



SAR EVALUATION REPORT

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

For
**Multi-band Radio Module
(Tested inside of Panasonic Tablet PC CF-33)**

**Model: WW16A
FCC ID: ACJ9TGWW16A**

**Report Number: 11506860H-A-R1
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Prepared for
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NVLAP LAB CODE: 200572-0

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	02/27/2017	Initial Issue	T. Hatakeda
1	03/09/2017	Section 1.1 Add description about standalone SAR for WLAN	T. Hatakeda
		Section 2 Add KDB inquiry	
		Section 7.4 Add carrier aggregation consideration	
		Section 9 Add notes about secondary mode output power	
		Section 19 Add diagonal dimensions and note about additional Edge1 test position	
		This report is a revised version of 11506860H-A. 11506860H-A is replaced with this report.	

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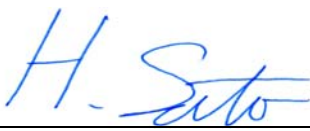
1. Attestation of Test Results

Applicant	PANASONIC CORPORATION OF NORTH AMERICA	
DUT description	Multi-band Radio Module (Tested inside of Panasonic Tablet PC CF-33)	
Model	WW16A	
Test device is	An identical prototype	
Device category	Portable	
Exposure category	General Population/Uncontrolled Exposure	
Date tested	January 13, 2017 to February 21, 2017	
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 11506860H-A. 11506860H-A is replaced with this report.		

Approved & Released For UL Japan, Inc By:

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1.1. Summary of Highest 1-g SAR Results

Worst Case SAR data for each Frequency Band

RF Exposure Rule	Freq. Range	Highest Reported SAR	Limit
22 (LTE Band5)	824 - 849 MHz	Body & Tablet: 1.005 W/kg (Edge 1)	1.6 W/kg
24 (WCDMA Band2)	1850 - 1910 MHz	Body & Tablet: 1.067 W/kg (Edge 4)	
27 (LTE Band13)	777 - 787 MHz	Body & Tablet: 1.086 W/kg (Edge 1)	
27 (WCDMA Band 4)	1710 - 1755 MHz	Body & Tablet: 1.085 W/kg (Edge 1)	
27 (LTE Band7)	2500 - 2570 MHz	Body & Tablet: 0.899 W/kg (Edge 1)	
Simultaneous transmission condition		1.587 W/kg (refer to Section 16 of this report.) (The highest SAR across exposure conditions)	

* All standalone SAR for WLAN module is evaluated in SAR report 11424282H-A, submitted under FCC ID ACJ9TGWL16A.

LEGEND:

- Edge 1 = Top Edge
- Edge 2 = Left Edge
- Edge 3 = Bottom Edge
- Edge 4 = Right Edge
- Rear = Rear of display

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 616217 D04 SAR for laptop and tablets v01r02

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

- o TCB workshop October, 2014; Page 36, RF Exposure Procedures Update (Overlapping LTE Bands)
- o TCB workshop October, 2014; Page 37, LTE Considerations (LTE Band41 Test Channels)

Additional Guidance: Manufacturer KDB inquiry

- o No additional test for Edge1 considering the over 5mm dent

3. Facilities and Accreditation

*Shielded room for SAR testings

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

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

The full scope of accreditation can be viewed at

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

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	2016/04/22 * 12
MDPK-03	Dielectric assessment kit	Schmid&Partner Engineering AG	DAK-3.5	0008	SAR	2016/04/12 * 12
MOS-37	Digital thermometer	LKM electronic	DTM3000	-	SAR	2016/07/28 * 12
COTS-MSAR-04	Dielectric assessment software	Schmid&Partner Engineering AG	DAK		SAR	-

System check

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MDAE-02	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1369	SAR	2016/05/13 * 12
MPB-08	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3917	SAR	2016/05/12 * 12
MPF-03	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1203	SAR	2016/05/07 * 12
MDH-04	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-35	Digital thermometer	HANNA	Checktemp 4	-	SAR	2016/07/28 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY5	-	SAR	-
MRBT-03	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F13/5PP1D1/A /01	SAR	2016/06/30 * 12
MDAE-01	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	SAR	2016/07/07 * 12
MPB-07	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3825	SAR	2016/12/12 * 12
MPF-02	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1045	SAR	2016/05/07 * 12
MDH-01	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2016/04/19 * 12
MRBT-02	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F10/5E3LA1/A /01	SAR	2016/04/30 * 12
MPM-11	Dual Power Meter	Agilent	E4419B	MY45102060	SAR	2016/08/24 * 12
MPSE-15	Power sensor	Agilent	E9301A	MY41498311	SAR	2016/08/24 * 12
MPSE-16	Power sensor	Agilent	E9301A	MY41498313	SAR	2016/08/24 * 12
MRFA-24	Pre Amplifier	R&K	R&K CGA020M602-2633R	B30550	SAR	2016/06/27 * 12

MSG-10	Signal Generator	Agilent	N5181A	MY47421098	SAR	2016/11/09 * 12
MAT-78	Attenuator	Telegraftrner	J01156A0011	0042294119	SAR	Pre Check
MPM-15	Power Meter	Agilent	N1914A	MY53060017	SAR	2016/06/27 * 12
MPSE-21	Power sensor	Anritsu	N8482H	MY52460010	SAR	2016/06/27 * 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
MDA-20	Dipole Antenna	Schmid&Partner Engineering AG	D750V3	1058	SAR	2015/05/28 * 24
MMSL0750	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MSL750V2	SL AAM 075 AA	SAR	Pre Check
SSDA-04	Dipole Antenna	Schmid&Partner Engineering AG	D835V2	4d149	SAR	2016/03/08 * 12
MMSL0900	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MSL900V2	SL AAM 090 CA	SAR	Pre Check
SSDA-06	Dipole Antenna	Schmid&Partner Engineering AG	D1750V2	1089	SAR	2016/03/11 * 12
SSML175-01	Tissue simulation liquid (1750MHz,body)	Schmid&Partner Engineering AG	MSL1750V2	SL AAM 175 AA	SAR	Pre Check
SSDA-08	Dipole Antenna	Schmid&Partner Engineering AG	D1900V2	5d169	SAR	2016/03/09 * 12
SSML190-01	Tissue simulation liquid (1900MHz,body)	Schmid&Partner Engineering AG	MSL1900V2	SL AAM 190 AA	SAR	Pre Check
MDA-19	Dipole Antenna	Schmid&Partner Engineering AG	D2600V2	1030	SAR	2016/03/09 * 12
MMSL2450	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MSL2450V2	SL AAM 245 BA	SAR	Pre Check
COTS-MPSE	Software for MA24106A	Anritsu	Anritsu Power meter software	-	SAR	-

Other

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SURC-01	Radio Communication Analyzer	Anritsu	MT8820C	6201274351	SAR	2016/05/31 * 12
MURC-08	Radio Communication Analyzer	Anritsu	MT8821C	6201547850	SAR	2016/12/01 * 12
MURC-05	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	127576	SAR	2016/11/24 * 12
MCC-67	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	28635/2	SAR	2016/04/18 * 12
MCC-174	Microwave Cable	Junkosha	MWX221	1409S497	SAR	2016/03/11 * 12
MOS-14	Thermo-Hygrometer	CUSTOM	CTH-201	1401	SAR	2016/01/21 * 12 *1)

*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.

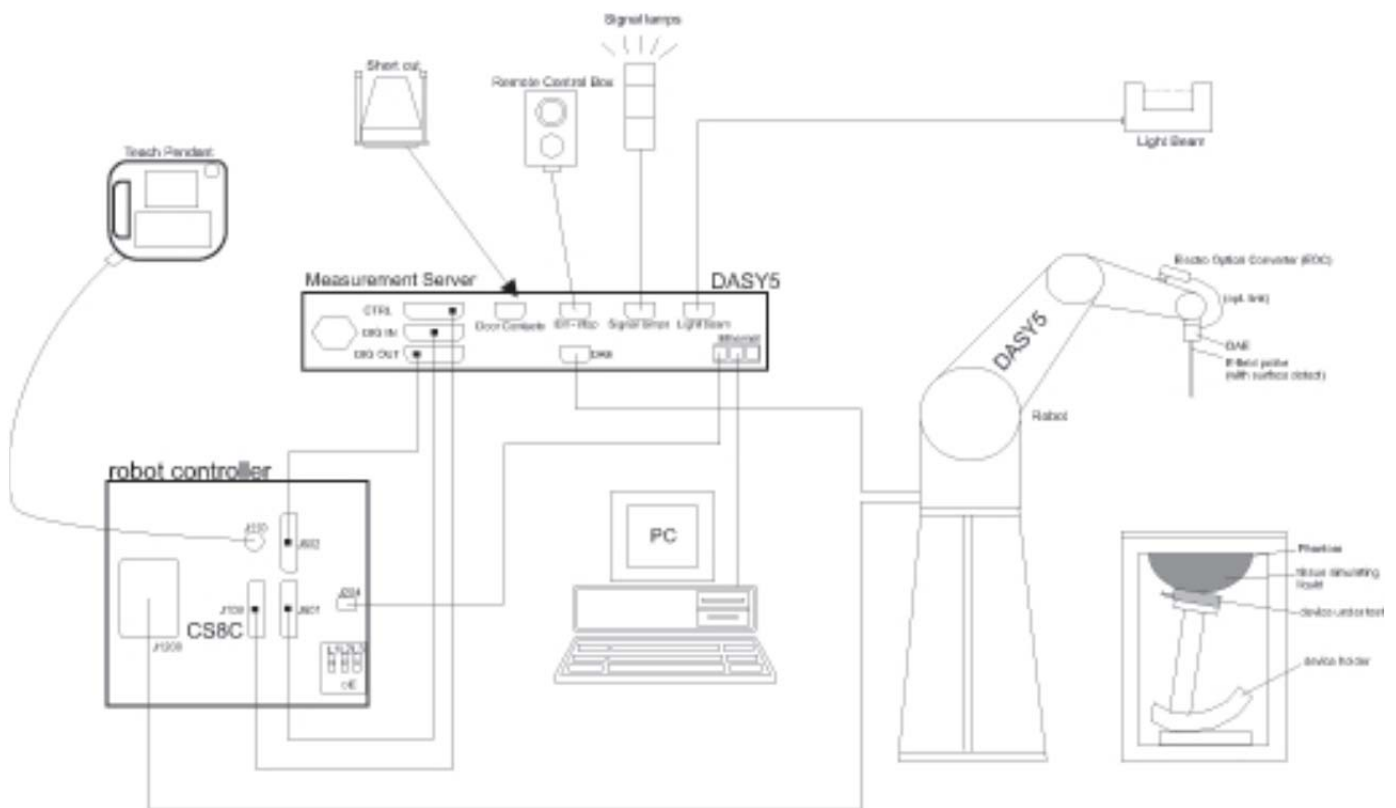
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards. As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

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.

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.

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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: 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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Step 3: Zoom Scan

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

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

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

Step 4: Power drift measurement

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

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.

7. Device Under Test

Multi-band Radio Module (Tested inside of Panasonic Tablet PC CF-33) 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	- WCDMA Band 2: 1850 - 1910 MHz - WCDMA Band 4: 1710 - 1755 MHz - WCDMA Band 5: 824 - 849 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 CF-33) Model: WL16A 802.11a/b/g/n/ac: 2412 - 2472 MHz, b / g / HT20 / HT40 5150 - 5250 MHz, a / HT20 / HT40 / HT80 5250 - 5350 MHz, a / HT20 / HT40 / HT80 5500 - 5700 MHz, a / HT20 / HT40 / HT80 5725 - 5850 MHz, a / HT20 / HT40 / HT80 - Bluetooth: 2402 - 2480 MHz
Duty Cycle	- WCDMA: 100% - LTE(FDD): 100% - LTE(TDD): 63.3%

7.2. Hotspot (Wireless Router) Exposure Condition

N/A

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

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

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

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
	WWAN + 5 GHz Bands WLAN + Bluetooth	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
		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

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
	WWAN + 5 GHz Bands WLAN MIMO (2 Tx on WLAN)	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
		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.

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		

#	Description	Information					
		Channel Bandwidth					
		Band 25	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
		Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5
		Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5
		High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5
		Channel Bandwidth (Range: 814 - 824 MHz)					
		Band 26	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
		Low				26715/ 816.5	26705/ 815.5
		Mid			26740/ 819	26740/ 819	26740/ 819
		High				26765/ 821.5	26755/ 822.5
		Channel Bandwidth (Range: 824 - 849 MHz)					
		Band 26	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
		Low		26865/ 831.5	26840/ 829	26815/ 826.5	26805/ 825.5
		Mid		26915/ 836.5	26915/ 836.5	26915/ 836.5	26915/ 836.5
		High		26965/ 841.5	26990/ 844	27015/ 846.5	27025/ 847.5
		Channel Bandwidth					
		Band 41	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
		Low	39750/ 2506	39750/ 2506	39750/ 2506	39750/ 2506	
		Low-Mid	40185/ 2549.5	40185/ 2549.5	40185/ 2549.5	40185/ 2549.5	
		Mid	40620/ 2593	40620/ 2593	40620/ 2593	40620/ 2593	
		Mid-High	41055/ 2636.5	41055/ 2636.5	41055/ 2636.5	41055/ 2636.5	
		High	41490/ 2680	41490/ 2680	41490/ 2680	41490/ 2680	
B	Descriptions of the LTE transmitter and antenna implementation, and identify if the transmitter operates independently of the other wireless transmitters in the device; i.e., whether the LTE hardware, components and/or antenna(s) are shared with other transmitters.	A single antenna (Main) is used for LTE and other wireless modes (WCDMA) for both transmit and receive.					
C	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.	Data Only Device Exposure Conditions: - Proximity Sensor disabled (Full Power) Edge 2, Edge2 tilt, Edge 3, Edge 4 and Edge4 tilt of the host device at 0 mm from the phantom, and Edge1 of the host device at 37 mm (below 1GHz Band) and 39 mm (above 1GHz Band), Rear of the host device at 20 mm (below 1GHz Band) and 21 mm (above 1GHz Band) - Proximity Sensor enabled (Reduced Power) Edge1 and Rear of the DUT at 0 mm from the phantom.					

