SAR EVALUATION REPORT

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

For

Multi-band Radio Module
(Tested inside of Panasonic Detachable PC CF-20)

Model: WW13B
FCC ID: ACJ9TGWW13B2

Report Number: 10936951H-A-R2
Issue Date: October 23, 2015
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Prepared for

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NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address,
http://www.ul.com/japan/jpn/pages/services/emc/

Revision History

Rev.	Issue Date	Revisions	Revised By
--	10/23/2015	Initial Issue	T. Hatakeda
1	11/06/2015	Section 15.27 to 15.30 2nd calibration data were added. Section 4.1 Calibration Date of D2450V2 SN713 was corrected to "013/09/10 * 36". Section 7.4 20MHz was deleted from description column. Section 7.9.1 All power reduction graph of DUT moving toward the phantom were corrected. Section 8.1 Note of Bottom side and Edge 1 of Tablet mode was corrected. Section 9.9 Table of LTE Band 2, 10 MHz Bandwidth Output Power Full Power (Proximity Sensor Off) was corrected. But Avg Pwr wasn't being corrected. Section 15.1 The conductivity/permittivity in plot 27 and 28 were corrected. Therefore section 11.3 was corrected 1750MHz system performance check at 9/19/2015 Section 11.2 Sentences were corrected as follows. The target(reference) SAR values can be obtained from the calibration certificate of system validation dipoles(Section 15.26 to Section 15.31). The target SAR values are SAR measured value in the calibration certificate scaled to 1W. Section 12.1 and 12.2 Remark#1 was changed to 5mm from 0 mm. Section 12.1.1, 12.1.2 and 12.2.1 The 0mm in the table was changed to the actual distance. And it was added note about the separation distance used for the SAR exclusion calculations in section 12.1.1, 12.1.2 and 12.2.1. Section 12.1.1 Conclusion was deleted. Section 13 Note(s) was corrected follow. KDB 447498 D01 General RF Exposure Guidance v05"r02" Section 13.6 Meas power of 1xRTT(RC 3 SO 32) 848.3MHz with Full Power Operation was corrected.	T. Hatakeda

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		Section 13.6 to 13.8 Note(s) was added follow. 3G SAR Test reduction Procedure is used based on KDB941225 D01 section 3.2.2. The 3G SAR test reduction procedure is applied to Rev. A. When the maximum output power and tune-up tolerance specified for production units in a secondary mode(Rev.A) is ≤ ¼ dB higher than the primary mode(Rel.0) or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. Section 13.11 UL RB Start of LTE band5 829MHz with Full power operation was corrected. The Frequency of UL RB Allocation 50 LTE band5 with Full power operation was corrected. Section 13.15 SAR value of the table was changed to Scaled SAR value. The sentences under the table are changed to scaled SAR values from measured SAR Section 13.17 was corrected all. Section 13.22 Table of Bluetooth SAR test was corrected Therefore section 15.21 was corrected. Section 14.25 to 14.28 SAR value of Edge 1 of LTE Band 2 with Full power mode was corrected. Section 13.12 SAR value of Bottom side of LTE 25 1905MHz UL RB Allocation 100 with Reduce power operation was corrected. This report is a revised version of 10936951H-A. 10936951H-A is replaced with this report.	
2	11/11/2015	All page KDB document change to new version from old version. Tune up procedure of WCDMA band 2, 4, 5 HSDPA & HSUPA Full power were change to 22.5 from 22.0. Tune up procedure of WCDMA band 5 Reduced power Rel99&HSDPA&HSUPA were change to18.3 from 18.0. The following section was corrected with the above. Section 1.1 Highest reported SAR of RF exposure Rule 22 Section 9.3 to 9.5 Table of target power Section 12.1.1, 12.1.2 and 12.2.1 Reduced power of WCDMA band V in table. Section 13.3 SAR result of WCDMA band V with reduced power operation in table. Section 13.15 SAR result of WCDMA band V in table. Section 14.5 to 14.8 Edge 1 and Bottom side SAR result of WCDMA band V with reduced power Section 7.6 The wordings in the figure were corrected. Section 12.1.1, 12.1.2 and 12.2.1	T. Hatakeda

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The separation distances of Bottom side, Edge 1, Edge 4 and Bottom side(Convertible) when SAR testing are mentioned in table. This explanation was added to Note(s).

This report is a revised version of 10936951H-A-R1. 10936951H-A-R1 is replaced with this report.

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1. Attestation of Test Results

Applicant	PANASONIC CORPORATION OF NORTH AMERICA
DUT description	Multi-band Radio Module (Tested inside of Panasonic Detachable PC CF-20)
Model	WW13B
Test device is	An identical prototype
Device category	Portable/Mobile
Exposure category	General Population/Uncontrolled Exposure
Date tested	September 3 to 24, 2015

Applicable Standards	Test Results
FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013	Pass

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Approved & Released For UL Japan, Inc By:

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1.1. Summary of Highest 1-g SAR Results

Worst Case SAR data for each Frequency Band

RF Exposure Rule	Freq. Range	Highest Reported SAR	Limit
22 (WCDMA Band V)	824-849 MHz	Body & Tablet: 1.344 W/kg (Edge 1)	1.6 W/kg
24 (LTE Band 2)	1850-1910 MHz	Body & Tablet: 1.322 W/kg (Edge 1)	
27 (LTE Band 13)	777 – 787 MHz	Body & Tablet: 1.340 W/kg (Edge 1)	
27 (LTE Band 4)	1710–1755 MHz	Body & Tablet: 1.344 W/kg (Edge 1)	
90 (CDMA Band 10)	816-823.975MHz	Body & Tablet: 1.194 W/kg (Edge 1)	
Simultaneous transmission condition		1.591 W/kg(refer to Section 13 of this report.) (highest SAR across exposure conditions)	

LEGEND:

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

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2. Test Methodology

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

- 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- 865664 D02 SAR Reporting v01r02
- 447498 D01 General RF Exposure Guidance v06
- 941225 D01 SAR test for 3G devices v03r01
- 941225 D05 SAR for LTE Devices v02r04
- 616217 D04 SAR for laptop and tablets v01r02

3. Facilities and Accreditation

*Shielded room for SAR testings

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

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

The full scope of accreditation can be viewed at

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

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4. Calibration and Uncertainty

4.1. Measuring Instrument Calibration

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

Dielectric Property Measurements

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

System check

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MDAE-02	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1369	SAR	2015/05/22 * 12
MPB-08	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3917	SAR	2015/05/29 * 12
MPF-03	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1203	SAR	2015/05/11 * 12
MDH-04	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-35	Digital thermometer	HANNA	Checktemp 4	-	SAR	2015/07/07 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY5	-	SAR	-
MRBT-03	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F13/5PP1D1/A/01	SAR	2015/06/23 * 12
MDAE-01	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	SAR	2015/07/07 * 12
MPB-07	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3825	SAR	2014/12/16 * 12
MPF-02	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1045	SAR	2015/05/11 * 12
MDH-01	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2015/04/28 * 12
MRBT-02	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F10/5E3LA1/A/01	SAR	2015/05/29 * 12
MPM-11	Dual Power Meter	Agilent	E4419B	MY45102060	SAR	2015/08/04 * 12
MPSE-15	Power sensor	Agilent	E9301A	MY41498311	SAR	2015/08/04 * 12
MPSE-16	Power sensor	Agilent	E9301A	MY41498313	SAR	2015/08/04 * 12
MHDC-21	Dual Directional Coupler	Agilent	778D	MY52180243	SAR(0.1-2GHz)	Pre Check
MHDC-12	Dual Directional Coupler	Hewlett Packard	772D	2839A0016	SAR(2-18GHz)	Pre Check
MRFA-24	Pre Amplifier	R&K	R&K CGA020M602-2633R	B30550	SAR	2015/06/15 * 12
MSG-13	Signal Generator	Rohde & Schwarz	SMA 100A	103764	SAR	2015/06/15 * 12
MDA-20	Dipole Antenna	Schmid&Partner	D750V3	1058	SAR	2015/05/28 * 12

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		Engineering AG				
SSDA-04	Dipole Antenna	Schmid&Partner Engineering AG	D835V2	4d149	SAR	2013/03/05 * 36
SSDA-06	Dipole Antenna	Schmid&Partner Engineering AG	D1750V2	1089	SAR	2013/03/08 * 36
SSDA-08	Dipole Antenna	Schmid&Partner Engineering AG	D1900V2	5d169	SAR	2013/03/07 * 36
MAT-78	Attenuator	Telegrartner	J01156A0011	0042294119	SAR	Pre Check
MPSE-25	Power sensor	Anritsu	MA24106A	1031504	SAR	2015/08/17 * 12
MAT-81	Attenuator	Weinschel Associates	WA1-20-33	100131	SAR	2015/05/04 * 12
COTS-MPSE	Software for MA24106A	Anritsu	Anritsu Power meter software	-	SAR	-
MDAE-03	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1372	SAR	2015/06/15 * 12
MPB-09	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3922	SAR	2015/06/17 * 12
MPF-04	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1207	SAR	2015/05/11 * 12
MDH-03	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MRBT-04	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F13/5PP1A1/A /01	SAR	2015/06/23 * 12
MDA-07	Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	713	SAR(D2450)	2013/09/10 * 36
MDA-08	Dipole Antenna	Schmid&Partner Engineering AG	D5GHzV2	1020	SAR(D5G)	2015/01/13 * 12

Other

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MURC-05	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	127576	SAR/Power	2014/11/25 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	Power	2014/10/16 * 12
MPSE-11	Power sensor	Anritsu	MA2411B	011737	Power	2014/10/15 * 12
MAT-87	Attenuator	Weinschel Associates	WA56-20	56200214	Power	2015/06/01 * 12
MPSC-01	Power splitters/Combiners	Mini-Circuit	ZFSC-2-2500	0124	Power	2014/09/26 * 12
MCC-92	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	30813/2	Power	2015/05/01 * 12
MOS-34	Thermo-Hygrometer	Custom	CTH-201	3401	Power	2015/01/13 * 12
MURC-02	Wireless Communication Test Set	Agilent	E5515C	GB47050683	SAR/ Power	2015/02/27 * 12

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

4.2. Measurement Uncertainty

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

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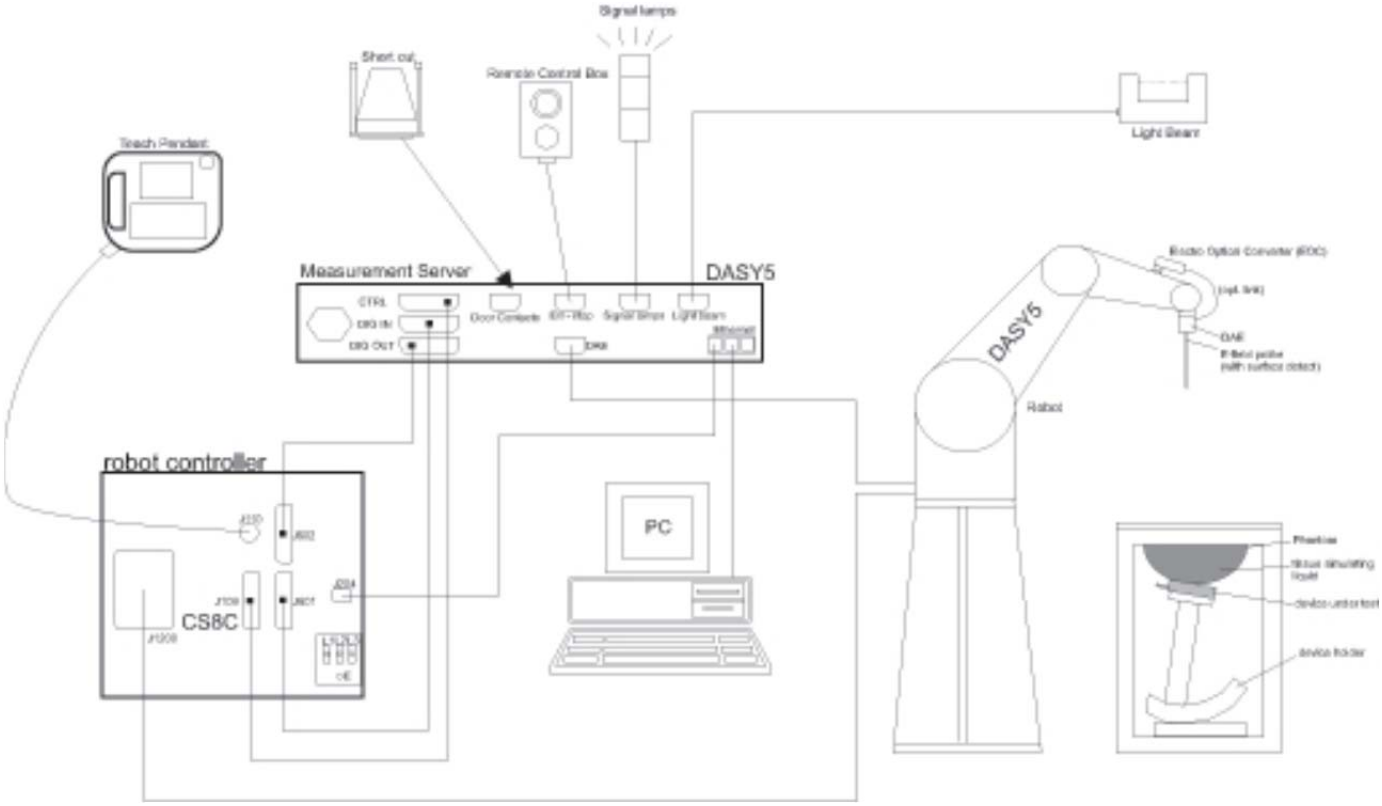
5. Measurement System Description and Setup

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



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

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6. SAR Measurement Procedure

6.1. Normal SAR Measurement Procedure

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

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

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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	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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

* When zoom scan is required and the *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.

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6.2. Volume Scan Procedures

Step 1: Repeat Step 1-4 in Section 6.1

Step 2: Volume Scan

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

Step 3: Power drift measurement

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

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7. Device Under Test

Multi-band Radio Module (Tested inside of Panasonic Detachable PC CF-20) Model: WW13B	
Operating Configuration(s)	• Tablet/Convertible/Laptop modes
Exposure Condition(s)	• The device is used in close proximity to the body. Specific details of the required test positions are provided in Section 8 “Exposure Conditions”
Accessory	• None

7.1. Wireless Technologies

Wireless Mode and Frequency Bands	• GSM850: 824 - 849 MHz • GSM1900: 1850 - 1910 MHz • W-CDMA Band V: 824 - 849 MHz • W-CDMA Band IV: 1710 - 1755 MHz • W-CDMA Band II: 1850 - 1910 MHz • CDMA BC 0: 824 - 849 MHz • CDMA BC 1: 1850 - 1910 MHz • CDMA BC 10: 816 - 823.975 MHz • LTE Band 2: 1850 - 1910 MHz • LTE Band 4: 1710 - 1755 MHz • LTE Band 5: 824 - 849 MHz • LTE Band 13: 777 - 787 MHz • LTE Band 17: 704 – 716 MHz • LTE Band 25: 1850 - 1915 MHz • 802.11a/b/g/n/ac: 2412 - 2462 MHz, b / g / HT20 / HT40 5150 - 5250 MHz, a / HT20 / HT40 / HT80 5250 - 5350 MHz, a / HT20 / HT40 / HT80 5500 - 5700 MHz, a / HT20 / HT40 / HT80 5725 - 5850 MHz, a / HT20 / HT40 / HT80 • Bluetooth: 2402 - 2480 MHz
GPRS Multi-Slot Class:	• GPRS: 10 • EGPRS: 12
GPRS Class:	B
Duty Cycle	• GPRS 2 Slots: 25% • W-CDMA: 100% • CDMA: 100% • LTE: 100%

7.2. Hotspot (Wireless Router) Exposure Condition

N/A

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7.3. Simultaneous Transmission

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

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

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

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

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WWAN + Bluetooth

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

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

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

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WWAN + Wi-Fi MIMO (2 Tx)

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

Notes:

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

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7.4. LTE Parameters

#	Description	Information	
A	List the frequency range and channel bandwidths used in each LTE band; 2.4, 5, 13, 17,25 etc.	Band 2	
		Tx: 1850 - 1910 MHz	Rx: 1930 - 1990 MHz
		Band 4	
		Tx: 1710 – 1755 MHz	Rx: 2100 – 2155 MHz
		Band 5	
		Tx: 824 - 849 MHz	Rx: 869 - 894 MHz
		Band 13	
		Tx: 777 – 787 MHz	Rx: 746 – 756 MHz
		Band 17	
		Tx: 704 – 716 MHz	Rx: 734 – 746 MHz
		Band 25	
		Tx: 1850 - 1915 MHz	Rx: 1930 - 1995 MHz
		Channel Bandwidths for bands 2, 4 and 25: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz and 20 MHz Channel Bandwidths for bands 5: 1.4 MHz, 3 MHz, 5 MHz and 10 MHz Channel Bandwidths for bands 13 and 17: 5MHz and 10MHz	

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LTE Parameters continued

#	Description	Information						
B	Identify the high, middle and low (H, M, L) channel numbers and channel frequencies for each LTE bandwidth and frequency band	Band 2	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	19184/ 1908.4	19192/ 1909.2
		Band 4	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	20384/ 1753.4	20392/ 1754.2
		Band 5	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	20634/ 847.4	20642/ 848.2
		Band 13	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		
		Band 17	Channel Bandwidth					
			20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
		Low			23780/ 709	23755/ 706.5		
		Mid			23790/ 710	23790/ 710		
		High			23800/ 711	23825/ 713.5		
		Band 25	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	26674/ 1913.4	26682/ 1914.2
C	Descriptions of the LTE transmitter and antenna implementation, and identify if the transmitter operates independently of the other wireless transmitters in the device; i.e., whether the LTE hardware, components and/or antenna(s) are shared with other transmitters.	A single antenna (Main) is used for LTE and other wireless modes (GPRS/EGPRS/W-CDMA/CDMA) for both transmit and receive.						

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<table>
<tr><th>#</th><th>Description</th><th>Information</th></tr>
<tr><td>D</td><td>Identify the voice and data transmission requirements for all LTE operating modes and exposure conditions, for standalone and simultaneous transmission, with respect to the required head and body test configurations, antenna locations, handset flip or slide cover positions, antenna diversity requirements, etc.</td><td>Data Only Device
Exposure Conditions:
▪ Proximity Sensor disabled (Full Power)
o Edge 2, Edge 3, Edge 4 and Bottom side (Convertible mode) of the host device at 0 mm from the phantom, and Edge1 of the host device at 23mm and Bottom side(Tablet mode) of the host device at 17mm from the phantom

• Proximity Sensor enabled (Reduced Power)
o Edge1 and Bottom side(Tablet mode) of the DUT at 0 mm from the phantom</td></tr>
<tr><td>E</td><td>Identify if Maximum Power Reduction (MPR) is implemented as an optional or permanent feature, i.e., built-in by design:
15.11 MPR may be considered during SAR testing only when the maximum output power is permanently limited by the MPR implemented within the device, according to the RB (resource block) configurations specified in 3GPP/LTE standards.
15.12 Regardless of network requirements, only those RB configurations allowed (see 3GPP standards) for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.
15.13 A-MPR (additional MPR) must be disabled during SAR testing.</td><td>As per 3GPP TS 36.101 v11.0.0 (2012-03)
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table>
MPR is supported by design and is mandatory.
A-MPR is supported by design, but is disabled for SAR testing.
A-MPR is disabled, by using Network Setting value of NS_01.</td></tr>
<tr><td>F</td><td>When power reduction is required for one or more LTE modes to satisfy SAR compliance for simultaneous transmission or other equipment certification and operating requirements, maximum average conducted output power measurement results for each power reduction mode applicable to the simultaneous voice/data transmission configurations for such wireless configurations and frequency bands are required.</td><td>Yes. A proximity sensor for WWAN power reduction is implemented in the device to address RF exposure compliance when the cellular antenna is positioned close to the user's body or other objects.</td></tr>
</table>

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7.5. Proximity Sensor

The proximity sensor is intended to reduce the WWAN output power when Bottom side and edge 1 are brought close to the user.

The default power level for sensor failure and malfunctioning, CF-20 comes up in low power mode and remain in low power mode until the proximity sensor has toggled from a proximity detected to proximity not-detected state.

Proximity sensor triggering distances were verified for Bottom side and edge 1. SAR testing of edge 4 was performed at full power.
Please refer to 17. Antenna Dimensions & Separation Distances about proximity sensor and WWAN Main antenna locations and dimensions.

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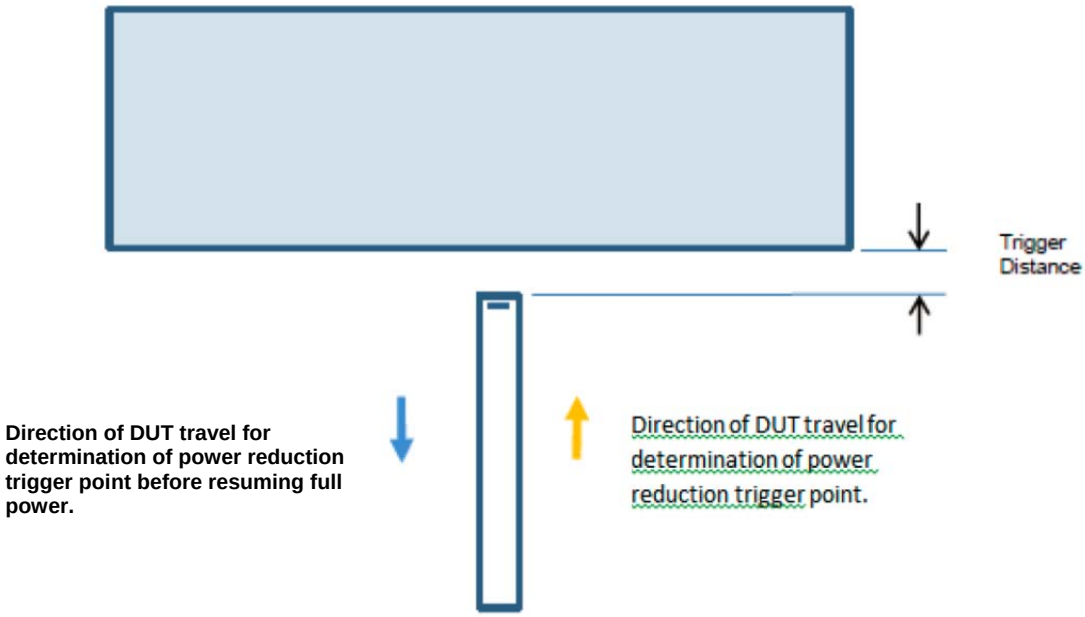
7.6. Proximity Sensor Triggering distance (KDB 616217 §6.2)

Edge 1 of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.



Proximity sensor trigger distance assessment (Edge 1) KDB 616217 §6.2

Summary of triggering distances

Tissue simulating liquid	Trigger distance - Edge 1	
	Moving toward phantom	Moving from phantom
750 muscle	24mm	65mm
850 muscle	25mm	65mm
1750/ 1900 muscle	25mm	65mm

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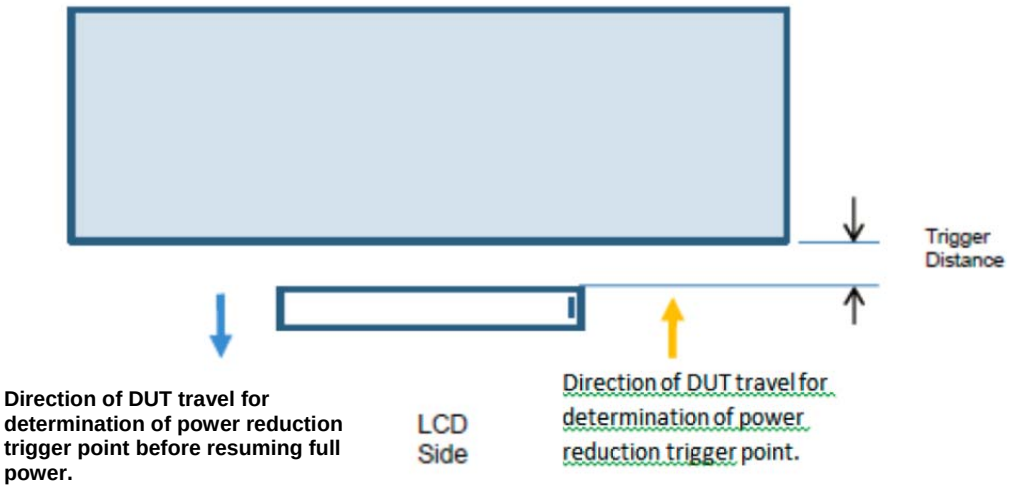
Bottom side of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for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



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

Summary of triggering distances.

Tissue simulating liquid	Trigger distance - Rear	
	Moving toward phantom	Moving from phantom
750 muscle	18mm	50mm
850 muscle	19mm	50mm
1750/ 1900 muscle	19mm	50mm

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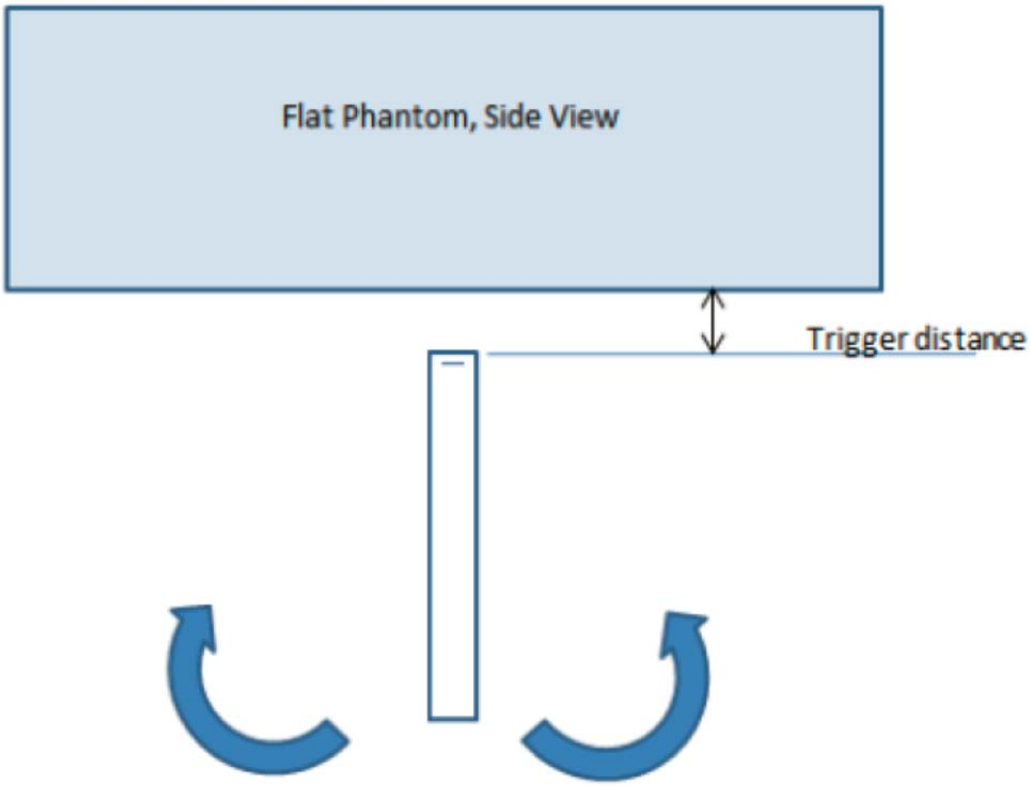
7.7. Proximity Sensor Coverage (KDB 616217 SS6.3)

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

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

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with edge 1 parallel to the base of the flat phantom. The DUT was rotated in both directions about edge 1.

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



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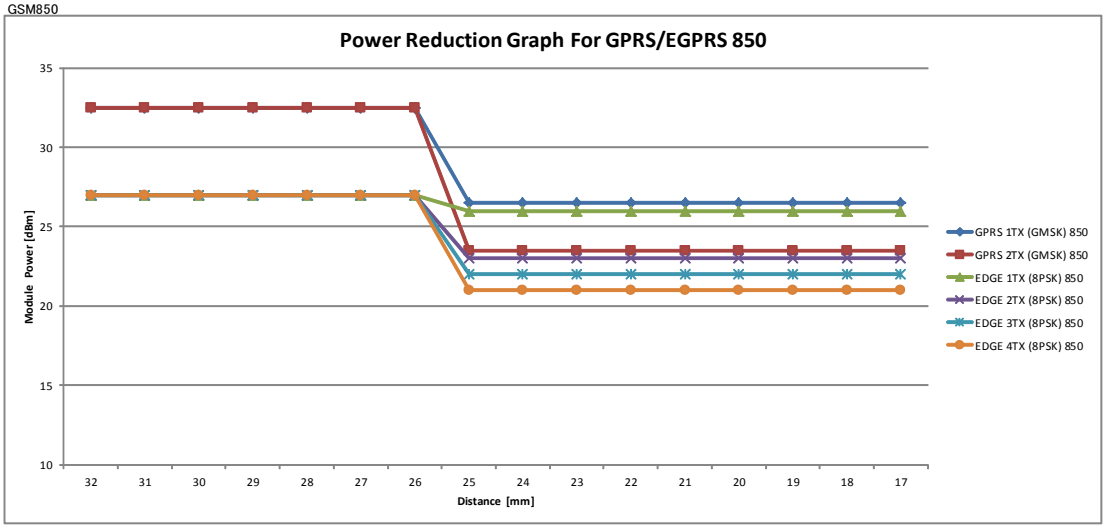
7.9. Triggering distances and power levels

7.9.1. DUT moving toward the phantom

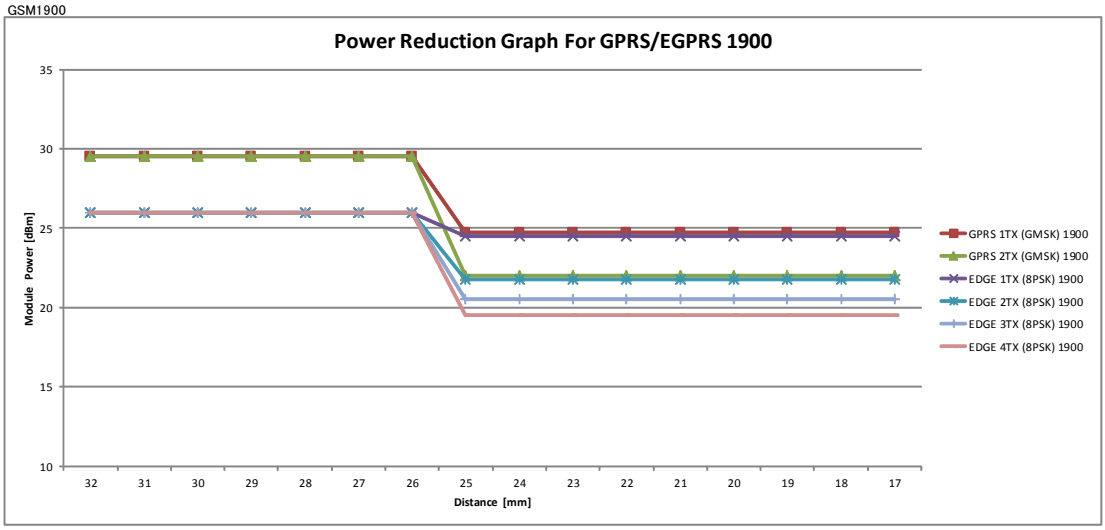
<Edge1>

GSM850



	Coverage Step GPRS/EGPRS 850															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
GPRS 1TX (GMSK)	32.5	32.5	32.5	32.5	32.5	32.5	32.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
GPRS 2TX (GMSK)	32.5	32.5	32.5	32.5	32.5	32.5	32.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
EDGE 1TX (8PSK)	27	27	27	27	27	27	27	26	26	26	26	26	26	26	26	26
EDGE 2TX (8PSK)	27	27	27	27	27	27	27	23	23	23	23	23	23	23	23	23
EDGE 3TX (8PSK)	27	27	27	27	27	27	27	22	22	22	22	22	22	22	22	22
EDGE 4TX (8PSK)	27	27	27	27	27	27	27	21	21	21	21	21	21	21	21	21

GSM1900



	Coverage Step GPRS/EGPRS 1900															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
GPRS 1TX (GMSK)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	24.75	24.75	24.75	24.75	24.75	24.75	24.75	24.75	24.75
GPRS 2TX (GMSK)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	22	22	22	22	22	22	22	22	22
EDGE 1TX (8PSK)	26	26	26	26	26	26	26	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
EDGE 2TX (8PSK)	26	26	26	26	26	26	26	21.75	21.75	21.75	21.75	21.75	21.75	21.75	21.75	21.75
EDGE 3TX (8PSK)	26	26	26	26	26	26	26	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
EDGE 4TX (8PSK)	26	26	26	26	26	26	26	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5

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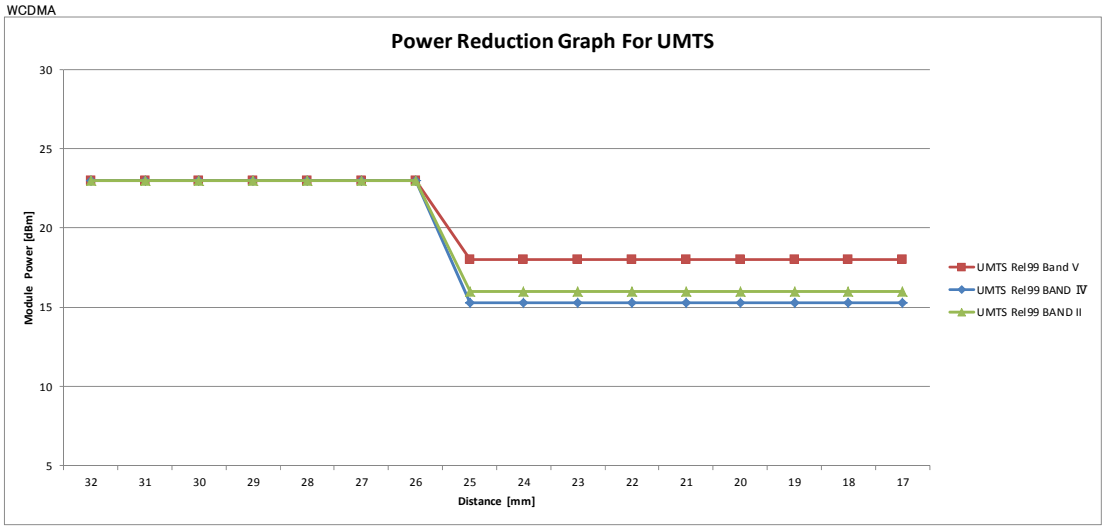
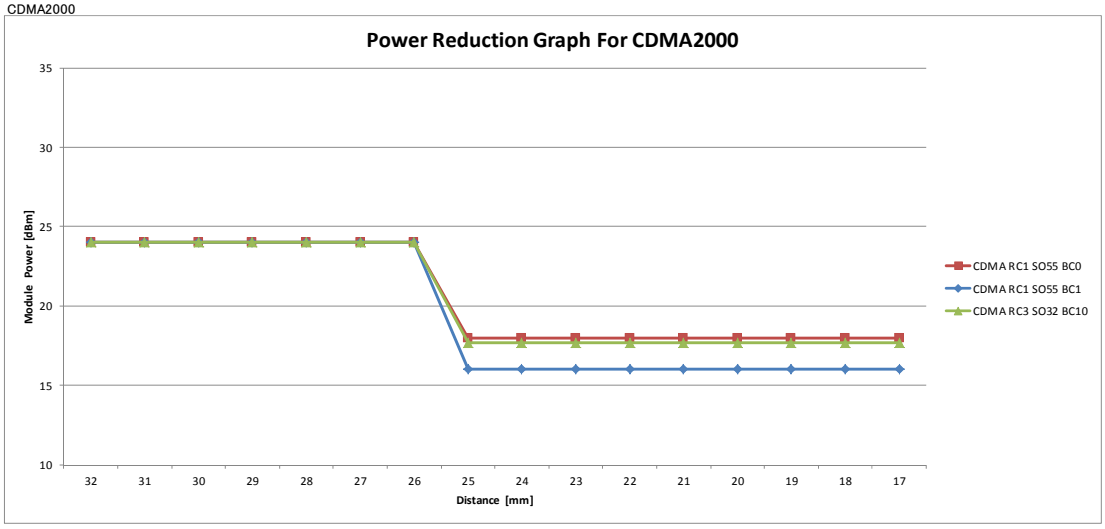
WCDMA



	Coverage Step UMTS															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
UMTS Rel99 Band V	23	23	23	23	23	23	23	18	18	18	18	18	18	18	18	18
UMTS Rel99 BAND Ⅳ	23	23	23	23	23	23	23	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
UMTS Rel99 BAND II	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16

CDMA2000



	Coverage Step CDMA2000															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
CDMA RC3 SO32BC0	24	24	24	24	24	24	24	18	18	18	18	18	18	18	18	18
CDMA RC3 SO32BC1	24	24	24	24	24	24	24	16	16	16	16	16	16	16	16	16
CDMA RC3 SO32BC10	24	24	24	24	24	24	24	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7

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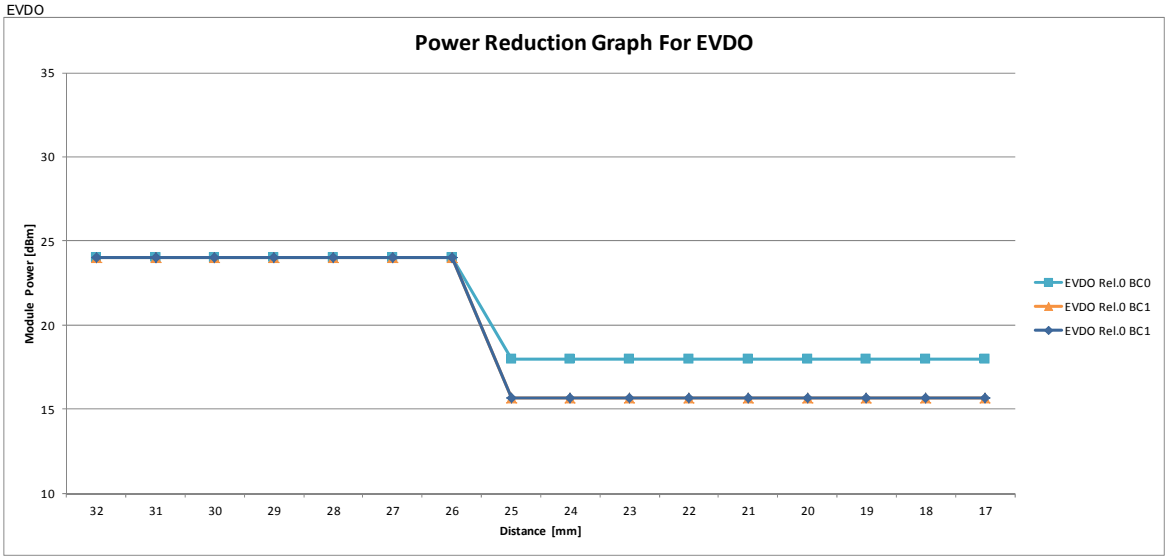
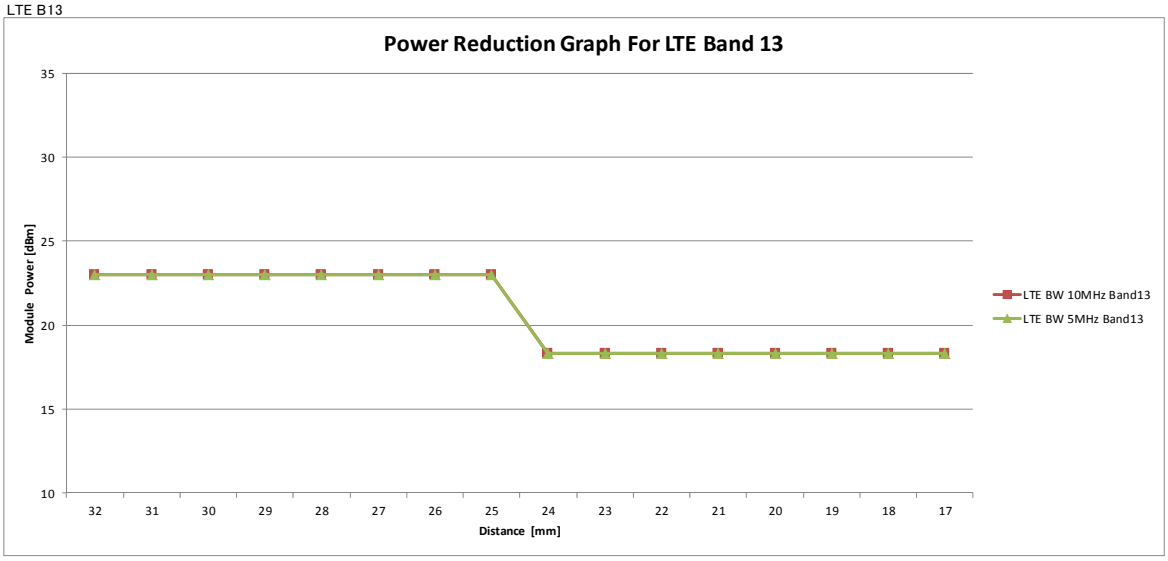
EVDO



