SAR EVALUATION REPORT

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

For

Radio Module
(Tested inside of Panasonic Tablet PC FZ-M1)

Model: WW16A
FCC ID: ACJ9TGWW16C

Report Number: 12048163H-A-R1
Issue Date: June 20, 2018

Prepared for

PANASONIC CORPORATION OF NORTH AMERICA
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Prepared by

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NVLAP TESTING

NVLAP LAB CODE: 200572-0

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	03/14/2018	Initial Issue	T. Shimada
1	06/20/2018	Addition of description to Clause 8.2	T. Shimada

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1. Attestation of Test Results

Applicant	PANASONIC CORPORATION OF NORTH AMERICA
DUT description	Wireless Module (Tested inside of Panasonic Tablet PC FZ-M1)
Model	WW16A
Test device is	An identical prototype
Device category	Portable
Exposure category	General Population/Uncontrolled Exposure
Date tested	February 13 to March 7, 2018

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.
6. This report is a revised version of 12048163H-A. 12048163H-A is replaced with this report.

Approved & Released For UL Japan, Inc By: Tested 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 Band5)	824 - 849 MHz	Body & Tablet: 0.972 W/kg (Edge 1)	1.6 W/kg 0.04 SPLSR
24 (LTE Band2)	1860 - 1900 MHz	Body & Tablet: 1.167 W/kg (Edge 2)	
27 (LTE Band12)	699 - 716 MHz	Body & Tablet: 1.001 W/kg (Bottom)	
27 (WCDMA Band 4)	1710 - 1755 MHz	Body & Tablet: 1.100 W/kg (Edge 2)	
27 (LTE Band7)	2510 - 2560 MHz	Body & Tablet: 1.292 W/kg (Edge 2)	
Simultaneous transmission condition		1.554 W/kg (refer to Section 14 of this report.) (The highest SAR across exposure conditions) 0.019 (SPLSR)	

LEGEND:

- Bottom side = Rear of display (Tablet mode)
- Edge 1 = Top Edge (Tablet mode)
- Edge 2 = Left Edge (Tablet mode)
- Edge 3 = Bottom Edge (Tablet mode)
- Edge 4 = Right Edge (Tablet mode)
- Edge 2 45deg = Corner between Top and Left Edge (Tablet mode) *Refer to KDB inquiry

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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:

- o 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- o 865664 D02 SAR Reporting v01r02
- o 447498 D01 General RF Exposure Guidance v06
- o 941225 D01 SAR test for 3G devices v03r01
- o 941225 D05 SAR for LTE Devices v02r05
- o 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- o 616217 D04 SAR for laptop and tablets v01r02

Additional Guidance: Manufacturer KDB inquiry & TCB workshop

- o Test position about Edge2 45deg
- o TCB workshop

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

FCC Test Firm Registration Number: 199967 / ISED SAR Lab Company Number: 2973C

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)
MNA-03	Vector Reflectometer	Copper Mountain Technologies	PLANAR R140	0030913	SAR	2017/04/22 * 12
MDPK-03	Dielectric assessment kit	Schmid&Partner Engineering AG	DAK-3.5	0008	SAR	2017/04/18 * 12
MOS-37	Digital thermometer	LKM electronic	DTM3000	-	SAR	2017/07/26 * 12
COTS-MSAR-04	Dielectric assessment software	Schmid&Partner Engineering AG	DAK		SAR	-
MDAE-02	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1369	SAR	2017/05/17 * 12

System check

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPM-11	Dual Power Meter	Agilent	E4419B	MY45102060	SAR	2017/08/25 * 12
MPSE-15	Power sensor	Agilent	E9301A	MY41498311	SAR	2017/08/25 * 12
MPSE-16	Power sensor	Agilent	E9301A	MY41498313	SAR	2017/08/25 * 12
MRFA-24	Pre Amplifier	R&K	R&K CGA020M602-2633R	B30550	SAR	2017/06/12 * 12
MSG-10	Signal Generator	Agilent	N5181A	MY47421098	SAR	2017/11/29 * 12
MOS-37	Digital thermometer	LKM electronic	DTM3000	-	SAR	2017/07/26 * 12
MAT-78	Attenuator	Telegrartner	J01156A0011	0042294119	SAR	Pre Check
MPM-15	Power Meter	Agilent	N1914A	MY53060017	SAR	2017/06/21 * 12
MPSE-21	Power sensor	Agilent	N8482H	MY52460010	SAR	2017/06/21 * 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
MDAE-02	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1369	SAR	2017/05/17 * 12
MPB-08	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3917	SAR	2017/05/16 * 12
MPF-03	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1203	SAR	2017/05/29 * 12
MDH-04	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-35	Digital thermometer	HANNA	Checktemp 4	-	SAR	2017/07/26 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY5	-	SAR	-
MRBT-03	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F13/5PPLD1/A/01	SAR	2017/06/30 * 12
MDAE-01	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	SAR	2017/07/11 * 12
MPB-07	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3825	SAR	2017/12/11 * 12

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Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MDH-01	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2017/04/21 * 12
MRBT-02	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F10/5E3LA1/A/01	SAR	2017/09/19 * 12
MDA-20	Dipole Antenna	Schmid&Partner Engineering AG	D750V3	1058	SAR(D750)	2015/05/28 * 36
MMSL0750	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MSL750V2	SL AAM 075 AA	SAR*Daily Check Target Value ±5%	Pre Check
SSDA-04	Dipole Antenna	Schmid&Partner Engineering AG	D835V2	4d149	SAR(D835)	2016/03/08 * 24
MMSL0900	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MSL900V2	SL AAM 090 CA	SAR*Daily Check Target Value ±5%	Pre Check
SSDA-06	Dipole Antenna	Schmid&Partner Engineering AG	D1750V2	1089	SAR(D1750)	2016/03/11 * 24
SSLM175-01	Tissue simulation liqud (1750MHz,body)	Schmid&Partner Engineering AG	SL AAM 175 AA	-	SAR*Daily Check Target Value ±5%	
SSDA-08	Dipole Antenna	Schmid&Partner Engineering AG	D1900V2	5d169	SAR(D1900)	2016/03/09 * 24
MDA-19	Dipole Antenna	Schmid&Partner Engineering AG	D2600V2	1030	SAR	2016/03/09 * 24
MPF-02	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1045	SAR	2017/05/17 * 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	2017/11/30 * 12
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2017/04/21 * 12

***1) This test equipment was used for the tests before the expiration date of the calibration.**

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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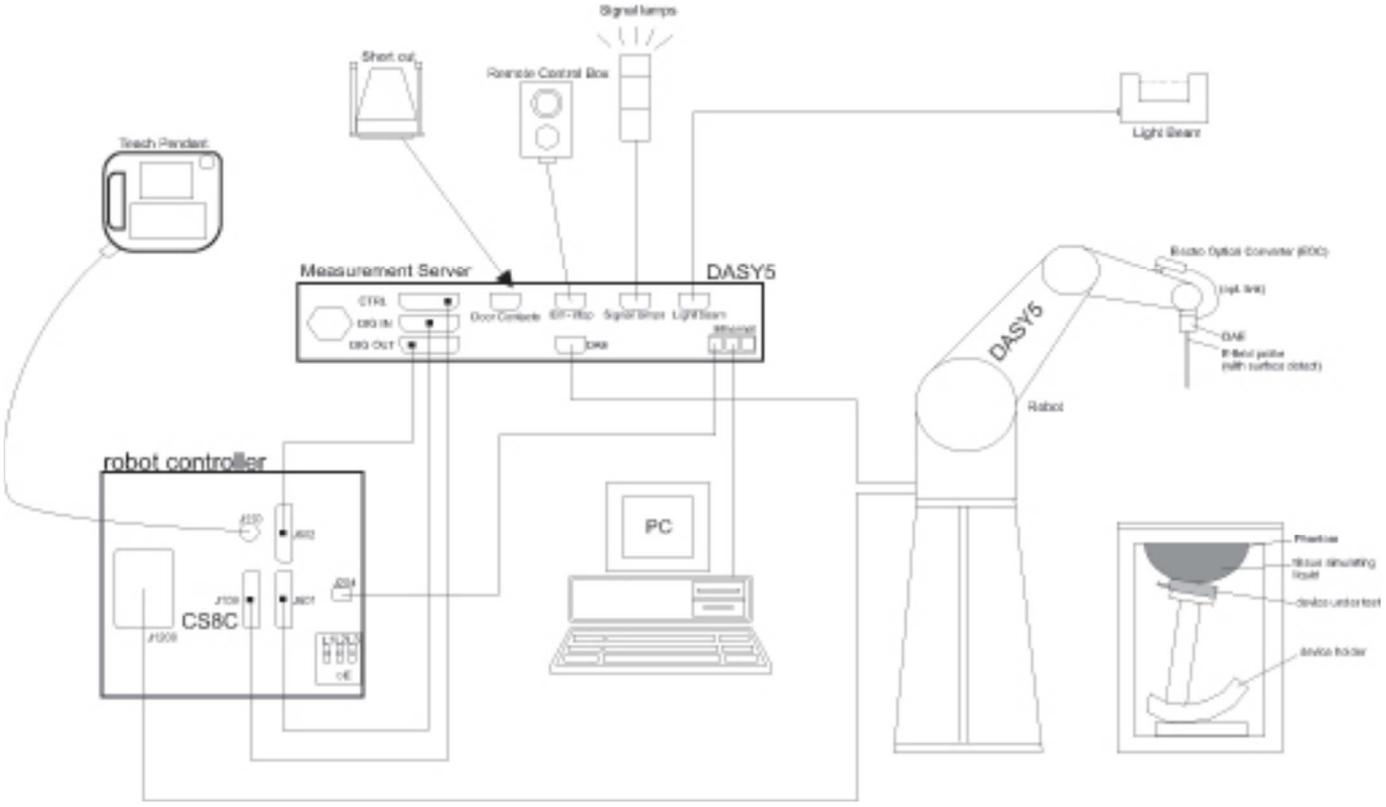
5. Measurement System Description and Setup

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	≤ $1.5 \cdot \Delta z_{Zoom}(n-1)$	
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

Radio Module (Tested inside of Panasonic Tablet PC FZ-M1) Model: WW16A	
Operating Configuration(s)	• Tablet mode
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	• W-CDMA Band V: 824 - 849 MHz • W-CDMA Band IV: 1710 - 1755 MHz • W-CDMA Band II: 1850 - 1910 MHz • LTE Band 2: 1850 - 1910 MHz • LTE Band 4: 1710 - 1755 MHz • LTE Band 5: 824 - 849 MHz • LTE Band 7: 2500 – 2570 MHz • LTE Band 12: 699 – 716 MHz • LTE Band 13: 777 - 787 MHz • LTE Band 25: 1850 - 1915 MHz • LTE Band 26: 814 – 849 MHz • LTE Band 41: 2496 – 2690 MHz Simultaneous transmission with WW16A Wireless Module(Tested inside of Panasonic Tablet PC FZ-M1) Model: WL16B • 802.11a/b/g/n/ac: 2412 - 2472 MHz, b / g / HT20 / HT40 5180 - 5240 MHz, a/HT20/HT40/VHT20/VHT40/VHT80 5260 - 5320 MHz, a/HT20/HT40/VHT20/VHT40/VHT80 5500 - 5720 MHz, a/HT20/HT40/VHT20/VHT40/VHT80 5745 - 5825 MHz, a/HT20/HT40/VHT20/VHT40/VHT80 • Bluetooth: 2402 - 2480 MHz
Duty Cycle	• W-CDMA: 100% • LTE(FDD): 100% • LTE(TDD): 63.3%

7.2. Hotspot (Wireless Router) Exposure Condition

N/A

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7.3. Simultaneous Transmission

WWAN + WLAN 2.4 GHz SISO (1 Tx)

Usage Scenario	Modes	Mode of Operation	BAND	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	WLAN 2.4GHz Main	WLAN 2.4GHz Aux	WLAN 5 GHz Bands Main	WLAN 5 GHz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + 2.4 GHz Bands WLAN	W-CDMA	2	YES	No	No	No	No	No	YES	No	No	No	No
		W-CDMA	4	YES	No	No	No	No	No	YES	No	No	No	No
		W-CDMA	5	YES	No	No	No	No	No	YES	No	No	No	No
		HSDPA	2	No	YES	No	No	No	No	YES	No	No	No	No
		HSDPA	4	No	YES	No	No	No	No	YES	No	No	No	No
		HSDPA	5	No	YES	No	No	No	No	YES	No	No	No	No
		HSUPA	2	No	No	YES	No	No	No	YES	No	No	No	No
		HSUPA	4	No	No	YES	No	No	No	YES	No	No	No	No
		HSUPA	5	No	No	YES	No	No	No	YES	No	No	No	No
		HSPA+	2	No	No	No	YES	No	No	YES	No	No	No	No
		HSPA+	4	No	No	No	YES	No	No	YES	No	No	No	No
		HSPA+	5	No	No	No	YES	No	No	YES	No	No	No	No
		DC-HSDPA	2	No	No	No	No	YES	No	YES	No	No	No	No
		DC-HSDPA	4	No	No	No	No	YES	No	YES	No	No	No	No
		DC-HSDPA	5	No	No	No	No	YES	No	YES	No	No	No	No
		LTE	2	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	4	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	5	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	7	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	12	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	13	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	25	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	26	No	No	No	No	No	YES	YES	No	No	No	No
		LTE	41	No	No	No	No	No	YES	YES	No	No	No	No
		W-CDMA	2	YES	No	No	No	No	No	No	YES	No	No	No
		W-CDMA	4	YES	No	No	No	No	No	No	YES	No	No	No
		W-CDMA	5	YES	No	No	No	No	No	No	YES	No	No	No
		HSDPA	2	No	YES	No	No	No	No	No	YES	No	No	No
		HSDPA	4	No	YES	No	No	No	No	No	YES	No	No	No
		HSDPA	5	No	YES	No	No	No	No	No	YES	No	No	No
		HSUPA	2	No	No	YES	No	No	No	No	YES	No	No	No
		HSUPA	4	No	No	YES	No	No	No	No	YES	No	No	No
		HSUPA	5	No	No	YES	No	No	No	No	YES	No	No	No
		HSPA+	2	No	No	No	YES	No	No	No	YES	No	No	No
		HSPA+	4	No	No	No	YES	No	No	No	YES	No	No	No
		HSPA+	5	No	No	No	YES	No	No	No	YES	No	No	No
		DC-HSDPA	2	No	No	No	No	YES	No	No	YES	No	No	No
		DC-HSDPA	4	No	No	No	No	YES	No	No	YES	No	No	No
		DC-HSDPA	5	No	No	No	No	YES	No	No	YES	No	No	No
		LTE	2	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	4	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	5	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	7	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	12	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	13	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	25	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	26	No	No	No	No	No	YES	No	YES	No	No	No
		LTE	41	No	No	No	No	No	YES	No	YES	No	No	No

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WWAN + WLAN 5 GHz Bands SISO (1 Tx)

Usage Scenario	Modes	Mode of Operation	BAND	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	WLAN 2.4GHz Main	WLAN 2.4GHz Aux	WLAN 5 GHz Bands Main	WLAN 5 GHz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + 5 GHz Bands WLAN	W-CDMA	2	YES	No	No	No	No	No	No	No	YES	No	No
		W-CDMA	4	YES	No	No	No	No	No	No	No	YES	No	No
		W-CDMA	5	YES	No	No	No	No	No	No	No	YES	No	No
		HSDPA	2	No	YES	No	No	No	No	No	No	YES	No	No
		HSDPA	4	No	YES	No	No	No	No	No	No	YES	No	No
		HSDPA	5	No	YES	No	No	No	No	No	No	YES	No	No
		HSUPA	2	No	No	YES	No	No	No	No	No	YES	No	No
		HSUPA	4	No	No	YES	No	No	No	No	No	YES	No	No
		HSUPA	5	No	No	YES	No	No	No	No	No	YES	No	No
		HSPA+	2	No	No	No	YES	No	No	No	No	YES	No	No
		HSPA+	4	No	No	No	YES	No	No	No	No	YES	No	No
		HSPA+	5	No	No	No	YES	No	No	No	No	YES	No	No
		DC-HSDPA	2	No	No	No	No	YES	No	No	No	YES	No	No
		DC-HSDPA	4	No	No	No	No	YES	No	No	No	YES	No	No
		DC-HSDPA	5	No	No	No	No	YES	No	No	No	YES	No	No
		LTE	2	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	4	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	5	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	7	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	12	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	13	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	25	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	26	No	No	No	No	No	YES	No	No	YES	No	No
		LTE	41	No	No	No	No	No	YES	No	No	YES	No	No
		W-CDMA	2	YES	No	No	No	No	No	No	No	No	YES	No
		W-CDMA	4	YES	No	No	No	No	No	No	No	No	YES	No
		W-CDMA	5	YES	No	No	No	No	No	No	No	No	YES	No
		HSDPA	2	No	YES	No	No	No	No	No	No	No	YES	No
		HSDPA	4	No	YES	No	No	No	No	No	No	No	YES	No
		HSDPA	5	No	YES	No	No	No	No	No	No	No	YES	No
		HSUPA	2	No	No	YES	No	No	No	No	No	No	YES	No
		HSUPA	4	No	No	YES	No	No	No	No	No	No	YES	No
		HSUPA	5	No	No	YES	No	No	No	No	No	No	YES	No
		HSPA+	2	No	No	No	YES	No	No	No	No	No	YES	No
		HSPA+	4	No	No	No	YES	No	No	No	No	No	YES	No
		HSPA+	5	No	No	No	YES	No	No	No	No	No	YES	No
		DC-HSDPA	2	No	No	No	No	YES	No	No	No	No	YES	No
		DC-HSDPA	4	No	No	No	No	YES	No	No	No	No	YES	No
		DC-HSDPA	5	No	No	No	No	YES	No	No	No	No	YES	No
		LTE	2	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	4	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	5	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	7	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	12	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	13	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	25	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	26	No	No	No	No	No	YES	No	No	No	YES	No
		LTE	41	No	No	No	No	No	YES	No	No	No	YES	No

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WWAN + Bluetooth

Usage Scenario	Modes	Mode of Operation	BAND	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	WLAN 2.4GHz Main	WLAN 2.4GHz Aux	WLAN 5 GHz Bands Main	WLAN 5 GHz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + Bluetooth	W-CDMA	2	YES	No	No	No	No	No	No	No	No	No	YES
		W-CDMA	4	YES	No	No	No	No	No	No	No	No	No	YES
		W-CDMA	5	YES	No	No	No	No	No	No	No	No	No	YES
		HSDPA	2	No	YES	No	No	No	No	No	No	No	No	YES
		HSDPA	4	No	YES	No	No	No	No	No	No	No	No	YES
		HSDPA	5	No	YES	No	No	No	No	No	No	No	No	YES
		HSUPA	2	No	No	YES	No	No	No	No	No	No	No	YES
		HSUPA	4	No	No	YES	No	No	No	No	No	No	No	YES
		HSUPA	5	No	No	YES	No	No	No	No	No	No	No	YES
		HSPA+	2	No	No	No	YES	No	No	No	No	No	No	YES
		HSPA+	4	No	No	No	YES	No	No	No	No	No	No	YES
		HSPA+	5	No	No	No	YES	No	No	No	No	No	No	YES
		DC-HSDPA	2	No	No	No	No	YES	No	No	No	No	No	YES
		DC-HSDPA	4	No	No	No	No	YES	No	No	No	No	No	YES
		DC-HSDPA	5	No	No	No	No	YES	No	No	No	No	No	YES
		LTE	2	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	4	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	5	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	7	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	12	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	13	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	25	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	26	No	No	No	No	No	YES	No	No	No	No	YES
		LTE	41	No	No	No	No	No	YES	No	No	No	No	YES

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WWAN + WLAN SISO (1 Tx) + Bluetooth

Usage Scenario	Modes	Mode of Operation	BAND	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	WLAN 2.4GHz Main	WLAN 2.4GHz Aux	WLAN 5 GHz Bands Main	WLAN 5 GHz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + 2.4 GHz Bands WLAN + Bluetooth	W-CDMA	2	YES	No	No	No	No	No	YES	No	No	No	YES
		W-CDMA	4	YES	No	No	No	No	No	YES	No	No	No	YES
		W-CDMA	5	YES	No	No	No	No	No	YES	No	No	No	YES
		HSDPA	2	No	YES	No	No	No	No	YES	No	No	No	YES
		HSDPA	4	No	YES	No	No	No	No	YES	No	No	No	YES
		HSDPA	5	No	YES	No	No	No	No	YES	No	No	No	YES
		HSUPA	2	No	No	YES	No	No	No	YES	No	No	No	YES
		HSUPA	4	No	No	YES	No	No	No	YES	No	No	No	YES
		HSUPA	5	No	No	YES	No	No	No	YES	No	No	No	YES
		HSPA+	2	No	No	No	YES	No	No	YES	No	No	No	YES
		HSPA+	4	No	No	No	YES	No	No	YES	No	No	No	YES
		HSPA+	5	No	No	No	YES	No	No	YES	No	No	No	YES
		DC-HSDPA	2	No	No	No	No	YES	No	YES	No	No	No	YES
		DC-HSDPA	4	No	No	No	No	YES	No	YES	No	No	No	YES
		DC-HSDPA	5	No	No	No	No	YES	No	YES	No	No	No	YES
		LTE	2	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	4	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	5	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	7	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	12	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	13	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	25	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	26	No	No	No	No	No	YES	YES	No	No	No	YES
		LTE	41	No	No	No	No	No	YES	YES	No	No	No	YES
	WWAN + 5 GHz Bands WLAN + Bluetooth	W-CDMA	2	YES	No	No	No	No	No	No	No	YES	No	YES
		W-CDMA	4	YES	No	No	No	No	No	No	No	YES	No	YES
		W-CDMA	5	YES	No	No	No	No	No	No	No	YES	No	YES
		HSDPA	2	No	YES	No	No	No	No	No	No	YES	No	YES
		HSDPA	4	No	YES	No	No	No	No	No	No	YES	No	YES
		HSDPA	5	No	YES	No	No	No	No	No	No	YES	No	YES
		HSUPA	2	No	No	YES	No	No	No	No	No	YES	No	YES
		HSUPA	4	No	No	YES	No	No	No	No	No	YES	No	YES
		HSUPA	5	No	No	YES	No	No	No	No	No	YES	No	YES
		HSPA+	2	No	No	No	YES	No	No	No	No	YES	No	YES
		HSPA+	4	No	No	No	YES	No	No	No	No	YES	No	YES
		HSPA+	5	No	No	No	YES	No	No	No	No	YES	No	YES
		DC-HSDPA	2	No	No	No	No	YES	No	No	No	YES	No	YES
		DC-HSDPA	4	No	No	No	No	YES	No	No	No	YES	No	YES
		DC-HSDPA	5	No	No	No	No	YES	No	No	No	YES	No	YES
		LTE	2	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	4	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	5	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	7	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	12	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	13	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	25	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	26	No	No	No	No	No	YES	No	No	YES	No	YES
		LTE	41	No	No	No	No	No	YES	No	No	YES	No	YES

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WWAN + WLAN MIMO (2 Tx)

Usage Scenario	Modes	Mode of Operation	BAND	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	WLAN 2.4GHz Main	WLAN 2.4GHz Aux	WLAN 5 GHz Bands Main	WLAN 5 GHz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + 2.4GHz Bands WLAN MIMO (2 Tx on WLAN)	W-CDMA	2	YES	No	No	No	No	No	YES	YES	No	No	No
		W-CDMA	4	YES	No	No	No	No	No	YES	YES	No	No	No
		W-CDMA	5	YES	No	No	No	No	No	YES	YES	No	No	No
		HSDPA	2	No	YES	No	No	No	No	YES	YES	No	No	No
		HSDPA	4	No	YES	No	No	No	No	YES	YES	No	No	No
		HSDPA	5	No	YES	No	No	No	No	YES	YES	No	No	No
		HSUPA	2	No	No	YES	No	No	No	YES	YES	No	No	No
		HSUPA	4	No	No	YES	No	No	No	YES	YES	No	No	No
		HSUPA	5	No	No	YES	No	No	No	YES	YES	No	No	No
		HSPA+	2	No	No	No	YES	No	No	YES	YES	No	No	No
		HSPA+	4	No	No	No	YES	No	No	YES	YES	No	No	No
		HSPA+	5	No	No	No	YES	No	No	YES	YES	No	No	No
		DC-HSDPA	2	No	No	No	No	YES	No	YES	YES	No	No	No
		DC-HSDPA	4	No	No	No	No	YES	No	YES	YES	No	No	No
		DC-HSDPA	5	No	No	No	No	YES	No	YES	YES	No	No	No
		LTE	2	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	4	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	5	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	7	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	12	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	13	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	25	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	26	No	No	No	No	No	YES	YES	YES	No	No	No
		LTE	41	No	No	No	No	No	YES	YES	YES	No	No	No
	WWAN + 5 GHz Bands WLAN MIMO (2 Tx on WLAN)	W-CDMA	2	YES	No	No	No	No	No	No	No	YES	YES	No
		W-CDMA	4	YES	No	No	No	No	No	No	No	YES	YES	No
		W-CDMA	5	YES	No	No	No	No	No	No	No	YES	YES	No
		HSDPA	2	No	YES	No	No	No	No	No	No	YES	YES	No
		HSDPA	4	No	YES	No	No	No	No	No	No	YES	YES	No
		HSDPA	5	No	YES	No	No	No	No	No	No	YES	YES	No
		HSUPA	2	No	No	YES	No	No	No	No	No	YES	YES	No
		HSUPA	4	No	No	YES	No	No	No	No	No	YES	YES	No
		HSUPA	5	No	No	YES	No	No	No	No	No	YES	YES	No
		HSPA+	2	No	No	No	YES	No	No	No	No	YES	YES	No
		HSPA+	4	No	No	No	YES	No	No	No	No	YES	YES	No
		HSPA+	5	No	No	No	YES	No	No	No	No	YES	YES	No
		DC-HSDPA	2	No	No	No	No	YES	No	No	No	YES	YES	No
		DC-HSDPA	4	No	No	No	No	YES	No	No	No	YES	YES	No
		DC-HSDPA	5	No	No	No	No	YES	No	No	No	YES	YES	No
		LTE	2	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	4	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	5	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	7	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	12	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	13	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	25	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	26	No	No	No	No	No	YES	No	No	YES	YES	No
		LTE	41	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	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 7	Channel Bandwidth					
			20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
		Low	20850/ 2510	20825/ 2507.5	20800/ 2505	20775/ 2502.5		
		Mid	21100/ 2535	21100/ 2535	21100/ 2535	21100/ 2535		
		High	21350/ 2560	21375/ 2562.5	21400/ 2565	21425 2567.5		
		Band 12	Channel Bandwidth					
			20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
		Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
		Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5
		High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3
		Band 13	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		

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<table>
<tr><th>#</th><th>Description</th><th>Information</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Band 25</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td></td><td>20 MHz</td><td>15 MHz</td><td>10 MHz</td><td>5 MHz</td><td>3 MHz</td><td>1.4 MHz</td></tr>
<tr><td>Low</td><td>26140/ 1860</td><td>26115/ 1857.5</td><td>26090/ 1855</td><td>26065/ 1852.5</td><td>26055/ 1851.5</td><td>26047/ 1850.7</td></tr>
<tr><td>Mid</td><td>26365/ 1882.5</td><td>26365/ 1882.5</td><td>26365/ 1882.5</td><td>26365/ 1882.5</td><td>26365/ 1882.5</td><td>26365/ 1882.5</td></tr>
<tr><td>High</td><td>26590/ 1905</td><td>26615/ 1907.5</td><td>26640/ 1910</td><td>26665/ 1912.5</td><td>26675/ 1913.5</td><td>26683/ 1914.3</td></tr>
<tr><td>Band 26</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td></td><td>20 MHz</td><td>15 MHz</td><td>10 MHz</td><td>5 MHz</td><td>3 MHz</td><td>1.4 MHz</td></tr>
<tr><td>Low</td><td></td><td>26765/ 821.5</td><td>26740/ 819</td><td>26715/ 816.5</td><td>26705/ 815.5</td><td>26697/ 814.7</td></tr>
<tr><td>Mid</td><td></td><td>26865/ 831.5</td><td>26865/ 831.5</td><td>26865/ 831.5</td><td>26865/ 831.5</td><td>26865/ 831.5</td></tr>
<tr><td>High</td><td></td><td>26965/ 841.5</td><td>26990/ 844</td><td>27015/ 846.5</td><td>27025/ 847.5</td><td>27033/ 848.3</td></tr>
<tr><td>Band 41</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td></td><td>20 MHz</td><td>15 MHz</td><td>10 MHz</td><td>5 MHz</td><td>3 MHz</td><td>1.4 MHz</td></tr>
<tr><td>Low</td><td>39750/ 2506</td><td>39750/ 2506</td><td>39750/ 2506</td><td>39750/ 2506</td><td></td><td></td></tr>
<tr><td>Low-Mid</td><td>40185/ 2549.5</td><td>40185/ 2549.5</td><td>40185/ 2549.5</td><td>40185/ 2549.5</td><td></td><td></td></tr>
<tr><td>Mid</td><td>40620/ 2593</td><td>40620/ 2593</td><td>40620/ 2593</td><td>40620/ 2593</td><td></td><td></td></tr>
<tr><td>Mid-High</td><td>41055/ 2636.5</td><td>41055/ 2636.5</td><td>41055/ 2636.5</td><td>41055/ 2636.5</td><td></td><td></td></tr>
<tr><td>High</td><td>41490/ 2680</td><td>41490/ 2680</td><td>41490/ 2680</td><td>41490/ 2680</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>B</td><td>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.</td><td>A single antenna (Main) is used for LTE and other wireless modes (WCDMA) for both transmit and receive.</td></tr>
<tr><td>C</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) distance between EUT and phantom are :
- Edge1 of the host device at 11 mm
- Edge2 of the host device at 15 mm
- Edge 3 and Edge 4 of the host device at 0 mm
- Bottom of the host device at 23 mm
- Edge2 45deg of the host device at 11 mm based on KDB inquiry
• Proximity Sensor enabled (Reduced Power)
Edge1, Edge2 45deg, Edge2 and Bottom of the DUT at 0 mm from the phantom.</td></tr>
</table>

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<table>
<tr><th>#</th><th>Description</th><th>Information</th></tr>
<tr><td>D</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>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>E</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>
<tr><td>F</td><td>Carrier Aggregation</td><td>This module has only downlink carrier aggregation function.
(CA configurations and bandwidth combination sets are described in Section9)

According with KDB941225D05A, KDB inquiry and any other SAR measurement is not needed in below conditions.

Uplink maximum output power is measured with downlink carrier aggregation active, only for the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.</td></tr>
</table>

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7.5. LTE (TDD) Considerations

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

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

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

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

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

Calculated Duty Cycle

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

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

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

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7.6. **Proximity Sensor**

The proximity sensor is intended to reduce the WWAN output power when Edge 1, Bottom side, Edge 2, and Edge2 45deg are brought close to the user.

The default power level for sensor failure and malfunctioning, FZ-M1 comes up in low power mode and remains 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 Edge 1, Bottom side, Edge2 and Edge 2 45deg. SAR testing of others was performed at full power.
Please refer to 19. Antenna Dimensions & Separation Distances about proximity sensor and WWAN Main antenna locations and dimensions.

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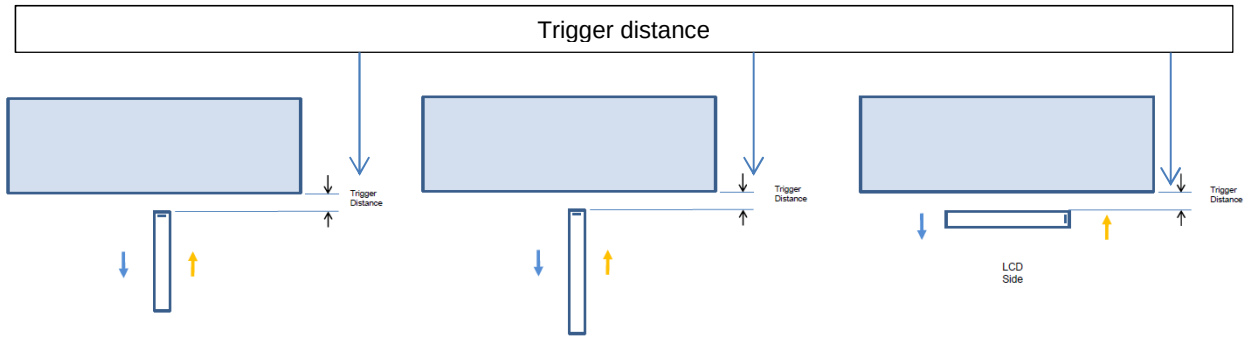
7.7. Proximity Sensor Triggering distance (KDB 616217 §6.2 and KDB inquiry)

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.

The measurement was then repeated for the Edge 2 and Bottom surface.

As per KDB inquiry, the trigger distance was determined for the Edge 2 45deg (11mm).



Proximity Sensor Trigger Distance Assessment KDB 616217 §6.2, **Edge 1**

Proximity Sensor Trigger Distance Assessment KDB 616217 §6.2, **Edge 2**

Proximity Sensor Trigger Distance Assessment KDB 616217 §6.2, **Bottom**

Tissue simulating liquid	Trigger distance - Edge 1		Trigger distance – Edge 2		Trigger distance – Bottom	
	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
All muscle	13	12	17	16	24	25

【Test distance】

Edge 1 : All muscle 11 mm

Edge 2 : All muscle 15 mm

Edge2 45deg: All muscle 11 mm (KDB inquiry)

Bottom: All muscle 23 mm

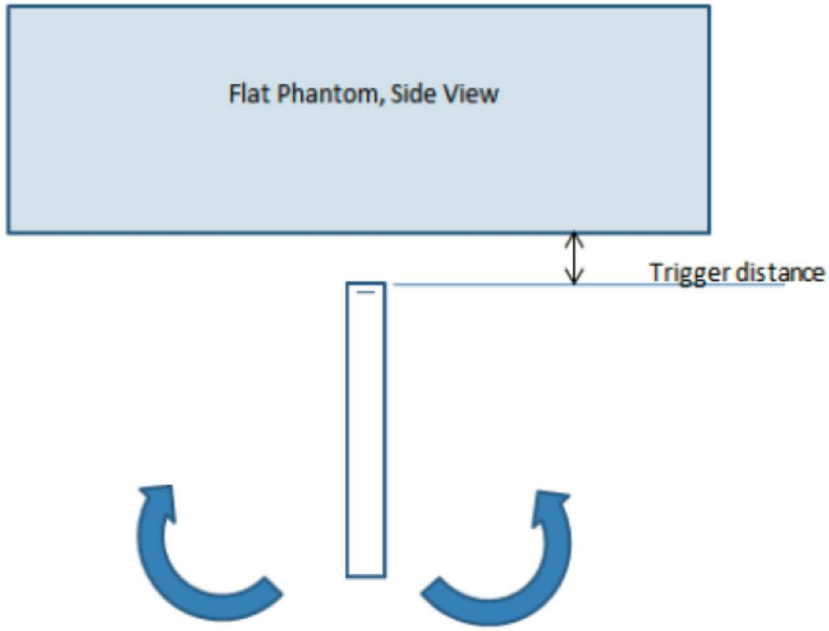
7.8. Proximity Sensor Coverage (KDB 616217 §6.3)

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.

7.9. Proximity Sensor Tilt Angle (KDB 616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with edge 2 parallel to the base of the flat phantom. The DUT was rotated in both directions about edge 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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8. Exposure Conditions

Refer to Section 19 “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	1.5 mm	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. 23 mm is 1 mm less than the closest distance to which the test device can transmit at reduced power.
Front	-	No	SAR is not required as this is not a typical use scenario and also the front side SAR test is not required because of overall diagonal dimension >20cm based on KDB 616217D04.
Edge 1	1.7 mm	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 11 mm from the phantom. 11 mm is 1 mm less than the closest distance to which the test device can transmit at reduced power.
Edge 2	0.68 mm	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 15 mm from the phantom. 15 mm is 1 mm less than the closest distance to which the test device can transmit at reduced power.
Edge 3	59.5 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for LTE Band7 standalone, the test was performed for assuming that another module is installed. If there is a co-located and simultaneous transmission exists, the simultaneous transmission is evaluated in the report of the side being collocated.
Edge 4	180.0 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for assuming that another module is installed. If there is a co-located and simultaneous transmission exists, the simultaneous transmission is evaluated in the report of the side being collocated.
Edge 2 45deg	0.63 mm	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. As per KDB inquiry, the trigger distance was determined for the Edge 2 45deg (11mm).

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LEGEND:

- Bottom side = Rear of display(Tablet mode)
- Edge 1 = Top Edge(Tablet mode)
- Edge 2 = Left Edge(Tablet mode)
- Edge 3 = Bottom Edge(Tablet mode)
- Edge 4 = Right Edge(Tablet mode)
- Edge 2 45deg = Corner between Top and Left Edge (Tablet mode) *Refer to KDB inquiry

8.2. Test Configurations for WLAN

It is the same as SAR report 12048160H-A-R2, submitted under FCC ID ACJ9TGWL16B.

There is no influence on other characteristics as the mounting position of the WLAN module and antenna of this host.

Therefore all WLAN 1-g SAR values were taken from results recorded in that report.

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. W-CDMA Band 5

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
WCDMA	BAND5	4132	826.4	23.00	18.80	+/-1
		4182	836.4			
		4233	846.6			
UTMS 3GPP HSDPA Rel 5	BAND5	4132	826.4	22.00	17.80	
		4182	836.4			
		4233	846.6			
UTMS 3GPP HSUPA Rel 6	BAND5	4132	826.4	22.00	17.80	
		4182	836.4			
		4233	846.6			

Release 99

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

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

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)	
				Full Power	Reduced Power
W-CDMA (UMTS) Band 5	Rel99 (RMC, 12.2 kbps)	4132	826.4	22.79	19.01
		4183	836.6	22.95	19.05
		4233	846.6	22.88	19.09

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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 5	Subtest1	4132	826.4	21.75	18.03
		4183	836.6	21.72	18.07
		4233	846.6	21.69	18.09
	Subtest2	4132	826.4	21.73	18.03
		4183	836.6	21.73	18.07
		4233	846.6	21.70	18.10
	Subtest3	4132	826.4	21.25	17.56
		4183	836.6	21.22	17.59
		4233	846.6	21.21	17.62
	Subtest4	4132	826.4	21.25	17.57
		4183	836.6	21.22	17.58
		4233	846.6	21.20	17.61

Note(s):

According with KDB941225D01, SAR is not required for HSDPA because maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode.

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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 5	Subtest1	4132	826.4	21.43	17.56
		4183	836.6	21.36	17.41
		4233	846.6	21.43	17.43
	Subtest2	4132	826.4	20.72	16.81
		4183	836.6	20.37	16.65
		4233	846.6	20.50	16.63
	Subtest3	4132	826.4	20.32	16.87
		4183	836.6	20.26	17.12
		4233	846.6	20.21	17.01
	Subtest4	4132	826.4	20.93	17.08
		4183	836.6	20.56	17.07
		4233	846.6	20.59	17.13
	Subtest5	4132	826.4	21.30	18.06
		4183	836.6	21.26	18.05
		4233	846.6	21.29	18.13

Note(s):

According with KDB941225D01, SAR is not required for HSPA because maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode.

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9.2. W-CDMA Band 4

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
WCDMA	BAND4	1312	1712.4	23.00	12.10	+/-1
		1413	1732.6			
		1513	1752.6			
UTMS 3GPP HSDPA Rel 5	BAND4	1312	1712.4	22.00	11.10	
		1413	1732.6			
		1513	1752.6			
UTMS 3GPP HSUPA Rel 6	BAND4	1312	1712.4	22.00	11.10	
		1413	1732.6			
		1513	1752.6			

Release 99

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

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

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)	
				Full Power	Reduced Power
W-CDMA (UMTS) Band 4	Rel99 (RMC, 12.2 kbps)	1312	1712.4	23.08	12.38
		1413	1732.6	23.08	12.36
		1513	1752.6	23.12	12.36

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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 4	Subtest1	1312	1712.4	21.95	11.43
		1413	1732.6	21.92	11.31
		1513	1752.6	21.95	11.34
	Subtest2	1312	1712.4	21.97	11.31
		1413	1732.6	21.94	11.31
		1513	1752.6	21.93	11.30
	Subtest3	1312	1712.4	21.49	10.83
		1413	1732.6	21.44	10.81
		1513	1752.6	21.44	10.91
	Subtest4	1312	1712.4	21.49	10.84
		1413	1732.6	21.45	10.84
		1513	1752.6	21.44	10.83

Note(s):

According with KDB941225D01, SAR is not required for HSDPA because maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode.

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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	

HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band 4	Subtest1	1312	1712.4	21.71	10.63
		1413	1732.6	21.65	10.62
		1513	1752.6	21.43	10.58
	Subtest2	1312	1712.4	20.97	9.76
		1413	1732.6	20.75	9.78
		1513	1752.6	20.86	9.79
	Subtest3	1312	1712.4	20.64	10.07
		1413	1732.6	20.56	10.27
		1513	1752.6	20.48	10.18
	Subtest4	1312	1712.4	20.93	10.23
		1413	1732.6	20.87	10.27
		1513	1752.6	20.80	10.26
	Subtest5	1312	1712.4	21.60	11.22
		1413	1732.6	21.53	11.35
		1513	1752.6	21.49	11.28

Note(s):

According with KDB941225D01, SAR is not required for HSPA because maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode.

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9.3. W-CDMA Band 2

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
WCDMA	BAND2	9262	1852.4	23.00	10.70	+/-1
		9400	1880			
		9538	1907.6			
UTMS 3GPP HSDPA Rel 5	BAND2	9262	1852.4	22.00	9.70	
		9400	1880			
		9538	1907.6			
UTMS 3GPP HSUPA Rel 6	BAND2	9262	1852.4	22.00	9.70	
		9400	1880			
		9538	1907.6			

Release 99

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

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

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)	
				Full Power	Reduced Power
W-CDMA (UMTS) Band 2	Rel99 (RMC, 12.2 kbps)	9262	1852.4	23.10	10.76
		9400	1880.0	23.15	10.88
		9538	1907.6	23.14	10.87

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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 2	Subtest1	9262	1852.4	21.98	9.70
		9400	1880.0	22.04	9.81
		9538	1907.6	22.02	9.71
	Subtest2	9262	1852.4	21.98	9.71
		9400	1880.0	22.04	9.78
		9538	1907.6	22.02	9.76
	Subtest3	9262	1852.4	21.48	9.20
		9400	1880.0	21.55	9.31
		9538	1907.6	21.54	9.22
	Subtest4	9262	1852.4	21.47	9.23
		9400	1880.0	21.55	9.30
		9538	1907.6	21.53	9.21

Note(s):

According with KDB941225D01, SAR is not required for HSDPA because maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode.