#	Description	Information																																						
D	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.	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.	Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)																																	
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																		
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																	
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																	
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																	
E	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.	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.																																						
F	Carrier Aggregation	This module has only downlink carrier aggregation function. (CA configurations and bandwidth combination sets are described in Section11) 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.																																						

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

Calculated Duty Cycle

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

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

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

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

where

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

7.6. Proximity Sensor

The proximity sensor is intended to reduce the WWAN output power when Edge 1 and Rear are brought close to the user.

The default power level for sensor failure and malfunctioning, DUT 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 and Rear.

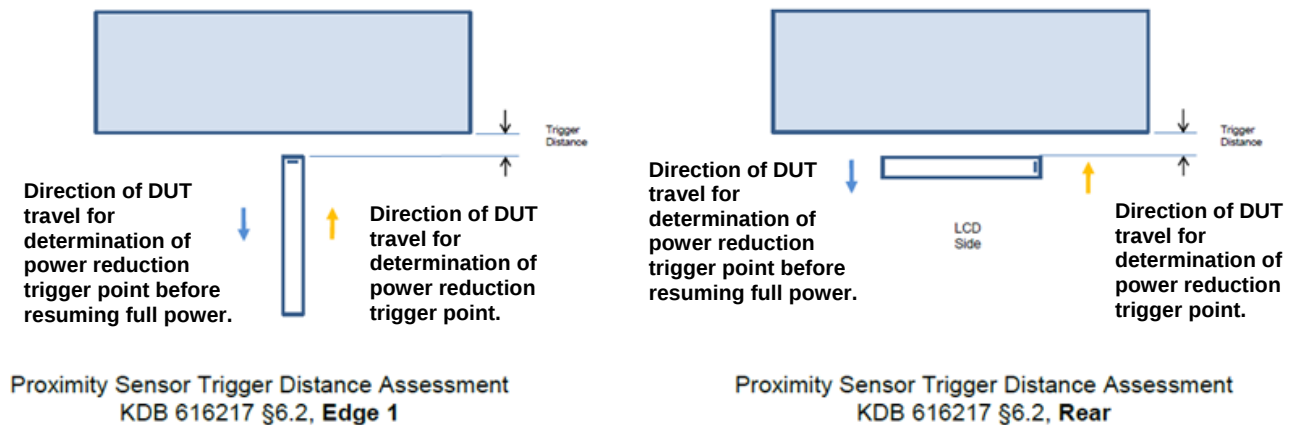
SAR testing of other sides was performed at full power.

Please refer to Section 19. Antenna Dimensions & Separation Distances about proximity sensor and WWAN Main antenna locations and dimensions.

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

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

The measurement was then repeated for the Rear surface.



Summary of triggering distances

Tissue simulating liquid	Trigger distance - Edge 1		Trigger distance - Rear	
	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
750 / 850 muscle	38 mm	45 mm	21 mm	28 mm
1750 / 1900 / 2600 muscle	40 mm	48 mm	22 mm	29 mm

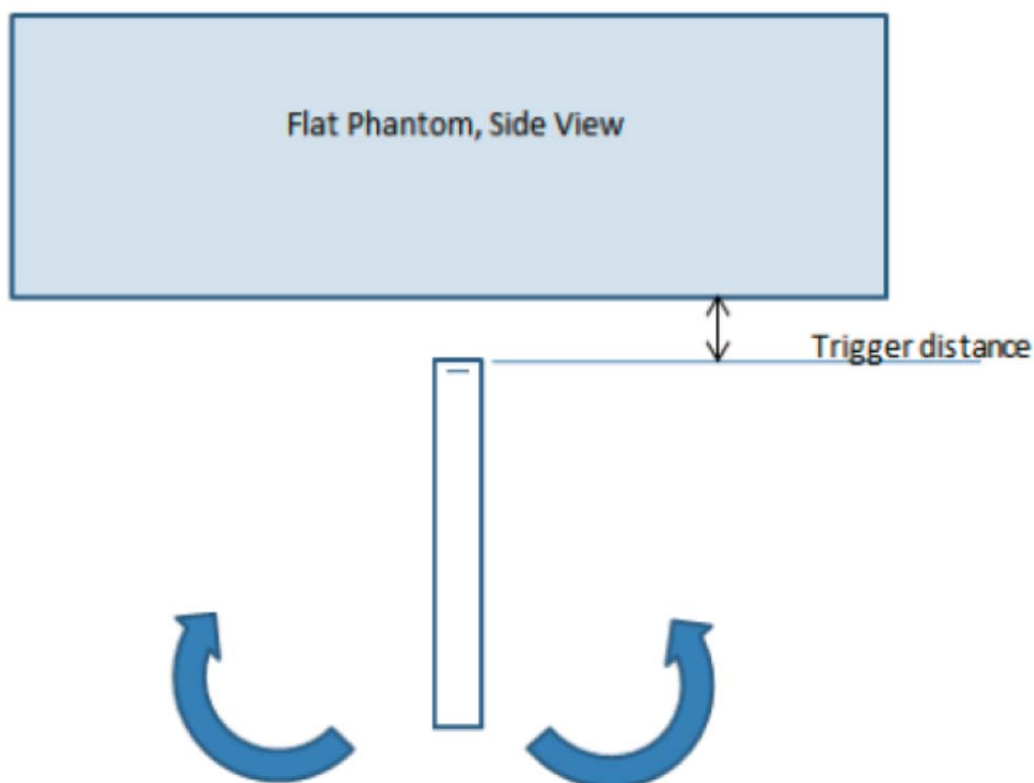
7.8. Proximity Sensor Coverage (KDB 616217 §6.3)

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°.



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
Rear	4.25 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 20 mm (below 1GHz Band) or 21 mm (above 1GHz Band) from the phantom. These separations are 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.
Edge 1	2.1 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 37 mm (below 1GHz Band) or 39 mm (above 1GHz Band) from the phantom. These separations are 1 mm less than the closest distance to which the test device can transmit at reduced power.
Edge 2	170.7 mm	Yes	Due to simultaneous transmission SAR analysis with WLAN, this position was tested even standalone SAR is excluded by SAR test exclusion consideration in Section 14.
Edge 3	227.8 mm	Yes	Due to simultaneous transmission SAR analysis with WLAN, this position was tested even standalone SAR is excluded by SAR test exclusion consideration in Section 14.
Edge 4	24.7 mm	Yes	

Laptop Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side (Laptop mode)	278.9 mm	No	SAR is not required since separation distance from antenna to user is more far away compared with Edge3 tablet mode.

Convertible Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	27.25 mm	No	WWAN antenna is farther away from phantom than separation distance of rear full power even though touching to phantom with convertible mode.
Front	-	No	SAR is not required as this is not a typical use scenario.
Edge 1	2.1 mm	No	SAR is not required as this is accounted for by the Edge1 test position for Tablet mode.
Edge 2	170.7 mm	No	SAR is not required as this is accounted for by the Edge2 test position for Tablet mode.
Edge 3	254.3 mm	No	SAR is not required as this is accounted for by the Edge3 test position for Tablet mode.
Edge 4	24.7 mm	No	SAR is not required as this is accounted for by the Edge4 test position for Tablet mode.

LEGEND:

- Edge 1 = Top Edge
- Edge 2 = Left Edge
- Edge 3 = Bottom Edge
- Edge 4 = Right Edge
- Rear = Rear of display

8.2. Additional Test Scenarios

Test Configurations	SAR Required	Note
Edge 2 tilt	Yes	Due to simultaneous transmission SAR analysis with WLAN, this position was tested
Edge 4 tilt	Yes	Due to simultaneous transmission SAR analysis with WLAN, this position was tested
Edge 1 additional with considering the dent	No	With the result from manufacturer KDB inquiry about the over 5mm dent in Edge1, additional test for this side is not needed.

8.3. Test Configurations for WLAN

All WLAN 1-g SAR values were taken from results recorded in SAR report 11424282H-A, submitted under FCC ID ACJ9TGWL16A.

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:

- o Full Power = Proximity Sensor Off
- o 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

9.1. 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	15.70	+/-1
		9400	1880			
		9538	1907.6			
UTMS 3GPP HSDPA Rel 5	BAND2	9262	1852.4	22.00	14.70	
		9400	1880			
		9538	1907.6			
UTMS 3GPP HSUPA Rel 6	BAND2	9262	1852.4	22.00	14.70	
		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
	β_c/β_d	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	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	23.05	16.42
		9400	1880.0	23.02	16.49
		9538	1907.6	22.95	16.42

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			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	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			
	A _{hs} = β_{hs}/β_c	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	Subtest 1	9262	1852.4	21.91	15.44
		9400	1880.0	21.84	15.48
		9538	1907.6	21.81	15.52
	Subtest 2	9262	1852.4	21.65	15.42
		9400	1880.0	21.84	15.46
		9538	1907.6	21.80	15.48
	Subtest 3	9262	1852.4	21.41	14.92
		9400	1880.0	21.34	14.95
		9538	1907.6	21.32	14.99
	Subtest 4	9262	1852.4	21.40	14.92
		9400	1880.0	21.34	14.95
		9538	1907.6	21.31	14.98

Notes:

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 $\leq \frac{1}{4}$ dB higher than the primary mode.

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				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	15/15
	β_{ec}	209/225	12/15	30/15	2/15	24/15
	β_c/β_d	11/15	6/15	15/9	2/15	15/15
	β_{hs}	22/15	12/15	30/15	4/15	30/15
	β_{ed}	1309/225	94/75	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				
	A _{hs} = β_{hs}/β_c	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 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		

HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band 2	Subtest 1	9262	1852.4	21.59	14.84
		9400	1880.0	21.57	14.84
		9538	1907.6	21.51	14.86
	Subtest 2	9262	1852.4	20.89	14.41
		9400	1880.0	20.88	14.47
		9538	1907.6	20.84	14.48
	Subtest 3	9262	1852.4	20.49	14.31
		9400	1880.0	20.48	14.21
		9538	1907.6	20.45	14.38
	Subtest 4	9262	1852.4	20.97	14.31
		9400	1880.0	20.95	14.36
		9538	1907.6	20.94	14.35
	Subtest 5	9262	1852.4	21.90	15.40
		9400	1880.0	21.90	15.50
		9538	1907.6	21.80	15.50

Notes:

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 $\leq \frac{1}{4}$ dB higher than the primary mode.

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	15.20	+/-1
		1413	1732.6			
		1513	1752.6			
UTMS 3GPP HSDPA Rel 5	BAND4	1312	1712.4	22.00	14.20	
		1413	1732.6			
		1513	1752.6			
UTMS 3GPP HSUPA Rel 6	BAND4	1312	1712.4	22.00	14.20	+/-1
		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
	β_c/β_d	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	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	23.02	15.93
		1413	1732.6	22.87	15.78
		1513	1752.6	22.86	15.77

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			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	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			
	A _{hs} = β_{hs}/β_c	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	Subtest 1	1312	1712.4	21.89	15.03
		1413	1732.6	21.78	14.84
		1513	1752.6	21.68	14.67
	Subtest 2	1312	1712.4	21.93	14.96
		1413	1732.6	21.82	14.81
		1513	1752.6	21.75	14.68
	Subtest 3	1312	1712.4	21.43	14.46
		1413	1732.6	21.33	14.31
		1513	1752.6	21.24	14.17
	Subtest 4	1312	1712.4	21.42	14.44
		1413	1732.6	21.33	14.30
		1513	1752.6	21.24	14.17

Notes:

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 $\leq \frac{1}{4}$ dB higher than the primary mode.

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				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	15/15
	β_{ec}	209/225	12/15	30/15	2/15	24/15
	β_c/β_d	11/15	6/15	15/9	2/15	15/15
	β_{hs}	22/15	12/15	30/15	4/15	30/15
	β_{ed}	1309/225	94/75	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 = β_{hs}/β_c	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	Subtest 1	1312	1712.4	21.58	14.36
		1413	1732.6	21.45	14.18
		1513	1752.6	21.39	13.88
	Subtest 2	1312	1712.4	20.80	14.20
		1413	1732.6	20.78	13.81
		1513	1752.6	20.70	13.94
	Subtest 3	1312	1712.4	20.49	14.99
		1413	1732.6	20.38	14.76
		1513	1752.6	20.36	14.51
	Subtest 4	1312	1712.4	20.96	13.92
		1413	1732.6	20.95	14.32
		1513	1752.6	20.97	14.14
	Subtest 5	1312	1712.4	21.90	15.00
		1413	1732.6	21.80	14.80
		1513	1752.6	21.70	14.70

Notes:

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 $\leq \frac{1}{4}$ dB higher than the primary mode.

9.3. 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	17.90	+/-1
		4182	836.4			
		4233	846.6			
UTMS 3GPP HSDPA Rel 5	BAND5	4132	826.4	22.00	16.90	
		4182	836.4			
		4233	846.6			
UTMS 3GPP HSUPA Rel 6	BAND5	4132	826.4	22.00	16.90	
		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
	β_c/β_d	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	Rel 99 (RMC, 12.2 kbps)	4132	826.4	22.79	18.77
		4183	836.6	22.85	18.81
		4233	846.6	22.84	18.79

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			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
HSDPA Specific Settings	CM (dB)	0	0	0.5	0.5
	D _{ACK}	8			
	D _{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	A _{hs} = β_{hs}/β_c	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	Subtest 1	4132	826.4	21.77	17.82
		4183	836.6	21.64	17.68
		4233	846.6	21.69	17.72
	Subtest 2	4132	826.4	21.79	17.82
		4183	836.6	21.66	17.68
		4233	846.6	21.43	17.74
	Subtest 3	4132	826.4	21.29	17.32
		4183	836.6	21.15	17.19
		4233	846.6	21.20	17.24
	Subtest 4	4132	826.4	21.27	17.31
		4183	836.6	21.16	17.18
		4233	846.6	21.19	16.88

Notes:

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 $\leq \frac{1}{4}$ dB higher than the primary mode.

