3.46	5
	Body 1755	e'	52.5400	Relative Permittivity (ϵ_r):	52.54	53.43	-1.66	5
		e''	14.8700	Conductivity (σ):	1.45	1.49	-2.56	5
7/27/2015	Body 1750	e'	52.3400	Relative Permittivity (ϵ_r):	52.34	53.44	-2.06	5
		e''	15.0700	Conductivity (σ):	1.47	1.49	-1.33	5
	Body 1710	e'	52.4900	Relative Permittivity (ϵ_r):	52.49	53.54	-1.97	5
		e''	15.0400	Conductivity (σ):	1.43	1.46	-2.16	5
	Body 1755	e'	52.3500	Relative Permittivity (ϵ_r):	52.35	53.43	-2.02	5
		e''	15.0600	Conductivity (σ):	1.47	1.49	-1.32	5
7/29/2015	Body 5180	e'	48.4500	Relative Permittivity (ϵ_r):	48.45	49.05	-1.22	5
		e''	18.6600	Conductivity (σ):	5.37	5.27	1.96	5
	Body 5200	e'	48.2600	Relative Permittivity (ϵ_r):	48.26	49.02	-1.55	5
		e''	18.7800	Conductivity (σ):	5.43	5.29	2.55	5
	Body 5600	e'	47.6900	Relative Permittivity (ϵ_r):	47.69	48.48	-1.62	5
		e''	19.1800	Conductivity (σ):	5.97	5.76	3.67	5
	Body 5800	e'	47.5000	Relative Permittivity (ϵ_r):	47.50	48.20	-1.45	5
		e''	19.1700	Conductivity (σ):	6.18	6.00	3.04	5
	Body 5825	e'	47.3500	Relative Permittivity (ϵ_r):	47.35	48.20	-1.76	5
		e''	19.1500	Conductivity (σ):	6.20	6.00	3.37	5
8/3/2015	Body 5180	e'	48.7600	Relative Permittivity (ϵ_r):	48.76	49.05	-0.58	5
		e''	18.6200	Conductivity (σ):	5.36	5.27	1.74	5
	Body 5200	e'	48.6900	Relative Permittivity (ϵ_r):	48.69	49.02	-0.67	5
		e''	18.6400	Conductivity (σ):	5.39	5.29	1.79	5
	Body 5600	e'	48.1000	Relative Permittivity (ϵ_r):	48.10	48.48	-0.78	5
		e''	18.9700	Conductivity (σ):	5.91	5.76	2.53	5
	Body 5800	e'	47.7600	Relative Permittivity (ϵ_r):	47.76	48.20	-0.91	5
		e''	19.1800	Conductivity (σ):	6.19	6.00	3.09	5
	Body 5825	e'	47.7200	Relative Permittivity (ϵ_r):	47.72	48.20	-1.00	5
		e''	19.2000	Conductivity (σ):	6.22	6.00	3.64	5
8/5/2015	Body 5180	e'	47.1400	Relative Permittivity (ϵ_r):	47.14	49.05	-3.89	5
		e''	17.8600	Conductivity (σ):	5.14	5.27	-2.41	5
	Body 5200	e'	47.0900	Relative Permittivity (ϵ_r):	47.09	49.02	-3.94	5
		e''	17.8600	Conductivity (σ):	5.16	5.29	-2.47	5
	Body 5600	e'	46.6000	Relative Permittivity (ϵ_r):	46.60	48.48	-3.87	5
		e''	18.1800	Conductivity (σ):	5.66	5.76	-1.74	5
	Body 5800	e'	46.2500	Relative Permittivity (ϵ_r):	46.25	48.20	-4.05	5
		e''	18.3700	Conductivity (σ):	5.92	6.00	-1.26	5
	Body 5825	e'	46.2200	Relative Permittivity (ϵ_r):	46.22	48.20	-4.11	5
		e''	18.3000	Conductivity (σ):	5.93	6.00	-1.21	5

SAR Lab H

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
7/20/2015	Body 1900	e'	53.3600	Relative Permittivity (ϵ_r):	53.36	53.30	0.11	5
		e''	14.2400	Conductivity (σ):	1.50	1.52	-1.03	5
	Body 1850	e'	53.5500	Relative Permittivity (ϵ_r):	53.55	53.30	0.47	5
		e''	14.1300	Conductivity (σ):	1.45	1.52	-4.38	5
	Body 1910	e'	53.3000	Relative Permittivity (ϵ_r):	53.30	53.30	0.00	5
		e''	14.2000	Conductivity (σ):	1.51	1.52	-0.79	5
7/23/2015	Body 1900	e'	52.0800	Relative Permittivity (ϵ_r):	52.08	53.30	-2.29	5
		e''	14.5100	Conductivity (σ):	1.53	1.52	0.85	5
	Body 1850	e'	52.2900	Relative Permittivity (ϵ_r):	52.29	53.30	-1.89	5
		e''	14.4200	Conductivity (σ):	1.48	1.52	-2.41	5
	Body 1910	e'	52.1100	Relative Permittivity (ϵ_r):	52.11	53.30	-2.23	5
		e''	14.5600	Conductivity (σ):	1.55	1.52	1.73	5
7/27/2015	Body 1900	e'	52.2200	Relative Permittivity (ϵ_r):	52.22	53.30	-2.03	5
		e''	14.4100	Conductivity (σ):	1.52	1.52	0.16	5
	Body 1850	e'	52.4100	Relative Permittivity (ϵ_r):	52.41	53.30	-1.67	5
		e''	14.2800	Conductivity (σ):	1.47	1.52	-3.36	5
	Body 1910	e'	52.1900	Relative Permittivity (ϵ_r):	52.19	53.30	-2.08	5
		e''	14.3700	Conductivity (σ):	1.53	1.52	0.40	5
7/29/2015	Body 5180	e'	47.4000	Relative Permittivity (ϵ_r):	47.40	49.05	-3.36	5
		e''	18.8500	Conductivity (σ):	5.43	5.27	2.99	5
	Body 5200	e'	47.4500	Relative Permittivity (ϵ_r):	47.45	49.02	-3.20	5
		e''	18.9800	Conductivity (σ):	5.49	5.29	3.65	5
	Body 5600	e'	46.7700	Relative Permittivity (ϵ_r):	46.77	48.48	-3.52	5
		e''	19.2800	Conductivity (σ):	6.00	5.76	4.21	5
	Body 5800	e'	46.5300	Relative Permittivity (ϵ_r):	46.53	48.20	-3.46	5
		e''	19.3300	Conductivity (σ):	6.23	6.00	3.90	5
	Body 5825	e'	46.4500	Relative Permittivity (ϵ_r):	46.45	48.20	-3.63	5
		e''	19.3800	Conductivity (σ):	6.28	6.00	4.62	5
7/31/2015	Body 5180	e'	47.4500	Relative Permittivity (ϵ_r):	47.45	49.05	-3.26	5
		e''	17.9700	Conductivity (σ):	5.18	5.27	-1.81	5
	Body 5200	e'	47.3800	Relative Permittivity (ϵ_r):	47.38	49.02	-3.34	5
		e''	18.0300	Conductivity (σ):	5.21	5.29	-1.54	5
	Body 5600	e'	46.6800	Relative Permittivity (ϵ_r):	46.68	48.48	-3.71	5
		e''	18.2700	Conductivity (σ):	5.69	5.76	-1.25	5
	Body 5800	e'	46.4300	Relative Permittivity (ϵ_r):	46.43	48.20	-3.67	5
		e''	18.3300	Conductivity (σ):	5.91	6.00	-1.48	5
	Body 5825	e'	46.3400	Relative Permittivity (ϵ_r):	46.34	48.20	-3.86	5
		e''	18.4600	Conductivity (σ):	5.98	6.00	-0.35	5
8/3/2015	Body 5180	e'	48.5400	Relative Permittivity (ϵ_r):	48.54	49.05	-1.03	5
		e''	18.4400	Conductivity (σ):	5.31	5.27	0.75	5
	Body 5200	e'	48.4800	Relative Permittivity (ϵ_r):	48.48	49.02	-1.10	5
		e''	18.4600	Conductivity (σ):	5.34	5.29	0.81	5
	Body 5600	e'	47.8600	Relative Permittivity (ϵ_r):	47.86	48.48	-1.27	5
		e''	18.8000	Conductivity (σ):	5.85	5.76	1.61	5
	Body 5800	e'	47.5200	Relative Permittivity (ϵ_r):	47.52	48.20	-1.41	5
		e''	18.9900	Conductivity (σ):	6.12	6.00	2.07	5
	Body 5825	e'	47.4900	Relative Permittivity (ϵ_r):	47.49	48.20	-1.47	5
		e''	19.0400	Conductivity (σ):	6.17	6.00	2.78	5

SAR Lab H (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
8/5/2015	Body 5180	e'	49.1000	Relative Permittivity (ϵ_r):	49.10	49.05	0.11	5
		e''	18.5400	Conductivity (σ):	5.34	5.27	1.30	5
	Body 5200	e'	49.0400	Relative Permittivity (ϵ_r):	49.04	49.02	0.04	5
		e''	18.5400	Conductivity (σ):	5.36	5.29	1.24	5
	Body 5600	e'	48.4800	Relative Permittivity (ϵ_r):	48.48	48.48	0.00	5
		e''	18.9100	Conductivity (σ):	5.89	5.76	2.21	5
	Body 5800	e'	48.1900	Relative Permittivity (ϵ_r):	48.19	48.20	-0.02	5
		e''	19.1100	Conductivity (σ):	6.16	6.00	2.72	5
	Body 5825	e'	48.1600	Relative Permittivity (ϵ_r):	48.16	48.20	-0.08	5
		e''	19.1000	Conductivity (σ):	6.19	6.00	3.10	5

SAR Lab E (Additional Testing)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
9/14/2015	Body 2450	e'	51.8600	Relative Permittivity (ϵ_r):	51.86	52.70	-1.59	5
		e''	14.5800	Conductivity (σ):	1.99	1.95	1.86	5
	Body 2410	e'	51.9700	Relative Permittivity (ϵ_r):	51.97	52.76	-1.50	5
		e''	14.4900	Conductivity (σ):	1.94	1.91	1.79	5
	Body 2475	e'	51.8100	Relative Permittivity (ϵ_r):	51.81	52.67	-1.63	5
		e''	14.6300	Conductivity (σ):	2.01	1.99	1.42	5

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.

Reference Target SAR Values

The reference SAR values can be obtained from the calibration certificate of system validation dipoles

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (W/kg)		
				1g/10g	Head	Body
D750V3	1019	3/11/2015	750	1g	8.44	8.53
				10g	5.50	5.68
D835V2	4d002	11/13/2014	835	1g	9.23	9.33
				10g	5.99	6.12
D1750V2	1050	4/15/2015	1750	1g	36.4	37.0
				10g	19.3	19.9
D1750V2	1077	9/11/2014	1750	1g	36.5	36.9
				10g	19.4	19.8
D1900V2	5d043	11/7/2014	1900	1g	40.6	40.0
				10g	21.1	21.3
D2600V2	1006	9/10/2014	2600	1g	58.6	56.3
				10g	26.1	25.1
D2450V2	899	3/13/2015	2450	1g	51.6	48.8
				10g	23.9	22.7
D2450V2	748	2/20/2015	2450	1g	52.7	50.3
				10g	24.6	23.5
D5GHzV2	1003	2/20/2015	5200	1g	76.4	72.7
				10g	21.9	20.4
			5600	1g	79.6	77.0
				10g	22.8	21.3
			5800	1g	76.1	75.0
				10g	21.7	20.6
D5GHzV2	1168	12/4/2014	5200	1g	79.3	76.0
				10g	22.5	21.1
			5600	1g	81.7	82.0
				10g	23.2	22.7
			5800	1g	78.0	76.2
				10g	22.1	21.0

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 C

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
8/4/2015	D5GHzV2 (5.2GHz)	1003	Body	1g	7.29	72.90	72.70	0.28	
				10g	2.04	20.40	20.40	0.00	
8/4/2015	D5GHzV2 (5.6GHz)	1003	Body	1g	7.93	79.30	77.00	2.99	
				10g	2.20	22.00	21.30	3.29	
8/4/2015	D5GHzV2 (5.8GHz)	1003	Body	1g	7.74	77.40	75.00	3.20	1,2
				10g	2.15	21.50	20.60	4.37	

SAR Lab E

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
7/22/2015	D2600V2	1006	Body	1g	5.46	54.6	56.3	-3.02	
				10g	2.41	24.1	25.1	-3.98	
7/22/2015	D750V3	1019	Body	1g	0.867	8.67	8.53	1.64	
				10g	0.576	5.76	5.68	1.41	
7/27/2015	D750V3	1019	Body	1g	0.906	9.06	8.53	6.21	3,4
				10g	0.602	6.02	5.68	5.99	
7/28/2015	D2600V2	1006	Body	1g	5.46	54.6	56.3	-3.02	5,6
				10g	2.41	24.1	25.1	-3.98	
7/29/2015	D2450V2	899	Body	1g	5.27	52.7	48.8	7.99	
				10g	2.44	24.4	22.7	7.49	
8/3/2015	D2450V2	899	Body	1g	5.29	52.9	48.8	8.40	7,8
				10g	2.46	24.6	22.7	8.37	
8/6/2015	D2450V2	899	Body	1g	5.15	51.5	48.8	5.53	
				10g	2.38	23.8	22.7	4.85	

SAR Lab F

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
7/23/2015	D835V2	4d002	Body	1g	0.970	9.70	9.33	3.97	9,10
				10g	0.641	6.41	6.12	4.74	
7/27/2015	D835V2	4d002	Body	1g	0.904	9.04	9.33	-3.11	
				10g	0.598	5.98	6.12	-2.29	
7/30/2015	D5GHzV2 (5.2GHz)	1168	Body	1g	7.67	76.7	76.0	0.92	
				10g	2.17	21.7	21.1	2.84	
8/3/2015	D5GHzV2 (5.2GHz)	1168	Body	1g	7.64	76.4	76.0	0.53	
				10g	2.18	21.8	21.1	3.32	
8/6/2015	D5GHzV2 (5.2GHz)	1168	Body	1g	7.97	79.7	76.0	4.87	11,12
				10g	2.27	22.7	21.1	7.58	

SAR Lab G

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
7/23/2015	D1750V2	1077	Body	1g	3.70	37.0	36.9	0.27	13,14
				10g	1.99	19.9	19.8	0.51	
7/27/2015	D1750V2	1050	Body	1g	3.83	38.3	37.0	3.51	15,16
				10g	2.05	20.5	19.9	3.02	
7/30/2015	D5GHzV2 (5.6GHz)	1003	Body	1g	7.89	78.9	77.0	2.47	
				10g	2.19	21.9	21.3	2.82	
8/3/2015	D5GHzV2 (5.6GHz)	1003	Body	1g	8.43	84.3	77.0	9.48	17,18
				10g	2.34	23.4	21.3	9.86	
8/5/2015	D5GHzV2 (5.6GHz)	1003	Body	1g	7.66	76.6	77.0	-0.52	
				10g	2.12	21.2	21.3	-0.47	

SAR Lab H

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
7/23/2015	1900MHz	5d043	Body	1g	4.05	40.5	40.0	1.25	
				10g	2.10	21.0	21.3	-1.41	
7/27/2015	1900MHz	5d043	Body	1g	3.89	38.9	40.0	-2.75	19,20
				10g	2.04	20.4	21.3	-4.23	
7/30/2015	D5GHzV2 (5.8GHz)	1168	Body	1g	7.63	76.3	76.2	0.13	
				10g	2.13	21.3	21.0	1.43	
7/31/2015	D5GHzV2 (5.8GHz)	1168	Body	1g	7.24	72.4	76.2	-4.99	21,22
				10g	2.06	20.6	21.0	-1.90	
8/3/2015	D5GHzV2 (5.8GHz)	1168	Body	1g	7.34	73.4	76.2	-3.67	
				10g	2.06	20.6	21.0	-1.90	
8/5/2015	D5GHzV2 (5.6GHz)	1168	Body	1g	7.90	79.0	82.0	-3.66	
				10g	2.20	22.0	22.7	-3.08	

SAR Lab E (Additional Testing)

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
9/14/2015	D2450V2	748	Body	1g	5.04	50.4	50.3	0.20	23,24
				10g	2.34	23.4	23.5	-0.43	

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

Band	Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Max. Power		Body Power	
						Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)
850	GPRS (GMSK)	CS1	1	128	824.2	33.50	24.5	28.75	19.7
				190	836.6	33.50	24.5	28.75	19.7
				251	848.8	33.50	24.5	28.75	19.7
			2	128	824.2	32.50	26.5	25.75	19.7
				190	836.6	32.40	26.4	25.75	19.7
				251	848.8	32.40	26.4	25.75	19.7
	EGPRS (8PSK)	MCS5	1	128	824.2	29.00	20.0	28.75	19.7
				190	836.6	28.90	19.9	28.75	19.7
				251	848.8	28.90	19.9	28.75	19.7
			2	128	824.2	29.00	23.0	25.75	19.7
				190	836.6	28.90	22.9	25.75	19.7
				251	848.8	28.90	22.9	25.75	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 for body power, based on the output power measurements above.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

GSM1900 Measured Results

Band	Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Max. Power		Body Power	
						Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)
1900	GPRS (GMSK)	CS1	1	512	1850.2	30.50	21.5	23.75	14.7
				661	1880.0	30.40	21.4	23.60	14.6
				810	1909.8	30.30	21.3	23.60	14.6
			2	512	1850.2	29.40	23.4	20.75	14.7
				661	1880.0	29.30	23.3	20.60	14.6
				810	1909.8	29.40	23.4	20.60	14.6
	EGPRS (8PSK)	MCS5	1	512	1850.2	28.00	19.0	23.70	14.7
				661	1880.0	27.90	18.9	23.60	14.6
				810	1909.8	27.80	18.8	23.60	14.6
			2	512	1850.2	27.90	21.9	20.70	14.7
				661	1880.0	27.80	21.8	20.60	14.6
				810	1909.8	27.80	21.8	20.60	14.6

Notes:

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

- GMSK (GPRS) mode with 2 time slots for body power, based on the output power measurements above.
- 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
	βc/βd	8/15

HSDPA Setup Procedures used to establish the test signals

The following 4 Sub-tests were completed according to Release 5 procedures in 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			
	βc	2/15	11/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	11/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs=βhs/βc	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
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/βd	11/15	6/15	15/9	2/15	15/1
	βhs	22/15	12/15	30/15	4/15	5/15
	βed	1309/225	94/75	47/15	56/75	47/15
	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	E-DPDCCH	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 Channelisation 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	Processes	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.		