	Coverage Step EVDO															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
EVDO Rel.0BC0	24	24	24	24	24	24	24	18	18	18	18	18	18	18	18	18
EVDO Rel.0BC10	24	24	24	24	24	24	24	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
EVDO Rel.0BC1	24	24	24	24	24	24	24	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7

LTE B13



	Coverage Step LTE Band 13															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 10MHz	23	23	23	23	23	23	23	23	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3
LTE BW 5MHz	23	23	23	23	23	23	23	23	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3

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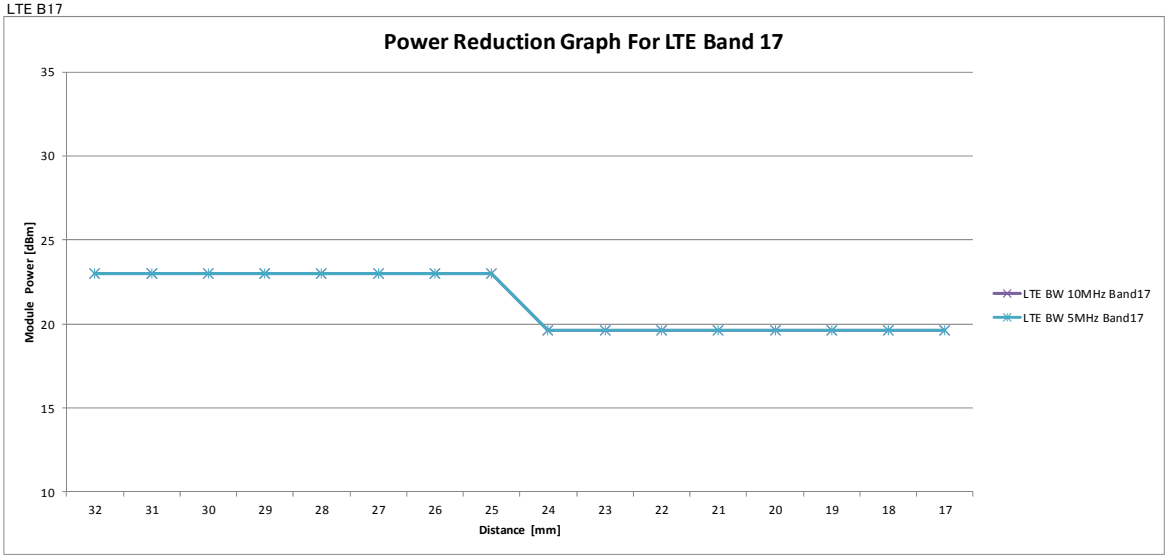
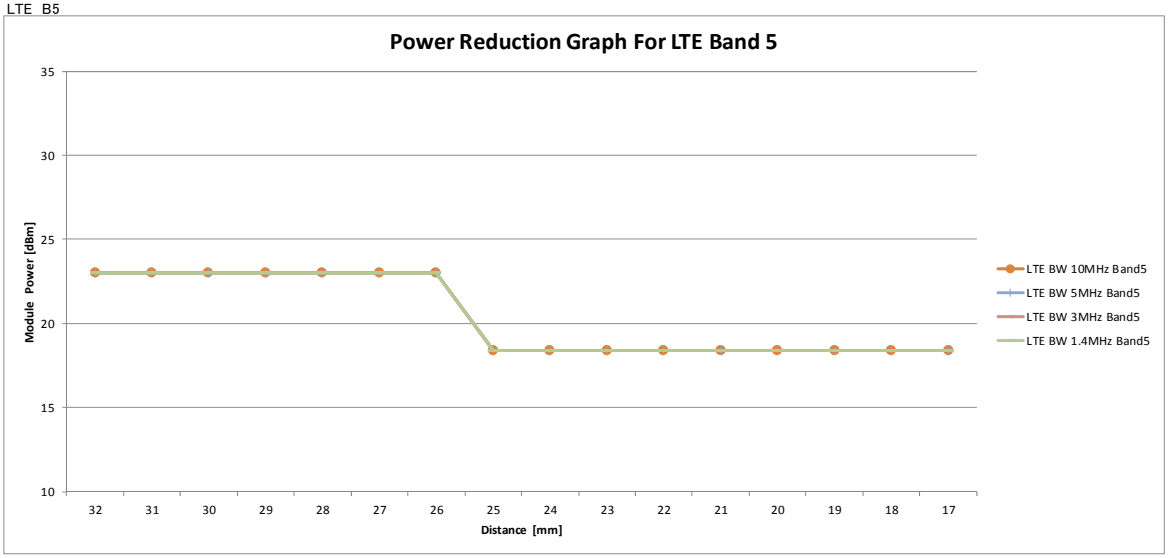
LTE B17



	Coverage Step LTE Band 17															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 10MHz	23	23	23	23	23	23	23	23	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
LTE BW 5MHz	23	23	23	23	23	23	23	23	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6

LTE B5



	Coverage Step LTE Band 5															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 10MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
LTE BW 5MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
LTE BW 3MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
LTE BW 1.4MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4

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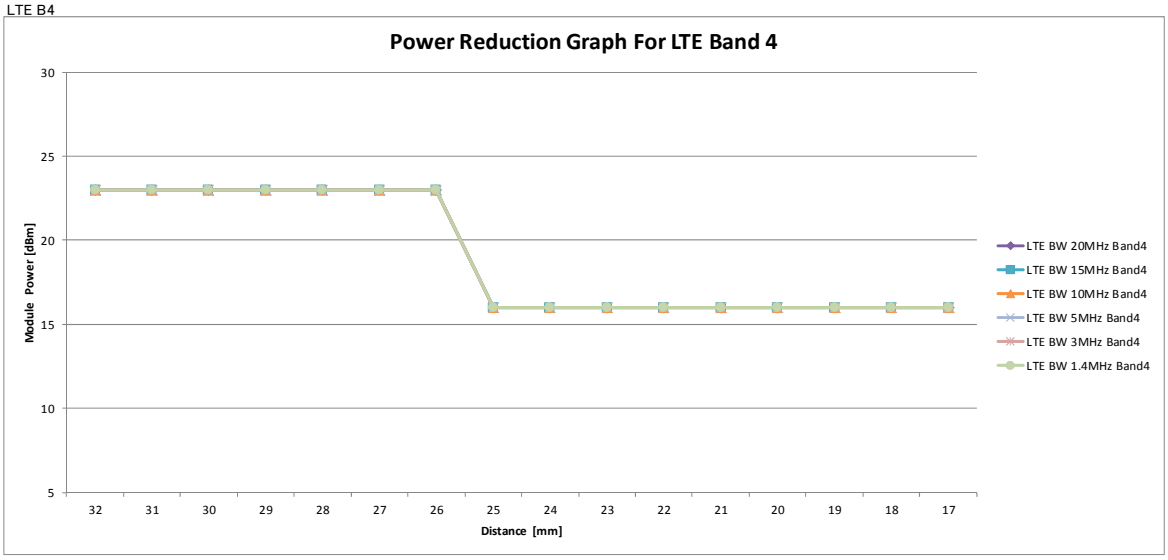
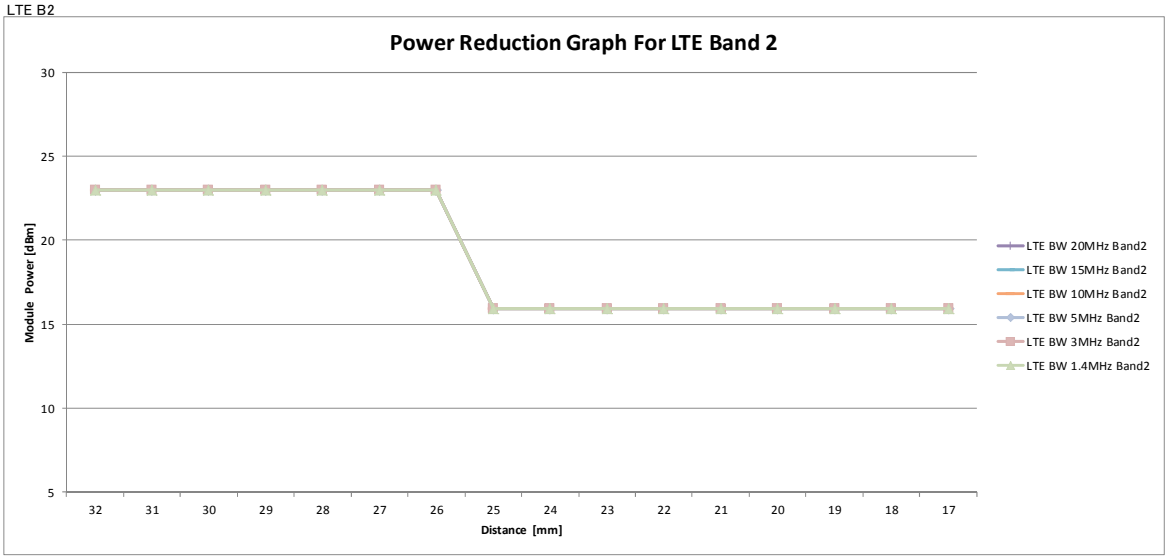
LTE B4



	Coverage Step LTE Band 4															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 20MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 15MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 10MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 5MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 3MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 1.4MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16

LTE B2



	Coverage Step LTE Band 2															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 20MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 15MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 10MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 5MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 3MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 1.4MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9

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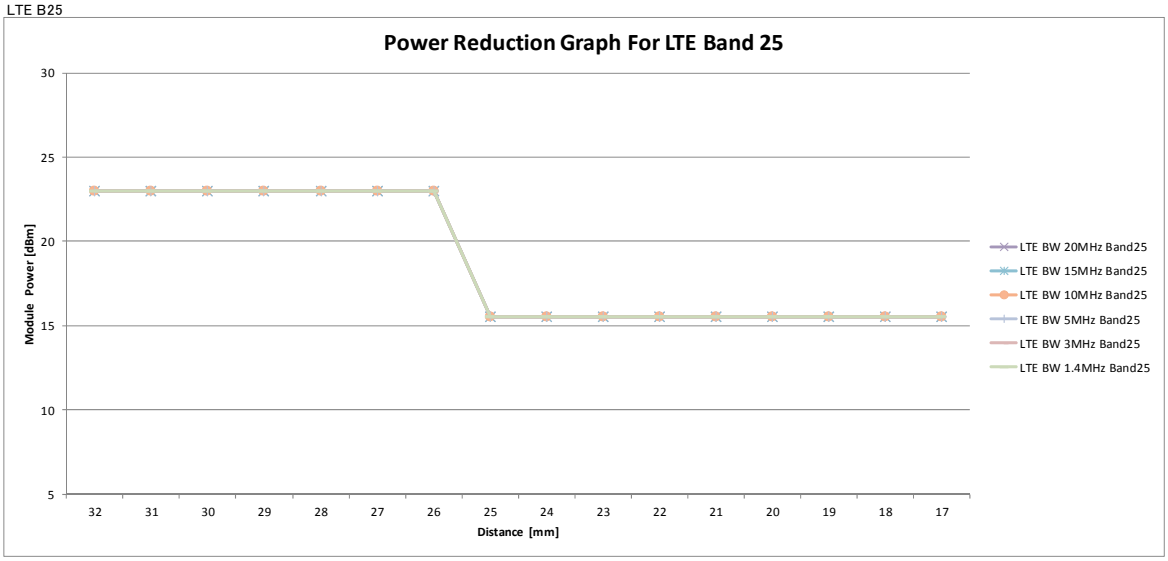
LTE B25



	Coverage Step LTE Band 25															
Didtance	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 20MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 15MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 10MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 5MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 3MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 1.4MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5

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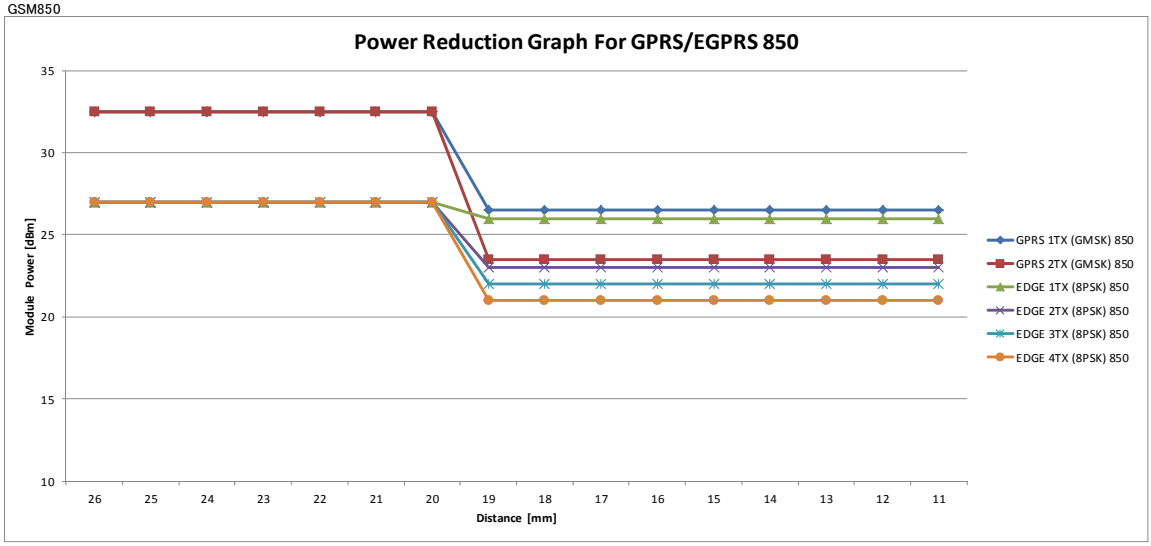
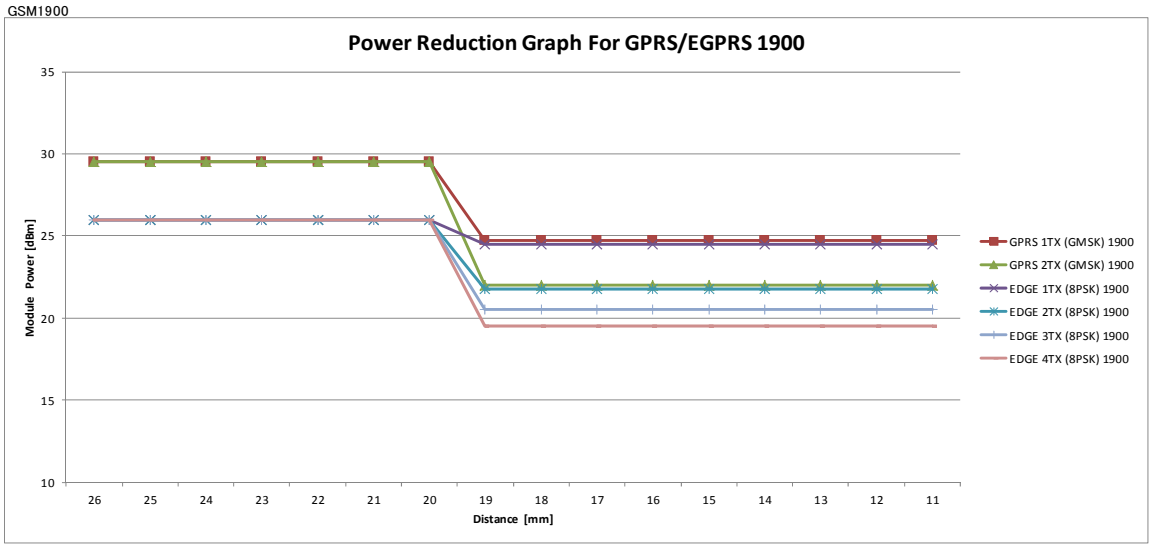
<Bottom side>

GSM850



	Coverage Step GPRS/EGPRS 850															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
GPRS 1TX (GMSK)	32.5	32.5	32.5	32.5	32.5	32.5	32.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
GPRS 2TX (GMSK)	32.5	32.5	32.5	32.5	32.5	32.5	32.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
EDGE 1TX (8PSK)	27	27	27	27	27	27	27	26	26	26	26	26	26	26	26	26
EDGE 2TX (8PSK)	27	27	27	27	27	27	27	23	23	23	23	23	23	23	23	23
EDGE 3TX (8PSK)	27	27	27	27	27	27	27	22	22	22	22	22	22	22	22	22
EDGE 4TX (8PSK)	27	27	27	27	27	27	27	21	21	21	21	21	21	21	21	21

GSM1900



	Coverage Step GPRS/EGPRS 1900															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
GPRS 1TX (GMSK)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	24.75	24.75	24.75	24.75	24.75	24.75	24.75	24.75	24.75
GPRS 2TX (GMSK)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	22	22	22	22	22	22	22	22	22
EDGE 1TX (8PSK)	26	26	26	26	26	26	26	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
EDGE 2TX (8PSK)	26	26	26	26	26	26	26	21.75	21.75	21.75	21.75	21.75	21.75	21.75	21.75	21.75
EDGE 3TX (8PSK)	26	26	26	26	26	26	26	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
EDGE 4TX (8PSK)	26	26	26	26	26	26	26	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5

WCDMA Band5

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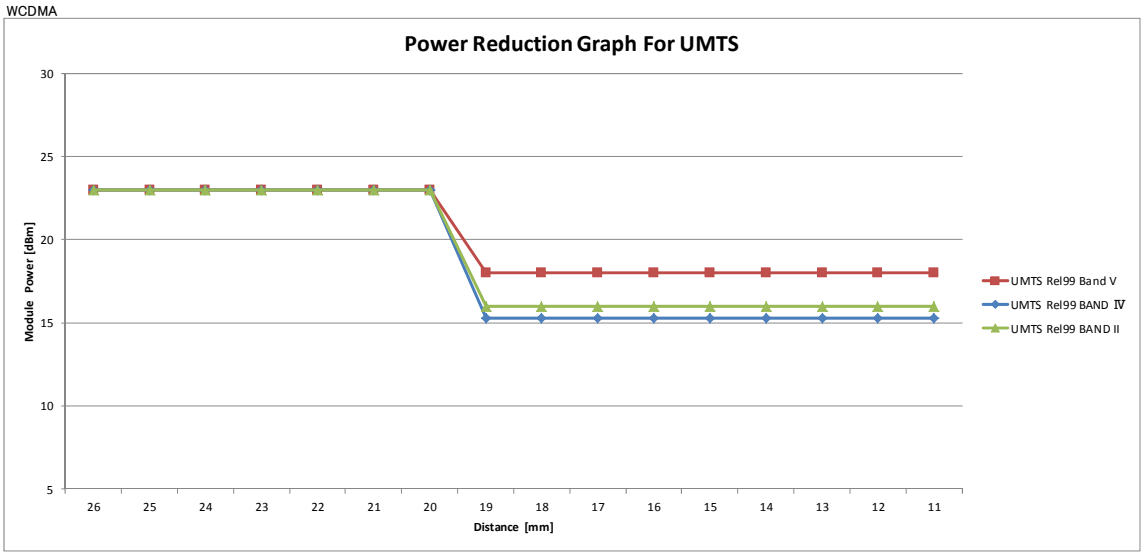
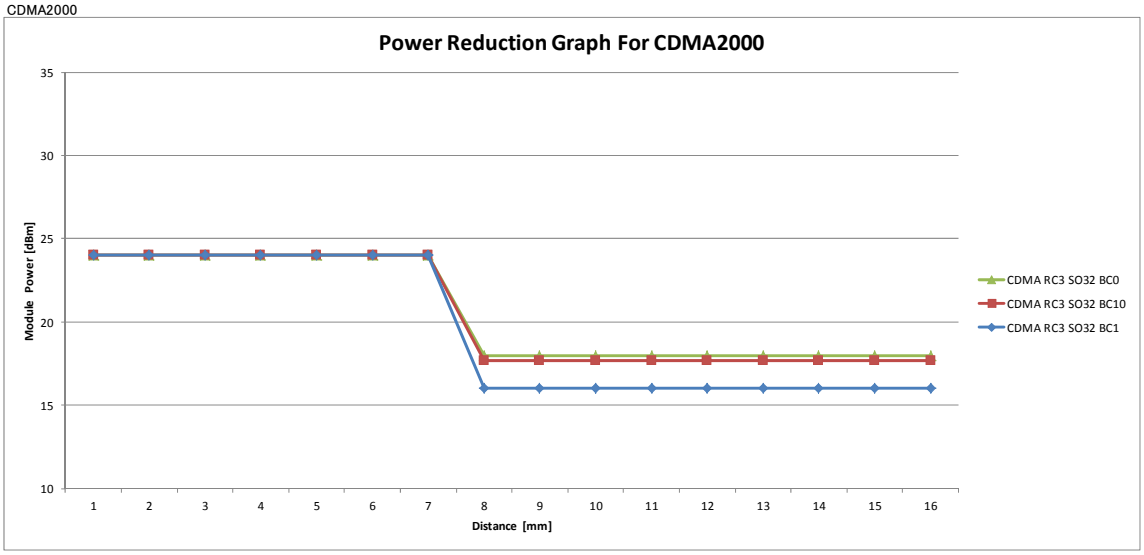
WCDMA



	Coverage Step UMTS BandV															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
UMTS Rel99 Band V	23	23	23	23	23	23	23	18	18	18	18	18	18	18	18	18
UMTS Rel99 BAND Ⅳ	23	23	23	23	23	23	23	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
UMTS Rel99 BAND II	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16

CDMA2000



	Coverage Step CDMA2000															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
CDMA RC3 SO32BC0	24	24	24	24	24	24	24	18	18	18	18	18	18	18	18	18
CDMA RC3 SO32BC10	24	24	24	24	24	24	24	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
CDMA RC3 SO32BC1	24	24	24	24	24	24	24	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

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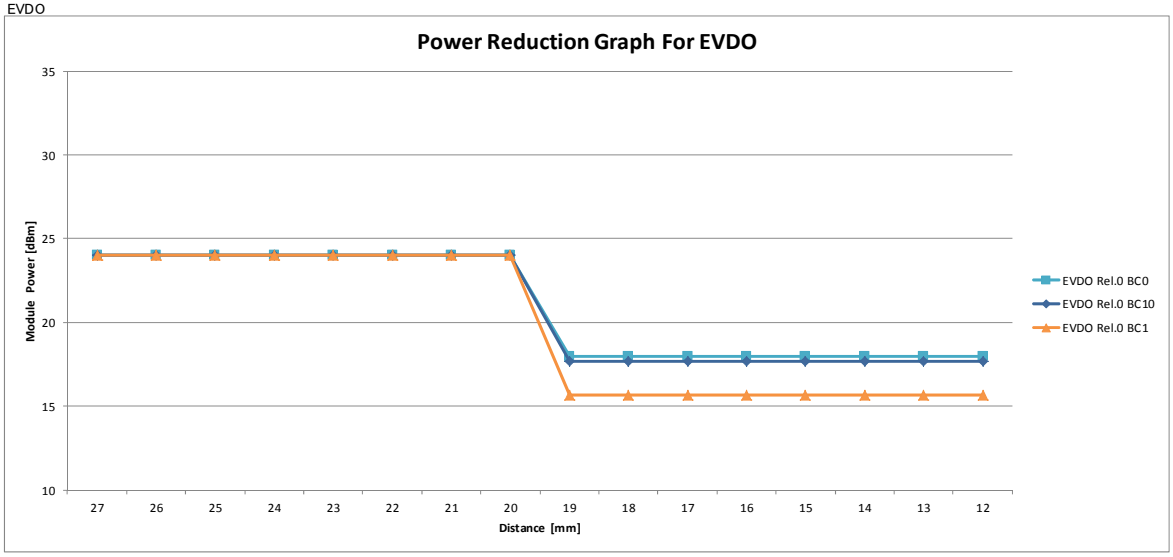
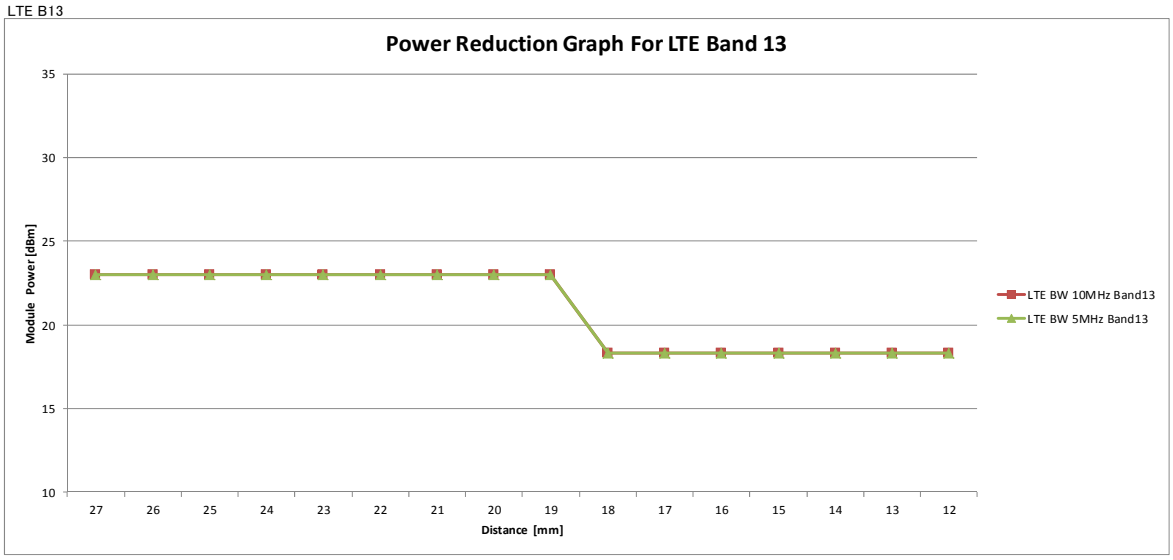
EVDO



	Coverage Step EVDO															
Didtance	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
EVDO Rel.0 BC0	24	24	24	24	24	24	24	24	18	18	18	18	18	18	18	18
EVDO Rel.0 BC10	24	24	24	24	24	24	24	24	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
EVDO Rel.0 BC1	24	24	24	24	24	24	24	24	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7

LTE B13



	Coverage Step LTE Band 13															
Didtance	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
LTE BW 10MHz	23	23	23	23	23	23	23	23	23	18.3	18.3	18.3	18.3	18.3	18.3	18.3
LTE BW 5MHz	23	23	23	23	23	23	23	23	23	18.3	18.3	18.3	18.3	18.3	18.3	18.3

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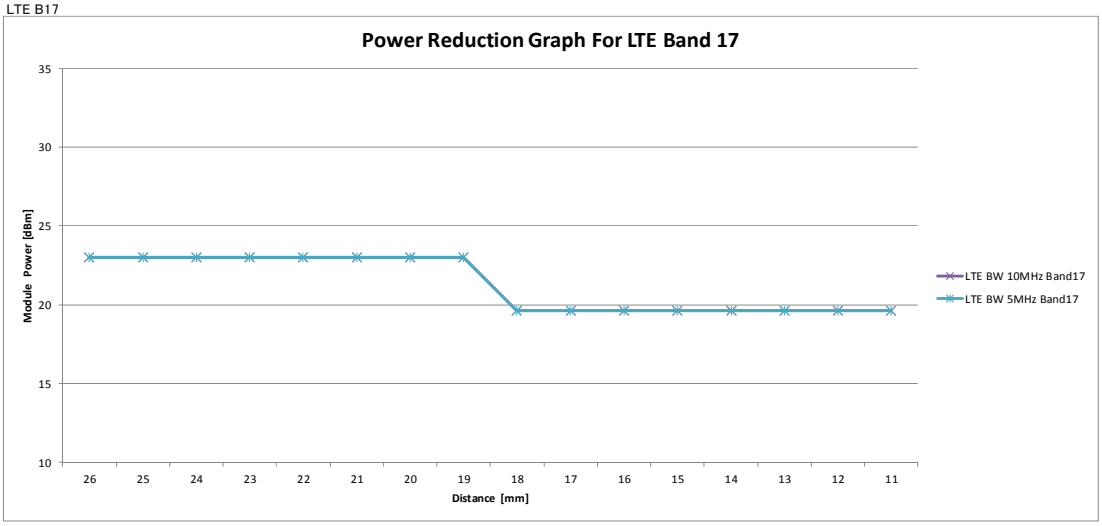
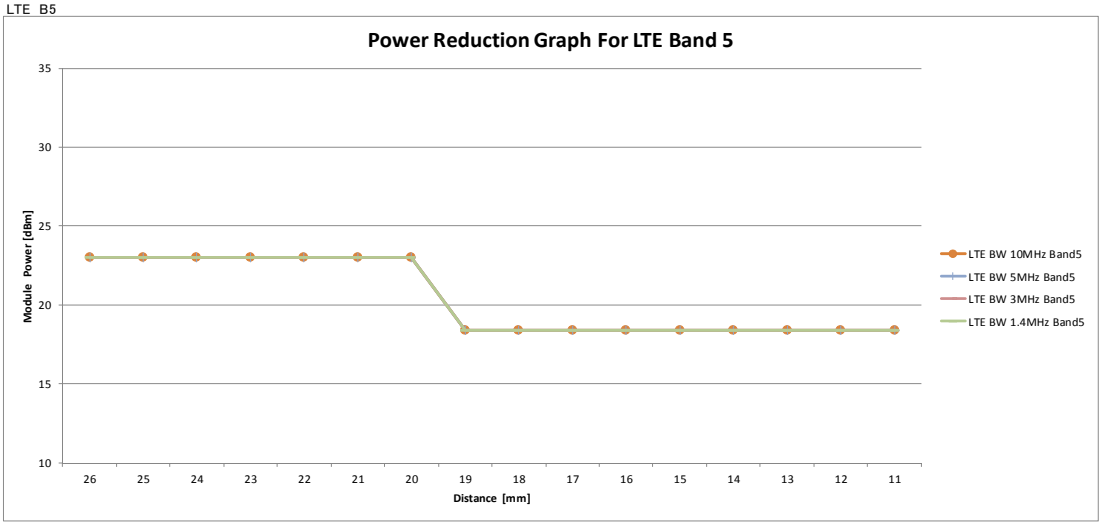
LTE B17



	Coverage Step LTE Band 17															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 10MHz	23	23	23	23	23	23	23	23	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
LTE BW 5MHz	23	23	23	23	23	23	23	23	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6

LTE B5



	Coverage Step LTE Band 5															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 10MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
LTE BW 5MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
LTE BW 3MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
LTE BW 1.4MHz	23	23	23	23	23	23	23	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4

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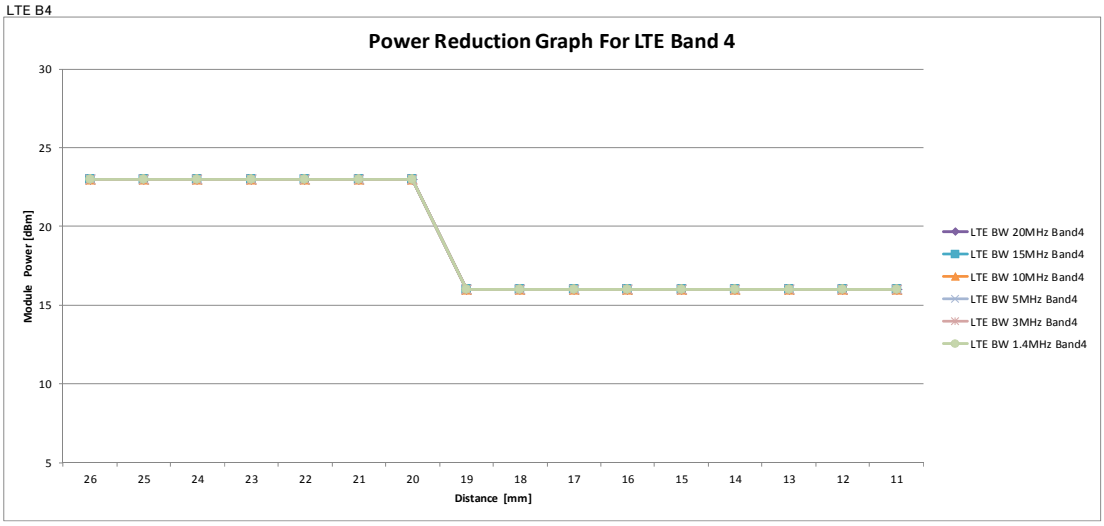
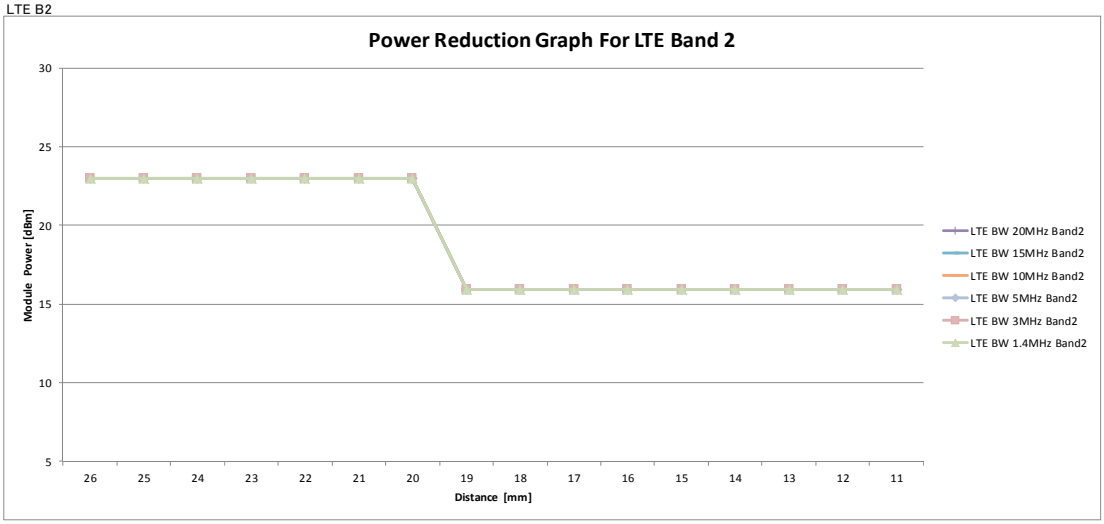
LTE B4



	Coverage Step LTE Band 4															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 20MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 15MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 10MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 5MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 3MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16
LTE BW 1.4MHz	23	23	23	23	23	23	23	16	16	16	16	16	16	16	16	16

LTE B2



	Coverage Step LTE Band 2															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 20MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 15MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 10MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 5MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 3MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
LTE BW 1.4MHz	23	23	23	23	23	23	23	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9

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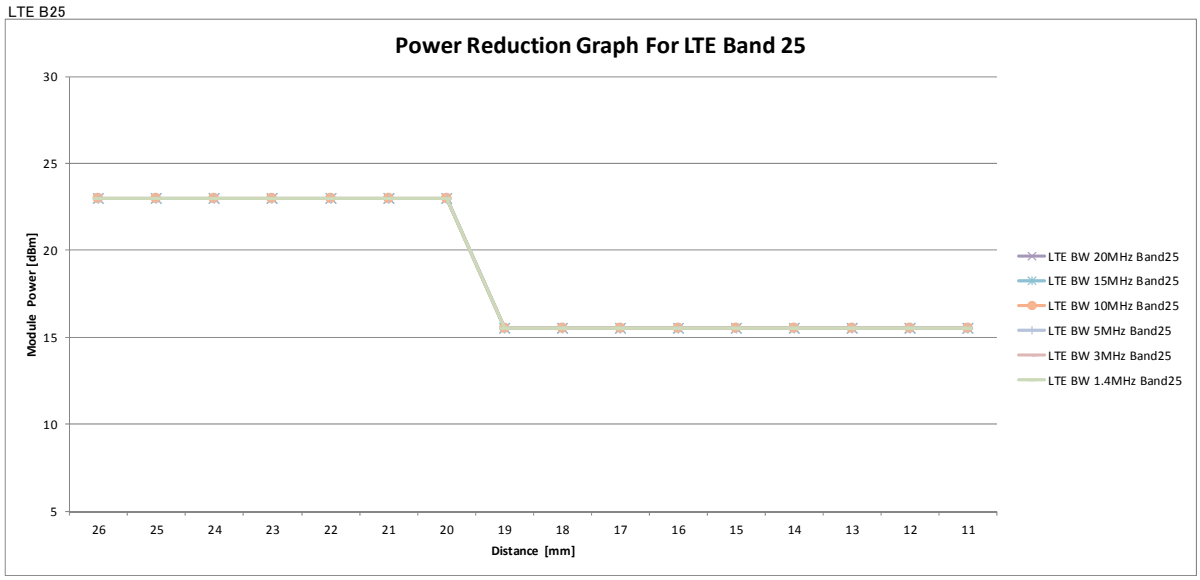
LTE B25



	Coverage Step LTE Band 25															
Didtance	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
DPR	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON
LTE BW 20MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 15MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 10MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
LTE BW 5MHz	23	23	23	23	23	23	23	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5

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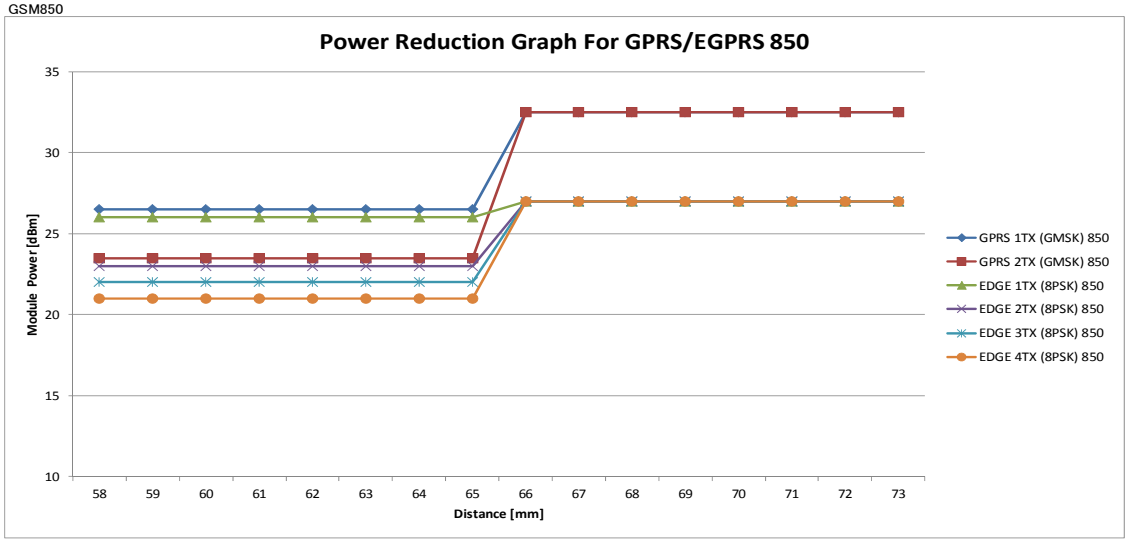
7.9.2. DUT moving away from the phantom

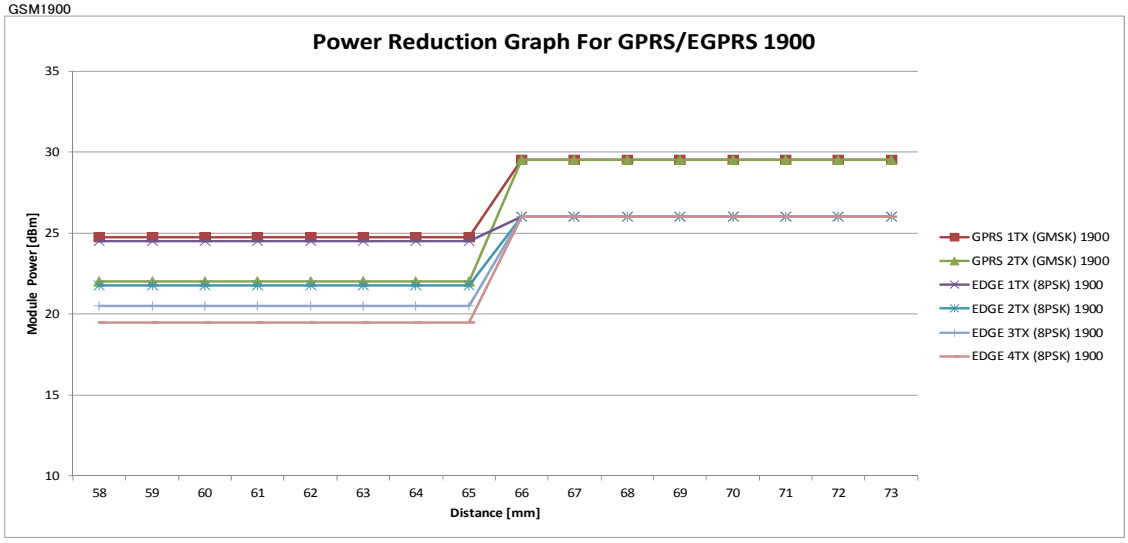
<Edge1>

GSM850



	Coverage Step GPRS/EGPRS 850															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1TX (GMSK)	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
GPRS 2TX (GMSK)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
EDGE 1TX (8PSK)	26	26	26	26	26	26	26	26	27	27	27	27	27	27	27	27
EDGE 2TX (8PSK)	23	23	23	23	23	23	23	23	27	27	27	27	27	27	27	27
EDGE 3TX (8PSK)	22	22	22	22	22	22	22	22	27	27	27	27	27	27	27	27
EDGE 4TX (8PSK)	21	21	21	21	21	21	21	21	27	27	27	27	27	27	27	27