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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	Subtest1	9262	1852.4	21.66	9.06
		9400	1880.0	21.73	9.19
		9538	1907.6	21.71	9.10
	Subtest2	9262	1852.4	20.90	8.26
		9400	1880.0	20.84	8.38
		9538	1907.6	20.87	8.31
	Subtest3	9262	1852.4	20.60	8.62
		9400	1880.0	20.56	8.85
		9538	1907.6	20.66	8.79
	Subtest4	9262	1852.4	20.98	8.76
		9400	1880.0	20.94	8.85
		9538	1907.6	20.96	8.79
	Subtest5	9262	1852.4	21.56	9.72
		9400	1880.0	21.62	9.86
		9538	1907.6	21.63	9.78

Note(s):

According with KDB941225D01, SAR is not required for HSPA because maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode.

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9.5. LTE Band 2

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

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND2	18700	1860	23.00	11.50	+/-1
		18900	1880			
		19100	1900			

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 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 (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	18700	1860	QPSK	1	0	0	0	24.0	22.42
				1	49	0	0	24.0	22.41
				1	99	0	0	24.0	22.32
				50	0	1	1	23.0	21.52
				50	24	1	1	23.0	21.62
				50	49	1	1	23.0	21.53
				100	0	1	1	23.0	21.49
			16QAM	1	0	1	1	23.0	21.92
				1	49	1	1	23.0	21.92
				1	99	1	1	23.0	21.75
				50	0	2	2	22.0	20.49
				50	24	2	2	22.0	20.60
				50	49	2	2	22.0	20.45
				100	0	2	2	22.0	20.42
	18900	1880	QPSK	1	0	0	0	24.0	22.71
				1	49	0	0	24.0	22.68
				1	99	0	0	24.0	22.64
				50	0	1	1	23.0	21.53
				50	24	1	1	23.0	21.58
				50	49	1	1	23.0	21.62
				100	0	1	1	23.0	21.59
			16QAM	1	0	1	1	23.0	21.76
				1	49	1	1	23.0	21.81
				1	99	1	1	23.0	21.75
				50	0	2	2	22.0	20.51
				50	24	2	2	22.0	20.63
				50	49	2	2	22.0	20.61
				100	0	2	2	22.0	20.56
	19100	1900	QPSK	1	0	0	0	24.0	22.66
				1	49	0	0	24.0	22.68
				1	99	0	0	24.0	22.40
				50	0	1	1	23.0	21.58
				50	24	1	1	23.0	21.63
				50	49	1	1	23.0	21.56
				100	0	1	1	23.0	21.63
			16QAM	1	0	1	1	23.0	21.85
				1	49	1	1	23.0	21.93
				1	99	1	1	23.0	21.68
				50	0	2	2	22.0	20.41
				50	24	2	2	22.0	20.48
				50	49	2	2	22.0	20.46
				100	0	2	2	22.0	20.59

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	18700	1860	QPSK	1	0	MPR is disabled when power reduction is enabled		12.5	11.95
				1	49			12.5	12.06
				1	99			12.5	11.79
				50	0			12.5	11.79
				50	24			12.5	11.94
				50	49			12.5	11.83
				100	0			12.5	11.86
			16QAM	1	0			12.5	12.35
				1	49			12.5	12.44
				1	99			12.5	12.26
				50	0			12.5	11.89
				50	24			12.5	11.97
				50	49			12.5	11.88
				100	0			12.5	11.92
	18900	1880	QPSK	1	0			12.5	11.87
				1	49			12.5	12.07
				1	99			12.5	11.86
				50	0			12.5	11.83
				50	24			12.5	11.91
				50	49			12.5	11.89
				100	0			12.5	11.93
			16QAM	1	0			12.5	12.20
				1	49			12.5	12.38
				1	99			12.5	12.18
				50	0			12.5	11.81
				50	24			12.5	11.90
				50	49			12.5	11.90
				100	0			12.5	11.98
	19100	1900	QPSK	1	0			12.5	11.90
				1	49			12.5	12.01
				1	99			12.5	11.72
				50	0			12.5	11.88
				50	24			12.5	11.93
				50	49			12.5	11.85
				100	0			12.5	12.00
			16QAM	1	0			12.5	12.39
				1	49			12.5	12.42
				1	99			12.5	12.21
				50	0			12.5	11.89
				50	24			12.5	11.92
				50	49			12.5	11.86
				100	0			12.5	11.99

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	18675	1857.5	QPSK	1	0	0	0	24.0	22.58
				1	37	0	0	24.0	22.42
				1	74	0	0	24.0	22.41
				36	0	1	1	23.0	21.43
				36	19	1	1	23.0	21.54
				36	39	1	1	23.0	21.52
				75	0	1	1	23.0	21.57
			16QAM	1	0	1	1	23.0	21.49
				1	37	1	1	23.0	21.51
				1	74	1	1	23.0	21.61
				36	0	2	2	22.0	20.44
				36	19	2	2	22.0	20.59
				36	39	2	2	22.0	20.49
				75	0	2	2	22.0	20.58
	18900	1880	QPSK	1	0	0	0	24.0	22.76
				1	37	0	0	24.0	22.74
				1	74	0	0	24.0	22.64
				36	0	1	1	23.0	21.52
				36	19	1	1	23.0	21.69
				36	39	1	1	23.0	21.59
				75	0	1	1	23.0	21.48
			16QAM	1	0	1	1	23.0	22.26
				1	37	1	1	23.0	22.15
				1	74	1	1	23.0	21.99
				36	0	2	2	22.0	20.55
				36	19	2	2	22.0	20.66
				36	39	2	2	22.0	20.59
				75	0	2	2	22.0	20.65
	19125	1902.5	QPSK	1	0	0	0	24.0	22.51
				1	37	0	0	24.0	22.59
				1	74	0	0	24.0	22.50
				36	0	1	1	23.0	21.58
				36	19	1	1	23.0	21.68
				36	39	1	1	23.0	21.59
				75	0	1	1	23.0	21.52
			16QAM	1	0	1	1	23.0	22.09
				1	37	1	1	23.0	22.09
				1	74	1	1	23.0	21.97
				36	0	2	2	22.0	20.53
				36	19	2	2	22.0	20.67
				36	39	2	2	22.0	20.54
				75	0	2	2	22.0	20.58

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	18675	1857.5	QPSK	1	0			12.5	11.80
				1	37			12.5	11.86
				1	74			12.5	11.72
				36	0			12.5	11.76
				36	19			12.5	11.89
				36	39			12.5	11.83
				75	0			12.5	11.87
			16QAM	1	0			12.5	11.82
				1	37			12.5	11.78
				1	74			12.5	11.74
				36	0			12.5	11.73
				36	19			12.5	11.82
				36	39			12.5	11.80
				75	0			12.5	11.93
	18900	1880	QPSK	1	0			12.5	11.92
				1	37			12.5	12.06
				1	74			12.5	11.82
				36	0			12.5	11.80
				36	19			12.5	11.91
				36	39			12.5	11.83
				75	0			12.5	11.86
			16QAM	1	0			12.5	12.32
				1	37			12.5	12.44
				1	74			12.5	12.16
				36	0			12.5	11.77
				36	19			12.5	11.89
				36	39			12.5	11.81
				75	0			12.5	11.88
	19125	1902.5	QPSK	1	0			12.5	11.84
				1	37			12.5	11.80
				1	74			12.5	11.79
				36	0			12.5	11.81
				36	19			12.5	11.95
				36	39			12.5	11.79
				75	0			12.5	11.82
			16QAM	1	0			12.5	12.14
				1	37			12.5	12.27
				1	74			12.5	12.18
				36	0			12.5	11.77
				36	19			12.5	11.92
				36	39			12.5	11.82
				75	0			12.5	11.84

MPR is disabled when power reduction is enabled

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	18650	1855	QPSK	1	0	0	0	24.0	22.74
				1	24	0	0	24.0	22.71
				1	49	0	0	24.0	22.76
				25	0	1	1	23.0	21.65
				25	12	1	1	23.0	21.64
				25	24	1	1	23.0	21.61
				50	0	1	1	23.0	21.66
			16QAM	1	0	1	1	23.0	21.76
				1	24	1	1	23.0	21.73
				1	49	1	1	23.0	21.78
				25	0	2	2	22.0	20.66
				25	12	2	2	22.0	20.63
				25	24	2	2	22.0	20.66
				50	0	2	2	22.0	20.61
	18900	1880	QPSK	1	0	0	0	24.0	22.70
				1	24	0	0	24.0	22.77
				1	49	0	0	24.0	22.78
				25	0	1	1	23.0	21.65
				25	12	1	1	23.0	21.64
				25	24	1	1	23.0	21.74
				50	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	21.81
				1	24	1	1	23.0	21.74
				1	49	1	1	23.0	21.73
				25	0	2	2	22.0	20.65
				25	12	2	2	22.0	20.70
				25	24	2	2	22.0	20.75
				50	0	2	2	22.0	20.72
	19150	1905	QPSK	1	0	0	0	24.0	22.80
				1	24	0	0	24.0	22.68
				1	49	0	0	24.0	22.66
				25	0	1	1	23.0	21.68
				25	12	1	1	23.0	21.75
				25	24	1	1	23.0	21.64
				50	0	1	1	23.0	21.72
			16QAM	1	0	1	1	23.0	22.30
				1	24	1	1	23.0	22.23
				1	49	1	1	23.0	21.98
				25	0	2	2	22.0	20.80
				25	12	2	2	22.0	20.84
				25	24	2	2	22.0	20.80
				50	0	2	2	22.0	20.77

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	18650	1855	QPSK	1	0	MPR is disabled when power reduction is enabled		12.5	12.00
				1	24			12.5	12.11
				1	49			12.5	11.99
				25	0			12.5	11.96
				25	12			12.5	11.89
				25	24			12.5	11.88
				50	0			12.5	11.99
			16QAM	1	0			12.5	12.05
				1	24			12.5	12.09
				1	49			12.5	11.98
				25	0			12.5	12.02
				25	12			12.5	11.96
				25	24			12.5	11.96
				50	0			12.5	12.02
	18900	1880	QPSK	1	0			12.5	12.02
				1	24			12.5	12.00
				1	49			12.5	11.90
				25	0			12.5	11.93
				25	12			12.5	11.94
				25	24			12.5	11.99
				50	0			12.5	12.06
			16QAM	1	0			12.5	12.32
				1	24			12.5	12.26
				1	49			12.5	12.13
				25	0			12.5	12.02
				25	12			12.5	12.07
				25	24			12.5	12.09
				50	0			12.5	12.09
	19150	1905	QPSK	1	0			12.5	11.97
				1	24			12.5	12.13
				1	49			12.5	11.94
				25	0			12.5	11.93
				25	12			12.5	11.97
				25	24			12.5	11.90
				50	0			12.5	12.05
			16QAM	1	0			12.5	12.13
				1	24			12.5	12.32
				1	49			12.5	12.23
				25	0			12.5	12.06
				25	12			12.5	12.11
				25	24			12.5	12.03
				50	0			12.5	12.08

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	18625	1852.5	QPSK	1	0	0	0	24.0	22.87
				1	12	0	0	24.0	22.82
				1	24	0	0	24.0	22.97
				12	0	1	1	23.0	21.68
				12	6	1	1	23.0	21.76
				12	11	1	1	23.0	21.70
				25	0	1	1	23.0	21.74
			16QAM	1	0	1	1	23.0	21.89
				1	12	1	1	23.0	21.77
				1	24	1	1	23.0	22.02
				12	0	2	2	22.0	20.75
				12	6	2	2	22.0	20.78
				12	11	2	2	22.0	20.72
				25	0	2	2	22.0	20.67
	18900	1880	QPSK	1	0	0	0	24.0	22.85
				1	12	0	0	24.0	22.57
				1	24	0	0	24.0	22.78
				12	0	1	1	23.0	21.73
				12	6	1	1	23.0	21.72
				12	11	1	1	23.0	21.77
				25	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	21.91
				1	12	1	1	23.0	21.62
				1	24	1	1	23.0	21.86
				12	0	2	2	22.0	20.80
				12	6	2	2	22.0	20.76
				12	11	2	2	22.0	20.83
				25	0	2	2	22.0	20.66
	19175	1907.5	QPSK	1	0	0	0	24.0	22.78
				1	12	0	0	24.0	22.71
				1	24	0	0	24.0	22.79
				12	0	1	1	23.0	21.68
				12	6	1	1	23.0	21.71
				12	11	1	1	23.0	21.74
				25	0	1	1	23.0	21.69
			16QAM	1	0	1	1	23.0	21.87
				1	12	1	1	23.0	21.60
				1	24	1	1	23.0	21.81
				12	0	2	2	22.0	20.65
				12	6	2	2	22.0	20.74
				12	11	2	2	22.0	20.72
				25	0	2	2	22.0	20.58

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	18625	1852.5	QPSK	1	0	MPR is disabled when power reduction is enabled		12.5	12.17
				1	12			12.5	12.12
				1	24			12.5	12.16
				12	0			12.5	11.97
				12	6			12.5	12.04
				12	11			12.5	11.99
				25	0			12.5	12.07
			16QAM	1	0			12.5	12.16
				1	12			12.5	12.14
				1	24			12.5	12.28
				12	0			12.5	12.01
				12	6			12.5	12.10
				12	11			12.5	12.04
				25	0			12.5	12.05
	18900	1880	QPSK	1	0			12.5	12.18
				1	12			12.5	12.06
				1	24			12.5	12.11
				12	0			12.5	12.01
				12	6			12.5	11.98
				12	11			12.5	12.04
				25	0			12.5	12.02
			16QAM	1	0			12.5	12.22
				1	12			12.5	12.13
				1	24			12.5	12.15
				12	0			12.5	12.08
				12	6			12.5	12.05
				12	11			12.5	12.09
				25	0			12.5	12.03
	19175	1907.5	QPSK	1	0			12.5	12.14
				1	12			12.5	12.11
				1	24			12.5	12.18
				12	0			12.5	11.99
				12	6			12.5	12.00
				12	11			12.5	12.02
				25	0			12.5	12.03
			16QAM	1	0			12.5	12.20
				1	12			12.5	12.07
				1	24			12.5	12.23
				12	0			12.5	12.01
				12	6			12.5	12.05
				12	11			12.5	12.07
				25	0			12.5	12.03

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	18615	1851.5	QPSK	1	0	0	0	24.0	22.80
				1	7	0	0	24.0	22.84
				1	14	0	0	24.0	22.99
				8	0	1	1	23.0	21.66
				8	4	1	1	23.0	21.69
				8	7	1	1	23.0	21.70
				15	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	21.62
				1	7	1	1	23.0	21.70
				1	14	1	1	23.0	21.71
				8	0	2	2	22.0	20.74
				8	4	2	2	22.0	20.82
				8	7	2	2	22.0	20.78
				15	0	2	2	22.0	20.72
	18900	1880	QPSK	1	0	0	0	24.0	22.75
				1	7	0	0	24.0	22.68
				1	14	0	0	24.0	22.69
				8	0	1	1	23.0	21.74
				8	4	1	1	23.0	21.73
				8	7	1	1	23.0	21.78
				15	0	1	1	23.0	21.63
			16QAM	1	0	1	1	23.0	21.90
				1	7	1	1	23.0	21.78
				1	14	1	1	23.0	21.80
				8	0	2	2	22.0	20.64
				8	4	2	2	22.0	20.69
				8	7	2	2	22.0	20.73
				15	0	2	2	22.0	20.59
	19185	1908.5	QPSK	1	0	0	0	24.0	22.78
				1	7	0	0	24.0	22.79
				1	14	0	0	24.0	22.77
				8	0	1	1	23.0	21.65
				8	4	1	1	23.0	21.68
				8	7	1	1	23.0	21.71
				15	0	1	1	23.0	21.69
			16QAM	1	0	1	1	23.0	21.85
				1	7	1	1	23.0	22.02
				1	14	1	1	23.0	21.90
				8	0	2	2	22.0	20.64
				8	4	2	2	22.0	20.74
				8	7	2	2	22.0	20.71
				15	0	2	2	22.0	20.61

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	18615	1851.5	QPSK	1	0	MPR is disabled when power reduction is enabled		12.5	11.98
				1	7			12.5	12.05
				1	14			12.5	12.16
				8	0			12.5	11.97
				8	4			12.5	12.01
				8	7			12.5	11.99
				15	0			12.5	12.01
			16QAM	1	0			12.5	11.89
				1	7			12.5	11.99
				1	14			12.5	11.99
				8	0			12.5	12.07
				8	4			12.5	12.11
				8	7			12.5	12.12
				15	0			12.5	12.10
	18900	1880	QPSK	1	0			12.5	12.20
				1	7			12.5	12.05
				1	14			12.5	12.16
				8	0			12.5	12.01
				8	4			12.5	12.00
				8	7			12.5	12.02
				15	0			12.5	12.00
			16QAM	1	0			12.5	12.49
				1	7			12.5	12.48
				1	14			12.5	12.44
				8	0			12.5	12.08
				8	4			12.5	12.09
				8	7			12.5	12.12
				15	0			12.5	12.06
	19185	1908.5	QPSK	1	0			12.5	12.09
				1	7			12.5	11.98
				1	14			12.5	12.12
				8	0			12.5	12.01
				8	4			12.5	12.04
				8	7			12.5	12.03
				15	0			12.5	12.07
			16QAM	1	0			12.5	12.15
				1	7			12.5	12.21
				1	14			12.5	12.11
				8	0			12.5	12.04
				8	4			12.5	12.11
				8	7			12.5	12.12
				15	0			12.5	12.06

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LTE Band 2, 1.4 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	18607	1850.7	QPSK	1	0	0	0	24.0	22.83
				1	2	0	0	24.0	22.88
				1	5	0	0	24.0	22.85
				3	0	0	0	24.0	22.64
				3	1	0	0	24.0	22.74
				3	3	0	0	24.0	22.70
				6	0	1	1	23.0	21.63
			16QAM	1	0	1	1	23.0	21.78
				1	2	1	1	23.0	21.96
				1	5	1	1	23.0	21.84
				3	0	1	1	23.0	21.78
				3	1	1	1	23.0	21.83
				3	3	1	1	23.0	21.82
				6	0	2	2	22.0	20.84
	18900	1880	QPSK	1	0	0	0	24.0	22.87
				1	2	0	0	24.0	22.71
				1	5	0	0	24.0	22.75
				3	0	0	0	24.0	22.56
				3	1	0	0	24.0	22.70
				3	3	0	0	24.0	22.73
				6	0	1	1	23.0	21.65
			16QAM	1	0	1	1	23.0	21.85
				1	2	1	1	23.0	21.95
				1	5	1	1	23.0	21.86
				3	0	1	1	23.0	21.78
				3	1	1	1	23.0	21.82
				3	3	1	1	23.0	21.84
				6	0	2	2	22.0	20.84
	19193	1909.3	QPSK	1	0	0	0	24.0	22.81
				1	2	0	0	24.0	22.89
				1	5	0	0	24.0	22.84
				3	0	0	0	24.0	22.67
				3	1	0	0	24.0	22.82
				3	3	0	0	24.0	22.78
				6	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.76
				1	2	1	1	23.0	21.90
				1	5	1	1	23.0	21.83
				3	0	1	1	23.0	21.75
				3	1	1	1	23.0	21.78
				3	3	1	1	23.0	21.78
				6	0	2	2	22.0	20.78

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	18607	1850.7	QPSK	1	0	MPR is disabled when power reduction is enabled		12.5	12.06
				1	2			12.5	12.05
				1	5			12.5	12.07
				3	0			12.5	11.89
				3	1			12.5	11.91
				3	3			12.5	11.83
				6	0			12.5	11.91
			16QAM	1	0			12.5	12.10
				1	2			12.5	12.18
				1	5			12.5	12.20
				3	0			12.5	11.93
				3	1			12.5	12.03
				3	3			12.5	11.96
				6	0			12.5	12.09
	18900	1880	QPSK	1	0			12.5	12.08
				1	2			12.5	12.05
				1	5			12.5	12.04
				3	0			12.5	11.81
				3	1			12.5	11.95
				3	3			12.5	11.93
				6	0			12.5	11.94
			16QAM	1	0			12.5	12.09
				1	2			12.5	12.10
				1	5			12.5	12.13
				3	0			12.5	12.04
				3	1			12.5	12.09
				3	3			12.5	12.05
				6	0			12.5	12.12
	19193	1909.3	QPSK	1	0			12.5	12.12
				1	2			12.5	12.06
				1	5			12.5	12.11
				3	0			12.5	11.87
				3	1			12.5	12.03
				3	3			12.5	11.98
				6	0			12.5	12.02
			16QAM	1	0			12.5	12.06
				1	2			12.5	12.19
				1	5			12.5	12.18
				3	0			12.5	12.11
				3	1			12.5	12.13
				3	3			12.5	12.14
				6	0			12.5	12.20

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9.6. LTE Band 4

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

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND4	20050	1720	23.00	12.50	+/-1
		20175	1732.5			
		20300	1745			

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			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 (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	20050	1720	QPSK	1	0	0	0	24.0	22.78
				1	49	0	0	24.0	22.72
				1	99	0	0	24.0	22.61
				50	0	1	1	23.0	21.64
				50	24	1	1	23.0	21.71
				50	49	1	1	23.0	21.65
				100	0	1	1	23.0	21.61
			16QAM	1	0	1	1	23.0	21.99
				1	49	1	1	23.0	21.95
				1	99	1	1	23.0	21.88
				50	0	2	2	22.0	20.60
				50	24	2	2	22.0	20.68
				50	49	2	2	22.0	20.61
				100	0	2	2	22.0	20.65
	20175	1732.5	QPSK	1	0	0	0	24.0	22.55
				1	49	0	0	24.0	22.80
				1	99	0	0	24.0	22.40
				50	0	1	1	23.0	21.69
				50	24	1	1	23.0	21.72
				50	49	1	1	23.0	21.52
				100	0	1	1	23.0	21.62
			16QAM	1	0	1	1	23.0	21.93
				1	49	1	1	23.0	22.06
				1	99	1	1	23.0	21.76
				50	0	2	2	22.0	20.60
				50	24	2	2	22.0	20.65
				50	49	2	2	22.0	20.53
				100	0	2	2	22.0	20.65
	20300	1745	QPSK	1	0	0	0	24.0	22.60
				1	49	0	0	24.0	22.61
				1	99	0	0	24.0	22.48
				50	0	1	1	23.0	21.62
				50	24	1	1	23.0	21.65
				50	49	1	1	23.0	21.61
				100	0	1	1	23.0	21.63
			16QAM	1	0	1	1	23.0	21.88
				1	49	1	1	23.0	21.95
				1	99	1	1	23.0	21.83
				50	0	2	2	22.0	20.55
				50	24	2	2	22.0	20.56
				50	49	2	2	22.0	20.57
				100	0	2	2	22.0	20.62

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	20050	1720	QPSK	1	0	MPR is disabled when power reduction is enabled		13.5	12.73
				1	49			13.5	12.75
				1	99			13.5	12.59
				50	0			13.5	12.72
				50	24			13.5	12.78
				50	49			13.5	12.68
				100	0			13.5	12.71
			16QAM	1	0			13.5	13.17
				1	49			13.5	13.19
				1	99			13.5	13.05
				50	0			13.5	12.74
				50	24			13.5	12.76
				50	49			13.5	12.71
				100	0			13.5	12.72
	20175	1732.5	QPSK	1	0			13.5	12.74
				1	49			13.5	12.87
				1	99			13.5	12.65
				50	0			13.5	12.69
				50	24			13.5	12.72
				50	49			13.5	12.66
				100	0			13.5	12.70
			16QAM	1	0			13.5	13.21
				1	49			13.5	13.36
				1	99			13.5	13.11
				50	0			13.5	12.75
				50	24			13.5	12.81
				50	49			13.5	12.71
				100	0			13.5	12.78
	20300	1745	QPSK	1	0			13.5	12.66
				1	49			13.5	12.73
				1	99			13.5	12.56
				50	0			13.5	12.68
				50	24			13.5	12.72
				50	49			13.5	12.66
				100	0			13.5	12.75
			16QAM	1	0			13.5	13.03
				1	49			13.5	13.16
				1	99			13.5	12.96
				50	0			13.5	12.70
				50	24			13.5	12.68
				50	49			13.5	12.64
				100	0			13.5	12.81

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	20025	1717.5	QPSK	1	0	0	0	24.0	22.90
				1	37	0	0	24.0	22.89
				1	74	0	0	24.0	22.68
				36	0	1	1	23.0	21.85
				36	19	1	1	23.0	21.84
				36	39	1	1	23.0	21.79
				75	0	1	1	23.0	21.80
			16QAM	1	0	1	1	23.0	22.18
				1	37	1	1	23.0	22.34
				1	74	1	1	23.0	22.24
				36	0	2	2	22.0	20.80
				36	19	2	2	22.0	20.78
				36	39	2	2	22.0	20.73
				75	0	2	2	22.0	20.80
	20175	1732.5	QPSK	1	0	0	0	24.0	22.75
				1	37	0	0	24.0	22.79
				1	74	0	0	24.0	22.63
				36	0	1	1	23.0	21.75
				36	19	1	1	23.0	21.79
				36	39	1	1	23.0	21.63
				75	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.93
				1	37	1	1	23.0	21.99
				1	74	1	1	23.0	21.93
				36	0	2	2	22.0	20.72
				36	19	2	2	22.0	20.77
				36	39	2	2	22.0	20.63
				75	0	2	2	22.0	20.63
	20325	1747.5	QPSK	1	0	0	0	24.0	22.64
				1	37	0	0	24.0	22.68
				1	74	0	0	24.0	22.71
				36	0	1	1	23.0	21.57
				36	19	1	1	23.0	21.69
				36	39	1	1	23.0	21.63
				75	0	1	1	23.0	21.65
			16QAM	1	0	1	1	23.0	21.91
				1	37	1	1	23.0	22.02
				1	74	1	1	23.0	21.94
				36	0	2	2	22.0	20.61
				36	19	2	2	22.0	20.68
				36	39	2	2	22.0	20.61
				75	0	2	2	22.0	20.59

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	20025	1717.5	QPSK	1	0			13.5	12.77
				1	37			13.5	12.70
				1	74			13.5	12.64
				36	0			13.5	12.67
				36	19			13.5	12.69
				36	39			13.5	12.61
				75	0			13.5	12.68
			16QAM	1	0			13.5	12.67
				1	37			13.5	12.72
				1	74			13.5	12.51
				36	0			13.5	12.67
				36	19			13.5	12.70
				36	39			13.5	12.63
				75	0			13.5	12.73
	20175	1732.5	QPSK	1	0			13.5	12.70
				1	37			13.5	12.71
				1	74			13.5	12.64
				36	0			13.5	12.70
				36	19			13.5	12.80
				36	39			13.5	12.66
				75	0			13.5	12.70
			16QAM	1	0			13.5	12.96
				1	37			13.5	13.04
				1	74			13.5	12.88
				36	0			13.5	12.73
				36	19			13.5	12.77
				36	39			13.5	12.68
				75	0			13.5	12.68
	20325	1747.5	QPSK	1	0			13.5	12.73
				1	37			13.5	12.84
				1	74			13.5	12.68
				36	0			13.5	12.60
				36	19			13.5	12.68
				36	39			13.5	12.58
				75	0			13.5	12.69
			16QAM	1	0			13.5	12.89
				1	37			13.5	13.15
				1	74			13.5	12.94
				36	0			13.5	12.61
				36	19			13.5	12.68
				36	39			13.5	12.62
				75	0			13.5	12.76

MPR is disabled when power reduction is enabled

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	20000	1715	QPSK	1	0	0	0	24.0	22.74
				1	24	0	0	24.0	22.79
				1	49	0	0	24.0	22.72
				25	0	1	1	23.0	21.71
				25	12	1	1	23.0	21.73
				25	24	1	1	23.0	21.79
				50	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	21.92
				1	24	1	1	23.0	22.08
				1	49	1	1	23.0	22.00
				25	0	2	2	22.0	20.80
				25	12	2	2	22.0	20.86
				25	24	2	2	22.0	20.91
				50	0	2	2	22.0	20.71
	20175	1732.5	QPSK	1	0	0	0	24.0	22.74
				1	24	0	0	24.0	22.72
				1	49	0	0	24.0	22.66
				25	0	1	1	23.0	21.60
				25	12	1	1	23.0	21.64
				25	24	1	1	23.0	21.63
				50	0	1	1	23.0	21.59
			16QAM	1	0	1	1	23.0	22.20
				1	24	1	1	23.0	21.98
				1	49	1	1	23.0	21.79
				25	0	2	2	22.0	20.66
				25	12	2	2	22.0	20.69
				25	24	2	2	22.0	20.62
				50	0	2	2	22.0	20.58
	20350	1750	QPSK	1	0	0	0	24.0	22.66
				1	24	0	0	24.0	22.71
				1	49	0	0	24.0	22.68
				25	0	1	1	23.0	21.49
				25	12	1	1	23.0	21.63
				25	24	1	1	23.0	21.56
				50	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.92
				1	24	1	1	23.0	22.07
				1	49	1	1	23.0	22.04
				25	0	2	2	22.0	20.58
				25	12	2	2	22.0	20.69
				25	24	2	2	22.0	20.63
				50	0	2	2	22.0	20.61

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	20000	1715	QPSK	1	0	MPR is disabled when power reduction is enabled		13.5	12.90
				1	24			13.5	12.88
				1	49			13.5	12.86
				25	0			13.5	12.73
				25	12			13.5	12.72
				25	24			13.5	12.79
				50	0			13.5	12.74
			16QAM	1	0			13.5	13.11
				1	24			13.5	13.14
				1	49			13.5	13.18
				25	0			13.5	12.77
				25	12			13.5	12.82
				25	24			13.5	12.81
				50	0			13.5	12.77
	20175	1732.5	QPSK	1	0			13.5	12.76
				1	24			13.5	12.67
				1	49			13.5	12.66
				25	0			13.5	12.64
				25	12			13.5	12.71
				25	24			13.5	12.70
				50	0			13.5	12.71
			16QAM	1	0			13.5	12.85
				1	24			13.5	12.73
				1	49			13.5	12.79
				25	0			13.5	12.64
				25	12			13.5	12.64
				25	24			13.5	12.62
				50	0			13.5	12.62
	20350	1750	QPSK	1	0			13.5	12.68
				1	24			13.5	12.62
				1	49			13.5	12.64
				25	0			13.5	12.54
				25	12			13.5	12.65
				25	24			13.5	12.58
				50	0			13.5	12.67
			16QAM	1	0			13.5	13.01
				1	24			13.5	13.08
				1	49			13.5	12.85
				25	0			13.5	12.70
				25	12			13.5	12.77
				25	24			13.5	12.70
				50	0			13.5	12.74

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	19975	1712.5	QPSK	1	0	0	0	24.0	22.89
				1	12	0	0	24.0	22.71
				1	24	0	0	24.0	23.14
				12	0	1	1	23.0	21.70
				12	6	1	1	23.0	21.78
				12	11	1	1	23.0	21.67
				25	0	1	1	23.0	21.74
			16QAM	1	0	1	1	23.0	22.00
				1	12	1	1	23.0	21.73
				1	24	1	1	23.0	22.01
				12	0	2	2	22.0	20.74
				12	6	2	2	22.0	20.77
				12	11	2	2	22.0	20.68
				25	0	2	2	22.0	20.65
	20175	1732.5	QPSK	1	0	0	0	24.0	22.80
				1	12	0	0	24.0	22.63
				1	24	0	0	24.0	22.81
				12	0	1	1	23.0	21.60
				12	6	1	1	23.0	21.56
				12	11	1	1	23.0	21.58
				25	0	1	1	23.0	21.55
			16QAM	1	0	1	1	23.0	21.83
				1	12	1	1	23.0	21.75
				1	24	1	1	23.0	21.87
				12	0	2	2	22.0	20.56
				12	6	2	2	22.0	20.59
				12	11	2	2	22.0	20.59
				25	0	2	2	22.0	20.51
	20375	1752.5	QPSK	1	0	0	0	24.0	22.87
				1	12	0	0	24.0	22.70
				1	24	0	0	24.0	22.88
				12	0	1	1	23.0	21.67
				12	6	1	1	23.0	21.64
				12	11	1	1	23.0	21.61
				25	0	1	1	23.0	21.61
			16QAM	1	0	1	1	23.0	21.88
				1	12	1	1	23.0	21.65
				1	24	1	1	23.0	21.87
				12	0	2	2	22.0	20.71
				12	6	2	2	22.0	20.67
				12	11	2	2	22.0	20.60
				25	0	2	2	22.0	20.56

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	19975	1712.5	QPSK	1	0	MPR is disabled when power reduction is enabled		13.5	12.84
				1	12			13.5	12.83
				1	24			13.5	12.95
				12	0			13.5	12.76
				12	6			13.5	12.77
				12	11			13.5	12.71
				25	0			13.5	12.75
			16QAM	1	0			13.5	12.97
				1	12			13.5	12.75
				1	24			13.5	13.01
				12	0			13.5	12.83
				12	6			13.5	12.85
				12	11			13.5	12.75
				25	0			13.5	12.72
	20175	1732.5	QPSK	1	0			13.5	12.75
				1	12			13.5	12.60
				1	24			13.5	12.77
				12	0			13.5	12.58
				12	6			13.5	12.52
				12	11			13.5	12.57
				25	0			13.5	12.54
			16QAM	1	0			13.5	12.79
				1	12			13.5	12.49
				1	24			13.5	12.83
				12	0			13.5	12.58
				12	6			13.5	12.60
				12	11			13.5	12.60
				25	0			13.5	12.53
	20375	1752.5	QPSK	1	0			13.5	12.90
				1	12			13.5	12.70
				1	24			13.5	12.91
				12	0			13.5	12.73
				12	6			13.5	12.72
				12	11			13.5	12.69
				25	0			13.5	12.73
			16QAM	1	0			13.5	12.95
				1	12			13.5	12.76
				1	24			13.5	12.93
				12	0			13.5	12.79
				12	6			13.5	12.77
				12	11			13.5	12.71
				25	0			13.5	12.62

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	19965	1711.5	QPSK	1	0	0	0	24.0	22.91
				1	7	0	0	24.0	22.78
				1	14	0	0	24.0	22.89
				8	0	1	1	23.0	21.81
				8	4	1	1	23.0	21.77
				8	7	1	1	23.0	21.71
				15	0	1	1	23.0	21.74
			16QAM	1	0	1	1	23.0	21.82
				1	7	1	1	23.0	21.80
				1	14	1	1	23.0	21.85
				8	0	2	2	22.0	20.78
				8	4	2	2	22.0	20.76
				8	7	2	2	22.0	20.67
				15	0	2	2	22.0	20.71
	20175	1732.5	QPSK	1	0	0	0	24.0	22.84
				1	7	0	0	24.0	22.49
				1	14	0	0	24.0	22.67
				8	0	1	1	23.0	21.66
				8	4	1	1	23.0	21.55
				8	7	1	1	23.0	21.54
				15	0	1	1	23.0	21.53
			16QAM	1	0	1	1	23.0	21.83
				1	7	1	1	23.0	21.68
				1	14	1	1	23.0	21.66
				8	0	2	2	22.0	20.62
				8	4	2	2	22.0	20.58
				8	7	2	2	22.0	20.52
				15	0	2	2	22.0	20.46
	20385	1753.5	QPSK	1	0	0	0	24.0	22.79
				1	7	0	0	24.0	22.75
				1	14	0	0	24.0	22.84
				8	0	1	1	23.0	21.60
				8	4	1	1	23.0	21.70
				8	7	1	1	23.0	21.69
				15	0	1	1	23.0	21.68
			16QAM	1	0	1	1	23.0	21.89
				1	7	1	1	23.0	22.12
				1	14	1	1	23.0	21.99
				8	0	2	2	22.0	20.60
				8	4	2	2	22.0	20.70
				8	7	2	2	22.0	20.64
				15	0	2	2	22.0	20.63

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	19965	1711.5	QPSK	1	0	MPR is disabled when power reduction is enabled		13.5	12.76
				1	7			13.5	12.90
				1	14			13.5	12.84
				8	0			13.5	12.78
				8	4			13.5	12.77
				8	7			13.5	12.68
				15	0			13.5	12.73
			16QAM	1	0			13.5	12.76
				1	7			13.5	12.80
				1	14			13.5	12.76
				8	0			13.5	12.90
				8	4			13.5	12.86
				8	7			13.5	12.82
				15	0			13.5	12.77
	20175	1732.5	QPSK	1	0			13.5	12.69
				1	7			13.5	12.55
				1	14			13.5	12.58
				8	0			13.5	12.73
				8	4			13.5	12.64
				8	7			13.5	12.63
				15	0			13.5	12.61
			16QAM	1	0			13.5	12.77
				1	7			13.5	12.68
				1	14			13.5	12.70
				8	0			13.5	12.65
				8	4			13.5	12.62
				8	7			13.5	12.55
				15	0			13.5	12.55
	20385	1753.5	QPSK	1	0			13.5	12.64
				1	7			13.5	12.77
				1	14			13.5	12.73
				8	0			13.5	12.67
				8	4			13.5	12.76
				8	7			13.5	12.74
				15	0			13.5	12.74
			16QAM	1	0			13.5	12.65
				1	7			13.5	12.80
				1	14			13.5	12.67
				8	0			13.5	12.75
				8	4			13.5	12.81
				8	7			13.5	12.80
				15	0			13.5	12.80

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	19957	1710.7	QPSK	1	0	0	0	24.0	22.89
				1	2	0	0	24.0	22.79
				1	5	0	0	24.0	22.85
				3	0	0	0	24.0	22.67
				3	1	0	0	24.0	22.72
				3	3	0	0	24.0	22.77
				6	0	1	1	23.0	21.69
			16QAM	1	0	1	1	23.0	21.83
				1	2	1	1	23.0	22.04
				1	5	1	1	23.0	21.93
				3	0	1	1	23.0	21.89
				3	1	1	1	23.0	21.96
				3	3	1	1	23.0	22.01
				6	0	2	2	22.0	20.81
	20175	1732.5	QPSK	1	0	0	0	24.0	22.69
				1	2	0	0	24.0	22.65
				1	5	0	0	24.0	22.78
				3	0	0	0	24.0	22.58
				3	1	0	0	24.0	22.62
				3	3	0	0	24.0	22.59
				6	0	1	1	23.0	21.44
			16QAM	1	0	1	1	23.0	21.97
				1	2	1	1	23.0	22.17
				1	5	1	1	23.0	22.02
				3	0	1	1	23.0	21.86
				3	1	1	1	23.0	21.94
				3	3	1	1	23.0	21.80
				6	0	2	2	22.0	20.37
	20393	1754.3	QPSK	1	0	0	0	24.0	22.92
				1	2	0	0	24.0	22.76
				1	5	0	0	24.0	22.94
				3	0	0	0	24.0	22.70
				3	1	0	0	24.0	22.72
				3	3	0	0	24.0	22.66
				6	0	1	1	23.0	21.67
			16QAM	1	0	1	1	23.0	22.23
				1	2	1	1	23.0	22.26
				1	5	1	1	23.0	22.13
				3	0	1	1	23.0	21.86
				3	1	1	1	23.0	21.81
				3	3	1	1	23.0	21.84
				6	0	2	2	22.0	20.57

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	19957	1710.7	QPSK	1	0			13.5	12.82
				1	2			13.5	12.88
				1	5			13.5	12.84
				3	0			13.5	12.63
				3	1			13.5	12.70
				3	3			13.5	12.69
				6	0			13.5	12.63
			16QAM	1	0			13.5	12.88
				1	2			13.5	12.92
				1	5			13.5	12.97
				3	0			13.5	12.73
				3	1			13.5	12.80
				3	3			13.5	12.79
				6	0			13.5	12.77
	20175	1732.5	QPSK	1	0			13.5	12.61
				1	2			13.5	12.68
				1	5			13.5	12.64
				3	0			13.5	12.62
				3	1			13.5	12.71
				3	3	**MPR is disabled when power reduction is enabled**		13.5	12.61
				6	0			13.5	12.59
			16QAM	1	0			13.5	12.75
				1	2			13.5	12.91
				1	5			13.5	12.79
				3	0			13.5	12.77
				3	1			13.5	12.84
				3	3			13.5	12.76
				6	0			13.5	12.70
	20393	1754.3	QPSK	1	0			13.5	12.73
				1	2			13.5	12.79
				1	5			13.5	12.71
				3	0			13.5	12.65
				3	1			13.5	12.67
				3	3			13.5	12.61
				6	0			13.5	12.61
			16QAM	1	0			13.5	12.73
				1	2			13.5	12.94
				1	5			13.5	12.74
				3	0			13.5	12.74
				3	1			13.5	12.80
				3	3			13.5	12.77
				6	0			13.5	12.82

9.7. LTE Band 5

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

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND5	20450	829	23.00	19.30	+/-1
		20525	836.5			
		20600	844			

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

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

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

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

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

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

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

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

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	20450	829	QPSK	1	0	0	0	24.0	22.47
				1	24	0	0	24.0	22.48
				1	49	0	0	24.0	22.26
				25	0	1	1	23.0	21.38
				25	12	1	1	23.0	21.43
				25	24	1	1	23.0	21.39
				50	0	1	1	23.0	21.42
			16QAM	1	0	1	1	23.0	21.73
				1	24	1	1	23.0	21.36
				1	49	1	1	23.0	21.55
				25	0	2	2	22.0	20.41
				25	12	2	2	22.0	20.47
				25	24	2	2	22.0	20.40
				50	0	2	2	22.0	20.40
	20525	836.5	QPSK	1	0	0	0	24.0	22.45
				1	24	0	0	24.0	22.44
				1	49	0	0	24.0	22.46
				25	0	1	1	23.0	21.45
				25	12	1	1	23.0	21.51
				25	24	1	1	23.0	21.44
				50	0	1	1	23.0	21.49
			16QAM	1	0	1	1	23.0	21.93
				1	24	1	1	23.0	21.71
				1	49	1	1	23.0	21.58
				25	0	2	2	22.0	20.57
				25	12	2	2	22.0	20.61
				25	24	2	2	22.0	20.55
				50	0	2	2	22.0	20.53
	20600	844	QPSK	1	0	0	0	24.0	22.50
				1	24	0	0	24.0	22.52
				1	49	0	0	24.0	22.55
				25	0	1	1	23.0	21.42
				25	12	1	1	23.0	21.39
				25	24	1	1	23.0	21.50
				50	0	1	1	23.0	21.50
			16QAM	1	0	1	1	23.0	21.51
				1	24	1	1	23.0	21.79
				1	49	1	1	23.0	21.77
				25	0	2	2	22.0	20.53
				25	12	2	2	22.0	20.54
				25	24	2	2	22.0	20.64
				50	0	2	2	22.0	20.52