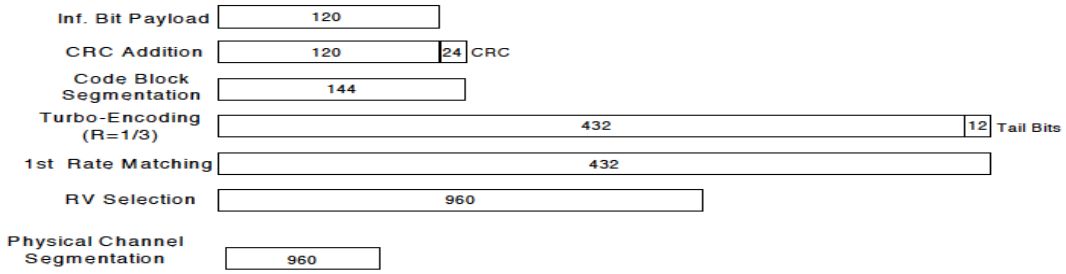


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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			
	βc	2/15	11/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/βd	2/15	11/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack Repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs = βhs/ βc	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)	Max. Pwr (dBm)	Body Pwr (dBm)
W-CDMA Band V	Rel 99	RMC, 12.2 kbps	4132	826.4	N/A	24.94	18.75
			4183	836.6	N/A	25.00	18.75
			4233	846.6	N/A	24.76	18.75
	HSDPA	Subtest 1	4132	826.4	0	24.00	18.70
			4183	836.6	0	23.95	18.70
			4233	846.6	0	23.91	18.75
		Subtest 2	4132	826.4	0	23.93	18.70
			4183	836.6	0	23.93	18.70
			4233	846.6	0	23.92	18.70
		Subtest 3	4132	826.4	0.5	23.46	18.25
			4183	836.6	0.5	23.55	18.20
			4233	846.6	0.5	23.46	18.20
		Subtest 4	4132	826.4	0.5	23.49	18.20
			4183	836.6	0.5	23.47	18.20
			4233	846.6	0.5	23.54	18.20
	HSUPA	Subtest 1	4132	826.4	0	23.72	18.70
			4183	836.6	0	23.71	18.70
			4233	846.6	0	23.68	18.75
		Subtest 2	4132	826.4	2	23.00	16.75
			4183	836.6	2	23.00	16.70
			4233	846.6	2	23.00	16.70
		Subtest 3	4132	826.4	1	22.19	17.70
			4183	836.6	1	22.95	17.70
			4233	846.6	1	22.25	17.75
		Subtest 4	4132	826.4	2	23.00	16.70
			4183	836.6	2	23.00	16.70
			4233	846.6	2	23.00	16.70
		Subtest 5	4132	826.4	0	23.26	18.75
			4183	836.6	0	23.42	18.70
			4233	846.6	0	23.25	18.70
	DC-HSDPA	Subtest 1	4132	826.4	0	23.75	18.70
			4183	836.6	0	23.70	18.75
			4233	846.6	0	23.69	18.75
		Subtest 2	4132	826.4	0	23.79	18.75
			4183	836.6	0	23.75	18.70
			4233	846.6	0	23.69	18.75
		Subtest 3	4132	826.4	0.5	23.25	18.20
			4183	836.6	0.5	23.26	18.10
			4233	846.6	0.5	23.25	18.20
		Subtest 4	4132	826.4	0.5	23.25	18.20
			4183	836.6	0.5	23.26	18.25
			4233	846.6	0.5	23.24	18.20

W-CDMA Band IV Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Max. Pwr (dBm)	Body Pwr (dBm)
W-CDMA Band IV	Rel 99	RMC, 12.2 kbps	1312	1712.4	N/A	24.40	13.75
			1413	1732.6	N/A	24.50	13.75
			1513	1752.6	N/A	24.44	13.75
	HSDPA	Subtest 1	1312	1712.4	0	23.50	13.70
			1413	1732.6	0	23.26	13.70
			1513	1752.6	0	23.26	13.70
		Subtest 2	1312	1712.4	0	23.44	13.75
			1413	1732.6	0	23.40	13.75
			1513	1752.6	0	23.42	13.70
		Subtest 3	1312	1712.4	0.5	22.76	13.20
			1413	1732.6	0.5	22.76	13.20
			1513	1752.6	0.5	22.76	13.25
		Subtest 4	1312	1712.4	0.5	22.97	13.20
			1413	1732.6	0.5	22.93	13.20
			1513	1752.6	0.5	22.91	13.25
	HSUPA	Subtest 1	1312	1712.4	0	23.40	13.70
			1413	1732.6	0	23.26	13.70
			1513	1752.6	0	23.26	13.75
		Subtest 2	1312	1712.4	2	22.41	11.70
			1413	1732.6	2	22.25	11.75
			1513	1752.6	2	22.43	11.75
		Subtest 3	1312	1712.4	1	21.60	12.70
			1413	1732.6	1	21.59	12.70
			1513	1752.6	1	21.50	12.70
		Subtest 4	1312	1712.4	2	22.50	11.70
			1413	1732.6	2	22.25	11.75
			1513	1752.6	2	22.25	11.75
		Subtest 5	1312	1712.4	0	23.21	13.60
			1413	1732.6	0	23.18	13.75
			1513	1752.6	0	23.19	13.75
	DC-HSDPA	Subtest 1	1312	1712.4	0	23.41	13.70
			1413	1732.6	0	23.39	13.75
			1513	1752.6	0	23.43	13.70
		Subtest 2	1312	1712.4	0	23.40	13.70
			1413	1732.6	0	23.40	13.70
			1513	1752.6	0	23.42	13.70
		Subtest 3	1312	1712.4	0.5	22.93	13.25
			1413	1732.6	0.5	22.83	13.20
			1513	1752.6	0.5	22.86	13.25
		Subtest 4	1312	1712.4	0.5	22.85	13.20
			1413	1732.6	0.5	22.83	13.20
			1513	1752.6	0.5	22.85	13.20

W-CDMA Band II Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Max. Pwr (dBm)	Body Pwr (dBm)
W-CDMA Band II	Rel 99	RMC, 12.2 kbps	9262	1852.4	N/A	23.70	14.00
			9400	1880.0	N/A	23.75	14.00
			9538	1907.6	N/A	23.70	13.90
	HSDPA	Subtest 1	9262	1852.4	0	22.74	13.90
			9400	1880.0	0	22.75	14.00
			9538	1907.6	0	22.60	14.00
		Subtest 2	9262	1852.4	0	22.73	13.90
			9400	1880.0	0	22.72	14.00
			9538	1907.6	0	22.57	14.00
		Subtest 3	9262	1852.4	0.5	22.24	13.25
			9400	1880.0	0.5	22.26	13.40
			9538	1907.6	0.5	22.07	13.50
		Subtest 4	9262	1852.4	0.5	22.22	13.50
			9400	1880.0	0.5	22.25	13.25
			9538	1907.6	0.5	22.11	13.50
	HSUPA	Subtest 1	9262	1852.4	0	22.55	13.90
			9400	1880.0	0	22.53	13.90
			9538	1907.6	0	22.47	14.00
		Subtest 2	9262	1852.4	2	21.66	11.90
			9400	1880.0	2	21.75	12.00
			9538	1907.6	2	21.53	12.00
		Subtest 3	9262	1852.4	1	20.97	12.90
			9400	1880.0	1	20.98	12.90
			9538	1907.6	1	20.76	12.90
		Subtest 4	9262	1852.4	2	21.75	11.90
			9400	1880.0	2	21.75	11.90
			9538	1907.6	2	21.75	12.00
		Subtest 5	9262	1852.4	0	22.18	14.00
			9400	1880.0	0	22.14	13.90
			9538	1907.6	0	22.00	13.90
	DC-HSDPA	Subtest 1	9262	1852.4	0	22.63	14.00
			9400	1880.0	0	22.70	14.00
			9538	1907.6	0	22.48	13.90
		Subtest 2	9262	1852.4	0	22.64	13.90
			9400	1880.0	0	22.63	13.75
			9538	1907.6	0	22.66	13.90
		Subtest 3	9262	1852.4	0.5	22.06	13.50
			9400	1880.0	0.5	22.17	13.40
			9538	1907.6	0.5	22.08	13.50
		Subtest 4	9262	1852.4	0.5	22.06	13.40
			9400	1880.0	0.5	22.26	13.50
			9538	1907.6	0.5	22.13	13.50

9.3. CDMA

1x Advanced Setup Procedures used to establish the test signals

Call box setup procedure

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

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

Call box setup procedure

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

- 1xEV-DO Signaling Configuration Window

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

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

  - Under Carrier Configuration: RF Pilot

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

    For Three Carriers: Low Channel (1013)

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

  - Under Carrier Configuration: RF Pilot

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

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

CDMA BC0 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Pwr (dBm)	Body Pwr (dBm)
BC 0	1xRTT	RC1 SO55 (Loopback)	1013	824.70	24.50	18.70
			384	836.52	24.40	18.70
			777	848.31	24.40	18.75
		RC3 SO55 (Loopback)	1013	824.70	24.50	18.70
			384	836.52	24.40	18.70
			777	848.31	24.40	18.70
		RC3 SO32 (+F-SCH)	1013	824.70	24.50	18.75
			384	836.52	24.50	18.75
			777	848.31	24.50	18.75
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	1013	824.70	24.50	18.75
			384	836.52	24.40	18.70
			777	848.31	24.50	18.70
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	1013	824.70	24.50	18.75
			384	836.52	24.40	18.75
			777	848.31	24.40	18.75
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	1013	824.70	24.50	18.75
			384	836.52	24.40	18.75
			777	848.31	24.50	18.70

Band	Mode	Test Set #	Ch No.	Freq. (MHz)	Max. Pwr (dBm)	Reduced Pwr (dBm)
BC0	1xEVDO Rev. B	Two Carrier Mini Separation	1013+31	824.70+825.93	22.00	18.75
			384+425	836.52+837.75	21.75	18.75
			736+777	847.08+848.31	21.70	18.75
		Two Carrier Max Separation	1013+156	824.70+829.68	21.90	18.75
			384+550	836.52+841.50	22.00	18.75
			611+777	843.33+848.31	21.90	18.75
		Three Carrier Max Separation	1013+31+72	824.70+825.93+827.16	22.00	18.75
			384+425+466	836.52+837.75+838.98	21.70	18.75
			695+736+777	845.85+847.08+848.31	21.90	18.75

CDMA BC1 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Pwr (dBm)	Body Pwr (dBm)
BC 1	1xRTT	RC1 SO55 (Loopback)	25	1851.25	23.70	13.90
			600	1880.00	23.70	14.00
			1175	1908.75	23.60	14.00
		RC3 SO55 (Loopback)	25	1851.25	23.70	13.90
			600	1880.00	23.70	14.00
			1175	1908.75	23.70	13.90
		RC3 SO32 (+F-SCH)	25	1851.25	23.70	14.00
			600	1880.00	23.70	13.90
			1175	1908.75	23.60	13.90
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	25	1851.25	23.70	14.00
			600	1880.00	23.70	13.90
			1175	1908.75	23.70	13.90
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	25	1851.25	23.70	14.00
			600	1880.00	23.70	14.00
			1175	1908.75	23.70	14.00
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	25	1851.25	23.70	14.00
			600	1880.00	23.75	13.90
			1175	1908.75	23.70	13.90

CDMA BC10 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Pwr (dBm)	Body Pwr (dBm)
BC 10	1xRTT	RC1 SO55 (Loopback)	476	817.9	25.00	18.75
			580	820.5	24.90	18.70
			670	822.8	25.00	18.70
		RC3 SO55 (Loopback)	476	817.9	25.00	18.75
			580	820.5	24.90	18.70
			670	822.8	25.00	18.75
		RC3 SO32 (+F-SCH)	476	817.9	25.00	18.55
			580	820.5	24.90	18.75
			670	822.8	25.00	18.75
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	476	817.9	24.90	18.70
			580	820.5	25.00	18.70
			670	822.8	24.90	18.70
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	476	817.9	25.00	18.75
			580	820.5	24.75	18.75
			670	822.8	25.00	18.75
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	476	817.9	25.00	18.70
			580	820.5	24.90	18.75
			670	822.8	25.00	18.70

CDMA BC15 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Pwr (dBm)	Body Pwr (dBm)
BC 15	1xRTT	RC1 SO55 (Loopback)	25	1711.25	24.40	13.40
			450	1732.50	24.40	13.40
			875	1753.75	24.50	13.40
		RC3 SO55 (Loopback)	25	1711.25	24.40	13.40
			450	1732.50	24.40	13.50
			875	1753.75	24.50	13.40
		RC3 SO32 (+F-SCH)	25	1711.25	24.40	13.50
			450	1732.50	24.40	13.50
			875	1753.75	24.50	13.50
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	25	1711.25	24.30	13.50
			450	1732.50	24.40	13.30
			875	1753.75	24.40	13.50
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	25	1711.25	24.30	13.40
			450	1732.50	24.40	13.50
			875	1753.75	24.40	13.50
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	25	1711.25	24.40	13.40
			450	1732.50	24.40	13.50
			875	1753.75	24.50	13.50

9.4. LTE

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

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

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

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1860 MHz	1880 MHz	1900 MHz		1860 MHz	1880 MHz	1900 MHz
LTE Band 2	20	QPSK	1	0	0	23.72	23.68	23.74	0	14.25	14.25	14.25
			1	49	0	23.68	23.72	23.72	0	14.25	14.25	14.25
			1	99	0	23.72	23.75	23.69	0	14.25	14.25	14.25
			50	0	1	22.70	22.75	22.71	0	14.25	14.25	14.25
			50	24	1	22.66	22.71	22.72	0	14.25	14.25	14.25
			50	49	1	22.72	22.73	22.73	0	14.25	14.25	14.25
			100	0	1	22.74	22.68	22.74	0	14.25	14.25	14.25
		16QAM	1	0	1	22.75	22.75	22.75	0	14.25	14.25	14.25
			1	49	1	22.69	22.73	22.75	0	14.20	14.25	14.25
			1	99	1	22.72	22.67	22.68	0	14.20	14.25	14.25
			50	0	2	21.75	21.70	21.74	0	14.20	14.20	14.20
			50	24	2	21.75	21.75	21.71	0	14.25	14.25	14.25
			50	49	2	21.75	21.72	21.75	0	14.25	14.20	14.25
			100	0	2	21.73	21.73	21.75	0	14.25	14.25	14.25

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1857.5 MHz	1880 MHz	1902.5 MHz		1857.5 MHz	1880 MHz	1902.5 MHz
LTE Band 2	15	QPSK	1	0	0	23.66	23.68	23.64	0	14.20	14.20	14.20
			1	36	0	23.68	23.65	23.70	0	14.20	14.20	14.25
			1	74	0	23.68	23.65	23.70	0	14.20	14.20	14.25
			36	0	1	22.74	22.75	22.70	0	14.25	14.25	14.20
			36	18	1	22.66	22.68	22.68	0	14.20	14.25	14.10
			36	37	1	22.69	22.71	22.65	0	14.20	14.25	14.25
			75	0	1	22.68	22.71	22.67	0	14.20	14.20	14.20
		16QAM	1	0	1	22.71	22.75	22.69	0	14.20	14.20	14.20
			1	36	1	22.67	22.71	22.75	0	14.20	14.20	14.25
			1	74	1	22.74	22.71	22.66	0	14.20	14.25	14.20
			36	0	2	21.73	21.75	21.67	0	14.20	14.20	14.25
			36	18	2	21.72	21.73	21.74	0	14.20	14.20	14.25
			36	37	2	21.74	21.75	21.72	0	14.20	14.25	14.20
			75	0	2	21.73	21.74	21.72	0	14.25	14.20	14.20

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1855 MHz	1880 MHz	1905 MHz		1855 MHz	1880 MHz	1905 MHz
LTE Band 2	10	QPSK	1	0	0	23.67	23.57	23.57	0	14.20	14.25	14.25
			1	24	0	23.66	23.61	23.57	0	14.20	14.20	14.25
			1	49	0	23.67	23.59	23.58	0	14.20	14.25	14.20
			25	0	1	22.75	22.64	22.67	0	14.20	14.20	14.20
			25	12	1	22.74	22.62	22.68	0	14.20	14.20	14.20
			25	24	1	22.71	22.55	22.70	0	14.20	14.25	14.20
			50	0	1	22.70	22.57	22.66	0	14.20	14.20	14.25
		16QAM	1	0	1	22.74	22.69	22.74	0	14.20	14.20	14.25
			1	24	1	22.71	22.72	22.70	0	14.20	14.10	14.25
			1	49	1	22.74	22.69	22.66	0	14.20	14.20	14.20
			25	0	2	21.72	21.74	21.74	0	14.20	14.10	14.20
			25	12	2	21.72	21.74	21.74	0	14.25	14.25	14.20
			25	24	2	21.69	21.66	21.70	0	14.20	14.20	14.25
			50	0	2	21.66	21.74	21.68	0	14.20	14.25	14.25

LTE Band 2 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1852.5 MHz	1880 MHz	1907.5 MHz		1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2	5	QPSK	1	0	0	23.71	23.74	23.67	0	14.20	14.20	14.20
			1	12	0	23.65	23.74	23.66	0	14.20	14.20	14.20
			1	24	0	23.74	23.69	23.72	0	14.20	14.20	14.25
			12	0	1	22.71	22.73	22.63	0	14.20	14.20	14.20
			12	7	1	22.70	22.66	22.75	0	14.20	14.20	14.20
			12	13	1	22.66	22.66	22.67	0	14.25	14.20	14.20
			25	0	1	22.69	22.64	22.72	0	14.20	14.20	14.20
		16QAM	1	0	1	22.75	22.73	22.70	0	14.20	14.20	14.20
			1	12	1	22.75	22.75	22.75	0	14.20	14.20	14.20
			1	24	1	22.75	22.71	22.71	0	14.25	14.20	14.20
			12	0	2	21.68	21.72	21.75	0	14.20	14.20	14.20
			12	7	2	21.74	21.75	21.74	0	14.25	14.20	14.20
			12	13	2	21.73	21.73	21.71	0	14.25	14.20	14.20
			25	0	2	21.73	21.75	21.72	0	14.20	14.20	14.20
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1851.5 MHz	1880 MHz	1908.5 MHz		1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2	3	QPSK	1	0	0	23.70	23.67	23.69	0	14.20	14.20	14.10
			1	8	0	23.66	23.68	23.71	0	14.10	14.25	14.20
			1	14	0	23.67	23.66	23.72	0	14.20	14.20	14.25
			8	0	1	22.69	22.67	22.68	0	14.20	14.25	14.20
			8	4	1	22.67	22.69	22.66	0	14.25	14.25	14.25
			8	7	1	22.67	22.70	22.65	0	14.20	14.25	14.25
			15	0	1	22.74	22.72	22.68	0	14.20	14.20	14.25
		16QAM	1	0	1	22.70	22.72	22.75	0	14.20	14.20	14.25
			1	8	1	22.69	22.71	22.65	0	14.20	14.25	14.20
			1	14	1	22.70	22.69	22.75	0	14.25	14.25	14.20
			8	0	2	21.68	21.75	21.69	0	14.25	14.25	14.20
			8	4	2	21.65	21.70	21.67	0	14.25	14.25	14.25
			8	7	2	21.75	21.72	21.69	0	14.25	14.20	14.20
			15	0	2	21.75	21.75	21.75	0	14.10	14.20	14.20
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.73	23.68	23.72	0	14.20	14.25	14.20
			1	3	0	23.70	23.65	23.65	0	14.20	14.20	14.25
			1	5	0	23.74	23.72	23.65	0	14.25	14.20	14.25
			3	0	0	23.75	23.71	23.70	0	14.25	14.20	14.25
			3	1	0	23.72	23.69	23.72	0	14.25	14.20	14.20
			3	3	0	23.70	23.69	23.68	0	14.20	14.25	14.10
			6	0	1	22.72	22.65	22.68	0	14.25	14.25	14.20
		16QAM	1	0	1	22.72	22.75	22.71	0	14.10	14.20	14.20
			1	3	1	22.71	22.74	22.75	0	14.20	14.20	14.20
			1	5	1	22.75	22.75	22.75	0	14.20	14.20	14.20
			3	0	1	22.72	22.75	22.75	0	14.25	14.25	14.25
			3	1	1	22.75	22.73	22.75	0	14.20	14.20	14.20
			3	3	1	22.73	22.75	22.72	0	14.20	14.10	14.25
			6	0	2	21.69	21.71	21.73	0	14.25	14.20	14.20

LTE Band 4 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0	23.97	23.94	23.99	0	14.00	14.00	14.00
			1	49	0	23.94	23.96	23.95	0	14.00	14.00	14.00
			1	99	0	23.95	23.98	23.94	0	14.00	14.00	14.00
			50	0	1	22.99	23.00	22.99	0	14.00	14.00	14.00
			50	24	1	22.98	23.00	22.99	0	14.00	14.00	14.00
			50	49	1	22.94	22.97	22.96	0	14.00	14.00	14.00
			100	0	1	22.93	23.00	23.00	0	14.00	14.00	14.00
		16QAM	1	0	1	22.82	22.91	22.86	0	13.90	14.00	14.00
			1	49	1	22.89	22.89	22.87	0	13.90	13.90	13.90
			1	99	1	22.88	22.86	22.94	0	14.00	14.00	14.00
			50	0	2	22.00	21.96	21.99	0	13.90	14.00	14.00
			50	24	2	22.00	21.96	21.99	0	14.00	14.00	14.00
			50	49	2	22.00	21.98	21.98	0	14.00	13.90	14.00
			100	0	2	22.00	22.00	22.00	0	13.90	14.00	14.00

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.96	23.83	23.88	0	13.90	13.90	14.00
			1	36	0	23.91	23.83	23.96	0	14.00	14.00	14.00
			1	74	0	23.82	23.82	23.95	0	13.90	14.00	14.00
			36	0	1	22.94	22.97	23.00	0	14.00	14.00	14.00
			36	18	1	23.00	22.94	22.93	0	14.00	14.00	14.00
			36	37	1	22.97	22.99	22.94	0	14.00	13.90	14.00
			75	0	1	23.00	23.00	23.00	0	13.90	13.90	13.90
		16QAM	1	0	1	22.88	22.89	22.88	0	14.00	14.00	13.90
			1	36	1	22.91	22.89	22.86	0	14.00	13.90	14.00
			1	74	1	22.92	22.85	23.00	0	13.90	13.90	14.00
			36	0	2	22.00	22.00	22.00	0	14.00	14.00	13.90
			36	18	2	22.00	22.00	22.00	0	13.90	14.00	14.00
			36	37	2	22.00	22.00	22.00	0	14.00	14.00	14.00
			75	0	2	22.00	22.00	22.00	0	14.00	14.00	14.00