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				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	15/15
	β_{ec}	209/225	12/15	30/15	2/15	24/15
	β_c/β_d	11/15	6/15	15/9	2/15	15/15
	β_{hs}	22/15	12/15	30/15	4/15	30/15
	β_{ed}	1309/225	94/75	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 = β_{hs}/β_c	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 5	Subtest 1	4132	826.4	21.53	17.31
		4183	836.6	21.41	17.51
		4233	846.6	21.43	17.60
	Subtest 2	4132	826.4	20.81	16.80
		4183	836.6	20.64	16.15
		4233	846.6	20.71	16.13
	Subtest 3	4132	826.4	20.36	16.40
		4183	836.6	20.32	16.25
		4233	846.6	20.35	16.21
	Subtest 4	4132	826.4	20.70	16.69
		4183	836.6	20.52	16.55
		4233	846.6	20.60	16.94
	Subtest 5	4132	826.4	21.80	17.80
		4183	836.6	21.60	17.60
		4233	846.6	21.70	17.70

Notes:

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 $\leq \frac{1}{4}$ dB higher than the primary mode.

9.4. 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	15.80	+/-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	13	10	Table 6.2.4-2	Table 6.2.4-2
	6.6.3.3.2				
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23 ¹	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

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

**LTE Band 2, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	18700	1860	QPSK	1	0	0	0	22.69
				1	49	0	0	22.37
				1	99	0	0	22.57
				50	0	1	1	21.53
				50	24	1	1	21.64
				50	49	1	1	21.63
				100	0	1	1	21.54
			16QAM	1	0	1	1	22.06
				1	49	1	1	21.95
				1	99	1	1	22.13
				50	0	2	2	20.44
				50	24	2	2	20.58
				50	49	2	2	20.54
				100	0	2	2	20.50
	18900	1880	QPSK	1	0	0	0	22.72
				1	49	0	0	22.66
				1	99	0	0	22.70
				50	0	1	1	21.58
				50	24	1	1	21.67
				50	49	1	1	21.61
				100	0	1	1	21.72
			16QAM	1	0	1	1	22.22
				1	49	1	1	22.06
				1	99	1	1	22.11
				50	0	2	2	20.61
				50	24	2	2	20.68
				50	49	2	2	20.67
				100	0	2	2	20.71
	19100	1900	QPSK	1	0	0	0	22.76
				1	49	0	0	22.64
				1	99	0	0	22.61
				50	0	1	1	21.64
				50	24	1	1	21.63
				50	49	1	1	21.57
				100	0	1	1	21.67
			16QAM	1	0	1	1	22.03
				1	49	1	1	22.22
				1	99	1	1	21.94
				50	0	2	2	20.68
				50	24	2	2	20.62
				50	49	2	2	20.57
				100	0	2	2	20.72

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	18700	1860	QPSK	1	0	MPR is disabled when power reduction is enabled		16.36
				1	49			16.17
				1	99			16.28
				50	0			16.12
				50	24			16.25
				50	49			16.24
				100	0			16.18
			16QAM	1	0			16.68
				1	49			16.59
				1	99			16.58
				50	0			16.18
				50	24			16.24
				50	49			16.19
				100	0			16.17
	18900	1880	QPSK	1	0			16.38
				1	49			16.23
				1	99			16.27
				50	0			16.19
				50	24			16.20
				50	49			16.17
				100	0			16.25
			16QAM	1	0			16.66
				1	49			16.58
				1	99			16.66
				50	0			16.20
				50	24			16.28
				50	49			16.26
				100	0			16.27
	19100	1900	QPSK	1	0			16.30
				1	49			16.39
				1	99			16.11
				50	0			16.22
				50	24			16.21
				50	49			16.14
				100	0			16.29
			16QAM	1	0			16.67
				1	49			16.71
				1	99			16.66
				50	0			16.36
				50	24			16.25
				50	49			16.21
				100	0			16.31

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	18675	1857.5	QPSK	1	0	0	0	22.67
				1	37	0	0	22.38
				1	74	0	0	22.67
				36	0	1	1	21.50
				36	19	1	1	21.53
				36	39	1	1	21.55
				75	0	1	1	21.57
			16QAM	1	0	1	1	21.51
				1	37	1	1	21.44
				1	74	1	1	21.56
				36	0	2	2	20.48
				36	19	2	2	20.56
				36	39	2	2	20.57
				75	0	2	2	20.62
	18900	1880	QPSK	1	0	0	0	22.80
				1	37	0	0	22.60
				1	74	0	0	22.77
				36	0	1	1	21.63
				36	19	1	1	21.67
				36	39	1	1	21.60
				75	0	1	1	21.56
			16QAM	1	0	1	1	21.95
				1	37	1	1	21.92
				1	74	1	1	22.02
				36	0	2	2	20.60
				36	19	2	2	20.69
				36	39	2	2	20.65
				75	0	2	2	20.58
	19125	1902.5	QPSK	1	0	0	0	22.94
				1	37	0	0	22.74
				1	74	0	0	22.68
				36	0	1	1	21.57
				36	19	1	1	21.58
				36	39	1	1	21.59
				75	0	1	1	21.57
			16QAM	1	0	1	1	22.01
				1	37	1	1	21.81
				1	74	1	1	21.92
				36	0	2	2	20.57
				36	19	2	2	20.63
				36	39	2	2	20.63
				75	0	2	2	20.60

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	18675	1857.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.23
				1	37			16.32
				1	74			16.29
				36	0			16.08
				36	19			16.14
				36	39			16.15
				75	0			16.17
			16QAM	1	0			16.16
				1	37			16.12
				1	74			16.20
				36	0			16.11
				36	19			16.18
				36	39			16.18
				75	0			16.20
	18900	1880	QPSK	1	0			16.38
				1	37			16.20
				1	74			16.18
				36	0			16.21
				36	19			16.26
				36	39			16.19
				75	0			16.14
			16QAM	1	0			16.32
				1	37			16.16
				1	74			16.06
				36	0			16.16
				36	19			16.28
				36	39			16.18
				75	0			16.14
	19125	1902.5	QPSK	1	0			16.47
				1	37			16.24
				1	74			16.14
				36	0			16.15
				36	19			16.23
				36	39			16.24
				75	0			16.21
			16QAM	1	0			16.39
				1	37			16.23
				1	74			16.06
				36	0			16.17
				36	19			16.18
				36	39			16.18
				75	0			16.22

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	18650	1855	QPSK	1	0	0	0	22.68
				1	24	0	0	22.61
				1	49	0	0	22.65
				25	0	1	1	21.50
				25	12	1	1	21.48
				25	24	1	1	21.46
				50	0	1	1	21.50
			16QAM	1	0	1	1	21.71
				1	24	1	1	21.56
				1	49	1	1	21.67
				25	0	2	2	20.48
				25	12	2	2	20.51
				25	24	2	2	20.50
				50	0	2	2	20.50
	18900	1880	QPSK	1	0	0	0	22.80
				1	24	0	0	22.67
				1	49	0	0	22.76
				25	0	1	1	21.59
				25	12	1	1	21.60
				25	24	1	1	21.66
				50	0	1	1	21.58
			16QAM	1	0	1	1	21.94
				1	24	1	1	21.90
				1	49	1	1	22.02
				25	0	2	2	20.61
				25	12	2	2	20.67
				25	24	2	2	20.67
				50	0	2	2	20.60
	19150	1905	QPSK	1	0	0	0	22.86
				1	24	0	0	22.52
				1	49	0	0	22.72
				25	0	1	1	21.49
				25	12	1	1	21.61
				25	24	1	1	21.58
				50	0	1	1	21.56
			16QAM	1	0	1	1	21.94
				1	24	1	1	21.84
				1	49	1	1	21.97
				25	0	2	2	20.57
				25	12	2	2	20.67
				25	24	2	2	20.58
				50	0	2	2	20.59

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	18650	1855	QPSK	1	0	MPR is disabled when power reduction is enabled		16.34
				1	24			16.19
				1	49			16.36
				25	0			16.13
				25	12			16.06
				25	24			16.05
				50	0			16.13
			16QAM	1	0			16.29
				1	24			16.08
				1	49			16.25
				25	0			16.20
				25	12			16.20
				25	24			16.21
				50	0			16.12
	18900	1880	QPSK	1	0			16.37
				1	24			16.33
				1	49			16.31
				25	0			16.18
				25	12			16.20
				25	24			16.24
				50	0			16.18
			16QAM	1	0			16.43
				1	24			16.35
				1	49			16.28
				25	0			16.25
				25	12			16.23
				25	24			16.26
				50	0			16.18
	19150	1905	QPSK	1	0			16.43
				1	24			16.28
				1	49			16.22
				25	0			16.15
				25	12			16.20
				25	24			16.17
				50	0			16.12
			16QAM	1	0			16.48
				1	24			16.28
				1	49			16.20
				25	0			16.18
				25	12			16.23
				25	24			16.20
				50	0			16.13

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	18625	1852.5	QPSK	1	0	0	0	22.77
				1	12	0	0	22.64
				1	24	0	0	22.62
				12	0	1	1	21.52
				12	6	1	1	21.51
				12	11	1	1	21.50
				25	0	1	1	21.50
			16QAM	1	0	1	1	21.77
				1	12	1	1	21.57
				1	24	1	1	21.73
				12	0	2	2	20.59
				12	6	2	2	20.58
				12	11	2	2	20.56
				25	0	2	2	20.45
	18900	1880	QPSK	1	0	0	0	22.71
				1	12	0	0	22.57
				1	24	0	0	22.63
				12	0	1	1	21.51
				12	6	1	1	21.57
				12	11	1	1	21.57
				25	0	1	1	21.59
			16QAM	1	0	1	1	22.21
				1	12	1	1	22.21
				1	24	1	1	22.18
				12	0	2	2	20.66
				12	6	2	2	20.70
				12	11	2	2	20.74
				25	0	2	2	20.67
	19175	1907.5	QPSK	1	0	0	0	22.75
				1	12	0	0	22.60
				1	24	0	0	22.71
				12	0	1	1	21.42
				12	6	1	1	21.53
				12	11	1	1	21.54
				25	0	1	1	21.46
			16QAM	1	0	1	1	21.79
				1	12	1	1	21.51
				1	24	1	1	21.77
				12	0	2	2	20.54
				12	6	2	2	20.58
				12	11	2	2	20.57
				25	0	2	2	20.44

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	18625	1852.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.32
				1	12			16.20
				1	24			16.37
				12	0			16.13
				12	6			16.15
				12	11			16.12
				25	0			16.09
			16QAM	1	0			16.37
				1	12			16.14
				1	24			16.31
				12	0			16.23
				12	6			16.20
				12	11			16.20
				25	0			16.08
	18900	1880	QPSK	1	0			16.38
				1	12			16.16
				1	24			16.41
				12	0			16.12
				12	6			16.17
				12	11			16.17
				25	0			16.21
			16QAM	1	0			16.40
				1	12			16.23
				1	24			16.34
				12	0			16.17
				12	6			16.24
				12	11			16.22
				25	0			16.16
	19175	1907.5	QPSK	1	0			16.37
				1	12			16.08
				1	24			16.32
				12	0			16.08
				12	6			16.12
				12	11			16.15
				25	0			16.02
			16QAM	1	0			16.35
				1	12			16.09
				1	24			16.33
				12	0			16.15
				12	6			16.19
				12	11			16.19
				25	0			16.00

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	18615	1851.5	QPSK	1	0	0	0	22.67
				1	7	0	0	22.70
				1	14	0	0	22.73
				8	0	1	1	21.47
				8	4	1	1	21.53
				8	7	1	1	21.55
				15	0	1	1	21.52
			16QAM	1	0	1	1	21.49
				1	7	1	1	21.55
				1	14	1	1	21.57
				8	0	2	2	20.59
				8	4	2	2	20.60
				8	7	2	2	20.65
				15	0	2	2	20.56
	18900	1880	QPSK	1	0	0	0	22.83
				1	7	0	0	22.70
				1	14	0	0	22.75
				8	0	1	1	21.55
				8	4	1	1	21.59
				8	7	1	1	21.53
				15	0	1	1	21.55
			16QAM	1	0	1	1	22.09
				1	7	1	1	22.10
				1	14	1	1	21.97
				8	0	2	2	20.62
				8	4	2	2	20.65
				8	7	2	2	20.61
				15	0	2	2	20.59
	19184	1908.4	QPSK	1	0	0	0	22.79
				1	7	0	0	22.77
				1	14	0	0	22.80
				8	0	1	1	21.47
				8	4	1	1	21.53
				8	7	1	1	21.51
				15	0	1	1	21.51
			16QAM	1	0	1	1	22.04
				1	7	1	1	21.98
				1	14	1	1	22.08
				8	0	2	2	20.55
				8	4	2	2	20.59
				8	7	2	2	20.57
				15	0	2	2	20.54

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	18615	1851.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.12
				1	7			16.16
				1	14			16.10
				8	0			16.09
				8	4			16.15
				8	7			16.16
				15	0			16.09
			16QAM	1	0			16.06
				1	7			16.13
				1	14			16.08
				8	0			16.26
				8	4			16.27
				8	7			16.32
				15	0			16.17
	18900	1880	QPSK	1	0			16.24
				1	7			16.24
				1	14			16.20
				8	0			16.18
				8	4			16.20
				8	7			16.14
				15	0			16.12
			16QAM	1	0			16.20
				1	7			16.14
				1	14			16.15
				8	0			16.26
				8	4			16.29
				8	7			16.29
				15	0			16.20
	19184	1908.4	QPSK	1	0			16.06
				1	7			16.20
				1	14			16.21
				8	0			16.09
				8	4			16.16
				8	7			16.13
				15	0			16.11
			16QAM	1	0			16.12
				1	7			16.09
				1	14			16.18
				8	0			16.25
				8	4			16.28
				8	7			16.24
				15	0			16.14

LTE Band 2, 1.4 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	18607	1850.7	QPSK	1	0	0	0	22.64
				1	2	0	0	22.72
				1	5	0	0	22.67
				3	0	0	0	22.50
				3	1	0	0	22.56
				3	3	0	0	22.49
				6	0	1	1	21.46
			16QAM	1	0	1	1	21.67
				1	2	1	1	21.95
				1	5	1	1	21.81
				3	0	1	1	21.54
				3	1	1	1	21.63
				3	3	1	1	21.56
				6	0	2	2	20.58
	18900	1880	QPSK	1	0	0	0	22.74
				1	2	0	0	22.64
				1	5	0	0	22.68
				3	0	0	0	22.50
				3	1	0	0	22.57
				3	3	0	0	22.57
				6	0	1	1	21.50
			16QAM	1	0	1	1	22.02
				1	2	1	1	22.06
				1	5	1	1	21.91
				3	0	1	1	21.67
				3	1	1	1	21.72
				3	3	1	1	21.73
				6	0	2	2	20.44
	19192	1909.2	QPSK	1	0	0	0	22.66
				1	2	0	0	22.66
				1	5	0	0	22.70
				3	0	0	0	22.52
				3	1	0	0	22.62
				3	3	0	0	22.50
				6	0	1	1	21.46
			16QAM	1	0	1	1	21.91
				1	2	1	1	22.06
				1	5	1	1	21.95
				3	0	1	1	21.64
				3	1	1	1	21.69
				3	3	1	1	21.66
				6	0	2	2	20.38

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	18607	1850.7	QPSK	1	0	MPR is disabled when power reduction is enabled		16.22
				1	2			16.34
				1	5			16.16
				3	0			16.00
				3	1			16.06
				3	3			16.00
				6	0			15.99
			16QAM	1	0			16.26
				1	2			16.33
				1	5			16.27
				3	0			16.12
				3	1			16.20
				3	3			16.13
				6	0			16.17
	18900	1880	QPSK	1	0			16.28
				1	2			16.31
				1	5			16.18
				3	0			16.04
				3	1			16.09
				3	3			16.06
				6	0			16.04
			16QAM	1	0			16.36
				1	2			16.36
				1	5			16.38
				3	0			16.12
				3	1			16.22
				3	3			16.21
				6	0			16.21
	19192	1909.2	QPSK	1	0			16.22
				1	2			16.35
				1	5			16.20
				3	0			16.01
				3	1			16.04
				3	3			15.97
				6	0			15.99
			16QAM	1	0			16.21
				1	2			16.25
				1	5			16.34
				3	0			16.08
				3	1			16.15
				3	3			16.14
				6	0			16.16

9.5. 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	15.50	+/-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.