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	20450	829	QPSK	1	0	MPR is disabled when power reduction is enabled		20.3	19.56
				1	24			20.3	19.55
				1	49			20.3	19.47
				25	0			20.3	19.55
				25	12			20.3	19.57
				25	24			20.3	19.54
				50	0			20.3	19.61
			16QAM	1	0			20.3	19.93
				1	24			20.3	19.55
				1	49			20.3	19.58
				25	0			20.3	19.56
				25	12			20.3	19.61
				25	24			20.3	19.58
				50	0			20.3	19.56
	20525	836.5	QPSK	1	0			20.3	19.52
				1	24			20.3	19.65
				1	49			20.3	19.70
				25	0			20.3	19.50
				25	12			20.3	19.48
				25	24			20.3	19.49
				50	0			20.3	19.54
			16QAM	1	0			20.3	19.76
				1	24			20.3	19.43
				1	49			20.3	19.79
				25	0			20.3	19.52
				25	12			20.3	19.55
				25	24			20.3	19.58
				50	0			20.3	19.52
	20600	844	QPSK	1	0			20.3	19.51
				1	24			20.3	19.62
				1	49			20.3	19.68
				25	0			20.3	19.48
				25	12			20.3	19.50
				25	24			20.3	19.58
				50	0			20.3	19.55
			16QAM	1	0			20.3	19.74
				1	24			20.3	19.78
				1	49			20.3	19.75
				25	0			20.3	19.62
				25	12			20.3	19.64
				25	24			20.3	19.69
				50	0			20.3	19.60

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	20425	826.5	QPSK	1	0	0	0	24.0	22.79
				1	12	0	0	24.0	22.61
				1	24	0	0	24.0	22.58
				12	0	1	1	23.0	21.53
				12	6	1	1	23.0	21.47
				12	11	1	1	23.0	21.48
				25	0	1	1	23.0	21.43
			16QAM	1	0	1	1	23.0	21.87
				1	12	1	1	23.0	21.43
				1	24	1	1	23.0	21.59
				12	0	2	2	22.0	20.62
				12	6	2	2	22.0	20.58
				12	11	2	2	22.0	20.57
				25	0	2	2	22.0	20.48
	20525	836.5	QPSK	1	0	0	0	24.0	22.55
				1	12	0	0	24.0	22.38
				1	24	0	0	24.0	22.59
				12	0	1	1	23.0	21.51
				12	6	1	1	23.0	21.43
				12	11	1	1	23.0	21.40
				25	0	1	1	23.0	21.39
			16QAM	1	0	1	1	23.0	21.56
				1	12	1	1	23.0	21.40
				1	24	1	1	23.0	21.70
				12	0	2	2	22.0	20.54
				12	6	2	2	22.0	20.47
				12	11	2	2	22.0	20.45
				25	0	2	2	22.0	20.41
	20625	846.5	QPSK	1	0	0	0	24.0	22.44
				1	12	0	0	24.0	22.59
				1	24	0	0	24.0	22.68
				12	0	1	1	23.0	21.33
				12	6	1	1	23.0	21.40
				12	11	1	1	23.0	21.47
				25	0	1	1	23.0	21.36
			16QAM	1	0	1	1	23.0	21.53
				1	12	1	1	23.0	21.36
				1	24	1	1	23.0	21.67
				12	0	2	2	22.0	20.37
				12	6	2	2	22.0	20.51
				12	11	2	2	22.0	20.52
				25	0	2	2	22.0	20.39

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	20425	826.5	QPSK	1	0	MPR is disabled when power reduction is enabled		20.3	19.87
				1	12			20.3	19.69
				1	24			20.3	19.63
				12	0			20.3	19.60
				12	6			20.3	19.57
				12	11			20.3	19.56
				25	0			20.3	19.54
			16QAM	1	0			20.3	19.93
				1	12			20.3	19.62
				1	24			20.3	19.67
				12	0			20.3	19.70
				12	6			20.3	19.66
				12	11			20.3	19.63
				25	0			20.3	19.57
	20525	836.5	QPSK	1	0			20.3	19.65
				1	12			20.3	19.48
				1	24			20.3	19.75
				12	0			20.3	19.58
				12	6			20.3	19.50
				12	11			20.3	19.46
				25	0			20.3	19.51
			16QAM	1	0			20.3	19.70
				1	12			20.3	19.42
				1	24			20.3	19.77
				12	0			20.3	19.64
				12	6			20.3	19.55
				12	11			20.3	19.53
				25	0			20.3	19.48
	20625	846.5	QPSK	1	0			20.3	19.59
				1	12			20.3	19.54
				1	24			20.3	19.76
				12	0			20.3	19.45
				12	6			20.3	19.53
				12	11			20.3	19.57
				25	0			20.3	19.48
			16QAM	1	0			20.3	19.64
				1	12			20.3	19.54
				1	24			20.3	19.83
				12	0			20.3	19.51
				12	6			20.3	19.57
				12	11			20.3	19.61
				25	0			20.3	19.47

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	20415	825.5	QPSK	1	0	0	0	24.0	22.45
				1	7	0	0	24.0	22.67
				1	14	0	0	24.0	22.47
				8	0	1	1	23.0	21.61
				8	4	1	1	23.0	21.63
				8	7	1	1	23.0	21.53
				15	0	1	1	23.0	21.63
			16QAM	1	0	1	1	23.0	21.62
				1	7	1	1	23.0	21.60
				1	14	1	1	23.0	21.50
				8	0	2	2	22.0	20.60
				8	4	2	2	22.0	20.66
				8	7	2	2	22.0	20.60
				15	0	2	2	22.0	20.61
	20525	836.5	QPSK	1	0	0	0	24.0	22.63
				1	7	0	0	24.0	22.48
				1	14	0	0	24.0	22.53
				8	0	1	1	23.0	21.54
				8	4	1	1	23.0	21.44
				8	7	1	1	23.0	21.43
				15	0	1	1	23.0	21.47
			16QAM	1	0	1	1	23.0	21.76
				1	7	1	1	23.0	21.67
				1	14	1	1	23.0	21.59
				8	0	2	2	22.0	20.59
				8	4	2	2	22.0	20.47
				8	7	2	2	22.0	20.48
				15	0	2	2	22.0	20.47
	20635	847.5	QPSK	1	0	0	0	24.0	22.52
				1	7	0	0	24.0	22.61
				1	14	0	0	24.0	22.59
				8	0	1	1	23.0	21.47
				8	4	1	1	23.0	21.41
				8	7	1	1	23.0	21.50
				15	0	1	1	23.0	21.49
			16QAM	1	0	1	1	23.0	21.69
				1	7	1	1	23.0	21.84
				1	14	1	1	23.0	21.56
				8	0	2	2	22.0	20.51
				8	4	2	2	22.0	20.52
				8	7	2	2	22.0	20.55
				15	0	2	2	22.0	20.46

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	20415	825.5	QPSK	1	0	MPR is disabled when power reduction is enabled		20.3	19.50
				1	7			20.3	19.65
				1	14			20.3	19.55
				8	0			20.3	19.64
				8	4			20.3	19.72
				8	7			20.3	19.60
				15	0			20.3	19.70
			16QAM	1	0			20.3	19.57
				1	7			20.3	19.74
				1	14			20.3	19.60
				8	0			20.3	19.75
				8	4			20.3	19.86
				8	7			20.3	19.82
				15	0			20.3	19.82
	20525	836.5	QPSK	1	0			20.3	19.74
				1	7			20.3	19.50
				1	14			20.3	19.66
				8	0			20.3	19.65
				8	4			20.3	19.51
				8	7			20.3	19.50
				15	0			20.3	19.53
			16QAM	1	0			20.3	19.80
				1	7			20.3	19.69
				1	14			20.3	19.63
				8	0			20.3	19.71
				8	4			20.3	19.59
				8	7			20.3	19.58
				15	0			20.3	19.54
	20635	847.5	QPSK	1	0			20.3	19.59
				1	7			20.3	19.71
				1	14			20.3	19.70
				8	0			20.3	19.57
				8	4			20.3	19.52
				8	7			20.3	19.60
				15	0			20.3	19.60
			16QAM	1	0			20.3	19.70
				1	7			20.3	19.90
				1	14			20.3	19.59
				8	0			20.3	19.62
				8	4			20.3	19.58
				8	7			20.3	19.65
				15	0			20.3	19.56

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	20407	824.7	QPSK	1	0	0	0	24.0	22.72
				1	2	0	0	24.0	22.63
				1	5	0	0	24.0	22.70
				3	0	0	0	24.0	22.53
				3	1	0	0	24.0	22.62
				3	3	0	0	24.0	22.55
				6	0	1	1	23.0	21.51
			16QAM	1	0	1	1	23.0	21.66
				1	2	1	1	23.0	21.87
				1	5	1	1	23.0	21.64
				3	0	1	1	23.0	21.77
				3	1	1	1	23.0	21.75
				3	3	1	1	23.0	21.75
				6	0	2	2	22.0	20.70
	20525	836.5	QPSK	1	0	0	0	24.0	22.68
				1	2	0	0	24.0	22.51
				1	5	0	0	24.0	22.58
				3	0	0	0	24.0	22.39
				3	1	0	0	24.0	22.45
				3	3	0	0	24.0	22.40
				6	0	1	1	23.0	21.42
			16QAM	1	0	1	1	23.0	21.68
				1	2	1	1	23.0	21.62
				1	5	1	1	23.0	21.64
				3	0	1	1	23.0	21.65
				3	1	1	1	23.0	21.60
				3	3	1	1	23.0	21.61
				6	0	2	2	22.0	20.59
	20643	848.3	QPSK	1	0	0	0	24.0	22.70
				1	2	0	0	24.0	22.63
				1	5	0	0	24.0	22.66
				3	0	0	0	24.0	22.41
				3	1	0	0	24.0	22.53
				3	3	0	0	24.0	22.50
				6	0	1	1	23.0	21.46
			16QAM	1	0	1	1	23.0	21.65
				1	2	1	1	23.0	21.73
				1	5	1	1	23.0	21.64
				3	0	1	1	23.0	21.67
				3	1	1	1	23.0	21.69
				3	3	1	1	23.0	21.73
				6	0	2	2	22.0	20.63

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	20407	824.7	QPSK	1	0	MPR is disabled when power reduction is enabled		20.3	19.77
				1	2			20.3	19.84
				1	5			20.3	19.76
				3	0			20.3	19.62
				3	1			20.3	19.63
				3	3			20.3	19.61
				6	0			20.3	19.57
			16QAM	1	0			20.3	19.74
				1	2			20.3	19.74
				1	5			20.3	19.96
				3	0			20.3	19.76
				3	1			20.3	19.80
				3	3			20.3	19.76
				6	0			20.3	19.76
	20525	836.5	QPSK	1	0			20.3	19.71
				1	2			20.3	19.57
				1	5			20.3	19.64
				3	0			20.3	19.49
				3	1			20.3	19.46
				3	3			20.3	19.48
				6	0			20.3	19.43
			16QAM	1	0			20.3	19.61
				1	2			20.3	19.88
				1	5			20.3	19.66
				3	0			20.3	19.70
				3	1			20.3	19.63
				3	3			20.3	19.65
				6	0			20.3	19.63
	20643	848.3	QPSK	1	0			20.3	19.73
				1	2			20.3	19.70
				1	5			20.3	19.69
				3	0			20.3	19.60
				3	1			20.3	19.64
				3	3			20.3	19.54
				6	0			20.3	19.55
			16QAM	1	0			20.3	19.63
				1	2			20.3	19.89
				1	5			20.3	19.73
				3	0			20.3	19.76
				3	1			20.3	19.81
				3	3			20.3	19.79
				6	0			20.3	19.73

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9.8. LTE Band 7

Target Power for LTE Band 7, QPSK and 16QAM modulations in all bandwidth

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND7	20850	2510	21.00	12.10	+/-1
		21100	2535			
		21350	2560			

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 7, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	20850	2510	QPSK	1	0	0	0	22.0	20.55
				1	49	0	0	22.0	20.77
				1	99	0	0	22.0	20.63
				50	0	1	1	21.0	19.56
				50	24	1	1	21.0	19.67
				50	49	1	1	21.0	19.74
				100	0	1	1	21.0	19.63
			16QAM	1	0	1	1	21.0	20.09
				1	49	1	1	21.0	20.13
				1	99	1	1	21.0	20.15
				50	0	2	2	20.0	18.64
				50	24	2	2	20.0	18.76
				50	49	2	2	20.0	18.75
				100	0	2	2	20.0	18.69
	21100	2535	QPSK	1	0	0	0	22.0	20.63
				1	49	0	0	22.0	20.83
				1	99	0	0	22.0	20.70
				50	0	1	1	21.0	19.82
				50	24	1	1	21.0	19.89
				50	49	1	1	21.0	19.84
				100	0	1	1	21.0	19.84
			16QAM	1	0	1	1	21.0	20.33
				1	49	1	1	21.0	20.33
				1	99	1	1	21.0	20.23
				50	0	2	2	20.0	18.85
				50	24	2	2	20.0	18.94
				50	49	2	2	20.0	18.91
				100	0	2	2	20.0	18.88
	21350	2560	QPSK	1	0	0	0	22.0	20.61
				1	49	0	0	22.0	20.62
				1	99	0	0	22.0	20.47
				50	0	1	1	21.0	19.70
				50	24	1	1	21.0	19.75
				50	49	1	1	21.0	19.71
				100	0	1	1	21.0	19.69
			16QAM	1	0	1	1	21.0	20.12
				1	49	1	1	21.0	20.07
				1	99	1	1	21.0	20.03
				50	0	2	2	20.0	18.70
				50	24	2	2	20.0	18.79
				50	49	2	2	20.0	18.76
				100	0	2	2	20.0	18.72

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	20850	2510	QPSK	1	0	MPR is disabled when power reduction is enabled		13.1	11.75
				1	49			13.1	11.88
				1	99			13.1	11.76
				50	0			13.1	11.75
				50	24			13.1	11.86
				50	49			13.1	11.95
				100	0			13.1	11.81
			16QAM	1	0			13.1	12.23
				1	49			13.1	12.31
				1	99			13.1	12.22
				50	0			13.1	11.81
				50	24			13.1	11.90
				50	49			13.1	11.98
				100	0			13.1	11.84
	21100	2535	QPSK	1	0			13.1	11.88
				1	49			13.1	12.05
				1	99			13.1	11.98
				50	0			13.1	11.96
				50	24			13.1	12.05
				50	49			13.1	12.03
				100	0			13.1	11.97
			16QAM	1	0			13.1	12.23
				1	49			13.1	12.48
				1	99			13.1	12.32
				50	0			13.1	12.02
				50	24			13.1	12.12
				50	49			13.1	12.11
				100	0			13.1	12.04
	21350	2560	QPSK	1	0			13.1	11.98
				1	49			13.1	12.03
				1	99			13.1	11.87
				50	0			13.1	11.90
				50	24			13.1	11.99
				50	49			13.1	11.94
				100	0			13.1	11.92
			16QAM	1	0			13.1	12.27
				1	49			13.1	12.34
				1	99			13.1	12.21
				50	0			13.1	11.99
				50	24			13.1	12.04
				50	49			13.1	12.02
				100	0			13.1	11.99

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LTE Band 7, 15 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	20825	2507.5	QPSK	1	0	0	0	22.0	20.66
				1	37	0	0	22.0	20.86
				1	74	0	0	22.0	20.77
				36	0	1	1	21.0	19.63
				36	19	1	1	21.0	19.73
				36	39	1	1	21.0	19.62
				75	0	1	1	21.0	19.62
			16QAM	1	0	1	1	21.0	19.43
				1	37	1	1	21.0	19.60
				1	74	1	1	21.0	19.55
				36	0	2	2	20.0	18.67
				36	19	2	2	20.0	18.75
				36	39	2	2	20.0	18.65
				75	0	2	2	20.0	18.70
	21100	2535	QPSK	1	0	0	0	22.0	20.94
				1	37	0	0	22.0	20.87
				1	74	0	0	22.0	20.83
				36	0	1	1	21.0	19.83
				36	19	1	1	21.0	19.94
				36	39	1	1	21.0	19.88
				75	0	1	1	21.0	19.85
			16QAM	1	0	1	1	21.0	19.95
				1	37	1	1	21.0	20.22
				1	74	1	1	21.0	20.17
				36	0	2	2	20.0	18.87
				36	19	2	2	20.0	18.88
				36	39	2	2	20.0	18.88
				75	0	2	2	20.0	18.90
	21375	2562.5	QPSK	1	0	0	0	22.0	20.72
				1	37	0	0	22.0	20.84
				1	74	0	0	22.0	20.71
				36	0	1	1	21.0	19.69
				36	19	1	1	21.0	19.73
				36	39	1	1	21.0	19.70
				75	0	1	1	21.0	19.67
			16QAM	1	0	1	1	21.0	19.95
				1	37	1	1	21.0	19.89
				1	74	1	1	21.0	19.94
				36	0	2	2	20.0	18.69
				36	19	2	2	20.0	18.78
				36	39	2	2	20.0	18.72
				75	0	2	2	20.0	18.77

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	20825	2507.5	QPSK	1	0	MPR is disabled when power reduction is enabled		13.1	11.92
				1	37			13.1	12.20
				1	74			13.1	12.10
				36	0			13.1	11.87
				36	19			13.1	11.90
				36	39			13.1	11.82
				75	0			13.1	11.80
			16QAM	1	0			13.1	11.72
				1	37			13.1	11.85
				1	74			13.1	11.73
				36	0			13.1	11.85
				36	19			13.1	11.96
				36	39			13.1	11.85
				75	0			13.1	11.86
	21100	2535	QPSK	1	0			13.1	12.10
				1	37			13.1	12.01
				1	74			13.1	12.15
				36	0			13.1	11.99
				36	19			13.1	12.07
				36	39			13.1	12.03
				75	0			13.1	12.00
			16QAM	1	0			13.1	12.30
				1	37			13.1	12.43
				1	74			13.1	12.34
				36	0			13.1	12.09
				36	19			13.1	12.15
				36	39			13.1	12.13
				75	0			13.1	12.06
	21375	2562.5	QPSK	1	0			13.1	12.08
				1	37			13.1	11.96
				1	74			13.1	11.98
				36	0			13.1	11.95
				36	19			13.1	12.04
				36	39			13.1	11.99
				75	0			13.1	11.97
			16QAM	1	0			13.1	12.25
				1	37			13.1	12.40
				1	74			13.1	12.21
				36	0			13.1	12.03
				36	19			13.1	12.09
				36	39			13.1	12.07
				75	0			13.1	12.00

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LTE Band 7, 10 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	20800	2505	QPSK	1	0	0	0	22.0	20.84
				1	24	0	0	22.0	20.89
				1	49	0	0	22.0	20.90
				25	0	1	1	21.0	19.63
				25	12	1	1	21.0	19.70
				25	24	1	1	21.0	19.60
				50	0	1	1	21.0	19.68
			16QAM	1	0	1	1	21.0	20.10
				1	24	1	1	21.0	19.75
				1	49	1	1	21.0	19.84
				25	0	2	2	20.0	18.69
				25	12	2	2	20.0	18.76
				25	24	2	2	20.0	18.65
				50	0	2	2	20.0	18.71
	21100	2535	QPSK	1	0	0	0	22.0	20.73
				1	24	0	0	22.0	20.93
				1	49	0	0	22.0	20.88
				25	0	1	1	21.0	19.80
				25	12	1	1	21.0	19.91
				25	24	1	1	21.0	19.92
				50	0	1	1	21.0	19.92
			16QAM	1	0	1	1	21.0	19.95
				1	24	1	1	21.0	20.10
				1	49	1	1	21.0	20.12
				25	0	2	2	20.0	18.96
				25	12	2	2	20.0	19.03
				25	24	2	2	20.0	19.02
				50	0	2	2	20.0	18.91
	21400	2565	QPSK	1	0	0	0	22.0	20.58
				1	24	0	0	22.0	20.70
				1	49	0	0	22.0	20.77
				25	0	1	1	21.0	19.70
				25	12	1	1	21.0	19.78
				25	24	1	1	21.0	19.79
				50	0	1	1	21.0	19.67
			16QAM	1	0	1	1	21.0	19.90
				1	24	1	1	21.0	19.77
				1	49	1	1	21.0	20.13
				25	0	2	2	20.0	18.84
				25	12	2	2	20.0	18.89
				25	24	2	2	20.0	18.86
				50	0	2	2	20.0	18.73

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	20800	2505	QPSK	1	0	MPR is disabled when power reduction is enabled		13.1	11.99
				1	24			13.1	12.03
				1	49			13.1	11.94
				25	0			13.1	11.84
				25	12			13.1	11.86
				25	24			13.1	11.77
				50	0			13.1	11.85
			16QAM	1	0			13.1	12.09
				1	24			13.1	11.84
				1	49			13.1	12.10
				25	0			13.1	11.87
				25	12			13.1	11.93
				25	24			13.1	11.87
				50	0			13.1	11.88
	21100	2535	QPSK	1	0			13.1	12.04
				1	24			13.1	12.15
				1	49			13.1	12.22
				25	0			13.1	11.98
				25	12			13.1	12.08
				25	24			13.1	12.12
				50	0			13.1	12.07
			16QAM	1	0			13.1	12.30
				1	24			13.1	12.43
				1	49			13.1	12.45
				25	0			13.1	12.02
				25	12			13.1	12.16
				25	24			13.1	12.10
				50	0			13.1	12.10
	21400	2565	QPSK	1	0			13.1	12.15
				1	24			13.1	12.09
				1	49			13.1	12.01
				25	0			13.1	11.96
				25	12			13.1	11.98
				25	24			13.1	12.04
				50	0			13.1	11.96
			16QAM	1	0			13.1	12.29
				1	24			13.1	12.36
				1	49			13.1	12.32
				25	0			13.1	12.04
				25	12			13.1	12.08
				25	24			13.1	12.08
				50	0			13.1	12.00

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LTE Band 7, 5 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	20775	2502.5	QPSK	1	0	0	0	22.0	20.84
				1	12	0	0	22.0	20.65
				1	24	0	0	22.0	20.82
				12	0	1	1	21.0	19.69
				12	6	1	1	21.0	19.73
				12	11	1	1	21.0	19.76
				25	0	1	1	21.0	19.70
			16QAM	1	0	1	1	21.0	19.96
				1	12	1	1	21.0	19.83
				1	24	1	1	21.0	19.95
				12	0	2	2	20.0	18.79
				12	6	2	2	20.0	18.80
				12	11	2	2	20.0	18.83
				25	0	2	2	20.0	18.57
	21100	2535	QPSK	1	0	0	0	22.0	20.97
				1	12	0	0	22.0	20.88
				1	24	0	0	22.0	21.08
				12	0	1	1	21.0	19.90
				12	6	1	1	21.0	19.93
				12	11	1	1	21.0	19.95
				25	0	1	1	21.0	19.89
			16QAM	1	0	1	1	21.0	20.06
				1	12	1	1	21.0	20.03
				1	24	1	1	21.0	20.17
				12	0	2	2	20.0	18.99
				12	6	2	2	20.0	19.03
				12	11	2	2	20.0	18.99
				25	0	2	2	20.0	18.89
	21425	2567.5	QPSK	1	0	0	0	22.0	20.88
				1	12	0	0	22.0	20.71
				1	24	0	0	22.0	20.93
				12	0	1	1	21.0	19.77
				12	6	1	1	21.0	19.75
				12	11	1	1	21.0	19.76
				25	0	1	1	21.0	19.69
			16QAM	1	0	1	1	21.0	19.93
				1	12	1	1	21.0	19.85
				1	24	1	1	21.0	19.90
				12	0	2	2	20.0	18.81
				12	6	2	2	20.0	18.83
				12	11	2	2	20.0	18.84
				25	0	2	2	20.0	18.71

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	20775	2502.5	QPSK	1	0			13.1	12.00
				1	12			13.1	11.96
				1	24			13.1	11.98
				12	0			13.1	11.81
				12	6			13.1	11.95
				12	11			13.1	11.85
				25	0			13.1	11.88
			16QAM	1	0			13.1	11.98
				1	12			13.1	11.88
				1	24			13.1	12.04
				12	0			13.1	11.89
				12	6			13.1	12.01
				12	11			13.1	11.92
				25	0			13.1	11.85
	21100	2535	QPSK	1	0			13.1	12.05
				1	12			13.1	12.04
				1	24			13.1	12.15
				12	0			13.1	12.08
				12	6			13.1	12.10
				12	11	**MPR is disabled when power reduction is enabled**		13.1	12.07
				25	0			13.1	12.05
			16QAM	1	0			13.1	12.53
				1	12			13.1	12.53
				1	24			13.1	12.59
				12	0			13.1	12.28
				12	6			13.1	12.28
				12	11			13.1	12.29
				25	0			13.1	12.13
	21425	2567.5	QPSK	1	0			13.1	12.01
				1	12			13.1	12.04
				1	24			13.1	11.99
				12	0			13.1	11.94
				12	6			13.1	12.00
				12	11			13.1	12.01
				25	0			13.1	11.95
			16QAM	1	0			13.1	12.45
				1	12			13.1	12.54
				1	24			13.1	12.48
				12	0			13.1	12.16
				12	6			13.1	12.20
				12	11			13.1	12.20
				25	0			13.1	12.06

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9.9. LTE Band 12

Target Power for LTE Band 12, QPSK and 16QAM modulations in all bandwidth

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND12	23060	704	23.00	18.80	+/-1
		23095	707.5			
		23130	711			

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 12, 10 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	23060	704	QPSK	1	0	0	0	24.0	22.85
				1	24	0	0	24.0	22.83
				1	49	0	0	24.0	22.72
				25	0	1	1	23.0	21.81
				25	12	1	1	23.0	21.80
				25	24	1	1	23.0	21.77
				50	0	1	1	23.0	21.78
			16QAM	1	0	1	1	23.0	22.27
				1	24	1	1	23.0	22.12
				1	49	1	1	23.0	22.10
				25	0	2	2	22.0	20.94
				25	12	2	2	22.0	20.97
				25	24	2	2	22.0	20.96
				50	0	2	2	22.0	20.73
	23095	707.5	QPSK	1	0	0	0	24.0	22.98
				1	24	0	0	24.0	22.81
				1	49	0	0	24.0	22.91
				25	0	1	1	23.0	21.83
				25	12	1	1	23.0	21.82
				25	24	1	1	23.0	21.76
				50	0	1	1	23.0	21.80
			16QAM	1	0	1	1	23.0	22.23
				1	24	1	1	23.0	22.15
				1	49	1	1	23.0	22.13
				25	0	2	2	22.0	20.87
				25	12	2	2	22.0	20.89
				25	24	2	2	22.0	20.82
				50	0	2	2	22.0	20.81
	23130	711	QPSK	1	0	0	0	24.0	23.05
				1	24	0	0	24.0	22.87
				1	49	0	0	24.0	22.83
				25	0	1	1	23.0	21.82
				25	12	1	1	23.0	21.75
				25	24	1	1	23.0	21.66
				50	0	1	1	23.0	21.73
			16QAM	1	0	1	1	23.0	22.27
				1	24	1	1	23.0	22.18
				1	49	1	1	23.0	21.96
				25	0	2	2	22.0	20.89
				25	12	2	2	22.0	20.87
				25	24	2	2	22.0	20.74
				50	0	2	2	22.0	20.73

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	23060	704	QPSK	1	0	MPR is disabled when power reduction is enabled		19.8	18.79
				1	24			19.8	18.78
				1	49			19.8	18.83
				25	0			19.8	18.70
				25	12			19.8	18.65
				25	24			19.8	18.69
				50	0			19.8	18.65
			16QAM	1	0			19.8	18.97
				1	24			19.8	18.73
				1	49			19.8	18.85
				25	0			19.8	18.71
				25	12			19.8	18.72
				25	24			19.8	18.69
				50	0			19.8	18.63
	23095	707.5	QPSK	1	0			19.8	18.74
				1	24			19.8	18.71
				1	49			19.8	18.66
				25	0			19.8	18.64
				25	12			19.8	18.69
				25	24			19.8	18.63
				50	0			19.8	18.68
			16QAM	1	0			19.8	19.16
				1	24			19.8	19.00
				1	49			19.8	19.07
				25	0			19.8	18.82
				25	12			19.8	18.78
				25	24			19.8	18.78
				50	0			19.8	18.68
	23130	711	QPSK	1	0			19.8	18.75
				1	24			19.8	18.73
				1	49			19.8	18.44
				25	0			19.8	18.63
				25	12			19.8	18.66
				25	24			19.8	18.58
				50	0			19.8	18.63
			16QAM	1	0			19.8	19.09
				1	24			19.8	19.14
				1	49			19.8	18.82
				25	0			19.8	18.79
				25	12			19.8	18.78
				25	24			19.8	18.68
				50	0			19.8	18.62

LTE Band 12, 5 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	23035	701.5	QPSK	1	0	0	0	24.0	23.00
				1	12	0	0	24.0	22.81
				1	24	0	0	24.0	22.92
				12	0	1	1	23.0	21.76
				12	6	1	1	23.0	21.70
				12	11	1	1	23.0	21.68
				25	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	22.06
				1	12	1	1	23.0	21.65
				1	24	1	1	23.0	21.98
				12	0	2	2	22.0	20.74
				12	6	2	2	22.0	20.75
				12	11	2	2	22.0	20.75
				25	0	2	2	22.0	20.68
	23095	707.5	QPSK	1	0	0	0	24.0	22.92
				1	12	0	0	24.0	22.86
				1	24	0	0	24.0	22.88
				12	0	1	1	23.0	21.71
				12	6	1	1	23.0	21.75
				12	11	1	1	23.0	21.74
				25	0	1	1	23.0	21.81
			16QAM	1	0	1	1	23.0	22.02
				1	12	1	1	23.0	21.80
				1	24	1	1	23.0	21.92
				12	0	2	2	22.0	20.77
				12	6	2	2	22.0	20.79
				12	11	2	2	22.0	20.75
				25	0	2	2	22.0	20.71
	23155	713.5	QPSK	1	0	0	0	24.0	22.80
				1	12	0	0	24.0	22.64
				1	24	0	0	24.0	22.76
				12	0	1	1	23.0	21.66
				12	6	1	1	23.0	21.65
				12	11	1	1	23.0	21.63
				25	0	1	1	23.0	21.71
			16QAM	1	0	1	1	23.0	21.86
				1	12	1	1	23.0	21.61
				1	24	1	1	23.0	21.78
				12	0	2	2	22.0	20.77
				12	6	2	2	22.0	20.70
				12	11	2	2	22.0	20.68
				25	0	2	2	22.0	20.65

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	23035	701.5	QPSK	1	0	MPR is disabled when power reduction is enabled		19.8	19.03
				1	12			19.8	18.74
				1	24			19.8	18.89
				12	0			19.8	18.72
				12	6			19.8	18.68
				12	11			19.8	18.61
				25	0			19.8	18.67
			16QAM	1	0			19.8	19.01
				1	12			19.8	18.56
				1	24			19.8	18.85
				12	0			19.8	18.79
				12	6			19.8	18.75
				12	11			19.8	18.69
				25	0			19.8	18.65
	23095	707.5	QPSK	1	0			19.8	18.77
				1	12			19.8	18.75
				1	24			19.8	18.69
				12	0			19.8	18.64
				12	6			19.8	18.60
				12	11			19.8	18.63
				25	0			19.8	18.61
			16QAM	1	0			19.8	18.84
				1	12			19.8	18.62
				1	24			19.8	18.78
				12	0			19.8	18.69
				12	6			19.8	18.68
				12	11			19.8	18.68
				25	0			19.8	18.63
	23155	713.5	QPSK	1	0			19.8	18.73
				1	12			19.8	18.60
				1	24			19.8	18.61
				12	0			19.8	18.60
				12	6			19.8	18.63
				12	11			19.8	18.57
				25	0			19.8	18.57
			16QAM	1	0			19.8	18.76
				1	12			19.8	18.49
				1	24			19.8	18.60
				12	0			19.8	18.66
				12	6			19.8	18.66
				12	11			19.8	18.62
				25	0			19.8	18.54

LTE Band 12, 3 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	23025	700.5	QPSK	1	0	0	0	24.0	23.03
				1	7	0	0	24.0	23.04
				1	14	0	0	24.0	22.78
				8	0	1	1	23.0	21.77
				8	4	1	1	23.0	21.71
				8	7	1	1	23.0	21.62
				15	0	1	1	23.0	21.87
			16QAM	1	0	1	1	23.0	22.15
				1	7	1	1	23.0	22.32
				1	14	1	1	23.0	21.93
				8	0	2	2	22.0	20.92
				8	4	2	2	22.0	20.78
				8	7	2	2	22.0	20.67
				15	0	2	2	22.0	20.76
	23095	707.5	QPSK	1	0	0	0	24.0	22.83
				1	7	0	0	24.0	22.87
				1	14	0	0	24.0	22.85
				8	0	1	1	23.0	21.76
				8	4	1	1	23.0	21.75
				8	7	1	1	23.0	21.66
				15	0	1	1	23.0	21.80
			16QAM	1	0	1	1	23.0	22.02
				1	7	1	1	23.0	22.25
				1	14	1	1	23.0	22.11
				8	0	2	2	22.0	20.79
				8	4	2	2	22.0	20.84
				8	7	2	2	22.0	20.72
				15	0	2	2	22.0	20.75
	23165	714.5	QPSK	1	0	0	0	24.0	22.80
				1	7	0	0	24.0	22.65
				1	14	0	0	24.0	22.60
				8	0	1	1	23.0	21.65
				8	4	1	1	23.0	21.55
				8	7	1	1	23.0	21.57
				15	0	1	1	23.0	21.67
			16QAM	1	0	1	1	23.0	21.84
				1	7	1	1	23.0	22.02
				1	14	1	1	23.0	21.73
				8	0	2	2	22.0	20.73
				8	4	2	2	22.0	20.63
				8	7	2	2	22.0	20.69
				15	0	2	2	22.0	20.59

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	23025	700.5	QPSK	1	0	MPR is disabled when power reduction is enabled		19.8	18.80
				1	7			19.8	18.79
				1	14			19.8	18.70
				8	0			19.8	18.75
				8	4			19.8	18.72
				8	7			19.8	18.59
				15	0			19.8	18.70
			16QAM	1	0			19.8	18.80
				1	7			19.8	18.68
				1	14			19.8	18.65
				8	0			19.8	18.86
				8	4			19.8	18.79
				8	7			19.8	18.66
				15	0			19.8	18.70
	23095	707.5	QPSK	1	0			19.8	18.73
				1	7			19.8	18.76
				1	14			19.8	18.69
				8	0			19.8	18.68
				8	4			19.8	18.72
				8	7			19.8	18.57
				15	0			19.8	18.68
			16QAM	1	0			19.8	18.71
				1	7			19.8	19.02
				1	14			19.8	19.00
				8	0			19.8	18.72
				8	4			19.8	18.74
				8	7			19.8	18.62
				15	0			19.8	18.65
	23165	714.5	QPSK	1	0			19.8	18.73
				1	7			19.8	18.65
				1	14			19.8	18.56
				8	0			19.8	18.66
				8	4			19.8	18.62
				8	7			19.8	18.55
				15	0			19.8	18.59
			16QAM	1	0			19.8	18.87
				1	7			19.8	18.94
				1	14			19.8	18.75
				8	0			19.8	18.66
				8	4			19.8	18.64
				8	7			19.8	18.60
				15	0			19.8	18.55

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LTE Band 12, 1.4 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	23017	699.7	QPSK	1	0	0	0	24.0	22.93
				1	2	0	0	24.0	22.99
				1	5	0	0	24.0	22.92
				3	0	0	0	24.0	22.82
				3	1	0	0	24.0	22.81
				3	3	0	0	24.0	22.76
				6	0	1	1	23.0	21.73
			16QAM	1	0	1	1	23.0	22.12
				1	2	1	1	23.0	22.04
				1	5	1	1	23.0	22.19
				3	0	1	1	23.0	21.85
				3	1	1	1	23.0	21.80
				3	3	1	1	23.0	21.78
				6	0	2	2	22.0	20.88
	23095	707.5	QPSK	1	0	0	0	24.0	22.96
				1	2	0	0	24.0	22.83
				1	5	0	0	24.0	22.95
				3	0	0	0	24.0	22.64
				3	1	0	0	24.0	22.72
				3	3	0	0	24.0	22.73
				6	0	1	1	23.0	21.71
			16QAM	1	0	1	1	23.0	21.85
				1	2	1	1	23.0	21.99
				1	5	1	1	23.0	21.84
				3	0	1	1	23.0	21.83
				3	1	1	1	23.0	21.83
				3	3	1	1	23.0	21.85
				6	0	2	2	22.0	20.84
	23173	715.3	QPSK	1	0	0	0	24.0	22.80
				1	2	0	0	24.0	22.70
				1	5	0	0	24.0	22.69
				3	0	0	0	24.0	22.43
				3	1	0	0	24.0	22.61
				3	3	0	0	24.0	22.46
				6	0	1	1	23.0	21.56
			16QAM	1	0	1	1	23.0	21.62
				1	2	1	1	23.0	21.90
				1	5	1	1	23.0	21.74
				3	0	1	1	23.0	21.74
				3	1	1	1	23.0	21.77
				3	3	1	1	23.0	21.71
				6	0	2	2	22.0	20.70

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	23017	699.7	QPSK	1	0			19.8	18.94
				1	2			19.8	18.93
				1	5			19.8	18.92
				3	0			19.8	18.82
				3	1			19.8	18.75
				3	3			19.8	18.67
				6	0			19.8	18.68
			16QAM	1	0			19.8	19.05
				1	2			19.8	19.00
				1	5			19.8	19.11
				3	0			19.8	18.87
				3	1			19.8	18.82
				3	3			19.8	18.83
				6	0			19.8	18.85
	23095	707.5	QPSK	1	0			19.8	18.86
				1	2			19.8	18.71
				1	5			19.8	18.85
				3	0			19.8	18.60
				3	1			19.8	18.69
				3	3			19.8	18.68
				6	0			19.8	18.60
			16QAM	1	0			19.8	18.76
				1	2			19.8	18.95
				1	5			19.8	18.90
				3	0			19.8	18.78
				3	1			19.8	18.80
				3	3			19.8	18.81
				6	0			19.8	18.80
	23173	715.3	QPSK	1	0			19.8	18.73
				1	2			19.8	18.72
				1	5			19.8	18.70
				3	0			19.8	18.47
				3	1			19.8	18.62
				3	3			19.8	18.44
				6	0			19.8	18.45
			16QAM	1	0			19.8	18.60
				1	2			19.8	18.88
				1	5			19.8	18.55
				3	0			19.8	18.66
				3	1			19.8	18.72
				3	3			19.8	18.63
				6	0			19.8	18.63

MPR is disabled when power reduction is enabled

9.10. LTE Band 13

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

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND13	23205	779.5	23.00	18.40	+/-1
		23230	782			
		23225	784.5			

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

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			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 (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	23230	782	QPSK	1	0	0	0	24.0	22.74
				1	24	0	0	24.0	22.75
				1	49	0	0	24.0	22.80
				25	0	1	1	23.0	21.50
				25	12	1	1	23.0	21.58
				25	24	1	1	23.0	21.66
				50	0	1	1	23.0	21.75
			16QAM	1	0	1	1	23.0	21.72
				1	24	1	1	23.0	21.79
				1	49	1	1	23.0	22.00
				25	0	2	2	22.0	20.58
				25	12	2	2	22.0	20.67
				25	24	2	2	22.0	20.68
				50	0	2	2	22.0	20.49

Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	23230	782	QPSK	1	0	**MPR is disabled when power reduction is enabled**		19.4	18.89
				1	24			19.4	18.88
				1	49			19.4	18.79
				25	0			19.4	18.62
				25	12			19.4	18.71
				25	24			19.4	18.72
				50	0			19.4	18.75
			16QAM	1	0			19.4	18.83
				1	24			19.4	18.82
				1	49			19.4	18.92
				25	0			19.4	18.66
				25	12			19.4	18.78
				25	24			19.4	18.74
				50	0			19.4	18.67

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	23205	779.5	QPSK	1	0	0	0	24.0	22.66
				1	12	0	0	24.0	22.37
				1	24	0	0	24.0	22.65
				12	0	1	1	23.0	21.39
				12	6	1	1	23.0	21.40
				12	11	1	1	23.0	21.48
				25	0	1	1	23.0	21.45
			16QAM	1	0	1	1	23.0	21.66
				1	12	1	1	23.0	21.39
				1	24	1	1	23.0	21.68
				12	0	2	2	22.0	20.45
				12	6	2	2	22.0	20.44
				12	11	2	2	22.0	20.51
				25	0	2	2	22.0	20.53
	23230	782	QPSK	1	0	0	0	24.0	22.49
				1	12	0	0	24.0	22.62
				1	24	0	0	24.0	22.74
				12	0	1	1	23.0	21.35
				12	6	1	1	23.0	21.54
				12	11	1	1	23.0	21.60
				25	0	1	1	23.0	21.51
			16QAM	1	0	1	1	23.0	21.66
				1	12	1	1	23.0	21.45
				1	24	1	1	23.0	21.78
				12	0	2	2	22.0	20.50
				12	6	2	2	22.0	20.67
				12	11	2	2	22.0	20.72
				25	0	2	2	22.0	20.47
	23255	784.5	QPSK	1	0	0	0	24.0	22.74
				1	12	0	0	24.0	22.57
				1	24	0	0	24.0	22.63
				12	0	1	1	23.0	21.57
				12	6	1	1	23.0	21.54
				12	11	1	1	23.0	21.50
				25	0	1	1	23.0	21.56
			16QAM	1	0	1	1	23.0	21.82
				1	12	1	1	23.0	21.52
				1	24	1	1	23.0	21.73
				12	0	2	2	22.0	20.71
				12	6	2	2	22.0	20.68
				12	11	2	2	22.0	20.60
				25	0	2	2	22.0	20.60