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0	23.93	23.87	23.93	0	14.00	13.90	14.00
			1	24	0	23.90	23.84	23.97	0	14.00	14.00	14.00
			1	49	0	23.90	23.90	23.90	0	13.90	13.90	14.00
			25	0	1	22.97	23.00	23.00	0	13.90	14.00	13.90
			25	12	1	23.00	23.00	23.00	0	14.00	14.00	13.90
			25	24	1	22.95	23.00	22.95	0	14.00	14.00	14.00
			50	0	1	22.98	23.00	23.00	0	13.90	14.00	14.00
		16QAM	1	0	1	22.85	22.94	22.93	0	14.00	14.00	14.00
			1	24	1	22.91	22.99	22.88	0	13.90	14.00	14.00
			1	49	1	22.89	22.86	22.91	0	14.00	13.90	14.00
			25	0	2	22.00	21.99	22.00	0	14.00	14.00	14.00
			25	12	2	22.00	21.97	22.00	0	13.90	13.90	14.00
			25	24	2	22.00	21.99	22.00	0	13.90	14.00	14.00
			50	0	2	22.00	21.98	22.00	0	14.00	13.90	13.90

LTE Band 4 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.96	23.91	23.89	0	14.00	13.90	14.00
			1	12	0	23.96	23.88	23.91	0	14.00	14.00	14.00
			1	24	0	23.96	23.90	23.99	0	14.00	13.90	14.00
			12	0	1	23.00	23.00	22.95	0	14.00	14.00	13.90
			12	7	1	22.99	22.96	22.99	0	14.00	14.00	14.00
			12	13	1	23.00	22.95	22.90	0	14.00	14.00	14.00
			25	0	1	22.98	22.98	23.00	0	14.00	14.00	14.00
		16QAM	1	0	1	22.85	22.87	22.92	0	14.00	13.90	13.90
			1	12	1	22.83	22.87	22.92	0	14.00	14.00	14.00
			1	24	1	22.88	22.91	22.87	0	13.90	13.90	13.90
			12	0	2	22.00	21.98	22.00	0	13.90	14.00	13.90
			12	7	2	21.99	21.96	22.00	0	13.90	14.00	14.00
			12	13	2	22.00	21.96	21.95	0	14.00	14.00	14.00
			25	0	2	21.95	21.96	22.00	0	14.00	13.90	14.00
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.96	23.90	23.97	0	14.00	14.00	14.00
			1	8	0	23.88	23.87	23.84	0	14.00	13.90	13.90
			1	14	0	23.91	23.91	23.91	0	14.00	14.00	13.90
			8	0	1	23.00	23.00	22.95	0	14.00	13.90	14.00
			8	4	1	22.99	22.98	22.92	0	14.00	13.90	14.00
			8	7	1	23.00	23.00	22.89	0	14.00	14.00	14.00
			15	0	1	23.00	23.00	22.84	0	14.00	14.00	13.90
		16QAM	1	0	1	22.87	22.90	22.85	0	13.90	13.90	14.00
			1	8	1	22.88	22.93	22.90	0	13.90	14.00	14.00
			1	14	1	22.82	22.87	22.89	0	13.90	14.00	13.90
			8	0	2	22.00	22.00	22.00	0	13.90	14.00	14.00
			8	4	2	22.00	22.00	22.00	0	14.00	14.00	14.00
			8	7	2	22.00	22.00	22.00	0	13.90	14.00	13.90
			15	0	2	22.00	22.00	21.98	0	14.00	13.90	13.90
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE Band 4	1.4	QPSK	1	0	0	24.00	23.95	23.98	0	14.00	13.90	13.90
			1	3	0	23.92	23.88	23.96	0	14.00	14.00	13.90
			1	5	0	24.00	23.93	23.91	0	14.00	14.00	14.00
			3	0	0	23.91	23.91	23.92	0	14.00	14.00	14.00
			3	1	0	23.92	23.97	23.94	0	14.00	14.00	14.00
			3	3	0	23.92	23.98	23.93	0	14.00	14.00	14.00
			6	0	1	23.00	22.94	22.96	0	14.00	13.90	14.00
		16QAM	1	0	1	23.00	22.92	22.94	0	14.00	13.90	14.00
			1	3	1	22.99	22.93	22.96	0	14.00	14.00	14.00
			1	5	1	23.00	22.95	22.96	0	13.90	14.00	14.00
			3	0	1	23.00	22.99	22.91	0	13.90	13.90	13.90
			3	1	1	22.95	22.97	22.94	0	14.00	13.90	13.90
			3	3	1	22.97	22.92	22.96	0	14.00	13.90	13.90
			6	0	2	22.00	22.00	22.00	0	14.00	14.00	14.00

LTE Band 5 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						829 MHz	836.5 MHz	844 MHz		829 MHz	836.5 MHz	844 MHz
LTE Band 5	10	QPSK	1	0	0	24.50	24.39	24.41	0	18.75	18.75	18.75
			1	24	0	24.34	24.47	24.34	0	18.75	18.75	18.75
			1	49	0	24.34	24.40	24.35	0	18.75	18.75	18.75
			25	0	1	23.49	23.48	23.40	0	18.75	18.75	18.75
			25	12	1	23.41	23.50	23.40	0	18.75	18.75	18.75
			25	24	1	23.49	23.47	23.42	0	18.75	18.75	18.75
			50	0	1	23.48	23.43	23.43	0	18.75	18.75	18.75
		16QAM	1	0	1	23.47	23.48	23.45	0	18.70	18.70	18.75
			1	24	1	23.50	23.50	23.44	0	18.75	18.75	18.70
			1	49	1	23.44	23.42	23.45	0	18.75	18.75	18.75
			25	0	2	22.50	22.44	22.48	0	18.70	18.75	18.75
			25	12	2	22.50	22.42	22.50	0	18.75	18.75	18.75
			25	24	2	22.50	22.44	22.45	0	18.70	18.70	18.75
			50	0	2	22.49	22.48	22.50	0	18.75	18.75	18.75
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						826.5 MHz	836.5 MHz	846.5 MHz		826.5 MHz	836.5 MHz	846.5 MHz
LTE Band 5	5	QPSK	1	0	0	24.37	24.35	24.45	0	18.75	18.75	18.75
			1	12	0	24.44	24.35	24.39	0	18.75	18.75	18.75
			1	24	0	24.44	24.40	24.41	0	18.75	18.75	18.70
			12	0	1	23.42	23.47	23.50	0	18.75	18.75	18.75
			12	7	1	23.41	23.45	23.43	0	18.75	18.70	18.75
			12	13	1	23.44	23.41	23.41	0	18.75	18.75	18.70
			25	0	1	23.42	23.40	23.49	0	18.75	18.75	18.75
		16QAM	1	0	1	23.49	23.46	23.42	0	18.75	18.75	18.70
			1	12	1	23.43	23.48	23.48	0	18.75	18.75	18.75
			1	24	1	23.42	23.41	23.43	0	18.75	18.70	18.75
			12	0	2	22.50	22.50	22.41	0	18.75	18.75	18.70
			12	7	2	22.50	22.49	22.43	0	18.75	18.75	18.75
			12	13	2	22.50	22.50	22.40	0	18.75	18.75	18.70
			25	0	2	22.49	22.42	22.44	0	18.70	18.75	18.70
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						825.5 MHz	836.5 MHz	847.5 MHz		825.5 MHz	836.5 MHz	847.5 MHz
LTE Band 5	3	QPSK	1	0	0	24.36	24.39	24.42	0	18.70	18.75	18.70
			1	8	0	24.47	24.50	24.36	0	18.75	18.70	18.70
			1	14	0	24.40	24.37	24.44	0	18.75	18.75	18.70
			8	0	1	23.41	23.50	23.50	0	18.75	18.75	18.70
			8	4	1	23.44	23.47	23.50	0	18.75	18.70	18.75
			8	7	1	23.41	23.41	23.45	0	18.75	18.70	18.75
			15	0	1	23.43	23.43	23.50	0	18.75	18.75	18.70
		16QAM	1	0	1	23.47	23.40	23.45	0	18.70	18.75	18.75
			1	8	1	23.42	23.42	23.47	0	18.70	18.75	18.75
			1	14	1	23.43	23.49	23.46	0	18.75	18.75	18.75
			8	0	2	22.50	22.50	22.47	0	18.75	18.70	18.75
			8	4	2	22.48	22.49	22.43	0	18.75	18.75	18.70
			8	7	2	22.50	22.50	22.44	0	18.75	18.75	18.75
			15	0	2	22.46	22.47	22.49	0	18.75	18.75	18.70

LTE Band 5 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						824.7 MHz	836.5 MHz	848.3 MHz		824.7 MHz	836.5 MHz	848.3 MHz
LTE Band 5	1.4	QPSK	1	0	0	24.42	24.47	24.46	0	18.75	18.75	18.75
			1	3	0	24.39	24.38	24.36	0	18.75	18.75	18.70
			1	5	0	24.43	24.40	24.42	0	18.75	18.75	18.75
			3	0	0	24.44	24.45	24.46	0	18.75	18.75	18.75
			3	1	0	24.41	24.42	24.48	0	18.75	18.75	18.75
			3	3	0	24.45	24.40	24.48	0	18.75	18.75	18.75
			6	0	1	23.50	23.50	23.46	0	18.70	18.75	18.70
		16QAM	1	0	1	23.45	23.47	23.48	0	18.75	18.75	18.70
			1	3	1	23.41	23.42	23.37	0	18.75	18.75	18.75
			1	5	1	23.46	23.50	23.40	0	18.75	18.75	18.75
			3	0	1	23.49	23.48	23.47	0	18.70	18.75	18.75
			3	1	1	23.47	23.43	23.43	0	18.75	18.70	18.75
			3	3	1	23.43	23.46	23.44	0	18.70	18.75	18.75
			6	0	2	22.50	22.50	22.50	0	18.75	18.75	18.75

LTE Band 13 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)	Target MPR	Max. Avg Pwr (dBm)
						782 MHz		782 MHz
LTE Band 13	10	QPSK	1	0	0	23.93	0	19.00
			1	24	0	23.81	0	19.00
			1	49	0	23.98	0	19.00
			25	0	1	23.00	0	19.00
			25	12	1	22.88	0	19.00
			25	24	1	22.90	0	19.00
			50	0	1	23.00	0	19.00
		16QAM	1	0	1	22.95	0	18.90
			1	24	1	22.88	0	19.00
			1	49	1	22.89	0	19.00
			25	0	2	21.99	0	19.00
			25	12	2	21.96	0	19.00
			25	24	2	21.97	0	19.00
			50	0	2	22.00	0	19.00

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)	Target MPR	Max. Avg Pwr (dBm)
						782 MHz		782 MHz
LTE Band 13	5	QPSK	1	0	0	23.89	0	19.00
			1	12	0	23.85	0	18.90
			1	24	0	23.85	0	19.00
			12	0	1	22.91	0	19.00
			12	7	1	22.89	0	18.90
			12	13	1	22.91	0	19.00
			25	0	1	22.84	0	19.00
		16QAM	1	0	1	22.98	0	19.00
			1	12	1	22.96	0	19.00
			1	24	1	22.99	0	18.90
			12	0	2	22.00	0	19.00
			12	7	2	22.00	0	19.00
			12	13	2	22.00	0	18.90
			25	0	2	22.00	0	19.00

Note(s):

10/5 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 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)	Target MPR	Max. Avg Pwr (dBm)
						710 MHz		710 MHz
LTE Band 17	10	QPSK	1	0	0	23.89	0	19.00
			1	24	0	23.86	0	19.00
			1	49	0	23.92	0	19.00
			25	0	1	22.99	0	19.00
			25	12	1	22.87	0	19.00
			25	24	1	22.89	0	19.00
			50	0	1	22.93	0	19.00
		16QAM	1	0	1	22.96	0	18.90
			1	24	1	22.89	0	19.00
			1	49	1	23.00	0	18.90
			25	0	2	21.99	0	19.00
			25	12	2	22.00	0	19.00
			25	24	2	21.96	0	19.00
			50	0	2	22.00	0	18.90

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)	Target MPR	Max. Avg Pwr (dBm)
						710 MHz		710 MHz
LTE Band 17	5	QPSK	1	0	0	23.94	0	18.90
			1	12	0	23.87	0	19.00
			1	24	0	23.97	0	19.00
			12	0	1	23.00	0	19.00
			12	7	1	22.81	0	19.00
			12	13	1	23.00	0	19.00
			25	0	1	22.87	0	19.00
		16QAM	1	0	1	22.94	0	19.00
			1	12	1	22.95	0	18.90
			1	24	1	22.89	0	18.90
			12	0	2	22.00	0	19.00
			12	7	2	22.00	0	19.00
			12	13	2	22.00	0	18.90
			25	0	2	21.99	0	19.00

Note(s):

10/5 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 25 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	20	QPSK	1	0	0	23.74	23.72	23.74	0	14.25	14.25	14.25
			1	49	0	23.69	23.72	23.67	0	14.25	14.25	14.25
			1	99	0	23.73	23.73	23.73	0	14.25	14.25	14.25
			50	0	1	22.68	22.75	22.75	0	14.25	14.25	14.25
			50	24	1	22.66	22.75	22.69	0	14.25	14.25	14.25
			50	49	1	22.67	22.73	22.61	0	14.25	14.25	14.25
			100	0	1	22.70	22.69	22.64	0	14.25	14.25	14.25
		16QAM	1	0	1	22.63	22.65	22.74	0	14.25	14.25	14.25
			1	49	1	22.66	22.60	22.66	0	14.25	14.25	14.25
			1	99	1	22.67	22.68	22.66	0	14.20	14.25	14.25
			50	0	2	21.75	21.75	21.75	0	14.20	14.20	14.20
			50	24	2	21.74	21.75	21.71	0	14.25	14.20	14.25
			50	49	2	21.75	21.75	21.62	0	14.25	14.20	14.25
			100	0	2	21.75	21.75	21.75	0	14.25	14.25	14.25
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.60	23.73	23.70	0	14.20	14.20	14.25
			1	36	0	23.69	23.70	23.55	0	14.25	14.20	14.25
			1	74	0	23.61	23.74	23.64	0	14.20	14.25	14.20
			36	0	1	22.62	22.75	22.63	0	14.25	14.20	14.25
			36	18	1	22.59	22.73	22.68	0	14.20	14.25	14.25
			36	37	1	22.69	22.65	22.59	0	14.25	14.20	14.25
			75	0	1	22.71	22.75	22.64	0	14.20	14.25	14.20
		16QAM	1	0	1	22.67	22.67	22.57	0	14.25	14.25	14.20
			1	36	1	22.70	22.68	22.70	0	14.25	14.20	14.25
			1	74	1	22.74	22.75	22.68	0	14.25	14.25	14.25
			36	0	2	21.75	21.75	21.75	0	14.25	14.25	14.20
			36	18	2	21.73	21.75	21.72	0	14.25	14.25	14.20
			36	37	2	21.72	21.75	21.68	0	14.25	14.25	14.25
			75	0	2	21.75	21.75	21.75	0	14.20	14.25	14.25
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz
LTE Band 25	10	QPSK	1	0	0	23.59	23.62	23.59	0	14.25	14.20	14.25
			1	24	0	23.67	23.66	23.65	0	14.25	14.25	14.25
			1	49	0	23.56	23.71	23.60	0	14.25	14.25	14.20
			25	0	1	22.65	22.75	22.62	0	14.25	14.25	14.25
			25	12	1	22.59	22.72	22.64	0	14.25	14.25	14.25
			25	24	1	22.64	22.73	22.59	0	14.25	14.25	14.25
			50	0	1	22.57	22.71	22.67	0	14.25	14.25	14.25
		16QAM	1	0	1	22.73	22.75	22.67	0	14.25	14.25	14.20
			1	24	1	22.70	22.70	22.73	0	14.25	14.25	14.25
			1	49	1	22.73	22.59	22.69	0	14.25	14.25	14.25
			25	0	2	21.75	21.62	21.75	0	14.25	14.25	14.25
			25	12	2	21.71	21.75	21.68	0	14.25	14.25	14.25
			25	24	2	21.65	21.75	21.68	0	14.25	14.25	14.20
			50	0	2	21.68	21.75	21.64	0	14.20	14.20	14.25

LTE Band 25 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.64	23.71	23.65	0	14.25	14.20	14.25
			1	12	0	23.57	23.71	23.70	0	14.25	14.25	14.20
			1	24	0	23.57	23.66	23.65	0	14.20	14.25	14.25
			12	0	1	22.64	22.75	22.58	0	14.20	14.25	14.25
			12	7	1	22.63	22.68	22.64	0	14.25	14.25	14.25
			12	13	1	22.62	22.66	22.58	0	14.25	14.20	14.25
			25	0	1	22.68	22.68	22.70	0	14.25	14.25	14.20
		16QAM	1	0	1	22.60	22.70	22.67	0	14.25	14.25	14.25
			1	12	1	22.68	22.60	22.72	0	14.25	14.20	14.25
			1	24	1	22.61	22.61	22.59	0	14.20	14.20	14.20
			12	0	2	21.75	21.75	21.74	0	14.20	14.20	14.20
			12	7	2	21.70	21.75	21.74	0	14.20	14.25	14.25
			12	13	2	21.70	21.75	21.65	0	14.25	14.25	14.20
			25	0	2	21.72	21.75	21.62	0	14.25	14.20	14.25
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.65	23.75	23.62	0	14.25	14.20	14.25
			1	8	0	23.68	23.70	23.63	0	14.20	14.25	14.25
			1	14	0	23.70	23.68	23.69	0	14.25	14.25	14.25
			8	0	1	22.65	22.75	22.58	0	14.25	14.25	14.20
			8	4	1	22.62	22.69	22.58	0	14.25	14.25	14.25
			8	7	1	22.60	22.67	22.61	0	14.25	14.25	14.25
			15	0	1	22.65	22.68	22.59	0	14.25	14.20	14.25
		16QAM	1	0	1	22.66	22.65	22.64	0	14.25	14.25	14.20
			1	8	1	22.68	22.63	22.63	0	14.25	14.25	14.20
			1	14	1	22.61	22.66	22.62	0	14.20	14.25	14.25
			8	0	2	21.75	21.75	21.71	0	14.20	14.20	14.25
			8	4	2	21.75	21.75	21.69	0	14.20	14.25	14.25
			8	7	2	21.73	21.75	21.72	0	14.25	14.25	14.25
			15	0	2	21.73	21.75	21.71	0	14.25	14.20	14.25
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						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	23.71	23.72	23.67	0	14.25	14.20	14.25
			1	3	0	23.75	23.75	23.68	0	14.25	14.20	14.20
			1	5	0	23.73	23.73	23.75	0	14.25	14.20	14.25
			3	0	0	23.73	23.71	23.75	0	14.25	14.20	14.25
			3	1	0	23.75	23.71	23.71	0	14.25	14.25	14.20
			3	3	0	23.71	23.74	23.73	0	14.20	14.25	14.25
			6	0	1	22.68	22.75	22.62	0	14.20	14.25	14.20
		16QAM	1	0	1	22.73	22.75	22.71	0	14.25	14.25	14.25
			1	3	1	22.69	22.75	22.71	0	14.25	14.25	14.25
			1	5	1	22.70	22.75	22.74	0	14.25	14.20	14.20
			3	0	1	22.74	22.75	22.71	0	14.20	14.20	14.25
			3	1	1	22.70	22.75	22.67	0	14.20	14.25	14.25
			3	3	1	22.72	22.75	22.70	0	14.20	14.20	14.25
			6	0	2	21.75	21.75	21.75	0	14.25	14.25	14.25

LTE Band 26 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)	Target MPR	Body Avg Pwr (dBm)
						819 MHz		819 MHz
LTE Band 26	10	QPSK	1	0	0	23.94	0	18.75
			1	24	0	23.82	0	18.75
			1	49	0	23.87	0	18.75
			25	0	1	22.94	0	18.75
			25	12	1	22.95	0	18.75
			25	24	1	22.95	0	18.75
			50	0	1	22.97	0	18.75
		16QAM	1	0	1	22.80	0	18.75
			1	24	1	22.90	0	18.75
			1	49	1	22.86	0	18.75
			25	0	2	22.00	0	18.70
			25	12	2	22.00	0	18.75
			25	24	2	22.00	0	18.70
			50	0	2	22.00	0	18.75

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						816.5 MHz	819 MHz	821.5 MHz		816.5 MHz	819 MHz	821.5 MHz
LTE Band 26	5	QPSK	1	0	0	23.90	24.00	23.97	0	18.75	18.70	18.75
			1	12	0	23.97	23.95	23.93	0	18.70	18.75	18.75
			1	24	0	23.97	23.95	23.98	0	18.70	18.75	18.70
			12	0	1	22.97	22.98	23.00	0	18.75	18.75	18.75
			12	7	1	23.00	22.97	22.97	0	18.75	18.75	18.75
			12	13	1	23.00	22.94	22.97	0	18.75	18.75	18.70
			25	0	1	22.91	22.97	22.91	0	18.75	18.75	18.70
		16QAM	1	0	1	22.82	22.84	22.81	0	18.75	18.70	18.70
			1	12	1	22.85	22.82	22.80	0	18.75	18.75	18.70
			1	24	1	22.92	22.84	22.83	0	18.75	18.75	18.70
			12	0	2	22.00	22.00	22.00	0	18.75	18.75	18.75
			12	7	2	22.00	22.00	22.00	0	18.75	18.75	18.70
			12	13	2	22.00	22.00	22.00	0	18.70	18.70	18.75
			25	0	2	21.97	22.00	21.98	0	18.75	18.75	18.75