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	20050	1720	QPSK	1	0	0	0	22.95
				1	49	0	0	22.94
				1	99	0	0	22.74
				50	0	1	1	21.76
				50	24	1	1	21.82
				50	49	1	1	21.67
				100	0	1	1	21.77
			16QAM	1	0	1	1	22.29
				1	49	1	1	22.21
				1	99	1	1	22.12
				50	0	2	2	20.84
				50	24	2	2	20.84
				50	49	2	2	20.69
				100	0	2	2	20.81
	20175	1732.5	QPSK	1	0	0	0	22.73
				1	49	0	0	22.56
				1	99	0	0	22.55
				50	0	1	1	21.58
				50	24	1	1	21.57
				50	49	1	1	21.63
				100	0	1	1	21.62
			16QAM	1	0	1	1	22.22
				1	49	1	1	22.02
				1	99	1	1	21.98
				50	0	2	2	20.57
				50	24	2	2	20.56
				50	49	2	2	20.58
				100	0	2	2	20.58
	20300	1745	QPSK	1	0	0	0	22.57
				1	49	0	0	22.53
				1	99	0	0	22.62
				50	0	1	1	21.56
				50	24	1	1	21.54
				50	49	1	1	21.58
				100	0	1	1	21.54
			16QAM	1	0	1	1	22.01
				1	49	1	1	21.86
				1	99	1	1	21.95
				50	0	2	2	20.49
				50	24	2	2	20.49
				50	49	2	2	20.54
				100	0	2	2	20.52

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	20050	1720	QPSK	1	0	MPR is disabled when power reduction is enabled		15.99
				1	49			15.97
				1	99			15.79
				50	0			15.91
				50	24			15.90
				50	49			15.75
				100	0			15.87
			16QAM	1	0			16.25
				1	49			16.24
				1	99			16.11
				50	0			15.97
				50	24			15.89
				50	49			15.75
	20175	1732.5	QPSK	100	0			15.90
				1	0			15.88
				1	49			15.74
				1	99			15.65
				50	0			15.65
				50	24			15.67
				50	49			15.71
				100	0			15.68
			16QAM	1	0			16.42
				1	49			16.24
				1	99			16.20
				50	0			15.78
				50	24			15.77
				50	49			15.79
	20300	1745	QPSK	100	0			15.70
				1	0			15.81
				1	49			15.70
				1	99			15.85
				50	0			15.59
				50	24			15.59
				50	49			15.68
				100	0			15.61
			16QAM	1	0			16.29
				1	49			16.12
				1	99			16.19
				50	0			15.77
				50	24			15.64
				50	49			15.72
				100	0			15.72

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	20025	1717.5	QPSK	1	0	0	0	22.77
				1	37	0	0	22.78
				1	74	0	0	22.67
				36	0	1	1	21.74
				36	19	1	1	21.72
				36	39	1	1	21.73
				75	0	1	1	21.73
			16QAM	1	0	1	1	21.86
				1	37	1	1	21.60
				1	74	1	1	21.66
				36	0	2	2	20.72
				36	19	2	2	20.76
				36	39	2	2	20.77
				75	0	2	2	20.74
	20175	1732.5	QPSK	1	0	0	0	22.80
				1	37	0	0	22.73
				1	74	0	0	22.60
				36	0	1	1	21.56
				36	19	1	1	21.61
				36	39	1	1	21.53
				75	0	1	1	21.59
			16QAM	1	0	1	1	22.02
				1	37	1	1	21.82
				1	74	1	1	21.90
				36	0	2	2	20.57
				36	19	2	2	20.61
				36	39	2	2	20.55
				75	0	2	2	20.59
	20325	1747.5	QPSK	1	0	0	0	22.69
				1	37	0	0	22.51
				1	74	0	0	22.79
				36	0	1	1	21.52
				36	19	1	1	21.59
				36	39	1	1	21.52
				75	0	1	1	21.58
			16QAM	1	0	1	1	21.93
				1	37	1	1	21.77
				1	74	1	1	21.95
				36	0	2	2	20.55
				36	19	2	2	20.58
				36	39	2	2	20.52
				75	0	2	2	20.55

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	20025	1717.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.91
				1	37			15.77
				1	74			15.80
				36	0			15.83
				36	19			15.80
				36	39			15.82
				75	0			15.81
			16QAM	1	0			15.87
				1	37			15.75
				1	74			15.76
				36	0			15.88
				36	19			15.87
				36	39			15.86
				75	0			15.85
	20175	1732.5	QPSK	1	0			15.74
				1	37			15.39
				1	74			15.50
				36	0			15.66
				36	19			15.72
				36	39			15.64
				75	0			15.69
			16QAM	1	0			15.73
				1	37			15.74
				1	74			15.58
				36	0			15.73
				36	19			15.77
				36	39			15.69
				75	0			15.72
	20325	1747.5	QPSK	1	0			15.53
				1	37			15.32
				1	74			15.75
				36	0			15.60
				36	19			15.68
				36	39			15.62
				75	0			15.64
			16QAM	1	0			15.53
				1	37			15.39
				1	74			15.75
				36	0			15.69
				36	19			15.76
				36	39			15.66
				75	0			15.67

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20000	1715	QPSK	1	0	0	0	22.98
				1	24	0	0	23.00
				1	49	0	0	22.90
				25	0	1	1	21.85
				25	12	1	1	21.82
				25	24	1	1	21.75
				50	0	1	1	21.83
			16QAM	1	0	1	1	22.10
				1	24	1	1	21.95
				1	49	1	1	22.19
				25	0	2	2	20.82
				25	12	2	2	20.86
				25	24	2	2	20.73
				50	0	2	2	20.82
	20175	1732.5	QPSK	1	0	0	0	23.00
				1	24	0	0	22.64
				1	49	0	0	22.95
				25	0	1	1	21.70
				25	12	1	1	21.75
				25	24	1	1	21.71
				50	0	1	1	21.59
			16QAM	1	0	1	1	22.15
				1	24	1	1	22.08
				1	49	1	1	22.09
				25	0	2	2	20.72
				25	12	2	2	20.79
				25	24	2	2	20.68
				50	0	2	2	20.61
	20350	1750	QPSK	1	0	0	0	22.83
				1	24	0	0	22.73
				1	49	0	0	22.94
				25	0	1	1	21.52
				25	12	1	1	21.65
				25	24	1	1	21.67
				50	0	1	1	21.68
			16QAM	1	0	1	1	22.05
				1	24	1	1	22.02
				1	49	1	1	22.13
				25	0	2	2	20.53
				25	12	2	2	20.69
				25	24	2	2	20.67
				50	0	2	2	20.66

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20000	1715	QPSK	1	0	MPR is disabled when power reduction is enabled		16.22
				1	24			16.05
				1	49			16.18
				25	0			15.93
				25	12			15.93
				25	24			15.87
				50	0			15.95
			16QAM	1	0			16.39
				1	24			16.39
				1	49			16.32
				25	0			16.06
				25	12			16.07
				25	24			15.93
				50	0			15.98
	20175	1732.5	QPSK	1	0			15.98
				1	24			15.93
				1	49			15.88
				25	0			15.79
				25	12			15.82
				25	24			15.79
				50	0			15.73
			16QAM	1	0			16.07
				1	24			15.81
				1	49			15.81
				25	0			15.84
				25	12			15.92
				25	24			15.89
				50	0			15.74
	20350	1750	QPSK	1	0			15.95
				1	24			15.94
				1	49			16.16
				25	0			15.62
				25	12			15.73
				25	24			15.77
				50	0			15.73
			16QAM	1	0			16.23
				1	24			16.21
				1	49			16.29
				25	0			15.74
				25	12			15.87
				25	24			15.88
				50	0			15.80

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	19975	1712.5	QPSK	1	0	0	0	22.98
				1	12	0	0	22.82
				1	24	0	0	23.02
				12	0	1	1	21.83
				12	6	1	1	21.89
				12	11	1	1	21.84
				25	0	1	1	21.88
			16QAM	1	0	1	1	22.16
				1	12	1	1	21.98
				1	24	1	1	22.13
				12	0	2	2	20.83
				12	6	2	2	20.92
				12	11	2	2	20.87
				25	0	2	2	20.81
	20175	1732.5	QPSK	1	0	0	0	22.92
				1	12	0	0	22.69
				1	24	0	0	22.75
				12	0	1	1	21.69
				12	6	1	1	21.66
				12	11	1	1	21.66
				25	0	1	1	21.55
			16QAM	1	0	1	1	22.37
				1	12	1	1	22.40
				1	24	1	1	22.32
				12	0	2	2	20.81
				12	6	2	2	20.74
				12	11	2	2	20.78
				25	0	2	2	20.56
	20375	1752.5	QPSK	1	0	0	0	22.70
				1	12	0	0	22.55
				1	24	0	0	22.79
				12	0	1	1	21.68
				12	6	1	1	21.67
				12	11	1	1	21.62
				25	0	1	1	21.64
			16QAM	1	0	1	1	22.25
				1	12	1	1	22.20
				1	24	1	1	22.21
				12	0	2	2	20.76
				12	6	2	2	20.76
				12	11	2	2	20.71
				25	0	2	2	20.66

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	19975	1712.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.14
				1	12			15.85
				1	24			16.09
				12	0			15.93
				12	6			15.99
				12	11			15.93
				25	0			15.93
			16QAM	1	0			16.15
				1	12			15.99
				1	24			16.23
				12	0			15.98
				12	6			16.04
				12	11			15.97
				25	0			15.92
	20175	1732.5	QPSK	1	0			15.88
				1	12			15.73
				1	24			15.88
				12	0			15.76
				12	6			15.75
				12	11			15.75
				25	0			15.63
			16QAM	1	0			16.41
				1	12			16.46
				1	24			16.40
				12	0			15.93
				12	6			15.91
				12	11			15.91
				25	0			15.70
	20375	1752.5	QPSK	1	0			16.02
				1	12			15.78
				1	24			15.99
				12	0			15.90
				12	6			15.88
				12	11			15.86
				25	0			15.83
			16QAM	1	0			16.45
				1	12			16.43
				1	24			16.47
				12	0			16.05
				12	6			15.99
				12	11			15.97
				25	0			15.88

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	19965	1711.5	QPSK	1	0	0	0	22.96
				1	7	0	0	22.95
				1	14	0	0	22.97
				8	0	1	1	21.80
				8	4	1	1	21.89
				8	7	1	1	21.86
				15	0	1	1	21.90
			16QAM	1	0	1	1	21.94
				1	7	1	1	22.00
				1	14	1	1	21.87
				8	0	2	2	20.90
				8	4	2	2	20.98
				8	7	2	2	20.97
				15	0	2	2	20.91
	20175	1732.5	QPSK	1	0	0	0	22.94
				1	7	0	0	22.81
				1	14	0	0	22.87
				8	0	1	1	21.67
				8	4	1	1	21.59
				8	7	1	1	21.66
				15	0	1	1	21.68
			16QAM	1	0	1	1	22.25
				1	7	1	1	22.09
				1	14	1	1	22.24
				8	0	2	2	20.73
				8	4	2	2	20.66
				8	7	2	2	20.73
				15	0	2	2	20.64
	20384	1753.4	QPSK	1	0	0	0	22.90
				1	7	0	0	22.81
				1	14	0	0	22.99
				8	0	1	1	21.64
				8	4	1	1	21.63
				8	7	1	1	21.71
				15	0	1	1	21.64
			16QAM	1	0	1	1	22.22
				1	7	1	1	22.10
				1	14	1	1	22.32
				8	0	2	2	20.67
				8	4	2	2	20.70
				8	7	2	2	20.74
				15	0	2	2	20.62

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	19965	1711.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.98
				1	7			16.03
				1	14			16.01
				8	0			15.90
				8	4			15.98
				8	7			15.90
				15	0			15.96
			16QAM	1	0			16.03
				1	7			15.98
				1	14			16.02
				8	0			16.06
				8	4			16.09
				8	7			16.09
				15	0			16.00
	20175	1732.5	QPSK	1	0			15.87
				1	7			15.87
				1	14			15.86
				8	0			15.77
				8	4			15.68
				8	7			15.74
				15	0			15.76
			16QAM	1	0			15.76
				1	7			15.81
				1	14			15.73
				8	0			15.89
				8	4			15.81
				8	7			15.88
				15	0			15.76
	20384	1753.4	QPSK	1	0			16.00
				1	7			15.86
				1	14			16.09
				8	0			15.81
				8	4			15.81
				8	7			15.89
				15	0			15.84
			16QAM	1	0			15.93
				1	7			15.81
				1	14			15.91
				8	0			15.93
				8	4			15.94
				8	7			16.03
				15	0			15.85