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	23205	779.5	QPSK	1	0	MPR is disabled when power reduction is enabled		19.4	18.62
				1	12			19.4	18.39
				1	24			19.4	18.65
				12	0			19.4	18.43
				12	6			19.4	18.45
				12	11			19.4	18.55
				25	0			19.4	18.56
			16QAM	1	0			19.4	18.63
				1	12			19.4	18.41
				1	24			19.4	18.70
				12	0			19.4	18.45
				12	6			19.4	18.53
				12	11			19.4	18.59
				25	0			19.4	18.56
	23230	782	QPSK	1	0			19.4	18.57
				1	12			19.4	18.64
				1	24			19.4	18.94
				12	0			19.4	18.48
				12	6			19.4	18.64
				12	11			19.4	18.70
				25	0			19.4	18.55
			16QAM	1	0			19.4	18.63
				1	12			19.4	18.60
				1	24			19.4	18.78
				12	0			19.4	18.54
				12	6			19.4	18.75
				12	11			19.4	18.77
				25	0			19.4	18.55
	23255	784.5	QPSK	1	0			19.4	18.81
				1	12			19.4	18.66
				1	24			19.4	18.71
				12	0			19.4	18.66
				12	6			19.4	18.64
				12	11			19.4	18.61
				25	0			19.4	18.60
			16QAM	1	0			19.4	18.88
				1	12			19.4	18.59
				1	24			19.4	18.73
				12	0			19.4	18.73
				12	6			19.4	18.71
				12	11			19.4	18.62
				25	0			19.4	18.65

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9.11. LTE Band 25

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

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND25	26140	1860	23.00	11.40	+/-1
		26365	1882.5			
		26590	1905			

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

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

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

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

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

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

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 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 (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	26140	1860	QPSK	1	0	0	0	24.0	22.59
				1	49	0	0	24.0	22.65
				1	99	0	0	24.0	22.50
				50	0	1	1	23.0	21.53
				50	24	1	1	23.0	21.64
				50	49	1	1	23.0	21.66
				100	0	1	1	23.0	21.61
			16QAM	1	0	1	1	23.0	21.87
				1	49	1	1	23.0	21.96
				1	99	1	1	23.0	21.90
				50	0	2	2	22.0	20.50
				50	24	2	2	22.0	20.63
				50	49	2	2	22.0	20.63
				100	0	2	2	22.0	20.57
	26365	1882.5	QPSK	1	0	0	0	24.0	22.62
				1	49	0	0	24.0	22.67
				1	99	0	0	24.0	22.39
				50	0	1	1	23.0	21.53
				50	24	1	1	23.0	21.62
				50	49	1	1	23.0	21.65
				100	0	1	1	23.0	21.60
			16QAM	1	0	1	1	23.0	21.92
				1	49	1	1	23.0	21.97
				1	99	1	1	23.0	21.74
				50	0	2	2	22.0	20.59
				50	24	2	2	22.0	20.63
				50	49	2	2	22.0	20.62
				100	0	2	2	22.0	20.62
	26590	1905	QPSK	1	0	0	0	24.0	22.52
				1	49	0	0	24.0	22.68
				1	99	0	0	24.0	22.41
				50	0	1	1	23.0	21.62
				50	24	1	1	23.0	21.60
				50	49	1	1	23.0	21.68
				100	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.85
				1	49	1	1	23.0	21.97
				1	99	1	1	23.0	21.76
				50	0	2	2	22.0	20.62
				50	24	2	2	22.0	20.66
				50	49	2	2	22.0	20.67
				100	0	2	2	22.0	20.73

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	26140	1860	QPSK	1	0	MPR is disabled when power reduction is enabled		12.4	12.26
				1	49			12.4	12.06
				1	99			12.4	12.00
				50	0			12.4	11.82
				50	24			12.4	11.88
				50	49			12.4	11.91
				100	0			12.4	11.89
			16QAM	1	0			12.4	12.18
				1	49			12.4	12.26
				1	99			12.4	12.13
				50	0			12.4	11.80
				50	24			12.4	11.89
				50	49			12.4	11.90
				100	0			12.4	11.95
	26365	1882.5	QPSK	1	0			12.4	12.29
				1	49			12.4	12.15
				1	99			12.4	12.03
				50	0			12.4	11.88
				50	24			12.4	11.92
				50	49			12.4	11.91
				100	0			12.4	11.88
			16QAM	1	0			12.4	12.22
				1	49			12.4	12.22
				1	99			12.4	11.98
				50	0			12.4	11.91
				50	24			12.4	11.93
				50	49			12.4	11.95
				100	0			12.4	11.95
	26590	1905	QPSK	1	0			12.4	11.74
				1	49			12.4	11.97
				1	99			12.4	11.66
				50	0			12.4	11.90
				50	24			12.4	11.84
				50	49			12.4	11.89
				100	0			12.4	11.84
			16QAM	1	0			12.4	12.15
				1	49			12.4	12.27
				1	99			12.4	12.05
				50	0			12.4	11.85
				50	24			12.4	11.90
				50	49			12.4	11.93
				100	0			12.4	12.01

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	26115	1857.5	QPSK	1	0	0	0	24.0	22.67
				1	37	0	0	24.0	22.74
				1	74	0	0	24.0	22.56
				36	0	1	1	23.0	21.58
				36	19	1	1	23.0	21.66
				36	39	1	1	23.0	21.72
				75	0	1	1	23.0	21.67
			16QAM	1	0	1	1	23.0	21.69
				1	37	1	1	23.0	21.70
				1	74	1	1	23.0	21.71
				36	0	2	2	22.0	20.59
				36	19	2	2	22.0	20.62
				36	39	2	2	22.0	20.70
				75	0	2	2	22.0	20.61
	26365	1882.5	QPSK	1	0	0	0	24.0	22.69
				1	37	0	0	24.0	22.68
				1	74	0	0	24.0	22.44
				36	0	1	1	23.0	21.59
				36	19	1	1	23.0	21.61
				36	39	1	1	23.0	21.55
				75	0	1	1	23.0	21.58
			16QAM	1	0	1	1	23.0	21.64
				1	37	1	1	23.0	21.63
				1	74	1	1	23.0	21.59
				36	0	2	2	22.0	20.55
				36	19	2	2	22.0	20.58
				36	39	2	2	22.0	20.53
				75	0	2	2	22.0	20.61
	26615	1907.5	QPSK	1	0	0	0	24.0	22.68
				1	37	0	0	24.0	22.83
				1	74	0	0	24.0	22.56
				36	0	1	1	23.0	21.58
				36	19	1	1	23.0	21.73
				36	39	1	1	23.0	21.67
				75	0	1	1	23.0	21.71
			16QAM	1	0	1	1	23.0	21.80
				1	37	1	1	23.0	21.64
				1	74	1	1	23.0	21.87
				36	0	2	2	22.0	20.61
				36	19	2	2	22.0	20.72
				36	39	2	2	22.0	20.63
				75	0	2	2	22.0	20.71

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	26115	1857.5	QPSK	1	0			12.4	11.70
				1	37			12.4	11.75
				1	74			12.4	11.74
				36	0			12.4	11.76
				36	19			12.4	11.83
				36	39			12.4	11.92
				75	0			12.4	11.89
			16QAM	1	0			12.4	11.71
				1	37			12.4	11.68
				1	74			12.4	11.74
				36	0			12.4	11.84
				36	19			12.4	11.90
				36	39			12.4	11.92
				75	0			12.4	11.94
	26365	1882.5	QPSK	1	0			12.4	11.92
				1	37			12.4	12.04
				1	74			12.4	11.76
				36	0			12.4	11.83
				36	19			12.4	11.86
				36	39			12.4	11.80
				75	0			12.4	11.91
			16QAM	1	0			12.4	12.16
				1	37			12.4	12.04
				1	74			12.4	11.99
				36	0			12.4	11.88
				36	19			12.4	11.92
				36	39			12.4	11.88
				75	0			12.4	11.94
	26615	1907.5	QPSK	1	0			12.4	11.94
				1	37			12.4	11.89
				1	74			12.4	11.82
				36	0			12.4	11.74
				36	19			12.4	11.84
				36	39			12.4	11.73
				75	0			12.4	11.88
			16QAM	1	0			12.4	12.19
				1	37			12.4	12.14
				1	74			12.4	12.01
				36	0			12.4	11.79
				36	19			12.4	11.89
				36	39			12.4	11.75
				75	0			12.4	11.96

MPR is disabled when power reduction is enabled

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	26090	1855	QPSK	1	0	0	0	24.0	22.65
				1	24	0	0	24.0	22.55
				1	49	0	0	24.0	22.63
				25	0	1	1	23.0	21.64
				25	12	1	1	23.0	21.59
				25	24	1	1	23.0	21.66
				50	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.55
				1	24	1	1	23.0	21.53
				1	49	1	1	23.0	21.54
				25	0	2	2	22.0	20.71
				25	12	2	2	22.0	20.66
				25	24	2	2	22.0	20.77
				50	0	2	2	22.0	20.64
	26365	1882.5	QPSK	1	0	0	0	24.0	22.68
				1	24	0	0	24.0	22.60
				1	49	0	0	24.0	22.61
				25	0	1	1	23.0	21.65
				25	12	1	1	23.0	21.68
				25	24	1	1	23.0	21.63
				50	0	1	1	23.0	21.68
			16QAM	1	0	1	1	23.0	21.51
				1	24	1	1	23.0	21.77
				1	49	1	1	23.0	21.54
				25	0	2	2	22.0	20.78
				25	12	2	2	22.0	20.79
				25	24	2	2	22.0	20.77
				50	0	2	2	22.0	20.70
	26640	1910	QPSK	1	0	0	0	24.0	22.68
				1	24	0	0	24.0	22.60
				1	49	0	0	24.0	22.58
				25	0	1	1	23.0	21.62
				25	12	1	1	23.0	21.65
				25	24	1	1	23.0	21.63
				50	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	21.32
				1	24	1	1	23.0	21.71
				1	49	1	1	23.0	21.96
				25	0	2	2	22.0	20.72
				25	12	2	2	22.0	20.74
				25	24	2	2	22.0	20.73
				50	0	2	2	22.0	20.68

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	26090	1855	QPSK	1	0	MPR is disabled when power reduction is enabled		12.4	12.02
				1	24			12.4	11.78
				1	49			12.4	11.97
				25	0			12.4	11.87
				25	12			12.4	11.78
				25	24			12.4	11.90
				50	0			12.4	11.98
			16QAM	1	0			12.4	12.26
				1	24			12.4	12.01
				1	49			12.4	12.10
				25	0			12.4	11.98
				25	12			12.4	11.90
				25	24			12.4	12.03
				50	0			12.4	11.98
	26365	1882.5	QPSK	1	0			12.4	11.80
				1	24			12.4	11.87
				1	49			12.4	11.68
				25	0			12.4	11.89
				25	12			12.4	11.94
				25	24			12.4	11.90
				50	0			12.4	11.92
			16QAM	1	0			12.4	12.11
				1	24			12.4	11.86
				1	49			12.4	11.83
				25	0			12.4	12.05
				25	12			12.4	12.10
				25	24			12.4	12.02
				50	0			12.4	12.05
	26640	1910	QPSK	1	0			12.4	11.74
				1	24			12.4	11.69
				1	49			12.4	11.78
				25	0			12.4	11.87
				25	12			12.4	11.92
				25	24			12.4	11.84
				50	0			12.4	11.96
			16QAM	1	0			12.4	12.02
				1	24			12.4	11.91
				1	49			12.4	12.02
				25	0			12.4	12.04
				25	12			12.4	12.05
				25	24			12.4	11.91
				50	0			12.4	11.98

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	26065	1852.5	QPSK	1	0	0	0	24.0	22.83
				1	12	0	0	24.0	22.67
				1	24	0	0	24.0	22.78
				12	0	1	1	23.0	21.75
				12	6	1	1	23.0	21.73
				12	11	1	1	23.0	21.70
				25	0	1	1	23.0	21.71
			16QAM	1	0	1	1	23.0	21.86
				1	12	1	1	23.0	21.84
				1	24	1	1	23.0	21.87
				12	0	2	2	22.0	20.81
				12	6	2	2	22.0	20.83
				12	11	2	2	22.0	20.75
				25	0	2	2	22.0	20.70
	26365	1882.5	QPSK	1	0	0	0	24.0	22.81
				1	12	0	0	24.0	22.63
				1	24	0	0	24.0	22.68
				12	0	1	1	23.0	21.72
				12	6	1	1	23.0	21.64
				12	11	1	1	23.0	21.70
				25	0	1	1	23.0	21.63
			16QAM	1	0	1	1	23.0	22.00
				1	12	1	1	23.0	21.73
				1	24	1	1	23.0	21.88
				12	0	2	2	22.0	20.77
				12	6	2	2	22.0	20.76
				12	11	2	2	22.0	20.75
				25	0	2	2	22.0	20.63
	26665	1912.5	QPSK	1	0	0	0	24.0	22.78
				1	12	0	0	24.0	22.67
				1	24	0	0	24.0	22.79
				12	0	1	1	23.0	21.61
				12	6	1	1	23.0	21.74
				12	11	1	1	23.0	21.65
				25	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.78
				1	12	1	1	23.0	21.83
				1	24	1	1	23.0	21.84
				12	0	2	2	22.0	20.63
				12	6	2	2	22.0	20.75
				12	11	2	2	22.0	20.66
				25	0	2	2	22.0	20.61

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	26065	1852.5	QPSK	1	0	MPR is disabled when power reduction is enabled		12.4	12.17
				1	12			12.4	11.84
				1	24			12.4	12.02
				12	0			12.4	12.01
				12	6			12.4	12.04
				12	11			12.4	11.97
				25	0			12.4	12.07
			16QAM	1	0			12.4	12.04
				1	12			12.4	12.34
				1	24			12.4	12.02
				12	0			12.4	12.12
				12	6			12.4	12.11
				12	11			12.4	12.02
				25	0			12.4	12.08
	26365	1882.5	QPSK	1	0			12.4	12.06
				1	12			12.4	11.90
				1	24			12.4	11.94
				12	0			12.4	12.06
				12	6			12.4	11.99
				12	11			12.4	12.00
				25	0			12.4	11.94
			16QAM	1	0			12.4	12.05
				1	12			12.4	12.38
				1	24			12.4	12.06
				12	0			12.4	12.12
				12	6			12.4	12.02
				12	11			12.4	12.06
				25	0			12.4	12.02
	26665	1912.5	QPSK	1	0			12.4	12.02
				1	12			12.4	11.79
				1	24			12.4	12.01
				12	0			12.4	11.85
				12	6			12.4	11.92
				12	11			12.4	11.90
				25	0			12.4	11.89
			16QAM	1	0			12.4	11.98
				1	12			12.4	11.93
				1	24			12.4	12.06
				12	0			12.4	11.94
				12	6			12.4	11.99
				12	11			12.4	11.94
				25	0			12.4	11.85

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	26055	1851.5	QPSK	1	0	0	0	24.0	22.85
				1	7	0	0	24.0	22.72
				1	14	0	0	24.0	22.80
				8	0	1	1	23.0	21.57
				8	4	1	1	23.0	21.64
				8	7	1	1	23.0	21.60
				15	0	1	1	23.0	21.56
			16QAM	1	0	1	1	23.0	21.73
				1	7	1	1	23.0	21.36
				1	14	1	1	23.0	21.45
				8	0	2	2	22.0	20.66
				8	4	2	2	22.0	20.70
				8	7	2	2	22.0	20.66
				15	0	2	2	22.0	20.56
	26365	1882.5	QPSK	1	0	0	0	24.0	22.84
				1	7	0	0	24.0	22.59
				1	14	0	0	24.0	22.66
				8	0	1	1	23.0	21.63
				8	4	1	1	23.0	21.68
				8	7	1	1	23.0	21.69
				15	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.70
				1	7	1	1	23.0	21.35
				1	14	1	1	23.0	21.51
				8	0	2	2	22.0	20.71
				8	4	2	2	22.0	20.76
				8	7	2	2	22.0	20.75
				15	0	2	2	22.0	20.67
	26675	1913.5	QPSK	1	0	0	0	24.0	22.68
				1	7	0	0	24.0	22.59
				1	14	0	0	24.0	22.55
				8	0	1	1	23.0	21.64
				8	4	1	1	23.0	21.73
				8	7	1	1	23.0	21.70
				15	0	1	1	23.0	21.57
			16QAM	1	0	1	1	23.0	21.84
				1	7	1	1	23.0	21.92
				1	14	1	1	23.0	21.64
				8	0	2	2	22.0	20.59
				8	4	2	2	22.0	20.67
				8	7	2	2	22.0	20.60
				15	0	2	2	22.0	20.46

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	26055	1851.5	QPSK	1	0	MPR is disabled when power reduction is enabled		12.4	11.93
				1	7			12.4	11.82
				1	14			12.4	11.79
				8	0			12.4	12.06
				8	4			12.4	11.97
				8	7			12.4	12.14
				15	0			12.4	11.96
			16QAM	1	0			12.4	12.00
				1	7			12.4	11.84
				1	14			12.4	11.93
				8	0			12.4	12.16
				8	4			12.4	12.24
				8	7			12.4	12.21
				15	0			12.4	12.17
	26365	1882.5	QPSK	1	0			12.4	12.01
				1	7			12.4	11.77
				1	14			12.4	11.91
				8	0			12.4	11.95
				8	4			12.4	11.94
				8	7			12.4	12.02
				15	0			12.4	11.95
			16QAM	1	0			12.4	11.79
				1	7			12.4	11.79
				1	14			12.4	11.58
				8	0			12.4	12.13
				8	4			12.4	12.16
				8	7			12.4	12.14
				15	0			12.4	12.03
	26675	1913.5	QPSK	1	0			12.4	11.91
				1	7			12.4	11.78
				1	14			12.4	11.85
				8	0			12.4	11.86
				8	4			12.4	11.88
				8	7			12.4	11.85
				15	0			12.4	11.78
			16QAM	1	0			12.4	11.90
				1	7			12.4	11.94
				1	14			12.4	11.72
				8	0			12.4	11.85
				8	4			12.4	11.94
				8	7			12.4	11.92
				15	0			12.4	11.83

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

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	26047	1850.7	QPSK	1	0	0	0	24.0	22.84
				1	2	0	0	24.0	22.59
				1	5	0	0	24.0	22.74
				3	0	0	0	24.0	22.66
				3	1	0	0	24.0	22.69
				3	3	0	0	24.0	22.58
				6	0	1	1	23.0	21.64
			16QAM	1	0	1	1	23.0	21.81
				1	2	1	1	23.0	22.02
				1	5	1	1	23.0	21.78
				3	0	1	1	23.0	21.74
				3	1	1	1	23.0	21.90
				3	3	1	1	23.0	21.76
				6	0	2	2	22.0	20.77
	26365	1882.5	QPSK	1	0	0	0	24.0	22.71
				1	2	0	0	24.0	22.74
				1	5	0	0	24.0	22.72
				3	0	0	0	24.0	22.53
				3	1	0	0	24.0	22.60
				3	3	0	0	24.0	22.64
				6	0	1	1	23.0	21.54
			16QAM	1	0	1	1	23.0	21.62
				1	2	1	1	23.0	21.99
				1	5	1	1	23.0	21.73
				3	0	1	1	23.0	21.72
				3	1	1	1	23.0	21.88
				3	3	1	1	23.0	21.80
				6	0	2	2	22.0	20.70
	26683	1914.3	QPSK	1	0	0	0	24.0	22.73
				1	2	0	0	24.0	22.68
				1	5	0	0	24.0	22.64
				3	0	0	0	24.0	22.44
				3	1	0	0	24.0	22.55
				3	3	0	0	24.0	22.57
				6	0	1	1	23.0	21.53
			16QAM	1	0	1	1	23.0	21.68
				1	2	1	1	23.0	21.83
				1	5	1	1	23.0	21.66
				3	0	1	1	23.0	21.69
				3	1	1	1	23.0	21.70
				3	3	1	1	23.0	21.79
				6	0	2	2	22.0	20.67

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	26047	1850.7	QPSK	1	0	MPR is disabled when power reduction is enabled		12.4	12.23
				1	2			12.4	12.35
				1	5			12.4	12.10
				3	0			12.4	11.79
				3	1			12.4	11.83
				3	3			12.4	11.71
				6	0			12.4	11.92
			16QAM	1	0			12.4	12.24
				1	2			12.4	12.38
				1	5			12.4	12.39
				3	0			12.4	12.06
				3	1			12.4	12.16
				3	3			12.4	12.11
				6	0			12.4	12.13
	26365	1882.5	QPSK	1	0			12.4	11.87
				1	2			12.4	11.86
				1	5			12.4	11.91
				3	0			12.4	11.83
				3	1			12.4	11.88
				3	3			12.4	11.92
				6	0			12.4	11.86
			16QAM	1	0			12.4	11.93
				1	2			12.4	12.14
				1	5			12.4	12.15
				3	0			12.4	12.09
				3	1			12.4	12.19
				3	3			12.4	12.12
				6	0			12.4	12.01
	26683	1914.3	QPSK	1	0			12.4	11.92
				1	2			12.4	11.88
				1	5			12.4	11.81
				3	0			12.4	11.64
				3	1			12.4	11.74
				3	3			12.4	11.77
				6	0			12.4	11.73
			16QAM	1	0			12.4	11.89
				1	2			12.4	12.07
				1	5			12.4	11.84
				3	0			12.4	11.87
				3	1			12.4	11.92
				3	3			12.4	11.91
				6	0			12.4	11.87

9.12. LTE Band 26

Target Power for LTE Band 26, QPSK and 16QAM modulations in all bandwidth

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND26	26765	821.5	23.00	19.40	+/-1
		26865	831.5			
		26965	841.5			

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 26, 15 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	26765	821.5	QPSK	1	0	0	0	24.0	22.83
				1	37	0	0	24.0	22.35
				1	74	0	0	24.0	22.55
				36	0	1	1	23.0	21.75
				36	19	1	1	23.0	21.76
				36	39	1	1	23.0	21.57
				75	0	1	1	23.0	21.70
			16QAM	1	0	1	1	23.0	21.70
				1	37	1	1	23.0	21.62
				1	74	1	1	23.0	21.44
				36	0	2	2	22.0	20.61
				36	19	2	2	22.0	20.77
				36	39	2	2	22.0	20.55
				75	0	2	2	22.0	20.67
	26865	831.5	QPSK	1	0	0	0	24.0	22.65
				1	37	0	0	24.0	22.63
				1	74	0	0	24.0	22.60
				36	0	1	1	23.0	21.56
				36	19	1	1	23.0	21.67
				36	39	1	1	23.0	21.55
				75	0	1	1	23.0	21.52
			16QAM	1	0	1	1	23.0	22.05
				1	37	1	1	23.0	22.09
				1	74	1	1	23.0	21.96
				36	0	2	2	22.0	20.54
				36	19	2	2	22.0	20.63
				36	39	2	2	22.0	20.45
				75	0	2	2	22.0	20.51
	26965	841.5	QPSK	1	0	0	0	24.0	22.53
				1	37	0	0	24.0	22.59
				1	74	0	0	24.0	22.52
				36	0	1	1	23.0	21.58
				36	19	1	1	23.0	21.61
				36	39	1	1	23.0	21.55
				75	0	1	1	23.0	21.56
			16QAM	1	0	1	1	23.0	22.03
				1	37	1	1	23.0	21.82
				1	74	1	1	23.0	21.85
				36	0	2	2	22.0	20.52
				36	19	2	2	22.0	20.53
				36	39	2	2	22.0	20.49
				75	0	2	2	22.0	20.61

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	26765	821.5	QPSK	1	0			20.4	19.84
				1	37			20.4	19.60
				1	74			20.4	19.54
				36	0			20.4	19.80
				36	19			20.4	19.97
				36	39			20.4	19.74
				75	0			20.4	19.81
			16QAM	1	0			20.4	19.75
				1	37			20.4	19.75
				1	74			20.4	19.60
				36	0			20.4	19.78
				36	19			20.4	19.86
				36	39			20.4	19.61
				75	0			20.4	19.81
	26865	831.5	QPSK	1	0			20.4	19.67
				1	37			20.4	19.58
				1	74			20.4	19.62
				36	0			20.4	19.57
				36	19			20.4	19.67
				36	39	**MPR is disabled when power reduction is enabled**		20.4	19.54
				75	0			20.4	19.52
			16QAM	1	0			20.4	19.94
				1	37			20.4	19.92
				1	74			20.4	19.89
				36	0			20.4	19.67
				36	19			20.4	19.70
				36	39			20.4	19.61
				75	0			20.4	19.60
	26965	841.5	QPSK	1	0			20.4	19.53
				1	37			20.4	19.28
				1	74			20.4	19.50
				36	0			20.4	19.69
				36	19			20.4	19.66
				36	39			20.4	19.56
				75	0			20.4	19.54
			16QAM	1	0			20.4	19.48
				1	37			20.4	19.46
				1	74			20.4	19.34
				36	0			20.4	19.60
				36	19			20.4	19.60
				36	39			20.4	19.52
				75	0			20.4	19.59

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LTE Band 26, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	26740	819	QPSK	1	0	0	0	24.0	22.78
				1	24	0	0	24.0	22.93
				1	49	0	0	24.0	22.77
				25	0	1	1	23.0	21.94
				25	12	1	1	23.0	21.81
				25	24	1	1	23.0	21.74
				50	0	1	1	23.0	21.86
			16QAM	1	0	1	1	23.0	21.96
				1	24	1	1	23.0	21.92
				1	49	1	1	23.0	22.04
				25	0	2	2	22.0	20.86
				25	12	2	2	22.0	20.77
				25	24	2	2	22.0	20.67
				50	0	2	2	22.0	20.70
	26865	831.5	QPSK	1	0	0	0	24.0	22.69
				1	24	0	0	24.0	22.59
				1	49	0	0	24.0	22.54
				25	0	1	1	23.0	21.50
				25	12	1	1	23.0	21.52
				25	24	1	1	23.0	21.39
				50	0	1	1	23.0	21.51
			16QAM	1	0	1	1	23.0	21.80
				1	24	1	1	23.0	21.94
				1	49	1	1	23.0	21.98
				25	0	2	2	22.0	20.59
				25	12	2	2	22.0	20.63
				25	24	2	2	22.0	20.50
				50	0	2	2	22.0	20.53
	26990	844	QPSK	1	0	0	0	24.0	22.59
				1	24	0	0	24.0	22.79
				1	49	0	0	24.0	22.52
				25	0	1	1	23.0	21.59
				25	12	1	1	23.0	21.61
				25	24	1	1	23.0	21.55
				50	0	1	1	23.0	21.62
			16QAM	1	0	1	1	23.0	21.80
				1	24	1	1	23.0	22.07
				1	49	1	1	23.0	21.70
				25	0	2	2	22.0	20.67
				25	12	2	2	22.0	20.70
				25	24	2	2	22.0	20.62
				50	0	2	2	22.0	20.60

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	26740	819	QPSK	1	0			20.4	20.00
				1	24			20.4	19.82
				1	49			20.4	19.89
				25	0			20.4	19.78
				25	12			20.4	19.76
				25	24			20.4	19.72
				50	0			20.4	19.69
			16QAM	1	0			20.4	20.13
				1	24			20.4	20.16
				1	49			20.4	20.07
				25	0			20.4	19.84
				25	12			20.4	19.84
				25	24			20.4	19.77
				50	0			20.4	19.72
	26865	831.5	QPSK	1	0			20.4	19.88
				1	24			20.4	19.69
				1	49			20.4	19.75
				25	0			20.4	19.57
				25	12			20.4	19.52
				25	24	**MPR is disabled when power reduction is enabled**		20.4	19.48
				50	0			20.4	19.55
			16QAM	1	0			20.4	20.13
				1	24			20.4	19.90
				1	49			20.4	19.93
				25	0			20.4	19.63
				25	12			20.4	19.63
				25	24			20.4	19.51
				50	0			20.4	19.59
	26990	844	QPSK	1	0			20.4	19.72
				1	24			20.4	19.59
				1	49			20.4	19.74
				25	0			20.4	19.57
				25	12			20.4	19.61
				25	24			20.4	19.66
				50	0			20.4	19.54
			16QAM	1	0			20.4	19.91
				1	24			20.4	19.89
				1	49			20.4	19.89
				25	0			20.4	19.62
				25	12			20.4	19.71
				25	24			20.4	19.66
				50	0			20.4	19.61

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LTE Band 26, 5 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	26715	816.5	QPSK	1	0	0	0	24.0	23.10
				1	12	0	0	24.0	22.93
				1	24	0	0	24.0	22.95
				12	0	1	1	23.0	21.80
				12	6	1	1	23.0	21.93
				12	11	1	1	23.0	21.81
				25	0	1	1	23.0	21.81
			16QAM	1	0	1	1	23.0	22.19
				1	12	1	1	23.0	22.53
				1	24	1	1	23.0	22.01
				12	0	2	2	22.0	20.97
				12	6	2	2	22.0	21.02
				12	11	2	2	22.0	20.92
				25	0	2	2	22.0	20.85
	26865	831.5	QPSK	1	0	0	0	24.0	22.63
				1	12	0	0	24.0	22.61
				1	24	0	0	24.0	22.65
				12	0	1	1	23.0	21.49
				12	6	1	1	23.0	21.53
				12	11	1	1	23.0	21.37
				25	0	1	1	23.0	21.45
			16QAM	1	0	1	1	23.0	21.68
				1	12	1	1	23.0	21.47
				1	24	1	1	23.0	21.58
				12	0	2	2	22.0	20.50
				12	6	2	2	22.0	20.56
				12	11	2	2	22.0	20.41
				25	0	2	2	22.0	20.44
	27015	846.5	QPSK	1	0	0	0	24.0	22.72
				1	12	0	0	24.0	22.55
				1	24	0	0	24.0	22.71
				12	0	1	1	23.0	21.54
				12	6	1	1	23.0	21.56
				12	11	1	1	23.0	21.55
				25	0	1	1	23.0	21.47
			16QAM	1	0	1	1	23.0	21.78
				1	12	1	1	23.0	21.57
				1	24	1	1	23.0	21.71
				12	0	2	2	22.0	20.54
				12	6	2	2	22.0	20.60
				12	11	2	2	22.0	20.54
				25	0	2	2	22.0	20.44

Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	26715	816.5	QPSK	1	0			20.4	20.25
				1	12			20.4	19.88
				1	24			20.4	19.95
				12	0			20.4	19.93
				12	6			20.4	20.02
				12	11			20.4	19.92
				25	0			20.4	19.90
			16QAM	1	0			20.4	20.16
				1	12			20.4	19.97
				1	24			20.4	19.96
				12	0			20.4	19.97
				12	6			20.4	20.07
				12	11			20.4	19.97
				25	0			20.4	19.85
	26865	831.5	QPSK	1	0			20.4	19.67
				1	12			20.4	19.54
				1	24			20.4	19.71
				12	0			20.4	19.50
				12	6			20.4	19.55
				12	11	**MPR is disabled when power reduction is enabled**		20.4	19.41
				25	0			20.4	19.54
			16QAM	1	0			20.4	19.69
				1	12			20.4	19.56
				1	24			20.4	19.65
				12	0			20.4	19.58
				12	6			20.4	19.61
				12	11			20.4	19.45
				25	0			20.4	19.50
	27015	846.5	QPSK	1	0			20.4	19.78
				1	12			20.4	19.58
				1	24			20.4	19.69
				12	0			20.4	19.55
				12	6			20.4	19.62
				12	11			20.4	19.58
				25	0			20.4	19.52
			16QAM	1	0			20.4	19.76
				1	12			20.4	19.59
				1	24			20.4	19.77
				12	0			20.4	19.62
				12	6			20.4	19.66
				12	11			20.4	19.62
				25	0			20.4	19.56

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LTE Band 26, 3 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	26705	815.5	QPSK	1	0	0	0	24.0	22.92
				1	7	0	0	24.0	23.01
				1	14	0	0	24.0	22.99
				8	0	1	1	23.0	21.89
				8	4	1	1	23.0	21.93
				8	7	1	1	23.0	21.88
				15	0	1	1	23.0	21.86
			16QAM	1	0	1	1	23.0	21.89
				1	7	1	1	23.0	21.95
				1	14	1	1	23.0	21.83
				8	0	2	2	22.0	21.01
				8	4	2	2	22.0	20.99
				8	7	2	2	22.0	20.97
				15	0	2	2	22.0	20.89
	26865	831.5	QPSK	1	0	0	0	24.0	22.80
				1	7	0	0	24.0	22.78
				1	14	0	0	24.0	22.86
				8	0	1	1	23.0	21.86
				8	4	1	1	23.0	21.85
				8	7	1	1	23.0	21.80
				15	0	1	1	23.0	21.84
			16QAM	1	0	1	1	23.0	21.80
				1	7	1	1	23.0	21.81
				1	14	1	1	23.0	21.83
				8	0	2	2	22.0	20.88
				8	4	2	2	22.0	20.94
				8	7	2	2	22.0	20.89
				15	0	2	2	22.0	20.72
	27025	847.5	QPSK	1	0	0	0	24.0	22.81
				1	7	0	0	24.0	22.77
				1	14	0	0	24.0	22.73
				8	0	1	1	23.0	21.78
				8	4	1	1	23.0	21.77
				8	7	1	1	23.0	21.71
				15	0	1	1	23.0	21.66
			16QAM	1	0	1	1	23.0	21.69
				1	7	1	1	23.0	21.63
				1	14	1	1	23.0	21.58
				8	0	2	2	22.0	20.72
				8	4	2	2	22.0	20.74
				8	7	2	2	22.0	20.82
				15	0	2	2	22.0	20.70

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
3	26705	815.5	QPSK	1	0			20.4	19.89
				1	7			20.4	19.95
				1	14			20.4	20.03
				8	0			20.4	19.92
				8	4			20.4	19.96
				8	7			20.4	19.89
				15	0			20.4	19.90
			16QAM	1	0			20.4	19.91
				1	7			20.4	19.97
				1	14			20.4	19.86
				8	0			20.4	20.02
				8	4			20.4	20.06
				8	7			20.4	20.04
				15	0			20.4	19.92
	26865	831.5	QPSK	1	0			20.4	19.80
				1	7			20.4	19.60
				1	14			20.4	19.69
				8	0			20.4	19.69
				8	4			20.4	19.67
				8	7	**MPR is disabled when power reduction is enabled**		20.4	19.59
				15	0			20.4	19.65
			16QAM	1	0			20.4	19.71
				1	7			20.4	19.68
				1	14			20.4	19.65
				8	0			20.4	19.78
				8	4			20.4	19.75
				8	7			20.4	19.70
				15	0			20.4	19.72
	27025	847.5	QPSK	1	0			20.4	19.66
				1	7			20.4	19.60
				1	14			20.4	19.69
				8	0			20.4	19.69
				8	4			20.4	19.70
				8	7			20.4	19.68
				15	0			20.4	19.55
			16QAM	1	0			20.4	19.52
				1	7			20.4	19.55
				1	14			20.4	19.61
				8	0			20.4	19.67
				8	4			20.4	19.68
				8	7			20.4	19.70
				15	0			20.4	19.63

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LTE Band 26, 1.4 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	26697	814.7	QPSK	1	0	0	0	24.0	22.94
				1	2	0	0	24.0	23.09
				1	5	0	0	24.0	22.99
				3	0	0	0	24.0	22.70
				3	1	0	0	24.0	22.83
				3	3	0	0	24.0	22.76
				6	0	1	1	23.0	21.79
			16QAM	1	0	1	1	23.0	21.96
				1	2	1	1	23.0	22.14
				1	5	1	1	23.0	22.13
				3	0	1	1	23.0	21.95
				3	1	1	1	23.0	21.98
				3	3	1	1	23.0	21.98
				6	0	2	2	22.0	20.94
	26865	831.5	QPSK	1	0	0	0	24.0	22.79
				1	2	0	0	24.0	22.80
				1	5	0	0	24.0	22.69
				3	0	0	0	24.0	22.42
				3	1	0	0	24.0	22.53
				3	3	0	0	24.0	22.51
				6	0	1	1	23.0	21.45
			16QAM	1	0	1	1	23.0	21.64
				1	2	1	1	23.0	21.97
				1	5	1	1	23.0	21.51
				3	0	1	1	23.0	21.59
				3	1	1	1	23.0	21.65
				3	3	1	1	23.0	21.64
				6	0	2	2	22.0	20.63
	27033	848.3	QPSK	1	0	0	0	24.0	22.71
				1	2	0	0	24.0	22.69
				1	5	0	0	24.0	22.68
				3	0	0	0	24.0	22.47
				3	1	0	0	24.0	22.54
				3	3	0	0	24.0	22.49
				6	0	1	1	23.0	21.52
			16QAM	1	0	1	1	23.0	21.63
				1	2	1	1	23.0	21.88
				1	5	1	1	23.0	21.71
				3	0	1	1	23.0	21.70
				3	1	1	1	23.0	21.71
				3	3	1	1	23.0	21.73
				6	0	2	2	22.0	20.65

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
1.4	26697	814.7	QPSK	1	0			20.4	20.07
				1	2			20.4	20.15
				1	5			20.4	19.97
				3	0			20.4	19.83
				3	1			20.4	19.89
				3	3			20.4	19.87
				6	0			20.4	19.85
			16QAM	1	0			20.4	20.11
				1	2			20.4	20.18
				1	5			20.4	20.14
				3	0			20.4	19.92
				3	1			20.4	20.00
				3	3			20.4	20.02
				6	0			20.4	20.01
	26865	831.5	QPSK	1	0			20.4	19.66
				1	2			20.4	19.71
				1	5			20.4	19.57
				3	0			20.4	19.63
				3	1			20.4	19.70
				3	3	**MPR is disabled when power reduction is enabled**		20.4	19.53
				6	0			20.4	19.50
			16QAM	1	0			20.4	19.83
				1	2			20.4	19.86
				1	5			20.4	19.80
				3	0			20.4	19.55
				3	1			20.4	19.55
				3	3			20.4	19.60
				6	0			20.4	19.61
	27033	848.3	QPSK	1	0			20.4	19.68
				1	2			20.4	19.72
				1	5			20.4	19.62
				3	0			20.4	19.61
				3	1			20.4	19.64
				3	3			20.4	19.58
				6	0			20.4	19.59
			16QAM	1	0			20.4	19.86
				1	2			20.4	19.94
				1	5			20.4	19.90
				3	0			20.4	19.68
				3	1			20.4	19.78
				3	3			20.4	19.73
				6	0			20.4	19.74

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9.13. LTE Band 41

Target Power for LTE Band 41, QPSK and 16QAM modulations in all bandwidth

Tech	BAND	CH.	Freq. [MHz]	Target Power		Tolerance [dB]
				w/o Power Reduction	w/ Power Reduction	
LTE	BAND41	39750	2506	22.00	13.40	+/-1
		40620	2593			
		41490	2680			

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 41, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	39750 Low	2506	QPSK	1	0	0	0	23.0	21.03
				1	49	0	0	23.0	21.24
				1	99	0	0	23.0	21.30
				50	0	1	1	22.0	20.32
				50	24	1	1	22.0	20.38
				50	49	1	1	22.0	20.44
				100	0	1	1	22.0	20.36
			16QAM	1	0	1	1	22.0	20.48
				1	49	1	1	22.0	20.73
				1	99	1	1	22.0	20.71
				50	0	2	2	21.0	19.37
				50	24	2	2	21.0	19.48
				50	49	2	2	21.0	19.51
				100	0	2	2	21.0	19.42
	40185 Low-Mid	2549.5	QPSK	1	0	0	0	23.0	21.38
				1	49	0	0	23.0	21.34
				1	99	0	0	23.0	21.04
				50	0	1	1	22.0	20.44
				50	24	1	1	22.0	20.39
				50	49	1	1	22.0	20.35
				100	0	1	1	22.0	20.34
			16QAM	1	0	1	1	22.0	20.77
				1	49	1	1	22.0	20.77
				1	99	1	1	22.0	20.46
				50	0	2	2	21.0	19.43
				50	24	2	2	21.0	19.42
				50	49	2	2	21.0	19.34
				100	0	2	2	21.0	19.36
	40620 Mid	2593	QPSK	1	0	0	0	23.0	21.19
				1	49	0	0	23.0	21.25
				1	99	0	0	23.0	21.11
				50	0	1	1	22.0	20.42
				50	24	1	1	22.0	20.41
				50	49	1	1	22.0	20.38
				100	0	1	1	22.0	20.42
			16QAM	1	0	1	1	22.0	20.58
				1	49	1	1	22.0	20.65
				1	99	1	1	22.0	20.55
				50	0	2	2	21.0	19.27
				50	24	2	2	21.0	19.47
				50	49	2	2	21.0	19.44
				100	0	2	2	21.0	19.44

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BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	41055 Mid-High	2636.5	QPSK	1	0	0	0	23.0	21.33
				1	49	0	0	23.0	21.37
				1	99	0	0	23.0	21.27
				50	0	1	1	22.0	20.46
				50	24	1	1	22.0	20.54
				50	49	1	1	22.0	20.45
				100	0	1	1	22.0	20.54
			16QAM	1	0	1	1	22.0	20.74
				1	49	1	1	22.0	20.83
				1	99	1	1	22.0	20.65
				50	0	2	2	21.0	19.53
				50	24	2	2	21.0	19.63
				50	49	2	2	21.0	19.53
				100	0	2	2	21.0	19.60
	41490 High	2680	QPSK	1	0	0	0	23.0	21.33
				1	49	0	0	23.0	21.40
				1	99	0	0	23.0	21.16
				50	0	1	1	22.0	20.51
				50	24	1	1	22.0	20.55
				50	49	1	1	22.0	20.46
				100	0	1	1	22.0	20.52
			16QAM	1	0	1	1	22.0	20.80
				1	49	1	1	22.0	20.72
				1	99	1	1	22.0	20.56
				50	0	2	2	21.0	19.58
				50	24	2	2	21.0	19.60
				50	49	2	2	21.0	19.48
				100	0	2	2	21.0	19.55