LTE Band 26 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						815.5 MHz	819 MHz	822.5 MHz		815.5 MHz	819 MHz	822.5 MHz
LTE Band 26	3	QPSK	1	0	0	23.92	23.92	23.93	0	18.75	18.75	18.70
			1	8	0	23.86	23.90	23.90	0	18.75	18.75	18.75
			1	14	0	23.99	23.95	23.92	0	18.70	18.75	18.75
			8	0	1	23.00	22.97	23.00	0	18.75	18.70	18.75
			8	4	1	22.97	22.99	23.00	0	18.75	18.75	18.70
			8	7	1	22.98	23.00	23.00	0	18.70	18.70	18.75
			15	0	1	23.00	23.00	23.00	0	18.75	18.75	18.75
		16QAM	1	0	1	22.89	22.86	22.93	0	18.75	18.75	18.75
			1	8	1	22.89	22.85	22.82	0	18.75	18.75	18.75
			1	14	1	22.84	22.82	22.84	0	18.75	18.75	18.75
			8	0	2	22.00	22.00	22.00	0	18.70	18.70	18.75
			8	4	2	22.00	22.00	22.00	0	18.75	18.75	18.70
			8	7	2	22.00	22.00	22.00	0	18.70	18.75	18.75
			15	0	2	22.00	22.00	22.00	0	18.75	18.70	18.75

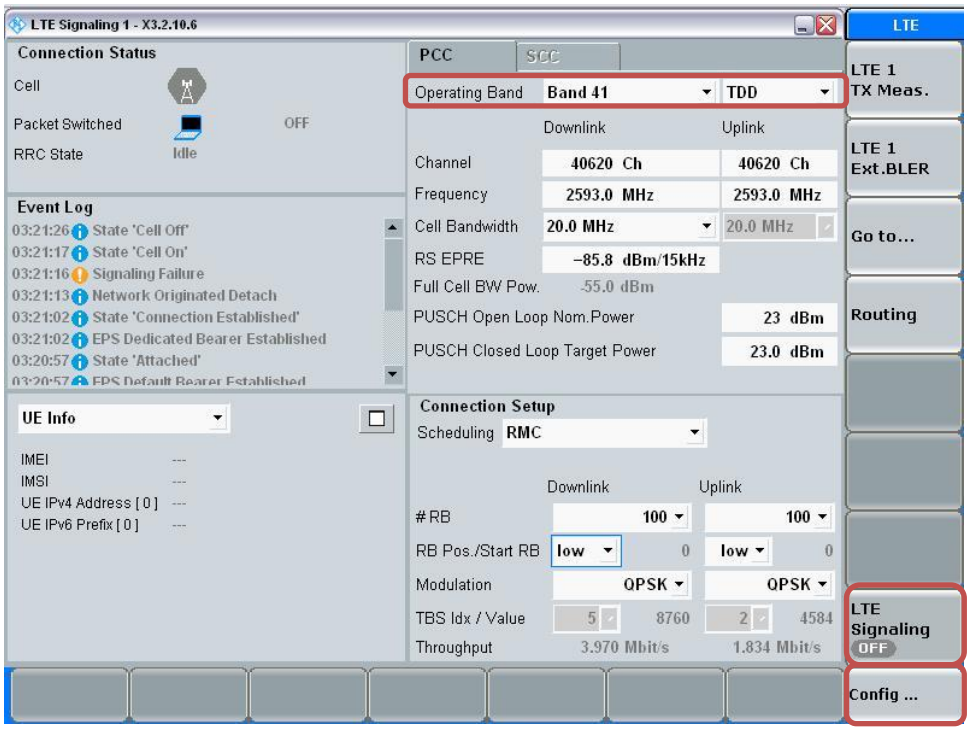
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)			Target MPR	Body Avg Pwr (dBm)		
						814.7 MHz	819 MHz	823.3 MHz		814.7 MHz	819 MHz	823.3 MHz
LTE Band 26	1.4	QPSK	1	0	0	23.83	23.99	23.98	0	18.75	18.75	18.75
			1	3	0	23.92	23.93	23.89	0	18.75	18.75	18.75
			1	5	0	23.99	23.94	23.95	0	18.75	18.70	18.75
			3	0	0	23.82	23.99	23.93	0	18.75	18.75	18.75
			3	1	0	23.93	23.91	23.95	0	18.70	18.75	18.75
			3	3	0	23.92	23.92	23.96	0	18.75	18.75	18.70
			6	0	1	22.94	22.93	23.00	0	18.75	18.75	18.75
		16QAM	1	0	1	22.81	23.00	22.94	0	18.70	18.75	18.75
			1	3	1	23.00	23.00	22.91	0	18.70	18.75	18.75
			1	5	1	23.00	23.00	22.94	0	18.75	18.75	18.75
			3	0	1	22.94	23.00	22.94	0	18.75	18.70	18.70
			3	1	1	23.00	23.00	22.92	0	18.75	18.75	18.70
			3	3	1	23.00	23.00	22.95	0	18.75	18.75	18.75
			6	0	2	22.00	22.00	22.00	0	18.75	18.75	18.70

LTE Band 41 Measured Results

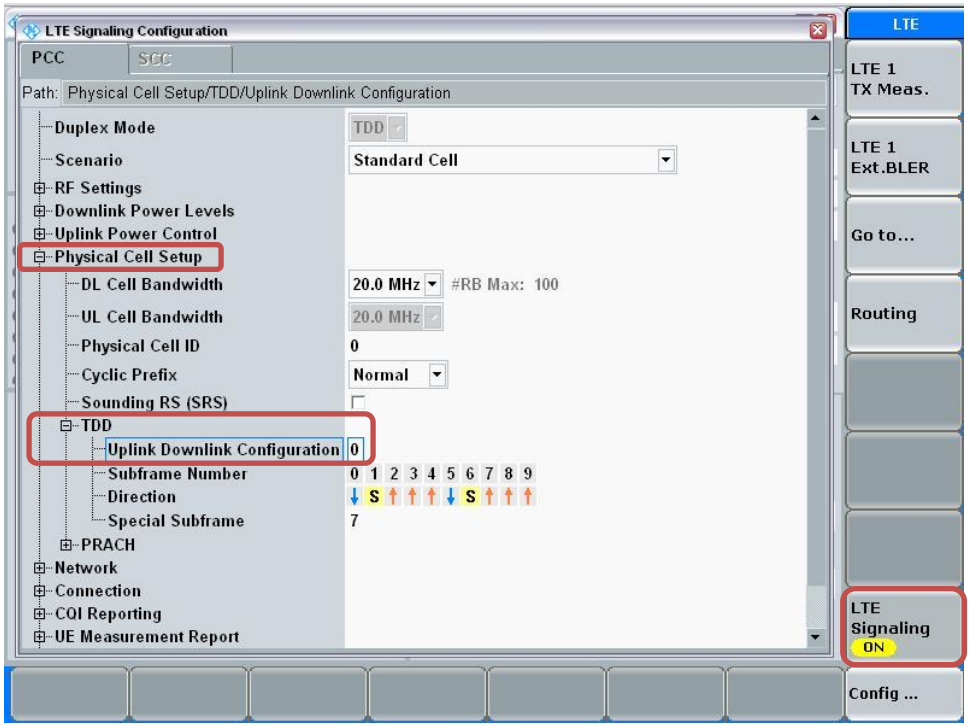
Procedure used to establish SAR test signal for LTE TDD Band 41

Set to CMW-500 with following parameters:

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

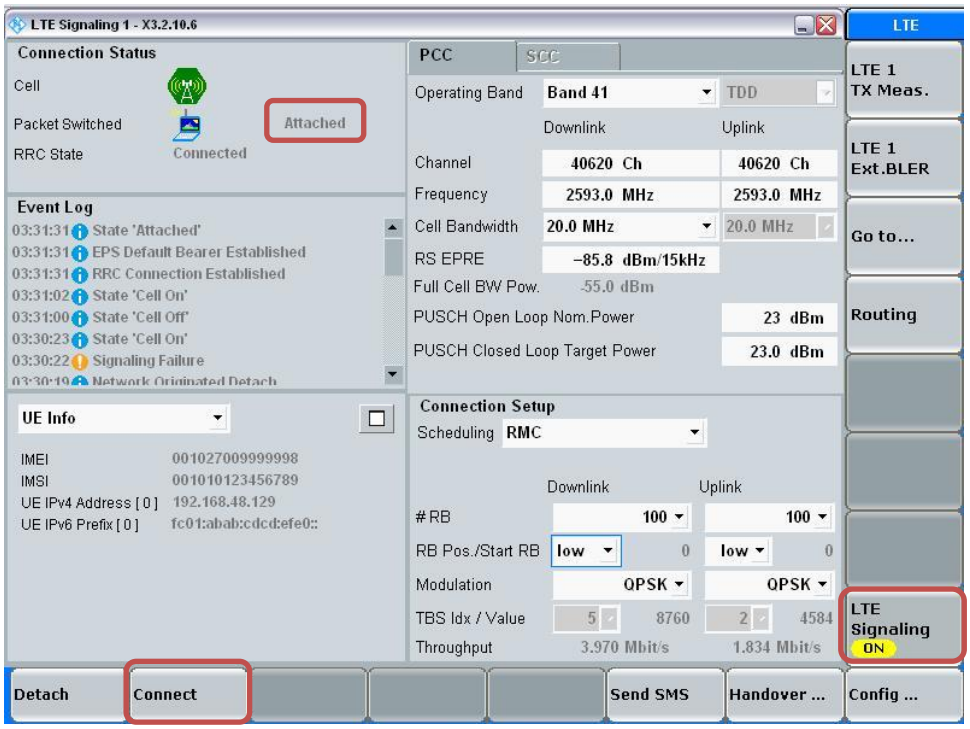


- Go to “Physical Cell Setup”
- Select “TDD” and Set “Uplink Downlink Configuration” to “0”
- Turn the cell on using “ON | OFF” key



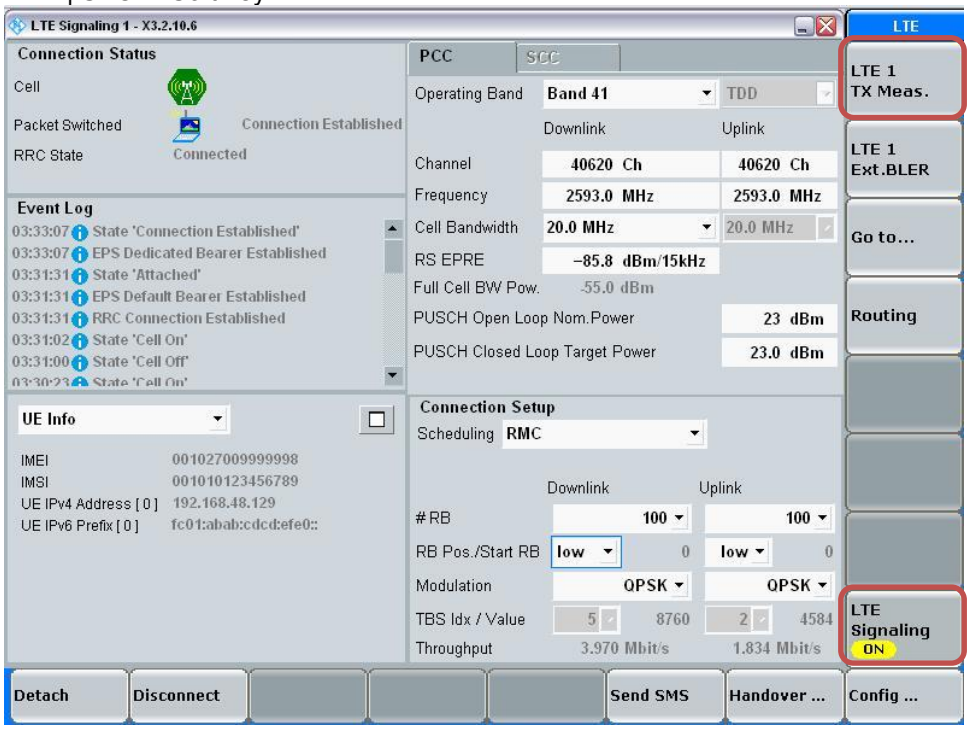
Connect to EUT

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

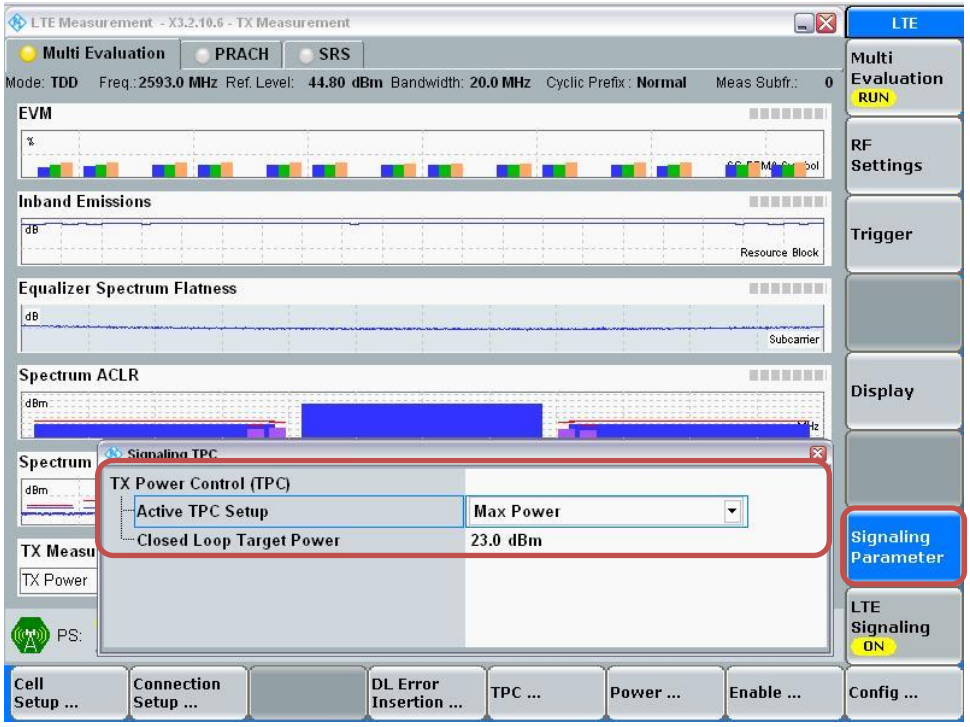


Max Power Setting

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

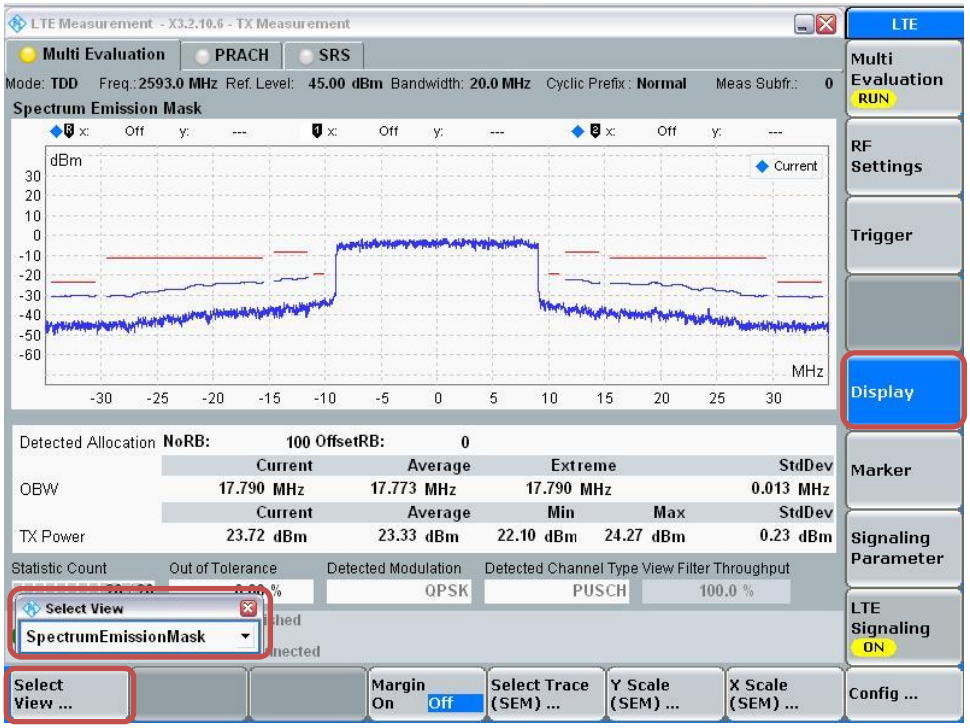


- Select “Signaling Parameter”
- Select “TX Power Control (TPC)” > Select “Active TPC Setup” to “Max Power” > Set “Closed Loop Target Power” to “23 dBm”



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	Max. Avg Pwr (dBm)					Target MPR	Body Avg Pwr (dBm)				
						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	22.17	22.14	22.17	22.15	22.21	0	17.25	17.25	17.25	17.25	17.25
			1	49	0	22.21	22.25	22.25	22.25	22.22	0	17.25	17.25	17.25	17.25	17.25
			1	99	0	22.25	22.11	22.15	22.25	20.25	0	17.25	17.25	17.25	17.25	17.25
			50	0	1	21.25	21.12	21.24	21.25	21.25	0	17.25	17.25	17.25	17.25	17.25
			50	24	1	21.12	21.25	21.25	21.18	21.25	0	17.25	17.25	17.25	17.25	17.25
			50	49	1	21.11	21.15	21.17	21.20	21.25	0	17.25	17.25	17.25	17.25	17.25
			100	0	1	21.21	21.14	21.17	21.19	21.25	0	17.25	17.25	17.25	17.25	17.25
		16QAM	1	0	1	21.24	21.24	21.25	21.25	21.25	0	17.25	17.20	17.20	17.20	17.20
			1	49	1	21.25	21.25	21.25	21.25	21.22	0	17.25	17.25	17.25	17.20	17.20
			1	99	1	21.25	21.25	21.24	21.25	21.20	0	17.25	17.20	17.20	17.20	17.20
			50	0	2	20.25	20.25	20.21	20.21	20.21	0	17.20	17.25	17.10	17.20	17.20
			50	24	2	20.25	20.25	20.20	20.24	20.25	0	17.20	17.20	17.20	17.20	17.25
			50	49	2	20.25	20.25	20.25	20.24	20.25	0	17.20	17.20	17.20	17.20	17.20
			100	0	2	20.25	20.25	20.25	20.25	20.25	0	17.20	17.20	17.25	17.20	17.25

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)					Target MPR	Body Avg Pwr (dBm)				
						2503.5 MHz	2548.3 MHz	2593 MHz	2637.8 MHz	2682.5 MHz		2503.5 MHz	2548.3 MHz	2593 MHz	2637.8 MHz	2682.5 MHz
LTE Band 41	15	QPSK	1	0	0	22.24	22.22	22.24	22.23	22.25	0	17.25	17.20	17.20	17.20	17.20
			1	36	0	22.16	22.13	22.20	22.23	22.25	0	17.20	17.20	17.20	17.25	17.25
			1	74	0	22.14	22.19	22.25	22.25	22.07	0	17.25	17.20	17.20	17.25	17.25
			36	0	1	21.23	21.25	21.25	21.25	21.25	0	17.20	17.20	17.25	17.20	17.25
			36	18	1	21.25	21.13	21.25	21.25	21.25	0	17.25	17.20	17.25	17.20	17.25
			36	37	1	21.17	21.24	21.17	21.22	21.25	0	17.20	17.20	17.20	17.20	17.25
			75	0	1	21.23	21.14	21.24	21.12	21.25	0	17.20	17.20	17.20	17.20	17.20
		16QAM	1	0	1	21.25	21.25	21.25	21.25	21.25	0	17.20	17.25	17.10	17.20	17.10
			1	36	1	21.25	21.22	21.25	21.23	21.25	0	17.20	17.20	17.20	17.20	17.20
			1	74	1	21.25	21.18	21.25	21.25	21.25	0	17.10	17.20	17.20	17.25	17.25
			36	0	2	20.25	20.25	20.25	20.25	20.25	0	17.20	17.25	17.20	17.25	17.25
			36	18	2	20.25	20.25	20.25	20.25	20.25	0	17.20	17.20	17.25	17.20	17.20
			36	37	2	20.25	20.25	20.25	20.22	20.25	0	17.20	17.20	17.25	17.25	17.20
			75	0	2	20.25	20.25	20.25	20.25	20.25	0	17.20	17.25	17.20	17.10	17.25