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	19957	1710.7	QPSK	1	0	0	0	22.97
				1	2	0	0	23.03
				1	5	0	0	22.89
				3	0	0	0	22.76
				3	1	0	0	22.84
				3	3	0	0	22.78
				6	0	1	1	21.80
			16QAM	1	0	1	1	21.96
				1	2	1	1	22.18
				1	5	1	1	21.96
				3	0	1	1	22.00
				3	1	1	1	22.07
				3	3	1	1	21.99
				6	0	2	2	20.94
	20175	1732.5	QPSK	1	0	0	0	22.81
				1	2	0	0	22.69
				1	5	0	0	22.78
				3	0	0	0	22.62
				3	1	0	0	22.69
				3	3	0	0	22.70
				6	0	1	1	21.60
			16QAM	1	0	1	1	22.18
				1	2	1	1	22.23
				1	5	1	1	21.97
				3	0	1	1	21.86
				3	1	1	1	21.92
				3	3	1	1	21.89
				6	0	2	2	20.53
	20392	1754.2	QPSK	1	0	0	0	22.83
				1	2	0	0	22.83
				1	5	0	0	22.92
				3	0	0	0	22.73
				3	1	0	0	22.73
				3	3	0	0	22.72
				6	0	1	1	21.65
			16QAM	1	0	1	1	22.27
				1	2	1	1	22.31
				1	5	1	1	22.16
				3	0	1	1	21.85
				3	1	1	1	21.85
				3	3	1	1	21.82
				6	0	2	2	20.57

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	19957	1710.7	QPSK	1	0	MPR is disabled when power reduction is enabled		16.01
				1	2			16.06
				1	5			15.98
				3	0			15.87
				3	1			15.89
				3	3			15.88
				6	0			15.86
			16QAM	1	0			16.01
				1	2			16.09
				1	5			16.08
				3	0			15.98
				3	1			16.09
				3	3			15.97
				6	0			16.00
	20175	1732.5	QPSK	1	0			15.86
				1	2			15.90
				1	5			15.77
				3	0			15.66
				3	1			15.76
				3	3			15.70
				6	0			15.67
			16QAM	1	0			15.90
				1	2			16.07
				1	5			15.95
				3	0			15.77
				3	1			15.85
				3	3			15.82
				6	0			15.83
	20392	1754.2	QPSK	1	0			15.99
				1	2			16.06
				1	5			15.97
				3	0			15.76
				3	1			15.82
				3	3			15.73
				6	0			15.76
			16QAM	1	0			16.02
				1	2			16.09
				1	5			16.03
				3	0			15.87
				3	1			15.85
				3	3			15.83
				6	0			15.93

9.6. 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	17.90	+/-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	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20450	829	QPSK	1	0	0	0	22.58
				1	24	0	0	22.62
				1	49	0	0	22.58
				25	0	1	1	21.56
				25	12	1	1	21.54
				25	24	1	1	21.42
				50	0	1	1	21.51
			16QAM	1	0	1	1	21.72
				1	24	1	1	21.51
				1	49	1	1	21.58
				25	0	2	2	20.61
				25	12	2	2	20.57
				25	24	2	2	20.41
				50	0	2	2	20.43
	20525	836.5	QPSK	1	0	0	0	22.64
				1	24	0	0	22.50
				1	49	0	0	22.63
				25	0	1	1	21.41
				25	12	1	1	21.43
				25	24	1	1	21.42
				50	0	1	1	21.42
			16QAM	1	0	1	1	21.84
				1	24	1	1	21.73
				1	49	1	1	21.93
				25	0	2	2	20.44
				25	12	2	2	20.51
				25	24	2	2	20.44
				50	0	2	2	20.46
	20600	844	QPSK	1	0	0	0	22.64
				1	24	0	0	22.44
				1	49	0	0	22.79
				25	0	1	1	21.49
				25	12	1	1	21.47
				25	24	1	1	21.48
				50	0	1	1	21.50
			16QAM	1	0	1	1	21.86
				1	24	1	1	21.72
				1	49	1	1	21.97
				25	0	2	2	20.47
				25	12	2	2	20.55
				25	24	2	2	20.49
				50	0	2	2	20.53

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20450	829	QPSK	1	0	MPR is disabled when power reduction is enabled		18.55
				1	24			18.54
				1	49			18.53
				25	0			18.52
				25	12			18.54
				25	24			18.39
				50	0			18.53
			16QAM	1	0			18.78
				1	24			18.51
				1	49			18.65
				25	0			18.61
				25	12			18.56
				25	24			18.43
				50	0			18.46
	20525	836.5	QPSK	1	0			18.55
				1	24			18.43
				1	49			18.56
				25	0			18.40
				25	12			18.39
				25	24			18.37
				50	0			18.45
			16QAM	1	0			18.64
				1	24			18.49
				1	49			18.72
				25	0			18.42
				25	12			18.47
				25	24			18.48
				50	0			18.46
	20600	844	QPSK	1	0			18.57
				1	24			18.50
				1	49			18.65
				25	0			18.46
				25	12			18.53
				25	24			18.52
				50	0			18.50
			16QAM	1	0			18.63
				1	24			18.77
				1	49			18.79
				25	0			18.62
				25	12			18.64
				25	24			18.66
				50	0			18.63

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	20425	826.5	QPSK	1	0	0	0	22.75
				1	12	0	0	22.45
				1	24	0	0	22.60
				12	0	1	1	21.46
				12	6	1	1	21.49
				12	11	1	1	21.55
				25	0	1	1	21.49
			16QAM	1	0	1	1	21.85
				1	12	1	1	21.58
				1	24	1	1	21.63
				12	0	2	2	20.52
				12	6	2	2	20.56
				12	11	2	2	20.60
				25	0	2	2	20.42
	20525	836.5	QPSK	1	0	0	0	22.54
				1	12	0	0	22.37
				1	24	0	0	22.55
				12	0	1	1	21.33
				12	6	1	1	21.42
				12	11	1	1	21.38
				25	0	1	1	21.41
			16QAM	1	0	1	1	21.63
				1	12	1	1	21.41
				1	24	1	1	21.67
				12	0	2	2	20.43
				12	6	2	2	20.43
				12	11	2	2	20.44
				25	0	2	2	20.38
	20625	846.5	QPSK	1	0	0	0	22.54
				1	12	0	0	22.50
				1	24	0	0	22.64
				12	0	1	1	21.51
				12	6	1	1	21.51
				12	11	1	1	21.55
				25	0	1	1	21.49
			16QAM	1	0	1	1	22.11
				1	12	1	1	22.12
				1	24	1	1	22.06
				12	0	2	2	20.71
				12	6	2	2	20.69
				12	11	2	2	20.71
				25	0	2	2	20.51

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	20425	826.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.44
				1	12			18.48
				1	24			18.54
				12	0			18.49
				12	6			18.84
				12	11			18.54
				25	0			18.65
			16QAM	1	0			18.55
				1	12			18.56
				1	24			18.61
				12	0			18.47
				12	6			18.72
				12	11			18.50
				25	0			18.63
	20525	836.5	QPSK	1	0			18.55
				1	12			18.31
				1	24			18.58
				12	0			18.37
				12	6			18.43
				12	11			18.40
				25	0			18.40
			16QAM	1	0			18.62
				1	12			18.38
				1	24			18.64
				12	0			18.46
				12	6			18.48
				12	11			18.45
				25	0			18.41
	20625	846.5	QPSK	1	0			18.82
				1	12			18.54
				1	24			18.79
				12	0			18.56
				12	6			18.54
				12	11			18.61
				25	0			18.55
			16QAM	1	0			18.74
				1	12			18.57
				1	24			18.82
				12	0			18.64
				12	6			18.65
				12	11			18.67
				25	0			18.51

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	20415	825.5	QPSK	1	0	0	0	22.41
				1	7	0	0	22.61
				1	14	0	0	22.48
				8	0	1	1	21.47
				8	4	1	1	21.53
				8	7	1	1	21.50
				15	0	1	1	21.52
			16QAM	1	0	1	1	21.49
				1	7	1	1	21.55
				1	14	1	1	21.53
				8	0	2	2	20.61
				8	4	2	2	20.64
				8	7	2	2	20.63
				15	0	2	2	20.55
	20525	836.5	QPSK	1	0	0	0	22.49
				1	7	0	0	22.62
				1	14	0	0	22.54
				8	0	1	1	21.43
				8	4	1	1	21.45
				8	7	1	1	21.43
				15	0	1	1	21.40
			16QAM	1	0	1	1	22.00
				1	7	1	1	21.88
				1	14	1	1	22.10
				8	0	2	2	20.50
				8	4	2	2	20.48
				8	7	2	2	20.44
				15	0	2	2	20.42
	20634	847.4	QPSK	1	0	0	0	22.64
				1	7	0	0	22.91
				1	14	0	0	22.73
				8	0	1	1	21.57
				8	4	1	1	21.55
				8	7	1	1	21.59
				15	0	1	1	21.61
			16QAM	1	0	1	1	22.13
				1	7	1	1	22.12
				1	14	1	1	22.18
				8	0	2	2	20.61
				8	4	2	2	20.58
				8	7	2	2	20.64
				15	0	2	2	20.60

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	20415	825.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.24
				1	7			18.55
				1	14			18.38
				8	0			18.50
				8	4			18.56
				8	7			18.53
			16QAM	15	0			18.56
				1	0			18.52
				1	7			18.39
				1	14			18.54
				8	0			18.63
				8	4			18.68
				8	7			18.69
				15	0			18.58
	20525	836.5	QPSK	1	0			18.34
				1	7			18.37
				1	14			18.40
				8	0			18.41
				8	4			18.42
				8	7			18.41
			16QAM	15	0			18.38
				1	0			18.36
				1	7			18.33
				1	14			18.48
				8	0			18.53
				8	4			18.52
				8	7			18.53
				15	0			18.44
	20634	847.4	QPSK	1	0			18.50
				1	7			18.64
				1	14			18.61
				8	0			18.61
				8	4			18.58
				8	7			18.63
			16QAM	15	0			18.64
				1	0			18.65
				1	7			18.62
				1	14			18.61
				8	0			18.71
				8	4			18.66
				8	7			18.74
				15	0			18.70

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	20407	824.7	QPSK	1	0	0	0	22.66
				1	2	0	0	22.70
				1	5	0	0	22.57
				3	0	0	0	22.51
				3	1	0	0	22.52
				3	3	0	0	22.49
			16QAM	6	0	1	1	21.45
				1	0	1	1	21.77
				1	2	1	1	21.97
				1	5	1	1	21.80
				3	0	1	1	21.60
				3	1	1	1	21.64
	20525	836.5	QPSK	3	3	1	1	21.58
				6	0	2	2	20.57
				1	0	0	0	22.51
				1	2	0	0	22.46
				1	5	0	0	22.69
				3	0	0	0	22.34
			16QAM	3	1	0	0	22.41
				3	3	0	0	22.38
				6	0	1	1	21.32
				1	0	1	1	21.74
				1	2	1	1	21.89
				1	5	1	1	21.78
	20642	848.2	QPSK	3	0	1	1	21.51
				3	1	1	1	21.58
				3	3	1	1	21.57
				6	0	2	2	20.27
			16QAM	1	0	0	0	22.79
				1	2	0	0	22.72
				1	5	0	0	22.86
				3	0	0	0	22.69
				3	1	0	0	22.72
				3	3	0	0	22.58
				6	0	1	1	21.52
			16QAM	1	0	1	1	21.99
				1	2	1	1	22.09
				1	5	1	1	22.00
				3	0	1	1	21.74
				3	1	1	1	21.78
				3	3	1	1	21.73
				6	0	2	2	20.47

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	20407	824.7	QPSK	1	0	MPR is disabled when power reduction is enabled		18.69
				1	2			18.61
				1	5			18.62
				3	0			18.42
				3	1			18.43
				3	3			18.41
				6	0			18.42
			16QAM	1	0			18.64
				1	2			18.68
				1	5			18.79
				3	0			18.60
				3	1			18.67
				3	3			18.58
	20525	836.5	QPSK	6	0			18.62
				1	0			18.50
				1	2			18.65
				1	5			18.51
				3	0			18.26
				3	1			18.34
				3	3			18.31
				6	0			18.28
			16QAM	1	0			18.56
				1	2			18.79
				1	5			18.74
				3	0			18.40
				3	1			18.47
				3	3			18.43
	20642	848.2	QPSK	6	0			18.48
				1	0			18.71
				1	2			18.77
				1	5			18.69
				3	0			18.53
				3	1			18.59
				3	3			18.58
				6	0			18.54
			16QAM	1	0			18.78
				1	2			18.81
				1	5			18.87
				3	0			18.63
				3	1			18.71
				3	3			18.65
				6	0			18.70

9.7. 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	13.10	+/-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.