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	39750 Low	2506	QPSK	1	0	**MPR is disabled when power reduction is enabled**		14.4	12.62
				1	49			14.4	12.80
				1	99			14.4	12.54
				50	0			14.4	12.79
				50	24			14.4	12.81
				50	49			14.4	12.68
				100	0			14.4	12.75
			16QAM	1	0			14.4	13.00
				1	49			14.4	13.10
				1	99			14.4	12.80
				50	0			14.4	12.81
				50	24			14.4	12.80
				50	49			14.4	12.65
				100	0			14.4	12.78
	40185 Low-Mid	2549.5	QPSK	1	0			14.4	12.73
				1	49			14.4	12.99
				1	99			14.4	12.80
				50	0			14.4	12.77
				50	24			14.4	12.90
				50	49			14.4	12.89
				100	0			14.4	12.82
			16QAM	1	0			14.4	13.13
				1	49			14.4	13.42
				1	99			14.4	13.22
				50	0			14.4	12.84
				50	24			14.4	12.88
				50	49			14.4	12.93
				100	0			14.4	12.81
	40620 Mid	2593	QPSK	1	0			14.4	12.88
				1	49			14.4	13.16
				1	99			14.4	13.05
				50	0			14.4	12.88
				50	24			14.4	12.95
				50	49			14.4	12.99
				100	0			14.4	12.95
			16QAM	1	0			14.4	12.90
				1	49			14.4	13.24
				1	99			14.4	13.12
				50	0			14.4	12.86
				50	24			14.4	12.92
				50	49			14.4	12.98
				100	0			14.4	13.03

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
20	41055 Mid-High	2636.5	QPSK	1	0	**MPR is disabled when power reduction is enabled**		14.4	13.05
				1	49			14.4	13.23
				1	99			14.4	13.04
				50	0			14.4	12.96
				50	24			14.4	13.00
				50	49			14.4	12.95
				100	0			14.4	13.10
			16QAM	1	0			14.4	13.09
				1	49			14.4	13.24
				1	99			14.4	13.03
				50	0			14.4	12.96
				50	24			14.4	13.04
				50	49			14.4	12.98
				100	0			14.4	13.14
	41490 High	2680	QPSK	1	0			14.4	13.28
				1	49			14.4	13.32
				1	99			14.4	12.97
				50	0			14.4	13.02
				50	24			14.4	13.08
				50	49			14.4	13.13
				100	0			14.4	13.06
			16QAM	1	0			14.4	13.32
				1	49			14.4	13.33
				1	99			14.4	13.04
				50	0			14.4	13.09
				50	24			14.4	13.14
				50	49			14.4	13.08
				100	0			14.4	13.00

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LTE Band 41, 15 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	39725 Low	2503.5	QPSK	1	0	0	0	23.0	21.27
				1	37	0	0	23.0	21.54
				1	74	0	0	23.0	21.55
				36	0	1	1	22.0	20.36
				36	19	1	1	22.0	20.44
				36	39	1	1	22.0	20.45
				75	0	1	1	22.0	20.41
			16QAM	1	0	1	1	22.0	20.57
				1	37	1	1	22.0	20.80
				1	74	1	1	22.0	20.67
				36	0	2	2	21.0	19.39
				36	19	2	2	21.0	19.48
				36	39	2	2	21.0	19.51
				75	0	2	2	21.0	19.43
	40172 Low-Mid	2548.2	QPSK	1	0	0	0	23.0	21.42
				1	37	0	0	23.0	21.53
				1	74	0	0	23.0	21.19
				36	0	1	1	22.0	20.41
				36	19	1	1	22.0	20.37
				36	39	1	1	22.0	20.29
				75	0	1	1	22.0	20.42
			16QAM	1	0	1	1	22.0	20.72
				1	37	1	1	22.0	20.57
				1	74	1	1	22.0	20.50
				36	0	2	2	21.0	19.42
				36	19	2	2	21.0	19.36
				36	39	2	2	21.0	19.34
				75	0	2	2	21.0	19.44
	40620 Mid	2593	QPSK	1	0	0	0	23.0	21.19
				1	37	0	0	23.0	21.32
				1	74	0	0	23.0	21.29
				36	0	1	1	22.0	20.29
				36	19	1	1	22.0	20.40
				36	39	1	1	22.0	20.37
				75	0	1	1	22.0	20.40
			16QAM	1	0	1	1	22.0	20.60
				1	37	1	1	22.0	20.63
				1	74	1	1	22.0	20.67
				36	0	2	2	21.0	19.32
				36	19	2	2	21.0	19.41
				36	39	2	2	21.0	19.40
				75	0	2	2	21.0	19.42

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BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	41068 Mid-High	2637.8	QPSK	1	0	0	0	23.0	21.39
				1	37	0	0	23.0	21.41
				1	74	0	0	23.0	21.26
				36	0	1	1	22.0	20.41
				36	19	1	1	22.0	20.48
				36	39	1	1	22.0	20.34
				75	0	1	1	22.0	20.44
			16QAM	1	0	1	1	22.0	20.71
				1	37	1	1	22.0	20.62
				1	74	1	1	22.0	20.61
				36	0	2	2	21.0	19.44
				36	19	2	2	21.0	19.49
				36	39	2	2	21.0	19.41
				75	0	2	2	21.0	19.48
	41515 High	2682.5	QPSK	1	0	0	0	23.0	21.42
				1	37	0	0	23.0	21.30
				1	74	0	0	23.0	21.18
				36	0	1	1	22.0	20.47
				36	19	1	1	22.0	20.48
				36	39	1	1	22.0	20.50
				75	0	1	1	22.0	20.50
			16QAM	1	0	1	1	22.0	20.85
				1	37	1	1	22.0	20.78
				1	74	1	1	22.0	20.85
				36	0	2	2	21.0	19.51
				36	19	2	2	21.0	19.50
				36	39	2	2	21.0	19.51
				75	0	2	2	21.0	19.48

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	39725 Low	2503.5	QPSK	1	0	MPR is disabled when power reduction is enabled		14.4	12.84
				1	37			14.4	12.74
				1	74			14.4	12.83
				36	0			14.4	12.81
				36	19			14.4	12.80
				36	39			14.4	12.79
				75	0			14.4	12.78
			16QAM	1	0			14.4	12.82
				1	37			14.4	13.08
				1	74			14.4	12.93
				36	0			14.4	12.78
				36	19			14.4	12.80
				36	39			14.4	12.70
				75	0			14.4	12.81
	40172 Low-Mid	2548.2	QPSK	1	0			14.4	12.98
				1	37			14.4	12.60
				1	74			14.4	12.92
				36	0			14.4	12.84
				36	19			14.4	12.88
				36	39			14.4	12.87
				75	0			14.4	12.87
			16QAM	1	0			14.4	13.02
				1	37			14.4	13.02
				1	74			14.4	12.91
				36	0			14.4	12.84
				36	19			14.4	12.85
				36	39			14.4	12.88
				75	0			14.4	12.87
	40620 Mid	2593	QPSK	1	0			14.4	13.17
				1	37			14.4	12.92
				1	74			14.4	13.28
				36	0			14.4	12.81
				36	19			14.4	12.90
				36	39			14.4	12.85
				75	0			14.4	12.95
			16QAM	1	0			14.4	13.41
				1	37			14.4	13.34
				1	74			14.4	13.39
				36	0			14.4	12.79
				36	19			14.4	12.95
				36	39			14.4	12.84
				75	0			14.4	13.00

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BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
15	41068 Mid-High	2637.8	QPSK	1	0	**MPR is disabled when power reduction is enabled**		14.4	13.35
				1	37			14.4	13.22
				1	74			14.4	13.25
				36	0			14.4	12.93
				36	19			14.4	13.04
				36	39			14.4	12.91
				75	0			14.4	13.01
			16QAM	1	0			14.4	13.36
				1	37			14.4	13.60
				1	74			14.4	13.28
				36	0			14.4	12.94
				36	19			14.4	13.05
				36	39			14.4	12.93
				75	0			14.4	13.05
	41515 High	2682.5	QPSK	1	0			14.4	13.38
				1	37			14.4	13.37
				1	74			14.4	13.17
				36	0			14.4	13.01
				36	19			14.4	13.05
				36	39			14.4	13.02
				75	0			14.4	13.02
			16QAM	1	0			14.4	13.48
				1	37			14.4	13.70
				1	74			14.4	13.27
				36	0			14.4	13.02
				36	19			14.4	13.11
				36	39			14.4	12.97
				75	0			14.4	13.14

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LTE Band 41, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	39700 Low	2501	QPSK	1	0	0	0	23.0	21.44
				1	24	0	0	23.0	21.57
				1	49	0	0	23.0	21.48
				25	0	1	1	22.0	20.42
				25	12	1	1	22.0	20.53
				25	24	1	1	22.0	20.45
				50	0	1	1	22.0	20.47
			16QAM	1	0	1	1	22.0	20.84
				1	24	1	1	22.0	20.97
				1	49	1	1	22.0	20.76
				25	0	2	2	21.0	19.49
				25	12	2	2	21.0	19.56
				25	24	2	2	21.0	19.49
				50	0	2	2	21.0	19.54
	40160 Low-Mid	2547	QPSK	1	0	0	0	23.0	21.39
				1	24	0	0	23.0	21.43
				1	49	0	0	23.0	21.26
				25	0	1	1	22.0	20.43
				25	12	1	1	22.0	20.48
				25	24	1	1	22.0	20.39
				50	0	1	1	22.0	20.37
			16QAM	1	0	1	1	22.0	20.78
				1	24	1	1	22.0	20.86
				1	49	1	1	22.0	20.59
				25	0	2	2	21.0	19.45
				25	12	2	2	21.0	19.52
				25	24	2	2	21.0	19.46
				50	0	2	2	21.0	19.37
	40620 Mid	2593	QPSK	1	0	0	0	23.0	21.30
				1	24	0	0	23.0	21.40
				1	49	0	0	23.0	21.27
				25	0	1	1	22.0	20.42
				25	12	1	1	22.0	20.47
				25	24	1	1	22.0	20.49
				50	0	1	1	22.0	20.42
			16QAM	1	0	1	1	22.0	20.82
				1	24	1	1	22.0	20.84
				1	49	1	1	22.0	20.69
				25	0	2	2	21.0	19.52
				25	12	2	2	21.0	19.51
				25	24	2	2	21.0	19.62
				50	0	2	2	21.0	19.48

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BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	41080 Mid-High	2639	QPSK	1	0	0	0	23.0	21.47
				1	24	0	0	23.0	21.69
				1	49	0	0	23.0	21.42
				25	0	1	1	22.0	20.59
				25	12	1	1	22.0	20.61
				25	24	1	1	22.0	20.58
				50	0	1	1	22.0	20.57
			16QAM	1	0	1	1	22.0	21.01
				1	24	1	1	22.0	21.00
				1	49	1	1	22.0	20.92
				25	0	2	2	21.0	19.62
				25	12	2	2	21.0	19.69
				25	24	2	2	21.0	19.70
				50	0	2	2	21.0	19.68
	41540 High	2685	QPSK	1	0	0	0	23.0	21.49
				1	24	0	0	23.0	21.48
				1	49	0	0	23.0	21.26
				25	0	1	1	22.0	20.41
				25	12	1	1	22.0	20.45
				25	24	1	1	22.0	20.39
				50	0	1	1	22.0	20.41
			16QAM	1	0	1	1	22.0	20.84
				1	24	1	1	22.0	20.93
				1	49	1	1	22.0	20.78
				25	0	2	2	21.0	19.42
				25	12	2	2	21.0	19.47
				25	24	2	2	21.0	19.53
				50	0	2	2	21.0	19.42

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	39700 Low	2501	QPSK	1	0	**MPR is disabled when power reduction is enabled**		14.4	12.76
				1	24			14.4	12.92
				1	49			14.4	12.94
				25	0			14.4	12.78
				25	12			14.4	12.80
				25	24			14.4	12.83
				50	0			14.4	12.78
			16QAM	1	0			14.4	13.16
				1	24			14.4	12.99
				1	49			14.4	13.39
				25	0			14.4	12.79
				25	12			14.4	12.81
				25	24			14.4	12.87
				50	0			14.4	12.81
	40160 Low-Mid	2547	QPSK	1	0			14.4	12.95
				1	24			14.4	12.93
				1	49			14.4	12.94
				25	0			14.4	12.86
				25	12			14.4	12.87
				25	24			14.4	12.90
				50	0			14.4	12.85
			16QAM	1	0			14.4	13.30
				1	24			14.4	12.93
				1	49			14.4	13.40
				25	0			14.4	12.90
				25	12			14.4	12.89
				25	24			14.4	13.00
				50	0			14.4	12.89
	40620 Mid	2593	QPSK	1	0			14.4	13.29
				1	24			14.4	13.00
				1	49			14.4	13.37
				25	0			14.4	12.97
				25	12			14.4	12.94
				25	24			14.4	12.96
				50	0			14.4	12.93
			16QAM	1	0			14.4	13.67
				1	24			14.4	13.44
				1	49			14.4	13.62
				25	0			14.4	12.99
				25	12			14.4	12.98
				25	24			14.4	13.06
				50	0			14.4	12.96

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BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
10	41080 Mid-High	2639	QPSK	1	0	**MPR is disabled when power reduction is enabled**		14.4	13.37
				1	24			14.4	13.29
				1	49			14.4	13.34
				25	0			14.4	12.97
				25	12			14.4	13.00
				25	24			14.4	12.90
				50	0			14.4	12.88
			16QAM	1	0			14.4	13.56
				1	24			14.4	13.64
				1	49			14.4	13.43
				25	0			14.4	13.04
				25	12			14.4	12.93
				25	24			14.4	12.93
				50	0			14.4	12.95
	41540 High	2685	QPSK	1	0			14.4	13.52
				1	24			14.4	13.24
				1	49			14.4	13.37
				25	0			14.4	13.04
				25	12			14.4	13.01
				25	24			14.4	12.96
				50	0			14.4	13.08
			16QAM	1	0			14.4	13.68
				1	24			14.4	13.67
				1	49			14.4	13.66
				25	0			14.4	13.06
				25	12			14.4	13.00
				25	24			14.4	13.10
				50	0			14.4	13.06

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LTE Band 41, 5 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	39675 Low	2498.5	QPSK	1	0	0	0	23.0	21.45
				1	12	0	0	23.0	21.13
				1	24	0	0	23.0	21.62
				12	0	1	1	22.0	20.43
				12	6	1	1	22.0	20.54
				12	11	1	1	22.0	20.55
				25	0	1	1	22.0	20.50
			16QAM	1	0	1	1	22.0	20.82
				1	12	1	1	22.0	20.78
				1	24	1	1	22.0	20.88
				12	0	2	2	21.0	19.52
				12	6	2	2	21.0	19.63
				12	11	2	2	21.0	19.59
				25	0	2	2	21.0	19.58
	40148 Low-Mid	2545.8	QPSK	1	0	0	0	23.0	21.43
				1	12	0	0	23.0	21.23
				1	24	0	0	23.0	21.55
				12	0	1	1	22.0	20.41
				12	6	1	1	22.0	20.49
				12	11	1	1	22.0	20.40
				25	0	1	1	22.0	20.32
			16QAM	1	0	1	1	22.0	20.74
				1	12	1	1	22.0	20.53
				1	24	1	1	22.0	20.65
				12	0	2	2	21.0	19.50
				12	6	2	2	21.0	19.55
				12	11	2	2	21.0	19.43
				25	0	2	2	21.0	19.39
	40620 Mid	2593	QPSK	1	0	0	0	23.0	21.52
				1	12	0	0	23.0	21.40
				1	24	0	0	23.0	21.64
				12	0	1	1	22.0	20.46
				12	6	1	1	22.0	20.52
				12	11	1	1	22.0	20.50
				25	0	1	1	22.0	20.47
			16QAM	1	0	1	1	22.0	20.82
				1	12	1	1	22.0	20.72
				1	24	1	1	22.0	20.82
				12	0	2	2	21.0	19.49
				12	6	2	2	21.0	19.64
				12	11	2	2	21.0	19.57
				25	0	2	2	21.0	19.52

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BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	41092 Mid-High	2640.2	QPSK	1	0	0	0	23.0	21.60
				1	12	0	0	23.0	21.30
				1	24	0	0	23.0	21.71
				12	0	1	1	22.0	20.56
				12	6	1	1	22.0	20.64
				12	11	1	1	22.0	20.62
				25	0	1	1	22.0	20.55
			16QAM	1	0	1	1	22.0	20.93
				1	12	1	1	22.0	20.77
				1	24	1	1	22.0	20.85
				12	0	2	2	21.0	19.64
				12	6	2	2	21.0	19.69
				12	11	2	2	21.0	19.66
				25	0	2	2	21.0	19.67
	41565 High	2687.5	QPSK	1	0	0	0	23.0	21.46
				1	12	0	0	23.0	21.12
				1	24	0	0	23.0	21.51
				12	0	1	1	22.0	20.51
				12	6	1	1	22.0	20.54
				12	11	1	1	22.0	20.52
				25	0	1	1	22.0	20.49
			16QAM	1	0	1	1	22.0	20.93
				1	12	1	1	22.0	20.63
				1	24	1	1	22.0	20.88
				12	0	2	2	21.0	19.54
				12	6	2	2	21.0	19.58
				12	11	2	2	21.0	19.53
				25	0	2	2	21.0	19.51

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Reduced Power (Proximity Sensor On)

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	39675 Low	2498.5	QPSK	1	0	MPR is disabled when power reduction is enabled		14.4	12.56
				1	12			14.4	13.15
				1	24			14.4	12.69
				12	0			14.4	12.72
				12	6			14.4	12.74
				12	11			14.4	12.82
				25	0			14.4	12.71
			16QAM	1	0			14.4	12.88
				1	12			14.4	13.23
				1	24			14.4	13.09
				12	0			14.4	12.66
				12	6			14.4	12.79
				12	11			14.4	12.77
				25	0			14.4	12.81
	40148 Low-Mid	2545.8	QPSK	1	0			14.4	12.82
				1	12			14.4	13.24
				1	24			14.4	12.80
				12	0			14.4	12.81
				12	6			14.4	12.84
				12	11			14.4	12.94
				25	0			14.4	12.86
			16QAM	1	0			14.4	13.19
				1	12			14.4	13.44
				1	24			14.4	13.18
				12	0			14.4	12.85
				12	6			14.4	12.90
				12	11			14.4	12.96
				25	0			14.4	12.99
	40620 Mid	2593	QPSK	1	0			14.4	12.91
				1	12			14.4	13.34
				1	24			14.4	12.92
				12	0			14.4	12.77
				12	6			14.4	12.93
				12	11			14.4	12.85
				25	0			14.4	12.98
			16QAM	1	0			14.4	13.17
				1	12			14.4	13.58
				1	24			14.4	13.29
				12	0			14.4	12.90
				12	6			14.4	13.07
				12	11			14.4	13.00
				25	0			14.4	12.98

BW (MHz)	UL Ch #	Freq. (MHz)	Modu-lation	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Tune-up Limit (dBm)	Meas. Pwr Avg (dBm)
5	41092 Mid-High	2640.2	QPSK	1	0	**MPR is disabled when power reduction is enabled**		14.4	12.99
				1	12			14.4	13.34
				1	24			14.4	12.91
				12	0			14.4	12.84
				12	6			14.4	12.87
				12	11			14.4	12.93
				25	0			14.4	12.99
			16QAM	1	0			14.4	13.36
				1	12			14.4	13.45
				1	24			14.4	13.29
				12	0			14.4	12.91
				12	6			14.4	12.93
				12	11			14.4	12.90
				25	0			14.4	12.98
	41565 High	2687.5	QPSK	1	0			14.4	12.98
				1	12			14.4	13.44
				1	24			14.4	12.95
				12	0			14.4	12.96
				12	6			14.4	12.95
				12	11			14.4	12.93
				25	0			14.4	13.00
			16QAM	1	0			14.4	13.39
				1	12			14.4	13.61
				1	24			14.4	13.36
				12	0			14.4	12.99
				12	6			14.4	13.00
				12	11			14.4	12.97
				25	0			14.4	13.08

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10. Uplink maximum output power measurement for the supported combinations with downlink carrier aggregation

Uplink maximum output power is measured with Downlink CA active, only for the channel with highest measured maximum output power when Downlink CA is inactive, to confirm Uplink Power difference between Downlink CA inactive and Downlink CA active.

10.1. Inter-band CA

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_2A_5A	2	5	19175	1907.5	1	0	QPSK	2	5	1175	1987.5	1	0	QPSK
	SCC1						SCC1 *4							
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	5	10	2525	881.5	50	0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.83	22.72	-0.11

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_2A_5A	5	5	20625	846.5	1	0	QPSK	5	5	2625	891.5	1	0	QPSK
	SCC1						SCC1 *4							
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	2	20	18900	1880	100	0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.48	22.52	0.04

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_2A_12A	2	5	19175	1907.5	1	0	QPSK	2	5	1175	1987.5	1	0	QPSK
	SCC1						SCC1 *4							
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	12	10	5095	737.5	50	0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.83	22.81	-0.02

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 Downlink SCC1 is near the middle of its transmission band
*4 Enable when downlink CA is active
*5 Set to Maximum RB
*6 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*7 Uplink Power difference between downlink CA inactive and downlink CA active
*8 Set to the supported maximum bandwidth

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E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_2A_12A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
	12	5	23035	701.5	1-0		QPSK	12	5	5035	731.5	1-0		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	2	20	900	1960	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.50	22.56	0.06

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_2A_13A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
	2	5	18625	1852.5	1-24		QPSK	2	5	625	1932.5	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	13	10	10	751	50-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.83	22.75	-0.08

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_2A_13A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
	13	10	23230	782	1-49		QPSK	13	10	5230	751	1-49		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	2	20	18900	1880	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.38	22.38	0.00

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_2A_29A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
	2	5	18625	1852.5	1-24		QPSK	2	5	625	1932.5	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	29	10	9715	722.5	50-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.83	22.84	0.01

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 Downlink SCC1 is near the middle of its transmission band
*4 Enable when downlink CA is active
*5 Set to Maximum RB
*6 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*7 Uplink Power difference between downlink CA inactive and downlink CA active
*8 Set to the supported maximum bandwidth

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E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_3A_7A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation
	7	15	21375	2562.5	1-37	QPSK	7	15	3375	2682.5	1-37	QPSK
	SCC1						SCC1 *4					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5 / Position	Modulation
	-	-	-	-	-	-	3	20	1575	1842.5	100-0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
21.14	21.11	-0.03

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_4A_5A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation
	4	10	20000	1715	1-24	QPSK	4	10	2000	2115	1-24	QPSK
	SCC1						SCC1 *4					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5 / Position	Modulation
	-	-	-	-	-	-	5	10	2525	881.5	50-0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
23.05	23.03	-0.02

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_4A_5A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation
	5	5	20625	846.5	1-0	QPSK	5	5	2625	891.5	1-0	QPSK
	SCC1						SCC1 *4					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5 / Position	Modulation
	-	-	-	-	-	-	4	20	2175	2132.5	100-0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.48	22.51	0.03

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_4A_12A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation
	4	10	20000	1715	1-24	QPSK	4	10	2000	2115	1-24	QPSK
	SCC1						SCC1 *4					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5 / Position	Modulation
	-	-	-	-	-	-	12	10	5095	737.5	50-0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
23.05	23.08	0.03

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 Downlink SCC1 is near the middle of its transmission band
*4 Enable when downlink CA is active
*5 Set to Maximum RB
*6 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*7 Uplink Power difference between downlink CA inactive and downlink CA active
*8 Set to the supported maximum bandwidth

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E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_4A_12A	12	5	23035	701.5	1-0		QPSK	12	5	5035	731.5	1-0		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	4	20	2175	2132.5	50-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.50	22.56	0.06

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_4A_13A	4	10	20000	1715	1-24		QPSK	4	10	2000	2115	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	13	10	5230	751	50-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
23.05	23.05	0.00

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_4A_13A	13	10	23230	782	1-0		QPSK	13	10	5230	751	1-0		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	4	20	2175	2132.5	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.38	22.52	0.14

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_4A_29A	4	10	20000	1715	1-24		QPSK	4	10	2000	2115	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5	Resource Block Position	Modulation
	-	-	-	-	-		-	29	10	9715	722.5	50-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
23.05	23.13	0.08

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 Downlink SCC1 is near the middle of its transmission band
*4 Enable when downlink CA is active
*5 Set to Maximum RB
*6 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*7 Uplink Power difference between downlink CA inactive and downlink CA active
*8 Set to the supported maximum bandwidth

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E-UTRA CA Configuration	Uplink *1						Downlink					
	PCC						PCC *2					
CA_7A_20A	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation
	7	15	21375	2562.5	1-37	QPSK	7	15	3375	2682.5	1-37	QPSK
	SCC1						SCC1 *4					
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number / Position	Modulation	Band	Bandwidth *8 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *5 / Position	Modulation
	-	-	-	-	-	-	20	20	6300	806	100-0	QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
21.14	21.07	-0.07

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 Downlink SCC1 is near the middle of its transmission band
*4 Enable when downlink CA is active
*5 Set to Maximum RB
*6 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*7 Uplink Power difference between downlink CA inactive and downlink CA active
*8 Set to the supported maximum bandwidth

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10.2. Intra-band Contiguous CA(Downlink CA only)

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_7C	7	15	21375	2562.5	1-37		QPSK	7	15	3375	2682.5	1-37		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6	Resource Block Position	Modulation
	-	-	-	-	-	-	-	7	20	3204	2665.4	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.14	20.97	-0.17

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_41C	41	10	41490	2680	1-24		QPSK	41	10	41490	2680	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6	Resource Block Position	Modulation
	-	-	-	-	-	-	-	41	20	41346	2665.6	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.76	21.71	-0.05

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power configuration when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 The channel spacing for intra-band contiguous CA is adjusted to any multiple of 300 kHz less than the nominal channel spacing. It is set to the maximum spacing less than nominal channel spacing.
The nominal channel spacing is determined by [BW1+BW2-0.1*|BW1-BW2|]/2 MHz, where BW1 and BW2 are the channel bandwidth of the CC in a 2-CC aggregation configuration.
*4 Enable when downlink CA is active
*5 Set to the supported maximum bandwidth
*6 Set to Maximum RB
*7 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*8 Uplink Power difference between downlink CA inactive and downlink CA active

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10.3. Intra-band Non-Contiguous CA(Downlink CA only)

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_2A_2A	2	5	19175	1907.5	1-0		QPSK	2	5	1175	1987.5	1-0		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6	Resource Block Position	Modulation
	-	-	-	-	-	-	-	2	20	700	1940	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
22.83	22.69	-0.14

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_4A_4A	4	10	20000	1715	1-24		QPSK	4	10	2000	2115	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6	Resource Block Position	Modulation
	-	-	-	-	-	-	-	4	20	2300	2145	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
23.05	23.17	0.12

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_7A_7A	7	15	21375	2562.5	1-37		QPSK	7	15	3375	2682.5	1-37		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6	Resource Block Position	Modulation
	-	-	-	-	-	-	-	7	20	2850	2630	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.14	21.06	-0.08

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

E-UTRA CA Configuration	Uplink *1							Downlink						
	PCC							PCC *2						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation
CA_41A_41A	41	10	41490	2680	1-24		QPSK	41	10	41490	2680	1-24		QPSK
	SCC1							SCC1 *4						
	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number	Resource Block Position	Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6	Resource Block Position	Modulation
	-	-	-	-	-	-	-	41	20	39750	2506	100-0		QPSK

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.76	21.72	-0.04

Based upon the measurement results, uplink power is not affected(i.e. not more than 0.25dB) by downlink CA and additional SAR measurements are not required.

*1 Highest measured maximum output power configuration when downlink carrier aggregation is inactive.
*2 Downlink PCC channel is paired with the uplink channel according to normal configurations, as if there is no carrier aggregation.
*3 The SCC1 channel is selected to provide maximum separation from the Downlink PCC channel and remain fully within the downlink transmission band.
When channel spacing between downlink PCC and SCC1 is smaller than nominal channel bandwidth, configurerable other channels instead of the highest power channel can be selected.
*4 Enable when downlink CA is active
*5 Set to the supported maximum bandwidth
*6 Set to Maximum RB
*7 See Section 9. RF Output Power Measurement result for the appropriate LTE Band (Single Carrier)
*8 Uplink Power difference between downlink CA inactive and downlink CA active

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11. E-UTRA CA configurations and bandwidth combination sets

11.1. Inter-band CA

E-UTRA CA configuration	E-UTRA Band	1.4	3	5	10	15	20	Maximum aggregated bandwidth	Bandwidth combination set
		MHz	MHz	MHz	MHz	MHz	MHz	MHz	
CA_2A-5A	2			Y	Y	Y	Y	30	0
	5			Y	Y			20	
CA_2A-12A	2			Y	Y	Y	Y	30	0
	12			Y	Y				
	2			Y	Y	Y	Y	30	1
	12		Y	Y	Y				
CA_2A-13A	2			Y	Y	Y	Y	30	0
	13				Y				
	2			Y	Y			20	1
	13				Y				
CA_2A-29A	2			Y	Y			20	0
	29		Y	Y	Y				
	2			Y	Y			20	1
	29			Y	Y				
	2			Y	Y	Y	Y	30	2
	29			Y	Y				
CA_3A-7A	3			Y	Y	Y	Y	40	0
	7				Y	Y	Y		
CA_4A-5A	4			Y	Y			20	0
	5			Y	Y				
	4			Y	Y	Y	Y	30	1
	5			Y	Y				
CA_4A-12A	4	Y	Y	Y	Y			20	0
	12			Y	Y				
	4	Y	Y	Y	Y	Y	Y	30	1
	12			Y	Y				
	4			Y	Y	Y	Y	30	2
	12		Y	Y	Y				
	4			Y	Y			20	3
	12			Y	Y				
	4			Y	Y	Y	Y	30	4
	12			Y	Y				
CA_4A-13A	4			Y	Y	Y	Y	30	0
	13				Y				
	4			Y	Y			20	1
	13				Y				
CA_4A-29A	4			Y	Y			20	0
	29		Y	Y	Y				
	4			Y	Y			20	1
	29			Y	Y				
	4			Y	Y	Y	Y	30	2
	29			Y	Y				
CA_7A-20A	4				Y	Y	Y	30	0
	13			Y	Y				
	4				Y	Y	Y	40	1
	13			Y	Y	Y	Y		

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11.2. Intra-band contiguous CA

E-UTRA CA configuration	Component carriers in order of increasing carrier frequency		Maximum aggregated bandwidth [MHz]	Bandwidth combination set
	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_7C	15	15	40	0
	20	20		
	10	20	40	1
	15	15, 20		
	20	10, 15, 20		
CA_41C	10	20	40	0
	15	15, 20		
	20	10, 15, 20		
	5, 10	20	40	1
	15	15, 20		
	20	5, 10, 15, 20		

11.3. Intra-band noncontiguous CA

E-UTRA CA configuration	Component carriers in order of increasing carrier frequency		Maximum aggregated bandwidth [MHz]	Bandwidth combination set
	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_2A-2A	5, 10, 15, 20	5, 10, 15, 20	40	0
CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20	40	0
CA_7A-7A	5	15	40	0
	10	10, 15		
	15	15, 20		
	20	20		
CA_41A-41A	10, 15, 20	10, 15, 20	40	0
	5, 10, 15, 20	5, 10, 15, 20	40	1

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12. 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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12.1. 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 ±(%)
2018/2/22	Body 750	Relative Permittivity (ϵ_r):	54.94	55.55	-1.09	5
		Conductivity (σ):	0.96	0.96	-0.46	5
	Body 700	Relative Permittivity (ϵ_r):	55.42	55.72	-0.54	5
		Conductivity (σ):	0.92	0.96	-3.68	5
	Body 720	Relative Permittivity (ϵ_r):	55.19	55.66	-0.85	5
		Conductivity (σ):	0.94	0.96	-2.31	5
2018/3/5	Body 750	Relative Permittivity (ϵ_r):	54.54	55.55	-1.81	5
		Conductivity (σ):	0.97	0.96	0.76	5
	Body 700	Relative Permittivity (ϵ_r):	54.99	55.45	-0.83	5
		Conductivity (σ):	0.93	0.97	-3.97	5
	Body 720	Relative Permittivity (ϵ_r):	54.81	55.39	-1.05	5
		Conductivity (σ):	0.94	0.97	-2.32	5

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835MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2018/2/19	Body 835	Relative Permittivity (ϵ_r):	53.38	55.20	-3.30	5
		Conductivity (σ):	1.01	0.97	3.71	5
	Body 820	Relative Permittivity (ϵ_r):	53.57	55.28	-3.09	5
		Conductivity (σ):	0.99	0.97	2.21	5
	Body 850	Relative Permittivity (ϵ_r):	53.23	55.16	-3.49	5
		Conductivity (σ):	1.02	0.99	3.73	5
2018/2/20	Body 835	Relative Permittivity (ϵ_r):	54.75	55.20	-0.82	5
		Conductivity (σ):	1.00	0.97	3.00	5
	Body 820	Relative Permittivity (ϵ_r):	54.92	55.28	-0.65	5
		Conductivity (σ):	0.98	0.97	1.51	5
	Body 850	Relative Permittivity (ϵ_r):	54.59	55.16	-1.03	5
		Conductivity (σ):	1.02	0.99	2.82	5
2018/2/21	Body 835	Relative Permittivity (ϵ_r):	53.96	55.20	-2.25	5
		Conductivity (σ):	1.01	0.97	3.81	5
	Body 770	Relative Permittivity (ϵ_r):	54.72	55.28	-1.01	5
		Conductivity (σ):	0.94	0.97	-3.20	5
	Body 850	Relative Permittivity (ϵ_r):	53.83	55.16	-2.41	5
		Conductivity (σ):	1.02	0.99	3.73	5
2018/2/22	Body 835	Relative Permittivity (ϵ_r):	53.93	55.20	-2.30	5
		Conductivity (σ):	0.97	0.97	-0.08	5
	Body 820	Relative Permittivity (ϵ_r):	54.10	55.28	-2.13	5
		Conductivity (σ):	0.96	0.97	-1.33	5
	Body 850	Relative Permittivity (ϵ_r):	53.79	55.16	-2.48	5
		Conductivity (σ):	0.98	0.99	-0.32	5
2018/3/5	Body 835	Relative Permittivity (ϵ_r):	56.42	55.20	2.21	5
		Conductivity (σ):	1.00	0.97	3.07	5
	Body 770	Relative Permittivity (ϵ_r):	57.01	55.32	3.06	5
		Conductivity (σ):	0.94	0.97	-3.04	5
	Body 850	Relative Permittivity (ϵ_r):	56.28	55.16	2.04	5
		Conductivity (σ):	1.01	0.99	2.62	5

1750MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2018/2/15	Body 1710	Relative Permittivity (ϵ_r):	53.06	53.54	-0.90	5
		Conductivity (σ):	1.40	1.46	-4.01	5
	Body 1750	Relative Permittivity (ϵ_r):	52.98	53.43	-0.85	5
		Conductivity (σ):	1.44	1.49	-3.42	5
	Body 1755	Relative Permittivity (ϵ_r):	52.97	53.43	-0.86	5
		Conductivity (σ):	1.44	1.49	-3.10	5
2018/2/16	Body 1710	Relative Permittivity (ϵ_r):	53.22	53.54	-0.60	5
		Conductivity (σ):	1.44	1.46	-1.20	5
	Body 1750	Relative Permittivity (ϵ_r):	53.11	53.43	-0.60	5
		Conductivity (σ):	1.49	1.49	-0.02	5
	Body 1755	Relative Permittivity (ϵ_r):	53.10	53.43	-0.61	5
		Conductivity (σ):	1.50	1.49	0.45	5
2018/3/7	Body 1710	Relative Permittivity (ϵ_r):	52.73	53.54	-1.52	5
		Conductivity (σ):	1.40	1.46	-4.01	5
	Body 1750	Relative Permittivity (ϵ_r):	52.70	53.43	-1.37	5
		Conductivity (σ):	1.44	1.49	-3.31	5
	Body 1755	Relative Permittivity (ϵ_r):	52.70	53.43	-1.36	5
		Conductivity (σ):	1.45	1.49	-2.84	5

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1900MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2018/2/19	Body 1900	Relative Permittivity (ε_r):	52.46	53.30	-1.57	5
		Conductivity (σ):	1.54	1.52	1.32	5
	Body 1850	Relative Permittivity (ε_r):	52.60	53.30	-1.32	5
		Conductivity (σ):	1.49	1.52	-2.05	5
	Body 1915	Relative Permittivity (ε_r):	52.45	53.30	-1.60	5
		Conductivity (σ):	1.55	1.52	2.16	5
2018/2/20	Body 1900	Relative Permittivity (ε_r):	53.43	53.30	0.25	5
		Conductivity (σ):	1.54	1.52	1.10	5
	Body 1850	Relative Permittivity (ε_r):	53.58	53.30	0.53	5
		Conductivity (σ):	1.48	1.52	-2.93	5
	Body 1915	Relative Permittivity (ε_r):	53.40	53.30	0.19	5
		Conductivity (σ):	1.55	1.52	2.30	5
2018/2/21	Body 1900	Relative Permittivity (ε_r):	53.13	53.30	-0.32	5
		Conductivity (σ):	1.55	1.52	2.13	5
	Body 1850	Relative Permittivity (ε_r):	53.27	53.30	-0.05	5
		Conductivity (σ):	1.49	1.52	-2.13	5
	Body 1915	Relative Permittivity (ε_r):	53.08	53.30	-0.42	5
		Conductivity (σ):	1.57	1.52	3.28	5
2018/3/6	Body 1900	Relative Permittivity (ε_r):	50.99	53.30	-4.33	5
		Conductivity (σ):	1.50	1.52	-1.12	5
	Body 1850	Relative Permittivity (ε_r):	51.18	53.30	-3.98	5
		Conductivity (σ):	1.45	1.52	-4.87	5
	Body 1915	Relative Permittivity (ε_r):	50.98	53.30	-4.35	5
		Conductivity (σ):	1.52	1.52	-0.07	5

2600 MHz band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2018/2/13	Body 2500	Relative Permittivity (ε_r):	50.96	52.64	-3.19	5
		Conductivity (σ):	2.11	2.02	4.29	5
	Body 2550	Relative Permittivity (ε_r):	50.70	52.57	-3.56	5
		Conductivity (σ):	2.17	2.09	3.75	5
	Body 2600	Relative Permittivity (ε_r):	50.40	52.51	-4.02	5
		Conductivity (σ):	2.24	2.16	3.80	5
2018/2/14	Body 2500	Relative Permittivity (ε_r):	50.78	52.64	-3.53	5
		Conductivity (σ):	2.11	2.02	4.19	5
	Body 2550	Relative Permittivity (ε_r):	50.61	52.57	-3.74	5
		Conductivity (σ):	2.17	2.09	3.66	5
	Body 2600	Relative Permittivity (ε_r):	50.38	52.51	-4.06	5
		Conductivity (σ):	2.24	2.16	3.71	5
2018/2/15	Body 2500	Relative Permittivity (ε_r):	50.88	52.64	-3.34	5
		Conductivity (σ):	2.02	2.02	-0.21	5
	Body 2600	Relative Permittivity (ε_r):	50.51	52.51	-3.81	5
		Conductivity (σ):	2.14	2.16	-0.96	5
	Body 2700	Relative Permittivity (ε_r):	50.18	52.38	-4.21	5
		Conductivity (σ):	2.27	2.30	-1.19	5
2018/2/16	Body 2500	Relative Permittivity (ε_r):	51.58	52.64	-2.01	5
		Conductivity (σ):	2.04	2.02	1.03	5
	Body 2600	Relative Permittivity (ε_r):	51.26	52.51	-2.38	5
		Conductivity (σ):	2.17	2.16	0.47	5
	Body 2700	Relative Permittivity (ε_r):	50.90	52.38	-2.83	5
		Conductivity (σ):	2.31	2.30	0.29	5

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13. 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.

13.1. 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 1 GHz) 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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13.2. Reference SAR Values for System Performance Check

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

System Dipole	Serial No.	Cal. Date MM/DD/YYY	Freq. (MHz)	Target SAR Values (mW/g)		
				1g/10g	Head	Body
D750V3	1058	5/28/2015	750	1g	8.24	8.64
				10g	5.40	5.72
D835V2	4d149	3/8/2016	835	1g	9.56	9.84
				10g	6.20	6.44
D1750V2	1089	3/11/2016	1750	1g	35.88	35.80
				10g	19.04	19.08
D1900V2	5d169	3/9/2016	1900	1g	38.72	39.96
				10g	20.32	21.12
D2600V2	1030	3/9/2016	2600	1g	57.60	54.40
				10g	25.56	24.16

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13.3. 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		
2/13/2018	D2600V2	1030	Body	1g	13.90	55.6	54.4	2.21
				10g	6.12	24.48	24.16	1.32
2/14/2018	D2600V2	1030	Body	1g	14.00	56.0	54.4	2.94
				10g	6.10	24.40	24.16	0.99
2/15/2018	D2600V2	1030	Body	1g	13.70	54.8	54.4	0.74
				10g	6.13	24.52	24.16	1.49
2/15/2018	D1750V2	1089	Body	1g	8.55	34.2	35.8	-4.47
				10g	4.62	18.48	19.08	-3.14
2/16/2018	D2600V2	1030	Body	1g	14.50	58.00	54.4	6.62
				10g	6.49	25.96	24.16	7.45
2/16/2018	D1750V2	1089	Body	1g	9.08	36.32	35.8	1.45
				10g	4.85	19.40	19.08	1.68
2/19/2018	D835V2	4d149	Body	1g	2.62	10.48	9.84	6.50
				10g	1.74	6.96	6.44	8.07
2/19/2018	D1900V2	5d169	Body	1g	9.17	36.68	39.96	-8.21
				10g	4.84	19.36	21.12	-8.33
2/20/2018	D1900V2	5d169	Body	1g	9.42	37.68	39.96	-5.71
				10g	4.93	19.72	21.12	-6.63
2/20/2018	D835V2	4d149	Body	1g	2.61	10.44	9.84	6.10
				10g	1.73	6.92	6.44	7.45
2/21/2018	D1900V2	5d169	Body	1g	9.52	38.08	39.96	-4.70
				10g	4.97	19.88	21.12	-5.87
2/21/2018	D835V2	4d149	Body	1g	2.64	10.56	9.84	7.32
				10g	1.76	7.04	6.44	9.32
2/22/2018	D835V2	4d149	Body	1g	2.51	10.04	9.84	2.03
				10g	1.67	6.68	6.44	3.73
2/22/2018	D750V3	1058	Body	1g	2.20	8.80	8.64	1.85
				10g	1.47	5.88	5.72	2.80
3/5/2018	D835V2	4d149	Body	1g	2.56	10.24	9.84	4.07
				10g	1.70	6.80	6.44	5.59
3/5/2018	D750V3	1058	Body	1g	2.29	9.16	8.64	6.02
				10g	1.53	6.12	5.72	6.99
3/6/2018	D1900V2	5d169	Body	1g	9.48	37.92	39.96	-5.11
				10g	5.00	20.00	21.12	-5.30
3/7/2018	D1750V2	1089	Body	1g	9.38	37.52	35.8	4.80
				10g	5.07	20.28	19.08	6.29

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14. 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.