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)					Target MPR	Body Avg Pwr (dBm)				
						2501 MHz	2547 MHz	2593 MHz	2639 MHz	2685 MHz		2501 MHz	2547 MHz	2593 MHz	2639 MHz	2685 MHz
LTE Band 41	10	QPSK	1	0	0	22.25	22.25	22.25	20.25	22.25	0	17.20	17.25	17.25	17.20	17.25
			1	24	0	22.25	22.13	22.17	22.22	22.25	0	17.20	17.20	17.20	17.25	17.20
			1	49	0	22.23	22.18	22.25	22.25	22.24	0	17.20	17.20	17.20	17.25	17.20
			25	0	1	21.20	21.24	21.19	21.25	21.25	0	17.25	17.25	17.20	17.20	17.25
			25	12	1	21.21	21.14	21.20	21.21	21.25	0	17.25	17.10	17.20	17.25	17.20
			25	24	1	21.25	21.20	21.17	21.15	21.25	0	17.20	17.20	17.20	17.25	17.25
			50	0	1	21.21	21.25	21.15	21.25	21.25	0	17.20	17.25	17.20	17.20	17.25
		16QAM	1	0	1	21.25	21.25	21.25	21.21	21.24	0	17.20	17.25	17.20	17.20	17.20
			1	24	1	21.25	21.25	21.21	21.22	21.25	0	17.20	17.25	17.25	17.20	17.25
			1	49	1	21.21	21.24	21.25	21.25	21.25	0	17.20	17.20	17.20	17.20	17.25
			25	0	2	20.22	20.25	20.25	20.25	20.25	0	17.20	17.25	17.25	17.25	17.10
			25	12	2	20.25	20.25	20.25	20.25	20.25	0	17.25	17.20	17.25	17.20	17.25
			25	24	2	20.25	20.25	20.25	20.22	20.25	0	17.25	17.20	17.10	17.20	17.20
			50	0	2	20.25	20.25	20.25	20.25	20.25	0	17.20	17.20	17.20	17.20	17.25

LTE Band 41 Measured Results (continued)

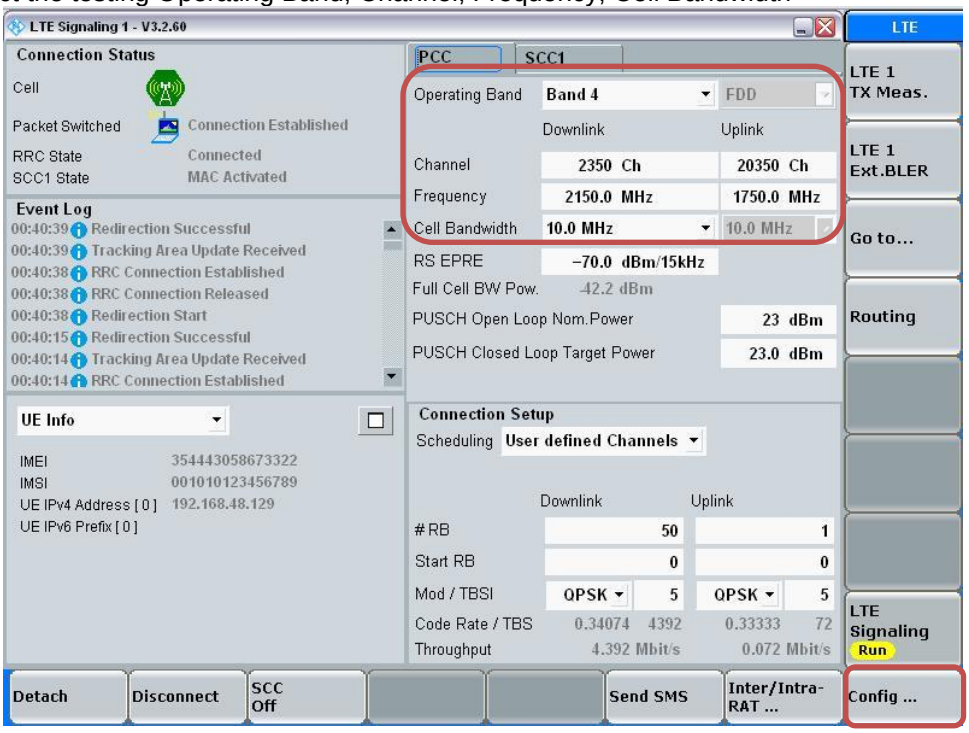
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Max. Avg Pwr (dBm)					Target MPR	Body Avg Pwr (dBm)				
						2498.5 MHz	2545.8 MHz	2593 MHz	2640.3 MHz	2687.5 MHz		2498.5 MHz	2545.8 MHz	2593 MHz	2640.3 MHz	2687.5 MHz
LTE Band 41	5	QPSK	1	0	0	22.25	22.25	22.25	22.25	22.25	0	17.20	17.20	17.25	17.20	17.20
			1	12	0	22.25	22.25	22.20	22.20	22.24	0	17.20	17.20	17.25	17.25	17.25
			1	24	0	22.25	22.24	22.25	22.25	22.23	0	17.20	17.20	17.20	17.20	17.25
			12	0	1	21.20	21.25	21.14	21.24	21.25	0	17.20	17.20	17.25	17.10	17.20
			12	7	1	21.25	21.24	21.17	21.25	21.25	0	17.20	17.25	17.20	17.20	17.20
			12	13	1	21.25	21.25	21.19	21.25	21.25	0	17.20	17.25	17.20	17.20	17.20
			25	0	1	21.25	21.18	21.22	21.21	21.25	0	17.20	17.25	17.20	17.25	17.20
		16QAM	1	0	1	21.25	21.24	21.25	21.25	21.25	0	17.20	17.10	17.20	17.20	17.20
			1	12	1	21.25	21.25	21.25	21.25	21.25	0	17.20	17.20	17.25	17.20	17.20
			1	24	1	21.25	21.20	21.25	21.25	21.25	0	17.20	17.20	17.20	17.25	17.20
			12	0	2	20.25	20.25	20.24	20.24	20.25	0	17.20	17.20	17.20	17.25	17.20
			12	7	2	20.25	20.25	20.25	20.21	20.25	0	17.20	17.25	17.25	17.20	17.25
			12	13	2	20.25	20.25	20.25	20.22	20.25	0	17.20	17.20	17.10	17.25	17.20
			25	0	2	20.23	20.25	20.25	20.19	20.25	0	17.20	17.25	17.20	17.25	17.20

9.5. LTE Rel. 10 Carrier Aggregation

LTE Carrier Aggregation Test Signal Set-up Procedure
(Use normal LTE set-up procedure in addition with the following steps)

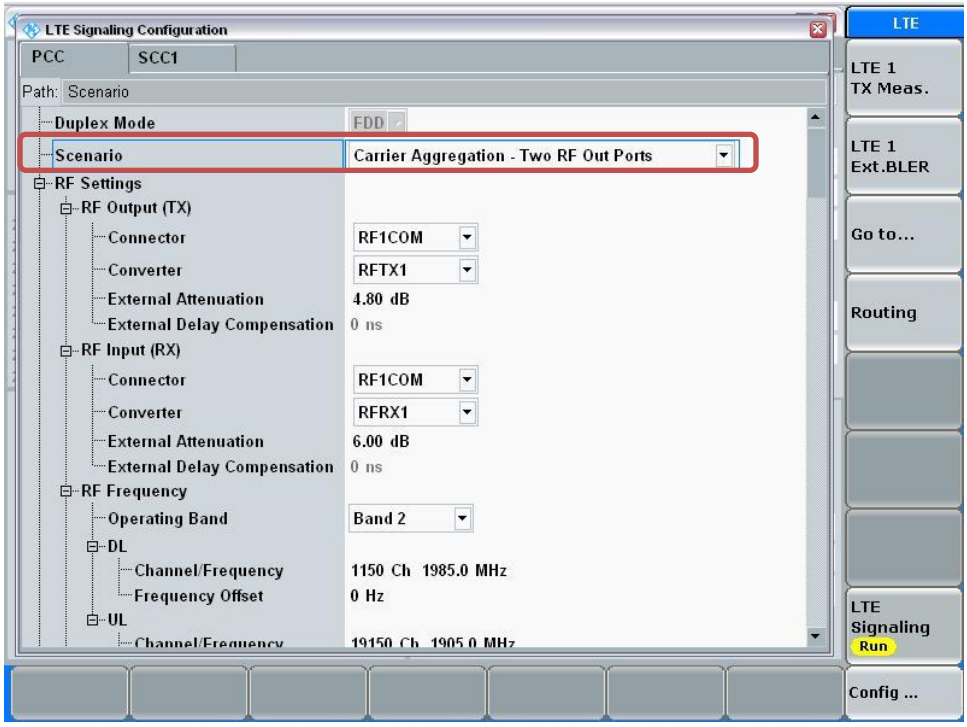
Set to CMW-500 with following parameters:

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

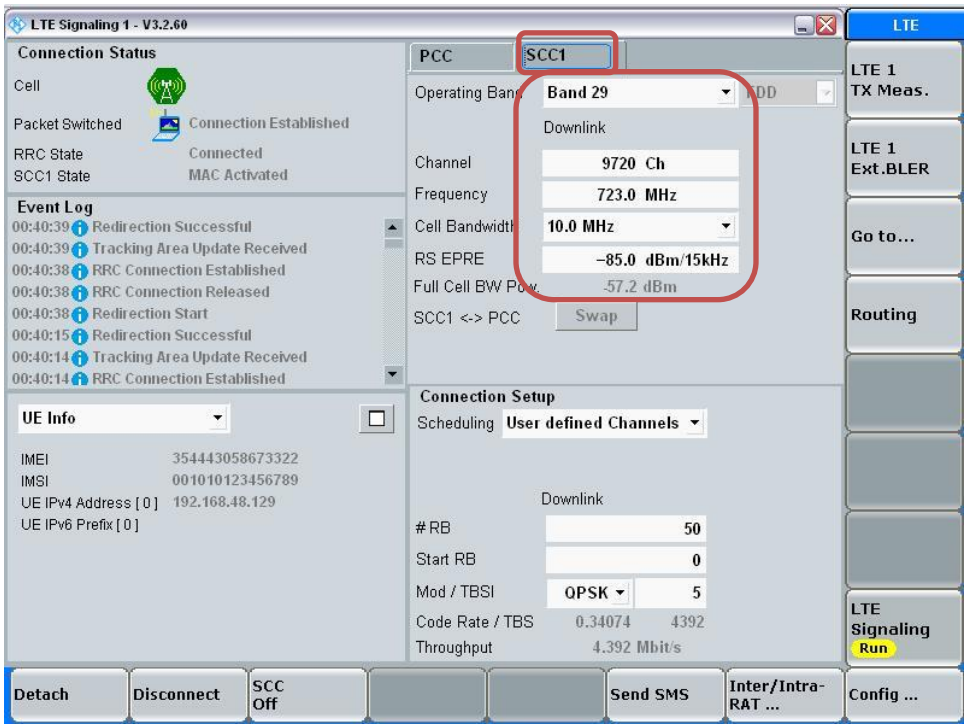


- Go to “Config….”

- Go to “Scenario”
- Select “Carrier Aggregation” and Set to “Carrier Aggregation – Two RF Out Ports”
- Select “LTE Signaling” button

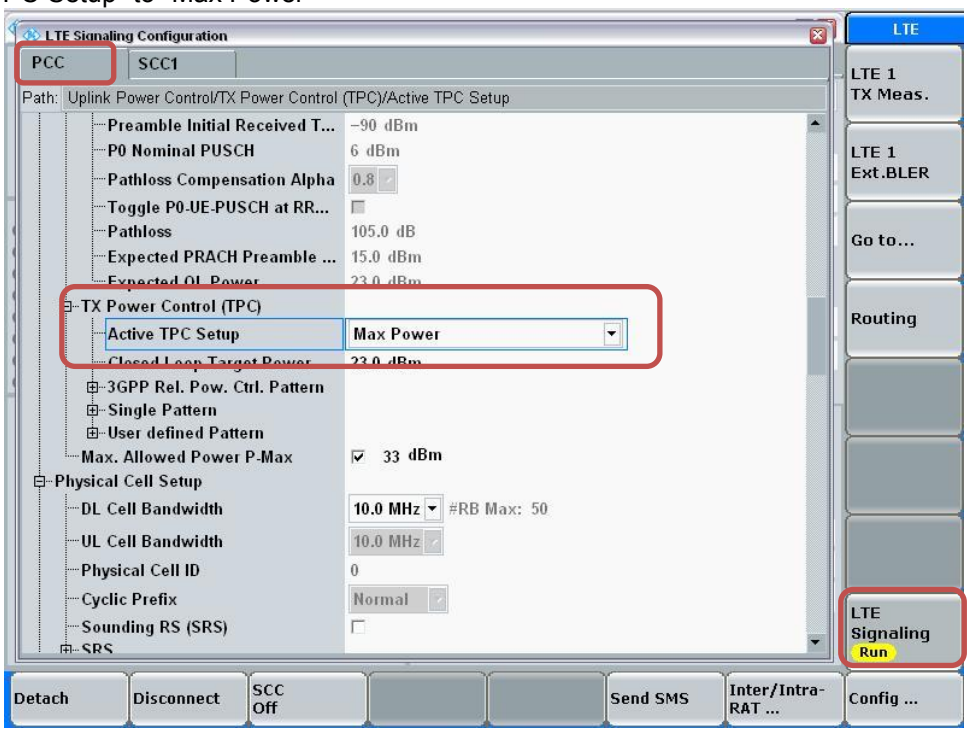


- Select “SCC1” tab
  - Select the testing Operating Band, Channel, Frequency, Cell Bandwidth

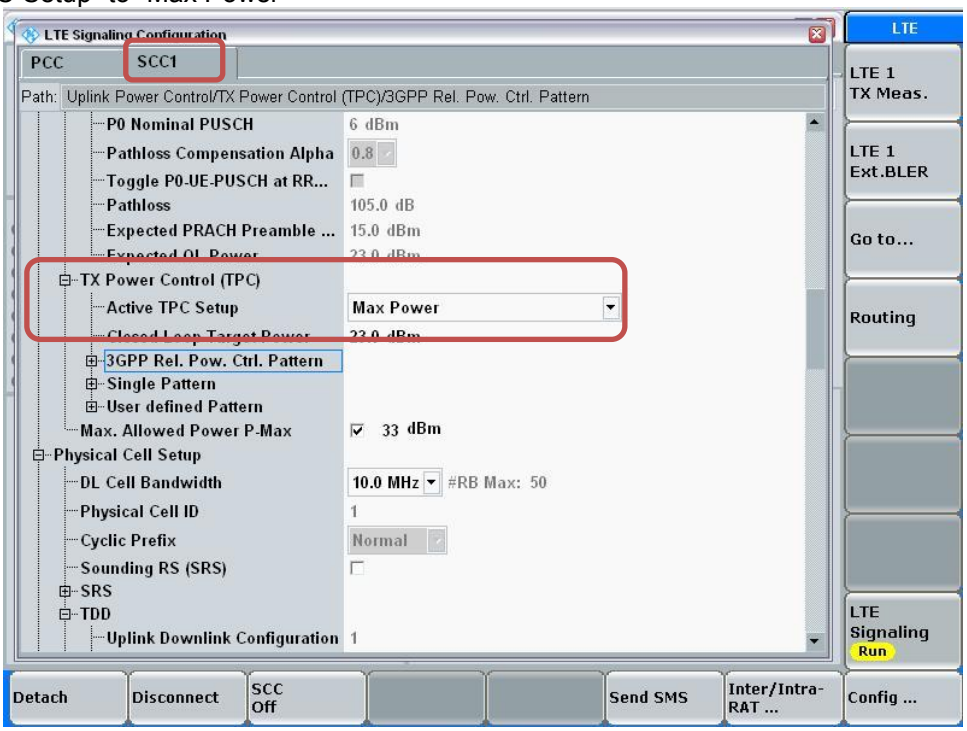


Max Power Setting

- Select “LTE Signaling” button
- Select PCC tab
- Set “Active TPC Setup” to “Max Power”

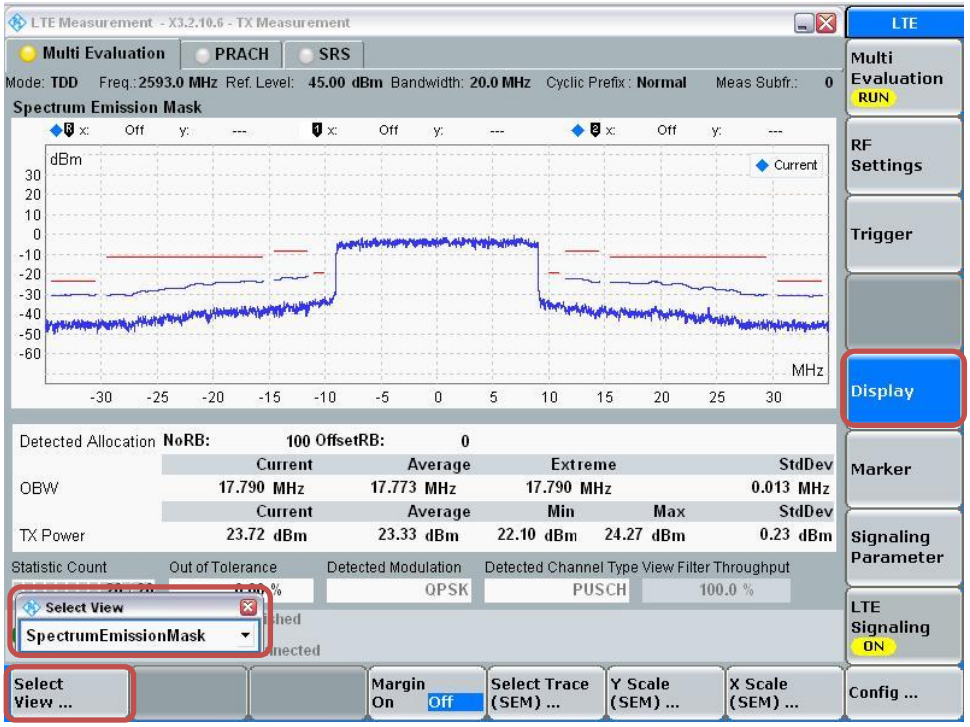


- Select SCC1 tab
- Set “Active TPC Setup” to “Max Power”



View TX Power

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



The device supports LTE Advanced Rel-10, Cat 6 and Carrier Aggregation (CA) on downlink only for Inter band. Uplink CA is not supported. Supported bands and bandwidths are provided in Tables 1 and 2.

Table 1

Inter-Band E-UTRA Carrier Aggregation Configurations							
Configuration	**Bands**	**1.4 MHz**	**3 MHz**	**5 MHz**	**10 MHz**	**15 MHz**	**20 MHz**
CA_2A-17A(0)*	2			Yes	Yes		
	17			Yes	Yes		
CA_2A-29A(0)*	2				Yes		
	29				Yes		
CA_4A-5A(1)*	4			Yes	Yes		
	5			Yes	Yes		
CA_4A-13A(0)*	4			Yes	Yes		
	13				Yes		
CA_4A-17A(0)*	4			Yes	Yes		
	17			Yes	Yes		
CA_4A-29A(0)*	4				Yes		
	29				Yes		

* Not all Bandwidth combination sets are supported for CA.

Table 3 provides the results for the combinations selected for measurement form Table 1. For all PCCs, UL power measurements were made for all supported DL bandwidths on the channel/RB combination resulting in the highest output power. For Band 2, UL power measurements were made for all PCC/SCC combinations. For the remaining PCC bands, UL power measurements were made for only one PCC/SCC combination.

For each LTE band, the maximum UL output power is capped in the cellular power table for all channel/bandwidth/RB combinations, which are set in accordance with 3GPP protocols.