GSM1900



	Coverage Step GPRS/EGPRS 1900															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1TX (GMSK)	24.75	24.75	24.75	24.75	24.75	24.75	24.75	24.75	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
GPRS 2TX (GMSK)	22	22	22	22	22	22	22	22	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
EDGE 1TX (8PSK)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	26	26	26	26	26	26	26	26
EDGE 2TX (8PSK)	21.75	21.75	21.75	21.75	21.75	21.75	21.75	21.75	26	26	26	26	26	26	26	26
EDGE 3TX (8PSK)	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	26	26	26	26	26	26	26	26
EDGE 4TX (8PSK)	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	26	26	26	26	26	26	26	26

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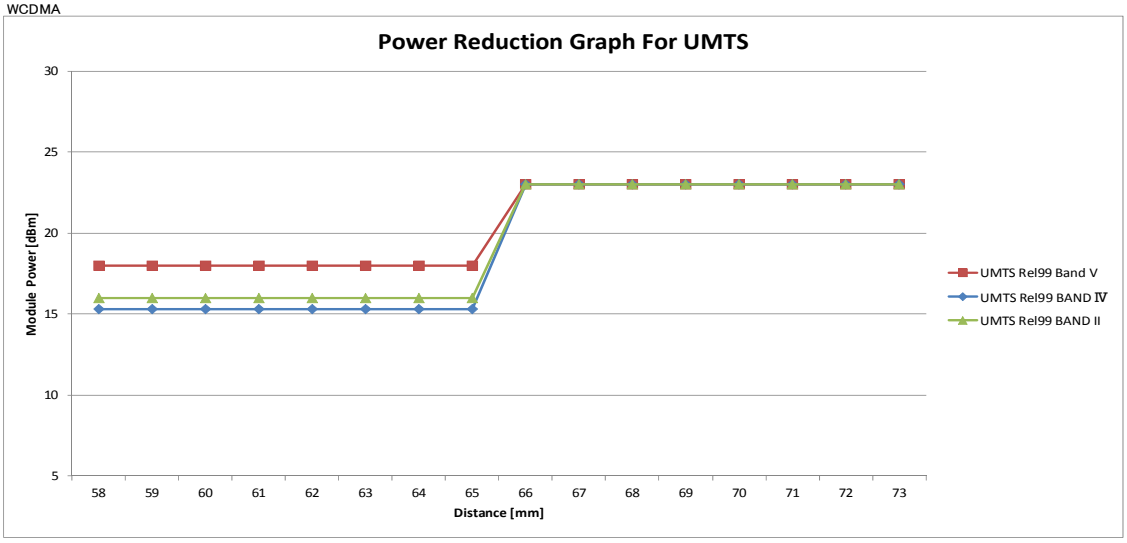
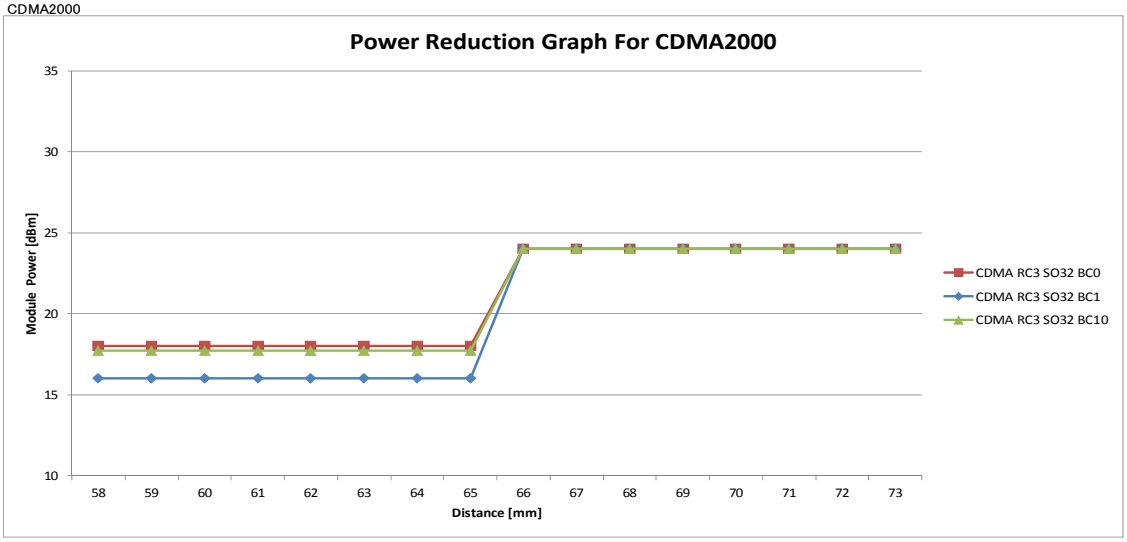
WCDMA



	Coverage Step UMTS																
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
UMTS Rel99 Band V	18	18	18	18	18	18	18	18	23	23	23	23	23	23	23	23
UMTS Rel99 BAND Ⅳ	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	23	23	23	23	23	23	23	23
UMTS Rel99 BAND Ⅱ	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23

CDMA2000



	Coverage Step CDMA2000															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
CDMA RC3 SO32BC0	18	18	18	18	18	18	18	18	24	24	24	24	24	24	24	24
CDMA RC3 SO32BC1	16	16	16	16	16	16	16	16	24	24	24	24	24	24	24	24
CDMA RC3 SO32BC10	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	24	24	24	24	24	24	24	24

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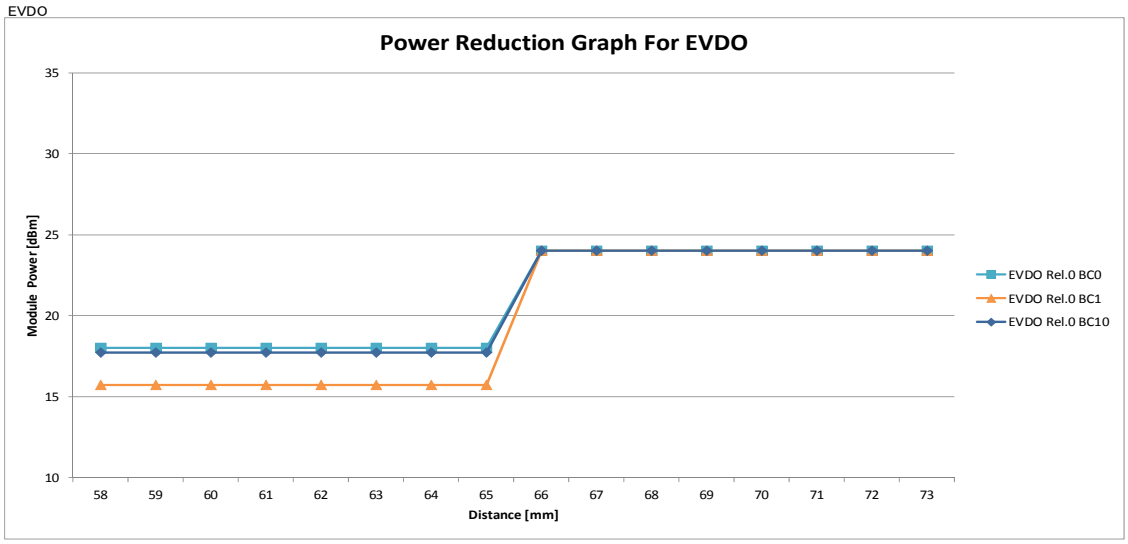
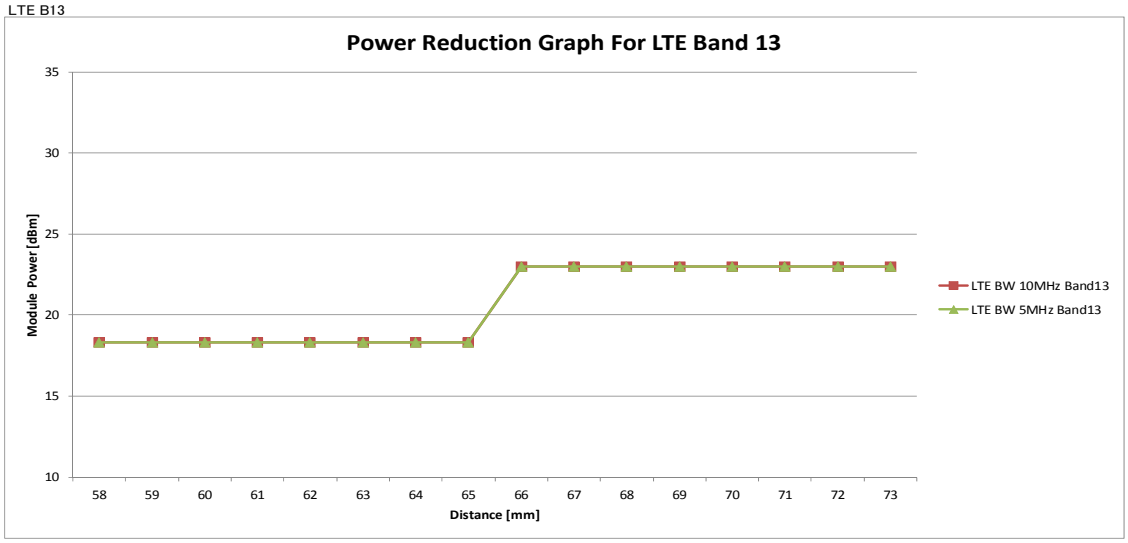
EVDO



	Coverage Step EVDO															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
EVDO Rel.0 BC0	18	18	18	18	18	18	18	18	24	24	24	24	24	24	24	24
EVDO Rel.0BC10	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	24	24	24	24	24	24	24	24
EVDO Rel.0 BC1	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	24	24	24	24	24	24	24	24

LTE B13



	Coverage Step LTE Band 13															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 10MHz	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	23	23	23	23	23	23	23	23
LTE BW 5MHz	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	23	23	23	23	23	23	23	23

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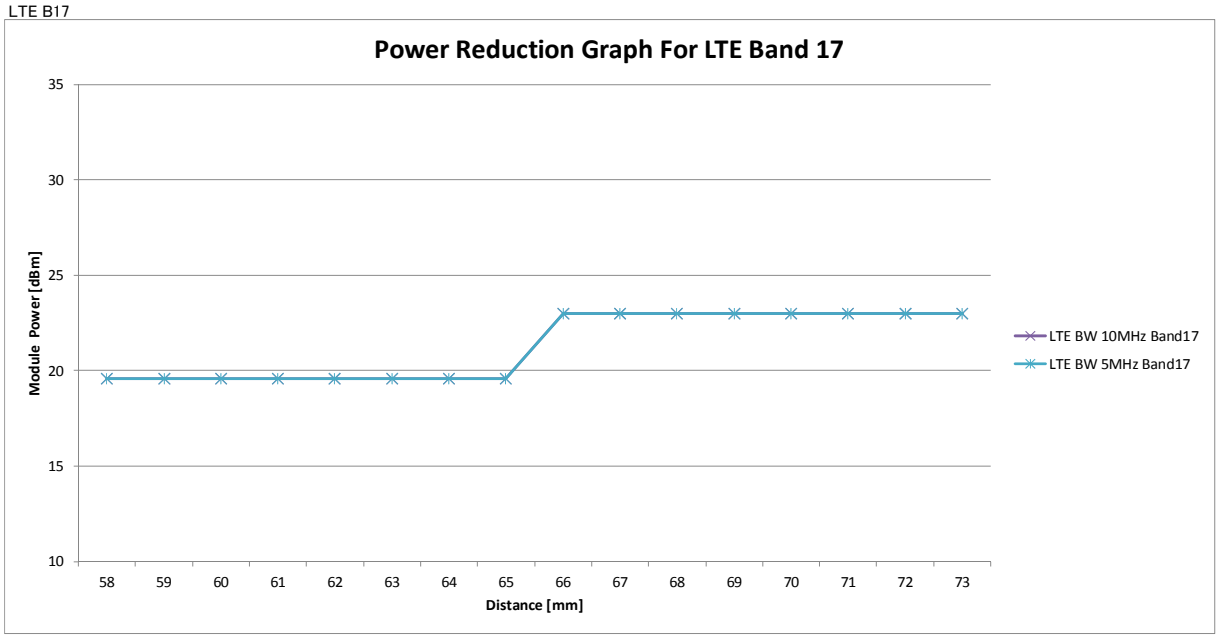
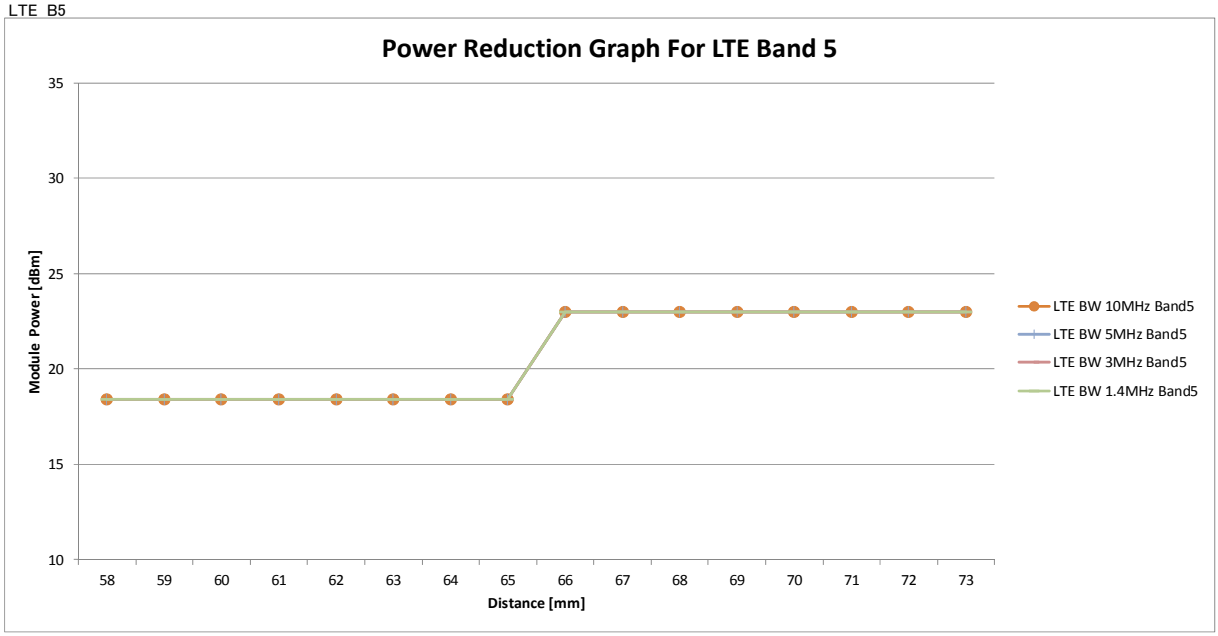
LTE B17



	Coverage Step LTE Band 17															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 10MHz	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	23	23	23	23	23	23	23	23
LTE BW 5MHz	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	23	23	23	23	23	23	23	23

LTE B5



	Coverage Step LTE Band 5															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 10MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23
LTE BW 5MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23
LTE BW 3MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23

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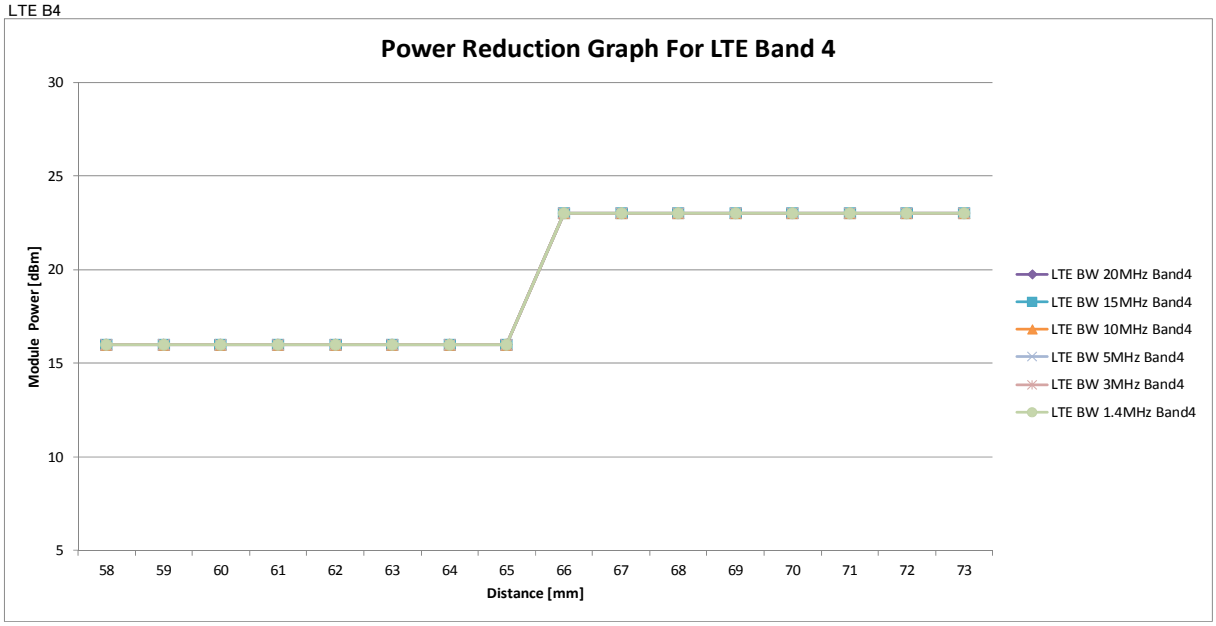
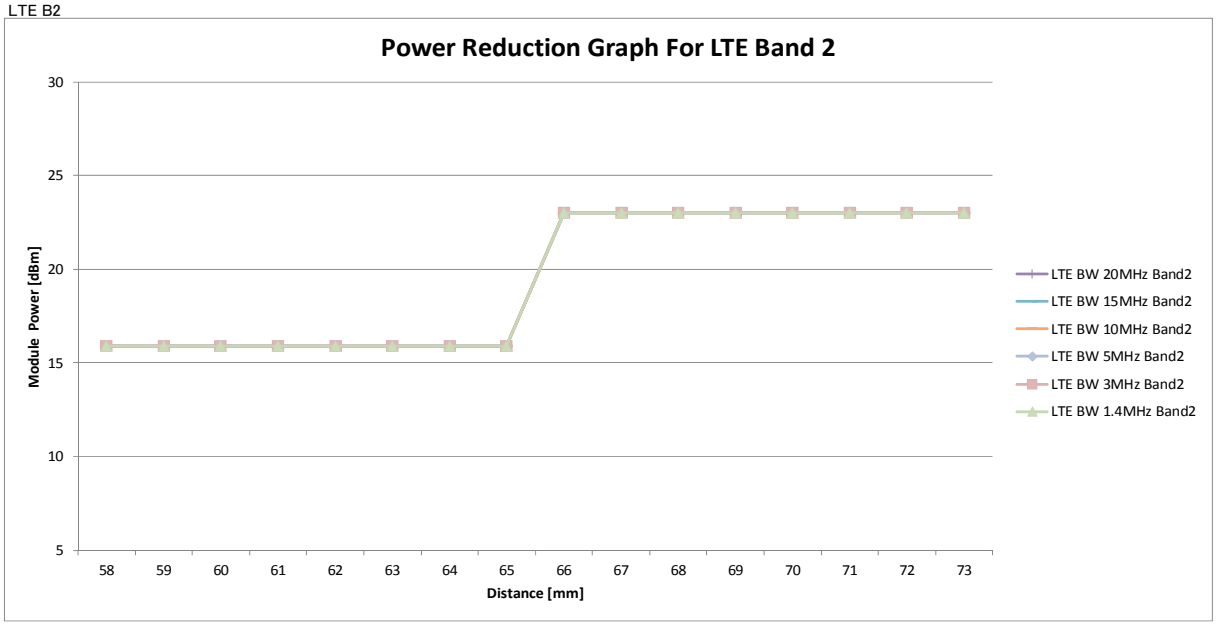
LTE B4



	Coverage Step LTE Band 4															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 20MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 15MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 10MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 5MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 3MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23

LTE B2



	Coverage Step LTE Band 2															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 20MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 15MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 10MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 5MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 3MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23

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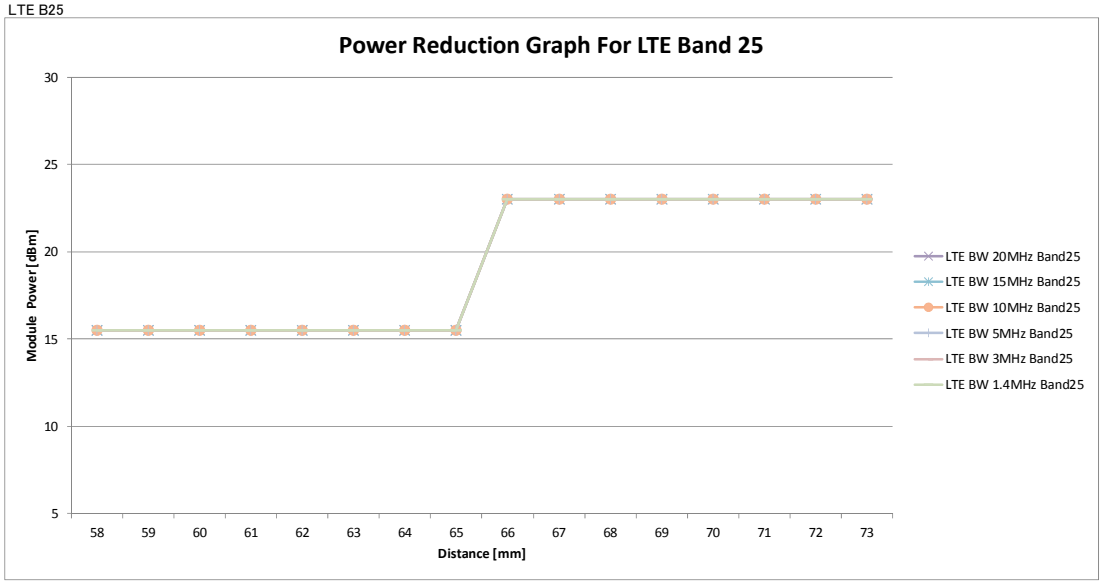
LTE B25



	Coverage Step LTE Band 25															
Didtance	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 20MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 15MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 10MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 5MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 3MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23

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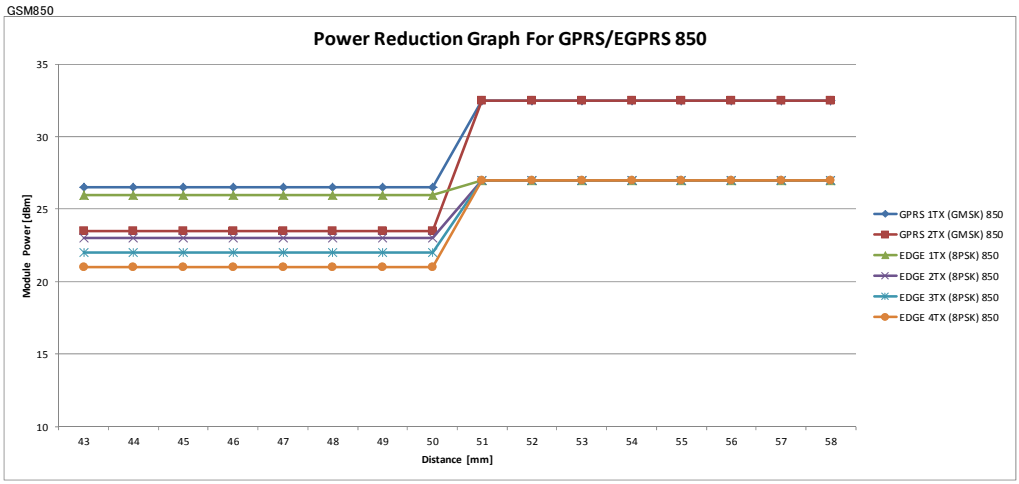
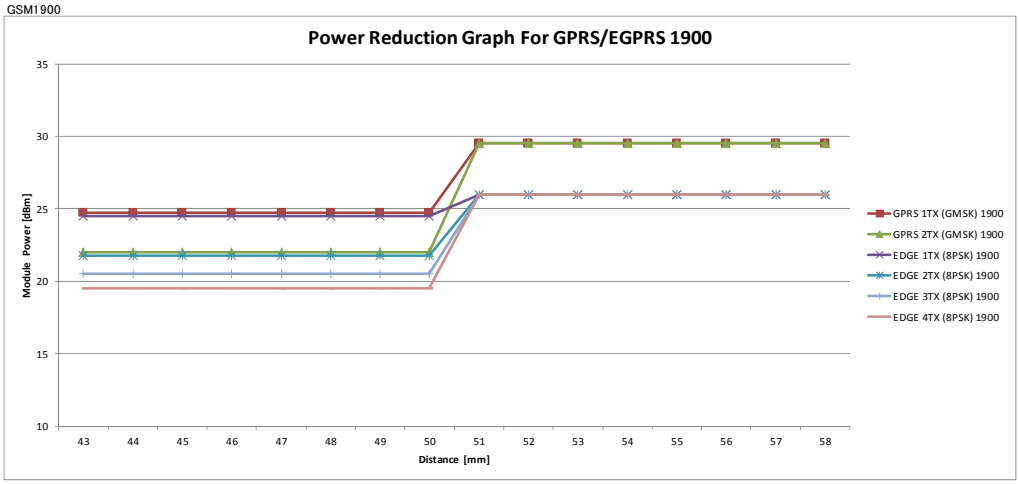
<Bottom side>

GSM850



	Coverage Step GPRS/EGPRS 850															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1TX (GMSK)	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
GPRS 2TX (GMSK)	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
EDGE 1TX (8PSK)	26	26	26	26	26	26	26	26	27	27	27	27	27	27	27	27
EDGE 2TX (8PSK)	23	23	23	23	23	23	23	23	27	27	27	27	27	27	27	27
EDGE 3TX (8PSK)	22	22	22	22	22	22	22	22	27	27	27	27	27	27	27	27
EDGE 4TX (8PSK)	21	21	21	21	21	21	21	21	27	27	27	27	27	27	27	27

GSM1900



	Coverage Step GPRS/EGPRS 1900															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1TX (GMSK)	24.75	24.75	24.75	24.75	24.75	24.75	24.75	24.75	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
GPRS 2TX (GMSK)	22	22	22	22	22	22	22	22	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
EDGE 1TX (8PSK)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	26	26	26	26	26	26	26	26
EDGE 2TX (8PSK)	21.75	21.75	21.75	21.75	21.75	21.75	21.75	21.75	26	26	26	26	26	26	26	26
EDGE 3TX (8PSK)	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	26	26	26	26	26	26	26	26
EDGE 4TX (8PSK)	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	26	26	26	26	26	26	26	26

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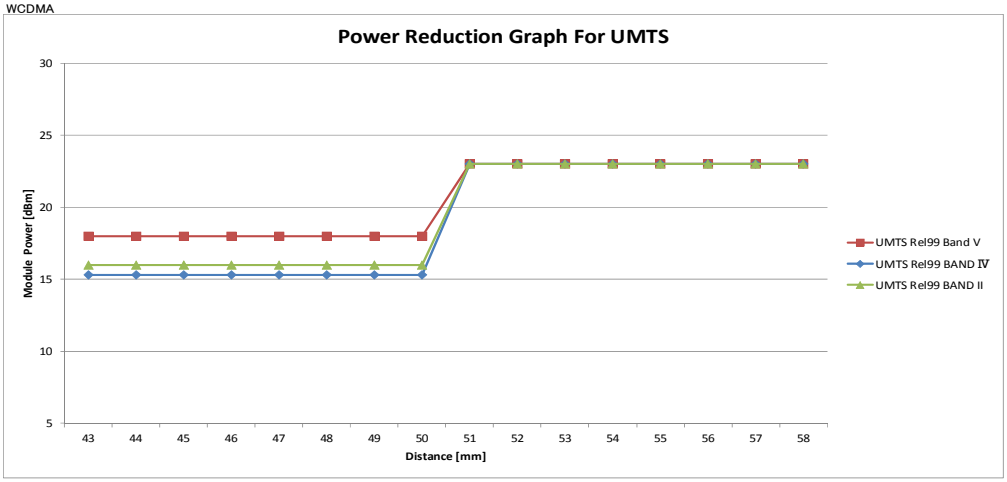
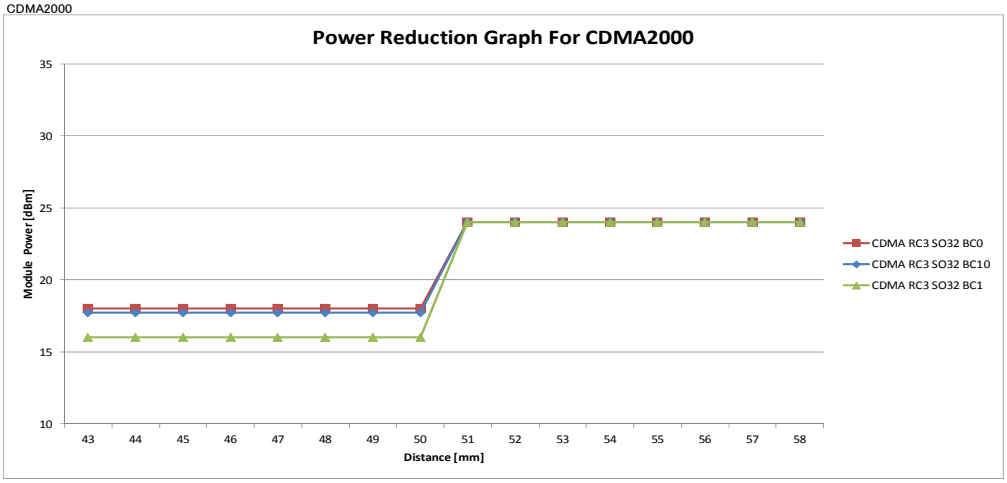
WCDMA



	Coverage Step UMTS															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
UMTS Rel99 Band V	18	18	18	18	18	18	18	18	23	23	23	23	23	23	23	23
UMTS Rel99 BAND Ⅳ	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	23	23	23	23	23	23	23	23
UMTS Rel99 BAND Ⅱ	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23

CDMA2000



	Coverage Step CDMA2000															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
CDMA RC3 SO32BC0	18	18	18	18	18	18	18	18	24	24	24	24	24	24	24	24
CDMA RC3 SO32BC10	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	24	24	24	24	24	24	24	24
CDMA RC3 SO32BC1	16	16	16	16	16	16	16	16	24	24	24	24	24	24	24	24

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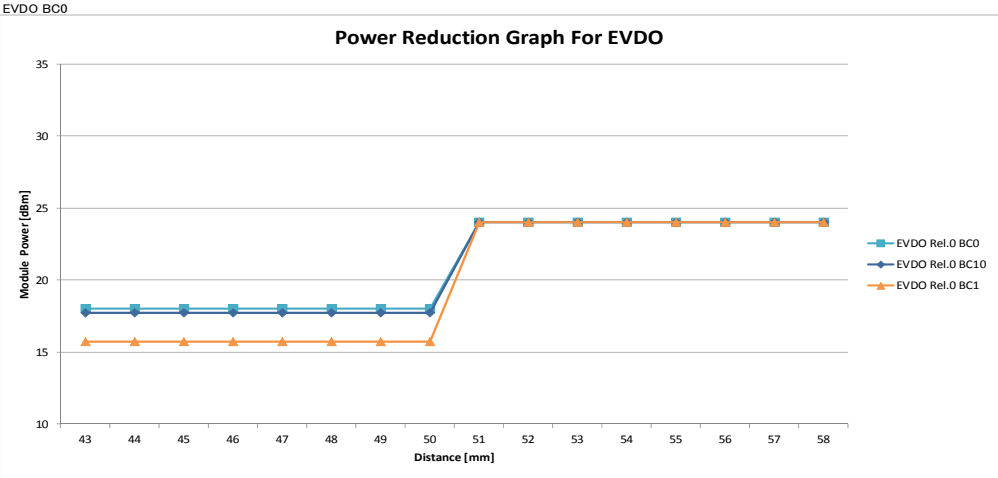
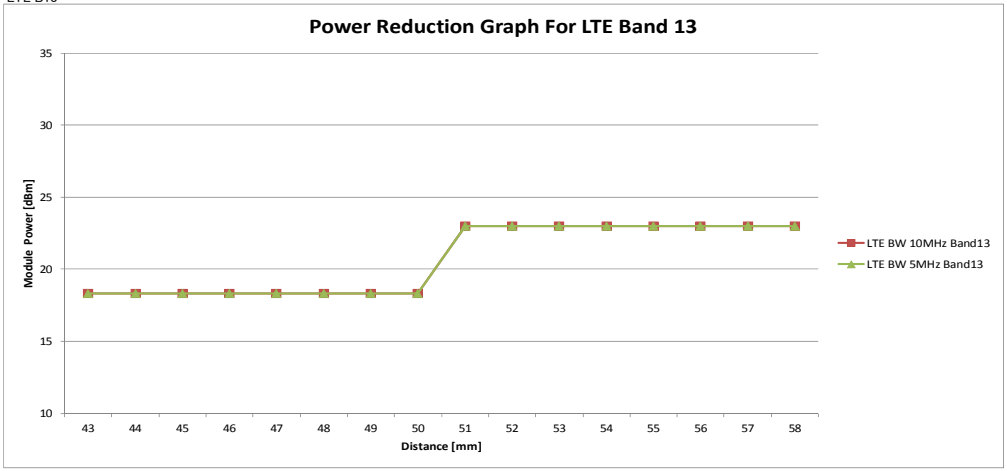
EVDO BC0



	Coverage Step EVDO BC0															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
EVDO Rel.0BC0	18	18	18	18	18	18	18	18	24	24	24	24	24	24	24	24
EVDO Rel.0BC10	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	24	24	24	24	24	24	24	24
EVDO Rel.0BC1	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	24	24	24	24	24	24	24	24

LTE B13



	Coverage Step LTE Band 13															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 10MHz	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	23	23	23	23	23	23	23	23
LTE BW 5MHz	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	23	23	23	23	23	23	23	23

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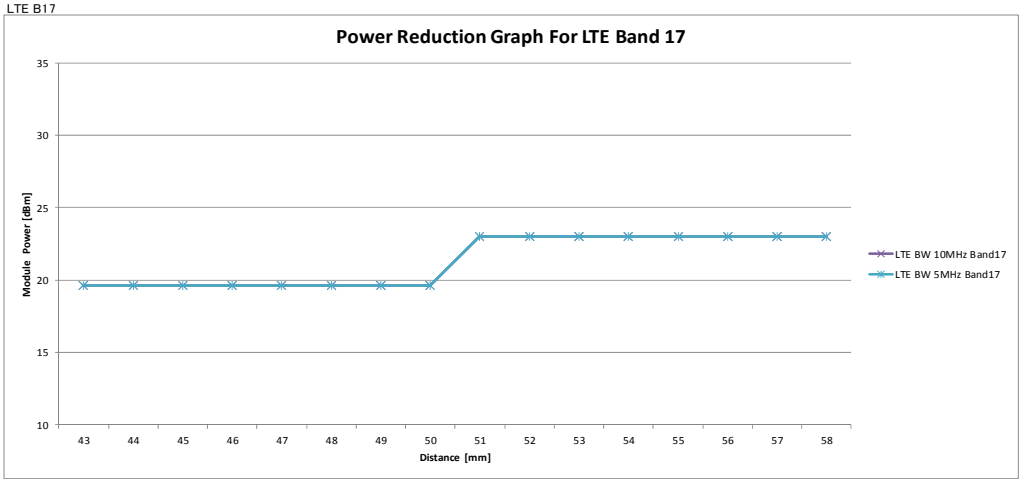
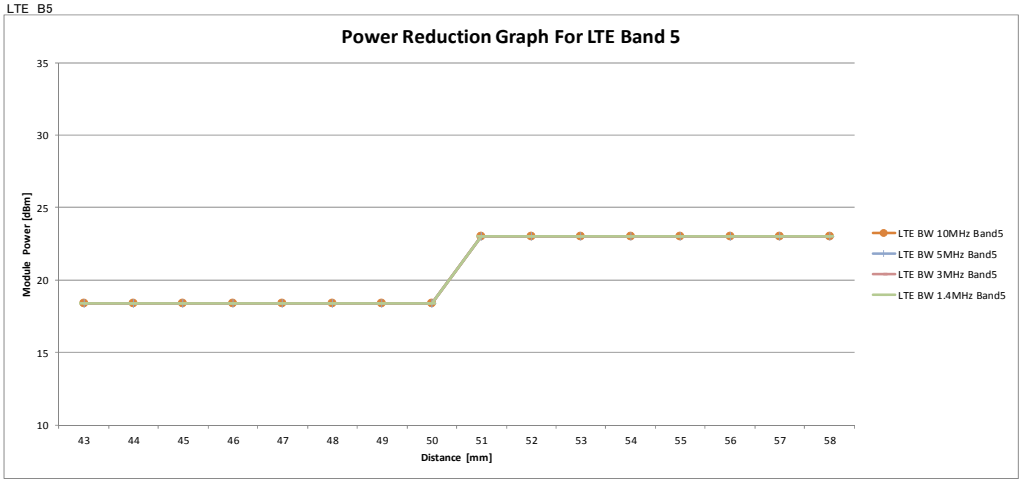
LTE B17



	Coverage Step LTE Band 17															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 10MHz	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	23	23	23	23	23	23	23	23
LTE BW 5MHz	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	23	23	23	23	23	23	23	23

LTE B5



	Coverage Step LTE Band 5															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 10MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23
LTE BW 5MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23
LTE BW 3MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	23	23	23	23	23	23	23	23

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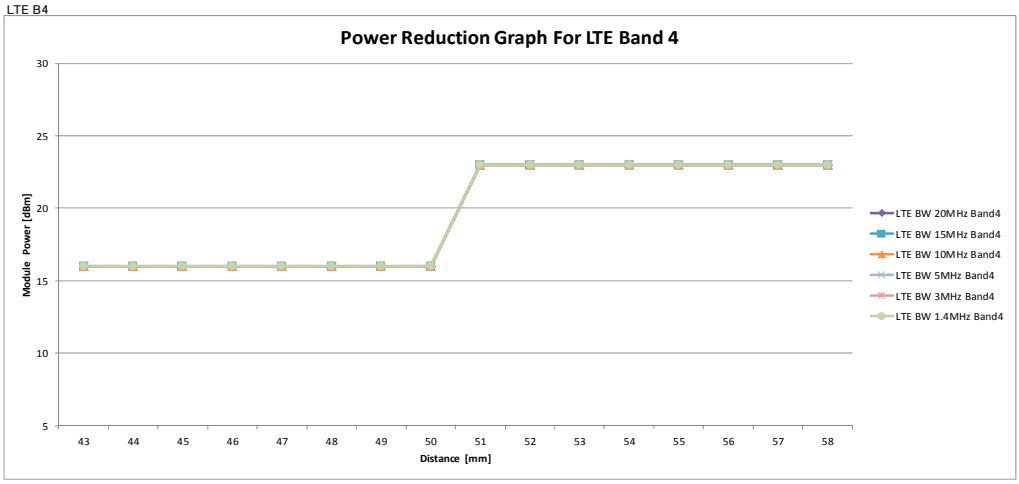
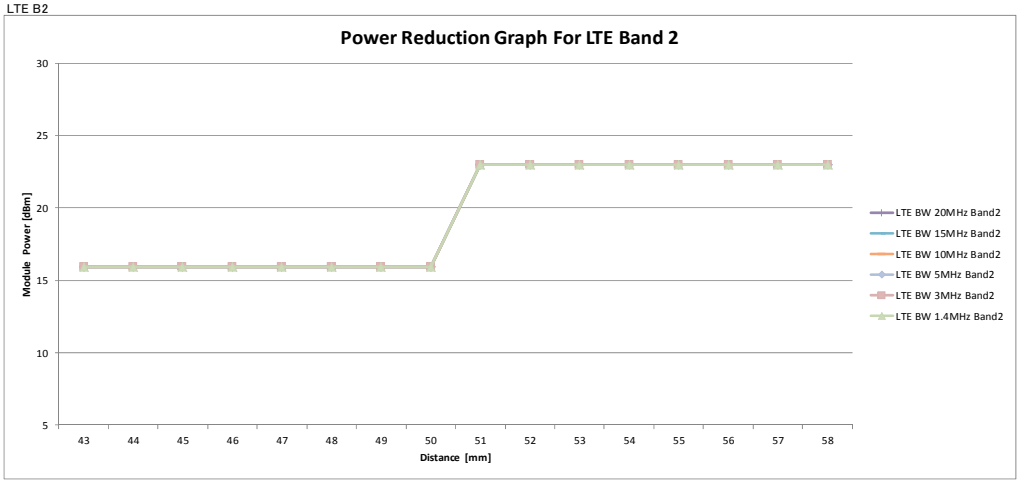
LTE B4



	Coverage Step LTE Band 4															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 20MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 15MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 10MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 5MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 3MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	16	16	16	16	16	16	16	16	23	23	23	23	23	23	23	23

LTE B2



	Coverage Step LTE Band 2															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 20MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 15MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 10MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 5MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 3MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	23	23	23	23	23	23	23	23

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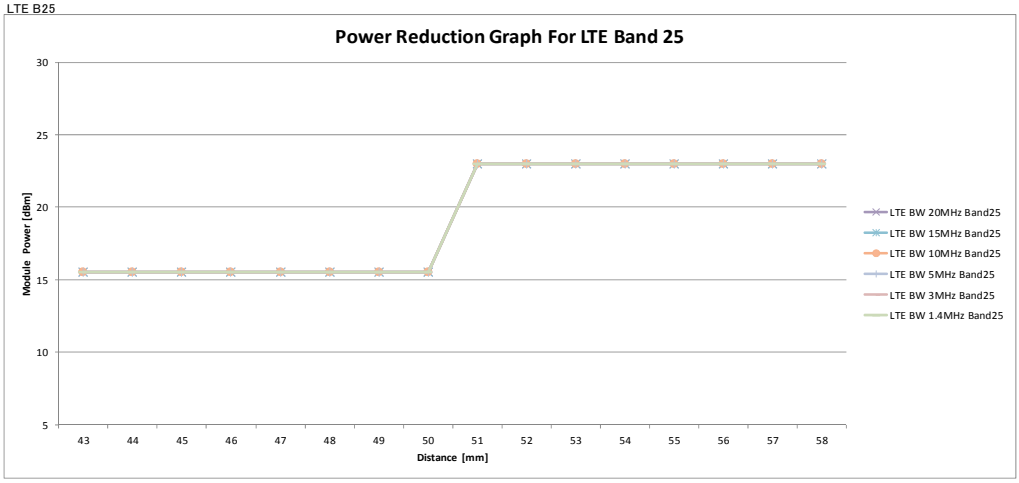
LTE B25



	Coverage Step LTE Band 25															
Didtance	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
DPR	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LTE BW 20MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 15MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 10MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 5MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 3MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23
LTE BW 1.4MHz	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	23	23	23	23	23	23	23	23

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8. Exposure Conditions

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

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

Tablet Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side	3.4mm	Yes	A proximity sensor is incorporated at this side that, when triggered, will reduce the transmit power of the WWAN transmitter. As such, two separate sets of evaluations are required for this test position: The test device operating at reduced power level and contact with the phantom. The test device operating at full power level and away 17mm from the phantom. 17mm is 1 mm less than the closest distance to which the test device can transmit at full power.
Front	-	No	SAR is not required as this is not a typical use scenario.
Edge 1	2.2mm	Yes	A proximity sensor is incorporated at this side that, when triggered, will reduce the transmit power of the WWAN transmitter. As such, two separate sets of evaluations are required for this test position: The test device operating at reduced power level and contact with the phantom. The test device operating at full power level and away 23 mm from the phantom. 23mm is 1 mm less than the closest distance to which the test device can transmit at full power.
Edge 2	152.6mm	No (It does not include GSM850.)	Refer to section 12.1 for SAR exclusion justification.
Edge 3	181.35mm	No (It does not include GSM850.)	Refer to section 12.1 for SAR exclusion justification.
Edge 4	26.45mm	Yes	

Laptop Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side(Laptop mode)	220.65mm	No	SAR of WWAN Main Antenna does not require testing in this position when operating in Laptop Mode as the same test position for Tablet Mode(Edge 3 equivalence) is far more conservative.