14.1. 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 3 and 4.

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14.1.1. 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	Edge 2 45deg	Front	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Edge 2 45deg	Front
Full Power WWAN																		
WWAN	WCDMA V	846.6	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		10 -MEASURE-	21 -MEASURE-	14.4 -MEASURE-	> 50 mm	> 50 mm	21 -MEASURE-	
WWAN	WCDMA IV	1752.6	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		14.4 -MEASURE-	30.2 -MEASURE-	20.8 -MEASURE-	> 50 mm	> 50 mm	30.2 -MEASURE-	
WWAN	WCDMA II	1907.6	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		15.1 -MEASURE-	31.5 -MEASURE-	21.7 -MEASURE-	> 50 mm	> 50 mm	31.5 -MEASURE-	
WWAN	LTE 2	1900	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		15 -MEASURE-	31.5 -MEASURE-	21.6 -MEASURE-	> 50 mm	> 50 mm	31.5 -MEASURE-	
WWAN	LTE 4	1745	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		14.4 -MEASURE-	30.1 -MEASURE-	20.7 -MEASURE-	> 50 mm	> 50 mm	30.1 -MEASURE-	
WWAN	LTE 5	844	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		10 -MEASURE-	21 -MEASURE-	14.4 -MEASURE-	> 50 mm	> 50 mm	21 -MEASURE-	
WWAN	LTE 7	2460	22.0	158	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		10.8 -MEASURE-	22.5 -MEASURE-	15.5 -MEASURE-	> 50 mm	> 50 mm	22.5 -MEASURE-	
WWAN	LTE 12	711	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		9.2 -MEASURE-	19.2 -MEASURE-	13.2 -MEASURE-	> 50 mm	> 50 mm	19.2 -MEASURE-	
WWAN	LTE 13	782	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		9.7 -MEASURE-	20.2 -MEASURE-	13.9 -MEASURE-	> 50 mm	> 50 mm	20.2 -MEASURE-	
WWAN	LTE 25	1905	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		15.1 -MEASURE-	31.5 -MEASURE-	21.7 -MEASURE-	> 50 mm	> 50 mm	31.5 -MEASURE-	
WWAN	LTE 26	841.5	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		10 -MEASURE-	20.9 -MEASURE-	14.4 -MEASURE-	> 50 mm	> 50 mm	20.9 -MEASURE-	
WWAN	LTE 41	2680	23.0	200	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		14.2 -MEASURE-	29.8 -MEASURE-	20.5 -MEASURE-	> 50 mm	> 50 mm	29.8 -MEASURE-	
Reduction Power WWAN																		
WWAN	WCDMA V	846.6	19.8	95	1.50	1.70	0.68			0.63		17.5 -MEASURE-	17.5 -MEASURE-	17.5 -MEASURE-			17.5 -MEASURE-	
WWAN	WCDMA IV	1752.6	13.1	20	1.50	1.70	0.68			0.63		5.3 -MEASURE-	5.3 -MEASURE-	5.3 -MEASURE-			5.3 -MEASURE-	
WWAN	WCDMA II	1907.6	11.7	15	1.50	1.70	0.68			0.63		4.1 -MEASURE-	4.1 -MEASURE-	4.1 -MEASURE-			4.1 -MEASURE-	
WWAN	LTE 2	1900	12.5	18	1.50	1.70	0.68			0.63		5 -MEASURE-	5 -MEASURE-	5 -MEASURE-			5 -MEASURE-	
WWAN	LTE 4	1745	13.5	22	1.50	1.70	0.68			0.63		5.8 -MEASURE-	5.8 -MEASURE-	5.8 -MEASURE-			5.8 -MEASURE-	
WWAN	LTE 5	844	20.3	107	1.50	1.70	0.68			0.63		19.7 -MEASURE-	19.7 -MEASURE-	19.7 -MEASURE-			19.7 -MEASURE-	
WWAN	LTE 7	2460	13.1	20	1.50	1.70	0.68			0.63		6.3 -MEASURE-	6.3 -MEASURE-	6.3 -MEASURE-			6.3 -MEASURE-	
WWAN	LTE 12	711	19.8	95	1.50	1.70	0.68			0.63		16 -MEASURE-	16 -MEASURE-	16 -MEASURE-			16 -MEASURE-	
WWAN	LTE 13	782	19.4	87	1.50	1.70	0.68			0.63		15.4 -MEASURE-	15.4 -MEASURE-	15.4 -MEASURE-			15.4 -MEASURE-	
WWAN	LTE 25	1905	12.4	17	1.50	1.70	0.68			0.63		4.7 -MEASURE-	4.7 -MEASURE-	4.7 -MEASURE-			4.7 -MEASURE-	
WWAN	LTE 26	841.5	20.4	110	1.50	1.70	0.68			0.63		20.2 -MEASURE-	20.2 -MEASURE-	20.2 -MEASURE-			20.2 -MEASURE-	
WWAN	LTE 41	2680	14.4	28	1.50	1.70	0.68			0.63		9.2 -MEASURE-	9.2 -MEASURE-	9.2 -MEASURE-			9.2 -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 (shaded blue frame in above table) the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances from antennas to the bottom side or the edge were input (shaded pink frame in above table). A number in the parenthesis is "(proximity sensor trigger distance – 1) mm". The separation distance used for the SAR exclusion calculations is 23 mm (Bottom side), 11 mm (Edge 1), 15 mm (Edge 2) and 11mm (Edge2 45deg.)
4. Edge2 45deg separation distance is according to KDB inquiry.

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14.1.2. 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	Edge 2 45deg	Front	Bottom side	Edge 1	Edge 2	Edge 3	Edge 4	Edge 2 45deg	Front
Full Power WWAN																		
WWAN	WCDMA V	846.6	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	216.6 mW -MEASURE-	896.7 mW -EXEMPT-	< 50 mm	
WWAN	WCDMA IV	1752.6	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	208.3 mW -MEASURE-	1413.3 mW -EXEMPT-	< 50 mm	
WWAN	WCDMA II	1907.6	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	203.6 mW -MEASURE-	1408.6 mW -EXEMPT-	< 50 mm	
WWAN	LTE 2	1900	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	203.8 mW -MEASURE-	1408.8 mW -EXEMPT-	< 50 mm	
WWAN	LTE 4	1745	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	208.6 mW -MEASURE-	1413.6 mW -EXEMPT-	< 50 mm	
WWAN	LTE 5	844	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	216.7 mW -MEASURE-	894.7 mW -EXEMPT-	< 50 mm	
WWAN	LTE 7	2460	22.0	158	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	190.6 mW -EXEMPT-	1395.6 mW -EXEMPT-	< 50 mm	
WWAN	LTE 12	711	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	222.9 mW -MEASURE-	794.1 mW -EXEMPT-	< 50 mm	
WWAN	LTE 13	782	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	219.2 mW -MEASURE-	847.4 mW -EXEMPT-	< 50 mm	
WWAN	LTE 25	1905	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	203.7 mW -MEASURE-	1408.7 mW -EXEMPT-	< 50 mm	
WWAN	LTE 26	841.5	24.0	251	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	216.8 mW -MEASURE-	892.8 mW -EXEMPT-	< 50 mm	
WWAN	LTE 41	2680	23.0	200	1.5(23.00)	1.7(11.00)	0.68(15.00)	59.50	180.00	0.63(11.00)		< 50 mm	< 50 mm	< 50 mm	186.6 mW -MEASURE-	1391.6 mW -EXEMPT-	< 50 mm	
Reduction Power WWAN																		
WWAN	WCDMA V	846.6	19.8	95	1.50	1.70	0.68			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	WCDMA IV	1752.6	13.1	20	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	WCDMA II	1907.6	11.7	15	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 2	1900	12.5	18	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 4	1745	13.5	22	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 5	844	20.3	107	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 7	2460	13.1	20	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 12	711	19.8	95	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 13	782	19.4	87	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 25	1905	12.4	17	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 26	841.5	20.4	110	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	
WWAN	LTE 41	2680	14.4	28	1.50	1.80	0.67			0.63		< 50 mm	< 50 mm	< 50 mm			< 50 mm	

Note(s):

1. According to KDB 447498D01, if the calculated Power threshold is less than the output power then SAR testing is required.
2. The separation distances from antennas to the bottom side or the edge were input. For antennas <50 mm from the bottom side or edge (shaded blue frame in above table) the separation distance used for the SAR exclusion calculations is 5 mm.
3. The separation distances from antennas to the bottom side or the edge were input (shaded pink frame in above table). A number in the parenthesis is "(proximity sensor trigger distance – 1) mm". The separation distance used for the SAR exclusion calculations is 23 mm (Bottom side), 11 mm (Edge 1), 15 mm (Edge 2) and 11mm (Edge2 45deg.)
4. Edge2 45deg separation distance is according to KDB inquiry.

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15. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

KDB 447498 D01 General RF Exposure Guidance:

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

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

KDB 941225 D01 SAR test for 3G device:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≦1/4 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ration of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≦ 1.2 W/kg, SAR measurement is not required for the secondary mode.

KDB 941225 D01 SAR for LTE Devices:

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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15.1. W-CDMA Band 2

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	Rel 99 RMC 12.2 kbps	9262	1852.4	11.7	10.76				
			9400	1880.0	11.7	10.88	0.122	0.147		
			9538	1907.6	11.7	10.87				
Edge2 45deg	0	Rel 99 RMC 12.2 kbps	9262	1852.4	11.7	10.76				
			9400	1880.0	11.7	10.88	0.107	0.129		
			9538	1907.6	11.7	10.87				
Edge2	0	Rel 99 RMC 12.2 kbps	9262	1852.4	11.7	10.76	0.722	0.896		
			9400	1880.0	11.7	10.88	0.761	0.919		
			9538	1907.6	11.7	10.87	0.794	0.961	1	
Bottom	0	Rel 99 RMC 12.2 kbps	9262	1852.4	11.7	10.76				
			9400	1880.0	11.7	10.88	0.278	0.336		
			9538	1907.6	11.7	10.87				

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	11	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.10				
			9400	1880.0	24.0	23.15	0.268	0.326		
			9538	1907.6	24.0	23.14				
Edge2 45deg	11	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.10				
			9400	1880.0	24.0	23.15	0.192	0.234		
			9538	1907.6	24.0	23.14				
Edge2	15	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.10				
			9400	1880.0	24.0	23.15	0.617	0.750	2	
			9538	1907.6	24.0	23.14				
Edge3	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.10				
			9400	1880.0	24.0	23.15	0.140	0.170		
			9538	1907.6	24.0	23.14				
Edge4	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.10				
			9400	1880.0	24.0	23.15	0.076	0.092		
			9538	1907.6	24.0	23.14				
Bottom	23	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.10				
			9400	1880.0	24.0	23.15	0.179	0.218		
			9538	1907.6	24.0	23.14				

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15.2. W-CDMA Band 4

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	Rel 99 RMC 12.2 kbps	1312	1712.4	13.1	12.38	0.127	0.150		
			1413	1732.6	13.1	12.36				
			1513	1752.6	13.1	12.36				
Edge2 45deg	0	Rel 99 RMC 12.2 kbps	1312	1712.4	13.1	12.38	0.214	0.253		
			1413	1732.6	13.1	12.36				
			1513	1752.6	13.1	12.36				
Edge2	0	Rel 99 RMC 12.2 kbps	1312	1712.4	13.1	12.38	0.833	0.983		
			1413	1732.6	13.1	12.36	0.880	1.043		
			1513	1752.6	13.1	12.36	0.928	1.100	3	
Bottom	0	Rel 99 RMC 12.2 kbps	1312	1712.4	13.1	12.38	0.313	0.369		
			1413	1732.6	13.1	12.36				
			1513	1752.6	13.1	12.36				

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	11	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.08				
			1413	1732.6	24.0	23.08				
			1513	1752.6	24.0	23.12	0.166	0.203		
Edge2 45deg	11	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.08				
			1413	1732.6	24.0	23.08				
			1513	1752.6	24.0	23.12	0.174	0.213		
Edge2	15	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.08				
			1413	1732.6	24.0	23.08				
			1513	1752.6	24.0	23.12	0.330	0.404	4	
Edge3	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.08				
			1413	1732.6	24.0	23.08				
			1513	1752.6	24.0	23.12	0.101	0.124		
Edge4	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.08				
			1413	1732.6	24.0	23.08				
			1513	1752.6	24.0	23.12	0.045	0.055		
Bottom	23	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.08				
			1413	1732.6	24.0	23.08				
			1513	1752.6	24.0	23.12	0.155	0.190		

15.3. W-CDMA Band 5

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	Rel 99 RMC 12.2 kbps	4132	826.4	19.8	19.01	0.534	0.641		
			4183	836.6	19.8	19.05	0.663	0.788		
			4233	846.6	19.8	19.09	0.825	0.972	5	
Edge2 45deg	0	Rel 99 RMC 12.2 kbps	4132	826.4	19.8	19.01	0.454	0.545		
			4183	836.6	19.8	19.05	0.601	0.714		
			4233	846.6	19.8	19.09	0.715	0.842		
Edge2	0	Rel 99 RMC 12.2 kbps	4132	826.4	19.8	19.01				
			4183	836.6	19.8	19.05				
			4233	846.6	19.8	19.09	0.596	0.702		
Bottom	0	Rel 99 RMC 12.2 kbps	4132	826.4	19.8	19.01				
			4183	836.6	19.8	19.05				
			4233	846.6	19.8	19.09	0.425	0.500		

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	11	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.95	0.140	0.178		
			4233	846.6	24.0	22.88				
Edge2 45deg	11	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.95	0.125	0.159		
			4233	846.6	24.0	22.88				
Edge2	15	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.95	0.283	0.360	6	
			4233	846.6	24.0	22.88				
Edge3	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.95	0.095	0.121		
			4233	846.6	24.0	22.88				
Edge4	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.95	0.038	0.048		
			4233	846.6	24.0	22.88				
Bottom	23	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.95	0.107	0.136		
			4233	846.6	24.0	22.88				

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15.4. **LTE Band 2**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	18700	1860	1	49	12.5	12.06			
			18900	1880	1	49	12.5	12.07	0.166	0.183	
			19100	1900	1	49	12.5	12.01			
			18700	1860	50	24	12.5	11.94	0.156	0.177	
			18900	1880	50	24	12.5	11.91			
			19100	1900	50	24	12.5	11.93			
			19100	1900	100	0	12.5	12.00			
Edge 2 45 deg	0	QPSK	18700	1860	1	49	12.5	12.06			
			18900	1880	1	49	12.5	12.07	0.138	0.152	
			19100	1900	1	49	12.5	12.01			
			18700	1860	50	24	12.5	11.94	0.134	0.152	
			18900	1880	50	24	12.5	11.91			
			19100	1900	50	24	12.5	11.93			
			19100	1900	100	0	12.5	12.00			
Edge 2	0	QPSK	18700	1860	1	49	12.5	12.06	0.953	1.055	
			18900	1880	1	49	12.5	12.07	1.010	1.115	
			19100	1900	1	49	12.5	12.01	1.030	1.153	
			18700	1860	50	24	12.5	11.94	0.982	1.117	
			18900	1880	50	24	12.5	11.91	0.994	1.139	
			19100	1900	50	24	12.5	11.93	1.020	1.163	
			19100	1900	100	0	12.5	12.00	1.040	1.167	7
Bottom	0	QPSK	18700	1860	1	49	12.5	12.06			
			18900	1880	1	49	12.5	12.07	0.367	0.405	
			19100	1900	1	49	12.5	12.01			
			18700	1860	50	24	12.5	11.94	0.378	0.430	
			18900	1880	50	24	12.5	11.91			
			19100	1900	50	24	12.5	11.93			
			19100	1900	100	0	12.5	12.00			

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm) Tune-up limit	Power (dBm) Meas. Avg	1-g SAR (W/kg) Meas.	1-g SAR (W/kg) Scaled	Plot No.
Edge 1	11	QPSK	18700	1860	1	0	24.0	22.42			
			18900	1880	1	0	24.0	22.71	0.229	0.308	
			19100	1900	1	49	24.0	22.68			
			18700	1860	50	24	23.0	21.62			
			18900	1880	50	49	23.0	21.62			
			19100	1900	50	24	23.0	21.63	0.194	0.266	
			19100	1900	100	0	23.0	21.63			
Edge 2 45 deg	11	QPSK	18700	1860	1	0	24.0	22.42			
			18900	1880	1	0	24.0	22.71	0.210	0.283	
			19100	1900	1	49	24.0	22.68			
			18700	1860	50	24	23.0	21.62			
			18900	1880	50	49	23.0	21.62			
			19100	1900	50	24	23.0	21.63	0.182	0.250	
			19100	1900	100	0	23.0	21.63			
Edge 2	15	QPSK	18700	1860	1	0	24.0	22.42			
			18900	1880	1	0	24.0	22.71	0.552	0.743	8
			19100	1900	1	49	24.0	22.68			
			18700	1860	50	24	23.0	21.62			
			18900	1880	50	49	23.0	21.62			
			19100	1900	50	24	23.0	21.63	0.471	0.646	
			19100	1900	100	0	23.0	21.63			
Edge 3	0	QPSK	18700	1860	1	0	24.0	22.42			
			18900	1880	1	0	24.0	22.71	0.111	0.149	
			19100	1900	1	49	24.0	22.68			
			18700	1860	50	24	23.0	21.62			
			18900	1880	50	49	23.0	21.62			
			19100	1900	50	24	23.0	21.63	0.104	0.143	
			19100	1900	100	0	23.0	21.63			
Edge 4	0	QPSK	18700	1860	1	0	24.0	22.42			
			18900	1880	1	0	24.0	22.71	0.055	0.074	
			19100	1900	1	49	24.0	22.68			
			18700	1860	50	24	23.0	21.62			
			18900	1880	50	49	23.0	21.62			
			19100	1900	50	24	23.0	21.63	0.044	0.060	
			19100	1900	100	0	23.0	21.63			
Bottom	23	QPSK	18700	1860	1	0	24.0	22.42			
			18900	1880	1	0	24.0	22.71	0.214	0.288	
			19100	1900	1	49	24.0	22.68			
			18700	1860	50	24	23.0	21.62			
			18900	1880	50	49	23.0	21.62			
			19100	1900	50	24	23.0	21.63	0.171	0.234	
			19100	1900	100	0	23.0	21.63			

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15.5. **LTE Band 4**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	20050	1720	1	49	13.5	12.75			
			20175	1732.5	1	49	13.5	12.87	0.149	0.172	
			20300	1745	1	49	13.5	12.73			
			20050	1720	50	24	13.5	12.78	0.143	0.169	
			20175	1732.5	50	24	13.5	12.72			
			20300	1745	50	24	13.5	12.72			
			20300	1745	100	0	13.5	12.75			
Edge 2 45 deg	0	QPSK	20050	1720	1	49	13.5	12.75			
			20175	1732.5	1	49	13.5	12.87	0.209	0.242	
			20300	1745	1	49	13.5	12.73			
			20050	1720	50	24	13.5	12.78	0.225	0.266	
			20175	1732.5	50	24	13.5	12.72			
			20300	1745	50	24	13.5	12.72			
			20300	1745	100	0	13.5	12.75			
Edge 2	0	QPSK	20050	1720	1	49	13.5	12.75	0.877	1.042	
			20175	1732.5	1	49	13.5	12.87	0.902	1.043	
			20300	1745	1	49	13.5	12.73	0.924	1.103	
			20050	1720	50	24	13.5	12.78	0.900	1.062	
			20175	1732.5	50	24	13.5	12.72	0.917	1.097	
			20300	1745	50	24	13.5	12.72	0.942	1.127	9
			20300	1745	100	0	13.5	12.75	0.930	1.105	
Bottom	0	QPSK	20050	1720	1	49	13.5	12.75			
			20175	1732.5	1	49	13.5	12.87	0.362	0.419	
			20300	1745	1	49	13.5	12.73			
			20050	1720	50	24	13.5	12.78	0.346	0.408	
			20175	1732.5	50	24	13.5	12.72			
			20300	1745	50	24	13.5	12.72			
			20300	1745	100	0	13.5	12.75			

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	11	QPSK	20050	1720	1	0	24.0	22.78			
			20175	1732.5	1	49	24.0	22.80	0.228	0.301	
			20300	1745	1	49	24.0	22.61			
			20050	1720	50	24	23.0	21.71			
			20175	1732.5	50	24	23.0	21.72	0.176	0.236	
			20300	1745	50	24	23.0	21.65			
			20300	1745	100	0	23.0	21.63			
Edge 2 45 deg	11	QPSK	20050	1720	1	0	24.0	22.78			
			20175	1732.5	1	49	24.0	22.80	0.307	0.405	
			20300	1745	1	49	24.0	22.61			
			20050	1720	50	24	23.0	21.71			
			20175	1732.5	50	24	23.0	21.72	0.248	0.333	
			20300	1745	50	24	23.0	21.65			
			20300	1745	100	0	23.0	21.63			
Edge 2	15	QPSK	20050	1720	1	0	24.0	22.78			
			20175	1732.5	1	49	24.0	22.80	0.519	0.684	10
			20300	1745	1	49	24.0	22.61			
			20050	1720	50	24	23.0	21.71			
			20175	1732.5	50	24	23.0	21.72	0.430	0.577	
			20300	1745	50	24	23.0	21.65			
			20300	1745	100	0	23.0	21.63			
Edge 3	0	QPSK	20050	1720	1	0	24.0	22.78			
			20175	1732.5	1	49	24.0	22.80	0.164	0.216	
			20300	1745	1	49	24.0	22.61			
			20050	1720	50	24	23.0	21.71			
			20175	1732.5	50	24	23.0	21.72	0.137	0.184	
			20300	1745	50	24	23.0	21.65			
			20300	1745	100	0	23.0	21.63			
Edge 4	0	QPSK	20050	1720	1	0	24.0	22.78			
			20175	1732.5	1	49	24.0	22.80	0.075	0.099	
			20300	1745	1	49	24.0	22.61			
			20050	1720	50	24	23.0	21.71			
			20175	1732.5	50	24	23.0	21.72	0.050	0.067	
			20300	1745	50	24	23.0	21.65			
			20300	1745	100	0	23.0	21.63			
Bottom	23	QPSK	20050	1720	1	0	24.0	22.78			
			20175	1732.5	1	49	24.0	22.80	0.233	0.307	
			20300	1745	1	49	24.0	22.61			
			20050	1720	50	24	23.0	21.71			
			20175	1732.5	50	24	23.0	21.72	0.179	0.240	
			20300	1745	50	24	23.0	21.65			
			20300	1745	100	0	23.0	21.63			

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15.6. **LTE Band 5**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	20450	829	1	0	20.3	19.56			
			20525	836.5	1	49	20.3	19.70	0.688	0.790	
			20600	844	1	49	20.3	19.68			
			20450	829	25	12	20.3	19.57	0.556	0.658	
			20525	836.5	25	0	20.3	19.50	0.613	0.737	
			20600	844	25	24	20.3	19.58	0.776	0.916	11
			20450	829	50	0	20.3	19.61	0.558	0.654	
Edge 2 45 deg	0	QPSK	20450	829	1	0	20.3	19.56			
			20525	836.5	1	49	20.3	19.70	0.693	0.796	
			20600	844	1	49	20.3	19.68			
			20450	829	25	12	20.3	19.57	0.574	0.679	
			20525	836.5	25	0	20.3	19.50	0.629	0.756	
			20600	844	25	24	20.3	19.58	0.684	0.807	
			20450	829	50	0	20.3	19.61	0.571	0.669	
Edge 2	0	QPSK	20450	829	1	0	20.3	19.56			
			20525	836.5	1	49	20.3	19.70	0.622	0.714	
			20600	844	1	49	20.3	19.68			
			20450	829	25	12	20.3	19.57			
			20525	836.5	25	0	20.3	19.50			
			20600	844	25	24	20.3	19.58	0.669	0.790	
			20450	829	50	0	20.3	19.61			
Bottom	0	QPSK	20450	829	1	0	20.3	19.56			
			20525	836.5	1	49	20.3	19.70	0.552	0.634	
			20600	844	1	49	20.3	19.68			
			20450	829	25	12	20.3	19.57			
			20525	836.5	25	0	20.3	19.50			
			20600	844	25	24	20.3	19.58	0.473	0.558	
			20450	829	50	0	20.3	19.61			

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm) Tune-up limit	Power (dBm) Meas. Avg	1-g SAR (W/kg) Meas.	1-g SAR (W/kg) Scaled	Plot No.
Edge 1	11	QPSK	20450	829	1	24	24.0	22.48			
			20525	836.5	1	49	24.0	22.46			
			20600	844	1	49	24.0	22.55	0.230	0.321	
			20450	829	25	12	23.0	21.43			
			20525	836.5	25	12	23.0	21.51	0.166	0.234	
			20600	844	25	24	23.0	21.50			
			20600	844	50	0	23.0	21.50			
Edge 2 45 deg	11	QPSK	20450	829	1	24	24.0	22.48			
			20525	836.5	1	49	24.0	22.46			
			20600	844	1	49	24.0	22.55	0.344	0.480	
			20450	829	25	12	23.0	21.43			
			20525	836.5	25	12	23.0	21.51	0.231	0.326	
			20600	844	25	24	23.0	21.50			
			20600	844	50	0	23.0	21.50			
Edge 2	15	QPSK	20450	829	1	24	24.0	22.48			
			20525	836.5	1	49	24.0	22.46			
			20600	844	1	49	24.0	22.55	0.427	0.596	12
			20450	829	25	12	23.0	21.43			
			20525	836.5	25	12	23.0	21.51	0.319	0.450	
			20600	844	25	24	23.0	21.50			
			20600	844	50	0	23.0	21.50			
Edge 3	0	QPSK	20450	829	1	24	24.0	22.48			
			20525	836.5	1	49	24.0	22.46			
			20600	844	1	49	24.0	22.55	0.163	0.228	
			20450	829	25	12	23.0	21.43			
			20525	836.5	25	12	23.0	21.51	0.121	0.171	
			20600	844	25	24	23.0	21.50			
			20600	844	50	0	23.0	21.50			
Edge 4	0	QPSK	20450	829	1	24	24.0	22.48			
			20525	836.5	1	49	24.0	22.46			
			20600	844	1	49	24.0	22.55	0.115	0.161	
			20450	829	25	12	23.0	21.43			
			20525	836.5	25	12	23.0	21.51	0.056	0.079	
			20600	844	25	24	23.0	21.50			
			20600	844	50	0	23.0	21.50			
Bottom	23	QPSK	20450	829	1	24	24.0	22.48			
			20525	836.5	1	49	24.0	22.46			
			20600	844	1	49	24.0	22.55	0.155	0.216	
			20450	829	25	12	23.0	21.43			
			20525	836.5	25	12	23.0	21.51	0.117	0.165	
			20600	844	25	24	23.0	21.50			
			20600	844	50	0	23.0	21.50			

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15.7. **LTE Band 7**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	20850	2510	1	49	13.1	11.88			
			21100	2535	1	49	13.1	12.05	0.247	0.315	
			21350	2560	1	49	13.1	12.03			
			20850	2510	50	49	13.1	11.95			
			21100	2535	50	24	13.1	12.05	0.235	0.299	
			21350	2560	50	24	13.1	11.99			
			21100	2535	100	0	13.1	11.97			
Edge 2 45 deg	0	QPSK	20850	2510	1	49	13.1	11.88			
			21100	2535	1	49	13.1	12.05	0.485	0.618	
			21350	2560	1	49	13.1	12.03			
			20850	2510	50	49	13.1	11.95			
			21100	2535	50	24	13.1	12.05	0.480	0.611	
			21350	2560	50	24	13.1	11.99			
			21100	2535	100	0	13.1	11.97			
Edge 2	0	QPSK	20850	2510	1	49	13.1	11.88	0.704	0.932	
			21100	2535	1	49	13.1	12.05	0.761	0.969	
			21350	2560	1	49	13.1	12.03	0.822	1.052	
			20850	2510	50	49	13.1	11.95	0.729	0.950	
			21100	2535	50	24	13.1	12.05	0.774	0.986	
			21350	2560	50	24	13.1	11.99	0.835	1.078	13
			21100	2535	100	0	13.1	11.97	0.763	0.990	
Bottom	0	QPSK	20850	2510	1	49	13.1	11.88			
			21100	2535	1	49	13.1	12.05	0.592	0.754	
			21350	2560	1	49	13.1	12.03			
			20850	2510	50	49	13.1	11.95			
			21100	2535	50	24	13.1	12.05	0.599	0.763	
			21350	2560	50	24	13.1	11.99			
			21100	2535	100	0	13.1	11.97			

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm) Tune-up limit	Power (dBm) Meas. Avg	1-g SAR (W/kg) Meas.	1-g SAR (W/kg) Scaled	Plot No.
Edge 1	11	QPSK	20850	2510	1	49	22.0	20.77			
			21100	2535	1	49	22.0	20.83	0.159	0.208	
			21350	2560	1	49	22.0	20.62			
			20850	2510	50	49	21.0	19.74			
			21100	2535	50	24	21.0	19.89	0.126	0.163	
			21350	2560	50	24	21.0	19.75			
			21100	2535	100	0	21.0	19.84			
Edge 2 45 deg	11	QPSK	20850	2510	1	49	22.0	20.77			
			21100	2535	1	49	22.0	20.83	0.323	0.423	
			21350	2560	1	49	22.0	20.62			
			20850	2510	50	49	21.0	19.74			
			21100	2535	50	24	21.0	19.89	0.260	0.336	
			21350	2560	50	24	21.0	19.75			
			21100	2535	100	0	21.0	19.84			
Edge 2	15	QPSK	20850	2510	1	49	22.0	20.77	0.973	1.292	14
			21100	2535	1	49	22.0	20.83	0.937	1.227	
			21350	2560	1	49	22.0	20.62	0.903	1.241	
			20850	2510	50	49	21.0	19.74	0.787	1.052	
			21100	2535	50	24	21.0	19.89	0.777	1.003	
			21350	2560	50	24	21.0	19.75	0.795	1.060	
			21100	2535	100	0	21.0	19.84	0.770	1.006	
Edge 3	0	QPSK	20850	2510	1	49	22.0	20.77			
			21100	2535	1	49	22.0	20.83	0.086	0.113	
			21350	2560	1	49	22.0	20.62			
			20850	2510	50	49	21.0	19.74			
			21100	2535	50	24	21.0	19.89	0.067	0.087	
			21350	2560	50	24	21.0	19.75			
			21100	2535	100	0	21.0	19.84			
Edge 4	0	QPSK	20850	2510	1	49	22.0	20.77			
			21100	2535	1	49	22.0	20.83	0.084	0.110	
			21350	2560	1	49	22.0	20.62			
			20850	2510	50	49	21.0	19.74			
			21100	2535	50	24	21.0	19.89	0.075	0.097	
			21350	2560	50	24	21.0	19.75			
			21100	2535	100	0	21.0	19.84			
Bottom	23	QPSK	20850	2510	1	49	22.0	20.77			
			21100	2535	1	49	22.0	20.83	0.245	0.321	
			21350	2560	1	49	22.0	20.62			
			20850	2510	50	49	21.0	19.74			
			21100	2535	50	24	21.0	19.89	0.200	0.258	
			21350	2560	50	24	21.0	19.75			
			21100	2535	100	0	21.0	19.84			

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15.8. LTE Band 12

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	23060	704	1	49	19.8	18.83	0.196	0.245	
			23095	707.5	1	0	19.8	18.74			
			23130	711	1	0	19.8	18.75			
			23060	704	25	0	19.8	18.70	0.214	0.276	
			23095	707.5	25	12	19.8	18.69			
			23130	711	25	12	19.8	18.66			
			23095	707.5	50	0	19.8	18.68			
Edge 2 45 deg	0	QPSK	23060	704	1	49	19.8	18.83	0.171	0.214	
			23095	707.5	1	0	19.8	18.74			
			23130	711	1	0	19.8	18.75			
			23060	704	25	0	19.8	18.70	0.154	0.198	
			23095	707.5	25	12	19.8	18.69			
			23130	711	25	12	19.8	18.66			
			23095	707.5	50	0	19.8	18.68			
Edge 2	0	QPSK	23060	704	1	49	19.8	18.83	0.566	0.708	
			23095	707.5	1	0	19.8	18.74			
			23130	711	1	0	19.8	18.75			
			23060	704	25	0	19.8	18.70	0.570	0.734	
			23095	707.5	25	12	19.8	18.69			
			23130	711	25	12	19.8	18.66			
			23095	707.5	50	0	19.8	18.68			
Bottom	0	QPSK	23060	704	1	49	19.8	18.83	0.740	0.925	
			23095	707.5	1	0	19.8	18.74	0.774	0.988	
			23130	711	1	0	19.8	18.75	0.785	1.000	
			23060	704	25	0	19.8	18.70	0.777	1.001	15
			23095	707.5	25	12	19.8	18.69	0.768	0.992	
			23130	711	25	12	19.8	18.66	0.763	0.992	
			23095	707.5	50	0	19.8	18.68	0.761	0.985	

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	11	QPSK	23060	704	1	0	24.0	22.85			
			23095	707.5	1	0	24.0	22.98			
			23130	711	1	0	24.0	23.05	0.090	0.112	
			23060	704	25	0	23.0	21.81			
			23095	707.5	25	0	23.0	21.83	0.072	0.094	
			23130	711	25	0	23.0	21.82			
			23095	707.5	50	0	23.0	21.80			
Edge 2 45 deg	11	QPSK	23060	704	1	0	24.0	22.85			
			23095	707.5	1	0	24.0	22.98			
			23130	711	1	0	24.0	23.05	0.064	0.080	
			23060	704	25	0	23.0	21.81			
			23095	707.5	25	0	23.0	21.83	0.048	0.063	
			23130	711	25	0	23.0	21.82			
			23095	707.5	50	0	23.0	21.80			
Edge 2	15	QPSK	23060	704	1	0	24.0	22.85			
			23095	707.5	1	0	24.0	22.98			
			23130	711	1	0	24.0	23.05	0.253	0.315	16
			23060	704	25	0	23.0	21.81			
			23095	707.5	25	0	23.0	21.83	0.180	0.236	
			23130	711	25	0	23.0	21.82			
			23095	707.5	50	0	23.0	21.80			
Edge 3	0	QPSK	23060	704	1	0	24.0	22.85			
			23095	707.5	1	0	24.0	22.98			
			23130	711	1	0	24.0	23.05	0.130	0.162	
			23060	704	25	0	23.0	21.81			
			23095	707.5	25	0	23.0	21.83	0.093	0.122	
			23130	711	25	0	23.0	21.82			
			23095	707.5	50	0	23.0	21.80			
Edge 4	0	QPSK	23060	704	1	0	24.0	22.85			
			23095	707.5	1	0	24.0	22.98			
			23130	711	1	0	24.0	23.05	0.078	0.097	
			23060	704	25	0	23.0	21.81			
			23095	707.5	25	0	23.0	21.83	0.056	0.073	
			23130	711	25	0	23.0	21.82			
			23095	707.5	50	0	23.0	21.80			
Bottom	23	QPSK	23060	704	1	0	24.0	22.85			
			23095	707.5	1	0	24.0	22.98			
			23130	711	1	0	24.0	23.05	0.131	0.163	
			23060	704	25	0	23.0	21.81			
			23095	707.5	25	0	23.0	21.83	0.099	0.130	
			23130	711	25	0	23.0	21.82			
			23095	707.5	50	0	23.0	21.80			

15.9. **LTE Band 13**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	23230	782	1	0	19.4	18.89	0.178	0.200	
			23230	782	25	24	19.4	18.72	0.202	0.236	
			23230	782	50	0	19.4	18.75			
Edge 2 45 deg	0	QPSK	23230	782	1	0	19.4	18.89	0.202	0.227	
			23230	782	25	24	19.4	18.72	0.230	0.269	
			23230	782	50	0	19.4	18.75			
Edge 2	0	QPSK	23230	782	1	0	19.4	18.89	0.643	0.723	
			23230	782	25	24	19.4	18.72	0.637	0.745	
			23230	782	50	0	19.4	18.75			
Bottom	0	QPSK	23230	782	1	0	19.4	18.89	0.703	0.791	
			23230	782	25	24	19.4	18.72	0.704	0.823	
			23230	782	50	0	19.4	18.75	0.717	0.833	17

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	11	QPSK	23230	782	1	49	24.0	22.80	0.100	0.132	
			23230	782	25	24	23.0	21.66	0.088	0.120	
			23230	782	50	0	23.0	21.75			
Edge 2 45 deg	11	QPSK	23230	782	1	49	24.0	22.80	0.112	0.148	
			23230	782	25	24	23.0	21.66	0.103	0.140	
			23230	782	50	0	23.0	21.75			
Edge 2	15	QPSK	23230	782	1	49	24.0	22.80	0.318	0.419	18
			23230	782	25	24	23.0	21.66	0.254	0.346	
			23230	782	50	0	23.0	21.75			
Edge 3	0	QPSK	23230	782	1	49	24.0	22.80	0.128	0.169	
			23230	782	25	24	23.0	21.66	0.096	0.131	
			23230	782	50	0	23.0	21.75			
Edge 4	0	QPSK	23230	782	1	49	24.0	22.80	0.027	0.036	
			23230	782	25	24	23.0	21.66	0.027	0.037	
			23230	782	50	0	23.0	21.75			
Bottom	23	QPSK	23230	782	1	49	24.0	22.80	0.133	0.175	
			23230	782	25	24	23.0	21.66	0.095	0.129	
			23230	782	50	0	23.0	21.75			

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15.10.**LTE Band 25**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	26140	1860	1	0	12.4	12.26			
			26365	1882.5	1	0	12.4	12.29	0.144	0.148	
			26590	1905	1	49	12.4	11.97			
			26140	1860	50	49	12.4	11.91			
			26365	1882.5	50	24	12.4	11.92	0.154	0.172	
			26590	1905	50	0	12.4	11.90			
			26140	1860	100	0	12.4	11.89			
Edge 2 45 deg	0	QPSK	26140	1860	1	0	12.4	12.26			
			26365	1882.5	1	0	12.4	12.29	0.137	0.141	
			26590	1905	1	49	12.4	11.97			
			26140	1860	50	49	12.4	11.91			
			26365	1882.5	50	24	12.4	11.92	0.145	0.162	
			26590	1905	50	0	12.4	11.90			
			26140	1860	100	0	12.4	11.89			
Edge 2	0	QPSK	26140	1860	1	0	12.4	12.26	0.928	0.958	
			26365	1882.5	1	0	12.4	12.29	0.952	0.976	
			26590	1905	1	49	12.4	11.97	1.040	1.148	19
			26140	1860	50	49	12.4	11.91	0.957	1.071	
			26365	1882.5	50	24	12.4	11.92	0.987	1.102	
			26590	1905	50	0	12.4	11.90	1.010	1.133	
			26140	1860	100	0	12.4	11.89	0.945	1.063	
Bottom	0	QPSK	26140	1860	1	0	12.4	12.26			
			26365	1882.5	1	0	12.4	12.29	0.368	0.377	
			26590	1905	1	49	12.4	11.97			
			26140	1860	50	49	12.4	11.91			
			26365	1882.5	50	24	12.4	11.92	0.359	0.401	
			26590	1905	50	0	12.4	11.90			
			26140	1860	100	0	12.4	11.89			

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm) Tune-up limit	Power (dBm) Meas. Avg	1-g SAR (W/kg) Meas.	1-g SAR (W/kg) Scaled	Plot No.
Edge 1	11	QPSK	26140	1860	1	49	24.0	22.65			
			26365	1882.5	1	49	24.0	22.67			
			26590	1905	1	49	24.0	22.68	0.270	0.366	
			26140	1860	50	49	23.0	21.66			
			26365	1882.5	50	49	23.0	21.65			
			26590	1905	50	49	23.0	21.68	0.211	0.286	
			26590	1905	100	0	23.0	21.64			
Edge 2 45 deg	11	QPSK	26140	1860	1	49	24.0	22.65			
			26365	1882.5	1	49	24.0	22.67			
			26590	1905	1	49	24.0	22.68	0.213	0.289	
			26140	1860	50	49	23.0	21.66			
			26365	1882.5	50	49	23.0	21.65			
			26590	1905	50	49	23.0	21.68	0.178	0.241	
			26590	1905	100	0	23.0	21.64			
Edge 2	15	QPSK	26140	1860	1	49	24.0	22.65	0.556	0.759	
			26365	1882.5	1	49	24.0	22.67	0.572	0.777	
			26590	1905	1	49	24.0	22.68	0.623	0.844	20
			26140	1860	50	49	23.0	21.66			
			26365	1882.5	50	49	23.0	21.65			
			26590	1905	50	49	23.0	21.68	0.503	0.682	
			26590	1905	100	0	23.0	21.64	0.498	0.681	
Edge 3	0	QPSK	26140	1860	1	49	24.0	22.65			
			26365	1882.5	1	49	24.0	22.67			
			26590	1905	1	49	24.0	22.68	0.134	0.182	
			26140	1860	50	49	23.0	21.66			
			26365	1882.5	50	49	23.0	21.65			
			26590	1905	50	49	23.0	21.68	0.111	0.150	
			26590	1905	100	0	23.0	21.64			
Edge 4	0	QPSK	26140	1860	1	49	24.0	22.65			
			26365	1882.5	1	49	24.0	22.67			
			26590	1905	1	49	24.0	22.68	0.102	0.138	
			26140	1860	50	49	23.0	21.66			
			26365	1882.5	50	49	23.0	21.65			
			26590	1905	50	49	23.0	21.68	0.055	0.075	
			26590	1905	100	0	23.0	21.64			
Bottom	23	QPSK	26140	1860	1	49	24.0	22.65			
			26365	1882.5	1	49	24.0	22.67			
			26590	1905	1	49	24.0	22.68	0.221	0.299	
			26140	1860	50	49	23.0	21.66			
			26365	1882.5	50	49	23.0	21.65			
			26590	1905	50	49	23.0	21.68	0.170	0.230	
			26590	1905	100	0	23.0	21.64			