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	20850	2510	QPSK	1	0	0	0	21.00
				1	49	0	0	20.82
				1	99	0	0	20.98
				50	0	1	1	19.77
				50	24	1	1	19.91
				50	49	1	1	19.90
				100	0	1	1	19.87
			16QAM	1	0	1	1	20.32
				1	49	1	1	20.29
				1	99	1	1	20.46
				50	0	2	2	18.87
				50	24	2	2	19.00
				50	49	2	2	19.01
				100	0	2	2	18.91
	21100	2535	QPSK	1	0	0	0	20.85
				1	49	0	0	21.09
				1	99	0	0	21.04
				50	0	1	1	19.97
				50	24	1	1	20.07
				50	49	1	1	20.05
				100	0	1	1	20.01
			16QAM	1	0	1	1	20.56
				1	49	1	1	20.50
				1	99	1	1	20.41
				50	0	2	2	19.02
				50	24	2	2	19.10
				50	49	2	2	19.11
				100	0	2	2	19.05
	21350	2560	QPSK	1	0	0	0	20.88
				1	49	0	0	20.92
				1	99	0	0	20.90
				50	0	1	1	19.87
				50	24	1	1	19.94
				50	49	1	1	19.91
				100	0	1	1	19.89
			16QAM	1	0	1	1	20.35
				1	49	1	1	20.40
				1	99	1	1	20.34
				50	0	2	2	18.93
				50	24	2	2	18.96
				50	49	2	2	18.96
				100	0	2	2	18.96

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	20850	2510	QPSK	1	0	MPR is disabled when power reduction is enabled		13.26
				1	49			13.37
				1	99			13.44
				50	0			13.29
				50	24			13.44
				50	49			13.50
				100	0			13.38
			16QAM	1	0			14.01
				1	49			13.82
				1	99			13.98
				50	0			13.33
				50	24			13.47
				50	49			13.48
				100	0			13.44
	21100	2535	QPSK	1	0			13.44
				1	49			13.64
				1	99			13.50
				50	0			13.49
				50	24			13.57
				50	49			13.65
				100	0			13.50
			16QAM	1	0			13.81
				1	49			14.03
				1	99			13.91
				50	0			13.52
				50	24			13.57
				50	49			13.56
				100	0			13.58
	21350	2560	QPSK	1	0			13.40
				1	49			13.43
				1	99			13.41
				50	0			13.39
				50	24			13.41
				50	49			13.42
				100	0			13.38
			16QAM	1	0			13.96
				1	49			13.94
				1	99			14.04
				50	0			13.45
				50	24			13.46
				50	49			13.48
				100	0			13.46

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	20825	2507.5	QPSK	1	0	0	0	20.76
				1	37	0	0	20.66
				1	74	0	0	20.97
				36	0	1	1	19.79
				36	19	1	1	19.85
				36	39	1	1	19.84
				75	0	1	1	19.79
			16QAM	1	0	1	1	19.68
				1	37	1	1	19.77
				1	74	1	1	19.74
				36	0	2	2	18.78
				36	19	2	2	18.92
				36	39	2	2	18.86
				75	0	2	2	18.85
	21100	2535	QPSK	1	0	0	0	21.19
				1	37	0	0	21.02
				1	74	0	0	21.17
				36	0	1	1	19.99
				36	19	1	1	20.15
				36	39	1	1	20.03
				75	0	1	1	20.00
			16QAM	1	0	1	1	20.46
				1	37	1	1	20.44
				1	74	1	1	20.39
				36	0	2	2	19.06
				36	19	2	2	19.21
				36	39	2	2	19.13
				75	0	2	2	19.07
	21375	2562.5	QPSK	1	0	0	0	21.09
				1	37	0	0	20.88
				1	74	0	0	21.05
				36	0	1	1	19.87
				36	19	1	1	19.95
				36	39	1	1	19.95
				75	0	1	1	19.88
			16QAM	1	0	1	1	20.20
				1	37	1	1	20.16
				1	74	1	1	20.27
				36	0	2	2	18.92
				36	19	2	2	19.01
				36	39	2	2	18.99
				75	0	2	2	18.94

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	20825	2507.5	QPSK	1	0	MPR is disabled when power reduction is enabled		13.45
				1	37			13.23
				1	74			13.59
				36	0			13.26
				36	19			13.36
				36	39			13.34
				75	0			13.27
			16QAM	1	0			13.12
				1	37			13.27
				1	74			13.32
				36	0			13.30
				36	19			13.39
				36	39			13.37
				75	0			13.35
	21100	2535	QPSK	1	0			13.74
				1	37			13.53
				1	74			13.67
				36	0			13.49
				36	19			13.66
				36	39			13.56
				75	0			13.49
			16QAM	1	0			13.91
				1	37			14.03
				1	74			13.93
				36	0			13.56
				36	19			13.74
				36	39			13.63
				75	0			13.55
	21375	2562.5	QPSK	1	0			13.57
				1	37			13.40
				1	74			13.56
				36	0			13.34
				36	19			13.42
				36	39			13.45
				75	0			13.37
			16QAM	1	0			13.75
				1	37			13.76
				1	74			13.72
				36	0			13.42
				36	19			13.50
				36	39			13.52
				75	0			13.39

LTE Band 7, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20800	2505	QPSK	1	0	0	0	20.87
				1	24	0	0	20.78
				1	49	0	0	20.99
				25	0	1	1	19.89
				25	12	1	1	19.82
				25	24	1	1	19.76
				50	0	1	1	19.83
			16QAM	1	0	1	1	19.99
				1	24	1	1	19.85
				1	49	1	1	20.35
				25	0	2	2	18.89
				25	12	2	2	18.88
				25	24	2	2	18.80
				50	0	2	2	18.81
	21100	2535	QPSK	1	0	0	0	21.22
				1	24	0	0	21.02
				1	49	0	0	21.20
				25	0	1	1	19.98
				25	12	1	1	19.96
				25	24	1	1	20.01
				50	0	1	1	19.98
			16QAM	1	0	1	1	20.42
				1	24	1	1	20.42
				1	49	1	1	20.38
				25	0	2	2	19.03
				25	12	2	2	19.05
				25	24	2	2	19.06
				50	0	2	2	19.03
	21400	2565	QPSK	1	0	0	0	20.91
				1	24	0	0	20.82
				1	49	0	0	21.07
				25	0	1	1	19.81
				25	12	1	1	19.79
				25	24	1	1	19.83
				50	0	1	1	19.78
			16QAM	1	0	1	1	20.11
				1	24	1	1	20.18
				1	49	1	1	20.17
				25	0	2	2	18.85
				25	12	2	2	18.87
				25	24	2	2	18.85
				50	0	2	2	18.86

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	20800	2505	QPSK	1	0	MPR is disabled when power reduction is enabled		13.44
				1	24			13.38
				1	49			13.51
				25	0			13.28
				25	12			13.30
				25	24			13.21
				50	0			13.28
			16QAM	1	0			13.63
				1	24			13.41
				1	49			13.66
				25	0			13.34
				25	12			13.37
				25	24			13.29
				50	0			13.29
	21100	2535	QPSK	1	0			13.60
				1	24			13.54
				1	49			13.58
				25	0			13.42
				25	12			13.40
				25	24			13.46
				50	0			13.47
			16QAM	1	0			13.90
				1	24			13.59
				1	49			13.71
				25	0			13.48
				25	12			13.49
				25	24			13.55
				50	0			13.42
	21400	2565	QPSK	1	0			13.36
				1	24			13.31
				1	49			13.32
				25	0			13.19
				25	12			13.20
				25	24			13.21
				50	0			13.21
			16QAM	1	0			13.58
				1	24			13.53
				1	49			13.46
				25	0			13.26
				25	12			13.29
				25	24			13.28
				50	0			13.27

LTE Band 7, 5 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	20775	2502.5	QPSK	1	0	0	0	21.04
				1	12	0	0	20.87
				1	24	0	0	21.00
				12	0	1	1	19.88
				12	6	1	1	19.80
				12	11	1	1	19.86
				25	0	1	1	19.87
			16QAM	1	0	1	1	20.07
				1	12	1	1	20.07
				1	24	1	1	20.13
				12	0	2	2	18.91
				12	6	2	2	18.82
				12	11	2	2	18.89
				25	0	2	2	18.83
	21100	2535	QPSK	1	0	0	0	21.21
				1	12	0	0	20.99
				1	24	0	0	21.11
				12	0	1	1	19.94
				12	6	1	1	19.97
				12	11	1	1	19.94
				25	0	1	1	19.92
			16QAM	1	0	1	1	20.71
				1	12	1	1	20.64
				1	24	1	1	20.68
				12	0	2	2	19.17
				12	6	2	2	19.16
				12	11	2	2	19.17
				25	0	2	2	19.02
	21425	2567.5	QPSK	1	0	0	0	20.97
				1	12	0	0	20.76
				1	24	0	0	21.04
				12	0	1	1	19.74
				12	6	1	1	19.81
				12	11	1	1	19.80
				25	0	1	1	19.76
			16QAM	1	0	1	1	19.96
				1	12	1	1	19.91
				1	24	1	1	20.02
				12	0	2	2	18.84
				12	6	2	2	18.87
				12	11	2	2	18.87
				25	0	2	2	18.78

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	20775	2502.5	QPSK	1	0	MPR is disabled when power reduction is enabled		13.48
				1	12			13.28
				1	24			13.41
				12	0			13.27
				12	6			13.22
				12	11			13.30
				25	0			13.27
			16QAM	1	0			13.44
				1	12			13.35
				1	24			13.46
				12	0			13.35
				12	6			13.31
				12	11			13.36
				25	0			13.29
	21100	2535	QPSK	1	0			13.56
				1	12			13.37
				1	24			13.59
				12	0			13.46
				12	6			13.49
				12	11			13.50
				25	0			13.44
			16QAM	1	0			13.59
				1	12			13.72
				1	24			13.64
				12	0			13.55
				12	6			13.56
				12	11			13.55
				25	0			13.45
	21425	2567.5	QPSK	1	0			13.41
				1	12			13.20
				1	24			13.43
				12	0			13.32
				12	6			13.33
				12	11			13.35
				25	0			13.29
			16QAM	1	0			13.38
				1	12			13.68
				1	24			13.45
				12	0			13.36
				12	6			13.41
				12	11			13.39
				25	0			13.29

9.8. 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	20.20	+/-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.

**LTE Band 12, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23060	704	QPSK	1	0	0	0	23.18
				1	24	0	0	23.12
				1	49	0	0	23.13
				25	0	1	1	21.95
				25	12	1	1	21.94
				25	24	1	1	21.94
				50	0	1	1	22.00
			16QAM	1	0	1	1	22.29
				1	24	1	1	22.22
				1	49	1	1	22.15
				25	0	2	2	20.98
				25	12	2	2	21.03
				25	24	2	2	21.00
				50	0	2	2	21.00
	23095	707.5	QPSK	1	0	0	0	23.26
				1	24	0	0	23.08
				1	49	0	0	23.20
				25	0	1	1	21.95
				25	12	1	1	21.98
				25	24	1	1	21.91
				50	0	1	1	21.94
			16QAM	1	0	1	1	22.38
				1	24	1	1	22.30
				1	49	1	1	22.30
				25	0	2	2	21.06
				25	12	2	2	21.10
				25	24	2	2	21.04
				50	0	2	2	20.96
	23130	711	QPSK	1	0	0	0	23.18
				1	24	0	0	23.11
				1	49	0	0	23.07
				25	0	1	1	22.04
				25	12	1	1	21.90
				25	24	1	1	21.85
				50	0	1	1	21.91
			16QAM	1	0	1	1	22.37
				1	24	1	1	22.29
				1	49	1	1	22.26
				25	0	2	2	21.04
				25	12	2	2	20.96
				25	24	2	2	20.87
				50	0	2	2	20.98

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23060	704	QPSK	1	0	MPR is disabled when power reduction is enabled		20.99
				1	24			20.91
				1	49			20.93
				25	0			20.80
				25	12			20.77
				25	24			20.76
				50	0			20.89
			16QAM	1	0			21.11
				1	24			21.11
				1	49			20.94
				25	0			20.85
				25	12			20.84
				25	24			20.82
				50	0			20.80
	23095	707.5	QPSK	1	0			20.88
				1	24			20.80
				1	49			20.80
				25	0			20.82
				25	12			20.83
				25	24			20.76
				50	0			20.73
			16QAM	1	0			21.08
				1	24			20.88
				1	49			20.94
				25	0			20.82
				25	12			20.86
				25	24			20.81
				50	0			20.70
	23130	711	QPSK	1	0			20.97
				1	24			20.82
				1	49			20.72
				25	0			20.80
				25	12			20.65
				25	24			20.62
				50	0			20.75
			16QAM	1	0			21.07
				1	24			20.95
				1	49			20.91
				25	0			20.80
				25	12			20.69
				25	24			20.63
				50	0			20.72

LTE Band 12, 5 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23035	701.5	QPSK	1	0	0	0	23.14
				1	12	0	0	23.16
				1	24	0	0	23.28
				12	0	1	1	21.91
				12	6	1	1	22.03
				12	11	1	1	21.96
				25	0	1	1	22.04
			16QAM	1	0	1	1	22.15
				1	12	1	1	21.97
				1	24	1	1	22.29
				12	0	2	2	21.00
				12	6	2	2	21.09
				12	11	2	2	21.04
				25	0	2	2	20.95
	23095	707.5	QPSK	1	0	0	0	23.24
				1	12	0	0	22.86
				1	24	0	0	23.03
				12	0	1	1	21.92
				12	6	1	1	21.91
				12	11	1	1	21.91
				25	0	1	1	21.96
			16QAM	1	0	1	1	22.67
				1	12	1	1	22.53
				1	24	1	1	22.49
				12	0	2	2	21.12
				12	6	2	2	21.11
				12	11	2	2	21.08
				25	0	2	2	21.03
	23155	713.5	QPSK	1	0	0	0	23.09
				1	12	0	0	22.81
				1	24	0	0	22.94
				12	0	1	1	21.80
				12	6	1	1	21.86
				12	11	1	1	21.82
				25	0	1	1	21.88
			16QAM	1	0	1	1	22.46
				1	12	1	1	22.55
				1	24	1	1	22.51
				12	0	2	2	20.99
				12	6	2	2	21.02
				12	11	2	2	21.04
				25	0	2	2	20.92

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23035	701.5	QPSK	1	0	MPR is disabled when power reduction is enabled		21.03
				1	12			20.93
				1	24			21.02
				12	0			20.78
				12	6			20.90
				12	11			20.83
				25	0			20.88
			16QAM	1	0			21.06
				1	12			20.92
				1	24			21.08
				12	0			20.81
				12	6			20.93
				12	11			20.85
				25	0			20.80
	23095	707.5	QPSK	1	0			21.06
				1	12			20.73
				1	24			20.96
				12	0			20.78
				12	6			20.79
				12	11			20.79
				25	0			20.79
			16QAM	1	0			21.09
				1	12			20.63
				1	24			20.94
				12	0			20.82
				12	6			20.82
				12	11			20.79
				25	0			20.75
	23155	713.5	QPSK	1	0			20.92
				1	12			20.68
				1	24			20.83
				12	0			20.65
				12	6			20.69
				12	11			20.65
				25	0			20.63
			16QAM	1	0			20.84
				1	12			20.66
				1	24			20.81
				12	0			20.69
				12	6			20.72
				12	11			20.68
				25	0			20.62