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Convertible Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side (Convertible Mode)	20.2mm	Yes	
Front (Convertible Mode)	-	No	SAR is not required as this is not a typical use scenario.
Edge 1 (Convertible Mode)	2.2mm	No	SAR of WWAN Main Antenna does not require testing in this position as it is accounted for by the Edge 1 test position for Tablet Mode.
Edge 2 (Convertible Mode)	152.6mm	No	SAR of WWAN Main Antenna does not require testing in this position as it is accounted for by the Edge 2 test position for Tablet Mode.
Edge 3 (Convertible Mode)	200.45mm	No	SAR of WWAN Main Antenna does not require testing in this position as it is accounted for by the Edge 3 test position for Tablet Mode.
Edge 4 (Convertible Mode)	26.45mm	No	SAR of WWAN Main Antenna does not require testing in this position as it is accounted for by the Edge 4 test position for Tablet Mode.

LEGEND:

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

8.2. Test Configurations for WLAN

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 10936952H-A-R1, submitted under FCC ID ACJ9TGWL15A.

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9. RF Output Power Measurement

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

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

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

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9.1. GSM850

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
GMSK	850	128	824.2	32.5	26.5
(MCS4)		189	836.4		
1SLOT		251	848.8		
GMSK	850	128	824.2	32.5	23.5
(MCS4)		189	836.4		
2SLOT		251	848.8		
8PSK	850	128	824.2	27.0	26.0
(MCS9)		189	836.4		
1SLOT		251	848.8		
8PSK	850	128	824.2	27.0	23.0
(MCS9)		189	836.4		
2SLOT		251	848.8		
8PSK	850	128	824.2	27.0	22.0
(MCS9)		189	836.4		
3SLOT		251	848.8		
8PSK	850	128	824.2	27.0	21.0
(MCS9)		189	836.4		
4SLOT		251	848.8		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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Full Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	32.11	22.77	32.00	25.68				
	190	836.6	32.18	22.89	32.09	25.75				
	251	848.8	32.00	22.70	31.97	25.63				

EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	26.53	17.18	26.38	19.89	26.03	21.55	26.22	21.73
	190	836.6	26.50	17.19	26.39	19.95	26.16	21.50	26.14	21.77
	251	848.8	26.54	17.20	26.36	19.92	26.10	21.54	26.29	21.93

Reduced Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	26.92	17.54	23.88	17.68				
	190	836.6	27.06	17.69	23.95	17.78				
	251	848.8	27.12	17.74	24.05	17.84				

EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	25.42	16.12	22.22	16.10	21.69	17.15	20.72	17.48
	190	836.6	25.45	16.19	22.25	16.17	21.62	17.20	20.86	17.65
	251	848.8	25.58	16.37	22.27	16.18	21.73	17.27	21.03	17.82

Notes:

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

- Body: GMSK (GPRS) mode with 2 time slots, based on the output power measurements above
- SAR is not required for EGPRS (8PSK) Mode at full power or reduced power because its output power is less than that of GPRS Mode at either full power or reduced power

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9.2. GSM1900

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
GMSK (MCS4) 1SLOT	1900	512	1850.2	29.5	24.75
		661	1880		
		810	1909.8		
GMSK (MCS4) 2SLOT	1900	512	1850.2	29.5	22.0
		661	1880		
		810	1909.8		
8PSK (MCS9) 1SLOT	1900	512	1850.2	26.0	24.5
		661	1880		
		810	1909.8		
8PSK (MCS9) 2SLOT	1900	512	1850.2	26.0	21.75
		661	1880		
		810	1909.8		
8PSK (MCS9) 3SLOT	1900	512	1850.2	26.0	20.5
		661	1880		
		810	1909.8		
8PSK (MCS9) 4SLOT	1900	512	1850.2	26.0	19.5
		661	1880		
		810	1909.8		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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Full Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	29.39	20.18	29.13	22.97				
	661	1880	29.06	19.91	29.11	22.92				
	810	1909.8	29.12	19.93	29.01	22.83				

EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	25.59	16.37	25.51	19.26	25.32	20.89	25.21	21.97
	661	1880	25.58	16.37	25.45	19.22	25.27	20.86	25.20	21.94
	810	1909.8	25.39	16.27	25.27	19.08	25.02	20.64	25.03	21.76

Reduced Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	25.18	16.00	22.77	16.63				
	661	1880	25.34	16.14	22.94	16.77				
	810	1909.8	25.06	15.95	22.47	16.35				

EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	25.39	16.25	22.38	16.26	20.50	16.10	19.35	16.22
	661	1880	25.42	16.24	22.44	16.29	20.57	16.13	19.45	16.27
	810	1909.8	25.22	16.06	22.21	16.10	20.30	15.80	19.13	15.99

Notes:

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

- Body: GMSK (GPRS) mode with 2 time slots, based on the output power measurements above
- SAR is not required for EGPRS (8PSK) Mode at full power or reduced power because its output power is less than that of GPRS Mode at either full power or reduced power

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9.3. W-CDMA Band V

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
WCDMA	BAND5	4132	826.4	23.0	18.3
		4182	836.4		
		4233	846.6		
UTMS 3GPP HSDPA Rel 5	BAND5	4132	826.4	22.5	18.3
		4182	836.4		
		4233	846.6		
UTMS 3GPP HSUPA Rel 6	BAND5	4132	826.4	22.5	18.3
		4182	836.4		
		4233	846.6		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

Release 99

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

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm) Full Power	Avg Pwr (dBm) Reduced Power
W-CDMA (UMTS) Band V	Rel 99 (RMC, 12.2 kbps)	4132	826.4	22.75	18.88
		4183	836.6	22.82	18.91
		4233	846.6	22.81	18.89

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HSDPA

The following 4 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	CM (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs =βhs/βc	30/15			

HSDPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
W-CDMA (UMTS) Band V	Subtest 1	4132	826.4	22.31	18.46
		4183	836.6	22.42	18.38
		4233	846.6	22.29	18.46
	Subtest 2	4132	826.4	22.31	18.49
		4183	836.6	22.40	18.45
		4233	846.6	22.29	18.46
	Subtest 3	4132	826.4	21.80	17.99
		4183	836.6	21.93	17.95
		4233	846.6	21.76	17.85
	Subtest 4	4132	826.4	21.80	18.01
		4183	836.6	21.90	18.02
		4233	846.6	21.80	17.92

Note(s):

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HSPA (HSDPA & HSUPA)

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

	Mode	HSPA	HSPA	HSPA	HSPA	HSPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15 47/15	56/75	134/15
	CM (dB)	1.0	3.0	2.0	3.0	1.0
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27	

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HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band V	Subtest 1	4132	826.4	21.93	17.66
		4183	836.6	22.20	17.64
		4233	846.6	21.51	17.89
	Subtest 2	4132	826.4	20.70	16.89
		4183	836.6	20.43	17.06
		4233	846.6	20.65	16.43
	Subtest 3	4132	826.4	20.95	17.22
		4183	836.6	21.23	17.38
		4233	846.6	21.07	16.96
	Subtest 4	4132	826.4	20.74	16.91
		4183	836.6	21.27	16.09
		4233	846.6	20.71	17.20
	Subtest 5	4132	826.4	22.24	18.41
		4183	836.6	22.40	18.44
		4233	846.6	22.26	18.40

Note(s):

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9.4. W-CDMA Band IV

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
WCDMA	BAND4	1312	1712.4	23.0	15.3
		1413	1732.6		
		1513	1752.6		
UTMS 3GPP HSDPA Rel 5	BAND4	1312	1712.4	22.5	15.3
		1413	1732.6		
		1513	1752.6		
UTMS 3GPP HSUPA Rel 6	BAND4	1312	1712.4	22.5	15.3
		1413	1732.6		
		1513	1752.6		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

Release 99

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

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm) Full Power	Avg Pwr (dBm) Reduced Power
W-CDMA (UMTS) Band IV	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.90	16.14
		1413	1732.6	22.84	16.14
		1513	1752.6	23.01	16.25

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HSDPA

The following 4 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	CM (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs =βhs/βc	30/15			

HSDPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
W-CDMA (UMTS) Band IV	Subtest 1	1312	1712.4	22.53	15.75
		1413	1732.6	22.51	15.75
		1513	1752.6	22.55	15.74
	Subtest 2	1312	1712.4	22.58	15.68
		1413	1732.6	22.43	15.78
		1513	1752.6	22.51	15.80
	Subtest 3	1312	1712.4	22.05	15.22
		1413	1732.6	22.02	15.23
		1513	1752.6	21.99	15.29
	Subtest 4	1312	1712.4	22.09	15.27
		1413	1732.6	22.03	15.25
		1513	1752.6	21.99	15.30

Note(s):

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HSPA (HSDPA & HSUPA)

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

	Mode	HSPA	HSPA	HSPA	HSPA	HSPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15 47/15	56/75	134/15
	CM (dB)	1.0	3.0	2.0	3.0	1.0
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27	

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HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band IV	Subtest 1	1312	1712.4	22.04	15.02
		1413	1732.6	21.69	15.24
		1513	1752.6	22.04	15.29
	Subtest 2	1312	1712.4	20.88	13.34
		1413	1732.6	20.90	13.61
		1513	1752.6	20.90	13.46
	Subtest 3	1312	1712.4	21.27	14.44
		1413	1732.6	21.56	14.44
		1513	1752.6	21.59	14.14
	Subtest 4	1312	1712.4	20.83	13.66
		1413	1732.6	21.10	13.85
		1513	1752.6	20.83	13.93
	Subtest 5	1312	1712.4	22.20	15.58
		1413	1732.6	22.42	15.56
		1513	1752.6	22.33	15.62

Note(s):

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9.5. W-CDMA Band II

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
WCDMA	BAND2	9262	1852.4	23.0	16.0
		9400	1880		
		9538	1907.6		
UTMS 3GPP HSDPA Rel 5	BAND2	9262	1852.4	22.5	16.0
		9400	1880		
		9538	1907.6		
UTMS 3GPP HSUPA Rel 6	BAND2	9262	1852.4	22.5	16.0
		9400	1880		
		9538	1907.6		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

Release 99

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

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm) Full Power	Avg Pwr (dBm) Reduced Power
W-CDMA (UMTS) Band II	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	23.22	16.93
		9400	1880.0	23.14	16.86
		9538	1907.6	23.32	16.95

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HSDPA

The following 4 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	CM (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs =βhs/βc	30/15			

HSDPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
W-CDMA (UMTS) Band II	Subtest 1	9262	1852.4	22.73	16.36
		9400	1880.0	22.73	16.28
		9538	1907.6	22.82	16.38
	Subtest 2	9262	1852.4	22.72	16.28
		9400	1880.0	22.79	16.36
		9538	1907.6	22.84	16.36
	Subtest 3	9262	1852.4	22.14	15.94
		9400	1880.0	22.24	15.90
		9538	1907.6	22.36	15.95
	Subtest 4	9262	1852.4	22.24	15.90
		9400	1880.0	22.20	15.86
		9538	1907.6	22.30	15.85

Note(s):

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HSPA (HSDPA & HSUPA)

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

	Mode	HSPA	HSPA	HSPA	HSPA	HSPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15 47/15	56/75	134/15
	CM (dB)	1.0	3.0	2.0	3.0	1.0
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27	

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HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band II	Subtest 1	9262	1852.4	22.18	15.82
		9400	1880.0	22.24	15.72
		9538	1907.6	22.45	15.79
	Subtest 2	9262	1852.4	20.88	14.43
		9400	1880.0	20.91	13.92
		9538	1907.6	20.77	14.21
	Subtest 3	9262	1852.4	21.15	14.90
		9400	1880.0	21.18	14.99
		9538	1907.6	21.46	15.01
	Subtest 4	9262	1852.4	20.87	14.48
		9400	1880.0	20.86	14.47
		9538	1907.6	20.93	14.44
	Subtest 5	9262	1852.4	22.53	16.10
		9400	1880.0	22.55	16.14
		9538	1907.6	22.56	16.21

Note(s):

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9.6. CDMA BC0

1XRTT

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
CDMA 2000 SO32,RC3	Cellular	1013	824.7	24.0	18.0
	BC0	384	836.52		
		777	848.31		

Tune-Up Tolerance: +1.0 dB/- 1.0 dB

EVDO

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
CDMA2000 EVDO Rev.0	Cellular	1013	824.7	24.0	18.0
	BC0	384	836.52		
		777	848.31		

Tune-Up Tolerance: +1.0 dB/- 1.0 dB

1xRTT Output Power Measurement Results

CDMA			Avg Pwr (dBm)					
			RC1 - SO55		RC3 - SO55		RC3 - SO32	
Band	Ch	Freq. (MHz)	(Loopback)		(Loopback)		(+F-SCH)	
			Full Power	Reduced Power	Full Power	Reduced Power	Full Power	Reduced Power
BC 0	1013	824.70	23.4	18.7	23.4	18.9	23.5	18.9
	384	836.52	23.5	18.7	23.5	18.7	23.5	18.7
	777	848.31	23.3	18.6	23.4	18.7	23.6	18.7

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1xEV-DO Rel. 0 Output Power Measurement Results

1xEV-DO Rel. 0 Output Power Measurement Results

Band	FTAP Rate	RTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 0	307.2 kbps (2 slot,	153.6 kbps	1013	824.70	23.4	18.7
			384	836.52	23.6	18.5
			777	848.31	23.2	18.4

1xEV-DO Rev. A Output Power Measurement Results

1xEV-DO Rev. A Output Power Measurement Results

Band	FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 0	307.2k, QPSK/ ACK	4096	1013	824.70	23.6	18.9
			384	836.52	23.7	18.8
			777	848.31	23.4	18.6

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9.7. CDMA BC1

1XRTT

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
CDMA 2000 SO32,RC3	PCS BC1	25	1851.25	24.0	16.0
		600	1880		
		1175	1908.75		

Tune-Up Tolerance: +1.0 dB/- 1.0 dB

EVDO

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
CDMA2000 EVDO Rev.0	PCS BC1	25	1851.25	24.0	15.7
		600	1880		
		1175	1908.75		

Tune-Up Tolerance: +1.0 dB/- 1.0 dB

1xRTT Output Power Measurement Results

CDMA			Avg Pwr (dBm)					
			RC1 - SO55		RC3 - SO55		RC3 - SO32	
Band	Ch	Freq. (MHz)	(Loopback)		(Loopback)		(+F-SCH)	
			Full Power	Reduced Power	Full Power	Reduced Power	Full Power	Reduced Power
BC 1	25	1851.25	23.5	16.9	23.6	16.5	23.6	16.9
	600	1880	23.5	16.3	23.6	16.8	23.6	16.8
	1175	1908.75	23.4	16.3	23.6	16.8	23.6	16.7

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1xEV-DO Rel. 0 Output Power Measurement Results

Band	FTAP Rate	RTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 1	307.2 kbps (2 slot,	153.6 kbps	25	1851.25	23.3	16.3
			600	1880	23.4	16.4
			1175	1908.75	23.4	16.3

1xEV-DO Rev. A Output Power Measurement Results

1xEV-DO Rev. A Output Power Measurement Results

Band	FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 1	307.2k, QPSK/ ACK	4096	25	1851.25	23.3	16.4
			600	1880	23.4	16.5
			1175	1908.75	23.4	16.4

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9.8. CDMA BC10

1XRTT

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
CDMA 2000 SO32,RC3	Secondary	450	817.25	24.0	17.7
	800	560	820		
	BC10	670	822.75		

Tune-Up Tolerance: +1.0 dB/- 1.0 dB

EVDO

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
CDMA2000 EVDO Rev.0	Secondary	450	817.25	24.0	17.7
	800	560	820		
	BC10	670	822.75		

Tune-Up Tolerance: +1.0 dB/- 1.0 dB

1xRTT Output Power Measurement Results

CDMA			Avg Pwr (dBm)					
			RC1 - SO55		RC3 - SO55		RC3 - SO32	
Band	Ch	Freq. (MHz)	(Loopback)		(Loopback)		(+F-SCH)	
			Full Power	Reduced Power	Full Power	Reduced Power	Full Power	Reduced Power
BC 10	450	817.25	23.1	18.5	23.4	18.6	23.2	18.6
	560	820	23.3	18.5	23.4	18.6	23.2	18.6
	670	822.75	23.2	18.5	23.4	18.5	23.1	18.5

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1xEV-DO Rel. 0 Output Power Measurement Results

Band	FTAP Rate	RTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 10	307.2 kbps (2 slot,	153.6 kbps	450	817.25	23.4	18.5
			560	820.0	23.3	18.5
			670	822.75	23.3	18.5

1xEV-DO Rev. A Output Power Measurement Results

Band	FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 10	307.2k, QPSK/ ACK	4096	450	817.25	23.3	18.5
			560	820.0	23.4	18.6
			670	822.75	23.4	18.5

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9.9. LTE Band 2

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

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
LTE	BAND2	18700	1860	23.0	15.9
		18900	1880		
		19100	1900		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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

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

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

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

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

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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.					

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LTE Band 2, 20 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	18700	1860	QPSK	1	0	0	0	22.98
				1	49	0	0	23.12
				1	99	0	0	22.97
				50	0	1	1	21.94
				50	24	1	1	21.99
				50	49	1	1	21.83
				100	0	1	1	21.84
			16QAM	1	0	1	1	22.11
				1	49	1	1	22.30
				1	99	1	1	22.13
				50	0	2	2	20.90
				50	24	2	2	20.90
				50	49	2	2	20.81
				100	0	2	2	20.86
	18900	1880	QPSK	1	0	0	0	22.92
				1	49	0	0	22.92
				1	99	0	0	22.85
				50	0	1	1	21.77
				50	24	1	1	21.77
				50	49	1	1	21.82
				100	0	1	1	21.83
			16QAM	1	0	1	1	22.10
				1	49	1	1	22.12
				1	99	1	1	22.02
				50	0	2	2	20.75
				50	24	2	2	20.74
				50	49	2	2	20.69
				100	0	2	2	20.79
	19100	1900	QPSK	1	0	0	0	22.91
				1	49	0	0	22.95
				1	99	0	0	23.09
				50	0	1	1	21.73
				50	24	1	1	21.75
				50	49	1	1	21.71
				100	0	1	1	21.82
			16QAM	1	0	1	1	22.05
				1	49	1	1	22.06
				1	99	1	1	22.22
				50	0	2	2	20.68
				50	24	2	2	20.75
				50	49	2	2	20.73
				100	0	2	2	20.76

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	18700	1860	QPSK	1	0	MPR is disabled when power reduction is enabled		15.47
				1	49			15.94
				1	99			14.93
				50	0			16.25
				50	24			15.97
				50	49			15.62
				100	0			15.88
			16QAM	1	0			16.16
				1	49			16.39
				1	99			15.34
				50	0			16.05
				50	24			15.73
				50	49			15.38
				100	0			15.68
	18900	1880	QPSK	1	0			15.06
				1	49			15.48
				1	99			16.64
				50	0			15.06
				50	24			15.37
				50	49			15.88
				100	0			15.54
			16QAM	1	0			15.33
				1	49			15.59
				1	99			16.89
				50	0			14.91
				50	24			15.20
				50	49			16.07
				100	0			15.66
	19100	1900	QPSK	1	0			16.70
				1	49			14.91
				1	99			16.33
				50	0			16.23
				50	24			15.35
				50	49			15.52
				100	0			15.80
			16QAM	1	0			16.89
				1	49			15.33
				1	99			16.89
				50	0			15.86
				50	24			15.05
				50	49			15.10
				100	0			15.50

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LTE Band 2, 15 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	18675	1857.5	QPSK	1	0	0	0	23.09
				1	37	0	0	23.27
				1	74	0	0	23.19
				36	0	1	1	21.93
				36	19	1	1	22.02
				36	39	1	1	21.99
				75	0	1	1	21.88
			16QAM	1	0	1	1	21.78
				1	37	1	1	21.82
				1	74	1	1	21.79
				36	0	2	2	20.96
				36	19	2	2	21.07
				36	39	2	2	21.00
				75	0	2	2	20.78
	18900	1880	QPSK	1	0	0	0	23.02
				1	37	0	0	23.02
				1	74	0	0	22.97
				36	0	1	1	21.89
				36	19	1	1	21.88
				36	39	1	1	21.81
				75	0	1	1	21.69
			16QAM	1	0	1	1	21.63
				1	37	1	1	21.64
				1	74	1	1	21.60
				36	0	2	2	20.87
				36	19	2	2	20.88
				36	39	2	2	20.85
				75	0	2	2	20.72
	19125	1902.5	QPSK	1	0	0	0	22.91
				1	37	0	0	22.93
				1	74	0	0	23.14
				36	0	1	1	21.76
				36	19	1	1	21.68
				36	39	1	1	21.76
				75	0	1	1	21.74
			16QAM	1	0	1	1	21.69
				1	37	1	1	21.67
				1	74	1	1	21.71
				36	0	2	2	20.75
				36	19	2	2	20.72
				36	39	2	2	20.77
				75	0	2	2	20.66

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	18675	1857.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.24
				1	37			15.78
				1	74			15.21
				36	0			16.06
				36	19			15.98
				36	39			15.93
				75	0			15.91
			16QAM	1	0			15.18
				1	37			15.99
				1	74			15.26
				36	0			15.71
				36	19			15.84
				36	39			15.72
				75	0			15.58
	18900	1880	QPSK	1	0			15.10
				1	37			15.64
				1	74			16.51
				36	0			15.66
				36	19			15.88
				36	39			16.19
				75	0			15.94
			16QAM	1	0			15.25
				1	37			15.78
				1	74			16.40
				36	0			15.23
				36	19			15.79
				36	39			16.17
				75	0			15.86
	19125	1902.5	QPSK	1	0			16.30
				1	37			15.25
				1	74			16.63
				36	0			15.86
				36	19			15.71
				36	39			15.76
				75	0			15.89
			16QAM	1	0			16.15
				1	37			15.02
				1	74			16.61
				36	0			15.53
				36	19			15.25
				36	39			15.75
				75	0			15.47

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	18700	1860	QPSK	1	0	0	0	22.98
				1	24	0	0	23.12
				1	49	0	0	22.97
				25	0	1	1	21.94
				25	12	1	1	21.99
				25	24	1	1	21.83
				50	0	1	1	21.84
			16QAM	1	0	1	1	22.11
				1	24	1	1	22.30
				1	49	1	1	22.13
				25	0	2	2	20.90
				25	12	2	2	20.90
				25	24	2	2	20.81
				50	0	2	2	20.86
	18900	1880	QPSK	1	0	0	0	22.92
				1	24	0	0	22.92
				1	49	0	0	22.85
				25	0	1	1	21.77
				25	12	1	1	21.77
				25	24	1	1	21.82
				50	0	1	1	21.83
			16QAM	1	0	1	1	22.10
				1	24	1	1	22.12
				1	49	1	1	22.02
				25	0	2	2	20.75
				25	12	2	2	20.74
				25	24	2	2	20.69
				50	0	2	2	20.79
	19100	1900	QPSK	1	0	0	0	22.91
				1	24	0	0	22.95
				1	49	0	0	23.09
				25	0	1	1	21.73
				25	12	1	1	21.75
				25	24	1	1	21.71
				50	0	1	1	21.82
			16QAM	1	0	1	1	22.05
				1	24	1	1	22.06
				1	49	1	1	22.22
				25	0	2	2	20.68
				25	12	2	2	20.75
				25	24	2	2	20.73
				50	0	2	2	20.76

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	18650	1855	QPSK	1	0	MPR is disabled when power reduction is enabled		15.37
				1	24			15.63
				1	49			16.07
				25	0			15.92
				25	12			15.85
				25	24			15.97
				50	0			16.05
			16QAM	1	0			15.30
				1	24			15.59
				1	49			15.96
				25	0			15.88
				25	12			15.65
				25	24			15.80
				50	0			15.82
	18900	1880	QPSK	1	0			15.72
				1	24			15.67
				1	49			16.58
				25	0			15.95
				25	12			15.92
				25	24			16.25
				50	0			16.02
			16QAM	1	0			15.54
				1	24			15.80
				1	49			16.33
				25	0			15.57
				25	12			15.88
				25	24			15.88
				50	0			15.63
	19150	1905	QPSK	1	0			15.36
				1	24			15.36
				1	49			16.87
				25	0			15.55
				25	12			15.62
				25	24			16.26
				50	0			15.92
			16QAM	1	0			15.47
				1	24			15.09
				1	49			16.80
				25	0			15.18
				25	12			15.23
				25	24			15.92
				50	0			15.51

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LTE Band 2, 5 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	18625	1852.5	QPSK	1	0	0	0	23.00
				1	12	0	0	23.08
				1	24	0	0	23.14
				12	0	1	1	22.12
				12	6	1	1	22.13
				12	11	1	1	22.22
				25	0	1	1	22.06
			16QAM	1	0	1	1	21.73
				1	12	1	1	21.72
				1	24	1	1	21.78
				12	0	2	2	21.10
				12	6	2	2	21.10
				12	11	2	2	21.12
				25	0	2	2	21.14
	18900	1880	QPSK	1	0	0	0	23.00
				1	12	0	0	22.99
				1	24	0	0	23.03
				12	0	1	1	22.08
				12	6	1	1	22.17
				12	11	1	1	22.09
				25	0	1	1	22.00
			16QAM	1	0	1	1	21.69
				1	12	1	1	21.63
				1	24	1	1	21.67
				12	0	2	2	21.14
				12	6	2	2	21.12
				12	11	2	2	21.11
				25	0	2	2	21.09
	19175	1907.5	QPSK	1	0	0	0	22.90
				1	12	0	0	22.99
				1	24	0	0	23.09
				12	0	1	1	22.06
				12	6	1	1	22.12
				12	11	1	1	22.11
				25	0	1	1	21.97
			16QAM	1	0	1	1	21.67
				1	12	1	1	21.61
				1	24	1	1	21.75
				12	0	2	2	21.00
				12	6	2	2	21.10
				12	11	2	2	21.11
				25	0	2	2	21.09

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	18625	1852.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.64
				1	12			16.20
				1	24			16.27
				12	0			16.18
				12	6			16.32
				12	11			16.37
				25	0			16.29
			16QAM	1	0			15.63
				1	12			16.21
				1	24			16.49
				12	0			15.89
				12	6			16.02
				12	11			16.30
				25	0			16.09
	18900	1880	QPSK	1	0			15.83
				1	12			16.10
				1	24			16.26
				12	0			16.24
				12	6			16.20
				12	11			16.27
				25	0			16.17
			16QAM	1	0			15.70
				1	12			15.96
				1	24			16.12
				12	0			15.81
				12	6			15.81
				12	11			15.89
				25	0			15.87
	19175	1907.5	QPSK	1	0			15.29
				1	12			15.93
				1	24			16.89
				12	0			15.62
				12	6			16.05
				12	11			16.38
				25	0			16.14
			16QAM	1	0			15.06
				1	12			15.69
				1	24			16.69
				12	0			15.26
				12	6			15.69
				12	11			16.03
				25	0			15.86

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LTE Band 2, 3 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	18615	1851.5	QPSK	1	0	0	0	23.04
				1	7	0	0	23.04
				1	14	0	0	23.06
				8	0	1	1	22.13
				8	4	1	1	22.20
				8	7	1	1	22.12
				15	0	1	1	22.15
			16QAM	1	0	1	1	21.71
				1	7	1	1	21.67
				1	14	1	1	21.76
				8	0	2	2	21.24
				8	4	2	2	21.24
				8	7	2	2	21.22
				15	0	2	2	21.14
	18900	1880	QPSK	1	0	0	0	22.99
				1	7	0	0	22.98
				1	14	0	0	23.03
				8	0	1	1	22.20
				8	4	1	1	22.18
				8	7	1	1	22.18
				15	0	1	1	22.14
			16QAM	1	0	1	1	21.70
				1	7	1	1	21.67
				1	14	1	1	21.72
				8	0	2	2	21.23
				8	4	2	2	21.20
				8	7	2	2	21.24
				15	0	2	2	21.14
	19184	1908.4	QPSK	1	0	0	0	22.99
				1	7	0	0	23.03
				1	14	0	0	23.15
				8	0	1	1	22.12
				8	4	1	1	22.13
				8	7	1	1	22.19
				15	0	1	1	22.14
			16QAM	1	0	1	1	21.68
				1	7	1	1	21.68
				1	14	1	1	21.75
				8	0	2	2	21.22
				8	4	2	2	21.25
				8	7	2	2	21.29
				15	0	2	2	21.19

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	18615	1851.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.84
				1	7			16.24
				1	14			16.37
				8	0			16.23
				8	4			16.52
				8	7			16.59
				15	0			16.39
			16QAM	1	0			15.75
				1	7			16.13
				1	14			16.21
				8	0			16.05
				8	4			16.34
				8	7			16.41
				15	0			16.12
	18900	1880	QPSK	1	0			16.13
				1	7			16.21
				1	14			16.18
				8	0			16.31
				8	4			16.33
				8	7			16.36
				15	0			16.32
			16QAM	1	0			15.89
				1	7			16.00
				1	14			15.93
				8	0			16.07
				8	4			16.05
				8	7			16.12
				15	0			15.99
	19184	1908.4	QPSK	1	0			15.72
				1	7			16.21
				1	14			16.86
				8	0			16.02
				8	4			16.39
				8	7			16.55
				15	0			16.30
			16QAM	1	0			15.42
				1	7			15.89
				1	14			16.50
				8	0			15.78
				8	4			16.15
				8	7			16.32
				15	0			15.96

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LTE Band 2, 1.4 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	18607	1850.7	QPSK	1	0	0	0	23.04
				1	2	0	0	23.05
				1	5	0	0	23.08
				3	0	0	0	23.12
				3	1	0	0	23.12
				3	3	0	0	23.12
				6	0	1	1	22.12
			16QAM	1	0	1	1	21.92
				1	2	1	1	21.94
				1	5	1	1	22.00
				3	0	1	1	22.07
				3	1	1	1	22.09
				3	3	1	1	22.09
				6	0	2	2	21.24
	18900	1880	QPSK	1	0	0	0	23.07
				1	2	0	0	22.99
				1	5	0	0	23.03
				3	0	0	0	23.11
				3	1	0	0	23.13
				3	3	0	0	23.09
				6	0	1	1	22.12
			16QAM	1	0	1	1	21.91
				1	2	1	1	21.97
				1	5	1	1	21.98
				3	0	1	1	22.06
				3	1	1	1	22.06
				3	3	1	1	22.06
				6	0	2	2	21.21
	19192	1909.2	QPSK	1	0	0	0	23.14
				1	2	0	0	23.06
				1	5	0	0	23.12
				3	0	0	0	23.16
				3	1	0	0	23.13
				3	3	0	0	23.13
				6	0	1	1	22.16
			16QAM	1	0	1	1	22.00
				1	2	1	1	21.95
				1	5	1	1	22.03
				3	0	1	1	22.08
				3	1	1	1	22.14
				3	3	1	1	22.15
				6	0	2	2	21.24

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	18607	1850.7	QPSK	1	0	MPR is disabled when power reduction is enabled		16.08
				1	2			16.24
				1	5			16.31
				3	0			16.41
				3	1			16.46
				3	3			16.49
				6	0			16.43
			16QAM	1	0			16.12
				1	2			16.30
				1	5			16.36
				3	0			16.12
				3	1			16.17
				3	3			16.22
				6	0			16.28
	18900	1880	QPSK	1	0			16.30
				1	2			16.38
				1	5			16.32
				3	0			16.37
				3	1			16.50
				3	3			16.50
				6	0			16.34
			16QAM	1	0			16.20
				1	2			16.25
				1	5			16.25
				3	0			16.06
				3	1			16.15
				3	3			16.16
				6	0			16.16
	19192	1909.2	QPSK	1	0			16.13
				1	2			16.38
				1	5			16.60
				3	0			16.36
				3	1			16.46
				3	3			16.55
				6	0			16.48
			16QAM	1	0			15.98
				1	2			16.26
				1	5			16.47
				3	0			16.07
				3	1			16.16
				3	3			16.27
				6	0			16.31

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9.10. LTE Band 4

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

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
LTE	BAND4	20050	1720	23.0	16.0
		20175	1732.5		
		20300	1745		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.					