Measurement results are provided in Table 3. Based upon the measurement results, uplink power is not affected by downlink CA and additional SAR measurements are not required

Table 2

PCC Band	SCC Band	PCC BW	PCC DL Freq. MHz	SCC BW	SCC DL Freq. MHz	UL RBs	UL RB Start	UL Freq. MHz	Mod.	UL Power Standalone dBm	UL Power CA dBm	Delta dBm
2	17	5	1960	10	740	1	12	1880	QPSK	23.8	23.8	0
2	17	10	1960	10	740	1	0	1880	QPSK	23.8	23.8	0
2	29	10	1960	10	722.5	1	0	1880	QPSK	23.8	23.8	0
4	5	5	2132.5	10	881.5	1	0	1732.5	QPSK	24.0	23.9	-0.1
4	5	10	2115	10	874	1	24	1715	QPSK	24.0	24.0	0
4	13	10	2115	10	751	1	24	1715	QPSK	24.0	24.0	0
4	13	5	2132.5	10	751	1	0	1732.5	QPSK	24.0	24.0	0
4	17	5	2132.5	10	740	1	0	1732.5	QPSK	24.0	24.0	0
4	17	10	2115	10	739	1	24	1715	QPSK	24.0	24.0	0
4	29	10	2115	10	722	1	24	1715	QPSK	24.0	24.0	0

9.6. Wi-Fi DTS Band

Measured Results

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Average Power (dBm)	
					Antenna A	Antenna B
2.4	1 Tx	802.11b	1	2412	16.0	16.0
			6	2437	16.0	16.0
			12	2467	16.0	16.0
	2 Tx	802.11g HT20 CDD	2	2417	16.0	16.0
			6	2437	16.0	16.0
			10	2457	16.0	16.0

9.7. Wi-Fi UNII Bands

Measured Results

Band (GHz)	No. of Transmitters	Mode	Ch #	Freq. (MHz)	Average Power (dBm)	
					Antenna A	Antenna B
5.2	1 Tx	802.11n HT40	38	5180	14.5	Not Required
			46	5230	17.0	
	2 Tx	802.11n HT40 STBC	38	5190	13.0	13.0
			46	5230	17.0	17.0
5.3	1 Tx	802.11n HT40	54	5270	Not Required	17.0
			62	5310		14.5
5.5	1 Tx	802.11ac VHT80	106	5530	14.5	14.5
			122	5610	15.5	16.0
			138	5690	15.5	16.0
	2 Tx	802.11ac VHT80 CDD	106	5530	13.5	13.5
			122	5610	15.5	15.5
			138	5690	15.5	15.5
5.8	1 Tx	802.11a	153	5765	Not Required	16.5
			157	5785		16.5
			161	5805		16.5
		802.11n HT40	151	5755	15.0	Not Required
			159	5795	16.0	
	2 Tx	802.11a CDD	153	5765	16.0	16.5
			157	5785	16.0	16.5
			161	5805	16.0	16.5

9.8. Bluetooth

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)
2.4	V3.0 + EDR, GFSK	0	2402	9.2
		39	2441	9.9
		78	2480	9.2

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

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 802.11 Wi-Fi SAR:
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***.

10.1. GSM850

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	
GPRS 2 Slots	0	Rear	128	824.4	25.75	25.75	0.835	0.835	0.437	0.437	
			190	836.6	25.75	25.75	0.896	0.896	0.468	0.468	
			251	848.8	25.75	25.75	1.050	1.050	0.551	0.551	1
		Edge 1	190	836.6	25.75	25.75	0.796	0.796	0.459	0.459	
		Edge 2	190	836.6	25.75	25.75	0.108	0.108	0.061	0.061	
		Edge 3	190	836.6	25.75	25.75	0.014	0.014	0.008	0.008	

10.2. GSM1900

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	
GPRS 2 Slots	0	Rear	512	1850.2	20.75	20.75	0.757	0.757	0.375	0.375	
			661	1880.0	20.75	20.60	0.842	0.872	0.417	0.432	
			810	1909.8	20.75	20.60	0.994	1.029	0.477	0.494	2
		Edge 1	512	1850.2	20.75	20.75	0.990	0.990	0.480	0.480	
			661	1880.0	20.75	20.60	0.974	1.008	0.467	0.483	
			810	1909.8	20.75	20.60	0.918	0.950	0.439	0.454	
		Edge 2	661	1880.0	20.75	20.60	0.075	0.078	0.036	0.037	
		Edge 3	661	1880.0	20.75	20.60	<0.001	<0.001	<0.001	<0.001	

10.3. W-CDMA Band V

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	
Rel. 99 RMC	0	Rear	4132	826.4	18.75	18.75	1.080	1.080	0.562	0.562	3
			4183	836.6	18.75	18.75	1.070	1.070	0.553	0.553	
			4233	846.6	18.75	18.75	1.060	1.060	0.545	0.545	
		Edge 1	4132	826.4	18.75	18.75	0.956	0.956	0.551	0.551	
			4183	836.6	18.75	18.75	0.956	0.956	0.550	0.550	
			4233	846.6	18.75	18.75	0.926	0.926	0.531	0.531	
		Edge 2	4183	836.6	18.75	18.75	0.138	0.138	0.076	0.076	
		Edge 3	4183	836.6	18.75	18.75	0.018	0.018	0.010	0.010	

10.4. W-CDMA Band IV

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	
Rel. 99 RMC	0	Rear	1312	1712.4	13.75	13.75	1.140	1.140	0.563	0.563	4
			1413	1732.6	13.75	13.75	1.100	1.100	0.539	0.539	
			1513	1752.6	13.75	13.75	1.140	1.140	0.559	0.559	
		Edge 1	1413	1732.6	13.75	13.75	0.716	0.716	0.346	0.346	
		Edge 2	1413	1732.6	13.75	13.75	0.075	0.075	0.036	0.036	
		Edge 3	1413	1732.6	13.75	13.75	<0.001	<0.001	<0.001	<0.001	

10.5. W-CDMA Band II

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	
Rel. 99 RMC	0	Rear	9262	1852.4	14.25	14.00	1.040	1.102	0.522	0.553	5
			9400	1880.0	14.25	14.00	1.030	1.091	0.507	0.537	
			9538	1907.6	14.25	13.90	0.950	1.030	0.470	0.509	
		Edge 1	9262	1852.4	14.25	14.00	0.902	0.955	0.434	0.460	
			9400	1880.0	14.25	14.00	0.882	0.934	0.423	0.448	
			9538	1907.6	14.25	13.90	0.844	0.915	0.402	0.436	
		Edge 2	9400	1880.0	14.25	14.00	0.082	0.087	0.039	0.041	
		Edge 3	9400	1880.0	14.25	14.00	<0.001	<0.001	<0.001	<0.001	

10.6. CDMA BC0

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	
1xRTT (RC3 SO32)	0	Rear	1013	824.7	18.75	18.75	1.100	1.100	0.571	0.571	
			384	836.5	18.75	18.75	1.110	1.110	0.576	0.576	6
			777	848.3	18.75	18.75	1.070	1.070	0.554	0.554	
		Edge 1	1013	824.7	18.75	18.75	0.959	0.959	0.556	0.556	
			384	836.5	18.75	18.75	0.956	0.956	0.552	0.552	
			777	848.3	18.75	18.75	0.905	0.905	0.522	0.522	
		Edge 2	384	836.5	18.75	18.75	0.140	0.140	0.077	0.077	
		Edge 3	384	836.5	18.75	18.75	0.013	0.013	0.007	0.007	
1xEVDO (Rel. 0)	0	Rear	1013	824.7	18.75	18.75	1.020	1.020	0.529	0.529	
			384	836.5	18.75	18.75	1.040	1.040	0.535	0.535	
			777	848.3	18.75	18.75	0.989	0.989	0.506	0.506	
		Edge 1	1013	824.7	18.75	18.75	0.995	0.995	0.575	0.575	
			384	836.5	18.75	18.75	0.983	0.983	0.568	0.568	
			777	848.3	18.75	18.75	0.941	0.941	0.540	0.540	
		Edge 2	384	836.5	18.75	18.75	0.113	0.113	0.066	0.066	
		Edge 3	384	836.5	18.75	18.75	0.012	0.012	0.006	0.006	
1xEVDO Rev. B 2 Carrier	0	Rear	1013+156	824.70+829.68	18.75	18.75	1.040	1.040	0.543	0.543	
			384+550	836.52+841.50	18.75	18.75	1.070	1.070	0.522	0.522	
			611+777	843.33+848.31	18.75	18.75	1.080	1.080	0.562	0.562	
		Edge 1	1013+156	824.70+829.68	18.75	18.75	0.970	0.970	0.561	0.561	
			384+550	836.52+841.50	18.75	18.75	0.931	0.931	0.539	0.539	
			611+777	843.33+848.31	18.75	18.75	0.941	0.941	0.542	0.542	
		Edge 2	384+550	836.52+841.50	18.75	18.75	0.104	0.104	0.062	0.062	
		Edge 3	384+550	836.52+841.50	18.75	18.75	0.020	0.020	0.011	0.011	
1xEVDO Rev. B 3 Carrier	0	Rear	1013+31+72	824.70+825.93+827.16	18.75	18.75	1.050	1.050	0.539	0.539	
			384+425+466	836.52+837.75+838.98	18.75	18.75	1.080	1.080	0.552	0.552	
			695+736+777	845.85+847.08+848.31	18.75	18.75	1.060	1.060	0.541	0.541	
		Edge 1	1013+31+72	824.70+825.93+827.16	18.75	18.75	0.963	0.963	0.558	0.558	
			384+425+466	836.52+837.75+838.98	18.75	18.75	0.995	0.995	0.572	0.572	
			695+736+777	845.85+847.08+848.31	18.75	18.75	0.941	0.941	0.541	0.541	
		Edge 2	384+425+466	836.52+837.75+838.98	18.75	18.75	0.116	0.116	0.069	0.069	
		Edge 3	384+425+466	836.52+837.75+838.98	18.75	18.75	0.016	0.016	0.009	0.009	

10.7. CDMA BC1

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	
1xRTT (RC3 SO32)	0	Rear	25	1851.3	14.25	14.00	0.909	0.963	0.444	0.470	
			600	1880.0	14.25	13.90	0.996	1.080	0.485	0.526	
			1175	1908.8	14.25	13.90	1.050	1.138	0.507	0.550	7
		Edge 1	25	1851.3	14.25	14.00	0.885	0.937	0.426	0.451	
			600	1880.0	14.25	13.90	0.893	0.968	0.428	0.464	
			1175	1908.8	14.25	13.90	0.915	0.992	0.438	0.475	
		Edge 2	600	1880.0	14.25	13.90	0.083	0.090	0.040	0.043	
		Edge 3	600	1880.0	14.25	13.90	<0.001	<0.001	<0.001	<0.001	
1xEVDO (Rel. 0)	0	Rear	25	1851.3	14.25	14.00	0.907	0.961	0.458	0.485	
			600	1880.0	14.25	14.00	1.000	1.059	0.499	0.529	
			1175	1908.8	14.25	14.00	1.050	1.112	0.518	0.549	
		Edge 1	25	1851.3	14.25	14.00	0.890	0.943	0.428	0.453	
			600	1880.0	14.25	14.00	0.897	0.950	0.431	0.457	
			1175	1908.8	14.25	14.00	0.931	0.986	0.443	0.469	
		Edge 2	600	1880.0	14.25	14.00	0.068	0.072	0.033	0.035	
		Edge 3	600	1880.0	14.25	14.00	<0.001	<0.001	<0.001	<0.001	

10.8. CDMA BC10

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	
1xRTT (RC3 SO32)	0	Rear	476	817.9	18.75	18.55	1.110	1.162	0.574	0.601	8
			580	820.5	18.75	18.75	1.080	1.080	0.557	0.557	
			670	822.8	18.75	18.75	1.100	1.100	0.567	0.567	
		Edge 1	476	817.9	18.75	18.55	0.994	1.041	0.576	0.603	
			580	820.5	18.75	18.75	0.960	0.960	0.556	0.556	
			670	822.8	18.75	18.75	0.971	0.971	0.563	0.563	
		Edge 2	580	820.5	18.75	18.75	0.130	0.130	0.076	0.076	
		Edge 3	580	820.5	18.75	18.75	0.021	0.021	0.011	0.011	
1xEVDO (Rel. 0)	0	Rear	476	817.9	18.75	18.75	1.160	1.160	0.606	0.606	
			580	820.5	18.75	18.75	1.130	1.130	0.592	0.592	
			670	822.8	18.75	18.75	1.120	1.120	0.586	0.586	
		Edge 1	476	817.9	18.75	18.75	1.040	1.040	0.601	0.601	
			580	820.5	18.75	18.75	1.010	1.010	0.583	0.583	
			670	822.8	18.75	18.75	1.000	1.000	0.577	0.577	
		Edge 2	580	820.5	18.75	18.75	0.118	0.118	0.068	0.068	
		Edge 3	580	820.5	18.75	18.75	0.021	0.021	0.012	0.012	

10.9. CDMA BC15

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	
1xRTT (RC3 SO32)	0	Rear	25	1711.3	13.50	13.50	1.170	1.170	0.586	0.586	
			450	1732.5	13.50	13.50	1.020	1.020	0.500	0.500	
			875	1753.8	13.50	13.50	1.190	1.190	0.599	0.599	9
		Edge 1	25	1711.3	13.50	13.50	0.769	0.769	0.376	0.376	
			450	1732.5	13.50	13.50	0.876	0.876	0.426	0.426	
			875	1753.8	13.50	13.50	0.670	0.670	0.324	0.324	
		Edge 2	450	1732.5	13.50	13.50	0.084	0.084	0.040	0.040	
		Edge 3	450	1732.5	13.50	13.50	<0.001	<0.001	<0.001	<0.001	
1xEVDO (Rel. 0)	0	Rear	25	1711.3	13.50	13.40	1.160	1.187	0.566	0.579	
			450	1732.5	13.50	13.50	1.010	1.010	0.498	0.498	
			875	1753.8	13.50	13.50	1.150	1.150	0.564	0.564	
		Edge 1	450	1732.5	13.50	13.50	0.768	0.768	0.373	0.373	
		Edge 2	450	1732.5	13.50	13.50	0.065	0.065	0.031	0.031	
		Edge 3	450	1732.5	13.50	13.50	<0.001	<0.001	<0.001	<0.001	

10.10. LTE Band 2 (20MHz Bandwidth)

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	
QPSK	0	Rear	18700	1860.0	1	49	14.25	14.25	1.090	1.090	0.533	0.533	10
					50	24	14.25	14.25	1.090	1.090	0.531	0.531	
			18900	1880.0	1	49	14.25	14.25	1.010	1.010	0.493	0.493	
					50	24	14.25	14.25	1.030	1.030	0.504	0.504	
					100	0	14.25	14.25	1.030	1.030	0.503	0.503	
			19100	1900.0	1	49	14.25	14.25	1.040	1.040	0.512	0.512	
					50	24	14.25	14.25	1.040	1.040	0.508	0.508	
		Edge 1	18700	1860.0	1	49	14.25	14.25	0.941	0.941	0.452	0.452	
					50	24	14.25	14.25	0.979	0.979	0.471	0.471	
			18900	1880.0	1	49	14.25	14.25	0.935	0.935	0.447	0.447	
					50	24	14.25	14.25	0.951	0.951	0.455	0.455	
					100	0	14.25	14.25	0.979	0.979	0.468	0.468	
			19100	1900.0	1	49	14.25	14.25	1.030	1.030	0.491	0.491	
					50	24	14.25	14.25	1.030	1.030	0.492	0.492	
		Edge 2	18900	1880.0	1	49	14.25	14.25	0.078	0.078	0.038	0.038	
					50	24	14.25	14.25	0.109	0.109	0.052	0.052	
		Edge 3	18900	1880.0	1	49	14.25	14.25	<0.001	<0.001	<0.001	<0.001	
					50	24	14.25	14.25	<0.001	<0.001	<0.001	<0.001	

10.11. LTE Band 4 (20MHz Bandwidth)

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	
QPSK	0	Rear	20050	1720.0	1	49	14.00	14.00	1.060	1.060	0.521	0.521	
					50	24	14.00	14.00	1.120	1.120	0.549	0.549	
			20175	1732.5	1	49	14.00	14.00	1.140	1.140	0.556	0.556	
					50	24	14.00	14.00	1.120	1.120	0.547	0.547	
					100	0	14.00	14.00	1.120	1.120	0.548	0.548	
			20300	1745.0	1	49	14.00	14.00	1.140	1.140	0.559	0.559	11
					50	24	14.00	14.00	1.140	1.140	0.556	0.556	
		Edge 1	20050	1720.0	1	49	14.00	14.00	0.801	0.801	0.390	0.390	
					50	24	14.00	14.00	0.817	0.817	0.397	0.397	
			20175	1732.5	1	49	14.00	14.00	0.823	0.823	0.400	0.400	
					50	24	14.00	14.00	0.823	0.823	0.399	0.399	
					100	0	14.00	14.00	0.837	0.837	0.404	0.404	
			20300	1745.0	1	49	14.00	14.00	0.845	0.845	0.410	0.410	
					50	24	14.00	14.00	0.848	0.848	0.410	0.410	
		Edge 2	20175	1732.5	1	49	14.00	14.00	0.063	0.063	0.029	0.029	
					50	24	14.00	14.00	0.065	0.065	0.030	0.030	
		Edge 3	20175	1732.5	1	49	14.00	14.00	<0.001	<0.001	<0.001	<0.001	
					50	24	14.00	14.00	<0.001	<0.001	<0.001	<0.001	

10.12. LTE Band 5 (10MHz Bandwidth)

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	
QPSK	0	Rear	20450	829.0	1	24	18.75	18.75	1.150	1.150	0.592	0.592	
					25	12	18.75	18.75	1.190	1.190	0.614	0.614	12
			20525	836.6	1	24	18.75	18.75	1.160	1.160	0.596	0.596	
					25	12	18.75	18.75	1.160	1.160	0.596	0.596	
					50	0	18.75	18.75	1.160	1.160	0.594	0.594	
			20600	844.0	1	24	18.75	18.75	1.180	1.180	0.608	0.608	
					25	12	18.75	18.75	1.170	1.170	0.600	0.600	
		Edge 1	20450	829.0	1	24	18.75	18.75	1.000	1.000	0.581	0.581	
					25	12	18.75	18.75	1.040	1.040	0.598	0.598	
			20525	836.6	1	24	18.75	18.75	0.976	0.976	0.562	0.562	
					25	12	18.75	18.75	0.981	0.981	0.565	0.565	
					50	0	18.75	18.75	0.933	0.933	0.536	0.536	
			20600	844.0	1	24	18.75	18.75	0.952	0.952	0.548	0.548	
					25	12	18.75	18.75	0.948	0.948	0.545	0.545	
		Edge 2	20525	836.6	1	24	18.75	18.75	0.106	0.106	0.060	0.060	
					25	12	18.75	18.75	0.107	0.107	0.061	0.061	
		Edge 3	20525	836.6	1	24	18.75	18.75	0.020	0.020	0.011	0.011	
					25	12	18.75	18.75	0.020	0.020	0.011	0.011	

10.13. LTE Band 13 (10MHz Bandwidth)

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	
QPSK	0	Rear	23230	782.0	1	24	19.00	19.00	1.140	1.140	0.587	0.587	
					25	12	19.00	19.00	1.160	1.160	0.596	0.596	13
					50	0	19.00	19.00	1.150	1.150	0.594	0.594	
		Edge 1	23230	782.0	1	24	19.00	19.00	1.100	1.100	0.636	0.636	
					25	12	19.00	19.00	1.130	1.130	0.651	0.651	
					50	0	19.00	19.00	1.150	1.150	0.664	0.664	
		Edge 2	23230	782.0	1	24	19.00	19.00	0.133	0.133	0.072	0.072	
					25	12	19.00	19.00	0.131	0.131	0.073	0.073	
		Edge 3	23230	782.0	1	24	19.00	19.00	0.029	0.029	0.016	0.016	
					25	12	19.00	19.00	0.029	0.029	0.016	0.016	

10.14. LTE Band 17 (10MHz Bandwidth)

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	
QPSK	0	Rear	23790	710.0	1	24	19.00	19.00	1.110	1.110	0.577	0.577	14
					25	12	19.00	19.00	1.100	1.100	0.573	0.573	
					50	0	19.00	19.00	1.100	1.100	0.569	0.569	
		Edge 1	23790	710.0	1	24	19.00	19.00	0.993	0.993	0.586	0.586	
					25	12	19.00	19.00	0.990	0.990	0.580	0.580	
					50	0	19.00	19.00	0.985	0.985	0.579	0.579	
		Edge 2	23790	710.0	1	24	19.00	19.00	0.069	0.069	0.039	0.039	
					25	12	19.00	19.00	0.070	0.070	0.039	0.039	
		Edge 3	23790	710.0	1	24	19.00	19.00	0.019	0.019	0.012	0.012	
					25	12	19.00	19.00	0.016	0.016	0.010	0.010	

10.15. LTE Band 25 (20MHz Bandwidth)

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	
QPSK	0	Rear	26140	1860.0	1	49	14.25	14.25	1.110	1.110	0.557	0.557	
					50	24	14.25	14.25	1.120	1.120	0.561	0.561	
			26365	1882.5	1	49	14.25	14.25	1.130	1.130	0.554	0.554	15
					50	24	14.25	14.25	1.110	1.110	0.546	0.546	
					100	0	14.25	14.25	1.100	1.100	0.545	0.545	
			26590	1905.0	1	49	14.25	14.25	1.010	1.010	0.508	0.508	
					50	24	14.25	14.25	1.040	1.040	0.523	0.523	
		Edge 1	26140	1860.0	1	49	14.25	14.25	0.995	0.995	0.479	0.479	
					50	24	14.25	14.25	0.985	0.985	0.471	0.471	
			26365	1882.5	1	49	14.25	14.25	0.993	0.993	0.475	0.475	
					50	24	14.25	14.25	0.984	0.984	0.470	0.470	
					100	0	14.25	14.25	0.986	0.986	0.471	0.471	
			26590	1905.0	1	49	14.25	14.25	1.010	1.010	0.483	0.483	
					50	24	14.25	14.25	1.050	1.050	0.498	0.498	
		Edge 2	26365	1882.5	1	49	14.25	14.25	0.085	0.085	0.042	0.042	
					50	24	14.25	14.25	0.066	0.066	0.034	0.034	
		Edge 3	26365	1882.5	1	49	14.25	14.25	<0.001	<0.001	<0.001	<0.001	
					50	24	14.25	14.25	<0.001	<0.001	<0.001	<0.001	