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	23025	700.5	QPSK	1	0	0	0	23.16
				1	7	0	0	23.19
				1	14	0	0	23.14
				8	0	1	1	21.97
				8	4	1	1	22.06
				8	7	1	1	21.97
				15	0	1	1	22.02
			16QAM	1	0	1	1	22.12
				1	7	1	1	22.09
				1	14	1	1	22.05
				8	0	2	2	21.04
				8	4	2	2	21.11
				8	7	2	2	21.06
				15	0	2	2	21.03
	23095	707.5	QPSK	1	0	0	0	23.13
				1	7	0	0	23.36
				1	14	0	0	23.12
				8	0	1	1	21.97
				8	4	1	1	21.95
				8	7	1	1	21.94
				15	0	1	1	21.91
			16QAM	1	0	1	1	22.62
				1	7	1	1	22.48
				1	14	1	1	22.63
				8	0	2	2	21.04
				8	4	2	2	21.03
				8	7	2	2	20.96
				15	0	2	2	20.96
	23165	714.5	QPSK	1	0	0	0	23.02
				1	7	0	0	23.27
				1	14	0	0	22.96
				8	0	1	1	21.95
				8	4	1	1	21.86
				8	7	1	1	21.87
				15	0	1	1	21.87
			16QAM	1	0	1	1	22.47
				1	7	1	1	22.37
				1	14	1	1	22.50
				8	0	2	2	21.02
				8	4	2	2	20.93
				8	7	2	2	20.89
				15	0	2	2	20.93

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	23025	700.5	QPSK	1	0	MPR is disabled when power reduction is enabled		20.87
				1	7			20.91
				1	14			20.91
				8	0			20.77
				8	4			20.87
				8	7			20.80
				15	0			20.83
			16QAM	1	0			20.91
				1	7			20.86
				1	14			20.85
				8	0			20.87
				8	4			20.94
				8	7			20.88
				15	0			20.83
	23095	707.5	QPSK	1	0			20.77
				1	7			20.73
				1	14			20.83
				8	0			20.71
				8	4			20.73
				8	7			20.72
				15	0			20.72
			16QAM	1	0			20.83
				1	7			20.82
				1	14			20.76
				8	0			20.82
				8	4			20.81
				8	7			20.83
				15	0			20.75
	23165	714.5	QPSK	1	0			20.64
				1	7			20.71
				1	14			20.65
				8	0			20.67
				8	4			20.59
				8	7			20.59
				15	0			20.68
			16QAM	1	0			20.68
				1	7			20.72
				1	14			20.66
				8	0			20.76
				8	4			20.66
				8	7			20.71
				15	0			20.71

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	23017	699.7	QPSK	1	0	0	0	23.23
				1	2	0	0	23.24
				1	5	0	0	23.15
				3	0	0	0	22.99
				3	1	0	0	23.09
				3	3	0	0	22.94
				6	0	1	1	21.83
			16QAM	1	0	1	1	22.28
				1	2	1	1	22.44
				1	5	1	1	22.34
				3	0	1	1	21.92
				3	1	1	1	22.02
				3	3	1	1	21.89
				6	0	2	2	20.98
	23095	707.5	QPSK	1	0	0	0	23.03
				1	2	0	0	23.18
				1	5	0	0	23.10
				3	0	0	0	22.92
				3	1	0	0	22.95
				3	3	0	0	22.92
				6	0	1	1	21.86
			16QAM	1	0	1	1	22.20
				1	2	1	1	22.19
				1	5	1	1	22.31
				3	0	1	1	21.93
				3	1	1	1	21.96
				3	3	1	1	21.96
				6	0	2	2	21.01
	23173	715.3	QPSK	1	0	0	0	23.00
				1	2	0	0	23.03
				1	5	0	0	22.98
				3	0	0	0	22.76
				3	1	0	0	22.81
				3	3	0	0	22.76
				6	0	1	1	21.80
			16QAM	1	0	1	1	22.08
				1	2	1	1	22.17
				1	5	1	1	22.16
				3	0	1	1	21.79
				3	1	1	1	21.87
				3	3	1	1	21.88
				6	0	2	2	20.95

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	23017	699.7	QPSK	1	0	MPR is disabled when power reduction is enabled		21.08
				1	2			21.04
				1	5			20.94
				3	0			20.75
				3	1			20.84
				3	3			20.71
				6	0			20.63
			16QAM	1	0			21.08
				1	2			21.15
				1	5			21.16
				3	0			20.84
				3	1			20.86
				3	3			20.77
				6	0			20.80
	23095	707.5	QPSK	1	0			20.85
				1	2			20.95
				1	5			20.86
				3	0			20.66
				3	1			20.74
				3	3			20.77
				6	0			20.67
			16QAM	1	0			20.96
				1	2			21.12
				1	5			21.14
				3	0			20.82
				3	1			20.87
				3	3			20.84
				6	0			20.83
	23173	715.3	QPSK	1	0			20.79
				1	2			20.83
				1	5			20.75
				3	0			20.51
				3	1			20.58
				3	3			20.52
				6	0			20.59
			16QAM	1	0			20.87
				1	2			20.95
				1	5			20.95
				3	0			20.62
				3	1			20.64
				3	3			20.63
				6	0			20.72

9.9. 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	18.70	+/-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.

**LTE Band 13, 10 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23230	782	QPSK	1	0	0	0	22.61
				1	24	0	0	22.72
				1	49	0	0	22.76
				25	0	1	1	21.73
				25	12	1	1	21.69
				25	24	1	1	21.57
				50	0	1	1	21.67
			16QAM	1	0	1	1	21.92
				1	24	1	1	21.94
				1	49	1	1	21.94
				25	0	2	2	20.72
				25	12	2	2	20.72
				25	24	2	2	20.65
				50	0	2	2	20.57

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23230	782	QPSK	1	0	MPR is disabled when power reduction is enabled		19.05
				1	24			19.24
				1	49			19.30
				25	0			19.22
				25	12			19.21
				25	24			19.18
				50	0			19.14
			16QAM	1	0			19.18
				1	24			19.64
				1	49			19.34
				25	0			19.33
				25	12			19.32
				25	24			19.28
				50	0			19.16

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23205	779.5	QPSK	1	0	0	0	22.72
				1	12	0	0	22.51
				1	24	0	0	22.93
				12	0	1	1	21.52
				12	6	1	1	21.61
				12	11	1	1	21.64
				25	0	1	1	21.66
			16QAM	1	0	1	1	21.61
				1	12	1	1	21.53
				1	24	1	1	21.99
				12	0	2	2	20.56
				12	6	2	2	20.65
				12	11	2	2	20.71
				25	0	2	2	20.53
	23230	782	QPSK	1	0	0	0	22.76
				1	12	0	0	22.65
				1	24	0	0	22.92
				12	0	1	1	21.59
				12	6	1	1	21.73
				12	11	1	1	21.65
				25	0	1	1	21.64
			16QAM	1	0	1	1	21.77
				1	12	1	1	21.71
				1	24	1	1	21.85
				12	0	2	2	20.68
				12	6	2	2	20.72
				12	11	2	2	20.69
				25	0	2	2	20.62
	23255	784.5	QPSK	1	0	0	0	22.86
				1	12	0	0	22.66
				1	24	0	0	22.90
				12	0	1	1	21.63
				12	6	1	1	21.67
				12	11	1	1	21.59
				25	0	1	1	21.65
			16QAM	1	0	1	1	21.81
				1	12	1	1	21.60
				1	24	1	1	21.91
				12	0	2	2	20.69
				12	6	2	2	20.76
				12	11	2	2	20.70
				25	0	2	2	20.68

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23205	779.5	QPSK	1	0	MPR is disabled when power reduction is enabled		19.14
				1	12			19.08
				1	24			19.40
				12	0			19.03
				12	6			19.15
				12	11			19.20
			16QAM	25	0			19.22
				1	0			19.20
				1	12			19.08
				1	24			19.38
				12	0			19.12
				12	6			19.19
				12	11			19.25
	23230	782	QPSK	25	0			19.12
				1	0			19.24
				1	12			19.13
				1	24			19.44
				12	0			19.15
				12	6			19.25
			16QAM	12	11			19.20
				25	0			19.22
				1	0			19.33
				1	12			19.18
				1	24			19.35
				12	0			19.22
	23255	784.5	QPSK	12	6			19.29
				12	11			19.28
				25	0			19.11
			16QAM	1	0			19.28
				1	12			19.13
				1	24			19.39
				12	0			19.18
				12	6			19.23
				12	11			19.17
				25	0			19.23
			16QAM	1	0			19.35
				1	12			19.14
				1	24			19.45
				12	0			19.24
				12	6			19.32
				12	11			19.25
				25	0			19.25

9.10. 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	15.90	+/-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.

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	26140	1860	QPSK	1	0	0	0	22.79
				1	49	0	0	22.78
				1	99	0	0	22.74
				50	0	1	1	21.55
				50	24	1	1	21.66
				50	49	1	1	21.64
				100	0	1	1	21.63
			16QAM	1	0	1	1	22.21
				1	49	1	1	22.12
				1	99	1	1	22.20
				50	0	2	2	20.62
				50	24	2	2	20.70
				50	49	2	2	20.67
				100	0	2	2	20.61
	26365	1882.5	QPSK	1	0	0	0	22.81
				1	49	0	0	22.92
				1	99	0	0	22.82
				50	0	1	1	21.71
				50	24	1	1	21.73
				50	49	1	1	21.72
				100	0	1	1	21.65
			16QAM	1	0	1	1	22.20
				1	49	1	1	22.30
				1	99	1	1	22.24
				50	0	2	2	20.71
				50	24	2	2	20.78
				50	49	2	2	20.77
				100	0	2	2	20.74
	26590	1905	QPSK	1	0	0	0	22.74
				1	49	0	0	22.75
				1	99	0	0	22.54
				50	0	1	1	21.56
				50	24	1	1	21.58
				50	49	1	1	21.61
				100	0	1	1	21.61
			16QAM	1	0	1	1	22.15
				1	49	1	1	22.06
				1	99	1	1	22.00
				50	0	2	2	20.63
				50	24	2	2	20.57
				50	49	2	2	20.61
				100	0	2	2	20.70

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	26140	1860	QPSK	1	0	MPR is disabled when power reduction is enabled		16.21
				1	49			16.23
				1	99			16.06
				50	0			15.99
				50	24			16.07
				50	49			16.06
				100	0			16.03
			16QAM	1	0			16.74
				1	49			16.77
				1	99			16.81
				50	0			15.98
				50	24			16.02
				50	49			16.16
				100	0			16.14
	26365	1882.5	QPSK	1	0			16.32
				1	49			16.43
				1	99			16.32
				50	0			16.11
				50	24			16.17
				50	49			16.16
				100	0			16.08
			16QAM	1	0			16.76
				1	49			16.76
				1	99			16.79
				50	0			16.21
				50	24			16.19
				50	49			16.18
				100	0			15.99
	26590	1905	QPSK	1	0			16.28
				1	49			16.25
				1	99			16.04
				50	0			16.02
				50	24			16.05
				50	49			16.07
				100	0			16.04
			16QAM	1	0			16.67
				1	49			16.68
				1	99			16.48
				50	0			16.10
				50	24			15.99
				50	49			16.03
				100	0			16.21

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	26115	1857.5	QPSK	1	0	0	0	22.53
				1	37	0	0	22.52
				1	74	0	0	22.46
				36	0	1	1	21.49
				36	19	1	1	21.55
				36	39	1	1	21.60
				75	0	1	1	21.59
			16QAM	1	0	1	1	21.53
				1	37	1	1	21.29
				1	74	1	1	21.45
				36	0	2	2	20.56
				36	19	2	2	20.63
				36	39	2	2	20.57
				75	0	2	2	20.63
	26365	1882.5	QPSK	1	0	0	0	22.60
				1	37	0	0	22.50
				1	74	0	0	22.57
				36	0	1	1	21.58
				36	19	1	1	21.62
				36	39	1	1	21.73
				75	0	1	1	21.69
			16QAM	1	0	1	1	21.52
				1	37	1	1	21.32
				1	74	1	1	21.55
				36	0	2	2	20.63
				36	19	2	2	20.70
				36	39	2	2	20.71
				75	0	2	2	20.72
	26615	1907.5	QPSK	1	0	0	0	22.53
				1	37	0	0	22.61
				1	74	0	0	22.52
				36	0	1	1	21.50
				36	19	1	1	21.55
				36	39	1	1	21.54
				75	0	1	1	21.60
			16QAM	1	0	1	1	21.68
				1	37	1	1	21.12
				1	74	1	1	21.51
				36	0	2	2	20.48
				36	19	2	2	20.53
				36	39	2	2	20.49
				75	0	2	2	20.62

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	26115	1857.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.95
				1	37			15.99
				1	74			15.89
				36	0			15.93
				36	19			15.99
				36	39			15.98
				75	0			16.00
			16QAM	1	0			15.73
				1	37			15.66
				1	74			15.77
				36	0			16.02
				36	19			16.01
				36	39			16.07
				75	0			16.08
	26365	1882.5	QPSK	1	0			16.06
				1	37			15.91
				1	74			15.95
				36	0			16.09
				36	19			16.17
				36	39			16.11
				75	0			16.13
			16QAM	1	0			15.90
				1	37			15.75
				1	74			15.71
				36	0			16.05
				36	19			16.17
				36	39			16.19
				75	0			16.14
	26615	1907.5	QPSK	1	0			15.98
				1	37			15.69
				1	74			16.01
				36	0			15.96
				36	19			15.96
				36	39			15.94
				75	0			16.02
			16QAM	1	0			15.79
				1	37			15.65
				1	74			15.94
				36	0			16.07
				36	19			16.03
				36	39			15.97
				75	0			16.13