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LTE Band 4, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	20050	1720	QPSK	1	0	0	0	22.94
				1	49	0	0	22.87
				1	99	0	0	23.05
				50	0	1	1	21.66
				50	24	1	1	21.71
				50	49	1	1	21.79
				100	0	1	1	21.75
			16QAM	1	0	1	1	22.04
				1	49	1	1	22.00
				1	99	1	1	22.18
				50	0	2	2	20.69
				50	24	2	2	20.58
				50	49	2	2	20.68
				100	0	2	2	20.65
	20175	1732.5	QPSK	1	0	0	0	22.83
				1	49	0	0	22.89
				1	99	0	0	23.07
				50	0	1	1	21.62
				50	24	1	1	21.68
				50	49	1	1	21.84
				100	0	1	1	21.74
			16QAM	1	0	1	1	21.95
				1	49	1	1	22.04
				1	99	1	1	22.18
				50	0	2	2	20.60
				50	24	2	2	20.65
				50	49	2	2	20.79
				100	0	2	2	20.76
	20300	1745	QPSK	1	0	0	0	22.92
				1	49	0	0	23.00
				1	99	0	0	23.03
				50	0	1	1	21.70
				50	24	1	1	21.76
				50	49	1	1	21.73
				100	0	1	1	21.74
			16QAM	1	0	1	1	22.10
				1	49	1	1	22.08
				1	99	1	1	22.22
				50	0	2	2	20.66
				50	24	2	2	20.70
				50	49	2	2	20.70
				100	0	2	2	20.76

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	20050	1720	QPSK	1	0	MPR is disabled when power reduction is enabled		15.86
				1	49			16.22
				1	99			16.94
				50	0			16.16
				50	24			16.31
				50	49			16.63
				100	0			16.41
			16QAM	1	0			16.25
				1	49			16.47
				1	99			16.99
				50	0			15.92
				50	24			16.09
				50	49			16.40
				100	0			16.19
	20175	1732.5	QPSK	1	0			16.89
				1	49			16.60
				1	99			16.54
				50	0			16.92
				50	24			16.85
				50	49			16.98
				100	0			16.90
			16QAM	1	0			16.99
				1	49			16.85
				1	99			16.99
				50	0			16.58
				50	24			16.50
				50	49			16.61
				100	0			16.58
	20300	1745	QPSK	1	0			16.49
				1	49			15.99
				1	99			16.37
				50	0			16.22
				50	24			15.99
				50	49			16.06
				100	0			16.15
			16QAM	1	0			16.99
				1	49			16.51
				1	99			16.96
				50	0			16.32
				50	24			16.04
				50	49			16.00
				100	0			16.10

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	20025	1717.5	QPSK	1	0	0	0	22.92
				1	37	0	0	22.81
				1	74	0	0	22.88
				36	0	1	1	21.77
				36	19	1	1	21.80
				36	39	1	1	21.80
				75	0	1	1	21.71
			16QAM	1	0	1	1	21.55
				1	37	1	1	21.51
				1	74	1	1	21.62
				36	0	2	2	20.74
				36	19	2	2	20.73
				36	39	2	2	20.78
				75	0	2	2	20.56
	20175	1732.5	QPSK	1	0	0	0	22.91
				1	37	0	0	22.94
				1	74	0	0	22.97
				36	0	1	1	21.73
				36	19	1	1	21.77
				36	39	1	1	21.93
				75	0	1	1	21.66
			16QAM	1	0	1	1	21.58
				1	37	1	1	21.61
				1	74	1	1	21.75
				36	0	2	2	20.72
				36	19	2	2	20.73
				36	39	2	2	20.89
				75	0	2	2	20.74
	20325	1747.5	QPSK	1	0	0	0	22.97
				1	37	0	0	22.89
				1	74	0	0	22.90
				36	0	1	1	21.83
				36	19	1	1	21.75
				36	39	1	1	21.74
				75	0	1	1	21.71
			16QAM	1	0	1	1	21.60
				1	37	1	1	21.53
				1	74	1	1	21.66
				36	0	2	2	20.87
				36	19	2	2	20.80
				36	39	2	2	20.78
				75	0	2	2	20.68

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	20025	1717.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.94
				1	37			16.28
				1	74			16.84
				36	0			16.57
				36	19			16.49
				36	39			16.70
				75	0			16.57
			16QAM	1	0			15.95
				1	37			16.14
				1	74			16.67
				36	0			16.15
				36	19			16.10
				36	39			16.33
				75	0			16.22
	20175	1732.5	QPSK	1	0			16.83
				1	37			16.60
				1	74			16.42
				36	0			16.89
				36	19			16.81
				36	39			16.96
				75	0			16.88
			16QAM	1	0			16.59
				1	37			16.34
				1	74			16.37
				36	0			16.57
				36	19			16.48
				36	39			16.61
				75	0			16.57
	20325	1747.5	QPSK	1	0			16.38
				1	37			16.06
				1	74			16.22
				36	0			16.32
				36	19			16.15
				36	39			16.31
				75	0			16.25
			16QAM	1	0			16.37
				1	37			16.07
				1	74			16.45
				36	0			16.07
				36	19			15.94
				36	39			16.11
				75	0			16.05

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20000	1715	QPSK	1	0	0	0	22.92
				1	24	0	0	22.94
				1	49	0	0	23.02
				25	0	1	1	21.92
				25	12	1	1	21.96
				25	24	1	1	21.94
				50	0	1	1	21.81
			16QAM	1	0	1	1	21.68
				1	24	1	1	21.58
				1	49	1	1	21.63
				25	0	2	2	20.89
				25	12	2	2	20.92
				25	24	2	2	20.89
				50	0	2	2	20.73
	20175	1732.5	QPSK	1	0	0	0	22.90
				1	24	0	0	22.93
				1	49	0	0	23.13
				25	0	1	1	21.84
				25	12	1	1	21.91
				25	24	1	1	21.91
				50	0	1	1	21.79
			16QAM	1	0	1	1	21.71
				1	24	1	1	21.70
				1	49	1	1	21.73
				25	0	2	2	20.88
				25	12	2	2	20.89
				25	24	2	2	21.03
				50	0	2	2	20.76
	20350	1750	QPSK	1	0	0	0	23.00
				1	24	0	0	22.90
				1	49	0	0	23.05
				25	0	1	1	21.76
				25	12	1	1	21.87
				25	24	1	1	21.93
				50	0	1	1	21.68
			16QAM	1	0	1	1	21.61
				1	24	1	1	21.56
				1	49	1	1	21.59
				25	0	2	2	20.89
				25	12	2	2	20.89
				25	24	2	2	20.89
				50	0	2	2	20.69

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20000	1715	QPSK	1	0	MPR is disabled when power reduction is enabled		16.20
				1	24			16.09
				1	49			16.77
				25	0			16.44
				25	12			16.45
				25	24			16.48
				50	0			16.50
			16QAM	1	0			16.36
				1	24			15.95
				1	49			16.56
				25	0			16.08
				25	12			16.13
				25	24			16.16
				50	0			16.16
	20175	1732.5	QPSK	1	0			16.96
				1	24			16.46
				1	49			16.77
				25	0			16.93
				25	12			16.86
				25	24			16.92
				50	0			16.84
			16QAM	1	0			16.82
				1	24			16.19
				1	49			16.82
				25	0			16.67
				25	12			16.60
				25	24			16.67
				50	0			16.57
	20350	1750	QPSK	1	0			16.25
				1	24			15.95
				1	49			16.54
				25	0			16.22
				25	12			16.12
				25	24			16.19
				50	0			16.19
			16QAM	1	0			16.25
				1	24			15.96
				1	49			16.53
				25	0			16.06
				25	12			15.98
				25	24			16.05
				50	0			16.04

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	19975	1712.5	QPSK	1	0	0	0	22.91
				1	12	0	0	22.90
				1	24	0	0	22.89
				12	0	1	1	22.14
				12	6	1	1	22.03
				12	11	1	1	21.98
				25	0	1	1	22.00
			16QAM	1	0	1	1	21.70
				1	12	1	1	21.55
				1	24	1	1	21.54
				12	0	2	2	21.00
				12	6	2	2	21.01
				12	11	2	2	20.95
				25	0	2	2	20.97
	20175	1732.5	QPSK	1	0	0	0	22.89
				1	12	0	0	22.87
				1	24	0	0	22.99
				12	0	1	1	21.94
				12	6	1	1	22.03
				12	11	1	1	22.07
				25	0	1	1	21.95
			16QAM	1	0	1	1	21.53
				1	12	1	1	21.55
				1	24	1	1	21.68
				12	0	2	2	20.94
				12	6	2	2	21.01
				12	11	2	2	20.95
				25	0	2	2	20.94
	20375	1752.5	QPSK	1	0	0	0	22.89
				1	12	0	0	23.03
				1	24	0	0	22.99
				12	0	1	1	22.03
				12	6	1	1	22.05
				12	11	1	1	22.05
				25	0	1	1	21.94
			16QAM	1	0	1	1	21.54
				1	12	1	1	21.60
				1	24	1	1	21.63
				12	0	2	2	20.99
				12	6	2	2	20.97
				12	11	2	2	21.09
				25	0	2	2	21.03

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	19975	1712.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.16
				1	12			16.46
				1	24			16.49
				12	0			16.60
				12	6			16.65
				12	11			16.72
				25	0			16.60
			16QAM	1	0			16.35
				1	12			16.35
				1	24			16.42
				12	0			16.30
				12	6			16.31
				12	11			16.39
				25	0			16.35
	20175	1732.5	QPSK	1	0			16.99
				1	12			16.75
				1	24			16.99
				12	0			16.99
				12	6			16.99
				12	11			16.98
				25	0			16.99
			16QAM	1	0			16.82
				1	12			16.56
				1	24			16.81
				12	0			16.73
				12	6			16.76
				12	11			16.71
				25	0			16.82
	20375	1752.5	QPSK	1	0			16.20
				1	12			16.24
				1	24			16.40
				12	0			16.38
				12	6			16.29
				12	11			16.36
				25	0			16.41
			16QAM	1	0			16.27
				1	12			16.30
				1	24			16.46
				12	0			16.24
				12	6			16.18
				12	11			16.24
				25	0			16.36

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	19965	1711.5	QPSK	1	0	0	0	22.92
				1	7	0	0	22.96
				1	14	0	0	22.92
				8	0	1	1	22.13
				8	4	1	1	22.16
				8	7	1	1	22.10
				15	0	1	1	22.06
			16QAM	1	0	1	1	21.75
				1	7	1	1	21.57
				1	14	1	1	21.69
				8	0	2	2	21.12
				8	4	2	2	21.11
				8	7	2	2	21.14
				15	0	2	2	21.04
	20175	1732.5	QPSK	1	0	0	0	22.96
				1	7	0	0	22.94
				1	14	0	0	22.97
				8	0	1	1	22.04
				8	4	1	1	22.06
				8	7	1	1	22.05
				15	0	1	1	22.00
			16QAM	1	0	1	1	21.64
				1	7	1	1	21.61
				1	14	1	1	21.66
				8	0	2	2	21.10
				8	4	2	2	21.04
				8	7	2	2	21.08
				15	0	2	2	21.02
	20384	1753.4	QPSK	1	0	0	0	22.99
				1	7	0	0	22.99
				1	14	0	0	23.10
				8	0	1	1	22.05
				8	4	1	1	22.03
				8	7	1	1	22.06
				15	0	1	1	22.01
			16QAM	1	0	1	1	21.64
				1	7	1	1	21.69
				1	14	1	1	21.62
				8	0	2	2	21.11
				8	4	2	2	21.16
				8	7	2	2	21.17
				15	0	2	2	21.12

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	19965	1711.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.26
				1	7			16.58
				1	14			16.22
				8	0			16.66
				8	4			16.80
				8	7			16.75
				15	0			16.69
			16QAM	1	0			16.40
				1	7			16.46
				1	14			16.38
				8	0			16.49
				8	4			16.62
				8	7			16.58
				15	0			16.43
	20175	1732.5	QPSK	1	0			16.99
				1	7			16.95
				1	14			16.99
				8	0			16.99
				8	4			16.99
				8	7			16.99
				15	0			16.99
			16QAM	1	0			16.82
				1	7			16.69
				1	14			16.83
				8	0			16.99
				8	4			16.99
				8	7			16.99
				15	0			16.92
	20384	1753.4	QPSK	1	0			16.30
				1	7			16.43
				1	14			16.48
				8	0			16.48
				8	4			16.49
				8	7			16.55
				15	0			16.50
			16QAM	1	0			16.31
				1	7			16.44
				1	14			16.44
				8	0			16.47
				8	4			16.49
				8	7			16.55
				15	0			16.41

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	19957	1710.7	QPSK	1	0	0	0	23.07
				1	2	0	0	23.00
				1	5	0	0	22.96
				3	0	0	0	23.14
				3	1	0	0	23.14
				3	3	0	0	23.03
				6	0	1	1	22.04
			16QAM	1	0	1	1	21.89
				1	2	1	1	21.86
				1	5	1	1	21.85
				3	0	1	1	21.97
				3	1	1	1	22.03
				3	3	1	1	22.03
				6	0	2	2	21.14
	20175	1732.5	QPSK	1	0	0	0	23.00
				1	2	0	0	23.06
				1	5	0	0	23.06
				3	0	0	0	22.95
				3	1	0	0	23.06
				3	3	0	0	23.01
				6	0	1	1	22.09
			16QAM	1	0	1	1	21.81
				1	2	1	1	21.83
				1	5	1	1	21.85
				3	0	1	1	22.03
				3	1	1	1	22.02
				3	3	1	1	21.98
				6	0	2	2	21.11
	20392	1754.2	QPSK	1	0	0	0	23.16
				1	2	0	0	23.10
				1	5	0	0	23.14
				3	0	0	0	23.07
				3	1	0	0	23.06
				3	3	0	0	23.04
				6	0	1	1	22.06
			16QAM	1	0	1	1	21.92
				1	2	1	1	21.89
				1	5	1	1	21.92
				3	0	1	1	22.07
				3	1	1	1	22.08
				3	3	1	1	22.09
				6	0	2	2	21.15

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	19957	1710.7	QPSK	1	0	MPR is disabled when power reduction is enabled		16.31
				1	2			16.41
				1	5			16.56
				3	0			16.56
				3	1			16.57
				3	3			16.45
				6	0			16.53
			16QAM	1	0			16.64
				1	2			16.74
				1	5			16.58
				3	0			16.61
				3	1			16.62
				3	3			16.52
				6	0			16.70
	20175	1732.5	QPSK	1	0			16.99
				1	2			16.85
				1	5			16.85
				3	0			16.98
				3	1			16.89
				3	3			16.85
				6	0			16.91
			16QAM	1	0			16.86
				1	2			16.74
				1	5			16.72
				3	0			16.78
				3	1			16.68
				3	3			16.65
				6	0			16.80
	20392	1754.2	QPSK	1	0			16.44
				1	2			16.52
				1	5			16.45
				3	0			16.53
				3	1			16.66
				3	3			16.66
				6	0			16.50
			16QAM	1	0			16.58
				1	2			16.68
				1	5			16.62
				3	0			16.44
				3	1			16.57
				3	3			16.58
				6	0			16.53

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9.11. LTE Band 5

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

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
LTE	BAND5	20450	829	23.0	18.4
		20525	836		
		20600	844		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.					

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LTE Band 5, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20450	829	QPSK	1	0	0	0	22.63
				1	24	0	0	22.75
				1	49	0	0	22.77
				25	0	1	1	21.91
				25	12	1	1	21.91
				25	24	1	1	21.85
				50	0	1	1	21.73
			16QAM	1	0	1	1	21.38
				1	24	1	1	21.45
				1	49	1	1	21.42
				25	0	2	2	20.90
				25	12	2	2	20.94
				25	24	2	2	20.85
				50	0	2	2	20.67
	20525	836.5	QPSK	1	0	0	0	22.63
				1	24	0	0	22.72
				1	49	0	0	22.79
				25	0	1	1	21.85
				25	12	1	1	21.86
				25	24	1	1	21.86
				50	0	1	1	21.76
			16QAM	1	0	1	1	21.41
				1	24	1	1	21.43
				1	49	1	1	21.45
				25	0	2	2	20.87
				25	12	2	2	20.90
				25	24	2	2	20.92
				50	0	2	2	20.79
	20600	844	QPSK	1	0	0	0	22.73
				1	24	0	0	22.76
				1	49	0	0	22.68
				25	0	1	1	21.82
				25	12	1	1	21.72
				25	24	1	1	21.73
				50	0	1	1	21.73
			16QAM	1	0	1	1	21.46
				1	24	1	1	21.44
				1	49	1	1	21.42
				25	0	2	2	20.91
				25	12	2	2	20.84
				25	24	2	2	20.85
				50	0	2	2	20.76

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20450	829	QPSK	1	0	MPR is disabled when power reduction is enabled		18.98
				1	24			19.09
				1	49			19.12
				25	0			19.10
				25	12			19.16
				25	24			19.12
				50	0			18.97
			16QAM	1	0			18.56
				1	24			18.73
				1	49			18.71
				25	0			19.06
				25	12			19.06
				25	24			19.06
				50	0			18.93
	20525	836.5	QPSK	1	0			19.04
				1	24			19.13
				1	49			19.15
				25	0			19.17
				25	12			19.13
				25	24			19.23
				50	0			19.11
			16QAM	1	0			18.64
				1	24			18.73
				1	49			18.74
				25	0			19.18
				25	12			19.19
				25	24			19.18
				50	0			19.06
	20600	844	QPSK	1	0			19.15
				1	24			19.15
				1	49			19.06
				25	0			19.12
				25	12			19.07
				25	24			19.09
				50	0			19.09
			16QAM	1	0			18.74
				1	24			18.76
				1	49			18.64
				25	0			19.13
				25	12			19.06
				25	24			19.08
				50	0			19.01

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	20425	826.5	QPSK	1	0	0	0	22.61
				1	12	0	0	22.74
				1	24	0	0	22.78
				12	0	1	1	21.80
				12	6	1	1	21.96
				12	11	1	1	21.93
				25	0	1	1	21.77
			16QAM	1	0	1	1	21.34
				1	12	1	1	21.46
				1	24	1	1	21.45
				12	0	2	2	20.83
				12	6	2	2	20.95
				12	11	2	2	20.91
				25	0	2	2	20.87
	20525	836.5	QPSK	1	0	0	0	22.69
				1	12	0	0	22.74
				1	24	0	0	22.76
				12	0	1	1	21.84
				12	6	1	1	21.90
				12	11	1	1	21.88
				25	0	1	1	21.79
			16QAM	1	0	1	1	21.37
				1	12	1	1	21.42
				1	24	1	1	21.50
				12	0	2	2	20.92
				12	6	2	2	20.94
				12	11	2	2	20.98
				25	0	2	2	20.93
	20625	846.5	QPSK	1	0	0	0	22.70
				1	12	0	0	22.69
				1	24	0	0	22.57
				12	0	1	1	21.79
				12	6	1	1	21.89
				12	11	1	1	21.83
				25	0	1	1	21.75
			16QAM	1	0	1	1	21.42
				1	12	1	1	21.36
				1	24	1	1	21.29
				12	0	2	2	20.85
				12	6	2	2	20.89
				12	11	2	2	20.85
				25	0	2	2	20.86

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	20425	826.5	QPSK	1	0	MPR is disabled when power reduction is enabled		19.02
				1	12			19.14
				1	24			19.20
				12	0			19.12
				12	6			19.18
				12	11			19.15
				25	0			19.04
			16QAM	1	0			18.56
				1	12			18.63
				1	24			18.73
				12	0			18.99
				12	6			19.04
				12	11			19.07
				25	0			19.07
	20525	836.5	QPSK	1	0			19.09
				1	12			19.18
				1	24			19.21
				12	0			19.19
				12	6			19.24
				12	11			19.27
				25	0			19.17
			16QAM	1	0			18.73
				1	12			18.76
				1	24			18.82
				12	0			19.17
				12	6			19.11
				12	11			19.16
				25	0			19.22
	20625	846.5	QPSK	1	0			19.14
				1	12			19.11
				1	24			19.02
				12	0			19.19
				12	6			19.18
				12	11			19.15
				25	0			19.17
			16QAM	1	0			18.72
				1	12			18.73
				1	24			18.61
				12	0			19.11
				12	6			19.11
				12	11			19.09
				25	0			19.18

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	20415	825.5	QPSK	1	0	0	0	22.61
				1	7	0	0	22.65
				1	14	0	0	22.74
				8	0	1	1	21.83
				8	4	1	1	21.87
				8	7	1	1	21.90
				15	0	1	1	21.80
			16QAM	1	0	1	1	21.39
				1	7	1	1	21.35
				1	14	1	1	21.47
				8	0	2	2	20.93
				8	4	2	2	21.01
				8	7	2	2	21.06
				15	0	2	2	20.94
	20525	836.5	QPSK	1	0	0	0	22.72
				1	7	0	0	22.68
				1	14	0	0	22.77
				8	0	1	1	21.91
				8	4	1	1	21.95
				8	7	1	1	21.93
				15	0	1	1	21.91
			16QAM	1	0	1	1	21.46
				1	7	1	1	21.44
				1	14	1	1	21.48
				8	0	2	2	21.08
				8	4	2	2	21.10
				8	7	2	2	21.09
				15	0	2	2	21.02
	20634	847.4	QPSK	1	0	0	0	22.59
				1	7	0	0	22.68
				1	14	0	0	22.60
				8	0	1	1	21.85
				8	4	1	1	21.77
				8	7	1	1	21.73
				15	0	1	1	21.77
			16QAM	1	0	1	1	21.34
				1	7	1	1	21.31
				1	14	1	1	21.24
				8	0	2	2	20.95
				8	4	2	2	20.95
				8	7	2	2	20.89
				15	0	2	2	20.85

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	20415	825.5	QPSK	1	0	MPR is disabled when power reduction is enabled		19.02
				1	7			18.95
				1	14			19.08
				8	0			19.05
				8	4			19.03
				8	7			19.19
				15	0			19.04
			16QAM	1	0			18.60
				1	7			18.56
				1	14			18.71
				8	0			19.17
				8	4			19.16
				8	7			19.19
				15	0			19.09
	20525	836.5	QPSK	1	0			19.10
				1	7			19.18
				1	14			19.20
				8	0			19.18
				8	4			19.18
				8	7			19.25
				15	0			19.23
			16QAM	1	0			18.75
				1	7			18.73
				1	14			18.77
				8	0			19.34
				8	4			19.25
				8	7			19.28
				15	0			19.22
	20634	847.4	QPSK	1	0			19.12
				1	7			19.06
				1	14			19.00
				8	0			19.16
				8	4			19.18
				8	7			19.15
				15	0			19.22
			16QAM	1	0			18.70
				1	7			18.67
				1	14			18.65
				8	0			19.23
				8	4			19.23
				8	7			19.20
				15	0			19.19

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	20407	824.7	QPSK	1	0	0	0	22.70
				1	2	0	0	22.67
				1	5	0	0	22.67
				3	0	0	0	22.78
				3	1	0	0	22.82
				3	3	0	0	22.73
				6	0	1	1	21.90
			16QAM	1	0	1	1	21.63
				1	2	1	1	21.61
				1	5	1	1	21.63
				3	0	1	1	21.81
				3	1	1	1	21.79
				3	3	1	1	21.81
				6	0	2	2	21.01
	20525	836.5	QPSK	1	0	0	0	22.81
				1	2	0	0	22.77
				1	5	0	0	22.86
				3	0	0	0	22.82
				3	1	0	0	22.82
				3	3	0	0	22.88
				6	0	1	1	21.95
			16QAM	1	0	1	1	21.74
				1	2	1	1	21.76
				1	5	1	1	21.77
				3	0	1	1	21.89
				3	1	1	1	21.90
				3	3	1	1	21.89
				6	0	2	2	21.11
	20642	848.2	QPSK	1	0	0	0	22.71
				1	2	0	0	22.65
				1	5	0	0	22.61
				3	0	0	0	22.81
				3	1	0	0	22.78
				3	3	0	0	22.74
				6	0	1	1	21.79
			16QAM	1	0	1	1	21.65
				1	2	1	1	21.61
				1	5	1	1	21.59
				3	0	1	1	21.75
				3	1	1	1	21.77
				3	3	1	1	21.73
				6	0	2	2	20.95

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	20407	824.7	QPSK	1	0	MPR is disabled when power reduction is enabled		19.09
				1	2			19.03
				1	5			19.01
				3	0			19.10
				3	1			19.09
				3	3			19.13
				6	0			19.11
			16QAM	1	0			18.87
				1	2			18.93
				1	5			18.95
				3	0			19.06
				3	1			19.04
				3	3			18.99
				6	0			19.11
	20525	836.5	QPSK	1	0			19.24
				1	2			19.24
				1	5			19.25
				3	0			19.24
				3	1			19.26
				3	3			19.26
				6	0			19.21
			16QAM	1	0			19.04
				1	2			19.02
				1	5			19.03
				3	0			19.17
				3	1			19.16
				3	3			19.17
				6	0			19.36
	20642	848.2	QPSK	1	0			19.20
				1	2			19.05
				1	5			19.04
				3	0			19.17
				3	1			19.12
				3	3			19.15
				6	0			19.15
			16QAM	1	0			18.96
				1	2			18.92
				1	5			18.91
				3	0			19.04
				3	1			19.04
				3	3			19.10
				6	0			19.23

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9.12. LTE Band 13

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

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
LTE	BAND13	23230	782	23.0	18.3
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			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.					

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LTE Band 13, 10 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23230	782	QPSK	1	0	0	0	22.82
				1	24	0	0	22.94
				1	49	0	0	22.91
				25	0	1	1	21.97
				25	12	1	1	22.03
				25	24	1	1	21.99
				50	0	1	1	21.91
			16QAM	1	0	1	1	21.47
				1	24	1	1	21.62
				1	49	1	1	21.56
				25	0	2	2	20.90
				25	12	2	2	21.00
				25	24	2	2	21.05
				50	0	2	2	20.84

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23230	782	QPSK	1	0	MPR is disabled when power reduction is enabled		18.89
				1	24			19.10
				1	49			19.03
				25	0			19.08
				25	12			19.19
				25	24			19.15
				50	0			19.03
			16QAM	1	0			18.49
				1	24			18.73
				1	49			18.67
				25	0			19.09
				25	12			19.20
				25	24			19.19
				50	0			19.00

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23205	779.5	QPSK	1	0	0	0	22.62
				1	12	0	0	22.78
				1	24	0	0	23.11
				12	0	1	1	21.82
				12	6	1	1	21.93
				12	11	1	1	21.94
				25	0	1	1	21.91
			16QAM	1	0	1	1	21.64
				1	12	1	1	21.63
				1	24	1	1	21.69
				12	0	2	2	20.83
				12	6	2	2	20.84
				12	11	2	2	20.88
				25	0	2	2	21.00
	23230	782	QPSK	1	0	0	0	22.73
				1	12	0	0	22.87
				1	24	0	0	22.89
				12	0	1	1	22.08
				12	6	1	1	22.07
				12	11	1	1	21.98
				25	0	1	1	22.05
			16QAM	1	0	1	1	21.45
				1	12	1	1	21.56
				1	24	1	1	21.58
				12	0	2	2	20.95
				12	6	2	2	20.94
				12	11	2	2	20.99
				25	0	2	2	21.02
	23255	784.5	QPSK	1	0	0	0	22.92
				1	12	0	0	22.84
				1	24	0	0	22.75
				12	0	1	1	22.02
				12	6	1	1	22.00
				12	11	1	1	21.85
				25	0	1	1	22.01
			16QAM	1	0	1	1	21.59
				1	12	1	1	21.52
				1	24	1	1	21.43
				12	0	2	2	21.01
				12	6	2	2	20.95
				12	11	2	2	20.89
				25	0	2	2	21.01

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23205	779.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.94
				1	12			18.97
				1	24			19.25
				12	0			19.08
				12	6			19.14
				12	11			19.12
				25	0			19.08
			16QAM	1	0			18.52
				1	12			18.61
				1	24			18.84
				12	0			19.05
				12	6			18.95
				12	11			19.03
				25	0			19.15
	23230	782	QPSK	1	0			18.93
				1	12			19.13
				1	24			19.14
				12	0			19.18
				12	6			19.12
				12	11			19.13
				25	0			19.18
			16QAM	1	0			18.51
				1	12			18.74
				1	24			18.72
				12	0			19.04
				12	6			19.09
				12	11			19.19
				25	0			19.18
	23255	784.5	QPSK	1	0			19.18
				1	12			19.12
				1	24			18.99
				12	0			19.15
				12	6			19.11
				12	11			19.10
				25	0			19.14
			16QAM	1	0			18.72
				1	12			18.64
				1	24			18.53
				12	0			19.09
				12	6			19.10
				12	11			19.08
				25	0			19.18

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9.13. LTE Band 17

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

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
LTE	BAND17	23780	709	23.0	19.6
		23790	710		
		23800	711		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.					

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LTE Band 17, 10 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23780	709	QPSK	1	0	0	0	22.60
				1	24	0	0	22.90
				1	49	0	0	22.69
				25	0	1	1	21.92
				25	12	1	1	21.95
				25	24	1	1	21.88
				50	0	1	1	21.81
			16QAM	1	0	1	1	21.44
				1	24	1	1	21.58
				1	49	1	1	21.43
				25	0	2	2	20.87
				25	12	2	2	20.95
				25	24	2	2	20.95
				50	0	2	2	20.76
	23790	710	QPSK	1	0	0	0	22.65
				1	24	0	0	22.93
				1	49	0	0	22.64
				25	0	1	1	21.90
				25	12	1	1	21.91
				25	24	1	1	21.92
				50	0	1	1	21.70
			16QAM	1	0	1	1	21.48
				1	24	1	1	21.55
				1	49	1	1	21.53
				25	0	2	2	20.85
				25	12	2	2	20.95
				25	24	2	2	20.83
				50	0	2	2	20.71
	23800	711	QPSK	1	0	0	0	22.67
				1	24	0	0	22.92
				1	49	0	0	22.45
				25	0	1	1	21.82
				25	12	1	1	21.83
				25	24	1	1	21.83
				50	0	1	1	21.72
			16QAM	1	0	1	1	21.46
				1	24	1	1	21.53
				1	49	1	1	21.47
				25	0	2	2	20.85
				25	12	2	2	20.80
				25	24	2	2	20.82
				50	0	2	2	20.69

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23780	709	QPSK	1	0	MPR is disabled when power reduction is enabled		20.16
				1	24			20.52
				1	49			20.30
				25	0			20.38
				25	12			20.43
				25	24			20.50
				50	0			20.34
			16QAM	1	0			19.90
				1	24			20.04
				1	49			19.90
				25	0			20.45
				25	12			20.46
				25	24			20.44
				50	0			20.31
	23790	710	QPSK	1	0			20.21
				1	24			20.52
				1	49			20.31
				25	0			20.39
				25	12			20.47
				25	24			20.39
				50	0			20.31
			16QAM	1	0			19.85
				1	24			20.08
				1	49			19.89
				25	0			20.41
				25	12			20.47
				25	24			20.41
				50	0			20.28
	23800	711	QPSK	1	0			20.32
				1	24			20.44
				1	49			20.11
				25	0			20.38
				25	12			20.38
				25	24			20.29
				50	0			20.32
			16QAM	1	0			19.93
				1	24			20.02
				1	49			19.69
				25	0			20.35
				25	12			20.45
				25	24			20.26
				50	0			20.31

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23755	706.5	QPSK	1	0	0	0	22.64
				1	12	0	0	22.81
				1	24	0	0	22.88
				12	0	1	1	21.93
				12	6	1	1	21.93
				12	11	1	1	22.00
				25	0	1	1	21.95
			16QAM	1	0	1	1	21.40
				1	12	1	1	21.47
				1	24	1	1	21.60
				12	0	2	2	20.85
				12	6	2	2	20.89
				12	11	2	2	20.99
				25	0	2	2	21.01
	23790	710	QPSK	1	0	0	0	22.84
				1	12	0	0	22.83
				1	24	0	0	22.79
				12	0	1	1	21.98
				12	6	1	1	22.00
				12	11	1	1	22.00
				25	0	1	1	21.94
			16QAM	1	0	1	1	21.54
				1	12	1	1	21.54
				1	24	1	1	21.51
				12	0	2	2	20.94
				12	6	2	2	20.97
				12	11	2	2	21.03
				25	0	2	2	21.00
	23825	713.5	QPSK	1	0	0	0	22.84
				1	12	0	0	22.72
				1	24	0	0	22.47
				12	0	1	1	21.77
				12	6	1	1	21.87
				12	11	1	1	21.75
				25	0	1	1	21.78
			16QAM	1	0	1	1	21.53
				1	12	1	1	21.38
				1	24	1	1	21.35
				12	0	2	2	20.86
				12	6	2	2	20.84
				12	11	2	2	20.72
				25	0	2	2	20.90

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23755	706.5	QPSK	1	0	MPR is disabled when power reduction is enabled		20.19
				1	12			20.35
				1	24			20.51
				12	0			20.41
				12	6			20.48
				12	11			20.53
				25	0			20.43
			16QAM	1	0			19.73
				1	12			19.98
				1	24			20.11
				12	0			20.30
				12	6			20.40
				12	11			20.49
				25	0			20.46
	23790	710	QPSK	1	0			20.53
				1	12			20.48
				1	24			20.41
				12	0			20.53
				12	6			20.54
				12	11			20.58
				25	0			20.49
			16QAM	1	0			20.14
				1	12			20.06
				1	24			19.96
				12	0			20.52
				12	6			20.50
				12	11			20.53
				25	0			20.49
	23825	713.5	QPSK	1	0			20.51
				1	12			20.36
				1	24			20.15
				12	0			20.39
				12	6			20.40
				12	11			20.21
				25	0			20.34
			16QAM	1	0			20.08
				1	12			19.92
				1	24			19.67
				12	0			20.39
				12	6			20.35
				12	11			20.17
				25	0			20.33

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9.14. LTE Band 25

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

Tech	BAND	CH.	Freq. [MHz]	Target Power w/o Power Reduction	Target Power w/ Power Reduction
LTE	BAND25	26140	1860	23.0	15.5
		26365	1882		
		26590	1905		
Tune-Up Tolerance: +1.0 dB/- 1.0 dB					

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.					

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LTE Band 25, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	26140	1860	QPSK	1	0	0	0	23.13
				1	49	0	0	23.09
				1	99	0	0	23.10
				50	0	1	1	21.96
				50	24	1	1	21.88
				50	49	1	1	21.84
				100	0	1	1	21.88
			16QAM	1	0	1	1	22.23
				1	49	1	1	22.19
				1	99	1	1	22.24
				50	0	2	2	20.88
				50	24	2	2	20.81
				50	49	2	2	20.82
				100	0	2	2	20.89
	26365	1882.5	QPSK	1	0	0	0	23.03
				1	49	0	0	23.03
				1	99	0	0	22.99
				50	0	1	1	21.84
				50	24	1	1	21.76
				50	49	1	1	21.81
				100	0	1	1	21.77
			16QAM	1	0	1	1	22.11
				1	49	1	1	22.12
				1	99	1	1	22.09
				50	0	2	2	20.78
				50	24	2	2	20.76
				50	49	2	2	20.73
				100	0	2	2	20.75
	26590	1905	QPSK	1	0	0	0	22.87
				1	49	0	0	22.95
				1	99	0	0	23.13
				50	0	1	1	21.69
				50	24	1	1	21.70
				50	49	1	1	21.92
				100	0	1	1	21.82
			16QAM	1	0	1	1	22.00
				1	49	1	1	22.03
				1	99	1	1	22.25
				50	0	2	2	20.71
				50	24	2	2	20.67
				50	49	2	2	20.81
				100	0	2	2	20.84

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	26140	1860	QPSK	1	0	MPR is disabled when power reduction is enabled		15.45
				1	49			15.84
				1	99			14.92
				50	0			15.70
				50	24			15.43
				50	49			15.05
				100	0			15.33
			16QAM	1	0			15.91
				1	49			16.12
				1	99			14.95
				50	0			15.57
				50	24			15.44
				50	49			14.93
				100	0			15.21
	26365	1882.5	QPSK	1	0			14.98
				1	49			15.44
				1	99			16.30
				50	0			15.30
				50	24			15.65
				50	49			16.08
				100	0			15.59
			16QAM	1	0			15.14
				1	49			15.78
				1	99			16.46
				50	0			15.07
				50	24			15.42
				50	49			15.98
				100	0			15.36
	26590	1905	QPSK	1	0			15.84
				1	49			15.02
				1	99			16.37
				50	0			15.31
				50	24			15.35
				50	49			16.26
				100	0			15.94
			16QAM	1	0			16.44
				1	49			15.22
				1	99			16.49
				50	0			15.06
				50	24			14.99
				50	49			15.92
				100	0			15.73

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	26115	1857.5	QPSK	1	0	0	0	23.07
				1	37	0	0	23.04
				1	74	0	0	23.08
				36	0	1	1	21.96
				36	19	1	1	22.09
				36	39	1	1	21.96
				75	0	1	1	21.89
			16QAM	1	0	1	1	21.69
				1	37	1	1	21.68
				1	74	1	1	21.73
				36	0	2	2	20.97
				36	19	2	2	21.05
				36	39	2	2	21.02
				75	0	2	2	20.82
	26365	1882.5	QPSK	1	0	0	0	22.86
				1	37	0	0	22.96
				1	74	0	0	22.87
				36	0	1	1	21.81
				36	19	1	1	21.82
				36	39	1	1	21.85
				75	0	1	1	21.76
			16QAM	1	0	1	1	21.51
				1	37	1	1	21.62
				1	74	1	1	21.52
				36	0	2	2	20.85
				36	19	2	2	20.85
				36	39	2	2	20.79
				75	0	2	2	20.67
	26615	1907.5	QPSK	1	0	0	0	22.91
				1	37	0	0	22.95
				1	74	0	0	23.11
				36	0	1	1	21.71
				36	19	1	1	21.82
				36	39	1	1	22.04
				75	0	1	1	21.75
			16QAM	1	0	1	1	21.65
				1	37	1	1	21.63
				1	74	1	1	21.82
				36	0	2	2	20.79
				36	19	2	2	20.88
				36	39	2	2	21.00
				75	0	2	2	20.74

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	26115	1857.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.06
				1	37			16.48
				1	74			15.60
				36	0			16.28
				36	19			16.37
				36	39			16.20
				75	0			16.15
			16QAM	1	0			15.89
				1	37			16.30
				1	74			15.46
				36	0			16.17
				36	19			16.23
				36	39			16.10
				75	0			16.04
	26365	1882.5	QPSK	1	0			14.95
				1	37			15.18
				1	74			16.01
				36	0			15.13
				36	19			15.41
				36	39			15.74
				75	0			15.52
			16QAM	1	0			14.98
				1	37			15.03
				1	74			15.94
				36	0			14.94
				36	19			15.18
				36	39			15.54
				75	0			15.28
	26615	1907.5	QPSK	1	0			14.94
				1	37			15.31
				1	74			16.00
				36	0			14.95
				36	19			15.59
				36	39			16.23
				75	0			15.65
			16QAM	1	0			14.91
				1	37			14.98
				1	74			15.83
				36	0			14.97
				36	19			15.20
				36	39			16.28
				75	0			15.30

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26090	1855	QPSK	1	0	0	0	23.05
				1	24	0	0	23.11
				1	49	0	0	23.23
				25	0	1	1	22.03
				25	12	1	1	22.11
				25	24	1	1	22.17
				50	0	1	1	21.90
			16QAM	1	0	1	1	21.74
				1	24	1	1	21.77
				1	49	1	1	21.80
				25	0	2	2	20.99
				25	12	2	2	21.02
				25	24	2	2	21.17
				50	0	2	2	20.88
	26365	1882.5	QPSK	1	0	0	0	22.88
				1	24	0	0	22.90
				1	49	0	0	22.94
				25	0	1	1	21.94
				25	12	1	1	21.96
				25	24	1	1	21.99
				50	0	1	1	21.80
			16QAM	1	0	1	1	21.52
				1	24	1	1	21.61
				1	49	1	1	21.53
				25	0	2	2	20.95
				25	12	2	2	20.94
				25	24	2	2	20.96
				50	0	2	2	20.74
	26640	1910	QPSK	1	0	0	0	22.88
				1	24	0	0	23.03
				1	49	0	0	23.15
				25	0	1	1	21.93
				25	12	1	1	22.01
				25	24	1	1	22.11
				50	0	1	1	21.90
			16QAM	1	0	1	1	21.67
				1	24	1	1	21.72
				1	49	1	1	21.78
				25	0	2	2	20.93
				25	12	2	2	21.03
				25	24	2	2	21.13
				50	0	2	2	20.86

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26090	1855	QPSK	1	0	MPR is disabled when power reduction is enabled		15.24
				1	24			15.11
				1	49			15.57
				25	0			15.55
				25	12			15.53
				25	24			16.00
				50	0			15.52
			16QAM	1	0			15.29
				1	24			15.34
				1	49			15.74
				25	0			15.30
				25	12			15.49
				25	24			15.51
				50	0			15.40
	26365	1882.5	QPSK	1	0			15.18
				1	24			15.19
				1	49			15.94
				25	0			15.45
				25	12			15.44
				25	24			15.79
				50	0			15.69
			16QAM	1	0			15.12
				1	24			15.06
				1	49			16.03
				25	0			15.18
				25	12			15.16
				25	24			15.57
				50	0			15.43
	26640	1910	QPSK	1	0			14.93
				1	24			15.58
				1	49			15.60
				25	0			15.26
				25	12			15.92
				25	24			16.26
				50	0			15.89
			16QAM	1	0			14.99
				1	24			15.42
				1	49			15.38
				25	0			15.27
				25	12			15.66
				25	24			16.04
				50	0			15.59

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26065	1852.5	QPSK	1	0	0	0	23.10
				1	12	0	0	23.02
				1	24	0	0	23.12
				12	0	1	1	22.20
				12	6	1	1	22.14
				12	11	1	1	22.08
				25	0	1	1	22.02
			16QAM	1	0	1	1	21.66
				1	12	1	1	21.64
				1	24	1	1	21.73
				12	0	2	2	21.16
				12	6	2	2	21.09
				12	11	2	2	21.10
				25	0	2	2	21.10
	26365	1882.5	QPSK	1	0	0	0	22.96
				1	12	0	0	22.97
				1	24	0	0	22.94
				12	0	1	1	22.08
				12	6	1	1	22.03
				12	11	1	1	22.09
				25	0	1	1	21.93
			16QAM	1	0	1	1	21.62
				1	12	1	1	21.58
				1	24	1	1	21.64
				12	0	2	2	21.04
				12	6	2	2	21.04
				12	11	2	2	21.03
				25	0	2	2	21.07
	26665	1912.5	QPSK	1	0	0	0	22.96
				1	12	0	0	22.99
				1	24	0	0	23.08
				12	0	1	1	22.12
				12	6	1	1	22.10
				12	11	1	1	22.13
				25	0	1	1	22.19
			16QAM	1	0	1	1	21.66
				1	12	1	1	21.71
				1	24	1	1	21.78
				12	0	2	2	21.10
				12	6	2	2	21.10
				12	11	2	2	21.15
				25	0	2	2	21.14

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26065	1852.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.32
				1	12			15.64
				1	24			15.67
				12	0			15.66
				12	6			15.88
				12	11			15.78
				25	0			15.84
			16QAM	1	0			15.43
				1	12			15.72
				1	24			15.73
				12	0			15.49
				12	6			15.66
				12	11			15.55
				25	0			15.71
	26365	1882.5	QPSK	1	0			15.49
				1	12			15.84
				1	24			16.18
				12	0			15.68
				12	6			16.00
				12	11			16.00
				25	0			16.00
			16QAM	1	0			15.33
				1	12			15.77
				1	24			16.10
				12	0			15.71
				12	6			15.74
				12	11			15.75
				25	0			15.84
	26665	1912.5	QPSK	1	0			15.67
				1	12			16.19
				1	24			15.14
				12	0			16.18
				12	6			16.23
				12	11			16.07
				25	0			15.96
			16QAM	1	0			15.54
				1	12			16.28
				1	24			15.11
				12	0			15.93
				12	6			16.24
				12	11			15.94
				25	0			15.79

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26055	1851.5	QPSK	1	0	0	0	23.06
				1	7	0	0	23.08
				1	14	0	0	23.09
				8	0	1	1	22.20
				8	4	1	1	22.18
				8	7	1	1	22.21
				15	0	1	1	22.14
			16QAM	1	0	1	1	21.77
				1	7	1	1	21.74
				1	14	1	1	21.68
				8	0	2	2	21.28
				8	4	2	2	21.28
				8	7	2	2	21.33
				15	0	2	2	21.25
	26365	1882.5	QPSK	1	0	0	0	22.94
				1	7	0	0	22.92
				1	14	0	0	22.92
				8	0	1	1	22.03
				8	4	1	1	22.03
				8	7	1	1	22.00
				15	0	1	1	22.00
			16QAM	1	0	1	1	21.64
				1	7	1	1	21.57
				1	14	1	1	21.59
				8	0	2	2	21.16
				8	4	2	2	21.13
				8	7	2	2	21.13
				15	0	2	2	21.02
	26674	1913.4	QPSK	1	0	0	0	23.01
				1	7	0	0	23.17
				1	14	0	0	23.13
				8	0	1	1	22.14
				8	4	1	1	22.19
				8	7	1	1	22.13
				15	0	1	1	22.22
			16QAM	1	0	1	1	21.78
				1	7	1	1	21.81
				1	14	1	1	21.76
				8	0	2	2	21.19
				8	4	2	2	21.26
				8	7	2	2	21.20
				15	0	2	2	21.21