10.16. LTE Band 26 (10MHz Bandwidth)

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	
QPSK	0	Rear	26740	819.0	1	24	18.75	18.75	1.170	1.170	0.605	0.605	16
					25	12	18.75	18.75	1.130	1.130	0.585	0.585	
					50	0	18.75	18.75	1.130	1.130	0.586	0.586	
		Edge 1	26740	819.0	1	24	18.75	18.75	1.040	1.040	0.606	0.606	
					25	12	18.75	18.75	1.060	1.060	0.615	0.615	
					50	0	18.75	18.75	1.060	1.060	0.615	0.615	
		Edge 2	26740	819.0	1	24	18.75	18.75	0.148	0.148	0.084	0.084	
					25	12	18.75	18.75	0.145	0.145	0.083	0.083	
		Edge 3	26740	819.0	1	24	18.75	18.75	0.020	0.020	0.011	0.011	
					25	12	18.75	18.75	0.021	0.021	0.012	0.012	

10.17. LTE Band 41 (20MHz Bandwidth)

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	
QPSK	0	Rear	39750	2506.0	1	49	17.25	17.25	1.080	1.080	0.429	0.429	
					50	24	17.25	17.25	1.050	1.050	0.417	0.417	
			40185	2549.5	1	49	17.25	17.25	1.030	1.030	0.397	0.397	
					50	24	17.25	17.25	0.987	0.987	0.381	0.381	
			40620	2593.0	1	49	17.25	17.25	1.030	1.030	0.380	0.380	
					50	24	17.25	17.25	1.070	1.070	0.394	0.394	
					100	0	17.25	17.25	1.050	1.050	0.387	0.387	
			41055	2636.5	1	49	17.25	17.25	0.850	0.850	0.315	0.315	
					50	24	17.25	17.25	0.865	0.865	0.321	0.321	
			41490	2680.0	1	49	17.25	17.25	0.861	0.861	0.318	0.318	
					50	24	17.25	17.25	0.859	0.859	0.316	0.316	
		Edge 1	39750	2506.0	1	49	17.25	17.25	1.130	1.130	0.484	0.484	17
					50	24	17.25	17.25	1.120	1.120	0.478	0.478	
			40185	2549.5	1	49	17.25	17.25	1.040	1.040	0.443	0.443	
					50	24	17.25	17.25	1.050	1.050	0.442	0.442	
			40620	2593.0	1	49	17.25	17.25	0.986	0.986	0.411	0.411	
					50	24	17.25	17.25	1.020	1.020	0.426	0.426	
					100	0	17.25	17.25	1.000	1.000	0.416	0.416	
			41055	2636.5	1	49	17.25	17.25	0.839	0.839	0.345	0.345	
					50	24	17.25	17.25	0.877	0.877	0.361	0.361	
			41490	2680.0	1	49	17.25	17.25	0.811	0.811	0.330	0.330	
					50	24	17.25	17.25	0.810	0.810	0.328	0.328	
		Edge 2	40620	2593.0	1	49	17.25	17.25	0.087	0.087	0.037	0.037	
					50	24	17.25	17.25	0.088	0.088	0.037	0.037	
		Edge 3	40620	2593.0	1	49	17.25	17.25	0.003	0.003	0.001	0.001	
					50	24	17.25	17.25	<0.001	<0.001	<0.001	<0.001	

10.18. Wi-Fi (DTS Band)

Module 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								plots
							Ant A		Ant B			Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
												1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
2.4 GHz	1 Tx	802.11b	0	Rear	6	2437	16.0	16.0			0.111	0.101	0.045	0.101	0.045					
				Edge 1	6	2437	16.0	16.0			0.007	0.003	0.001	0.003	0.001					
				Edge 3	6	2437	16.0	16.0			1.230	1.070	0.365	1.070	0.365					
					12	2467	16.0	16.0			1.680	1.060	0.366	1.060	0.366					
				Edge 4	6	2437	16.0	16.0			0.025	0.019	0.009	0.019	0.009					
2.4 GHz	1 Tx	802.11b	0	Rear	6	2437			16.0	16.0	0.111					0.091	0.041	0.091	0.041	
				Edge 1	6	2437			16.0	16.0	0.005					0.002	<0.001	0.002	<0.001	
				Edge 2	6	2437			16.0	16.0	0.027					0.019	0.009	0.019	0.009	
				Edge 3	6	2437			16.0	16.0	1.360					1.070	0.366	1.070	0.366	
					12	2467			16.0	16.0	1.480					0.988	0.339	0.988	0.339	
2.4 GHz	2 Tx	802.11g CDD	0	Rear	6	2437	16.0	16.0	16.0	16.0	0.112	0.090	0.040	0.090	0.040	0.097	0.044	0.097	0.044	
				Edge 1	6	2437	16.0	16.0	16.0	16.0	0.011	0.004	0.001	0.004	0.001	0.007	0.002	0.007	0.002	
				Edge 2	6	2437	16.0	16.0	16.0	16.0	0.022	<0.001	<0.001	<0.001	<0.001	0.018	0.007	0.018	0.007	
				Edge 3	6	2437	16.0	16.0	16.0	16.0	1.280	1.020	0.349	1.020	0.349	1.040	0.361	1.040	0.361	
					10	2457	16.0	16.0	16.0	16.0	1.390	1.030	0.353	1.030	0.353	1.110	0.376	1.110	0.376	18
				Edge 4	6	2437	16.0	16.0	16.0	16.0	0.044	0.034	0.016	0.034	0.016	<0.001	<0.001	<0.001	<0.001	

Module 2

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								plots
							Ant A		Ant B		Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled		
											1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
2.4 GHz	2 Tx	802.11g	0	Edge 3	10	2457	16.0	16.0	16.0	16.0	1.020	0.350	1.020	0.350	1.100	0.378	1.100	0.378	

10.19. Wi-Fi (U-NII-1 AND U-NII-2A Band)

Module 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
							Ant A		Ant B			Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
												1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.2 GHz	1 Tx	802.11n HT40	0	Rear	46	5230	17.0	17.0			0.147	0.075	0.025	0.075	0.025					
				Edge 1	46	5230	17.0	17.0			0.001	<0.001	<0.001	<0.001	<0.001					
				Edge 3	38	5180	14.5	14.5				0.503	0.172	0.503	0.172					
					46	5230	17.0	17.0			2.030	1.090	0.373	1.090	0.373					19
				Edge 4	46	5230	17.0	17.0			0.090	<0.001	<0.001	<0.001	<0.001					
5.3 GHz	1 Tx	802.11n HT40	0	Rear	54	5270			17.0	17.0	0.159					0.112	0.046	0.112	0.046	
				Edge 1	54	5270			17.0	17.0	0.036					<0.001	<0.001	<0.001	<0.001	
				Edge 2	54	5270			17.0	17.0	0.036					<0.001	<0.001	<0.001	<0.001	
				Edge 3	54	5270			17.0	17.0	1.730					0.940	0.325	0.940	0.325	
					62	5310			14.5	14.5						0.528	0.177	0.528	0.177	
5.2 GHz	2 Tx	802.11n HT40 STBC	0	Rear	46	5230	17.0	17.0	17.0	17.0	0.166	0.087	0.029	0.087	0.029	0.069	0.020	0.069	0.020	
				Edge 1	46	5230	17.0	17.0	17.0	17.0	0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Edge 2	46	5230	17.0	17.0	17.0	17.0	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Edge 3	38	5180	13.0	13.0	13.0	13.0		0.376	0.127	0.376	0.127	0.436	0.144	0.436	0.144	
					46	5230	17.0	17.0	17.0	17.0	1.940	1.040	0.351	1.040	0.351	1.040	0.358	1.040	0.358	
				Edge 4	46	5230	17.0	17.0	17.0	17.0	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	

Module 2

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Ant A		Ant B		Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled		
											1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.2 GHz	1 Tx	802.11n HT40	0	Edge 3	46	5230	17.0	17.0			1.010	0.347	1.010	0.347					

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

Module 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
							Ant A		Ant B			Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
												1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.5 GHz	1 Tx	802.11ac VHT80	0	Rear	122	5610	15.5	15.5			0.210	0.121	0.049	0.121	0.049					
				Edge 1	122	5610	15.5	15.5			0.007	<0.001	<0.001	<0.001	<0.001					
				Edge 3	122	5610	15.5	15.5			2.050	1.140	0.369	1.140	0.369					
					138	5690	15.5	15.5				1.190	0.382	1.190	0.382					20
				Edge 4	122	5610	15.5	15.5			0.023	<0.001	<0.001	<0.001	<0.001					
5.5 GHz	1 Tx	802.11ac VHT80	0	Rear	122	5610			16.0	16.0	0.280					0.165	0.065	0.165	0.065	
				Edge 1	122	5610			16.0	16.0	0.021					<0.001	<0.001	<0.001	<0.001	
				Edge 2	122	5610			16.0	16.0	0.012					<0.001	<0.001	<0.001	<0.001	
				Edge 3	122	5610			16.0	16.0	3.300					1.180	0.390	1.180	0.390	
					138	5690			16.0	16.0						1.110	0.366	1.110	0.366	
5.5 GHz	2 Tx	802.11ac VHT80 CDD	0	Rear	122	5610	15.5	15.5	16.0	15.5	0.236	0.136	0.054	0.136	0.054	0.101	0.040	0.113	0.044	
				Edge 1	122	5610	15.5	15.5	16.0	15.5	0.051	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Edge 2	122	5610	15.5	15.5	16.0	15.5	0.035	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Edge 3	122	5610	15.5	15.5	16.0	15.5	3.130	1.140	0.367	1.140	0.367	1.010	0.332	1.133	0.373	
					138	5690	15.5	15.5	16.0	15.5		1.180	0.381	1.180	0.381	1.050	0.343	1.178	0.385	
				Edge 4	122	5610	15.5	15.5	16.0	15.5	0.027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	

Module 2

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Ant A		Ant B		Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled		
											1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.5 GHz	1 Tx	802.11ac VHT80	0	Edge 3	138	5690	15.5	15.5			1.090	0.349	1.090	0.349					

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

Module 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
							Ant A		Ant B			Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
												1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	1 Tx	802.11n HT40	0	Rear	159	5795	16.0	16.0			0.214	0.118	0.044	0.118	0.044					
				Edge 1	159	5795	16.0	16.0			0.026	<0.001	<0.001	<0.001	<0.001					
				Edge 3	151	5755	15.0	15.0				0.883	0.287	0.883	0.287					
					159	5795	16.0	16.0			2.050	1.060	0.344	1.060	0.344					
				Edge 4	159	5795	16.0	16.0			0.024	<0.001	<0.001	<0.001	<0.001					
5.8 GHz	1 Tx	802.11a	0	Rear	157	5785			16.5	16.5	0.220					0.131	0.053	0.131	0.053	
				Edge 1	157	5785			16.5	16.5	0.028					<0.001	<0.001	<0.001	<0.001	
				Edge 2	157	5785			16.5	16.5	0.024					<0.001	<0.001	<0.001	<0.001	
				Edge 3	157	5785			16.5	16.5	2.040					1.100	0.360	1.100	0.360	
					161	5805			16.5	16.5						1.130	0.373	1.130	0.373	
5.8 GHz	2 Tx	802.11a CDD	0	Rear	157	5785	16.0	16.0	16.5	16.5	0.182	0.122	0.048	0.122	0.048	0.142	0.056	0.142	0.056	
				Edge 1	157	5785	16.0	16.0	16.5	16.5	0.062	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Edge 2	157	5785	16.0	16.0	16.5	16.5	0.027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
				Edge 3	157	5785	16.0	16.0	16.5	16.5	2.040	1.120	0.357	1.120	0.357	1.040	0.338	1.040	0.338	
					161	5805	16.0	16.0	16.5	16.5		1.190	0.374	1.190	0.374	1.070	0.347	1.070	0.347	21
				Edge 4	157	5785	16.0	16.0	16.5	16.5	0.027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	

Module 2

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Ant A		Ant B		Ant A				Ant B				
							Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled		
											1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8GHz	2 Tx	802.11a CDD	0	Edge 3	161	5805	16.0	16.0	16.5	16.5	1.120	0.365	1.120	0.365	1.150	0.380	1.150	0.380	

10.22. Bluetooth

Module 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)		SAR (W/kg)				Plots
							Tune-up Limit	Measured	Measured		Scaled		
									1-g	10-g	1-g	10-g	
Bluetooth	1 Tx	GMFK	0	Rear	39	2441	10.0	9.9	0.017	0.008	0.018	0.008	
				Edge 1	39	2441	10.0	9.9	<0.001	<0.001	<0.001	<0.001	
				Edge 2	39	2441	10.0	9.9	<0.001	<0.001	<0.001	<0.001	
				Edge 3	39	2441	10.0	9.9	0.232	0.078	0.237	0.080	22
				Edge 4	39	2441	10.0	9.9	0.002	0.001	0.002	0.001	

Module 2

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)		SAR (W/kg)				Plots
							Tune-up Limit	Measured	Measured		Scaled		
									1-g	10-g	1-g	10-g	
Bluetooth	1 Tx	GMFK	0	Edge 3	39	2441	10.0	9.9	0.216	0.074	0.221	0.076	

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 <1.6 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 (~ 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 13	Standalone	Rear	Yes	1.160	1.100	1.05	N/A	N/A	N/A
	LTE Band 17	Standalone	Rear	No	1.110	N/A	N/A	N/A	N/A	N/A
850	GSM 850	Standalone	Rear	No	1.050	N/A	N/A	N/A	N/A	N/A
	CDMA BC0	Standalone	Rear	No	1.110	N/A	N/A	N/A	N/A	N/A
	CDMA BC10	Standalone	Rear	No	1.160	N/A	N/A	N/A	N/A	N/A
	WCDMA Band V	Standalone	Rear	No	1.080	N/A	N/A	N/A	N/A	N/A
	LTE Band 5	Standalone	Rear	Yes	1.190	1.080	1.10	N/A	N/A	N/A
	LTE Band 26	Standalone	Rear	No	1.170	N/A	N/A	N/A	N/A	N/A
1900	GSM 1900	Standalone	Rear	No	0.994	N/A	N/A	N/A	N/A	N/A
	CDMA BC1	Standalone	Rear	No	1.050	N/A	N/A	N/A	N/A	N/A
	WCDMA Band II	Standalone	Rear	No	1.040	N/A	N/A	N/A	N/A	N/A
	LTE Band 2	Standalone	Rear	No	1.090	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Standalone	Rear	Yes	1.130	1.040	1.09	N/A	N/A	N/A
1700	LTE Band 4	Standalone	Rear	No	1.140	N/A	N/A	N/A	N/A	N/A
	WCDMA Band IV	Standalone	Rear	No	1.140	N/A	N/A	N/A	N/A	N/A
	CDMA BC15	Standalone	Rear	Yes	1.190	1.180	1.01	N/A	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Standalone	Edge 3	Yes	1.110	1.100	1.01	N/A	N/A	N/A
	BT	Standalone	Edge 3	No	0.232	N/A	N/A	N/A	N/A	N/A
2600	LTE Band 41	Standalone	Rear	No	1.130	1.100	1.03	N/A	N/A	N/A
5200	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	1.190	1.180	1.01	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	1.190	1.190	1.00	N/A	N/A	N/A
5800	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	1.190	1.110	1.07	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:

SAR_1 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

SAR_2 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:

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

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations			
Standalone	1	WWAN OFF	Antenna B Wi-Fi 2.4 GHz SISO	+	Bluetooth
	2		Antenna A Wi-Fi 5 GHz SISO	+	Bluetooth
	3		Antenna B Wi-Fi 5 GHz SISO	+	Bluetooth
	4		Wi-Fi 5 GHz MIMO	+	Bluetooth
	5	WWAN ON	+ Antenna A Wi-Fi 2.4 GHz SISO		
	6		+ Antenna B Wi-Fi 2.4 GHz SISO		
	7		+ Wi-Fi 2.4 GHz MIMO		
	8			+	Bluetooth
	9		+ Antenna B Wi-Fi 2.4 GHz SISO	+	Bluetooth
	10		+ Antenna A Wi-Fi 5 GHz SISO		
	11		+ Antenna B Wi-Fi 5 GHz SISO		
	12		+ Wi-Fi 5 GHz MIMO		
	13		+ Antenna A Wi-Fi 5 GHz SISO	+	Bluetooth
	14		+ Antenna B Wi-Fi 5 GHz SISO	+	Bluetooth
	15		+ Wi-Fi 5 GHz MIMO	+	Bluetooth

Notes:

1. Antenna A Wi-Fi 2.4GHz Radio cannot transmit simultaneously with Bluetooth Radio.

Estimated SAR for Simultaneous Transmission SAR Analysis

Considerations for SAR estimation

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

Estimated SAR for WWAN

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Estimated 1-g SAR Value (W/kg)				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Cellular	GPRS 2 Slots	848.8	25.80	95	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.238	0.400	0.400
Cellular	GPRS 2 Slots	1909.8	20.80	30	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.113	0.400	0.400
Cellular	W-CDMA 2	1907.6	14.30	27	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.101	0.400	0.400
Cellular	W-CDMA 4	1752.6	13.80	24	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.086	0.400	0.400
Cellular	W-CDMA 5	846.6	18.80	76	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.190	0.400	0.400
Cellular	CDMA BC0	848.31	18.80	76	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.190	0.400	0.400
Cellular	CDMA BC1	1908.75	14.30	27	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.102	0.400	0.400
Cellular	CDMA BC10	823.1	18.80	76	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.188	0.400	0.400
Cellular	CDMA BC15	1753.75	13.50	22	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.079	0.400	0.400
Cellular	LTE Band 2	1900	14.30	27	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.101	0.400	0.400
Cellular	LTE Band 4	1754.3	14.00	25	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.090	0.400	0.400
Cellular	LTE Band 5	844	18.80	76	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.190	0.400	0.400
Cellular	LTE Band 13	782	19.00	79	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.190	0.400	0.400
Cellular	LTE Band 17	710	19.00	79	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.181	0.400	0.400
Cellular	LTE Band 25	1905	14.30	27	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.101	0.400	0.400
Cellular	LTE Band 26	821.3	18.80	76	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.187	0.400	0.400
Cellular	LTE Band 41	2680	17.30	54	1.8	2.3	48.8	293	117.7	-MEASURE-	-MEASURE-	0.241	0.400	0.400

Estimated SAR for WLAN

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Estimated 1-g SAR Value (W/kg)				
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Antenna A													
Wi-Fi 2.4 GHz	2462	16.00	40	6	291.7	132.7	3.1	46.4	-MEASURE-	0.400	0.400	-MEASURE-	0.182
Wi-Fi 5.2 GHz	5240	17.00	50	6	291.7	132.7	3.1	46.4	-MEASURE-	0.400	0.400	-MEASURE-	0.332
Wi-Fi 5.3 GHz	5320	16.50	45	6	291.7	132.7	3.1	46.4	-MEASURE-	0.400	0.400	-MEASURE-	0.301
Wi-Fi 5.5 GHz	5700	15.50	35	6	291.7	132.7	3.1	46.4	-MEASURE-	0.400	0.400	-MEASURE-	0.242
Wi-Fi 5.8 GHz	5825	16.00	40	6	291.7	132.7	3.1	46.4	-MEASURE-	0.400	0.400	-MEASURE-	0.280
Bluetooth	2480	10.00	10	6	291.7	132.7	3.1	46.4	0.350	0.400	0.400	-MEASURE-	0.046
Antenna B													
Wi-Fi 2.4 GHz	2462	16.00	40	6	291.7	46.4	3.1	132.7	-MEASURE-	0.400	0.182	-MEASURE-	0.400
Wi-Fi 5.2 GHz	5240	17.00	50	6	291.7	46.4	3.1	132.7	-MEASURE-	0.400	0.332	-MEASURE-	0.400
Wi-Fi 5.3 GHz	5320	17.00	50	6	291.7	46.4	3.1	132.7	-MEASURE-	0.400	0.334	-MEASURE-	0.400
Wi-Fi 5.5 GHz	5700	16.00	40	6	291.7	46.4	3.1	132.7	-MEASURE-	0.400	0.277	-MEASURE-	0.400
Wi-Fi 5.8 GHz	5825	16.50	45	6	291.7	46.4	3.1	132.7	-MEASURE	0.400	0.315	-MEASURE-	0.400