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15.11.**LTE Band 26**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	26765	821.5	1	0	20.4	19.84	0.476	0.542	
			26865	831.5	1	0	20.4	19.67			
			26965	841.5	1	0	20.4	19.53			
			26765	821.5	36	19	20.4	19.97	0.569	0.628	
			26865	831.5	36	19	20.4	19.67			
			26965	841.5	36	0	20.4	19.69			
			26765	821.5	75	0	20.4	19.81			
Edge 2 45deg	0	QPSK	26765	821.5	1	0	20.4	19.84	0.492	0.560	
			26865	831.5	1	0	20.4	19.67			
			26965	841.5	1	0	20.4	19.53			
			26765	821.5	36	19	20.4	19.97	0.543	0.600	
			26865	831.5	36	19	20.4	19.67			
			26965	841.5	36	0	20.4	19.69			
			26765	821.5	75	0	20.4	19.81			
Edge 2	0	QPSK	26765	821.5	1	0	20.4	19.84	0.698	0.794	
			26865	831.5	1	0	20.4	19.67			
			26965	841.5	1	0	20.4	19.53			
			26765	821.5	36	19	20.4	19.97	0.712	0.786	
			26865	831.5	36	19	20.4	19.67			
			26965	841.5	36	0	20.4	19.69			
			26765	821.5	75	0	20.4	19.81			
Bottom	0	QPSK	26765	821.5	1	0	20.4	19.84	0.738	0.840	21
			26865	831.5	1	0	20.4	19.67	0.672	0.795	
			26965	841.5	1	0	20.4	19.53	0.589	0.720	
			26765	821.5	36	19	20.4	19.97	0.730	0.806	
			26865	831.5	36	19	20.4	19.67	0.631	0.746	
			26965	841.5	36	0	20.4	19.69	0.587	0.691	
			26765	821.5	75	0	20.4	19.81	0.730	0.836	

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	11	QPSK	26765	821.5	1	0	24.0	22.83	0.186	0.244	
			26865	831.5	1	0	24.0	22.65			
			26965	841.5	1	37	24.0	22.59			
			26765	821.5	36	19	23.0	21.76	0.166	0.221	
			26865	831.5	36	19	23.0	21.67			
			26965	841.5	36	19	23.0	21.61			
			26765	821.5	75	0	23.0	21.70			
Edge 2 45 deg	11	QPSK	26765	821.5	1	0	24.0	22.83	0.229	0.300	
			26865	831.5	1	0	24.0	22.65			
			26965	841.5	1	37	24.0	22.59			
			26765	821.5	36	19	23.0	21.76	0.201	0.267	
			26865	831.5	36	19	23.0	21.67			
			26965	841.5	36	19	23.0	21.61			
			26765	821.5	75	0	23.0	21.70			
Edge 2	15	QPSK	26765	821.5	1	0	24.0	22.83	0.394	0.516	22
			26865	831.5	1	0	24.0	22.65			
			26965	841.5	1	37	24.0	22.59			
			26765	821.5	36	19	23.0	21.76	0.305	0.406	
			26865	831.5	36	19	23.0	21.67			
			26965	841.5	36	19	23.0	21.61			
			26765	821.5	75	0	23.0	21.70			
Edge 3	0	QPSK	26765	821.5	1	0	24.0	22.83	0.119	0.156	
			26865	831.5	1	0	24.0	22.65			
			26965	841.5	1	37	24.0	22.59			
			26765	821.5	36	19	23.0	21.76	0.130	0.173	
			26865	831.5	36	19	23.0	21.67			
			26965	841.5	36	19	23.0	21.61			
			26765	821.5	75	0	23.0	21.70			
Edge 4	0	QPSK	26765	821.5	1	0	24.0	22.83	0.028	0.037	
			26865	831.5	1	0	24.0	22.65			
			26965	841.5	1	37	24.0	22.59			
			26765	821.5	36	19	23.0	21.76	0.042	0.056	
			26865	831.5	36	19	23.0	21.67			
			26965	841.5	36	19	23.0	21.61			
			26765	821.5	75	0	23.0	21.70			
Bottom	23	QPSK	26765	821.5	1	0	24.0	22.83	0.184	0.241	
			26865	831.5	1	0	24.0	22.65			
			26965	841.5	1	37	24.0	22.59			
			26765	821.5	36	19	23.0	21.76	0.157	0.209	
			26865	831.5	36	19	23.0	21.67			
			26965	841.5	36	19	23.0	21.61			
			26765	821.5	75	0	23.0	21.70			

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15.12.**LTE Band 41**

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	0	QPSK	39750	2506	1	49	14.4	12.80			
			40185	2549.5	1	49	14.4	12.99			
			40620	2593	1	49	14.4	13.16			
			41055	2636.5	1	49	14.4	13.23			
			41490	2680	1	49	14.4	13.32	0.095	0.122	
			39750	2506	50	24	14.4	12.81			
			40185	2549.5	50	24	14.4	12.90			
			40620	2593	50	49	14.4	12.99	0.082	0.113	
			41055	2636.5	50	24	14.4	13.00			
			41490	2680	50	49	14.4	13.13			
			41055	2636.5	100	0	14.4	13.10			
Edge 2 45 deg	0	QPSK	39750	2506	1	49	14.4	12.80			
			40185	2549.5	1	49	14.4	12.99			
			40620	2593	1	49	14.4	13.16			
			41055	2636.5	1	49	14.4	13.23			
			41490	2680	1	49	14.4	13.32	0.286	0.367	
			39750	2506	50	24	14.4	12.81			
			40185	2549.5	50	24	14.4	12.90			
			40620	2593	50	49	14.4	12.99			
			41055	2636.5	50	24	14.4	13.00			
			41490	2680	50	49	14.4	13.13	0.295	0.395	
			41055	2636.5	100	0	14.4	13.10			
Edge 2	0	QPSK	39750	2506	1	49	14.4	12.80			
			40185	2549.5	1	49	14.4	12.99			
			40620	2593	1	49	14.4	13.16			
			41055	2636.5	1	49	14.4	13.23			
			41490	2680	1	49	14.4	13.32	0.559	0.717	
			39750	2506	50	24	14.4	12.81			
			40185	2549.5	50	24	14.4	12.90			
			40620	2593	50	49	14.4	12.99			
			41055	2636.5	50	24	14.4	13.00			
			41490	2680	50	49	14.4	13.13	0.552	0.740	
			41055	2636.5	100	0	14.4	13.10			
Bottom	0	QPSK	39750	2506	1	49	14.4	12.80			
			40185	2549.5	1	49	14.4	12.99			
			40620	2593	1	49	14.4	13.16			
			41055	2636.5	1	49	14.4	13.23			
			41490	2680	1	49	14.4	13.32	0.563	0.722	
			39750	2506	50	24	14.4	12.81			
			40185	2549.5	50	24	14.4	12.90			
			40620	2593	50	49	14.4	12.99			
			41055	2636.5	50	24	14.4	13.00			
			41490	2680	50	49	14.4	13.13	0.560	0.750	23
			41055	2636.5	100	0	14.4	13.10			

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Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Modu-lation	UL CH #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas. Avg	Meas.	Scaled	
Edge 1	11	QPSK	39750	2506	1	99	23.0	21.30			
			40185	2549.5	1	0	23.0	21.38			
			40620	2593	1	49	23.0	21.25			
			41055	2636.5	1	49	23.0	21.37			
			41490	2680	1	49	23.0	21.40	0.069	0.100	
			39750	2506	50	49	22.0	20.44			
			40185	2549.5	50	0	22.0	20.44			
			40620	2593	50	0	22.0	20.42			
			41055	2636.5	50	24	22.0	20.54			
			41490	2680	50	24	22.0	20.55	0.047	0.066	
			41055	2636.5	100	0	22.0	20.54			
Edge 2 45deg	11	QPSK	39750	2506	1	99	23.0	21.30			
			40185	2549.5	1	0	23.0	21.38			
			40620	2593	1	49	23.0	21.25			
			41055	2636.5	1	49	23.0	21.37			
			41490	2680	1	49	23.0	21.40	0.141	0.204	
			39750	2506	50	49	22.0	20.44			
			40185	2549.5	50	0	22.0	20.44			
			40620	2593	50	0	22.0	20.42			
			41055	2636.5	50	24	22.0	20.54			
			41490	2680	50	24	22.0	20.55	0.112	0.156	
			41055	2636.5	100	0	22.0	20.54			
Edge 2	15	QPSK	39750	2506	1	99	23.0	21.30	0.497	0.735	
			40185	2549.5	1	0	23.0	21.38	0.512	0.743	
			40620	2593	1	49	23.0	21.25	0.516	0.772	
			41055	2636.5	1	49	23.0	21.37	0.558	0.812	
			41490	2680	1	49	23.0	21.40	0.683	0.987	24
			39750	2506	50	49	22.0	20.44			
			40185	2549.5	50	0	22.0	20.44			
			40620	2593	50	0	22.0	20.42			
			41055	2636.5	50	24	22.0	20.54			
			41490	2680	50	24	22.0	20.55	0.514	0.718	
			41055	2636.5	100	0	22.0	20.54	0.484	0.677	
Edge 3	0	QPSK	39750	2506	1	99	23.0	21.30			
			40185	2549.5	1	0	23.0	21.38			
			40620	2593	1	49	23.0	21.25			
			41055	2636.5	1	49	23.0	21.37			
			41490	2680	1	49	23.0	21.40	0.083	0.120	
			39750	2506	50	49	22.0	20.44			
			40185	2549.5	50	0	22.0	20.44			
			40620	2593	50	0	22.0	20.42			
			41055	2636.5	50	24	22.0	20.54			
			41490	2680	50	24	22.0	20.55	0.072	0.101	
			41055	2636.5	100	0	22.0	20.54			
Edge 4	0	QPSK	39750	2506	1	99	23.0	21.30			
			40185	2549.5	1	0	23.0	21.38			
			40620	2593	1	49	23.0	21.25			
			41055	2636.5	1	49	23.0	21.37			
			41490	2680	1	49	23.0	21.40	0.021	0.030	
			39750	2506	50	49	22.0	20.44			
			40185	2549.5	50	0	22.0	20.44			
			40620	2593	50	0	22.0	20.42			
			41055	2636.5	50	24	22.0	20.54			
			41490	2680	50	24	22.0	20.55	0.016	0.022	
			41055	2636.5	100	0	22.0	20.54			
Bottom	23	QPSK	39750	2506	1	99	23.0	21.30			
			40185	2549.5	1	0	23.0	21.38			
			40620	2593	1	49	23.0	21.25			
			41055	2636.5	1	49	23.0	21.37			
			41490	2680	1	49	23.0	21.40	0.171	0.247	
			39750	2506	50	49	22.0	20.44			
			40185	2549.5	50	0	22.0	20.44			
			40620	2593	50	0	22.0	20.42			
			41055	2636.5	50	24	22.0	20.54			
			41490	2680	50	24	22.0	20.55	0.141	0.197	
			41055	2636.5	100	0	22.0	20.54			

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15.13. Summary of Highest SAR Values

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

Technology Band	Test Configuration		Mode	Dist. [mm]	Freq. [MHz]	Power [dBm]	1g/SAR [w/kg]
	Exposure	Position					
W-CDMA Band 2	Body	Edge 2 Prox. on	Rel 99 RMC 12.2kbps	0	1907.6	10.87	0.961
W-CDMA Band 4	Body	Edge 2 (Prox on)	Rel 99 RMC 12.2kbps	0	1752.6	12.36	1.100
W-CDMA Band 5	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	846.6	19.09	0.972
LTE Band 2	Body	Edge 2 (Prox on)	20 MHz(QPSK) RB 100/0	0	1900	12.00	1.167
LTE Band 4	Body	Edge 2 (Prox on)	20 MHz(QPSK) RB 50/24	0	1745	12.72	1.127
LTE Band 5	Body	Edge 1 (Prox on)	10 MHz(QPSK) RB 25/24	0	844	19.58	0.916
LTE Band 7	Body	Edge 2 (Prox off)	20 MHz(QPSK) RB 1/49	15	2510	20.77	1.292
LTE Band 12	Body	Bottom (Prox on)	10 MHz(QPSK) RB 25/0	0	704	18.70	1.001
LTE Band 13	Body	Bottom (Prox on)	10 MHz(QPSK) RB 50/0	0	782	18.75	0.833
LTE Band 25	Body	Edge 2 (Prox on)	20 MHz(QPSK) RB 1/49	0	1905	11.97	1.148
LTE Band 26	Body	Bottom (Prox on)	15 MHz(QPSK) RB 1/0	0	821.5	19.84	0.840
LTE Band 41	Body	Edge 2 (Prox off)	20 MHz(QPSK) RB 1/49	15	2680	21.40	0.987

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15.14. SAR Measurement Variability and Uncertainty

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

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

Wireless Technologies	Test Configuration		Mode	Dist. (mm)	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio	Plot No.
	Exposure	Position				Original	Repeated		
W-CDMA Band 2	Body	Edge 2 Prox. On	Rel 99 RMC 12.2kbps	0	1880	0.794	N/A	N/A	
W-CDMA Band 4	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	1752.6	0.928	0.926	1.002	1
W-CDMA Band 5	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	846.6	0.825	0.751	1.099	2
LTE Band 2	Body	Edge 2 Prox. On	20 MHz (QPSK) 100/0	0	1900	1.040	1.030	1.010	3
LTE Band 4	Body	Edge 2 Prox. On	20 MHz (QPSK) 50/24	0	1745	0.942	0.932	1.011	4
LTE Band 5	Body	Edge 1 Prox. On	10 MHz (QPSK) 25/24	0	844.0	0.776	N/A	N/A	
LTE Band 7	Body	Edge 2	20 MHz (QPSK) 1/49	15	2510.0	0.973	0.931	1.045	5
LTE Band 12	Body	Bottom Prox. On	10 MHz (QPSK) 1/0	0	711	0.785	NA	N/A	
LTE Band 13	Body	Bottom Prox. On	10 MHz (QPSK) 50/0	0	782.0	0.717	N/A	N/A	
LTE Band 25	Body	Edge 2 Prox. On	20 MHz (QPSK) 1/49	0	1905.0	1.040	1.020	1.020	6
LTE Band 26	Body	Edge 2 Prox. On	15 MHz (QPSK) 1/0	0	821.5	0.738	N/A	N/A	
LTE Band 41	Body	Edge 2	20 MHz (QPSK) 1/49	15	2680	0.683	N/A	N/A	

Note(s):

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

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16. Simultaneous Transmission SAR Analysis

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 12048160H-A-R2, submitted under FCC ID ACJ9TGWL16B.
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 (12048160H-A-R2) with scaling applied (for the WLAN radios).

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16.1. **Sum of 1g SAR value**

Sum of the SAR for WCDMA 2WCDMA 4 & WLAN Main 2.4GHz WLAN Aux 2.4GHz BT

	Mode						
Test Position	WCDMA 2	WCDMA 4	WLAN Main 2.4GHz	WLAN Aux 2.4GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.326		0.000	1.072		1.398	
		0.203	0.000	1.072		1.275	
	0.326			1.072		1.398	
		0.203		1.072		1.275	
	0.326		0.000		0.333	0.659	
		0.203	0.000		0.333	0.536	
Edge1 Reduction	0.147		0.000	1.072		1.219	
		0.150	0.000	1.072		1.222	
	0.147			1.072		1.219	
		0.150		1.072		1.222	
	0.147		0.000		0.333	0.480	
		0.150	0.000		0.333	0.483	
Edge 2 45deg	0.234		0.000	0.036		0.270	
		0.213	0.000	0.036		0.249	
	0.234			0.036		0.270	
		0.213		0.036		0.249	
	0.234		0.000		0.000	0.234	
		0.213	0.000		0.000	0.213	
Edge2 45deg Reduction	0.129		0.000	0.036		0.165	
		0.253	0.000	0.036		0.289	
	0.129			0.036		0.165	
		0.253		0.036		0.289	
	0.129		0.000		0.000	0.129	
		0.253	0.000		0.000	0.253	
Edge 2	0.750		0.033	0.026		0.809	
		0.404	0.033	0.026		0.463	
	0.750			0.026		0.776	
		0.404		0.026		0.430	
	0.750		0.033		0.008	0.791	
		0.404	0.033		0.008	0.445	
Edge 2 Reduction	0.986		0.033	0.026		1.045	
		1.100	0.033	0.026		1.159	
	0.986			0.026		1.012	
		1.100		0.026		1.126	
	0.986		0.033		0.008	1.027	
		1.100	0.033		0.008	1.141	
Edge3	0.170		1.326	0.000		1.496	
		0.124	1.326	0.000		1.450	
	0.170			0.000		0.170	
		0.124		0.000		0.124	
	0.170		1.326		0.000	1.496	
		0.124	1.326		0.000	1.450	
Edge4	0.092		0.135	0.127		0.354	
		0.055	0.135	0.127		0.317	
	0.092			0.127		0.219	
		0.055		0.127		0.182	
	0.092		0.135		0.047	0.274	
		0.055	0.135		0.047	0.237	
Bottom	0.218		0.336	0.165		0.719	
		0.190	0.336	0.165		0.691	
	0.218		0.336	0.165		0.719	
		0.190		0.165		0.355	
	0.218		0.336		0.103	0.657	
		0.190	0.336		0.103	0.629	
Bottom Reduction	0.336		0.336	0.165		0.837	
		0.369	0.336	0.165		0.870	
	0.336			0.165		0.501	
		0.369		0.165		0.534	
	0.336		0.336		0.103	0.775	
		0.369	0.336		0.103	0.808	

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Sum of the SAR for WCDMA 5 LTE 2 & WLAN Main 2.4GHz WLAN Aux 2.4GHz BT

Test Position \ Mode	WCDMA 5	LTE 2	WLAN Main 2.4GHz	WLAN Aux 2.4GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.178		0.000	1.072		1.250	
		0.308	0.000	1.072		1.380	
	0.178			1.072		1.250	
		0.308		1.072		1.380	
	0.178		0.000		0.333	0.511	
		0.308	0.000		0.333	0.641	
Edge1 Reduction	0.972		0.000	1.072		2.044	*1
		0.183	0.000	1.072		1.255	
	0.972			1.072		2.044	*1
		0.183		1.072		1.255	
	0.972		0.000		0.333	1.305	
		0.183	0.000		0.333	0.516	
Edge 2 45deg	0.159		0.000	0.036		0.195	
		0.283	0.000	0.036		0.319	
	0.159			0.036		0.195	
		0.283		0.036		0.319	
	0.159		0.000		0.000	0.159	
		0.283	0.000		0.000	0.283	
Edge2 45deg Reduction	0.842		0.000	0.036		0.878	
		0.152	0.000	0.036		0.188	
	0.842			0.036		0.878	
		0.152		0.036		0.188	
	0.842		0.000		0.000	0.842	
		0.152	0.000		0.000	0.152	
Edge 2	0.360		0.033	0.026		0.419	
		0.743	0.033	0.026		0.802	
	0.360			0.026		0.386	
		0.743		0.026		0.769	
	0.360		0.033		0.008	0.401	
		0.743	0.033		0.008	0.784	
Edge 2 Reduction	0.702		0.033	0.026		0.761	
		1.167	0.033	0.026		1.226	
	0.702			0.026		0.728	
		1.167		0.026		1.193	
	0.702		0.033		0.008	0.743	
		1.167	0.033		0.008	1.208	
Edge3	0.121		1.326	0.000		1.447	
		0.149	1.326	0.000		1.475	
	0.121			0.000		0.121	
		0.149		0.000		0.149	
	0.121		1.326		0.000	1.447	
		0.149	1.326		0.000	1.475	
Edge4	0.048		0.135	0.127		0.310	
		0.074	0.135	0.127		0.336	
	0.048			0.127		0.175	
		0.074		0.127		0.201	
	0.048		0.135		0.047	0.230	
		0.074	0.135		0.047	0.256	
Bottom	0.136		0.336	0.165		0.637	
		0.288	0.336	0.165		0.789	
	0.136		0.336	0.165		0.637	
		0.288		0.165		0.453	
	0.136		0.336		0.103	0.575	
		0.288	0.336		0.103	0.727	
Bottom Reduction	0.500		0.336	0.165		1.001	
		0.430	0.336	0.165		0.931	
	0.500			0.165		0.665	
		0.430		0.165		0.595	
	0.500		0.336		0.103	0.939	
		0.430	0.336		0.103	0.869	

*1 Refer to section 16.2 SPLSR (table1)

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Sum of the SAR for LTE 4LTE 5 & WLAN Main 2.4GHz WLAN Aux 2.4GHz BT

Test Position \ Mode	LTE 4	LTE 5	WLAN Main 2.4GHz	WLAN Aux 2.4GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.301		0.000	1.072		1.373	
		0.321	0.000	1.072		1.393	
	0.301			1.072		1.373	
		0.321		1.072		1.393	
	0.301		0.000		0.333	0.634	
		0.321	0.000		0.333	0.654	
Edge1 Reduction	0.172		0.000	1.072		1.244	
		0.916	0.000	1.072		1.988	*1
	0.172			1.072		1.244	
		0.916		1.072		1.988	*1
	0.172		0.000		0.333	0.505	
		0.916	0.000		0.333	1.249	
Edge 2 45deg	0.405		0.000	0.036		0.441	
		0.480	0.000	0.036		0.516	
	0.405			0.036		0.441	
		0.480		0.036		0.516	
	0.405		0.000		0.000	0.405	
		0.480	0.000		0.000	0.480	
Edge2 45deg Reduction	0.266		0.000	0.036		0.302	
		0.807	0.000	0.036		0.843	
	0.266			0.036		0.302	
		0.807		0.036		0.843	
	0.266		0.000		0.000	0.266	
		0.807	0.000		0.000	0.807	
Edge 2	0.684		0.033	0.026		0.743	
		0.596	0.033	0.026		0.655	
	0.684			0.026		0.710	
		0.596		0.026		0.622	
	0.684		0.033		0.008	0.725	
		0.596	0.033		0.008	0.637	
Edge 2 Reduction	1.127		0.033	0.026		1.186	
		0.790	0.033	0.026		0.849	
	1.127			0.026		1.153	
		0.790		0.026		0.816	
	1.127		0.033		0.008	1.168	
		0.790	0.033		0.008	0.831	
Edge3	0.216		1.326	0.000		1.542	
		0.228	1.326	0.000		1.554	
	0.216			0.000		0.216	
		0.228		0.000		0.228	
	0.216		1.326		0.000	1.542	
		0.228	1.326		0.000	1.554	
Edge4	0.099		0.135	0.127		0.361	
		0.161	0.135	0.127		0.423	
	0.099			0.127		0.226	
		0.161		0.127		0.288	
	0.099		0.135		0.047	0.281	
		0.161	0.135		0.047	0.343	
Bottom	0.307		0.336	0.165		0.808	
		0.216	0.336	0.165		0.717	
	0.307		0.336	0.165		0.808	
		0.216		0.165		0.381	
	0.307		0.336		0.103	0.746	
		0.216	0.336		0.103	0.655	
Bottom Reduction	0.419		0.336	0.165		0.920	
		0.634	0.336	0.165		1.135	
	0.419			0.165		0.584	
		0.634		0.165		0.799	
	0.419		0.336		0.103	0.858	
		0.634	0.336		0.103	1.073	

*1 Refer to section 16.2 SPLSR (table2)

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Sum of the SAR for LTE 7LTE 12 & WLAN Main 2.4GHz WLAN Aux 2.4GHz BT

Test Position / Mode	LTE 7	LTE 12	WLAN Main 2.4GHz	WLAN Aux 2.4GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.208		0.000	1.072		1.280	
		0.112	0.000	1.072		1.184	
	0.208			1.072		1.280	
		0.112		1.072		1.184	
	0.208		0.000		0.333	0.541	
		0.112	0.000		0.333	0.445	
Edge1 Reduction	0.315		0.000	1.072		1.387	
		0.276	0.000	1.072		1.348	
	0.315			1.072		1.387	
		0.276		1.072		1.348	
	0.315		0.000		0.333	0.648	
		0.276	0.000		0.333	0.609	
Edge 2 45deg	0.423		0.000	0.036		0.459	
		0.080	0.000	0.036		0.116	
	0.423			0.036		0.459	
		0.080		0.036		0.116	
	0.423		0.000		0.000	0.423	
		0.080	0.000		0.000	0.080	
Edge2 45deg Reduction	0.618		0.000	0.036		0.654	
		0.214	0.000	0.036		0.250	
	0.618			0.036		0.654	
		0.214		0.036		0.250	
	0.618		0.000		0.000	0.618	
		0.214	0.000		0.000	0.214	
Edge 2	1.292		0.033	0.026		1.351	
		0.315	0.033	0.026		0.374	
	1.292			0.026		1.318	
		0.315		0.026		0.341	
	1.292		0.033		0.008	1.333	
		0.315	0.033		0.008	0.356	
Edge 2 Reduction	1.078		0.033	0.026		1.137	
		0.734	0.033	0.026		0.793	
	1.078			0.026		1.104	
		0.734		0.026		0.760	
	1.078		0.033		0.008	1.119	
		0.734	0.033		0.008	0.775	
Edge3	0.113		1.326	0.000		1.439	
		0.162	1.326	0.000		1.488	
	0.113			0.000		0.113	
		0.162		0.000		0.162	
	0.113		1.326		0.000	1.439	
		0.162	1.326		0.000	1.488	
Edge4	0.110		0.135	0.127		0.372	
		0.097	0.135	0.127		0.359	
	0.110			0.127		0.237	
		0.097		0.127		0.224	
	0.110		0.135		0.047	0.292	
		0.097	0.135		0.047	0.279	
Bottom	0.321		0.336	0.165		0.822	
		0.063	0.336	0.165		0.564	
	0.321		0.336	0.165		0.822	
		0.063		0.165		0.228	
	0.321		0.336		0.103	0.760	
		0.063	0.336		0.103	0.502	
Bottom Reduction	0.763		0.336	0.165		1.264	
		1.001	0.336	0.165		1.502	
	0.763			0.165		0.928	
		1.001		0.165		1.166	
	0.763		0.336		0.103	1.202	
		1.001	0.336		0.103	1.440	

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Sum of the SAR for LTE 13LTE 25 & WLAN Main 2.4GHz WLAN Aux 2.4GHz BT

Test Position \ Mode	LTE 13	LTE 25	WLAN Main 2.4GHz	WLAN Aux 2.4GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.132		0.000	1.072		1.204	
		0.366	0.000	1.072		1.438	
	0.132			1.072		1.204	
		0.366		1.072		1.438	
	0.132		0.000		0.333	0.465	
		0.366	0.000		0.333	0.699	
Edge1 Reduction	0.236		0.000	1.072		1.308	
		0.172	0.000	1.072		1.244	
	0.236			1.072		1.308	
		0.172		1.072		1.244	
	0.236		0.000		0.333	0.569	
		0.172	0.000		0.333	0.505	
Edge 2 45deg	0.148		0.000	0.036		0.184	
		0.289	0.000	0.036		0.325	
	0.148			0.036		0.184	
		0.289		0.036		0.325	
	0.148		0.000		0.000	0.148	
		0.289	0.000		0.000	0.289	
Edge2 45deg Reduction	0.269		0.000	0.036		0.305	
		0.162	0.000	0.036		0.198	
	0.269			0.036		0.305	
		0.162		0.036		0.198	
	0.269		0.000		0.000	0.269	
		0.162	0.000		0.000	0.162	
Edge 2	0.419		0.033	0.026		0.478	
		0.844	0.033	0.026		0.903	
	0.419			0.026		0.445	
		0.844		0.026		0.870	
	0.419		0.033		0.008	0.460	
		0.844	0.033		0.008	0.885	
Edge 2 Reduction	0.745		0.033	0.026		0.804	
		1.148	0.033	0.026		1.207	
	0.745			0.026		0.771	
		1.148		0.026		1.174	
	0.745		0.033		0.008	0.786	
		1.148	0.033		0.008	1.189	
Edge3	0.169		1.326	0.000		1.495	
		0.182	1.326	0.000		1.508	
	0.169			0.000		0.169	
		0.182		0.000		0.182	
	0.169		1.326		0.000	1.495	
		0.182	1.326		0.000	1.508	
Edge4	0.037		0.135	0.127		0.299	
		0.138	0.135	0.127		0.400	
	0.037			0.127		0.164	
		0.138		0.127		0.265	
	0.037		0.135		0.047	0.219	
		0.138	0.135		0.047	0.320	
Bottom	0.175		0.336	0.165		0.676	
		0.299	0.336	0.165		0.800	
	0.175		0.336	0.165		0.676	
		0.299		0.165		0.464	
	0.175		0.336		0.103	0.614	
		0.299	0.336		0.103	0.738	
Bottom Reduction	0.833		0.336	0.165		1.334	
		0.401	0.336	0.165		0.902	
	0.833			0.165		0.998	
		0.401		0.165		0.566	
	0.833		0.336		0.103	1.272	
		0.401	0.336		0.103	0.840	

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Sum of the SAR for LTE 26LTE 41 & WLAN Main 2.4GHz WLAN Aux 2.4GHz BT

Test Position \ Mode	LTE 26	LTE 41	WLAN Main 2.4GHz	WLAN Aux 2.4GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.244		0.000	1.072		1.316	
		0.100	0.000	1.072		1.172	
	0.244			1.072		1.316	
		0.100		1.072		1.172	
	0.244		0.000		0.333	0.577	
		0.100	0.000		0.333	0.433	
Edge1 Reduction	0.628		0.000	1.072		1.700	*1
		0.122	0.000	1.072		1.194	
	0.628			1.072		1.700	*1
		0.122		1.072		1.194	
	0.628		0.000		0.333	0.961	
		0.122	0.000		0.333	0.455	
Edge 2 45deg	0.300		0.000	0.036		0.336	
		0.204	0.000	0.036		0.240	
	0.300			0.036		0.336	
		0.204		0.036		0.240	
	0.300		0.000		0.000	0.300	
		0.204	0.000		0.000	0.204	
Edge2 45deg Reduction	0.600		0.000	0.036		0.636	
		0.395	0.000	0.036		0.431	
	0.600			0.036		0.636	
		0.395		0.036		0.431	
	0.600		0.000		0.000	0.600	
		0.395	0.000		0.000	0.395	
Edge 2	0.516		0.033	0.026		0.575	
		0.987	0.033	0.026		1.046	
	0.516			0.026		0.542	
		0.987		0.026		1.013	
	0.516		0.033		0.008	0.557	
		0.987	0.033		0.008	1.028	
Edge 2 Reduction	0.794		0.033	0.026		0.853	
		0.740	0.033	0.026		0.799	
	0.794			0.026		0.820	
		0.740		0.026		0.766	
	0.794		0.033		0.008	0.835	
		0.740	0.033		0.008	0.781	
Edge3	0.173		1.326	0.000		1.499	
		0.120	1.326	0.000		1.446	
	0.173			0.000		0.173	
		0.120		0.000		0.120	
	0.173		1.326		0.000	1.499	
		0.120	1.326		0.000	1.446	
Edge4	0.056		0.135	0.127		0.318	
		0.030	0.135	0.127		0.292	
	0.056			0.127		0.183	
		0.030		0.127		0.157	
	0.056		0.135		0.047	0.238	
		0.030	0.135		0.047	0.212	
Bottom	0.241		0.336	0.165		0.742	
		0.247	0.336	0.165		0.748	
	0.241		0.336	0.165		0.742	
		0.247		0.165		0.412	
	0.241		0.336		0.103	0.680	
		0.247	0.336		0.103	0.686	
Bottom Reduction	0.840		0.336	0.165		1.341	
		0.750	0.336	0.165		1.251	
	0.840			0.165		1.005	
		0.750		0.165		0.915	
	0.840		0.336		0.103	1.279	
		0.750	0.336		0.103	1.189	

*1 Refer to section 16.2 SPLSR (Table3)

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Sum of the SAR for WCDMA 2WCDMA 4 & WLAN Main 5.2 5.3GHz WLAN Aux 5.2 5.3GHz BT

Test Position / Mode	WCDMA 2	WCDMA 4	WLAN Main 5.2 5.3GHz	WLAN Aux 5.2 5.3GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.326		0.000	0.841		1.167	
		0.203	0.000	0.841		1.044	
	0.326			0.841		1.167	
		0.203		0.841		1.044	
	0.326		0.000		0.333	0.659	
		0.203	0.000		0.333	0.536	
Edge1 Reduction	0.147		0.000	0.841		0.988	
		0.150	0.000	0.841		0.991	
	0.147			0.841		0.988	
		0.150		0.841		0.991	
	0.147		0.000		0.333	0.480	
		0.150	0.000		0.333	0.483	
Edge 2 45deg	0.234		0.000	0.033		0.267	
		0.213	0.000	0.033		0.246	
	0.234			0.033		0.267	
		0.213		0.033		0.246	
	0.234		0.000		0.000	0.234	
		0.213	0.000		0.000	0.213	
Edge2 45deg Reduction	0.129		0.000	0.033		0.162	
		0.253	0.000	0.033		0.286	
	0.129			0.033		0.162	
		0.253		0.033		0.286	
	0.129		0.000		0.000	0.129	
		0.253	0.000		0.000	0.253	
Edge 2	0.750		0.011	0.025		0.786	
		0.404	0.011	0.025		0.440	
	0.750			0.025		0.775	
		0.404		0.025		0.429	
	0.750		0.011		0.008	0.769	
		0.404	0.011		0.008	0.423	
Edge 2 Reduction	0.986		0.011	0.025		1.022	
		1.100	0.011	0.025		1.136	
	0.986			0.025		1.011	
		1.100		0.025		1.125	
	0.986		0.011		0.008	1.005	
		1.100	0.011		0.008	1.119	
Edge3	0.170		0.395	0.000		0.565	
		0.124	0.395	0.000		0.519	
	0.170			0.000		0.170	
		0.124		0.000		0.124	
	0.170		0.395		0.000	0.565	
		0.124	0.395		0.000	0.519	
Edge4	0.092		0.025	0.062		0.179	
		0.055	0.025	0.062		0.142	
	0.092			0.062		0.154	
		0.055		0.062		0.117	
	0.092		0.025		0.047	0.164	
		0.055	0.025		0.047	0.127	
Bottom	0.218		0.101	0.267		0.586	
		0.190	0.101	0.267		0.558	
	0.218		0.101	0.267		0.586	
		0.190		0.267		0.457	
	0.218		0.101		0.103	0.422	
		0.190	0.101		0.103	0.394	
Bottom Reduction	0.336		0.101	0.267		0.704	
		0.369	0.101	0.267		0.737	
	0.336			0.267		0.603	
		0.369		0.267		0.636	
	0.336		0.101		0.103	0.540	
		0.369	0.101		0.103	0.573	

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Sum of the SAR for WCDMA 5LTE 2 & WLAN Main 5.2 5.3GHz WLAN Aux 5.2 5.3GHz BT

Test Position / Mode	WCDMA 5	LTE 2	WLAN Main 5.2 5.3GHz	WLAN Aux 5.2 5.3GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.178		0.000	0.841		1.019	
		0.308	0.000	0.841		1.149	
	0.178			0.841		1.019	
		0.308		0.841		1.149	
	0.178		0.000		0.333	0.511	
		0.308	0.000		0.333	0.641	
Edge1 Reduction	0.972		0.000	0.841		1.813	*1
		0.183	0.000	0.841		1.024	
	0.972			0.841		1.813	*1
		0.183		0.841		1.024	
	0.972		0.000		0.333	1.305	
		0.183	0.000		0.333	0.516	
Edge 2 45deg	0.159		0.000	0.033		0.192	
		0.283	0.000	0.033		0.316	
	0.159			0.033		0.192	
		0.283		0.033		0.316	
	0.159		0.000		0.000	0.159	
		0.283	0.000		0.000	0.283	
Edge2 45deg Reduction	0.842		0.000	0.033		0.875	
		0.152	0.000	0.033		0.185	
	0.842			0.033		0.875	
		0.152		0.033		0.185	
	0.842		0.000		0.000	0.842	
		0.152	0.000		0.000	0.152	
Edge 2	0.360		0.011	0.025		0.396	
		0.743	0.011	0.025		0.779	
	0.360			0.025		0.385	
		0.743		0.025		0.768	
	0.360		0.011		0.008	0.379	
		0.743	0.011		0.008	0.762	
Edge 2 Reduction	0.702		0.011	0.025		0.738	
		1.167	0.011	0.025		1.203	
	0.702			0.025		0.727	
		1.167		0.025		1.192	
	0.702		0.011		0.008	0.721	
		1.167	0.011		0.008	1.186	
Edge3	0.121		0.395	0.000		0.516	
		0.149	0.395	0.000		0.544	
	0.121			0.000		0.121	
		0.149		0.000		0.149	
	0.121		0.395		0.000	0.516	
		0.149	0.395		0.000	0.544	
Edge4	0.048		0.025	0.062		0.135	
		0.074	0.025	0.062		0.161	
	0.048			0.062		0.110	
		0.074		0.062		0.136	
	0.048		0.025		0.047	0.120	
		0.074	0.025		0.047	0.146	
Bottom	0.136		0.101	0.267		0.504	
		0.288	0.101	0.267		0.656	
	0.136		0.101	0.267		0.504	
		0.288		0.267		0.555	
	0.136		0.101		0.103	0.340	
		0.288	0.101		0.103	0.492	
Bottom Reduction	0.500		0.101	0.267		0.868	
		0.430	0.101	0.267		0.798	
	0.500			0.267		0.767	
		0.430		0.267		0.697	
	0.500		0.101		0.103	0.704	
		0.430	0.101		0.103	0.634	

*1 Refer to section 16.2 SPLSR (Table4)

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Sum of the SAR for LTE 4LTE 5 & WLAN Main 5.2 5.3GHz WLAN Aux 5.2 5.3GHz BT

Test Position \ Mode	LTE 4	LTE 5	WLAN Main 5.2 5.3GHz	WLAN Aux 5.2 5.3GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.301		0.000	0.841		1.142	
		0.321	0.000	0.841		1.162	
	0.301			0.841		1.142	
		0.321		0.841		1.162	
	0.301		0.000		0.333	0.634	
		0.321	0.000		0.333	0.654	
Edge1 Reduction	0.172		0.000	0.841		1.013	
		0.916	0.000	0.841		1.757	*1
	0.172			0.841		1.013	
		0.916		0.841		1.757	*1
	0.172		0.000		0.333	0.505	
		0.916	0.000		0.333	1.249	
Edge 2 45deg	0.405		0.000	0.033		0.438	
		0.480	0.000	0.033		0.513	
	0.405			0.033		0.438	
		0.480		0.033		0.513	
	0.405		0.000		0.000	0.405	
		0.480	0.000		0.000	0.480	
Edge2 45deg Reduction	0.266		0.000	0.033		0.299	
		0.807	0.000	0.033		0.840	
	0.266			0.033		0.299	
		0.807		0.033		0.840	
	0.266		0.000		0.000	0.266	
		0.807	0.000		0.000	0.807	
Edge 2	0.684		0.011	0.025		0.720	
		0.596	0.011	0.025		0.632	
	0.684			0.025		0.709	
		0.596		0.025		0.621	
	0.684		0.011		0.008	0.703	
		0.596	0.011		0.008	0.615	
Edge 2 Reduction	1.127		0.011	0.025		1.163	
		0.790	0.011	0.025		0.826	
	1.127			0.025		1.152	
		0.790		0.025		0.815	
	1.127		0.011		0.008	1.146	
		0.790	0.011		0.008	0.809	
Edge3	0.216		0.395	0.000		0.611	
		0.228	0.395	0.000		0.623	
	0.216			0.000		0.216	
		0.228		0.000		0.228	
	0.216		0.395		0.000	0.611	
		0.228	0.395		0.000	0.623	
Edge4	0.099		0.025	0.062		0.186	
		0.161	0.025	0.062		0.248	
	0.099			0.062		0.161	
		0.161		0.062		0.223	
	0.099		0.025		0.047	0.171	
		0.161	0.025		0.047	0.233	
Bottom	0.307		0.101	0.267		0.675	
		0.216	0.101	0.267		0.584	
	0.307		0.101	0.267		0.675	
		0.216		0.267		0.483	
	0.307		0.101		0.103	0.511	
		0.216	0.101		0.103	0.420	
Bottom Reduction	0.419		0.101	0.267		0.787	
		0.634	0.101	0.267		1.002	
	0.419			0.267		0.686	
		0.634		0.267		0.901	
	0.419		0.101		0.103	0.623	
		0.634	0.101		0.103	0.838	

*1 Refer to section 16.2 SPLSR (table 5)

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Sum of the SAR for LTE 7LTE 12 & WLAN Main 5.2 5.3GHz WLAN Aux 5.2 5.3GHz BT

Test Position / Mode	LTE 7	LTE 12	WLAN Main 5.2 5.3GHz	WLAN Aux 5.2 5.3GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.208		0.000	0.841		1.049	
		0.112	0.000	0.841		0.953	
	0.208			0.841		1.049	
		0.112		0.841		0.953	
	0.208		0.000		0.333	0.541	
		0.112	0.000		0.333	0.445	
Edge1 Reduction	0.315		0.000	0.841		1.156	
		0.276	0.000	0.841		1.117	
	0.315			0.841		1.156	
		0.276		0.841		1.117	
	0.315		0.000		0.333	0.648	
		0.276	0.000		0.333	0.609	
Edge 2 45deg	0.423		0.000	0.033		0.456	
		0.080	0.000	0.033		0.113	
	0.423			0.033		0.456	
		0.080		0.033		0.113	
	0.423		0.000		0.000	0.423	
		0.080	0.000		0.000	0.080	
Edge2 45deg Reduction	0.618		0.000	0.033		0.651	
		0.214	0.000	0.033		0.247	
	0.618			0.033		0.651	
		0.214		0.033		0.247	
	0.618		0.000		0.000	0.618	
		0.214	0.000		0.000	0.214	
Edge 2	1.292		0.011	0.025		1.328	
		0.315	0.011	0.025		0.351	
	1.292			0.025		1.317	
		0.315		0.025		0.340	
	1.292		0.011		0.008	1.311	
		0.315	0.011		0.008	0.334	
Edge 2 Reduction	1.078		0.011	0.025		1.114	
		0.734	0.011	0.025		0.770	
	1.078			0.025		1.103	
		0.734		0.025		0.759	
	1.078		0.011		0.008	1.097	
		0.734	0.011		0.008	0.753	
Edge3	0.113		0.395	0.000		0.508	
		0.162	0.395	0.000		0.557	
	0.113			0.000		0.113	
		0.162		0.000		0.162	
	0.113		0.395		0.000	0.508	
		0.162	0.395		0.000	0.557	
Edge4	0.110		0.025	0.062		0.197	
		0.097	0.025	0.062		0.184	
	0.110			0.062		0.172	
		0.097		0.062		0.159	
	0.110		0.025		0.047	0.182	
		0.097	0.025		0.047	0.169	
Bottom	0.321		0.101	0.267		0.689	
		0.063	0.101	0.267		0.431	
	0.321		0.101	0.267		0.689	
		0.063		0.267		0.330	
	0.321		0.101		0.103	0.525	
		0.063	0.101		0.103	0.267	
Bottom Reduction	0.763		0.101	0.267		1.131	
		1.001	0.101	0.267		1.369	
	0.763			0.267		1.030	
		1.001		0.267		1.268	
	0.763		0.101		0.103	0.967	
		1.001	0.101		0.103	1.205	