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26055	1851.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.69
				1	7			15.88
				1	14			15.88
				8	0			15.97
				8	4			15.92
				8	7			15.98
				15	0			15.91
			16QAM	1	0			15.73
				1	7			15.90
				1	14			15.85
				8	0			15.94
				8	4			15.88
				8	7			15.95
				15	0			15.75
	26365	1882.5	QPSK	1	0			15.55
				1	7			15.95
				1	14			16.13
				8	0			15.97
				8	4			16.15
				8	7			16.20
				15	0			16.12
			16QAM	1	0			15.32
				1	7			15.81
				1	14			15.98
				8	0			15.89
				8	4			16.02
				8	7			16.07
				15	0			15.94
	26674	1913.4	QPSK	1	0			16.27
				1	7			16.11
				1	14			15.28
				8	0			16.32
				8	4			16.13
				8	7			15.83
				15	0			16.04
			16QAM	1	0			16.02
				1	7			15.97
				1	14			15.12
				8	0			16.18
				8	4			16.04
				8	7			15.74
				15	0			16.05

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26047	1850.7	QPSK	1	0	0	0	23.15
				1	2	0	0	23.16
				1	5	0	0	23.20
				3	0	0	0	23.20
				3	1	0	0	23.20
				3	3	0	0	23.20
				6	0	1	1	22.20
			16QAM	1	0	1	1	22.04
				1	2	1	1	22.05
				1	5	1	1	22.07
				3	0	1	1	22.18
				3	1	1	1	22.17
				3	3	1	1	22.16
				6	0	2	2	21.28
	26365	1882.5	QPSK	1	0	0	0	23.01
				1	2	0	0	23.01
				1	5	0	0	22.99
				3	0	0	0	23.02
				3	1	0	0	23.04
				3	3	0	0	22.97
				6	0	1	1	22.11
			16QAM	1	0	1	1	21.85
				1	2	1	1	21.89
				1	5	1	1	21.89
				3	0	1	1	22.08
				3	1	1	1	22.02
				3	3	1	1	21.98
				6	0	2	2	21.13
	26682	1914.2	QPSK	1	0	0	0	23.24
				1	2	0	0	23.13
				1	5	0	0	23.21
				3	0	0	0	23.14
				3	1	0	0	23.14
				3	3	0	0	23.11
				6	0	1	1	22.19
			16QAM	1	0	1	1	22.08
				1	2	1	1	22.02
				1	5	1	1	22.02
				3	0	1	1	22.07
				3	1	1	1	22.08
				3	3	1	1	22.14
				6	0	2	2	21.25

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Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26047	1850.7	QPSK	1	0	MPR is disabled when power reduction is enabled		15.65
				1	2			15.82
				1	5			15.68
				3	0			15.98
				3	1			16.03
				3	3			15.94
				6	0			15.88
			16QAM	1	0			15.86
				1	2			15.99
				1	5			15.85
				3	0			15.82
				3	1			15.87
				3	3			15.83
				6	0			15.89
	26365	1882.5	QPSK	1	0			16.13
				1	2			16.02
				1	5			16.22
				3	0			16.12
				3	1			16.17
				3	3			16.19
				6	0			16.28
			16QAM	1	0			16.18
				1	2			16.34
				1	5			16.25
				3	0			16.18
				3	1			16.22
				3	3			16.26
				6	0			16.20
	26682	1914.2	QPSK	1	0			16.47
				1	2			16.26
				1	5			15.78
				3	0			16.44
				3	1			16.36
				3	3			16.27
				6	0			16.29
			16QAM	1	0			16.36
				1	2			16.17
				1	5			15.71
				3	0			16.17
				3	1			16.09
				3	3			16.01
				6	0			16.14

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10. Dielectric Property Measurements

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

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10.1. Tissue Dielectric Parameter Check Results

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

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

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

750MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2015/9/9	Body 750	Relative Permittivity (ε_r):	55.54	55.55	-0.01	5
		Conductivity (σ):	0.96	0.96	-0.07	5
	Body 775	Relative Permittivity (ε_r):	55.26	55.45	-0.34	5
		Conductivity (σ):	0.98	0.97	1.92	5
	Body 790	Relative Permittivity (ε_r):	55.14	55.39	-0.46	5
		Conductivity (σ):	1.00	0.97	3.44	5
2015/9/9	Body 750	Relative Permittivity (ε_r):	55.54	55.55	-0.01	5
		Conductivity (σ):	0.96	0.96	-0.07	5
	Body 705	Relative Permittivity (ε_r):	55.99	55.72	0.49	5
		Conductivity (σ):	0.92	0.96	-3.88	5
	Body 720	Relative Permittivity (ε_r):	55.80	55.66	0.25	5
		Conductivity (σ):	0.94	0.96	-2.66	5
2015/9/10	Body 750	Relative Permittivity (ε_r):	55.69	55.55	0.26	5
		Conductivity (σ):	0.96	0.96	0.12	5
	Body 705	Relative Permittivity (ε_r):	56.14	55.72	0.76	5
		Conductivity (σ):	0.92	0.96	-3.73	5
	Body 720	Relative Permittivity (ε_r):	55.98	55.66	0.57	5
		Conductivity (σ):	0.94	0.96	-2.41	5

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835MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2015/9/3	Body 835	Relative Permittivity (ε_r):	56.60	55.20	2.54	5
		Conductivity (σ):	0.96	0.97	-0.93	5
	Body 820	Relative Permittivity (ε_r):	56.75	55.28	2.66	5
		Conductivity (σ):	0.95	0.97	-2.12	5
	Body 850	Relative Permittivity (ε_r):	56.49	55.16	2.42	5
		Conductivity (σ):	0.98	0.99	-1.06	5
2015/9/4	Body 835	Relative Permittivity (ε_r):	55.67	55.20	0.86	5
		Conductivity (σ):	0.95	0.97	-2.16	5
	Body 820	Relative Permittivity (ε_r):	55.83	55.28	1.00	5
		Conductivity (σ):	0.93	0.97	-3.53	5
	Body 850	Relative Permittivity (ε_r):	55.51	55.16	0.64	5
		Conductivity (σ):	0.96	0.99	-2.48	5
2015/9/7	Body 835	Relative Permittivity (ε_r):	53.39	55.20	-3.28	5
		Conductivity (σ):	0.95	0.97	-2.16	5
	Body 820	Relative Permittivity (ε_r):	53.57	55.28	-3.09	5
		Conductivity (σ):	0.93	0.97	-3.60	5
	Body 850	Relative Permittivity (ε_r):	53.23	55.16	-3.49	5
		Conductivity (σ):	0.96	0.99	-2.26	5
2015/9/8	Body 835	Relative Permittivity (ε_r):	53.22	55.20	-3.60	5
		Conductivity (σ):	0.95	0.97	-2.06	5
	Body 820	Relative Permittivity (ε_r):	53.38	55.28	-3.43	5
		Conductivity (σ):	0.93	0.97	-3.52	5
	Body 850	Relative Permittivity (ε_r):	53.05	55.16	-3.82	5
		Conductivity (σ):	0.97	0.99	-2.18	5
2015/9/10	Body 835	Relative Permittivity (ε_r):	53.22	55.20	-3.60	5
		Conductivity (σ):	0.95	0.97	-2.06	5
	Body 810	Relative Permittivity (ε_r):	53.91	55.32	-2.55	5
		Conductivity (σ):	0.93	0.97	-3.65	5
	Body 850	Relative Permittivity (ε_r):	53.48	55.16	-3.04	5
		Conductivity (σ):	0.97	0.99	-1.34	5
2015/9/11	Body 835	Relative Permittivity (ε_r):	53.99	55.20	-2.20	5
		Conductivity (σ):	0.96	0.97	-0.82	5
	Body 810	Relative Permittivity (ε_r):	54.24	55.32	-1.94	5
		Conductivity (σ):	0.94	0.97	-3.31	5
	Body 850	Relative Permittivity (ε_r):	53.81	55.16	-2.44	5
		Conductivity (σ):	0.98	0.99	-1.06	5

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1750MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2015/9/18	Body 1710	Relative Permittivity (ε_r):	52.86	53.54	-1.28	5
		Conductivity (σ):	1.39	1.46	-4.69	5
	Body 1750	Relative Permittivity (ε_r):	52.78	53.43	-1.22	5
		Conductivity (σ):	1.43	1.49	-3.83	5
	Body 1755	Relative Permittivity (ε_r):	52.83	53.43	-1.12	5
		Conductivity (σ):	1.44	1.49	-3.17	5
2015/9/19	Body 1710	Relative Permittivity (ε_r):	52.48	53.54	-1.99	5
		Conductivity (σ):	1.41	1.46	-3.39	5
	Body 1750	Relative Permittivity (ε_r):	52.33	53.43	-2.06	5
		Conductivity (σ):	1.45	1.49	-2.37	5
	Body 1755	Relative Permittivity (ε_r):	52.31	53.43	-2.09	5
		Conductivity (σ):	1.46	1.49	-2.03	5
2015/9/21	Body 1710	Relative Permittivity (ε_r):	52.54	53.54	-1.87	5
		Conductivity (σ):	1.42	1.46	-2.91	5
	Body 1750	Relative Permittivity (ε_r):	52.42	53.43	-1.89	5
		Conductivity (σ):	1.48	1.49	-0.55	5
	Body 1755	Relative Permittivity (ε_r):	52.38	53.43	-1.96	5
		Conductivity (σ):	1.48	1.49	-0.35	5

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1900MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2015/9/14	Body 1900	Relative Permittivity (ε_r):	52.99	53.30	-0.58	5
		Conductivity (σ):	1.54	1.52	1.45	5
	Body 1850	Relative Permittivity (ε_r):	53.22	53.30	-0.15	5
		Conductivity (σ):	1.49	1.52	-2.17	5
	Body 1915	Relative Permittivity (ε_r):	52.92	53.30	-0.71	5
		Conductivity (σ):	1.56	1.52	2.50	5
2015/9/15	Body 1900	Relative Permittivity (ε_r):	53.06	53.30	-0.45	5
		Conductivity (σ):	1.54	1.52	1.58	5
	Body 1850	Relative Permittivity (ε_r):	53.29	53.30	-0.02	5
		Conductivity (σ):	1.49	1.52	-2.11	5
	Body 1915	Relative Permittivity (ε_r):	52.98	53.30	-0.60	5
		Conductivity (σ):	1.56	1.52	2.70	5
2015/9/16	Body 1900	Relative Permittivity (ε_r):	52.12	53.30	-2.21	5
		Conductivity (σ):	1.53	1.52	0.72	5
	Body 1850	Relative Permittivity (ε_r):	52.30	53.30	-1.88	5
		Conductivity (σ):	1.48	1.52	-2.83	5
	Body 1915	Relative Permittivity (ε_r):	52.07	53.30	-2.31	5
		Conductivity (σ):	1.55	1.52	1.71	5
2015/9/17	Body 1900	Relative Permittivity (ε_r):	51.95	53.30	-2.53	5
		Conductivity (σ):	1.55	1.52	1.64	5
	Body 1850	Relative Permittivity (ε_r):	52.29	53.30	-1.89	5
		Conductivity (σ):	1.49	1.52	-1.91	5
	Body 1915	Relative Permittivity (ε_r):	51.84	53.30	-2.74	5
		Conductivity (σ):	1.56	1.52	2.57	5
2015/9/22	Body 1900	Relative Permittivity (ε_r):	51.54	53.30	-3.31	5
		Conductivity (σ):	1.55	1.52	2.17	5
	Body 1850	Relative Permittivity (ε_r):	51.69	53.30	-3.02	5
		Conductivity (σ):	1.50	1.52	-1.38	5
	Body 1915	Relative Permittivity (ε_r):	51.49	53.30	-3.40	5
		Conductivity (σ):	1.57	1.52	3.22	5
2015/9/23	Body 1900	Relative Permittivity (ε_r):	50.87	53.30	-4.55	5
		Conductivity (σ):	1.51	1.52	-0.46	5
	Body 1850	Relative Permittivity (ε_r):	51.09	53.30	-4.15	5
		Conductivity (σ):	1.46	1.52	-3.75	5
	Body 1915	Relative Permittivity (ε_r):	50.81	53.30	-4.67	5
		Conductivity (σ):	1.53	1.52	0.63	5
2015/9/24	Body 1900	Relative Permittivity (ε_r):	53.21	53.30	-0.17	5
		Conductivity (σ):	1.51	1.52	-0.79	5
	Body 1850	Relative Permittivity (ε_r):	53.36	53.30	0.11	5
		Conductivity (σ):	1.45	1.52	-4.54	5
	Body 1915	Relative Permittivity (ε_r):	53.16	53.30	-0.26	5
		Conductivity (σ):	1.53	1.52	0.46	5

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2.4GHz/ 5GHz band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2015/9/3	Body 2450	Relative Permittivity (ε_r):	51.59	52.70	-2.11	5
		Conductivity (σ):	2.01	1.95	3.18	5
	Body 2410	Relative Permittivity (ε_r):	51.74	52.76	-1.93	5
		Conductivity (σ):	1.96	1.91	2.54	5
	Body 2475	Relative Permittivity (ε_r):	51.50	52.67	-2.23	5
		Conductivity (σ):	2.05	1.99	3.12	5
2015/9/3	Body 5180	Relative Permittivity (ε_r):	47.99	49.05	-2.16	10
		Conductivity (σ):	5.24	5.27	-0.52	5
	Body 5250	Relative Permittivity (ε_r):	47.73	48.95	-2.50	10
		Conductivity (σ):	5.39	5.35	0.73	5
	Body 5825	Relative Permittivity (ε_r):	46.97	48.20	-2.55	10
		Conductivity (σ):	6.11	6.00	1.80	5
2015/9/4	Body 5180	Relative Permittivity (ε_r):	48.54	49.05	-1.03	10
		Conductivity (σ):	5.29	5.27	0.40	5
	Body 5600	Relative Permittivity (ε_r):	47.85	48.48	-1.30	10
		Conductivity (σ):	5.86	5.65	3.75	5
	Body 5825	Relative Permittivity (ε_r):	47.57	48.20	-1.31	10
		Conductivity (σ):	6.22	6.00	3.60	5
2015/9/7	Body 5180	Relative Permittivity (ε_r):	47.66	49.05	-2.83	10
		Conductivity (σ):	5.10	5.27	-3.18	5
	Body 5600	Relative Permittivity (ε_r):	47.15	48.48	-2.75	10
		Conductivity (σ):	5.67	5.76	-1.56	5
	Body 5750	Relative Permittivity (ε_r):	46.63	48.27	-3.41	10
		Conductivity (σ):	5.93	5.94	-0.12	5
	Body 5825	Relative Permittivity (ε_r):	46.73	48.20	-3.05	10
		Conductivity (σ):	5.96	6.00	-0.60	5
2015/9/8	Body 2450	Relative Permittivity (ε_r):	51.01	52.70	-3.21	5
		Conductivity (σ):	2.02	1.95	3.33	5
	Body 2400	Relative Permittivity (ε_r):	51.23	52.77	-2.92	5
		Conductivity (σ):	1.95	1.90	2.48	5
	Body 2480	Relative Permittivity (ε_r):	50.88	52.66	-3.38	5
		Conductivity (σ):	2.06	1.99	3.41	5

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11. System Performance Check

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

11.1. System Performance Check Measurement Conditions

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm ± 0.5 cm for SAR measurements.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 3GHz), 12 mm (1GHz to 3GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 12 mm (1GHz to 3GHz) and15 mm (below 1GHz) was aligned with the dipole.
  For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW(For 5GHz band) or 250 mW(For other band).
- The results are normalized to 1 W input power.

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11.2. Reference SAR Values for System Performance Check

The target(reference) SAR values can be obtained from the calibration certificate of system validation dipoles(Section 15.26 to Section 15.31). The target SAR values are SAR measured value in the calibration certificate scaled to 1W.

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

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11.3. System Performance Check Results

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

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %
	Type	Serial #			Zoom Scan	Normalize to 1 W		
9/3/2015	D835V2	4d149	Body	1g	2.61	10.44	10.04	3.98
				10g	1.73	6.92	6.60	4.85
9/4/2015	D835V2	4d149	Body	1g	2.53	10.12	10.04	0.80
				10g	1.68	6.72	6.60	1.82
9/7/2015	D835V2	4d149	Body	1g	2.42	9.68	10.04	-3.59
				10g	1.60	6.40	6.60	-3.03
9/8/2015	D835V2	4d149	Body	1g	2.51	10.04	10.04	0.00
				10g	1.66	6.64	6.60	0.61
9/9/2015	D750V3	1058	Body	1g	2.32	9.3	8.64	7.41
				10g	1.54	6.16	5.72	7.69
9/10/2015	D750V3	1058	Body	1g	2.33	9.3	8.64	7.87
				10g	1.55	6.20	5.72	8.39
9/10/2015	D835V2	4d149	Body	1g	2.67	10.68	10.04	6.37
				10g	1.77	7.08	6.60	7.27
9/11/2015	D835V2	4d149	Body	1g	2.51	10.04	10.04	0.00
				10g	1.66	6.64	6.60	0.61
9/14/2015	D1900V2	5d169	Body	1g	11.00	44.00	40.8	7.84
				10g	5.77	23.08	21.44	7.65
9/15/2015	D1900V2	5d169	Body	1g	10.70	42.80	40.8	4.90
				10g	5.65	22.60	21.44	5.41
9/16/2015	D1900V2	5d169	Body	1g	10.40	41.60	40.8	1.96
				10g	5.51	22.04	21.44	2.80
9/17/2015	D1900V2	5d169	Body	1g	10.90	43.60	40.8	6.86
				10g	5.72	22.88	21.44	6.72
9/18/2015	D1750V2	1089	Body	1g	8.99	35.96	38.16	-5.77
				10g	4.83	19.32	20.44	-5.48
9/19/2015	D1750V2	1089	Body	1g	9.23	36.92	38.16	-3.25
				10g	4.95	19.80	20.44	-3.13
9/21/2015	D1750V2	1089	Body	1g	9.28	37.12	38.16	-2.73
				10g	4.93	19.72	20.44	-3.52
9/22/2015	D1900V2	5d169	Body	1g	10.10	40.4	40.8	-0.98
				10g	5.24	20.96	21.44	-2.24
9/23/2015	D1900V2	5d169	Body	1g	9.92	39.7	40.8	-2.75
				10g	5.23	20.92	21.44	-2.43
9/24/2015	D1900V2	5d169	Body	1g	9.76	39.0	40.8	-4.31
				10g	5.14	20.56	21.44	-4.10

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Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %
	Type	Serial #			Zoom Scan	Normalize to 1 W		
9/3/2015	D2450V2	713	Body	1g	13.10	52.4	50.4	3.97
				10g	6.07	24.3	23.6	2.88
9/3/2015	D5GHzV2 5.25 GHz	1020	Body	1g	7.89	78.9	73.8	6.91
				10g	2.16	21.6	20.7	4.35
9/4/2015	D5GHzV2 5.6 GHz	1020	Body	1g	8.43	84.3	77.2	9.20
				10g	2.29	22.9	21.4	7.01
9/7/2015	D5GHzV2 5.6 GHz	1020	Body	1g	7.95	79.5	77.2	2.98
				10g	2.07	20.7	21.4	-3.27
9/7/2015	D5GHzV2 5.75 GHz	1020	Body	1g	7.41	74.1	73.7	0.54
				10g	1.98	19.8	20.4	-2.94
9/8/2015	D2450V2	713	Body	1g	13.10	52.4	50.4	3.97
				10g	6.07	24.3	23.6	2.88

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12. RF Exposure Conditions (Test Configurations)

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

12.1. Standalone SAR Test Exclusion Considerations

Standalone SAR test exclusion was based upon the following criteria:

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

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

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Calculated Threshold Value						
			dBm	mW	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Bottom side (Convertible)	Front	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Bottom side (Convertible)	Front
Full Power WWAN																		
WWAN	GSM850	848.8	33.5	2239	17	23	152.60	181.35	0	0		121.3 -MEASURE-	89.7 -MEASURE-	> 50 mm	> 50 mm	412.6 -MEASURE-	412.6 -MEASURE-	
WWAN	GSM1900	1909.8	30.5	1122	17	23	152.60	181.35	0	0		91.2 -MEASURE-	67.4 -MEASURE-	> 50 mm	> 50 mm	310.1 -MEASURE-	310.1 -MEASURE-	
WWAN	WCDMA V	846.6	24.0	251	17	23	152.60	181.35	0	0		13.6 -MEASURE-	10 -MEASURE-	> 50 mm	> 50 mm	46.2 -MEASURE-	46.2 -MEASURE-	
WWAN	WCDMA IV	1752.6	24.0	251	17	23	152.60	181.35	0	0		19.5 -MEASURE-	14.4 -MEASURE-	> 50 mm	> 50 mm	66.5 -MEASURE-	66.5 -MEASURE-	
WWAN	WCDMA II	1907.6	24.0	251	17	23	152.60	181.35	0	0		20.4 -MEASURE-	15.1 -MEASURE-	> 50 mm	> 50 mm	69.3 -MEASURE-	69.3 -MEASURE-	
WWAN	CDMA BC0	848.3	25.0	316	17	23	152.60	181.35	0	0		17.1 -MEASURE-	12.7 -MEASURE-	> 50 mm	> 50 mm	58.2 -MEASURE-	58.2 -MEASURE-	
WWAN	CDMA BC1	1908.8	25.0	316	17	23	152.60	181.35	0	0		25.7 -MEASURE-	19 -MEASURE-	> 50 mm	> 50 mm	87.3 -MEASURE-	87.3 -MEASURE-	
WWAN	CDMA BC10	822.75	25.0	316	17	23	152.60	181.35	0	0		16.9 -MEASURE-	12.5 -MEASURE-	> 50 mm	> 50 mm	57.3 -MEASURE-	57.3 -MEASURE-	
WWAN	LTE 2	1909.2	24.0	251	17	23	152.60	181.35	0	0		20.4 -MEASURE-	15.1 -MEASURE-	> 50 mm	> 50 mm	69.4 -MEASURE-	69.4 -MEASURE-	
WWAN	LTE 4	1754.2	24.0	251	17	23	152.60	181.35	0	0		19.6 -MEASURE-	14.5 -MEASURE-	> 50 mm	> 50 mm	66.5 -MEASURE-	66.5 -MEASURE-	
WWAN	LTE 5	848.2	24.0	251	17	23	152.60	181.35	0	0		13.6 -MEASURE-	10.1 -MEASURE-	> 50 mm	> 50 mm	46.2 -MEASURE-	46.2 -MEASURE-	
WWAN	LTE 13	784.5	24.0	251	17	23	152.60	181.35	0	0		13.1 -MEASURE-	9.7 -MEASURE-	> 50 mm	> 50 mm	44.5 -MEASURE-	44.5 -MEASURE-	
WWAN	LTE 17	713.5	24.0	251	17	23	152.60	181.35	0	0		12.5 -MEASURE-	9.2 -MEASURE-	> 50 mm	> 50 mm	42.4 -MEASURE-	42.4 -MEASURE-	
WWAN	LTE 25	1914.2	24.0	251	17	23	152.60	181.35	0	0		20.4 -MEASURE-	15.1 -MEASURE-	> 50 mm	> 50 mm	69.5 -MEASURE-	69.5 -MEASURE-	
Reduction Power WWAN																		
WWAN	GSM850	848.8	27.5	562	0	0						103.6 -MEASURE-	103.6 -MEASURE-					
WWAN	GSM1900	1909.8	25.75	376	0	0						103.9 -MEASURE-	103.9 -MEASURE-					
WWAN	WCDMA V	846.6	19.3	85	0	0						15.6 -MEASURE-	15.6 -MEASURE-					
WWAN	WCDMA IV	1752.6	16.3	43	0	0						11.4 -MEASURE-	11.4 -MEASURE-					
WWAN	WCDMA II	1907.6	17.0	50	0	0						13.8 -MEASURE-	13.8 -MEASURE-					
WWAN	CDMA BC0	848.3	19.0	79	0	0						14.6 -MEASURE-	14.6 -MEASURE-					
WWAN	CDMA BC1	1908.8	17.0	50	0	0						13.8 -MEASURE-	13.8 -MEASURE-					
WWAN	CDMA BC10	822.75	18.7	74	0	0						13.4 -MEASURE-	13.4 -MEASURE-					
WWAN	LTE 2	1909.2	16.9	49	0	0						13.5 -MEASURE-	13.5 -MEASURE-					
WWAN	LTE 4	1754.2	17.0	50	0	0						13.2 -MEASURE-	13.2 -MEASURE-					
WWAN	LTE 5	848.2	19.4	87	0	0						16 -MEASURE-	16 -MEASURE-					
WWAN	LTE 13	784.5	19.3	85	0	0						15.1 -MEASURE-	15.1 -MEASURE-					
WWAN	LTE 17	713.5	20.6	115	0	0						19.4 -MEASURE-	19.4 -MEASURE-					
WWAN	LTE 25	1914.2	16.5	45	0	0						12.5 -MEASURE-	12.5 -MEASURE-					

Note(s):

1. According to KDB 447498D01, if the calculated threshold value is >3 then SAR testing is required.
2. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances of Bottom side, Edge 1, Edge 4 and Bottom side(Convertible) when SAR testing are mentioned above table.

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

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Calculated Threshold Value						
			dBm	mW	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Bottom side(Convertible)	Front	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Bottom side(Convertible)	Front
Full Power WWAN																		
WWAN	GSM850	848.8	33.5	2239	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	743.4 mW -MEASURE-	906.1 mW -MEASURE-	< 50 mm	< 50 mm	
WWAN	GSM1900	1909.8	30.5	1122	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1134.5 mW -EXEMPT-	1422 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	WCDMA V	846.6	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	742.1 mW -EXEMPT-	904.4 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	WCDMA IV	1752.6	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1139.3 mW -EXEMPT-	1426.8 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	WCDMA II	1907.6	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1134.6 mW -EXEMPT-	1422.1 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	CDMA BC0	848.3	25.0	316	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	743.1 mW -EXEMPT-	905.7 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	CDMA BC1	1908.8	25.0	316	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1134.6 mW -EXEMPT-	1422.1 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	CDMA BC10	822.75	25.0	316	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	728.1 mW -EXEMPT-	885.8 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	LTE 2	1909.2	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1134.6 mW -EXEMPT-	1422.1 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	LTE 4	1754.2	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1139.3 mW -EXEMPT-	1426.8 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	LTE 5	848.2	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	743 mW -EXEMPT-	905.6 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	LTE 13	784.5	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	706 mW -EXEMPT-	856.3 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	LTE 17	713.5	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	665.6 mW -EXEMPT-	802.4 mW -EXEMPT-	< 50 mm	< 50 mm	
WWAN	LTE 25	1914.2	24.0	251	17	23	152.60	181.35	0	0		< 50 mm	< 50 mm	1134.4 mW -EXEMPT-	1421.9 mW -EXEMPT-	< 50 mm	< 50 mm	
Reduction Power WWAN																		
WWAN	GSM850	848.8	27.5	562	0	0						< 50 mm	< 50 mm					
WWAN	GSM1900	1909.8	25.75	376	0	0						< 50 mm	< 50 mm					
WWAN	WCDMA V	846.6	19.3	85	0	0						< 50 mm	< 50 mm					
WWAN	WCDMA IV	1752.6	16.3	43	0	0						< 50 mm	< 50 mm					
WWAN	WCDMA II	1907.6	17.0	50	0	0						< 50 mm	< 50 mm					
WWAN	CDMA BC0	848.3	19.0	79	0	0						< 50 mm	< 50 mm					
WWAN	CDMA BC1	1908.8	17.0	50	0	0						< 50 mm	< 50 mm					
WWAN	CDMA BC10	822.75	18.7	74	0	0						< 50 mm	< 50 mm					
WWAN	LTE 2	1909.2	16.9	49	0	0						< 50 mm	< 50 mm					
WWAN	LTE 4	1754.2	17.0	50	0	0						< 50 mm	< 50 mm					
WWAN	LTE 5	848.2	19.4	87	0	0						< 50 mm	< 50 mm					
WWAN	LTE 13	784.5	19.3	85	0	0						< 50 mm	< 50 mm					
WWAN	LTE 17	713.5	20.6	115	0	0						< 50 mm	< 50 mm					
WWAN	LTE 25	1914.2	16.5	45	0	0						< 50 mm	< 50 mm					

Note(s):

1. According to KDB 447498D01, if the calculated Power threshold is less than the output power then SAR testing is required.
2. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances of Bottom side, Edge 1, Edge 4 and Bottom side(Convertible) when SAR testing are mentioned above table.

Conclusion:

As the calculated Power Threshold is greater than the DUT output power for Edge2 and Edge3, SAR testing is not required. (It does not include GSM850.)

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12.2. Estimated SAR for Simultaneous Transmission SAR Analysis

Considerations for using estimated SAR values:

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

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12.2.1. Estimated SAR for WWAN

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Estimated 1-g SAR Value (W/kg)						
			dBm	mW	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Bottom side(Convertible)	Front	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Bottom side(Convertible)	Front
Full Power WWAN																		
WWAN	GSM850	848.8	33.5	2239	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	-MEASURE-	-MEASURE-	-MEASURE-	-MEASURE-	
WWAN	GSM1900	1909.8	30.5	1122	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	WCDMA V	846.6	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	WCDMA IV	1752.6	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	WCDMA II	1907.6	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	CDMA BC0	848.3	25.0	316	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	CDMA BC1	1908.8	25.0	316	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	CDMA BC10	822.75	25.0	316	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	LTE 2	1909.2	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	LTE 4	1754.2	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	LTE 5	848.2	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	LTE 13	784.5	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	LTE 17	713.5	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
WWAN	LTE 25	1914.2	24.0	251	17	23	152.60	181.35	0	0		-MEASURE-	-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
Reduction Power WWAN																		
WWAN	GSM850	848.8	27.5	562	0	0						-MEASURE-	-MEASURE-					
WWAN	GSM1900	1909.8	25.75	376	0	0						-MEASURE-	-MEASURE-					
WWAN	WCDMA V	846.6	19.3	85	0	0						-MEASURE-	-MEASURE-					
WWAN	WCDMA IV	1752.6	16.3	43	0	0						-MEASURE-	-MEASURE-					
WWAN	WCDMA II	1907.6	17.0	50	0	0						-MEASURE-	-MEASURE-					
WWAN	CDMA BC0	848.3	19.0	79	0	0						-MEASURE-	-MEASURE-					
WWAN	CDMA BC1	1908.8	17.0	50	0	0						-MEASURE-	-MEASURE-					
WWAN	CDMA BC10	822.75	18.7	74	0	0						-MEASURE-	-MEASURE-					
WWAN	LTE 2	1909.2	16.9	49	0	0						-MEASURE-	-MEASURE-					
WWAN	LTE 4	1754.2	17.0	50	0	0						-MEASURE-	-MEASURE-					
WWAN	LTE 5	848.2	19.4	87	0	0						-MEASURE-	-MEASURE-					
WWAN	LTE 13	784.5	19.3	85	0	0						-MEASURE-	-MEASURE-					
WWAN	LTE 17	713.5	20.6	115	0	0						-MEASURE-	-MEASURE-					
WWAN	LTE 25	1914.2	16.5	45	0	0						-MEASURE-	-MEASURE-					

Notes:

1. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge the separation distance used for the SAR exclusion calculations is 5 mm.
2. The separation distances of Bottom side, Edge 1, Edge 4 and Bottom side(Convertible) when SAR testing are mentioned above table.

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13. Measured and Reported (Scaled) SAR Results

13.1. GSM850

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	GPRS 2 Slots	128	824.2	24.5	23.88	0.986	1.137	1	
			190	836.6	24.5	23.95	0.991	1.125	2	
			251	848.8	24.5	24.05	1.010	1.120	3	
Bottom side	0	GPRS 2 Slots	128	824.2	24.5	23.88	0.690	0.796	4	
			190	836.6	24.5	23.95	0.715	0.812	5	
			251	848.8	24.5	24.05	0.735	0.815	6	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	GPRS 2 Slots	128	824.2	33.5	32.00	0.527	0.744	7	
			190	836.6	33.5	32.09	0.618	0.855	8	
			251	848.8	33.5	31.97	0.643	0.915	9	
Edge 2	0	GPRS 2 Slots	128	824.2	33.5	32.00				
			190	836.6	33.5	32.09	0.083	0.115	10	
			251	848.8	33.5	31.97				
Edge 3	0	GPRS 2 Slots	128	824.2	33.5	32.00				
			190	836.6	33.5	32.09	0.049	0.068	11	
			251	848.8	33.5	31.97				
Edge 4	0	GPRS 2 Slots	128	824.2	33.5	32.00				
			190	836.6	33.5	32.09	0.525	0.726	12	
			251	848.8	33.5	31.97				
Bottom side	17	GPRS 2 Slots	128	824.2	33.5	32.00	0.722	1.020	13	
			190	836.6	33.5	32.09	0.696	0.963	14	
			251	848.8	33.5	31.97	0.580	0.825	15	
Bottom side(Convertible mode)	0	GPRS 2 Slots	128	824.2	33.5	32.00				
			190	836.6	33.5	32.09	0.571	0.790	16	
			251	848.8	33.5	31.97				

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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13.2. GSM1900

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	GPRS 2 Slots	512	1850.2	23.0	22.77	1.070	1.128	1	
			661	1880.0	23.0	22.94	1.120	1.136	2	
			810	1909.8	23.0	22.47	1.110	1.254	3	
Bottom side	0	GPRS 2 Slots	512	1850.2	23.0	22.77	0.878	0.926	4	
			661	1880.0	23.0	22.94	0.886	0.898	5	
			810	1909.8	23.0	22.47	0.911	1.029	6	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	GPRS 2 Slots	512	1850.2	30.5	29.13	0.690	0.946	7	
			661	1880.0	30.5	29.11	0.735	1.012	8	
			810	1909.8	30.5	29.01	0.737	1.039	9	
Edge 4	0	GPRS 2 Slots	512	1850.2	30.5	29.13	0.028	0.038	10	
			661	1880.0	30.5	29.11				
			810	1909.8	30.5	29.01				
Bottom side	17	GPRS 2 Slots	512	1850.2	30.5	29.13	0.487	0.668	11	
			661	1880.0	30.5	29.11				
			810	1909.8	30.5	29.01				
Bottom side(Convertible mode)	0	GPRS 2 Slots	512	1850.2	30.5	29.13	0.330	0.452	12	
			661	1880.0	30.5	29.11				
			810	1909.8	30.5	29.01				

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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13.3. W-CDMA Band V

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	Rel 99 RMC 12.2 kbpx	4132	826.4	19.3	18.88	1.220	1.344	1	
			4183	836.6	19.3	18.91	1.200	1.313	2	
			4233	846.6	19.3	18.89	1.190	1.308	3	
Bottom side	0	Rel 99 RMC 12.2 kbpx	4132	826.4	19.3	18.88	0.995	1.096	4	
			4183	836.6	19.3	18.91	0.959	1.049	5	
			4233	846.6	19.3	18.89	0.917	1.008	6	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.75				1
			4183	836.6	24.0	22.82	0.295	0.387	7	
			4233	846.6	24.0	22.81				1
Edge 4	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.75				1
			4183	836.6	24.0	22.82	0.292	0.383	8	
			4233	846.6	24.0	22.81				1
Bottom side	17	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.75				1
			4183	836.6	24.0	22.82	0.402	0.528	9	
			4233	846.6	24.0	22.81				1
Bottom side(Convertible mode)	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.75				1
			4183	836.6	24.0	22.82	0.305	0.400	10	
			4233	846.6	24.0	22.81				1

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

The maximum SAR value of WCDMA Band V is Repeated SAR. Please refer to Section 13.16.

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13.4. W-CDMA Band IV

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	Rel 99 RMC 12.2 kbps	1312	1712.4	16.3	16.14	0.907	0.941	1	
			1413	1732.6	16.3	16.14	0.927	0.962	2	
			1513	1752.6	16.3	16.25	0.943	0.954	3	
Bottom side	0	Rel 99 RMC 12.2 kbps	1312	1712.4	16.3	16.14	0.740	0.768	4	
			1413	1732.6	16.3	16.14	0.890	0.923	5	
			1513	1752.6	16.3	16.25	1.020	1.032	6	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.90				
			1413	1732.6	24.0	22.84				
			1513	1752.6	24.0	23.01	0.423	0.531	7	
Edge 4	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.90				
			1413	1732.6	24.0	22.84				
			1513	1752.6	24.0	23.01	0.226	0.284	8	
Bottom side	17	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.90				
			1413	1732.6	24.0	22.84				
			1513	1752.6	24.0	23.01	0.319	0.401	9	
Bottom side(Convertible mode)	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.90				
			1413	1732.6	24.0	22.84				
			1513	1752.6	24.0	23.01	0.175	0.220	10	

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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13.5. W-CDMA Band II

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	Rel 99 RMC 12.2 kbps	9262	1852.4	17.0	16.93	1.030	1.047	1	
			9400	1880.0	17.0	16.86	0.953	0.984	2	
			9538	1907.6	17.0	16.96	0.918	0.926	3	
Bottom side	0	Rel 99 RMC 12.2 kbps	9262	1852.4	17.0	16.93	1.110	1.128	4	
			9400	1880.0	17.0	16.86	1.060	1.095	5	
			9538	1907.6	17.0	16.96	1.070	1.080	6	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.22				
			9400	1880.0	24.0	23.14				
			9538	1907.6	24.0	23.32	0.455	0.532	7	
Edge 4	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.22				
			9400	1880.0	24.0	23.14				
			9538	1907.6	24.0	23.32	0.032	0.037	8	
Bottom side	17	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.22				
			9400	1880.0	24.0	23.14				
			9538	1907.6	24.0	23.32	0.341	0.399	9	
Bottom side(Convertible mode)	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.22				
			9400	1880.0	24.0	23.14				
			9538	1907.6	24.0	23.32	0.212	0.248	10	

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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13.6. CDMA Band 0

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	1xRTT (RC3 SO32)	1013	824.7	19.0	18.90	1.190	1.218	1	
			384	836.5	19.0	18.70	1.120	1.200	2	
			777	848.3	19.0	18.70	1.120	1.200	3	
Edge 1	0	1xEVDO Rel. 0	1013	824.7	19.0	18.70	1.130	1.211	4	
			384	836.5	19.0	18.50	1.060	1.189	5	
			777	848.3	19.0	18.40	1.090	1.251	6	
Bottom side	0	1xRTT (RC3 SO32)	1013	824.7	19.0	18.70	0.987	1.058	7	
			384	836.5	19.0	18.50	0.920	1.032	8	
			777	848.3	19.0	18.40	0.873	1.002	9	
Bottom side	0	1xEVDO Rel. 0	1013	824.7	19.0	18.70	0.978	1.048	10	
			384	836.5	19.0	18.50	0.915	1.027	11	
			777	848.3	19.0	18.40	0.862	0.990	12	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	1xRTT (RC3 SO32)	1013	824.7	25.0	23.50				
			384	836.5	25.0	23.50	0.334	0.472	13	
			777	848.3	25.0	23.60				
Edge 1	23	1xEVDO Rel. 0	1013	824.7	25.0	23.40				
			384	836.5	25.0	23.60	0.311	0.429	14	
			777	848.3	25.0	23.20				
Edge 4	0	1xRTT (RC3 SO32)	1013	824.7	25.0	23.50				
			384	836.5	25.0	23.50	0.301	0.425	15	
			777	848.3	25.0	23.60				
Edge 4	0	1xEVDO Rel. 0	1013	824.7	25.0	23.40				
			384	836.5	25.0	23.60	0.288	0.398	16	
			777	848.3	25.0	23.20				
Bottom side	17	1xRTT (RC3 SO32)	1013	824.7	25.0	23.50				
			384	836.5	25.0	23.50	0.487	0.688	17	
			777	848.3	25.0	23.60				
Bottom side	17	1xEVDO Rel. 0	1013	824.7	25.0	23.40	0.550	0.795	18	
			384	836.5	25.0	23.60	0.580	0.801	19	
			777	848.3	25.0	23.20	0.535	0.810	20	
Bottom side(Convertible mode)	0	1xRTT (RC3 SO32)	1013	824.7	25.0	23.50				
			384	836.5	25.0	23.50	0.344	0.486	21	
			777	848.3	25.0	23.60				
Bottom side(Convertible mode)	0	1xEVDO Rel. 0	1013	824.7	25.0	23.40				
			384	836.5	25.0	23.60	0.377	0.520	22	
			777	848.3	25.0	23.20				

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Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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

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13.7. CDMA Band 1

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	1xRTT (RC3 SO32)	25	1851.3	17.0	16.90	0.924	0.946	1	
			600	1880.0	17.0	16.80	1.010	1.058	2	
			1175	1908.8	17.0	16.70	0.844	0.904	3	
Edge 1	0	1xEVDO Rel. 0	25	1851.3	16.7	16.30	0.879	0.964	4	
			600	1880.0	16.7	16.40	1.070	1.147	5	
			1175	1908.8	16.7	16.30	0.846	0.928	6	
Bottom side	0	1xRTT (RC3 SO32)	25	1851.3	17.0	16.90	0.981	1.004	7	
			600	1880.0	17.0	16.80	0.951	0.996	8	
			1175	1908.8	17.0	16.70	0.971	1.040	9	
Bottom side	0	1xEVDO Rel. 0	25	1851.3	16.7	16.30	1.100	1.206	10	
			600	1880.0	16.7	16.40	1.060	1.136	11	
			1175	1908.8	16.7	16.30	1.110	1.217	12	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	1xRTT (RC3 SO32)	25	1851.3	25.0	23.60	0.864	1.193	13	
			600	1880.0	25.0	23.60	0.883	1.219	14	
			1175	1908.8	25.0	23.60	0.948	1.309	15	
Edge 1	23	1xEVDO Rel. 0	25	1851.3	25.0	23.30	0.760	1.124	16	
			600	1880.0	25.0	23.40	0.778	1.125	17	
			1175	1908.8	25.0	23.40	0.826	1.194	18	
Edge 4	0	1xRTT (RC3 SO32)	25	1851.3	25.0	23.60				
			600	1880.0	25.0	23.60	0.049	0.068	19	
			1175	1908.8	25.0	23.60				
Edge 4	0	1xEVDO Rel. 0	25	1851.3	25.0	23.30				
			600	1880.0	25.0	23.40	0.035	0.051	20	
			1175	1908.8	25.0	23.40				
Bottom side	17	1xRTT (RC3 SO32)	25	1851.3	25.0	23.60				
			600	1880.0	25.0	23.60	0.535	0.739	21	
			1175	1908.8	25.0	23.60				
Bottom side	17	1xEVDO Rel. 0	25	1851.3	25.0	23.30	0.590	0.873	22	
			600	1880.0	25.0	23.40	0.596	0.861	23	
			1175	1908.8	25.0	23.40	0.650	0.940	24	
Bottom side(Convertible mode)	0	1xRTT (RC3 SO32)	25	1851.3	25.0	23.60				
			600	1880.0	25.0	23.60	0.411	0.567	25	
			1175	1908.8	25.0	23.60				
Bottom side(Convertible mode)	0	1xEVDO Rel. 0	25	1851.3	25.0	23.30				
			600	1880.0	25.0	23.40	0.400	0.578	26	
			1175	1908.8	25.0	23.40				

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Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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

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13.8. CDMA Band 10

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	1xRTT (RC3 SO32)	450	817.3	18.7	18.60	1.110	1.136	1	
			560	820.0	18.7	18.60	1.090	1.115	2	
			670	822.8	18.7	18.50	1.140	1.194	3	
Edge 1	0	1xEVDO Rel. 0	450	817.3	18.7	18.50	1.110	1.162	4	
			560	820.0	18.7	18.50	1.080	1.131	5	
			670	822.8	18.7	18.50	1.100	1.152	6	
Bottom side	0	1xRTT (RC3 SO32)	450	817.3	18.7	18.60	0.942	0.964	7	
			560	820.0	18.7	18.60	0.974	0.997	8	
			670	822.8	18.7	18.50	0.950	0.995	9	
Bottom side	0	1xEVDO Rel. 0	450	817.3	18.7	18.50	0.925	0.969	10	
			560	820.0	18.7	18.50	0.928	0.972	11	
			670	822.8	18.7	18.50	0.908	0.951	12	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	1xRTT (RC3 SO32)	450	817.3	25.0	23.20				
			560	820.0	25.0	23.20	0.321	0.486	13	
			670	822.8	25.0	23.10				
Edge 1	23	1xEVDO Rel. 0	450	817.3	25.0	23.40	0.359	0.519	14	
			560	820.0	25.0	23.30				
			670	822.8	25.0	23.30				
Edge 4	0	1xRTT (RC3 SO32)	450	817.3	25.0	23.20				
			560	820.0	25.0	23.20	0.290	0.439	15	
			670	822.8	25.0	23.10				
Edge 4	0	1xEVDO Rel. 0	450	817.3	25.0	23.40	0.260	0.376	16	
			560	820.0	25.0	23.30				
			670	822.8	25.0	23.30				
Bottom side	17	1xRTT (RC3 SO32)	450	817.3	25.0	23.20				
			560	820.0	25.0	23.20	0.491	0.743	17	
			670	822.8	25.0	23.10				
Bottom side	17	1xEVDO Rel. 0	450	817.3	25.0	23.40	0.441	0.637	18	
			560	820.0	25.0	23.30				
			670	822.8	25.0	23.30				
Bottom side(Convertible mode)	0	1xRTT (RC3 SO32)	450	817.3	25.0	23.20				
			560	820.0	25.0	23.20	0.321	0.486	19	
			670	822.8	25.0	23.10				
Bottom side(Convertible mode)	0	1xEVDO Rel. 0	450	817.3	25.0	23.40	0.334	0.483	20	
			560	820.0	25.0	23.30				
			670	822.8	25.0	23.30				

Note(s):

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According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

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

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13.9. LTE Band 2

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	18700	1860	1	49	16.9	15.94	1.060	1.322	1	
			18900	1880	1	99	16.9	16.64	0.820	0.871	2	
			19100	1900	1	0	16.9	16.70	0.813	0.851	3	
			18700	1860	50	0	16.9	16.25	0.889	1.033	4	
			18900	1880	50	49	16.9	15.88	0.885	1.119	5	
			19100	1900	50	0	16.9	16.23	1.100	1.283	6	
			18700	1860	100	0	16.9	15.88	0.992	1.255	7	
Bottom side	0	QPSK	18700	1860	1	49	16.9	15.94	1.030	1.285	8	
			18900	1880	1	99	16.9	16.64	1.130	1.200	9	
			19100	1900	1	0	16.9	16.70	1.160	1.215	10	
			18700	1860	50	0	16.9	16.25	1.010	1.173	11	
			18900	1880	50	49	16.9	15.88	1.000	1.265	12	
			19100	1900	50	0	16.9	16.23	1.010	1.178	13	
			18700	1860	100	0	16.9	15.88	0.983	1.243	14	

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

The maximum SAR value of LTE Band 2 is Repeated SAR. Please refer to Section 13.16.