12.1. Sum of the SAR for Wi-Fi & BT

RF Exposure Conditions	Test Position	① Wi-Fi 2.4GHz (Ant B)	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+⑤		②+⑤		③+⑤		④+⑤	
							∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	0.091	0.121	0.165	0.142	0.018	0.109	No	0.139	No	0.183	No	0.160	No
	Edge 1	0.002	0.001	0.001	0.001	0.001	0.003	No	0.002	No	0.002	No	0.002	No
	Edge 2	0.019	0.400	0.001	0.001	0.001	0.020	No	0.401	No	0.002	No	0.002	No
	Edge 3	1.070	1.190	1.180	1.190	0.237	1.307	No	1.427	No	1.417	No	1.427	No
	Edge 4	0.400	0.001	0.400	0.001	0.002	0.402	No	0.003	No	0.402	No	0.003	No

12.2. Sum of the SAR for GSM850 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.050	0.101	0.091	0.097	0.018	1.151	No	1.141	No	1.147	No	1.068	No	1.159	No
	Edge 1	0.798	0.003	0.002	0.007	0.001	0.801	No	0.800	No	0.805	No	0.799	No	0.801	No
	Edge 2	0.108	1.070	0.019	0.018	0.001	1.178	No	0.127	No	0.126	No	0.109	No	0.128	No
	Edge 3	0.014	1.070	1.070	1.110	0.237	1.084	No	1.084	No	1.124	No	0.251	No	1.321	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.3. Sum of the SAR for GSM1900 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.029	0.101	0.091	0.097	0.018	1.130	No	1.120	No	1.126	No	1.047	No	1.138	No
	Edge 1	1.008	0.003	0.002	0.007	0.001	1.011	No	1.010	No	1.015	No	1.009	No	1.011	No
	Edge 2	0.078	1.070	0.019	0.018	0.001	1.148	No	0.097	No	0.096	No	0.079	No	0.098	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.4. Sum of the SAR for W-CDMA V & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.080	0.101	0.091	0.097	0.018	1.181	No	1.171	No	1.177	No	1.098	No	1.189	No
	Edge 1	0.956	0.003	0.002	0.007	0.001	0.959	No	0.958	No	0.963	No	0.957	No	0.959	No
	Edge 2	0.138	1.070	0.019	0.018	0.001	1.208	No	0.157	No	0.156	No	0.139	No	0.158	No
	Edge 3	0.018	1.070	1.070	1.110	0.237	1.088	No	1.088	No	1.128	No	0.255	No	1.325	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.5. Sum of the SAR for W-CDMA IV & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.140	0.101	0.091	0.097	0.018	1.241	No	1.231	No	1.237	No	1.158	No	1.249	No
	Edge 1	0.716	0.003	0.002	0.007	0.001	0.719	No	0.718	No	0.723	No	0.717	No	0.719	No
	Edge 2	0.075	1.070	0.019	0.018	0.001	1.145	No	0.094	No	0.093	No	0.076	No	0.095	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.6. Sum of the SAR for W-CDMA II & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.102	0.101	0.091	0.097	0.018	1.203	No	1.193	No	1.199	No	1.120	No	1.211	No
	Edge 1	0.955	0.003	0.002	0.007	0.001	0.958	No	0.957	No	0.962	No	0.956	No	0.958	No
	Edge 2	0.087	1.070	0.019	0.018	0.001	1.157	No	0.106	No	0.105	No	0.088	No	0.107	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.7. Sum of the SAR for CDMA BC0 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.110	0.101	0.091	0.097	0.018	1.211	No	1.201	No	1.207	No	1.128	No	1.219	No
	Edge 1	0.995	0.003	0.002	0.007	0.001	0.998	No	0.997	No	1.002	No	0.996	No	0.998	No
	Edge 2	0.140	1.070	0.019	0.018	0.001	1.210	No	0.159	No	0.158	No	0.141	No	0.160	No
	Edge 3	0.020	1.070	1.070	1.110	0.237	1.090	No	1.090	No	1.130	No	0.257	No	1.327	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.8. Sum of the SAR for CDMA BC1 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.138	0.101	0.091	0.097	0.018	1.239	No	1.229	No	1.235	No	1.156	No	1.247	No
	Edge 1	0.992	0.003	0.002	0.007	0.001	0.995	No	0.994	No	0.999	No	0.993	No	0.995	No
	Edge 2	0.090	1.070	0.019	0.018	0.001	1.160	No	0.109	No	0.108	No	0.091	No	0.110	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.9. Sum of the SAR for CDMA BC10 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.162	0.101	0.091	0.097	0.018	1.263	No	1.253	No	1.259	No	1.180	No	1.271	No
	Edge 1	1.041	0.003	0.002	0.007	0.001	1.044	No	1.043	No	1.048	No	1.042	No	1.044	No
	Edge 2	0.130	1.070	0.019	0.018	0.001	1.200	No	0.149	No	0.148	No	0.131	No	0.150	No
	Edge 3	0.021	1.070	1.070	1.110	0.237	1.091	No	1.091	No	1.131	No	0.258	No	1.328	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.10. Sum of the SAR for CDMA BC15 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.190	0.101	0.091	0.097	0.018	1.291	No	1.281	No	1.287	No	1.208	No	1.299	No
	Edge 1	0.876	0.003	0.002	0.007	0.001	0.879	No	0.878	No	0.883	No	0.877	No	0.879	No
	Edge 2	0.084	1.070	0.019	0.018	0.001	1.154	No	0.103	No	0.102	No	0.085	No	0.104	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.11. Sum of the SAR for LTE Band 2 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.090	0.101	0.091	0.097	0.018	1.191	No	1.181	No	1.187	No	1.108	No	1.199	No
	Edge 1	1.030	0.003	0.002	0.007	0.001	1.033	No	1.032	No	1.037	No	1.031	No	1.033	No
	Edge 2	0.109	1.070	0.019	0.018	0.001	1.179	No	0.128	No	0.127	No	0.110	No	0.129	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.12. Sum of the SAR for LTE Band 4 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.140	0.101	0.091	0.097	0.018	1.241	No	1.231	No	1.237	No	1.158	No	1.249	No
	Edge 1	0.848	0.003	0.002	0.007	0.001	0.851	No	0.850	No	0.855	No	0.849	No	0.851	No
	Edge 2	0.065	1.070	0.019	0.018	0.001	1.135	No	0.084	No	0.083	No	0.066	No	0.085	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.13. Sum of the SAR for LTE Band 5 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.190	0.101	0.091	0.097	0.018	1.291	No	1.281	No	1.287	No	1.208	No	1.299	No
	Edge 1	1.040	0.003	0.002	0.007	0.001	1.043	No	1.042	No	1.047	No	1.041	No	1.043	No
	Edge 2	0.107	1.070	0.019	0.018	0.001	1.177	No	0.126	No	0.125	No	0.108	No	0.127	No
	Edge 3	0.020	1.070	1.070	1.110	0.237	1.090	No	1.090	No	1.130	No	0.257	No	1.327	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.14. Sum of the SAR for LTE Band 13 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.160	0.101	0.091	0.097	0.018	1.261	No	1.251	No	1.257	No	1.178	No	1.269	No
	Edge 1	1.150	0.003	0.002	0.007	0.001	1.153	No	1.152	No	1.157	No	1.151	No	1.153	No
	Edge 2	0.133	1.070	0.019	0.018	0.001	1.203	No	0.152	No	0.151	No	0.134	No	0.153	No
	Edge 3	0.029	1.070	1.070	1.110	0.237	1.099	No	1.099	No	1.139	No	0.266	No	1.336	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.15. Sum of the SAR for LTE Band 17 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.110	0.101	0.091	0.097	0.018	1.211	No	1.201	No	1.207	No	1.128	No	1.219	No
	Edge 1	0.993	0.003	0.002	0.007	0.001	0.996	No	0.995	No	1.000	No	0.994	No	0.996	No
	Edge 2	0.070	1.070	0.019	0.018	0.001	1.140	No	0.089	No	0.088	No	0.071	No	0.090	No
	Edge 3	0.019	1.070	1.070	1.110	0.237	1.089	No	1.089	No	1.129	No	0.256	No	1.326	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.16. Sum of the SAR for LTE Band 25 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.130	0.101	0.091	0.097	0.018	1.231	No	1.221	No	1.227	No	1.148	No	1.239	No
	Edge 1	1.050	0.003	0.002	0.007	0.001	1.053	No	1.052	No	1.057	No	1.051	No	1.053	No
	Edge 2	0.085	1.070	0.019	0.018	0.001	1.155	No	0.104	No	0.103	No	0.086	No	0.105	No
	Edge 3	0.001	1.070	1.070	1.110	0.237	1.071	No	1.071	No	1.111	No	0.238	No	1.308	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.17. Sum of the SAR for LTE Band 26 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.170	0.101	0.091	0.097	0.018	1.271	No	1.261	No	1.267	No	1.188	No	1.279	No
	Edge 1	1.060	0.003	0.002	0.007	0.001	1.063	No	1.062	No	1.067	No	1.061	No	1.063	No
	Edge 2	0.148	1.070	0.019	0.018	0.001	1.218	No	0.167	No	0.166	No	0.149	No	0.168	No
	Edge 3	0.021	1.070	1.070	1.110	0.237	1.091	No	1.091	No	1.131	No	0.258	No	1.328	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.18. Sum of the SAR for LTE Band 41 & Wi-Fi DTS & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 2.4GHz (Ant A)	③ Wi-Fi 2.4GHz (Ant B)	④ Wi-Fi 2.4GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+⑤		①+③+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.080	0.101	0.091	0.097	0.018	1.181	No	1.171	No	1.177	No	1.098	No	1.189	No
	Edge 1	1.130	0.003	0.002	0.007	0.001	1.133	No	1.132	No	1.137	No	1.131	No	1.133	No
	Edge 2	0.088	1.070	0.019	0.018	0.001	1.158	No	0.107	No	0.106	No	0.089	No	0.108	No
	Edge 3	0.003	1.070	1.070	1.110	0.237	1.073	No	1.073	No	1.113	No	0.240	No	1.310	No
	Edge 4	0.400	0.019	1.070	0.034	0.002	0.419	No	1.470	No	0.434	No	0.402	No	1.472	No

12.19. Sum of the SAR for GSM850 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.050	0.121	0.165	0.142	0.018	1.171	No	1.215	No	1.192	No	1.189	No	1.233	No	1.210	No
	Edge 1	0.798	0.001	0.001	0.001	0.001	0.799	No	0.799	No	0.799	No	0.800	No	0.800	No	0.800	No
	Edge 2	0.108	1.190	0.001	0.001	0.001	1.298	No	0.109	No	0.109	No	1.299	No	0.110	No	0.110	No
	Edge 3	0.014	1.190	1.180	1.190	0.237	1.204	No	1.194	No	1.204	No	1.441	No	1.431	No	1.441	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.20. Sum of the SAR for GSM1900 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.029	0.121	0.165	0.142	0.018	1.150	No	1.194	No	1.171	No	1.168	No	1.212	No	1.189	No
	Edge 1	1.008	0.001	0.001	0.001	0.001	1.009	No	1.009	No	1.009	No	1.010	No	1.010	No	1.010	No
	Edge 2	0.078	1.190	0.001	0.001	0.001	1.268	No	0.079	No	0.079	No	1.269	No	0.080	No	0.080	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.21. Sum of the SAR for W-CDMA V & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.080	0.121	0.165	0.142	0.018	1.201	No	1.245	No	1.222	No	1.219	No	1.263	No	1.240	No
	Edge 1	0.956	0.001	0.001	0.001	0.001	0.957	No	0.957	No	0.957	No	0.958	No	0.958	No	0.958	No
	Edge 2	0.138	1.190	0.001	0.001	0.001	1.328	No	0.139	No	0.139	No	1.329	No	0.140	No	0.140	No
	Edge 3	0.018	1.190	1.180	1.190	0.237	1.208	No	1.198	No	1.208	No	1.445	No	1.435	No	1.445	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.22. Sum of the SAR for W-CDMA IV & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.140	0.121	0.165	0.142	0.018	1.261	No	1.305	No	1.282	No	1.279	No	1.323	No	1.300	No
	Edge 1	0.716	0.001	0.001	0.001	0.001	0.717	No	0.717	No	0.717	No	0.718	No	0.718	No	0.718	No
	Edge 2	0.075	1.190	0.001	0.001	0.001	1.265	No	0.076	No	0.076	No	1.266	No	0.077	No	0.077	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.23. Sum of the SAR for W-CDMA II & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.102	0.121	0.165	0.142	0.018	1.223	No	1.267	No	1.244	No	1.241	No	1.285	No	1.262	No
	Edge 1	0.955	0.001	0.001	0.001	0.001	0.956	No	0.956	No	0.956	No	0.957	No	0.957	No	0.957	No
	Edge 2	0.087	1.190	0.001	0.001	0.001	1.277	No	0.088	No	0.088	No	1.278	No	0.089	No	0.089	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.24. Sum of the SAR for CDMA BC0 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.110	0.121	0.165	0.142	0.018	1.231	No	1.275	No	1.252	No	1.249	No	1.293	No	1.270	No
	Edge 1	0.995	0.001	0.001	0.001	0.001	0.996	No	0.996	No	0.996	No	0.997	No	0.997	No	0.997	No
	Edge 2	0.140	1.190	0.001	0.001	0.001	1.330	No	0.141	No	0.141	No	1.331	No	0.142	No	0.142	No
	Edge 3	0.020	1.190	1.180	1.190	0.237	1.210	No	1.200	No	1.210	No	1.447	No	1.437	No	1.447	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.25. Sum of the SAR for CDMA BC1 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.138	0.121	0.165	0.142	0.018	1.259	No	1.303	No	1.280	No	1.277	No	1.321	No	1.298	No
	Edge 1	0.992	0.001	0.001	0.001	0.001	0.993	No	0.993	No	0.993	No	0.994	No	0.994	No	0.994	No
	Edge 2	0.090	1.190	0.001	0.001	0.001	1.280	No	0.091	No	0.091	No	1.281	No	0.092	No	0.092	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.26. Sum of the SAR for CDMA BC10 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.162	0.121	0.165	0.142	0.018	1.283	No	1.327	No	1.304	No	1.301	No	1.345	No	1.322	No
	Edge 1	1.041	0.001	0.001	0.001	0.001	1.042	No	1.042	No	1.042	No	1.043	No	1.043	No	1.043	No
	Edge 2	0.130	1.190	0.001	0.001	0.001	1.320	No	0.131	No	0.131	No	1.321	No	0.132	No	0.132	No
	Edge 3	0.021	1.190	1.180	1.190	0.237	1.211	No	1.201	No	1.211	No	1.448	No	1.438	No	1.448	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.27. Sum of the SAR for CDMA BC15 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.190	0.121	0.165	0.142	0.018	1.311	No	1.355	No	1.332	No	1.329	No	1.373	No	1.350	No
	Edge 1	0.876	0.001	0.001	0.001	0.001	0.877	No	0.877	No	0.877	No	0.878	No	0.878	No	0.878	No
	Edge 2	0.084	1.190	0.001	0.001	0.001	1.274	No	0.085	No	0.085	No	1.275	No	0.086	No	0.086	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.28. Sum of the SAR for LTE Band 2 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.090	0.121	0.165	0.142	0.018	1.211	No	1.255	No	1.232	No	1.229	No	1.273	No	1.250	No
	Edge 1	1.030	0.001	0.001	0.001	0.001	1.031	No	1.031	No	1.031	No	1.032	No	1.032	No	1.032	No
	Edge 2	0.109	1.190	0.001	0.001	0.001	1.299	No	0.110	No	0.110	No	1.300	No	0.111	No	0.111	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.29. Sum of the SAR for LTE Band 4 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.140	0.121	0.165	0.142	0.018	1.261	No	1.305	No	1.282	No	1.279	No	1.323	No	1.300	No
	Edge 1	0.848	0.001	0.001	0.001	0.001	0.849	No	0.849	No	0.849	No	0.850	No	0.850	No	0.850	No
	Edge 2	0.065	1.190	0.001	0.001	0.001	1.255	No	0.066	No	0.066	No	1.256	No	0.067	No	0.067	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.30. Sum of the SAR for LTE Band 5 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.190	0.121	0.165	0.142	0.018	1.311	No	1.355	No	1.332	No	1.329	No	1.373	No	1.350	No
	Edge 1	1.040	0.001	0.001	0.001	0.001	1.041	No	1.041	No	1.041	No	1.042	No	1.042	No	1.042	No
	Edge 2	0.107	1.190	0.001	0.001	0.001	1.297	No	0.108	No	0.108	No	1.298	No	0.109	No	0.109	No
	Edge 3	0.020	1.190	1.180	1.190	0.237	1.210	No	1.200	No	1.210	No	1.447	No	1.437	No	1.447	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.31. Sum of the SAR for LTE Band 13 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.160	0.121	0.165	0.142	0.018	1.281	No	1.325	No	1.302	No	1.299	No	1.343	No	1.320	No
	Edge 1	1.150	0.001	0.001	0.001	0.001	1.151	No	1.151	No	1.151	No	1.152	No	1.152	No	1.152	No
	Edge 2	0.133	1.190	0.001	0.001	0.001	1.323	No	0.134	No	0.134	No	1.324	No	0.135	No	0.135	No
	Edge 3	0.029	1.190	1.180	1.190	0.237	1.219	No	1.209	No	1.219	No	1.456	No	1.446	No	1.456	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.32. Sum of the SAR for LTE Band 17 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.110	0.121	0.165	0.142	0.018	1.231	No	1.275	No	1.252	No	1.249	No	1.293	No	1.270	No
	Edge 1	0.993	0.001	0.001	0.001	0.001	0.994	No	0.994	No	0.994	No	0.995	No	0.995	No	0.995	No
	Edge 2	0.070	1.190	0.001	0.001	0.001	1.260	No	0.071	No	0.071	No	1.261	No	0.072	No	0.072	No
	Edge 3	0.019	1.190	1.180	1.190	0.237	1.209	No	1.199	No	1.209	No	1.446	No	1.436	No	1.446	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.33. Sum of the SAR for LTE Band 25 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.130	0.121	0.165	0.142	0.018	1.251	No	1.295	No	1.272	No	1.269	No	1.313	No	1.290	No
	Edge 1	1.050	0.001	0.001	0.001	0.001	1.051	No	1.051	No	1.051	No	1.052	No	1.052	No	1.052	No
	Edge 2	0.085	1.190	0.001	0.001	0.001	1.275	No	0.086	No	0.086	No	1.276	No	0.087	No	0.087	No
	Edge 3	0.001	1.190	1.180	1.190	0.237	1.191	No	1.181	No	1.191	No	1.428	No	1.418	No	1.428	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.34. Sum of the SAR for LTE Band 26 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.170	0.121	0.165	0.142	0.018	1.291	No	1.335	No	1.312	No	1.309	No	1.353	No	1.330	No
	Edge 1	1.060	0.001	0.001	0.001	0.001	1.061	No	1.061	No	1.061	No	1.062	No	1.062	No	1.062	No
	Edge 2	0.148	1.190	0.001	0.001	0.001	1.338	No	0.149	No	0.149	No	1.339	No	0.150	No	0.150	No
	Edge 3	0.021	1.190	1.180	1.190	0.237	1.211	No	1.201	No	1.211	No	1.448	No	1.438	No	1.448	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

12.35. Sum of the SAR for LTE Band 41 & Wi-Fi UNII & BT

RF Exposure Conditions	Test Position	① WWAN	② Wi-Fi 5GHz (Ant A)	③ Wi-Fi 5GHz (Ant B)	④ Wi-Fi 5GHz (MIMO)	⑤ Bluetooth	①+②		①+③		①+④		①+②+⑤		①+③+⑤		①+④+⑤	
							∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)	∑1-g SAR (mW/g)	SPLSR (Yes/ No)
Standalone	Rear	1.080	0.121	0.165	0.142	0.018	1.201	No	1.245	No	1.222	No	1.219	No	1.263	No	1.240	No
	Edge 1	1.130	0.001	0.001	0.001	0.001	1.131	No	1.131	No	1.131	No	1.132	No	1.132	No	1.132	No
	Edge 2	0.088	1.190	0.001	0.001	0.001	1.278	No	0.089	No	0.089	No	1.279	No	0.090	No	0.090	No
	Edge 3	0.003	1.190	1.180	1.190	0.237	1.193	No	1.183	No	1.193	No	1.430	No	1.420	No	1.430	No
	Edge 4	0.400	0.001	1.180	0.001	0.002	0.401	No	1.580	No	0.401	No	0.403	No	1.582	No	0.403	No

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because either the 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.

14U19185-S1V1 SAR_App A Photos (STC_180days)

14U19185-S1V2 SAR_App B System Check Plots

14U19185-S1V1 SAR_App C Highest Test Plots

14U19185-S1V1 SAR_App D Tissue Ingredients

14U19185-S1V1 SAR_App E Probe Cal. Certificates

14U19185-S1V2 SAR_App F Dipole Cal. Certificates

END OF REPORT