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Sum of the SAR for LTE 13LTE 25 & WLAN Main 5.2 5.3GHz WLAN Aux 5.2 5.3GHz BT

Mode / Test Position	LTE 13	LTE 25	WLAN Main 5.2 5.3GHz	WLAN Aux 5.2 5.3GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.132		0.000	0.841		0.973	
		0.366	0.000	0.841		1.207	
	0.132			0.841		0.973	
		0.366		0.841		1.207	
	0.132		0.000		0.333	0.465	
		0.366	0.000		0.333	0.699	
Edge1 Reduction	0.236		0.000	0.841		1.077	
		0.172	0.000	0.841		1.013	
	0.236			0.841		1.077	
		0.172		0.841		1.013	
	0.236		0.000		0.333	0.569	
		0.172	0.000		0.333	0.505	
Edge 2 45deg	0.148		0.000	0.033		0.181	
		0.289	0.000	0.033		0.322	
	0.148			0.033		0.181	
		0.289		0.033		0.322	
	0.148		0.000		0.000	0.148	
		0.289	0.000		0.000	0.289	
Edge2 45deg Reduction	0.269		0.000	0.033		0.302	
		0.162	0.000	0.033		0.195	
	0.269			0.033		0.302	
		0.162		0.033		0.195	
	0.269		0.000		0.000	0.269	
		0.162	0.000		0.000	0.162	
Edge 2	0.419		0.011	0.025		0.455	
		0.844	0.011	0.025		0.880	
	0.419			0.025		0.444	
		0.844		0.025		0.869	
	0.419		0.011		0.008	0.438	
		0.844	0.011		0.008	0.863	
Edge 2 Reduction	0.745		0.011	0.025		0.781	
		1.148	0.011	0.025		1.184	
	0.745			0.025		0.770	
		1.148		0.025		1.173	
	0.745		0.011		0.008	0.764	
		1.148	0.011		0.008	1.167	
Edge3	0.169		0.395	0.000		0.564	
		0.182	0.395	0.000		0.577	
	0.169			0.000		0.169	
		0.182		0.000		0.182	
	0.169		0.395		0.000	0.564	
		0.182	0.395		0.000	0.577	
Edge4	0.037		0.025	0.062		0.124	
		0.138	0.025	0.062		0.225	
	0.037			0.062		0.099	
		0.138		0.062		0.200	
	0.037		0.025		0.047	0.109	
		0.138	0.025		0.047	0.210	
Bottom	0.175		0.101	0.267		0.543	
		0.299	0.101	0.267		0.667	
	0.175		0.101	0.267		0.543	
		0.299		0.267		0.566	
	0.175		0.101		0.103	0.379	
		0.299	0.101		0.103	0.503	
Bottom Reduction	0.833		0.101	0.267		1.201	
		0.401	0.101	0.267		0.769	
	0.833			0.267		1.100	
		0.401		0.267		0.668	
	0.833		0.101		0.103	1.037	
		0.401	0.101		0.103	0.605	

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Sum of the SAR for LTE 26LTE 41 & WLAN Main 5.2 5.3GHz WLAN Aux 5.2 5.3GHz BT

Mode / Test Position	LTE 26	LTE 41	WLAN Main 5.2 5.3GHz	WLAN Aux 5.2 5.3GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.244		0.000	0.841		1.085	
		0.100	0.000	0.841		0.941	
	0.244			0.841		1.085	
		0.100		0.841		0.941	
	0.244		0.000		0.333	0.577	
		0.100	0.000		0.333	0.433	
Edge1 Reduction	0.628		0.000	0.841		1.469	
		0.122	0.000	0.841		0.963	
	0.628			0.841		1.469	
		0.122		0.841		0.963	
	0.628		0.000		0.333	0.961	
		0.122	0.000		0.333	0.455	
Edge 2 45deg	0.300		0.000	0.033		0.333	
		0.204	0.000	0.033		0.237	
	0.300			0.033		0.333	
		0.204		0.033		0.237	
	0.300		0.000		0.000	0.300	
		0.204	0.000		0.000	0.204	
Edge2 45deg Reduction	0.600		0.000	0.033		0.633	
		0.395	0.000	0.033		0.428	
	0.600			0.033		0.633	
		0.395		0.033		0.428	
	0.600		0.000		0.000	0.600	
		0.395	0.000		0.000	0.395	
Edge 2	0.516		0.011	0.025		0.552	
		0.987	0.011	0.025		1.023	
	0.516			0.025		0.541	
		0.987		0.025		1.012	
	0.516		0.011		0.008	0.535	
		0.987	0.011		0.008	1.006	
Edge 2 Reduction	0.794		0.011	0.025		0.830	
		0.740	0.011	0.025		0.776	
	0.794			0.025		0.819	
		0.740		0.025		0.765	
	0.794		0.011		0.008	0.813	
		0.740	0.011		0.008	0.759	
Edge3	0.173		0.395	0.000		0.568	
		0.120	0.395	0.000		0.515	
	0.173			0.000		0.173	
		0.120		0.000		0.120	
	0.173		0.395		0.000	0.568	
		0.120	0.395		0.000	0.515	
Edge4	0.056		0.025	0.062		0.143	
		0.030	0.025	0.062		0.117	
	0.056			0.062		0.118	
		0.030		0.062		0.092	
	0.056		0.025		0.047	0.128	
		0.030	0.025		0.047	0.102	
Bottom	0.241		0.101	0.267		0.609	
		0.247	0.101	0.267		0.615	
	0.241		0.101	0.267		0.609	
		0.247		0.267		0.514	
	0.241		0.101		0.103	0.445	
		0.247	0.101		0.103	0.451	
Bottom Reduction	0.840		0.101	0.267		1.208	
		0.750	0.101	0.267		1.118	
	0.840			0.267		1.107	
		0.750		0.267		1.017	
	0.840		0.101		0.103	1.044	
		0.750	0.101		0.103	0.954	

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Sum of the SAR for WCDMA 2WCDMA 4 & WLAN Main 5.5GHz WLAN Aux 5.5GHz BT

Test Position \ Mode	WCDMA 2	WCDMA 4	WLAN Main 5.5GHz	WLAN Aux 5.5GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.326		0.000	0.402		0.728	
		0.203	0.000	0.402		0.605	
	0.326			0.402		0.728	
		0.203		0.402		0.605	
	0.326		0.000		0.333	0.659	
		0.203	0.000		0.333	0.536	
Edge1 Reduction	0.147		0.000	0.402		0.549	
		0.150	0.000	0.402		0.552	
	0.147			0.402		0.549	
		0.150		0.402		0.552	
	0.147		0.000		0.333	0.480	
		0.150	0.000		0.333	0.483	
Edge 2 45deg	0.234		0.000	0.000		0.234	
		0.213	0.000	0.000		0.213	
	0.234			0.000		0.234	
		0.213		0.000		0.213	
	0.234		0.000		0.000	0.234	
		0.213	0.000		0.000	0.213	
Edge2 45deg Reduction	0.129		0.000	0.000		0.129	
		0.253	0.000	0.000		0.253	
	0.129			0.000		0.129	
		0.253		0.000		0.253	
	0.129		0.000		0.000	0.129	
		0.253	0.000		0.000	0.253	
Edge 2	0.750		0.023	0.003		0.776	
		0.404	0.023	0.003		0.430	
	0.750			0.003		0.753	
		0.404		0.003		0.407	
	0.750		0.023		0.008	0.781	
		0.404	0.023		0.008	0.435	
Edge 2 Reduction	0.986		0.023	0.003		1.012	
		1.100	0.023	0.003		1.126	
	0.986			0.003		0.989	
		1.100		0.003		1.103	
	0.986		0.023		0.008	1.017	
		1.100	0.023		0.008	1.131	
Edge3	0.170		0.574	0.000		0.744	
		0.124	0.574	0.000		0.698	
	0.170			0.000		0.170	
		0.124		0.000		0.124	
	0.170		0.574		0.000	0.744	
		0.124	0.574		0.000	0.698	
Edge4	0.092		0.029	0.000		0.121	
		0.055	0.029	0.000		0.084	
	0.092			0.000		0.092	
		0.055		0.000		0.055	
	0.092		0.029		0.047	0.168	
		0.055	0.029		0.047	0.131	
Bottom	0.218		0.233	0.032		0.483	
		0.190	0.233	0.032		0.455	
	0.218		0.233	0.032		0.483	
		0.190		0.032		0.222	
	0.218		0.233		0.103	0.554	
		0.190	0.233		0.103	0.526	
Bottom Reduction	0.336		0.233	0.032		0.601	
		0.369	0.233	0.032		0.634	
	0.336			0.032		0.368	
		0.369		0.032		0.401	
	0.336		0.233		0.103	0.672	
		0.369	0.233		0.103	0.705	

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Sum of the SAR for WCDMA 5LTE 2 & WLAN Main 5.5GHz WLAN Aux 5.5GHz BT

Test Position / Mode	WCDMA 5	LTE 2	WLAN Main 5.5GHz	WLAN Aux 5.5GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.178		0.000	0.402		0.580	
		0.308	0.000	0.402		0.710	
	0.178			0.402		0.580	
		0.308		0.402		0.710	
	0.178		0.000		0.333	0.511	
		0.308	0.000		0.333	0.641	
Edge1 Reduction	0.972		0.000	0.402		1.374	
		0.183	0.000	0.402		0.585	
	0.972			0.402		1.374	
		0.183		0.402		0.585	
	0.972		0.000		0.333	1.305	
		0.183	0.000		0.333	0.516	
Edge 2 45deg	0.159		0.000	0.000		0.159	
		0.283	0.000	0.000		0.283	
	0.159			0.000		0.159	
		0.283		0.000		0.283	
	0.159		0.000		0.000	0.159	
		0.283	0.000		0.000	0.283	
Edge2 45deg Reduction	0.842		0.000	0.000		0.842	
		0.152	0.000	0.000		0.152	
	0.842			0.000		0.842	
		0.152		0.000		0.152	
	0.842		0.000		0.000	0.842	
		0.152	0.000		0.000	0.152	
Edge 2	0.360		0.023	0.003		0.386	
		0.743	0.023	0.003		0.769	
	0.360			0.003		0.363	
		0.743		0.003		0.746	
	0.360		0.023		0.008	0.391	
		0.743	0.023		0.008	0.774	
Edge 2 Reduction	0.702		0.023	0.003		0.728	
		1.167	0.023	0.003		1.193	
	0.702			0.003		0.705	
		1.167		0.003		1.170	
	0.702		0.023		0.008	0.733	
		1.167	0.023		0.008	1.198	
Edge3	0.121		0.574	0.000		0.695	
		0.149	0.574	0.000		0.723	
	0.121			0.000		0.121	
		0.149		0.000		0.149	
	0.121		0.574		0.000	0.695	
		0.149	0.574		0.000	0.723	
Edge4	0.048		0.029	0.000		0.077	
		0.074	0.029	0.000		0.103	
	0.048			0.000		0.048	
		0.074		0.000		0.074	
	0.048		0.029		0.047	0.124	
		0.074	0.029		0.047	0.150	
Bottom	0.136		0.233	0.032		0.401	
		0.288	0.233	0.032		0.553	
	0.136		0.233	0.032		0.401	
		0.288		0.032		0.320	
	0.136		0.233		0.103	0.472	
		0.288	0.233		0.103	0.624	
Bottom Reduction	0.500		0.233	0.032		0.765	
		0.430	0.233	0.032		0.695	
	0.500			0.032		0.532	
		0.430		0.032		0.462	
	0.500		0.233		0.103	0.836	
		0.430	0.233		0.103	0.766	

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Sum of the SAR for LTE 4LTE 5 & WLAN Main 5.5GHz WLAN Aux 5.5GHz BT

Test Position / Mode	LTE 4	LTE 5	WLAN Main 5.5GHz	WLAN Aux 5.5GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.301		0.000	0.402		0.703	
		0.321	0.000	0.402		0.723	
	0.301			0.402		0.703	
		0.321		0.402		0.723	
	0.301		0.000		0.333	0.634	
		0.321	0.000		0.333	0.654	
Edge1 Reduction	0.172		0.000	0.402		0.574	
		0.916	0.000	0.402		1.318	
	0.172			0.402		0.574	
		0.916		0.402		1.318	
	0.172		0.000		0.333	0.505	
		0.916	0.000		0.333	1.249	
Edge 2 45deg	0.405		0.000	0.000		0.405	
		0.480	0.000	0.000		0.480	
	0.405			0.000		0.405	
		0.480		0.000		0.480	
	0.405		0.000		0.000	0.405	
		0.480	0.000		0.000	0.480	
Edge2 45deg Reduction	0.266		0.000	0.000		0.266	
		0.807	0.000	0.000		0.807	
	0.266			0.000		0.266	
		0.807		0.000		0.807	
	0.266		0.000		0.000	0.266	
		0.807	0.000		0.000	0.807	
Edge 2	0.684		0.023	0.003		0.710	
		0.596	0.023	0.003		0.622	
	0.684			0.003		0.687	
		0.596		0.003		0.599	
	0.684		0.023		0.008	0.715	
		0.596	0.023		0.008	0.627	
Edge 2 Reduction	1.127		0.023	0.003		1.153	
		0.790	0.023	0.003		0.816	
	1.127			0.003		1.130	
		0.790		0.003		0.793	
	1.127		0.023		0.008	1.158	
		0.790	0.023		0.008	0.821	
Edge3	0.216		0.574	0.000		0.790	
		0.228	0.574	0.000		0.802	
	0.216			0.000		0.216	
		0.228		0.000		0.228	
	0.216		0.574		0.000	0.790	
		0.228	0.574		0.000	0.802	
Edge4	0.099		0.029	0.000		0.128	
		0.161	0.029	0.000		0.190	
	0.099			0.000		0.099	
		0.161		0.000		0.161	
	0.099		0.029		0.047	0.175	
		0.161	0.029		0.047	0.237	
Bottom	0.307		0.233	0.032		0.572	
		0.216	0.233	0.032		0.481	
	0.307		0.233	0.032		0.572	
		0.216		0.032		0.248	
	0.307		0.233		0.103	0.643	
		0.216	0.233		0.103	0.552	
Bottom Reduction	0.419		0.233	0.032		0.684	
		0.634	0.233	0.032		0.899	
	0.419			0.032		0.451	
		0.634		0.032		0.666	
	0.419		0.233		0.103	0.755	
		0.634	0.233		0.103	0.970	

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Sum of the SAR for LTE 7LTE 12 & WLAN Main 5.5GHz WLAN Aux 5.5GHz BT

Test Position / Mode	LTE 7	LTE 12	WLAN Main 5.5GHz	WLAN Aux 5.5GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.208		0.000	0.402		0.610	
		0.112	0.000	0.402		0.514	
	0.208			0.402		0.610	
		0.112		0.402		0.514	
	0.208		0.000		0.333	0.541	
		0.112	0.000		0.333	0.445	
Edge1 Reduction	0.315		0.000	0.402		0.717	
		0.276	0.000	0.402		0.678	
	0.315			0.402		0.717	
		0.276		0.402		0.678	
	0.315		0.000		0.333	0.648	
		0.276	0.000		0.333	0.609	
Edge 2 45deg	0.423		0.000	0.000		0.423	
		0.080	0.000	0.000		0.080	
	0.423			0.000		0.423	
		0.080		0.000		0.080	
	0.423		0.000		0.000	0.423	
		0.080	0.000		0.000	0.080	
Edge2 45deg Reduction	0.618		0.000	0.000		0.618	
		0.214	0.000	0.000		0.214	
	0.618			0.000		0.618	
		0.214		0.000		0.214	
	0.618		0.000		0.000	0.618	
		0.214	0.000		0.000	0.214	
Edge 2	1.292		0.023	0.003		1.318	
		0.315	0.023	0.003		0.341	
	1.292			0.003		1.295	
		0.315		0.003		0.318	
	1.292		0.023		0.008	1.323	
		0.315	0.023		0.008	0.346	
Edge 2 Reduction	1.078		0.023	0.003		1.104	
		0.734	0.023	0.003		0.760	
	1.078			0.003		1.081	
		0.734		0.003		0.737	
	1.078		0.023		0.008	1.109	
		0.734	0.023		0.008	0.765	
Edge3	0.113		0.574	0.000		0.687	
		0.162	0.574	0.000		0.736	
	0.113			0.000		0.113	
		0.162		0.000		0.162	
	0.113		0.574		0.000	0.687	
		0.162	0.574		0.000	0.736	
Edge4	0.110		0.029	0.000		0.139	
		0.097	0.029	0.000		0.126	
	0.110			0.000		0.110	
		0.097		0.000		0.097	
	0.110		0.029		0.047	0.186	
		0.097	0.029		0.047	0.173	
Bottom	0.321		0.233	0.032		0.586	
		0.063	0.233	0.032		0.328	
	0.321		0.233	0.032		0.586	
		0.063		0.032		0.095	
	0.321		0.233		0.103	0.657	
		0.063	0.233		0.103	0.399	
Bottom Reduction	0.763		0.233	0.032		1.028	
		1.001	0.233	0.032		1.266	
	0.763			0.032		0.795	
		1.001		0.032		1.033	
	0.763		0.233		0.103	1.099	
		1.001	0.233		0.103	1.337	

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Sum of the SAR for LTE 13LTE 25 & WLAN Main 5.5GHz WLAN Aux 5.5GHz BT

Test Position / Mode	LTE 13	LTE 25	WLAN Main 5.5GHz	WLAN Aux 5.5GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.132		0.000	0.402		0.534	
		0.366	0.000	0.402		0.768	
	0.132			0.402		0.534	
		0.366		0.402		0.768	
	0.132		0.000		0.333	0.465	
		0.366	0.000		0.333	0.699	
Edge1 Reduction	0.236		0.000	0.402		0.638	
		0.172	0.000	0.402		0.574	
	0.236			0.402		0.638	
		0.172		0.402		0.574	
	0.236		0.000		0.333	0.569	
		0.172	0.000		0.333	0.505	
Edge 2 45deg	0.148		0.000	0.000		0.148	
		0.289	0.000	0.000		0.289	
	0.148			0.000		0.148	
		0.289		0.000		0.289	
	0.148		0.000		0.000	0.148	
		0.289	0.000		0.000	0.289	
Edge2 45deg Reduction	0.269		0.000	0.000		0.269	
		0.162	0.000	0.000		0.162	
	0.269			0.000		0.269	
		0.162		0.000		0.162	
	0.269		0.000		0.000	0.269	
		0.162	0.000		0.000	0.162	
Edge 2	0.419		0.023	0.003		0.445	
		0.844	0.023	0.003		0.870	
	0.419			0.003		0.422	
		0.844		0.003		0.847	
	0.419		0.023		0.008	0.450	
		0.844	0.023		0.008	0.875	
Edge 2 Reduction	0.745		0.023	0.003		0.771	
		1.148	0.023	0.003		1.174	
	0.745			0.003		0.748	
		1.148		0.003		1.151	
	0.745		0.023		0.008	0.776	
		1.148	0.023		0.008	1.179	
Edge3	0.169		0.574	0.000		0.743	
		0.182	0.574	0.000		0.756	
	0.169			0.000		0.169	
		0.182		0.000		0.182	
	0.169		0.574		0.000	0.743	
		0.182	0.574		0.000	0.756	
Edge4	0.037		0.029	0.000		0.066	
		0.138	0.029	0.000		0.167	
	0.037			0.000		0.037	
		0.138		0.000		0.138	
	0.037		0.029		0.047	0.113	
		0.138	0.029		0.047	0.214	
Bottom	0.175		0.233	0.032		0.440	
		0.299	0.233	0.032		0.564	
	0.175		0.233	0.032		0.440	
		0.299		0.032		0.331	
	0.175		0.233		0.103	0.511	
		0.299	0.233		0.103	0.635	
Bottom Reduction	0.833		0.233	0.032		1.098	
		0.401	0.233	0.032		0.666	
	0.833			0.032		0.865	
		0.401		0.032		0.433	
	0.833		0.233		0.103	1.169	
		0.401	0.233		0.103	0.737	

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Sum of the SAR for LTE 26LTE 41 & WLAN Main 5.5GHz WLAN Aux 5.5GHz BT

Test Position \ Mode	LTE 26	LTE 41	WLAN Main 5.5GHz	WLAN Aux 5.5GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.244		0.000	0.402		0.646	
		0.100	0.000	0.402		0.502	
	0.244			0.402		0.646	
		0.100		0.402		0.502	
	0.244		0.000		0.333	0.577	
		0.100	0.000		0.333	0.433	
Edge1 Reduction	0.628		0.000	0.402		1.030	
		0.122	0.000	0.402		0.524	
	0.628			0.402		1.030	
		0.122		0.402		0.524	
	0.628		0.000		0.333	0.961	
		0.122	0.000		0.333	0.455	
Edge 2 45deg	0.300		0.000	0.000		0.300	
		0.204	0.000	0.000		0.204	
	0.300			0.000		0.300	
		0.204		0.000		0.204	
	0.300		0.000		0.000	0.300	
		0.204	0.000		0.000	0.204	
Edge2 45deg Reduction	0.600		0.000	0.000		0.600	
		0.395	0.000	0.000		0.395	
	0.600			0.000		0.600	
		0.395		0.000		0.395	
	0.600		0.000		0.000	0.600	
		0.395	0.000		0.000	0.395	
Edge 2	0.516		0.023	0.003		0.542	
		0.987	0.023	0.003		1.013	
	0.516			0.003		0.519	
		0.987		0.003		0.990	
	0.516		0.023		0.008	0.547	
		0.987	0.023		0.008	1.018	
Edge 2 Reduction	0.794		0.023	0.003		0.820	
		0.740	0.023	0.003		0.766	
	0.794			0.003		0.797	
		0.740		0.003		0.743	
	0.794		0.023		0.008	0.825	
		0.740	0.023		0.008	0.771	
Edge3	0.173		0.574	0.000		0.747	
		0.120	0.574	0.000		0.694	
	0.173			0.000		0.173	
		0.120		0.000		0.120	
	0.173		0.574		0.000	0.747	
		0.120	0.574		0.000	0.694	
Edge4	0.056		0.029	0.000		0.085	
		0.030	0.029	0.000		0.059	
	0.056			0.000		0.056	
		0.030		0.000		0.030	
	0.056		0.029		0.047	0.132	
		0.030	0.029		0.047	0.106	
Bottom	0.241		0.233	0.032		0.506	
		0.247	0.233	0.032		0.512	
	0.241		0.233	0.032		0.506	
		0.247		0.032		0.279	
	0.241		0.233		0.103	0.577	
		0.247	0.233		0.103	0.583	
Bottom Reduction	0.840		0.233	0.032		1.105	
		0.750	0.233	0.032		1.015	
	0.840			0.032		0.872	
		0.750		0.032		0.782	
	0.840		0.233		0.103	1.176	
		0.750	0.233		0.103	1.086	

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Sum of the SAR for WCDMA 2WCDMA 4 & WLAN Main 5.8GHz WLAN Aux 5.8GHz BT

Test Position / Mode	WCDMA 2	WCDMA 4	WLAN Main 5.8GHz	WLAN Aux 5.8GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.326		0.000	0.343		0.669	
		0.203	0.000	0.343		0.546	
	0.326			0.343		0.669	
		0.203		0.343		0.546	
	0.326		0.000		0.333	0.659	
		0.203	0.000		0.333	0.536	
Edge1 Reduction	0.147		0.000	0.343		0.490	
		0.150	0.000	0.343		0.493	
	0.147			0.343		0.490	
		0.150		0.343		0.493	
	0.147		0.000		0.333	0.480	
		0.150	0.000		0.333	0.483	
Edge 2 45deg	0.234		0.000	0.001		0.235	
		0.213	0.000	0.001		0.214	
	0.234			0.001		0.235	
		0.213		0.001		0.214	
	0.234		0.000		0.000	0.234	
		0.213	0.000		0.000	0.213	
Edge2 45deg Reduction	0.129		0.000	0.001		0.130	
		0.253	0.000	0.001		0.254	
	0.129			0.001		0.130	
		0.253		0.001		0.254	
	0.129		0.000		0.000	0.129	
		0.253	0.000		0.000	0.253	
Edge 2	0.750		0.016	0.000		0.766	
		0.404	0.016	0.000		0.420	
	0.750			0.000		0.750	
		0.404		0.000		0.404	
	0.750		0.016		0.008	0.774	
		0.404	0.016		0.008	0.428	
Edge 2 Reduction	0.986		0.016	0.000		1.002	
		1.100	0.016	0.000		1.116	
	0.986			0.000		0.986	
		1.100		0.000		1.100	
	0.986		0.016		0.008	1.010	
		1.100	0.016		0.008	1.124	
Edge3	0.170		0.523	0.000		0.693	
		0.124	0.523	0.000		0.647	
	0.170			0.000		0.170	
		0.124		0.000		0.124	
	0.170		0.523		0.000	0.693	
		0.124	0.523		0.000	0.647	
Edge4	0.092		0.022	0.000		0.114	
		0.055	0.022	0.000		0.077	
	0.092			0.000		0.092	
		0.055		0.000		0.055	
	0.092		0.022		0.047	0.161	
		0.055	0.022		0.047	0.124	
Bottom	0.218		0.239	0.026		0.483	
		0.190	0.239	0.026		0.455	
	0.218		0.239	0.026		0.483	
		0.190		0.026		0.216	
	0.218		0.239		0.103	0.560	
		0.190	0.239		0.103	0.532	
Bottom Reduction	0.336		0.239	0.026		0.601	
		0.369	0.239	0.026		0.634	
	0.336			0.026		0.362	
		0.369		0.026		0.395	
	0.336		0.239		0.103	0.678	
		0.369	0.239		0.103	0.711	

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Sum of the SAR for WCDMA 5LTE 2 & WLAN Main 5.8GHz WLAN Aux 5.8GHz BT

Test Position	Mode: WCDMA 5	LTE 2	WLAN Main 5.8GHz	WLAN Aux 5.8GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.178		0.000	0.343		0.521	
		0.308	0.000	0.343		0.651	
	0.178			0.343		0.521	
		0.308		0.343		0.651	
	0.178		0.000		0.333	0.511	
		0.308	0.000		0.333	0.641	
Edge1 Reduction	0.972		0.000	0.343		1.315	
		0.183	0.000	0.343		0.526	
	0.972			0.343		1.315	
		0.183		0.343		0.526	
	0.972		0.000		0.333	1.305	
		0.183	0.000		0.333	0.516	
Edge 2 45deg	0.159		0.000	0.001		0.160	
		0.283	0.000	0.001		0.284	
	0.159			0.001		0.160	
		0.283		0.001		0.284	
	0.159		0.000		0.000	0.159	
		0.283	0.000		0.000	0.283	
Edge2 45deg Reduction	0.842		0.000	0.001		0.843	
		0.152	0.000	0.001		0.153	
	0.842			0.001		0.843	
		0.152		0.001		0.153	
	0.842		0.000		0.000	0.842	
		0.152	0.000		0.000	0.152	
Edge 2	0.360		0.016	0.000		0.376	
		0.743	0.016	0.000		0.759	
	0.360			0.000		0.360	
		0.743		0.000		0.743	
	0.360		0.016		0.008	0.384	
		0.743	0.016		0.008	0.767	
Edge 2 Reduction	0.702		0.016	0.000		0.718	
		1.167	0.016	0.000		1.183	
	0.702			0.000		0.702	
		1.167		0.000		1.167	
	0.702		0.016		0.008	0.726	
		1.167	0.016		0.008	1.191	
Edge3	0.121		0.523	0.000		0.644	
		0.149	0.523	0.000		0.672	
	0.121			0.000		0.121	
		0.149		0.000		0.149	
	0.121		0.523		0.000	0.644	
		0.149	0.523		0.000	0.672	
Edge4	0.048		0.022	0.000		0.070	
		0.074	0.022	0.000		0.096	
	0.048			0.000		0.048	
		0.074		0.000		0.074	
	0.048		0.022		0.047	0.117	
		0.074	0.022		0.047	0.143	
Bottom	0.136		0.239	0.026		0.401	
		0.288	0.239	0.026		0.553	
	0.136		0.239	0.026		0.401	
		0.288		0.026		0.314	
	0.136		0.239		0.103	0.478	
		0.288	0.239		0.103	0.630	
Bottom Reduction	0.500		0.239	0.026		0.765	
		0.430	0.239	0.026		0.695	
	0.500			0.026		0.526	
		0.430		0.026		0.456	
	0.500		0.239		0.103	0.842	
		0.430	0.239		0.103	0.772	

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Sum of the SAR for LTE 4LTE 5 & WLAN Main 5.8GHz WLAN Aux 5.8GHz BT

Test Position / Mode	LTE 4	LTE 5	WLAN Main 5.8GHz	WLAN Aux 5.8GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.301		0.000	0.343		0.644	
		0.321	0.000	0.343		0.664	
	0.301			0.343		0.644	
		0.321		0.343		0.664	
	0.301		0.000		0.333	0.634	
		0.321	0.000		0.333	0.654	
Edge1 Reduction	0.172		0.000	0.343		0.515	
		0.916	0.000	0.343		1.259	
	0.172			0.343		0.515	
		0.916		0.343		1.259	
	0.172		0.000		0.333	0.505	
		0.916	0.000		0.333	1.249	
Edge 2 45deg	0.405		0.000	0.001		0.406	
		0.480	0.000	0.001		0.481	
	0.405			0.001		0.406	
		0.480		0.001		0.481	
	0.405		0.000		0.000	0.405	
		0.480	0.000		0.000	0.480	
Edge2 45deg Reduction	0.266		0.000	0.001		0.267	
		0.807	0.000	0.001		0.808	
	0.266			0.001		0.267	
		0.807		0.001		0.808	
	0.266		0.000		0.000	0.266	
		0.807	0.000		0.000	0.807	
Edge 2	0.684		0.016	0.000		0.700	
		0.596	0.016	0.000		0.612	
	0.684			0.000		0.684	
		0.596		0.000		0.596	
	0.684		0.016		0.008	0.708	
		0.596	0.016		0.008	0.620	
Edge 2 Reduction	1.127		0.016	0.000		1.143	
		0.790	0.016	0.000		0.806	
	1.127			0.000		1.127	
		0.790		0.000		0.790	
	1.127		0.016		0.008	1.151	
		0.790	0.016		0.008	0.814	
Edge3	0.216		0.523	0.000		0.739	
		0.228	0.523	0.000		0.751	
	0.216			0.000		0.216	
		0.228		0.000		0.228	
	0.216		0.523		0.000	0.739	
		0.228	0.523		0.000	0.751	
Edge4	0.099		0.022	0.000		0.121	
		0.161	0.022	0.000		0.183	
	0.099			0.000		0.099	
		0.161		0.000		0.161	
	0.099		0.022		0.047	0.168	
		0.161	0.022		0.047	0.230	
Bottom	0.307		0.239	0.026		0.572	
		0.216	0.239	0.026		0.481	
	0.307		0.239	0.026		0.572	
		0.216		0.026		0.242	
	0.307		0.239		0.103	0.649	
		0.216	0.239		0.103	0.558	
Bottom Reduction	0.419		0.239	0.026		0.684	
		0.634	0.239	0.026		0.899	
	0.419			0.026		0.445	
		0.634		0.026		0.660	
	0.419		0.239		0.103	0.761	
		0.634	0.239		0.103	0.976	

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Sum of the SAR for LTE 7LTE 12 & WLAN Main 5.8GHz WLAN Aux 5.8GHz BT

Test Position \ Mode	LTE 7	LTE 12	WLAN Main 5.8GHz	WLAN Aux 5.8GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.208		0.000	0.343		0.551	
		0.112	0.000	0.343		0.455	
	0.208			0.343		0.551	
		0.112		0.343		0.455	
	0.208		0.000		0.333	0.541	
		0.112	0.000		0.333	0.445	
Edge1 Reduction	0.315		0.000	0.343		0.658	
		0.276	0.000	0.343		0.619	
	0.315			0.343		0.658	
		0.276		0.343		0.619	
	0.315		0.000		0.333	0.648	
		0.276	0.000		0.333	0.609	
Edge 2 45deg	0.423		0.000	0.001		0.424	
		0.080	0.000	0.001		0.081	
	0.423			0.001		0.424	
		0.080		0.001		0.081	
	0.423		0.000		0.000	0.423	
		0.080	0.000		0.000	0.080	
Edge2 45deg Reduction	0.618		0.000	0.001		0.619	
		0.214	0.000	0.001		0.215	
	0.618			0.001		0.619	
		0.214		0.001		0.215	
	0.618		0.000		0.000	0.618	
		0.214	0.000		0.000	0.214	
Edge 2	1.292		0.016	0.000		1.308	
		0.315	0.016	0.000		0.331	
	1.292			0.000		1.292	
		0.315		0.000		0.315	
	1.292		0.016		0.008	1.316	
		0.315	0.016		0.008	0.339	
Edge 2 Reduction	1.078		0.016	0.000		1.094	
		0.734	0.016	0.000		0.750	
	1.078			0.000		1.078	
		0.734		0.000		0.734	
	1.078		0.016		0.008	1.102	
		0.734	0.016		0.008	0.758	
Edge3	0.113		0.523	0.000		0.636	
		0.162	0.523	0.000		0.685	
	0.113			0.000		0.113	
		0.162		0.000		0.162	
	0.113		0.523		0.000	0.636	
		0.162	0.523		0.000	0.685	
Edge4	0.110		0.022	0.000		0.132	
		0.097	0.022	0.000		0.119	
	0.110			0.000		0.110	
		0.097		0.000		0.097	
	0.110		0.022		0.047	0.179	
		0.097	0.022		0.047	0.166	
Bottom	0.321		0.239	0.026		0.586	
		0.063	0.239	0.026		0.328	
	0.321		0.239	0.026		0.586	
		0.063		0.026		0.089	
	0.321		0.239		0.103	0.663	
		0.063	0.239		0.103	0.405	
Bottom Reduction	0.763		0.239	0.026		1.028	
		1.001	0.239	0.026		1.266	
	0.763			0.026		0.789	
		1.001		0.026		1.027	
	0.763		0.239		0.103	1.105	
		1.001	0.239		0.103	1.343	

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Sum of the SAR for LTE 13LTE 25 & WLAN Main 5.8GHz WLAN Aux 5.8GHz BT

Test Position / Mode	LTE 13	LTE 25	WLAN Main 5.8GHz	WLAN Aux 5.8GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.132		0.000	0.343		0.475	
		0.366	0.000	0.343		0.709	
	0.132			0.343		0.475	
		0.366		0.343		0.709	
	0.132		0.000		0.333	0.465	
		0.366	0.000		0.333	0.699	
Edge1 Reduction	0.236		0.000	0.343		0.579	
		0.172	0.000	0.343		0.515	
	0.236			0.343		0.579	
		0.172		0.343		0.515	
	0.236		0.000		0.333	0.569	
		0.172	0.000		0.333	0.505	
Edge 2 45deg	0.148		0.000	0.001		0.149	
		0.289	0.000	0.001		0.290	
	0.148			0.001		0.149	
		0.289		0.001		0.290	
	0.148		0.000		0.000	0.148	
		0.289	0.000		0.000	0.289	
Edge2 45deg Reduction	0.269		0.000	0.001		0.270	
		0.162	0.000	0.001		0.163	
	0.269			0.001		0.270	
		0.162		0.001		0.163	
	0.269		0.000		0.000	0.269	
		0.162	0.000		0.000	0.162	
Edge 2	0.419		0.016	0.000		0.435	
		0.844	0.016	0.000		0.860	
	0.419			0.000		0.419	
		0.844		0.000		0.844	
	0.419		0.016		0.008	0.443	
		0.844	0.016		0.008	0.868	
Edge 2 Reduction	0.745		0.016	0.000		0.761	
		1.148	0.016	0.000		1.164	
	0.745			0.000		0.745	
		1.148		0.000		1.148	
	0.745		0.016		0.008	0.769	
		1.148	0.016		0.008	1.172	
Edge3	0.169		0.523	0.000		0.692	
		0.182	0.523	0.000		0.705	
	0.169			0.000		0.169	
		0.182		0.000		0.182	
	0.169		0.523		0.000	0.692	
		0.182	0.523		0.000	0.705	
Edge4	0.037		0.022	0.000		0.059	
		0.138	0.022	0.000		0.160	
	0.037			0.000		0.037	
		0.138		0.000		0.138	
	0.037		0.022		0.047	0.106	
		0.138	0.022		0.047	0.207	
Bottom	0.175		0.239	0.026		0.440	
		0.299	0.239	0.026		0.564	
	0.175		0.239	0.026		0.440	
		0.299		0.026		0.325	
	0.175		0.239		0.103	0.517	
		0.299	0.239		0.103	0.641	
Bottom Reduction	0.833		0.239	0.026		1.098	
		0.401	0.239	0.026		0.666	
	0.833			0.026		0.859	
		0.401		0.026		0.427	
	0.833		0.239		0.103	1.175	
		0.401	0.239		0.103	0.743	

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Sum of the SAR for LTE 26LTE 41 & WLAN Main 5.8GHz WLAN Aux 5.8GHz BT

Test Position / Mode	LTE 26	LTE 41	WLAN Main 5.8GHz	WLAN Aux 5.8GHz	BT	Sum of SAR (1g/Wkg)	Remarks
Edge1	0.244		0.000	0.343		0.587	
		0.100	0.000	0.343		0.443	
	0.244			0.343		0.587	
		0.100		0.343		0.443	
	0.244		0.000		0.333	0.577	
		0.100	0.000		0.333	0.433	
Edge1 Reduction	0.628		0.000	0.343		0.971	
		0.122	0.000	0.343		0.465	
	0.628			0.343		0.971	
		0.122		0.343		0.465	
	0.628		0.000		0.333	0.961	
		0.122	0.000		0.333	0.455	
Edge 2 45deg	0.300		0.000	0.001		0.301	
		0.204	0.000	0.001		0.205	
	0.300			0.001		0.301	
		0.204		0.001		0.205	
	0.300		0.000		0.000	0.300	
		0.204	0.000		0.000	0.204	
Edge2 45deg Reduction	0.600		0.000	0.001		0.601	
		0.395	0.000	0.001		0.396	
	0.600			0.001		0.601	
		0.395		0.001		0.396	
	0.600		0.000		0.000	0.600	
		0.395	0.000		0.000	0.395	
Edge 2	0.516		0.016	0.000		0.532	
		0.987	0.016	0.000		1.003	
	0.516			0.000		0.516	
		0.987		0.000		0.987	
	0.516		0.016		0.008	0.540	
		0.987	0.016		0.008	1.011	
Edge 2 Reduction	0.794		0.016	0.000		0.810	
		0.740	0.016	0.000		0.756	
	0.794			0.000		0.794	
		0.740		0.000		0.740	
	0.794		0.016		0.008	0.818	
		0.740	0.016		0.008	0.764	
Edge3	0.173		0.523	0.000		0.696	
		0.120	0.523	0.000		0.643	
	0.173			0.000		0.173	
		0.120		0.000		0.120	
	0.173		0.523		0.000	0.696	
		0.120	0.523		0.000	0.643	
Edge4	0.056		0.022	0.000		0.078	
		0.030	0.022	0.000		0.052	
	0.056			0.000		0.056	
		0.030		0.000		0.030	
	0.056		0.022		0.047	0.125	
		0.030	0.022		0.047	0.099	
Bottom	0.241		0.239	0.026		0.506	
		0.247	0.239	0.026		0.512	
	0.241		0.239	0.026		0.506	
		0.247		0.026		0.273	
	0.241		0.239		0.103	0.583	
		0.247	0.239		0.103	0.589	
Bottom Reduction	0.840		0.239	0.026		1.105	
		0.750	0.239	0.026		1.015	
	0.840			0.026		0.866	
		0.750		0.026		0.776	
	0.840		0.239		0.103	1.182	
		0.750	0.239		0.103	1.092	

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16.2. **SPLSR**

Table1

Test Position	No.1 WCDMA B5 Main Ant	No.2 WLAN 2.4 G Aux Ant	No.3 WLAN Main Ant	No.4 Bluetooth Aux Ant	Combination	Σ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
Edge 1	0.972	1.072			No.1 + No.2	2.044	150.8	0.019	No

Table2

Test Position	No.1 LTE Band5 Main Ant	No.2 WLAN 2.4 G Aux Ant	No.3 WLAN Main Ant	No.4 Bluetooth Aux Ant	Combination	Σ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
Edge 1	0.916	1.072			No.1 + No.2	1.988	150.88	0.019	No

Table3

Test Position	No.1 LTE Band26 Main Ant	No.2 WLAN 2.4 G Aux Ant	No.3 WLAN Main Ant	No.4 Bluetooth Aux Ant	Combination	Σ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
Edge 1	0.628	1.072			No.1 + No.2	1.700	152.38	0.015	No

Table4

Test Position	No.1 WCDMA B5 Main Ant	No.2 WLAN 5.3 G Aux Ant	No.3 WLAN Main Ant	No.4 Bluetooth Aux Ant	Combination	Σ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
Edge 1	0.972	0.841			No.1 + No.2	1.813	148.03	0.016	No

Table5

Test Position	No.1 LTE Band5 Main Ant	No.2 WLAN 5.3G Aux Ant	No.3 WLAN Main Ant	No.4 Bluetooth Aux Ant	Combination	Σ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
Edge 1	0.916	0.841			No.1 + No.2	1.757	148.16	0.016	No

Conclusion:

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

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17. Appendixes

Refer to separated files for the following appendixes.

17.1. System Performance Check Plots

17.2. SAR test plots

17.3. SAR Test Plots for Repeat Measurement

17.4. SAR peak separation for SPLSR

17.5. Calibration Certificate for D750V3 – SN1058, D835V2 - SN 4d149, D1750V2 - SN 1089

17.6. Calibration Certificate for D1900V2 – SN 5d169, D2600V2 – SN 1030

17.7. Calibration Certificate for E-Field Probe EX3DV4 – SN 3825- SN 3917

17.8. SAR Tissue Ingredients

17.9. Triggering distances and power levels

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