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LTE Band 2 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	QPSK	18700	1860	1	49	24.0	23.12	0.726	0.889	15	
			18900	1880	1	0	24.0	22.92	0.727	0.932	16	
			19100	1900	1	99	24.0	23.09	0.736	0.908	17	
			18700	1860	50	24	23.0	21.99	0.547	0.690	18	
			18900	1880	50	49	23.0	21.82				
			19100	1900	50	24	23.0	21.75				
			18700	1860	100	0	23.0	21.84	0.541	0.707	19	
Edge 4	0	QPSK	18700	1860	1	49	24.0	23.12	0.027	0.033	20	
			18900	1880	1	0	24.0	22.92				
			19100	1900	1	99	24.0	23.09				
			18700	1860	50	24	23.0	21.99	0.018	0.023	21	
			18900	1880	50	49	23.0	21.82				
			19100	1900	50	24	23.0	21.75				
			18700	1860	100	0	23.0	21.84				
Bottom side	17	QPSK	18700	1860	1	49	24.0	23.12	0.523	0.640	22	
			18900	1880	1	0	24.0	22.92				
			19100	1900	1	99	24.0	23.09				
			18700	1860	50	24	23.0	21.99	0.385	0.486	23	
			18900	1880	50	49	23.0	21.82				
			19100	1900	50	24	23.0	21.75				
			18700	1860	100	0	23.0	21.84				
Bottom side(Convertible mode)	0	QPSK	18700	1860	1	49	24.0	23.12	0.365	0.447	24	
			18900	1880	1	0	24.0	22.92				
			19100	1900	1	99	24.0	23.09				
			18700	1860	50	24	23.0	21.99	0.263	0.332	25	
			18900	1880	50	49	23.0	21.82				
			19100	1900	50	24	23.0	21.75				
			18700	1860	100	0	23.0	21.84				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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13.10. LTE Band 4

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	20050	1720	1	99	17.0	16.94	1.150	1.166	1	
			20175	1732.5	1	0	17.0	16.89	1.310	1.344	2	
			20300	1745	1	0	17.0	16.49	0.962	1.082	3	
			20050	1720	50	49	17.0	16.63	1.240	1.350	4	
			20175	1732.5	50	49	17.0	16.98	1.030	1.035	5	
			20300	1745	50	0	17.0	16.22	0.945	1.131	6	
			20175	1732.5	100	0	17.0	16.90	0.930	0.952	7	
Bottom side	0	QPSK	20050	1720	1	99	17.0	16.94	0.903	0.916	8	
			20175	1732.5	1	0	17.0	16.89	0.997	1.023	9	
			20300	1745	1	0	17.0	16.49	0.878	0.987	10	
			20050	1720	50	49	17.0	16.63	0.981	1.068	11	
			20175	1732.5	50	49	17.0	16.98	0.985	0.990	12	
			20300	1745	50	0	17.0	16.22	1.080	1.292	13	
			20175	1732.5	100	0	17.0	16.90	0.939	0.961	14	

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

The maximum SAR value of LTE Band 4 is Repeated SAR. Please refer to Section 13.16.

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LTE Band 4 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	QPSK	20050	1720	1	99	24.0	23.05	0.664	0.826	15	
			20175	1732.5	1	99	24.0	23.07	0.702	0.870	16	
			20300	1745	1	99	24.0	23.03	0.691	0.864	17	
			20050	1720	50	49	23.0	21.79				
			20175	1732.5	50	49	23.0	21.84	0.513	0.670	18	
			20300	1745	50	24	23.0	21.76				
			20050	1720	100	0	23.0	21.75				
Edge 4	0	QPSK	20050	1720	1	99	24.0	23.05				
			20175	1732.5	1	99	24.0	23.07	0.363	0.450	19	
			20300	1745	1	99	24.0	23.03				
			20050	1720	50	49	23.0	21.79				
			20175	1732.5	50	49	23.0	21.84	0.364	0.475	20	
			20300	1745	50	24	23.0	21.76				
			20050	1720	100	0	23.0	21.75				
Bottom side	17	QPSK	20050	1720	1	99	24.0	23.05				
			20175	1732.5	1	99	24.0	23.07	0.275	0.341	21	
			20300	1745	1	99	24.0	23.03				
			20050	1720	50	49	23.0	21.79				
			20175	1732.5	50	49	23.0	21.84	0.315	0.411	22	
			20300	1745	50	24	23.0	21.76				
			20050	1720	100	0	23.0	21.75				
Bottom side(Convertible mode)	0	QPSK	20050	1720	1	99	24.0	23.05				
			20175	1732.5	1	99	24.0	23.07	0.244	0.302	23	
			20300	1745	1	99	24.0	23.03				
			20050	1720	50	49	23.0	21.79				
			20175	1732.5	50	49	23.0	21.84	0.167	0.218	24	
			20300	1745	50	24	23.0	21.76				
			20050	1720	100	0	23.0	21.75				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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13.11. LTE Band 5

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	20450	829	1	49	19.4	19.12	1.190	1.269	1	
			20525	836.5	1	49	19.4	19.15	1.130	1.197	2	
			20600	844	1	0	19.4	19.15	1.180	1.250	3	
			20450	829	25	12	19.4	19.16	1.210	1.279	4	
			20525	836.5	25	24	19.4	19.23	1.170	1.217	5	
			20600	844	25	0	19.4	19.12	1.140	1.216	6	
			20525	836.5	50	0	19.4	19.11	1.170	1.251	7	
Bottom side	0	QPSK	20450	829	1	49	19.4	19.12	0.981	1.046	8	
			20525	836.5	1	49	19.4	19.15	0.977	1.035	9	
			20600	844	1	0	19.4	19.15	1.010	1.070	10	
			20450	829	25	12	19.4	19.16	0.991	1.047	11	
			20525	836.5	25	24	19.4	19.23	0.984	1.023	12	
			20600	844	25	0	19.4	19.12	0.945	1.008	13	
			20525	836.5	50	0	19.4	19.11	0.961	1.027	14	

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 25% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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LTE Band 5 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	QPSK	20450	829	1	49	24.0	22.77				
			20525	836.5	1	49	24.0	22.79	0.274	0.362	15	
			20600	844	1	24	24.0	22.76				
			20450	829	25	12	23.0	21.91	0.232	0.298	16	
			20525	836.5	25	24	23.0	21.86				
			20600	844	25	0	23.0	21.82				
			20525	836.5	50	0	23.0	21.76				
Edge 4	0	QPSK	20450	829	1	49	24.0	22.77				
			20525	836.5	1	49	24.0	22.79	0.215	0.284	17	
			20600	844	1	24	24.0	22.76				
			20450	829	25	12	23.0	21.91	0.175	0.225	18	
			20525	836.5	25	24	23.0	21.86				
			20600	844	25	0	23.0	21.82				
			20525	836.5	50	0	23.0	21.76				
Bottom side	17	QPSK	20450	829	1	49	24.0	22.77				
			20525	836.5	1	49	24.0	22.79	0.323	0.427	19	
			20600	844	1	24	24.0	22.76				
			20450	829	25	12	23.0	21.91	0.237	0.305	20	
			20525	836.5	25	24	23.0	21.86				
			20600	844	25	0	23.0	21.82				
			20525	836.5	50	0	23.0	21.76				
Bottom side(Convertible mode)	0	QPSK	20450	829	1	49	24.0	22.77				
			20525	836.5	1	49	24.0	22.79	0.296	0.391	21	
			20600	844	1	24	24.0	22.76				
			20450	829	25	12	23.0	21.91	0.240	0.308	22	
			20525	836.5	25	24	23.0	21.86				
			20600	844	25	0	23.0	21.82				
			20525	836.5	50	0	23.0	21.76				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 25% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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13.12. LTE Band 25

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	26140	1860	1	49	16.5	15.84	0.971	1.130	1	
			26365	1882.5	1	99	16.5	16.30	0.858	0.898	2	
			26590	1905	1	99	16.5	16.37	0.959	0.987	3	
			26140	1860	50	0	16.5	15.70	0.838	1.007	4	
			26365	1882.5	50	49	16.5	16.08	0.862	0.950	5	
			26590	1905	50	49	16.5	16.26	0.845	0.893	6	
			26590	1905	100	0	16.5	15.94	1.010	1.149	7	
Bottom side	0	QPSK	26140	1860	1	49	16.5	15.84	1.110	1.292	8	
			26365	1882.5	1	99	16.5	16.30	1.020	1.068	9	
			26590	1905	1	99	16.5	16.37	1.130	1.164	10	
			26140	1860	50	0	16.5	15.70	0.948	1.140	11	
			26365	1882.5	50	49	16.5	16.08	0.903	0.995	12	
			26590	1905	50	49	16.5	16.26	0.884	0.934	13	
			26590	1905	100	0	16.5	15.94	0.977	1.111	14	

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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LTE Band 25 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	QPSK	26140	1860	1	0	24.0	23.13	0.716	0.875	15	
			26365	1882.5	1	0	24.0	23.03	0.726	0.908	16	
			26590	1905	1	99	24.0	23.13	0.781	0.954	17	
			26140	1860	50	0	23.0	21.96	0.529	0.672	18	
			26365	1882.5	50	0	23.0	21.84				
			26590	1905	50	49	23.0	21.92				
			26140	1860	100	0	23.0	21.88	0.526	0.681	19	
Edge 4	0	QPSK	26140	1860	1	0	24.0	23.13	0.031	0.038	20	
			26365	1882.5	1	0	24.0	23.03				
			26590	1905	1	99	24.0	23.13				
			26140	1860	50	0	23.0	21.96	0.022	0.028	21	
			26365	1882.5	50	0	23.0	21.84				
			26590	1905	50	49	23.0	21.92				
			26140	1860	100	0	23.0	21.88				
Bottom side	17	QPSK	26140	1860	1	0	24.0	23.13	0.550	0.672	22	
			26365	1882.5	1	0	24.0	23.03				
			26590	1905	1	99	24.0	23.13				
			26140	1860	50	0	23.0	21.96	0.416	0.529	23	
			26365	1882.5	50	0	23.0	21.84				
			26590	1905	50	49	23.0	21.92				
			26140	1860	100	0	23.0	21.88				
Bottom side(Convertible mode)	0	QPSK	26140	1860	1	0	24.0	23.13	0.363	0.444	24	
			26365	1882.5	1	0	24.0	23.03				
			26590	1905	1	99	24.0	23.13				
			26140	1860	50	0	23.0	21.96	0.256	0.325	25	
			26365	1882.5	50	0	23.0	21.84				
			26590	1905	50	49	23.0	21.92				
			26140	1860	100	0	23.0	21.88				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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13.13. LTE Band 13

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	23230	782	1	24	19.3	19.10	1.280	1.340	1	
			23230	782	25	12	19.3	19.19	1.290	1.323	2	
			23230	782	50	0	19.3	19.03	1.250	1.330	3	
Bottom side	0	QPSK	23230	782	1	24	19.3	19.10	1.010	1.058	4	
			23230	782	25	12	19.3	19.19	1.010	1.036	5	
			23230	782	50	0	19.3	19.03	0.974	1.036	6	

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

The maximum SAR value of LTE Band 13 is Repeated SAR. Please refer to Section 13.16.

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LTE Band 13 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	QPSK	23230	782	1	24	24.0	22.94	0.261	0.333	7	
			23230	782	25	12	23.0	22.03	0.200	0.250	8	
			23230	782	50	0	23.0	21.91				
Edge 4	0	QPSK	23230	782	1	24	24.0	22.94	0.239	0.305	9	
			23230	782	25	12	23.0	22.03	0.185	0.231	10	
			23230	782	50	0	23.0	21.91				
Bottom side	17	QPSK	23230	782	1	24	24.0	22.94	0.406	0.518	11	
			23230	782	25	12	23.0	22.03	0.315	0.394	12	
			23230	782	50	0	23.0	21.91				
Bottom side(Convertible mode)	0	QPSK	23230	782	1	24	24.0	22.94	0.286	0.365	13	
			23230	782	25	12	23.0	22.03	0.228	0.285	14	
			23230	782	50	0	23.0	21.91				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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13.14. LTE Band 17

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	23780	709	1	24	20.6	20.52	1.160	1.182	1	
			23790	710	1	24	20.6	20.52	1.050	1.070	2	
			23800	711	1	24	20.6	20.44	1.060	1.100	3	
			23780	709	25	24	20.6	20.50	1.100	1.126	4	
			23790	710	25	12	20.6	20.47	1.020	1.051	5	
			23800	711	25	0	20.6	20.38	1.010	1.062	6	
			23780	709	50	0	20.6	20.34	1.110	1.178	7	
Bottom side	0	QPSK	23780	709	1	24	20.6	20.52	1.210	1.232	8	
			23790	710	1	24	20.6	20.52	1.220	1.243	9	
			23800	711	1	24	20.6	20.44	1.230	1.276	10	
			23780	709	25	24	20.6	20.50	1.180	1.207	11	
			23790	710	25	12	20.6	20.47	1.190	1.226	12	
			23800	711	25	0	20.6	20.38	1.200	1.262	13	
			23780	709	50	0	20.6	20.34	1.160	1.232	14	

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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LTE Band 17 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	23	QPSK	23780	709	1	24	24.0	22.90				
			23790	710	1	24	24.0	22.93	0.095	0.122	15	
			23800	711	1	24	24.0	22.92				
			23780	709	25	12	24.0	21.95	0.074	0.119	16	
			23790	710	25	24	24.0	21.92				
			23800	711	25	12	24.0	21.83				
			23780	709	50	0	24.0	21.81				
Edge 4	0	QPSK	23780	709	1	24	24.0	22.90				
			23790	710	1	24	24.0	22.93	0.157	0.201	17	
			23800	711	1	24	24.0	22.92				
			23780	709	25	12	24.0	21.95	0.120	0.192	18	
			23790	710	25	24	24.0	21.92				
			23800	711	25	12	24.0	21.83				
			23780	709	50	0	24.0	21.81				
Bottom side	17	QPSK	23780	709	1	24	24.0	22.90				
			23790	710	1	24	24.0	22.93	0.225	0.288	19	
			23800	711	1	24	24.0	22.92				
			23780	709	25	12	24.0	21.95	0.174	0.279	20	
			23790	710	25	24	24.0	21.92				
			23800	711	25	12	24.0	21.83				
			23780	709	50	0	24.0	21.81				
Bottom side(Convertible mode)	0	QPSK	23780	709	1	24	24.0	22.90				
			23790	710	1	24	24.0	22.93	0.184	0.235	21	
			23800	711	1	24	24.0	22.92				
			23780	709	25	12	24.0	21.95	0.143	0.229	22	
			23790	710	25	24	24.0	21.92				
			23800	711	25	12	24.0	21.83				
			23780	709	50	0	24.0	21.81				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02r04, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

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13.15. Summary of Highest SAR Values

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

Technology Band	Test Configuration		Mode	Dist. (mm)	Freq. (MHz)	dBm	1g/SAR (w/kg)
	Exposure	Position					
GSM 850	Body	Edge 1 (Prox on)	GPRS 2 slots	0	824.2	23.88	1.137
GSM 1900	Body	Edge 1 (Prox on)	GPRS 2 slots	0	1909.8	22.47	1.254
W-CDMA Band V	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	826.4	18.88	1.344
W-CDMA Band IV	Body	Bottom side (Prox on)	Rel 99 RMC 12.2kbps	0	1752.6	16.25	1.032
W-CDMA Band II	Body	Bottom side (Prox on)	Rel 99 RMC 12.2kbps	0	1852.4	16.93	1.128
CDMA BC0	Body	Edge 1 (Prox on)	1xEVDO Rel.0	0	848.3	18.40	1.251
CDMA BC1	Body	Edge 1 (Prox off)	1xRTT (RC3 SO32)	23	1908.8	23.6	1.309
CDMA BC 10	Body	Edge 1 (Prox on)	1xRTT (RC3 SO32)	0	822.8	18.50	1.194
LTE Band 2	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 1/49	0	1860	15.94	1.322
LTE Band 4	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 1/0	0	1732.5	16.89	1.344
LTE Band 5	Body	Edge 1 (Prox on)	10 MHz (QPSK) RB 25/12	0	829	19.16	1.279
LTE Band 25	Body	Bottom side (Prox on)	20 MHz(QPSK) RB 1/49	0	1860	15.84	1.292
LTE Band 13	Body	Edge 1 (Prox on)	10 MHZ (QPSK) RB 1/24	0	782	19.10	1.340
LTE Band 17	Body	Bottom side (Prox on)	10 MHz (QPSK) RB 1/24	0	711	20.44	1.276

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13.16. SAR Measurement Variability and Uncertainty

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Wireless Technologies	Test Configuration		Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio	Plot No.
	Exposure	Position					Original	Repeated		
LTE band 13	Body	Edge 1 Prox. On	10 MHz (QPSK) 25/12	0	23230	782.0	1.290	1.270	1.02	1
W-CDMA Band V	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	4132	826.4	1.220	1.210	1.01	2
LTE band 4	Body	Edge 1 Prox. On	20 MHz (QPSK) 1/0	0	20175	1732.5	1.310	1.300	1.01	3
LTE band 2	Body	Edge 1 Prox. On	20 MHz (QPSK) 1/0	0	19100	1900.00	1.16	1.08	1.07	4

Note(s):

- Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20.

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13.17. Additional SAR Test Results

The SAR result of WLAN/Bluetooth in the former report(SAR report No.: 10936952H-A-R1, FCC ID ACJ9TGWL15A) was used for simultaneous transmission SAR analysis of WWAN+WLAN. Please refer to section 14 for simultaneous transmission SAR analysis of WWAN+WLAN/Bluetooth.

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

About the substitution of test setup position

- SAR value of Bottom side “17mm” with WLAN: We substituted SAR value of Bottom side “0mm” with WLAN conservatively. Please refer to SAR report No.: 10936952H-A-R1 about SAR value of Bottom side “0mm” with WLAN.
- SAR value of Bottom side “17mm” with Bluetooth: We substituted SAR value of Bottom side “0mm” with Bluetooth conservatively. SAR value of Bottom side “0mm “ with Bluetooth was measured as additional test this time.
- SAR value of Edge 1 “23mm” of WLAN/Bluetooth: We substituted SAR value of Edge 1 “0mm “ with WLAN/Bluetooth conservatively. SAR value of Edge 1 “0mm “ with WLAN/Bluetooth was measured as additional test this time.

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13.18. Wi-Fi 2.4 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11b	0	1	2412	15.00	14.88				
			6	2437	15.00	14.90				
			11	2462	15.00	15.00	0.00212	0.00212	1	

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11b	0	1	2412	15.00	14.96				
			6	2437	15.00	14.85				
			11	2462	15.00	14.97	0.011	0.011	2	

Note(s):

1. Highest *reported* SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
2. Highest *reported* SAR is > 0.4 W/kg. Due to the highest *reported* SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was *reported*.
3. For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.

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13.19. Wi-Fi 5.3 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11ac80	0	58	5290	13.50	13.42	0.077	0.078	1	

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11ac80	0	58	5290	13.50	13.45	0.151	0.153	2	

Note(s):

1. Highest *reported* SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
2. Highest *reported* SAR is > 0.4 W/kg. Due to the highest *reported* SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was *reported*.
3. For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.

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13.20. Wi-Fi 5.5 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11ac80	0	106	5530	13.5	13.49	0.085	0.085	1	
			122	5610	13.5	13.48				
			138	5690	13.5	13.48				

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11ac80	0	106	5530	13.50	13.48	0.021	0.021	2	
			122	5610	13.50	13.47				
			138	5690	13.50	13.47				

Note(s):

1. Highest *reported* SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
2. Highest *reported* SAR is > 0.4 W/kg. Due to the highest *reported* SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was *reported*.
3. For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.

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13.21. Wi-Fi 5.8 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11ac80	0	155	5775	13.5	13.40	0.026	0.027	1	

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	802.11ac80	0	155	5775	13.50	13.44	0.000	0.000	2	

Note(s):

1. Highest *reported* SAR is ≤ 0.4 W/kg. Therefore, further SAR measurements within this exposure condition are not required.
2. Highest *reported* SAR is > 0.4 W/kg. Due to the highest *reported* SAR for this test position, other test positions in standalone exposure condition were evaluated until a SAR ≤ 0.8 W/kg was *reported*.
3. For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.

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13.22. Bluetooth

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	BDR DH5	0	0	2402	7.78	7.49				
			39	2441	7.78	7.76				
			78	2480	7.78	7.78	0.00129	0.00129	1	
Bottom side	BDR DH5	0	0	2402	7.78	7.49				
			39	2441	7.78	7.76				
			78	2480	7.78	7.78	0.045	0.045	2	

Note(s):

1. According to KDB 447498 D01 General RF Exposure Guidance v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is
   1. ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   2. ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   3. ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

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14. Simultaneous Transmission SAR Analysis

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 10936952H-A-R1, submitted under FCC ID ACJ9TGWL15A.
All Simultaneous Transmission SAR analysis applies scaling in accordance with the scaled values documented in this report (for the WWAN radios) and the aforementioned SAR report (10936952H-A-R1) with scaling applied (for the WLAN radios).

14.1. Sum of the SAR for GSM & Wi-Fi 2.4 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.137		0.002		0.001	1.140
		1.254	0.002		0.001	1.257
	1.137			0.011		1.148
		1.254		0.011		1.265
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.137		0.002	0.011		1.150
		1.254	0.002	0.011		1.267
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.915		0.002		0.001	0.918
		1.039	0.002		0.001	1.042
	0.915			0.011		0.926
		1.039		0.011		1.050
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.915		0.002	0.011		0.928
		1.039	0.002	0.011		1.052
Edge 2, Wi-Fi 1 Tx	0.115		0.795			0.910
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.068		0.081		0.252	0.401
		0.400	0.081		0.252	0.733
	0.068			0.119		0.187
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.068		0.081	0.119		0.268
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.726				0.252	0.978
		0.038			0.252	0.290
	0.726			0.779		1.505
		0.038		0.779		0.817

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.815		0.237		0.045	1.097
		1.029	0.237		0.045	1.311
	0.815			0.368		1.183
		1.029		0.368		1.397
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.815		0.237	0.368		1.420
		1.029	0.237	0.368		1.634
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	1.020		0.237		0.045	1.302
		0.668	0.237		0.045	0.950
	1.020			0.368		1.388
		0.668		0.368		1.036
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	1.020		0.237	0.368		1.625
		0.668	0.237	0.368		1.273
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.790		0.237		0.045	1.072
		0.452	0.237		0.045	0.734
	0.790			0.368		1.158
		0.452		0.368		0.820
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.790		0.237	0.368		1.395
		0.452	0.237	0.368		1.057

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①GSM1900	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w /WWAN Pow er reduction	1.029	0.237	0.368		① + ② + ③	1.63				
	1.029	0.237			① + ②	1.27	251.8	0.006	No	X1
	1.029		0.368		① + ③	1.40	166.5	0.010	No	X1

Test Position	①GSM850	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 17mm → w /WWAN Full pow er	1.020	0.237	0.368		① + ② + ③	1.63				
	1.020	0.237			① + ②	1.26	267.9	0.005	No	X2
	1.020		0.368		① + ③	1.39	158.7	0.010	No	X2

Conclusion:

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

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14.2. Sum of the SAR for GSM & Wi-Fi 5.3 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.137		0.078		0.001	1.216
		1.254	0.078		0.001	1.333
	1.137			0.153		1.290
		1.254		0.153		1.407
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.137		0.078	0.153		1.368
		1.254	0.078	0.153		1.485
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.915		0.078		0.001	0.994
		1.039	0.078		0.001	1.118
	0.915			0.153		1.068
		1.039		0.153		1.192
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.915		0.078	0.153		1.146
		1.039	0.078	0.153		1.270
Edge 2, Wi-Fi 1 Tx	0.115		0.353			0.468
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.068		0.010		0.252	0.330
		0.400	0.010		0.252	0.662
	0.068			0.032		0.100
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.068		0.010	0.032		0.110
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.726				0.252	0.978
		0.038			0.252	0.290
	0.726			1.072		1.798
		0.038		1.072		1.110

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.815		0.095		0.045	0.955
		1.029	0.095		0.045	1.169
	0.815			0.279		1.094
		1.029		0.279		1.308
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.815		0.095	0.279		1.189
		1.029	0.095	0.279		1.403
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	1.020		0.095		0.045	1.160
		0.668	0.095		0.045	0.808
	1.020			0.279		1.299
		0.668		0.279		0.947
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	1.020		0.095	0.279		1.394
		0.668	0.095	0.279		1.042
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.790		0.095		0.045	0.930
		0.452	0.095		0.045	0.592
	0.790			0.279		1.069
		0.452		0.279		0.731
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.790		0.095	0.279		1.164
		0.452	0.095	0.279		0.826

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①GSM850	② WiFi W53 (Main Ant)	③ WiFi W53 (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, Wi-Fi 1 Tx	0.726		1.072		① + ③	1.798	82.0	0.029	No	X3

Conclusion:

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

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14.3. Sum of the SAR for GSM & Wi-Fi 5.5 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.137		0.085		0.001	1.223
		1.254	0.085		0.001	1.340
	1.137			0.021		1.158
		1.254		0.021		1.275
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.137		0.085	0.021		1.243
		1.254	0.085	0.021		1.360
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.915		0.085		0.001	1.001
		1.039	0.085		0.001	1.125
	0.915			0.021		0.936
		1.039		0.021		1.060
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.915		0.085	0.021		1.021
		1.039	0.085	0.021		1.145
Edge 2, Wi-Fi 1 Tx	0.115		0.359			0.474
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.068		0.064		0.252	0.384
		0.400	0.064		0.252	0.716
	0.068			0.030		0.098
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.068		0.064	0.030		0.162
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.726				0.252	0.978
		0.038			0.252	0.290
	0.726			0.690		1.416
		0.038		0.690		0.728

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.815		0.107		0.045	0.967
		1.029	0.107		0.045	1.181
	0.815			0.229		1.044
		1.029		0.229		1.258
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.815		0.107	0.229		1.151
		1.029	0.107	0.229		1.365
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	1.020		0.107		0.045	1.172
		0.668	0.107		0.045	0.820
	1.020			0.229		1.249
		0.668		0.229		0.897
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	1.020		0.107	0.229		1.356
		0.668	0.107	0.229		1.004
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.790		0.107		0.045	0.942
		0.452	0.107		0.045	0.604
	0.790			0.229		1.019
		0.452		0.229		0.681
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.790		0.107	0.229		1.126
		0.452	0.107	0.229		0.788

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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14.4. Sum of the SAR for GSM & Wi-Fi 5.8 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.137		0.027		0.001	1.165
		1.254	0.027		0.001	1.282
	1.137			0.000		1.137
		1.254		0.000		1.254
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.137		0.027	0.000		1.164
		1.254	0.027	0.000		1.281
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.915		0.027		0.001	0.943
		1.039	0.027		0.001	1.067
	0.915			0.000		0.915
		1.039		0.000		1.039
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.915		0.027	0.000		0.942
		1.039	0.027	0.000		1.066
Edge 2, Wi-Fi 1 Tx	0.115		0.140			0.255
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.068		0.008		0.252	0.328
		0.400	0.008		0.252	0.660
	0.068			0.024		0.092
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.068		0.008	0.024		0.100
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.726				0.252	0.978
		0.038			0.252	0.290
	0.726			0.694		1.420
		0.038		0.694		0.732

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.957		0.053		0.045	1.055
		1.029	0.053		0.045	1.127
	0.957			0.158		1.115
		1.029		0.158		1.187
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.957		0.053	0.158		1.168
		1.029	0.053	0.158		1.240
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	1.020		0.053		0.045	1.118
		0.668	0.053		0.045	0.766
	1.020			0.158		1.178
		0.668		0.158		0.826
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	1.020		0.053	0.158		1.231
		0.668	0.053	0.158		0.879
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.790		0.053		0.045	0.888
		0.452	0.053		0.045	0.550
	0.790			0.158		0.948
		0.452		0.158		0.610
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.790		0.053	0.158		1.001
		0.452	0.053	0.158		0.663

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.344		0.002		0.001	1.347
		0.962	0.002		0.001	0.965
	1.344			0.011		1.355
		0.962		0.011		0.973
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.344		0.002	0.011		1.357
		0.962	0.002	0.011		0.975
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.387		0.002		0.001	0.390
		0.531	0.002		0.001	0.534
	0.387			0.011		0.398
		0.531		0.011		0.542
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.387		0.002	0.011		0.400
		0.531	0.002	0.011		0.544
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.383				0.252	0.635
		0.284			0.252	0.536
	0.383			0.779		1.162
		0.284		0.779		1.063

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.096		0.237		0.045	1.378
		1.032	0.237		0.045	1.314
	1.096			0.368		1.464
		1.032		0.368		1.400
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.096		0.237	0.368		1.701
		1.032	0.237	0.368		1.637
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.528		0.237		0.045	0.810
		0.401	0.237		0.045	0.683
	0.528			0.368		0.896
		0.401		0.368		0.769
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.528		0.237	0.368		1.133
		0.401	0.237	0.368		1.006
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.400		0.237		0.045	0.682
		0.220	0.237		0.045	0.502
	0.400			0.368		0.768
		0.220		0.368		0.588
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.400		0.237	0.368		1.005
		0.220	0.237	0.368		0.825

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①WCDMA V	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.096	0.237	0.368		① + ② + ③	1.701				
	1.096	0.237			① + ②	1.333	268.8	0.006	No	X4
	1.096		0.368		① + ③	1.464	157.1	0.011	No	X4

Test Position	①WCDMA IV	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.032	0.237	0.368		① + ② + ③	1.637				
	1.032	0.237			① + ②	1.269	255.4	0.006	No	X5
	1.032		0.368		① + ③	1.400	167.0	0.010	No	X5

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.344		0.078		0.001	1.423
		0.962	0.078		0.001	1.041
	1.344			0.153		1.497
		0.962		0.153		1.115
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.344		0.078	0.153		1.575
		0.962	0.078	0.153		1.193
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.387		0.078		0.001	0.466
		0.531	0.078		0.001	0.610
	0.387			0.153		0.540
		0.531		0.153		0.684
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.387		0.078	0.153		0.618
		0.531	0.078	0.153		0.762
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.383				0.252	0.635
		0.284			0.252	0.536
	0.383			1.072		1.455
		0.284		1.072		1.356

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.096		0.095		0.045	1.236
		1.032	0.095		0.045	1.172
	1.096			0.279		1.375
		1.032		0.279		1.311
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.096		0.095	0.279		1.470
		1.032	0.095	0.279		1.406
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.528		0.095		0.045	0.668
		0.401	0.095		0.045	0.541
	0.528			0.279		0.807
		0.401		0.279		0.680
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.528		0.095	0.279		0.902
		0.401	0.095	0.279		0.775
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.400		0.095		0.045	0.540
		0.220	0.095		0.045	0.360
	0.400			0.279		0.679
		0.220		0.279		0.499
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.400		0.095	0.279		0.774
		0.220	0.095	0.279		0.594

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.344		0.085		0.001	1.430
		0.962	0.085		0.001	1.048
	1.344			0.021		1.365
		0.962		0.021		0.983
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.344		0.085	0.021		1.450
		0.962	0.085	0.021		1.068
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.387		0.085		0.001	0.473
		0.531	0.085		0.001	0.617
	0.387			0.021		0.408
		0.531		0.021		0.552
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.387		0.085	0.021		0.493
		0.531	0.085	0.021		0.637
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.383				0.252	0.635
		0.284			0.252	0.536
	0.383			0.690		1.073
		0.284		0.690		0.974

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.096		0.107		0.045	1.248
		1.032	0.107		0.045	1.184
	1.096			0.229		1.325
		1.032		0.229		1.261
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.096		0.107	0.229		1.432
		1.032	0.107	0.229		1.368
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.528		0.107		0.045	0.680
		0.401	0.107		0.045	0.553
	0.528			0.229		0.757
		0.401		0.229		0.630
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.528		0.107	0.229		0.864
		0.401	0.107	0.229		0.737
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.400		0.107		0.045	0.552
		0.220	0.107		0.045	0.372
	0.400			0.229		0.629
		0.220		0.229		0.449
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.400		0.107	0.229		0.736
		0.220	0.107	0.229		0.556

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.344		0.027		0.001	1.372
		0.962	0.027		0.001	0.990
	1.344			0.000		1.344
		0.962		0.000		0.962
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.344		0.027	0.000		1.371
		0.962	0.027	0.000		0.989
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.387		0.027		0.001	0.415
		0.531	0.027		0.001	0.559
	0.387			0.000		0.387
		0.531		0.000		0.531
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.387		0.027	0.000		0.414
		0.531	0.027	0.000		0.558
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.383				0.252	0.635
		0.284			0.252	0.536
	0.383			0.694		1.077
		0.284		0.694		0.978

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.096		0.053		0.045	1.194
		1.032	0.053		0.045	1.130
	1.096			0.158		1.254
		1.032		0.158		1.190
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.096		0.053	0.158		1.307
		1.032	0.053	0.158		1.243
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.528		0.053		0.045	0.626
		0.401	0.053		0.045	0.499
	0.528			0.158		0.686
		0.401		0.158		0.559
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.528		0.053	0.158		0.739
		0.401	0.053	0.158		0.612
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.400		0.053		0.045	0.498
		0.220	0.053		0.045	0.318
	0.400			0.158		0.558
		0.220		0.158		0.378
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.400		0.053	0.158		0.611
		0.220	0.053	0.158		0.431

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.047	0.002		0.001	1.050
	1.047		0.011		1.058
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.047	0.002	0.011		1.060
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.532	0.002		0.001	0.535
	0.532		0.011		0.543
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.532	0.002	0.011		0.545
Edge 2, Wi-Fi 1 Tx	0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400	0.081		0.252	0.733
	0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.037			0.252	0.289
	0.037		0.779		0.816

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Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.128	0.237		0.045	1.410
	1.128		0.368		1.496
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.128	0.237	0.368		1.733
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.399	0.237		0.045	0.681
	0.399		0.368		0.767
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.399	0.237	0.368		1.004
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.248	0.237		0.045	0.530
	0.248		0.368		0.616
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.248	0.237	0.368		0.853

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①WCDMA Ⅱ	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.128	0.237	0.368		① + ② + ③	1.733				
	1.128	0.237			① + ②	1.365	263.7	0.006	No	X6
	1.128		0.368		① + ③	1.496	176.0	0.010	No	X6

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.047	0.078		0.001	1.126
	1.047		0.153		1.200
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.047	0.078	0.153		1.278
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.532	0.078		0.001	0.611
	0.532		0.153		0.685
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.532	0.078	0.153		0.763
Edge 2, Wi-Fi 1 Tx	0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400	0.010		0.252	0.662
	0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.037			0.252	0.289
	0.037		1.072		1.109

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Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.128	0.095		0.045	1.268
	1.128		0.279		1.407
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.128	0.095	0.279		1.502
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.399	0.095		0.045	0.539
	0.399		0.279		0.678
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.399	0.095	0.279		0.773
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.248	0.095		0.045	0.388
	0.248		0.279		0.527
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.248	0.095	0.279		0.622

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.047	0.085		0.001	1.133
	1.047		0.021		1.068
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.047	0.085	0.021		1.153
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.532	0.085		0.001	0.618
	0.532		0.021		0.553
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.532	0.085	0.021		0.638
Edge 2, Wi-Fi 1 Tx	0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400	0.064		0.252	0.716
	0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.037			0.252	0.289
	0.037		0.690		0.727

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Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.128	0.107		0.045	1.280
	1.128		0.229		1.357
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.128	0.107	0.229		1.464
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.399	0.107		0.045	0.551
	0.399		0.229		0.628
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.399	0.107	0.229		0.735
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.248	0.107		0.045	0.400
	0.248		0.229		0.477
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.248	0.107	0.229		0.584

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.047	0.027		0.001	1.075
	1.047		0.000		1.047
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.047	0.027	0.000		1.074
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.532	0.027		0.001	0.560
	0.532		0.000		0.532
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.532	0.027	0.000		0.559
Edge 2, Wi-Fi 1 Tx	0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400	0.008		0.252	0.660
	0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.037			0.252	0.289
	0.037		0.694		0.731

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Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.128	0.053		0.045	1.226
	1.128		0.158		1.286
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.128	0.053	0.158		1.339
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.399	0.053		0.045	0.497
	0.399		0.158		0.557
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.399	0.053	0.158		0.610
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.248	0.053		0.045	0.346
	0.248		0.158		0.406
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.248	0.053	0.158		0.459

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.218		0.002		0.001	1.221
		1.251	0.002		0.001	1.254
	1.218			0.011		1.229
		1.251		0.011		1.262
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.218		0.002	0.011		1.231
		1.251	0.002	0.011		1.264
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.472		0.002		0.001	0.475
		0.429	0.002		0.001	0.432
	0.472			0.011		0.483
		0.429		0.011		0.440
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.472		0.002	0.011		0.485
		0.429	0.002	0.011		0.442
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.425				0.252	0.677
		0.398			0.252	0.650
	0.425			0.779		1.204
		0.398		0.779		1.177

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.237		0.045	1.340
		1.048	0.237		0.045	1.330
	1.058			0.368		1.426
		1.048		0.368		1.416
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.237	0.368		1.663
		1.048	0.237	0.368		1.653
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.688		0.237		0.045	0.970
		0.810	0.237		0.045	1.092
	0.688			0.368		1.056
		0.810		0.368		1.178
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.688		0.237	0.368		1.293
		0.810	0.237	0.368		1.415
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.237		0.045	0.768
		0.520	0.237		0.045	0.802
	0.486			0.368		0.854
		0.520		0.368		0.888
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.237	0.368		1.091
		0.520	0.237	0.368		1.125

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①CDMA BC0 1xRTT	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058	0.237	0.368		① + ② + ③	1.663				
	1.058	0.237			① + ②	1.295	270.6	0.005	No	X7
	1.058		0.368		① + ③	1.426	164.9	0.010	No	X7

Test Position	①CDMA BC0 1xEVDO	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.048	0.237	0.368		① + ② + ③	1.653				
	1.048	0.237			① + ②	1.285	271.3	0.005	No	X8
	1.048		0.368		① + ③	1.416	165.8	0.010	No	X8

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.218		0.078		0.001	1.297
		1.251	0.078		0.001	1.330
	1.218			0.153		1.371
		1.251		0.153		1.404
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.218		0.078	0.153		1.449
		1.251	0.078	0.153		1.482
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.472		0.078		0.001	0.551
		0.429	0.078		0.001	0.508
	0.472			0.153		0.625
		0.429		0.153		0.582
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.472		0.078	0.153		0.703
		0.429	0.078	0.153		0.660
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.425				0.252	0.677
		0.398			0.252	0.650
	0.425			1.072		1.497
		0.398		1.072		1.470

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.095		0.045	1.198
		1.048	0.095		0.045	1.188
	1.058			0.279		1.337
		1.048		0.279		1.327
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.095	0.279		1.432
		1.048	0.095	0.279		1.422
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.688		0.095		0.045	0.828
		0.810	0.095		0.045	0.950
	0.688			0.279		0.967
		0.810		0.279		1.089
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.688		0.095	0.279		1.062
		0.810	0.095	0.279		1.184
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.095		0.045	0.626
		0.520	0.095		0.045	0.660
	0.486			0.279		0.765
		0.520		0.279		0.799
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.095	0.279		0.860
		0.520	0.095	0.279		0.894

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.218		0.085		0.001	1.304
		1.251	0.085		0.001	1.337
	1.218			0.021		1.239
		1.251		0.021		1.272
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.218		0.085	0.021		1.324
		1.251	0.085	0.021		1.357
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.472		0.085		0.001	0.558
		0.429	0.085		0.001	0.515
	0.472			0.021		0.493
		0.429		0.021		0.450
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.472		0.085	0.021		0.578
		0.429	0.085	0.021		0.535
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.425				0.252	0.677
		0.398			0.252	0.650
	0.425			0.690		1.115
		0.398		0.690		1.088

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.107		0.045	1.210
		1.048	0.107		0.045	1.200
	1.058			0.229		1.287
		1.048		0.229		1.277
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.107	0.229		1.394
		1.048	0.107	0.229		1.384
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.688		0.107		0.045	0.840
		0.810	0.107		0.045	0.962
	0.688			0.229		0.917
		0.810		0.229		1.039
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.688		0.107	0.229		1.024
		0.810	0.107	0.229		1.146
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.107		0.045	0.638
		0.520	0.107		0.045	0.672
	0.486			0.229		0.715
		0.520		0.229		0.749
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.107	0.229		0.822
		0.520	0.107	0.229		0.856

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.218		0.027		0.001	1.246
		1.251	0.027		0.001	1.279
	1.218			0.000		1.218
		1.251		0.000		1.251
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.218		0.027	0.000		1.245
		1.251	0.027	0.000		1.278
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.472		0.027		0.001	0.500
		0.429	0.027		0.001	0.457
	0.472			0.000		0.472
		0.429		0.000		0.429
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.472		0.027	0.000		0.499
		0.429	0.027	0.000		0.456
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.425				0.252	0.677
		0.398			0.252	0.650
	0.425			0.694		1.119
		0.398		0.694		1.092

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.053		0.045	1.156
		1.048	0.053		0.045	1.146
	1.058			0.158		1.216
		1.048		0.158		1.206
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.053	0.158		1.269
		1.048	0.053	0.158		1.259
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.688		0.053		0.045	0.786
		0.810	0.053		0.045	0.908
	0.688			0.158		0.846
		0.810		0.158		0.968
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.688		0.053	0.158		0.899
		0.810	0.053	0.158		1.021
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.053		0.045	0.584
		0.520	0.053		0.045	0.618
	0.486			0.158		0.644
		0.520		0.158		0.678
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.053	0.158		0.697
		0.520	0.053	0.158		0.731

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.002		0.001	1.061
		1.147	0.002		0.001	1.150
	1.058			0.011		1.069
		1.147		0.011		1.158
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.002	0.011		1.071
		1.147	0.002	0.011		1.160
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	1.309		0.002		0.001	1.312
		1.194	0.002		0.001	1.197
	1.309			0.011		1.320
		1.194		0.011		1.205
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	1.309		0.002	0.011		1.322
		1.194	0.002	0.011		1.207
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.068				0.252	0.320
		0.051			0.252	0.303
	0.068			0.779		0.847
		0.051		0.779		0.830

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.040		0.237		0.045	1.322
		1.217	0.237		0.045	1.499
	1.040			0.368		1.408
		1.217		0.368		1.585
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.040		0.237	0.368		1.645
		1.217	0.237	0.368		1.822
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.739		0.237		0.045	1.021
		0.940	0.237		0.045	1.222
	0.739			0.368		1.107
		0.940		0.368		1.308
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.739		0.237	0.368		1.344
		0.940	0.237	0.368		1.545
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.567		0.237		0.045	0.849
		0.578	0.237		0.045	0.860
	0.567			0.368		0.935
		0.578		0.368		0.946
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.567		0.237	0.368		1.172
		0.578	0.237	0.368		1.183

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①CDMA BC1 1xRTT	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.040	0.237	0.368		① + ② + ③	1.645				
	1.040	0.237			① + ②	1.277	257.1	0.006	No	X9
	1.040		0.368		① + ③	1.408	169.3	0.010	No	X9

Test Position	①CDMA BC1 1xEVDO	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.217	0.237	0.368		① + ② + ③	1.822				
	1.217	0.237			① + ②	1.454	254.3	0.007	No	X10
	1.217		0.368		① + ③	1.585	169.7	0.012	No	X10

Conclusion:

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

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14.18. Sum of the SAR for CDMA BC1 & Wi-Fi W5.3 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.078		0.001	1.137
		1.147	0.078		0.001	1.226
	1.058			0.153		1.211
		1.147		0.153		1.300
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.078	0.153		1.289
		1.147	0.078	0.153		1.378
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	1.309		0.078		0.001	1.388
		1.194	0.078		0.001	1.273
	1.309			0.153		1.462
		1.194		0.153		1.347
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	1.309		0.078	0.153		1.540
		1.194	0.078	0.153		1.425
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.068				0.252	0.320
		0.051			0.252	0.303
	0.068			1.072		1.140
		0.051		1.072		1.123

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.040		0.095		0.045	1.180
		1.217	0.095		0.045	1.357
	1.040			0.279		1.319
		1.217		0.279		1.496
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.040		0.095	0.279		1.414
		1.217	0.095	0.279		1.591
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.739		0.095		0.045	0.879
		0.940	0.095		0.045	1.080
	0.739			0.279		1.018
		0.940		0.279		1.219
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.739		0.095	0.279		1.113
		0.940	0.095	0.279		1.314
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.567		0.095		0.045	0.707
		0.578	0.095		0.045	0.718
	0.567			0.279		0.846
		0.578		0.279		0.857
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.567		0.095	0.279		0.941
		0.578	0.095	0.279		0.952

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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14.19. Sum of the SAR for CDMA BC1 & Wi-Fi W5.5 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.085		0.001	1.144
		1.147	0.085		0.001	1.233
	1.058			0.021		1.079
		1.147		0.021		1.168
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.085	0.021		1.164
		1.147	0.085	0.021		1.253
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	1.309		0.085		0.001	1.395
		1.194	0.085		0.001	1.280
	1.309			0.021		1.330
		1.194		0.021		1.215
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	1.309		0.085	0.021		1.415
		1.194	0.085	0.021		1.300
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.068				0.252	0.320
		0.051			0.252	0.303
	0.068			0.690		0.758
		0.051		0.690		0.741

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.040		0.107		0.045	1.192
		1.217	0.107		0.045	1.369
	1.040			0.229		1.269
		1.217		0.229		1.446
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.040		0.107	0.229		1.376
		1.217	0.107	0.229		1.553
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.739		0.107		0.045	0.891
		0.940	0.107		0.045	1.092
	0.739			0.229		0.968
		0.940		0.229		1.169
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.739		0.107	0.229		1.075
		0.940	0.107	0.229		1.276
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.567		0.107		0.045	0.719
		0.578	0.107		0.045	0.730
	0.567			0.229		0.796
		0.578		0.229		0.807
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.567		0.107	0.229		0.903
		0.578	0.107	0.229		0.914

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.

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14.20. Sum of the SAR for CDMA BC1 & Wi-Fi W5.8 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.027		0.001	1.086
		1.147	0.027		0.001	1.175
	1.058			0.000		1.058
		1.147		0.000		1.147
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.027	0.000		1.085
		1.147	0.027	0.000		1.174
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	1.309		0.027		0.001	1.337
		1.194	0.027		0.001	1.222
	1.309			0.000		1.309
		1.194		0.000		1.194
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	1.309		0.027	0.000		1.336
		1.194	0.027	0.000		1.221
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.068				0.252	0.320
		0.051			0.252	0.303
	0.068			0.694		0.762
		0.051		0.694		0.745

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.040		0.053		0.045	1.138
		1.217	0.053		0.045	1.315
	1.040			0.158		1.198
		1.217		0.158		1.375
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.040		0.053	0.158		1.251
		1.217	0.053	0.158		1.428
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.739		0.053		0.045	0.837
		0.940	0.053		0.045	1.038
	0.739			0.158		0.897
		0.940		0.158		1.098
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.739		0.053	0.158		0.950
		0.940	0.053	0.158		1.151
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.567		0.053		0.045	0.665
		0.578	0.053		0.045	0.676
	0.567			0.158		0.725
		0.578		0.158		0.736
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.567		0.053	0.158		0.778
		0.578	0.053	0.158		0.789

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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.

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.194		0.002		0.001	1.197
		1.162	0.002		0.001	1.165
	1.194			0.011		1.205
		1.162		0.011		1.173
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.194		0.002	0.011		1.207
		1.162	0.002	0.011		1.175
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.486		0.002		0.001	0.489
		0.519	0.002		0.001	0.522
	0.486			0.011		0.497
		0.519		0.011		0.530
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.486		0.002	0.011		0.499
		0.519	0.002	0.011		0.532
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.439				0.252	0.691
		0.376			0.252	0.628
	0.439			0.779		1.218
		0.376		0.779		1.155

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.997		0.237		0.045	1.279
		0.972	0.237		0.045	1.254
	0.997			0.368		1.365
		0.972		0.368		1.340
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.997		0.237	0.368		1.602
		0.972	0.237	0.368		1.577
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.743		0.237		0.045	1.025
		0.637	0.237		0.045	0.919
	0.743			0.368		1.111
		0.637		0.368		1.005
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.743		0.237	0.368		1.348
		0.637	0.237	0.368		1.242
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.237		0.045	0.768
		0.483	0.237		0.045	0.765
	0.486			0.368		0.854
		0.483		0.368		0.851
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.237	0.368		1.091
		0.483	0.237	0.368		1.088

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①CDMA BC10 1xRTT	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.997	0.237	0.368		① + ② + ③	1.602				
	0.997	0.237			① + ②	1.234	274.4	0.005	No	X11
	0.997		0.368		① + ③	1.365	163.3	0.010	No	X11

Conclusion:

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

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14.22. Sum of the SAR for CDMA BC10 & Wi-Fi 5.3 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.194		0.078		0.001	1.273
		1.162	0.078		0.001	1.241
	1.194			0.153		1.347
		1.162		0.153		1.315
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.194		0.078	0.153		1.425
		1.162	0.078	0.153		1.393
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.486		0.078		0.001	0.565
		0.519	0.078		0.001	0.598
	0.486			0.153		0.639
		0.519		0.153		0.672
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.486		0.078	0.153		0.717
		0.519	0.078	0.153		0.750
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.439				0.252	0.691
		0.376			0.252	0.628
	0.439			1.072		1.511
		0.376		1.072		1.448

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.997		0.095		0.045	1.137
		0.972	0.095		0.045	1.112
	0.997			0.279		1.276
		0.972		0.279		1.251
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.997		0.095	0.279		1.371
		0.972	0.095	0.279		1.346
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.743		0.095		0.045	0.883
		0.637	0.095		0.045	0.777
	0.743			0.279		1.022
		0.637		0.279		0.916
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.743		0.095	0.279		1.117
		0.637	0.095	0.279		1.011
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.095		0.045	0.626
		0.483	0.095		0.045	0.623
	0.486			0.279		0.765
		0.483		0.279		0.762
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.095	0.279		0.860
		0.483	0.095	0.279		0.857

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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14.23. Sum of the SAR for CDMA BC10 & Wi-Fi 5.5 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.194		0.085		0.001	1.280
		1.162	0.085		0.001	1.248
	1.194			0.021		1.215
		1.162		0.021		1.183
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.194		0.085	0.021		1.300
		1.162	0.085	0.021		1.268
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.486		0.085		0.001	0.572
		0.519	0.085		0.001	0.605
	0.486			0.021		0.507
		0.519		0.021		0.540
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.486		0.085	0.021		0.592
		0.519	0.085	0.021		0.625
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.439				0.252	0.691
		0.376			0.252	0.628
	0.439			0.690		1.129
		0.376		0.690		1.066

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.997		0.107		0.045	1.149
		0.972	0.107		0.045	1.124
	0.997			0.229		1.226
		0.972		0.229		1.201
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.997		0.107	0.229		1.333
		0.972	0.107	0.229		1.308
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.743		0.107		0.045	0.895
		0.637	0.107		0.045	0.789
	0.743			0.229		0.972
		0.637		0.229		0.866
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.743		0.107	0.229		1.079
		0.637	0.107	0.229		0.973
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.107		0.045	0.638
		0.483	0.107		0.045	0.635
	0.486			0.229		0.715
		0.483		0.229		0.712
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.107	0.229		0.822
		0.483	0.107	0.229		0.819

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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14.24. Sum of the SAR for CDMA BC10 & Wi-Fi 5.8 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.194		0.027		0.001	1.222
		1.162	0.027		0.001	1.190
	1.194			0.000		1.194
		1.162		0.000		1.162
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.194		0.027	0.000		1.221
		1.162	0.027	0.000		1.189
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.486		0.027		0.001	0.514
		0.519	0.027		0.001	0.547
	0.486			0.000		0.486
		0.519		0.000		0.519
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.486		0.027	0.000		0.513
		0.519	0.027	0.000		0.546
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.439				0.252	0.691
		0.376			0.252	0.628
	0.439			0.694		1.133
		0.376		0.694		1.070

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.997		0.053		0.045	1.095
		0.972	0.053		0.045	1.070
	0.997			0.158		1.155
		0.972		0.158		1.130
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.997		0.053	0.158		1.208
		0.972	0.053	0.158		1.183
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.743		0.053		0.045	0.841
		0.637	0.053		0.045	0.735
	0.743			0.158		0.901
		0.637		0.158		0.795
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.743		0.053	0.158		0.954
		0.637	0.053	0.158		0.848
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.486		0.053		0.045	0.584
		0.483	0.053		0.045	0.581
	0.486			0.158		0.644
		0.483		0.158		0.641
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.486		0.053	0.158		0.697
		0.483	0.053	0.158		0.694

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.322		0.002		0.001	1.325
		1.344	0.002		0.001	1.347
	1.322			0.011		1.333
		1.344		0.011		1.355
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.322		0.002	0.011		1.335
		1.344	0.002	0.011		1.357
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.932		0.002		0.001	0.935
		0.870	0.002		0.001	0.873
	0.932			0.011		0.943
		0.870		0.011		0.881
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.932		0.002	0.011		0.945
		0.870	0.002	0.011		0.883
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.033				0.252	0.285
		0.475			0.252	0.727
	0.033			0.779		0.812
		0.475		0.779		1.254

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.285		0.237		0.045	1.567
		1.292	0.237		0.045	1.574
	1.285			0.368		1.653
		1.292		0.368		1.660
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285		0.237	0.368		1.890
		1.292	0.237	0.368		1.897
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.640		0.237		0.045	0.922
		0.411	0.237		0.045	0.693
	0.640			0.368		1.008
		0.411		0.368		0.779
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.640		0.237	0.368		1.245
		0.411	0.237	0.368		1.016
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.447		0.237		0.045	0.729
		0.302	0.237		0.045	0.584
	0.447			0.368		0.815
		0.302		0.368		0.670
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.447		0.237	0.368		1.052
		0.302	0.237	0.368		0.907

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 2	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.285		0.368		① + ③	1.653	160.8	0.013	No	X12

Test Position	①LTE Band 4	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.292		0.368		① + ③	1.660	173.3	0.012	No	X13

Test Position	①LTE Band 2	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285	0.237	0.368		① + ② + ③	1.890				
	1.285	0.237			① + ②	1.522	253.9	0.007	No	X12
	1.285		0.368		① + ③	1.653	160.8	0.013	No	X12

Test Position	①LTE Band 4	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.292	0.237	0.368		① + ② + ③	1.897				
	1.292	0.237			① + ②	1.529	257.0	0.007	No	X13
	1.292		0.368		① + ③	1.660	173.3	0.012	No	X13

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.322		0.078		0.001	1.401
		1.344	0.078		0.001	1.423
	1.322			0.153		1.475
		1.344		0.153		1.497
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.322		0.078	0.153		1.553
		1.344	0.078	0.153		1.575
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.932		0.078		0.001	1.011
		0.870	0.078		0.001	0.949
	0.932			0.153		1.085
		0.870		0.153		1.023
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.932		0.078	0.153		1.163
		0.870	0.078	0.153		1.101
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.033				0.252	0.285
		0.475			0.252	0.727
	0.033			1.072		1.105
		0.475		1.072		1.547

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.285		0.095		0.045	1.425
		1.292	0.095		0.045	1.432
	1.285			0.279		1.564
		1.292		0.279		1.571
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285		0.095	0.279		1.659
		1.292	0.095	0.279		1.666
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.640		0.095		0.045	0.780
		0.411	0.095		0.045	0.551
	0.640			0.279		0.919
		0.411		0.279		0.690
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.640		0.095	0.279		1.014
		0.411	0.095	0.279		0.785
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.447		0.095		0.045	0.587
		0.302	0.095		0.045	0.442
	0.447			0.279		0.726
		0.302		0.279		0.581
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.447		0.095	0.279		0.821
		0.302	0.095	0.279		0.676

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 2	② WiFi 5.3GHz (Main Ant)	③ WiFi 5.3GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285	0.095	0.279		① + ② + ③	1.659				
	1.285	0.095			① + ②	1.380	250.2	0.006	No	X14
	1.285		0.279		① + ③	1.564	147.7	0.013	No	X14

Test Position	①LTE Band 4	② WiFi 5.3GHz (Main Ant)	③ WiFi 5.3GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.292	0.095	0.279		① + ② + ③	1.666				
	1.292	0.095			① + ②	1.387	252.9	0.006	No	X15
	1.292		0.279		① + ③	1.571	156.2	0.013	No	X15

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.

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.322		0.085		0.001	1.408
		1.344	0.085		0.001	1.430
	1.322			0.021		1.343
		1.344		0.021		1.365
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.322		0.085	0.021		1.428
		1.344	0.085	0.021		1.450
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.932		0.085		0.001	1.018
		0.870	0.085		0.001	0.956
	0.932			0.021		0.953
		0.870		0.021		0.891
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.932		0.085	0.021		1.038
		0.870	0.085	0.021		0.976
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.033				0.252	0.285
		0.475			0.252	0.727
	0.033			0.690		0.723
		0.475		0.690		1.165

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.285		0.107		0.045	1.437
		1.292	0.107		0.045	1.444
	1.285			0.229		1.514
		1.292		0.229		1.521
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285		0.107	0.229		1.621
		1.292	0.107	0.229		1.628
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.640		0.107		0.045	0.792
		0.411	0.107		0.045	0.563
	0.640			0.229		0.869
		0.411		0.229		0.640
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.640		0.107	0.229		0.976
		0.411	0.107	0.229		0.747
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.447		0.107		0.045	0.599
		0.302	0.107		0.045	0.454
	0.447			0.229		0.676
		0.302		0.229		0.531
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.447		0.107	0.229		0.783
		0.302	0.107	0.229		0.638

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 2	② WiFi 5.5GHz (Main Ant)	③ WiFi 5.5GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285	0.107	0.229		① + ② + ③	1.621				
	1.285	0.107			① + ②	1.392	246.0	0.007	No	X16
	1.285		0.229		① + ③	1.514	150.0	0.012	No	x16

Test Position	①LTE Band 4	② WiFi 5.5GHz (Main Ant)	③ WiFi 5.5GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.292	0.107	0.229		① + ② + ③	1.628				
	1.292	0.107			① + ②	1.399	248.8	0.007	No	X17
	1.292		0.229		① + ③	1.521	158.4	0.012	No	X17

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.

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.322		0.027		0.001	1.350
		1.344	0.027		0.001	1.372
	1.322			0.000		1.322
		1.344		0.000		1.344
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.322		0.027	0.000		1.349
		1.344	0.027	0.000		1.371
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.932		0.027		0.001	0.960
		0.870	0.027		0.001	0.898
	0.932			0.000		0.932
		0.870		0.000		0.870
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.932		0.027	0.000		0.959
		0.870	0.027	0.000		0.897
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.033				0.252	0.285
		0.475			0.252	0.727
	0.033			0.694		0.727
		0.475		0.694		1.169

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.285		0.053		0.045	1.383
		1.292	0.053		0.045	1.390
	1.285			0.158		1.443
		1.292		0.158		1.450
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.285		0.053	0.158		1.496
		1.292	0.053	0.158		1.503
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.640		0.053		0.045	0.738
		0.411	0.053		0.045	0.509
	0.640			0.158		0.798
		0.411		0.158		0.569
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.640		0.053	0.158		0.851
		0.411	0.053	0.158		0.622
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.447		0.053		0.045	0.545
		0.302	0.053		0.045	0.400
	0.447			0.158		0.605
		0.302		0.158		0.460
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.447		0.053	0.158		0.658
		0.302	0.053	0.158		0.513

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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.

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.279		0.002		0.001	1.282
		1.149	0.002		0.001	1.152
	1.279			0.011		1.290
		1.149		0.011		1.160
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.279		0.002	0.011		1.292
		1.149	0.002	0.011		1.162
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.362		0.002		0.001	0.365
		0.954	0.002		0.001	0.957
	0.362			0.011		0.373
		0.954		0.011		0.965
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.362		0.002	0.011		0.375
		0.954	0.002	0.011		0.967
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.284				0.252	0.536
		0.038			0.252	0.290
	0.284			0.779		1.063
		0.038		0.779		0.817

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.070		0.237		0.045	1.352
		1.292	0.237		0.045	1.574
	1.070			0.368		1.438
		1.292		0.368		1.660
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.070		0.237	0.368		1.675
		1.292	0.237	0.368		1.897
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.427		0.237		0.045	0.709
		0.672	0.237		0.045	0.954
	0.427			0.368		0.795
		0.672		0.368		1.040
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.427		0.237	0.368		1.032
		0.672	0.237	0.368		1.277
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.391		0.237		0.045	0.673
		0.444	0.237		0.045	0.726
	0.391			0.368		0.759
		0.444		0.368		0.812
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.391		0.237	0.368		0.996
		0.444	0.237	0.368		1.049

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 25	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.292		0.368		① + ③	1.660	162.8	0.013	No	Y1

Test Position	①LTE Band 5	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.070	0.237	0.368		① + ② + ③	1.675				
	1.070	0.237			① + ②	1.307	271.8	0.005	No	Y2
	1.070		0.368		① + ③	1.438	159.5	0.011	No	Y2

Test Position	①LTE Band 25	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.292	0.237	0.368		① + ② + ③	1.897				
	1.292	0.237			① + ②	1.529	253.8	0.007	No	Y1
	1.292		0.368		① + ③	1.660	162.8	0.013	No	Y1

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.279		0.078		0.001	1.358
		1.149	0.078		0.001	1.228
	1.279			0.153		1.432
		1.149		0.153		1.302
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.279		0.078	0.153		1.510
		1.149	0.078	0.153		1.380
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.362		0.078		0.001	0.441
		0.954	0.078		0.001	1.033
	0.362			0.153		0.515
		0.954		0.153		1.107
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.362		0.078	0.153		0.593
		0.954	0.078	0.153		1.185
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.284				0.252	0.536
		0.038			0.252	0.290
	0.284			1.072		1.356
		0.038		1.072		1.110

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.070		0.095		0.045	1.210
		1.292	0.095		0.045	1.432
	1.070			0.279		1.349
		1.292		0.279		1.571
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.070		0.095	0.279		1.444
		1.292	0.095	0.279		1.666
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.427		0.095		0.045	0.567
		0.672	0.095		0.045	0.812
	0.427			0.279		0.706
		0.672		0.279		0.951
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.427		0.095	0.279		0.801
		0.672	0.095	0.279		1.046
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.391		0.095		0.045	0.531
		0.444	0.095		0.045	0.584
	0.391			0.279		0.670
		0.444		0.279		0.723
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.391		0.095	0.279		0.765
		0.444	0.095	0.279		0.818

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 25	② WiFi 5.3GHz (Main Ant)	③ WiFi 5.3GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.292	0.095	0.279		① + ② + ③	1.666				
	1.292	0.095			① + ②	1.387	250.5	0.007	No	Y3
	1.292		0.279		① + ③	1.571	145.7	0.014	No	Y3

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.279		0.085		0.001	1.365
		1.149	0.085		0.001	1.235
	1.279			0.021		1.300
		1.149		0.021		1.170
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.279		0.085	0.021		1.385
		1.149	0.085	0.021		1.255
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.362		0.085		0.001	0.448
		0.954	0.085		0.001	1.040
	0.362			0.021		0.383
		0.954		0.021		0.975
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.362		0.085	0.021		0.468
		0.954	0.085	0.021		1.060
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.284				0.252	0.536
		0.038			0.252	0.290
	0.284			0.690		0.974
		0.038		0.690		0.728

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.070		0.107		0.045	1.222
		1.292	0.107		0.045	1.444
	1.070			0.229		1.299
		1.292		0.229		1.521
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.070		0.107	0.229		1.406
		1.292	0.107	0.229		1.628
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.427		0.107		0.045	0.579
		0.672	0.107		0.045	0.824
	0.427			0.229		0.656
		0.672		0.229		0.901
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.427		0.107	0.229		0.763
		0.672	0.107	0.229		1.008
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.391		0.107		0.045	0.543
		0.444	0.107		0.045	0.596
	0.391			0.229		0.620
		0.444		0.229		0.673
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.391		0.107	0.229		0.727
		0.444	0.107	0.229		0.780

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 25	② WiFi 5.5GHz (Main Ant)	③ WiFi 5.5GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.292	0.107	0.229		① + ② + ③	1.628				
	1.292	0.107			① + ②	1.399	246.2	0.007	No	Y4
	1.292		0.229		① + ③	1.521	147.9	0.013	No	Y4

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.279		0.027		0.001	1.307
		1.149	0.027		0.001	1.177
	1.279			0.000		1.279
		1.149		0.000		1.149
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.279		0.027	0.000		1.306
		1.149	0.027	0.000		1.176
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.362		0.027		0.001	0.390
		0.954	0.027		0.001	0.982
	0.362			0.000		0.362
		0.954		0.000		0.954
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.362		0.027	0.000		0.389
		0.954	0.027	0.000		0.981
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.284				0.252	0.536
		0.038			0.252	0.290
	0.284			0.694		0.978
		0.038		0.694		0.732

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 25	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.070		0.053		0.045	1.168
		1.292	0.053		0.045	1.390
	1.070			0.158		1.228
		1.292		0.158		1.450
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.070		0.053	0.158		1.281
		1.292	0.053	0.158		1.503
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.427		0.053		0.045	0.525
		0.672	0.053		0.045	0.770
	0.427			0.158		0.585
		0.672		0.158		0.830
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.427		0.053	0.158		0.638
		0.672	0.053	0.158		0.883
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.391		0.053		0.045	0.489
		0.444	0.053		0.045	0.542
	0.391			0.158		0.549
		0.444		0.158		0.602
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.391		0.053	0.158		0.602
		0.444	0.053	0.158		0.655

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.340		0.002		0.001	1.343
		1.182	0.002		0.001	1.185
	1.340			0.011		1.351
		1.182		0.011		1.193
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.340		0.002	0.011		1.353
		1.182	0.002	0.011		1.195
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.330		0.002		0.001	0.333
		0.122	0.002		0.001	0.125
	0.330			0.011		0.341
		0.122		0.011		0.133
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.330		0.002	0.011		0.343
		0.122	0.002	0.011		0.135
Edge 2, Wi-Fi 1 Tx	0.400		0.795			1.195
		0.400	0.795			1.195
Edge 3, Wi-Fi 1 Tx	0.400		0.081		0.252	0.733
		0.400	0.081		0.252	0.733
	0.400			0.119		0.519
		0.400		0.119		0.519
Edge 3, Wi-Fi 2 Tx	0.400		0.081	0.119		0.600
		0.400	0.081	0.119		0.600
Edge 4, Wi-Fi 1 Tx	0.305				0.252	0.557
		0.201			0.252	0.453
	0.305			0.779		1.084
		0.201		0.779		0.980

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.237		0.045	1.340
		1.276	0.237		0.045	1.558
	1.058			0.368		1.426
		1.276		0.368		1.644
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.237	0.368		1.663
		1.276	0.237	0.368		1.881
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.518		0.237		0.045	0.800
		0.288	0.237		0.045	0.570
	0.518			0.368		0.886
		0.288		0.368		0.656
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.518		0.237	0.368		1.123
		0.288	0.237	0.368		0.893
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.365		0.237		0.045	0.647
		0.235	0.237		0.045	0.517
	0.365			0.368		0.733
		0.235		0.368		0.603
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.365		0.237	0.368		0.970
		0.235	0.237	0.368		0.840

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 17	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.276		0.368		① + ③	1.644	160.6	0.013	No	Y5

Test Position	①LTE Band 13	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058	0.237	0.368		① + ② + ③	1.663				
	1.058	0.237			① + ②	1.295	276.3	0.005	No	Y6
	1.058		0.368		① + ③	1.426	156.0	0.011	No	Y6

Test Position	①LTE Band 17	② WiFi 2.4GHz (Main Ant)	③ WiFi 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.276	0.237	0.368		① + ② + ③	1.881				
	1.276	0.237			① + ②	1.513	278.4	0.007	No	Y5
	1.276		0.368		① + ③	1.644	160.6	0.013	No	Y5

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.340		0.078		0.001	1.419
		1.182	0.078		0.001	1.261
	1.340			0.153		1.493
		1.182		0.153		1.335
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.340		0.078	0.153		1.571
		1.182	0.078	0.153		1.413
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.330		0.078		0.001	0.409
		0.122	0.078		0.001	0.201
	0.330			0.153		0.483
		0.122		0.153		0.275
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.330		0.078	0.153		0.561
		0.122	0.078	0.153		0.353
Edge 2, Wi-Fi 1 Tx	0.400		0.353			0.753
		0.400	0.353			0.753
Edge 3, Wi-Fi 1 Tx	0.400		0.010		0.252	0.662
		0.400	0.010		0.252	0.662
	0.400			0.032		0.432
		0.400		0.032		0.432
Edge 3, Wi-Fi 2 Tx	0.400		0.010	0.032		0.442
		0.400	0.010	0.032		0.442
Edge 4, Wi-Fi 1 Tx	0.305				0.252	0.557
		0.201			0.252	0.453
	0.305			1.072		1.377
		0.201		1.072		1.273

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.095		0.045	1.198
		1.276	0.095		0.045	1.416
	1.058			0.279		1.337
		1.276		0.279		1.555
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.095	0.279		1.432
		1.276	0.095	0.279		1.650
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.518		0.095		0.045	0.658
		0.288	0.095		0.045	0.428
	0.518			0.279		0.797
		0.288		0.279		0.567
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.518		0.095	0.279		0.892
		0.288	0.095	0.279		0.662
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.365		0.095		0.045	0.505
		0.235	0.095		0.045	0.375
	0.365			0.279		0.644
		0.235		0.279		0.514
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.365		0.095	0.279		0.739
		0.235	0.095	0.279		0.609

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 17	② WiFi 5.3GHz (Main Ant)	③ WiFi 5.3GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.276	0.095	0.279		① + ② + ③	1.650				
	1.276	0.095			① + ②	1.371	275.9	0.006	No	Y7
	1.276		0.279		① + ③	1.555	142.2	0.014	No	Y7

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.340		0.085		0.001	1.426
		1.182	0.085		0.001	1.268
	1.340			0.021		1.361
		1.182		0.021		1.203
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.340		0.085	0.021		1.446
		1.182	0.085	0.021		1.288
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.330		0.085		0.001	0.416
		0.122	0.085		0.001	0.208
	0.330			0.021		0.351
		0.122		0.021		0.143
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.330		0.085	0.021		0.436
		0.122	0.085	0.021		0.228
Edge 2, Wi-Fi 1 Tx	0.400		0.359			0.759
		0.400	0.359			0.759
Edge 3, Wi-Fi 1 Tx	0.400		0.064		0.252	0.716
		0.400	0.064		0.252	0.716
	0.400			0.030		0.430
		0.400		0.030		0.430
Edge 3, Wi-Fi 2 Tx	0.400		0.064	0.030		0.494
		0.400	0.064	0.030		0.494
Edge 4, Wi-Fi 1 Tx	0.305				0.252	0.557
		0.201			0.252	0.453
	0.305			0.690		0.995
		0.201		0.690		0.891

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.107		0.045	1.210
		1.276	0.107		0.045	1.428
	1.058			0.229		1.287
		1.276		0.229		1.505
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.107	0.229		1.394
		1.276	0.107	0.229		1.612
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.518		0.107		0.045	0.670
		0.288	0.107		0.045	0.440
	0.518			0.229		0.747
		0.288		0.229		0.517
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.518		0.107	0.229		0.854
		0.288	0.107	0.229		0.624
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.365		0.107		0.045	0.517
		0.235	0.107		0.045	0.387
	0.365			0.229		0.594
		0.235		0.229		0.464
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.365		0.107	0.229		0.701
		0.235	0.107	0.229		0.571

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

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SAR to Peak Location Separation Ratio (SPLSR)

Test Position	①LTE Band 17	② WiFi 5.5GHz (Main Ant)	③ WiFi 5.5GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.276	0.107	0.229		① + ② + ③	1.612				
	1.276	0.107			① + ②	1.383	271.4	0.006	No	Y8
	1.276		0.229		① + ③	1.505	144.4	0.013	No	Y8

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.340		0.027		0.001	1.368
		1.182	0.027		0.001	1.210
	1.340			0.000		1.340
		1.182		0.000		1.182
Edge 1 , Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.340		0.027	0.000		1.367
		1.182	0.027	0.000		1.209
Edge 1, Wi-Fi 1 Tx 23mm → w/WWAN Full power	0.330		0.027		0.001	0.358
		0.122	0.027		0.001	0.150
	0.330			0.000		0.330
		0.122		0.000		0.122
Edge 1, Wi-Fi 2 Tx 23mm → w/WWAN Full power	0.330		0.027	0.000		0.357
		0.122	0.027	0.000		0.149
Edge 2, Wi-Fi 1 Tx	0.400		0.140			0.540
		0.400	0.140			0.540
Edge 3, Wi-Fi 1 Tx	0.400		0.008		0.252	0.660
		0.400	0.008		0.252	0.660
	0.400			0.024		0.424
		0.400		0.024		0.424
Edge 3, Wi-Fi 2 Tx	0.400		0.008	0.024		0.432
		0.400	0.008	0.024		0.432
Edge 4, Wi-Fi 1 Tx	0.305				0.252	0.557
		0.201			0.252	0.453
	0.305			0.694		0.999
		0.201		0.694		0.895

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 13	LTE Band 17	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Bottom side, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.058		0.053		0.045	1.156
		1.276	0.053		0.045	1.374
	1.058			0.158		1.216
		1.276		0.158		1.434
Bottom side, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.058		0.053	0.158		1.269
		1.276	0.053	0.158		1.487
Bottom side, Wi-Fi 1 Tx 17mm → w/WWAN Full power	0.518		0.053		0.045	0.616
		0.288	0.053		0.045	0.386
	0.518			0.158		0.676
		0.288		0.158		0.446
Bottom side, Wi-Fi 2 Tx 17mm → w/WWAN Full power	0.518		0.053	0.158		0.729
		0.288	0.053	0.158		0.499
Bottom side(Convertible mode), Wi-Fi 1 Tx	0.365		0.053		0.045	0.463
		0.235	0.053		0.045	0.333
	0.365			0.158		0.523
		0.235		0.158		0.393
Bottom side(Convertible mode), Wi-Fi 2 Tx	0.365		0.053	0.158		0.576
		0.235	0.053	0.158		0.446

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR
3. WLAN Main antenna is more than 20 cm away from Edge4 and WLAN Aux antenna is more than 20 cm away from Edge2. Stand-alone SAR test of Edge4 in WLAN Main antenna is excluded and Stand-alone SAR test of Edge2 in WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.

Conclusion:

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

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Appendixes

Refer to separated files for the following appendixes.

15.1. **System Performance Check Plots**

15.2. **SAR test plots for GSM850**

15.3. **SAR test plots for GSM1900**

15.4. **SAR test plots for WCDMA Band V**

15.5. **SAR test plots for WCDMA Band IV**

15.6. **SAR test plots for WCDMA Band II**

15.7. **SAR test plots for CDMA Band0**

15.8. **SAR test plots for CDMA Band1**

15.9. **SAR test plots for CDMA Band10**

15.10. **SAR test plots for LTE Band 2**

15.11. **SAR test plots for LTE Band 4**

15.12. **SAR test plots for LTE Band 5**

15.13. **SAR test plots for LTE Band 25**

15.14. **SAR test plots for LTE Band 13**

15.15. **SAR test plots for LTE Band 17**

15.16. **SAR Test Plots for Repeat Measurement**

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15.17. SAR Test Plots for Wi-Fi 2.4 GHz Band

15.18. SAR Test Plots for Wi-Fi 5.3 GHz Bands

15.19. SAR Test Plots for Wi-Fi 5.5 GHz Bands

15.20. SAR Test Plots for Wi-Fi 5.8 GHz Bands

15.21. SAR Test Plots for Bluetooth

15.22. SAR peak separation for SPLSR

15.23. SAR Calibration Certificate - Probe EX3DV4 SN 3917

15.24. SAR Calibration Certificate - Probe EX3DV4 SN 3922

15.25. SAR Calibration Certificate - Probe EX3DV4 SN3825

15.26. SAR Calibration Certificate - Dipole D750V3 SN1058

15.27. SAR Calibration Certificate - Dipole D835V2 SN 4d149

15.28. SAR Calibration Certificate - Dipole D1750V2 SN1089

15.29. SAR Calibration Certificate - Dipole D1900V2 SN5d169

15.30. SAR Calibration Certificate for D2450V2 - SN 713

15.31. SAR Calibration Certificate for D5GHzV2 - SN 1020

15.32. SAR Tissue Ingredients

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