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26090	1855	QPSK	1	0	0	0	22.72
				1	24	0	0	22.61
				1	49	0	0	22.70
				25	0	1	1	21.62
				25	12	1	1	21.68
				25	24	1	1	21.62
				50	0	1	1	21.66
			16QAM	1	0	1	1	21.83
				1	24	1	1	21.72
				1	49	1	1	21.56
				25	0	2	2	20.64
				25	12	2	2	20.70
				25	24	2	2	20.69
				50	0	2	2	20.66
	26365	1882.5	QPSK	1	0	0	0	22.76
				1	24	0	0	22.74
				1	49	0	0	22.74
				25	0	1	1	21.70
				25	12	1	1	21.76
				25	24	1	1	21.72
				50	0	1	1	21.79
			16QAM	1	0	1	1	21.96
				1	24	1	1	22.07
				1	49	1	1	21.80
				25	0	2	2	20.77
				25	12	2	2	20.82
				25	24	2	2	20.77
				50	0	2	2	20.72
	26640	1910	QPSK	1	0	0	0	22.74
				1	24	0	0	22.73
				1	49	0	0	22.84
				25	0	1	1	21.63
				25	12	1	1	21.73
				25	24	1	1	21.84
				50	0	1	1	21.76
			16QAM	1	0	1	1	22.11
				1	24	1	1	21.98
				1	49	1	1	21.97
				25	0	2	2	20.71
				25	12	2	2	20.77
				25	24	2	2	20.87
				50	0	2	2	20.75

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26090	1855	QPSK	1	0	MPR is disabled when power reduction is enabled		16.08
				1	24			16.03
				1	49			16.06
				25	0			16.02
				25	12			16.04
				25	24			16.01
				50	0			16.06
			16QAM	1	0			16.13
				1	24			16.02
				1	49			16.21
				25	0			16.08
				25	12			16.15
				25	24			16.09
				50	0			16.06
	26365	1882.5	QPSK	1	0			16.26
				1	24			16.32
				1	49			16.27
				25	0			16.22
				25	12			16.22
				25	24			16.12
				50	0			16.19
			16QAM	1	0			16.12
				1	24			16.16
				1	49			15.95
				25	0			16.36
				25	12			16.35
				25	24			16.25
				50	0			16.28
	26640	1910	QPSK	1	0			16.25
				1	24			16.15
				1	49			16.24
				25	0			16.15
				25	12			16.24
				25	24			16.31
				50	0			16.34
			16QAM	1	0			16.01
				1	24			16.17
				1	49			16.49
				25	0			16.28
				25	12			16.35
				25	24			16.38
				50	0			16.31

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26065	1852.5	QPSK	1	0	0	0	22.97
				1	12	0	0	22.68
				1	24	0	0	22.99
				12	0	1	1	21.62
				12	6	1	1	21.67
				12	11	1	1	21.65
				25	0	1	1	21.67
			16QAM	1	0	1	1	21.88
				1	12	1	1	21.83
				1	24	1	1	21.97
				12	0	2	2	20.70
				12	6	2	2	20.75
				12	11	2	2	20.75
				25	0	2	2	20.67
	26365	1882.5	QPSK	1	0	0	0	22.99
				1	12	0	1	22.45
				1	24	0	0	23.03
				12	0	1	1	21.65
				12	6	1	1	21.66
				12	11	1	1	21.70
				25	0	1	1	21.63
			16QAM	1	0	1	1	22.00
				1	12	1	1	21.75
				1	24	1	1	21.93
				12	0	2	2	20.78
				12	6	2	2	20.77
				12	11	2	2	20.80
				25	0	2	2	20.66
	26665	1912.5	QPSK	1	0	0	0	22.91
				1	12	0	0	22.89
				1	24	0	0	23.00
				12	0	1	1	21.79
				12	6	1	1	21.72
				12	11	1	1	21.79
				25	0	1	1	21.78
			16QAM	1	0	1	0	22.64
				1	12	1	0	22.60
				1	24	1	0	22.55
				12	0	2	2	20.96
				12	6	2	2	20.88
				12	11	2	2	20.92
				25	0	2	2	20.80

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26065	1852.5	QPSK	1	0	MPR is disabled when power reduction is enabled		16.42
				1	12			15.98
				1	24			16.20
				12	0			15.98
				12	6			16.03
				12	11			16.15
				25	0			16.06
			16QAM	1	0			16.40
				1	12			16.48
				1	24			16.43
				12	0			16.15
				12	6			16.20
				12	11			16.17
				25	0			16.12
	26365	1882.5	QPSK	1	0			16.38
				1	12			15.90
				1	24			16.33
				12	0			16.12
				12	6			16.12
				12	11			16.17
				25	0			16.07
			16QAM	1	0			16.69
				1	12			16.53
				1	24			16.07
				12	0			16.17
				12	6			16.23
				12	11			16.23
				25	0			16.10
	26665	1912.5	QPSK	1	0			16.53
				1	12			16.10
				1	24			16.45
				12	0			16.23
				12	6			16.19
				12	11			16.23
				25	0			16.18
			16QAM	1	0			16.44
				1	12			16.19
				1	24			16.39
				12	0			16.33
				12	6			16.25
				12	11			16.31
				25	0			16.16

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26055	1851.5	QPSK	1	0	0	0	22.60
				1	7	0	0	22.64
				1	14	0	0	22.61
				8	0	1	1	21.57
				8	4	1	1	21.65
				8	7	1	1	21.56
				15	0	1	1	21.61
			16QAM	1	0	1	1	21.52
				1	7	1	1	21.56
				1	14	1	1	21.56
				8	0	2	2	20.70
				8	4	2	2	20.82
				8	7	2	2	20.72
				15	0	2	2	20.64
	26365	1882.5	QPSK	1	0	0	0	22.91
				1	7	0	0	22.73
				1	14	0	0	22.88
				8	0	1	1	21.68
				8	4	1	1	21.65
				8	7	1	1	21.66
				15	0	1	1	21.65
			16QAM	1	0	1	1	22.08
				1	7	1	1	22.17
				1	14	1	1	22.10
				8	0	2	2	20.77
				8	4	2	2	20.73
				8	7	2	2	20.76
				15	0	2	2	20.69
	26675	1913.5	QPSK	1	0	0	0	23.10
				1	7	0	0	23.02
				1	14	0	0	22.96
				8	0	1	1	21.84
				8	4	1	1	21.88
				8	7	1	1	21.84
				15	0	1	1	21.85
			16QAM	1	0	1	1	22.41
				1	7	1	1	22.31
				1	14	1	1	22.39
				8	0	2	2	20.95
				8	4	2	2	20.92
				8	7	2	2	20.89
				15	0	2	2	20.88

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26055	1851.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.90
				1	7			15.97
				1	14			15.85
				8	0			16.03
				8	4			16.12
				8	7			16.01
				15	0			16.01
			16QAM	1	0			16.07
				1	7			16.11
				1	14			15.94
				8	0			16.24
				8	4			16.27
				8	7			16.18
				15	0			16.14
	26365	1882.5	QPSK	1	0			15.77
				1	7			16.06
				1	14			15.88
				8	0			16.05
				8	4			16.04
				8	7			16.04
				15	0			15.93
			16QAM	1	0			16.02
				1	7			15.92
				1	14			16.05
				8	0			16.21
				8	4			16.22
				8	7			16.19
				15	0			16.16
	26675	1913.5	QPSK	1	0			16.14
				1	7			16.27
				1	14			16.26
				8	0			16.28
				8	4			16.25
				8	7			16.23
				15	0			16.25
			16QAM	1	0			16.23
				1	7			16.22
				1	14			16.27
				8	0			16.46
				8	4			16.38
				8	7			16.39
				15	0			16.31

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

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)																																																																																																																																																																																																																																																																																																																																																																																																																																																														
1.4	26047	1850.7	QPSK	1	0	0	0	22.68																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	2	0	0	22.86																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	5	0	0	22.81																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	0	0	0	22.53																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	1	0	0	22.61																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	3	0	0	22.55																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			16QAM	6	0	1	1	21.55																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	0	1	1	21.75																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	2	1	1	22.15																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	5	1	1	21.94																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	0	1	1	21.63																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	1	1	1	21.75																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	26365	1882.5	QPSK	3	3	1	1	21.66																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				6	0	2	2	20.69																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	0	0	0	22.85																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	2	0	0	22.92																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	5	0	0	22.82																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	0	0	0	22.72																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			16QAM	3	1	0	0	22.76																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	3	0	0	22.62																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				6	0	1	1	21.55																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	0	1	1	22.04																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	2	1	1	22.31																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	5	1	1	21.99																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	26683	1914.3	QPSK	3	0	1	1	21.94																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	1	1	1	21.99																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	3	1	1	21.86																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				6	0	2	2	20.53																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	0	0	0	22.92																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	2	0	0	22.73																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			16QAM	1	5	0	0	22.85																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	0	0	0	22.80																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	1	0	0	22.78																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				3	3	0	0	22.80																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				6	0	1	1	21.76																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	0	1	1	22.17																																																																																																																																																																																																																																																																																																																																																																																																																																																														

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26047	1850.7	QPSK	1	0	MPR is disabled when power reduction is enabled		16.06
				1	2			16.18
				1	5			16.14
				3	0			15.92
				3	1			16.01
				3	3			15.93
				6	0			15.95
			16QAM	1	0			15.94
				1	2			16.12
				1	5			16.19
				3	0			16.24
				3	1			16.16
				3	3			16.00
	26365	1882.5	QPSK	6	0			16.16
				1	0			16.26
				1	2			16.35
				1	5			16.15
				3	0			16.04
				3	1			16.10
				3	3			16.03
				6	0			15.91
			16QAM	1	0			16.36
				1	2			16.46
				1	5			16.32
				3	0			16.19
				3	1			16.34
				3	3			16.18
	26683	1914.3	QPSK	6	0			16.00
				1	0			16.32
				1	2			16.37
				1	5			16.21
				3	0			16.18
				3	1			16.17
				3	3			16.17
				6	0			16.19
			16QAM	1	0			16.31
				1	2			16.38
				1	5			16.40
				3	0			16.19
				3	1			16.21
				3	3			16.21
				6	0			16.28

9.11. 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	26740	819	23.00	17.60	+/-1
		26865	831.5			
		26915	836.5			
		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	13	10	Table 6.2.4-2	Table 6.2.4-2
	6.6.3.3.2				
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 26, 10 MHz Bandwidth Output Power(Range : 814 – 824MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26740	819	QPSK	1	0	0	0	22.96
				1	24	0	0	22.92
				1	49	0	0	22.88
				25	0	1	1	21.99
				25	12	1	1	21.91
				25	24	1	1	21.89
				50	0	1	1	21.98
			16QAM	1	0	1	1	22.40
				1	24	1	1	22.03
				1	49	1	1	22.01
				25	0	2	2	20.97
				25	12	2	2	20.89
				25	24	2	2	20.84
				50	0	2	2	20.91

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26740	819	QPSK	1	0	MPR is disabled when power reduction is enabled		18.38
				1	24			18.25
				1	49			18.20
				25	0			18.25
				25	12			18.24
				25	24			18.21
				50	0			18.24
			16QAM	1	0			18.48
				1	24			18.52
				1	49			18.32
				25	0			18.44
				25	12			18.37
				25	24			18.35
				50	0			18.29

**LTE Band 26, 5 MHz Bandwidth Output Power(Range : 814 – 824MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26715	816.5	QPSK	1	0	0	0	23.27
				1	12	0	0	22.90
				1	24	0	0	22.99
				12	0	1	1	21.98
				12	6	1	1	22.06
				12	11	1	1	21.93
				25	0	1	1	21.98
			16QAM	1	0	1	1	22.28
				1	12	1	1	21.91
				1	24	1	1	21.98
				12	0	2	2	21.05
				12	6	2	2	21.09
				12	11	2	2	20.98
				25	0	2	2	20.85
	26740	819	QPSK	1	0	0	0	23.07
				1	12	0	0	22.80
				1	24	0	0	22.96
				12	0	1	1	21.79
				12	6	1	1	21.89
				12	11	1	1	21.81
				25	0	1	1	21.88
			16QAM	1	0	1	1	22.56
				1	12	1	1	22.46
				1	24	1	1	22.51
				12	0	2	2	20.88
				12	6	2	2	21.00
				12	11	2	2	20.86
				25	0	2	2	20.92
	26765	821.5	QPSK	1	0	0	0	23.00
				1	12	0	0	22.72
				1	24	0	0	22.86
				12	0	1	1	21.86
				12	6	1	1	21.81
				12	11	1	1	21.84
				25	0	1	1	21.88
			16QAM	1	0	1	1	22.50
				1	12	1	1	22.41
				1	24	1	1	22.50
				12	0	2	2	21.01
				12	6	2	2	20.98
				12	11	2	2	20.97
				25	0	2	2	20.90

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26715	816.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.49
				1	12			18.21
				1	24			18.41
				12	0			18.27
				12	6			18.35
				12	11			18.23
				25	0			18.28
			16QAM	1	0			18.58
				1	12			18.13
				1	24			18.29
				12	0			18.35
				12	6			18.40
				12	11			18.31
				25	0			18.22
	26740	819	QPSK	1	0			18.35
				1	12			18.19
				1	24			18.42
				12	0			18.11
				12	6			18.22
				12	11			18.13
				25	0			18.21
			16QAM	1	0			18.43
				1	12			18.13
				1	24			18.41
				12	0			18.18
				12	6			18.26
				12	11			18.17
				25	0			18.21
	26765	821.5	QPSK	1	0			18.43
				1	12			18.08
				1	24			18.26
				12	0			18.21
				12	6			18.18
				12	11			18.16
				25	0			18.21
			16QAM	1	0			18.30
				1	12			18.12
				1	24			18.28
				12	0			18.27
				12	6			18.22
				12	11			18.25
				25	0			18.17

**LTE Band 265, 3 MHz Bandwidth Output Power(Range : 814 – 824MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26705	815.5	QPSK	1	0	0	0	23.06
				1	7	0	0	23.03
				1	14	0	0	23.06
				8	0	1	1	22.08
				8	4	1	1	22.06
				8	7	1	1	21.97
				15	0	1	1	22.02
			16QAM	1	0	1	1	22.13
				1	7	1	1	22.02
				1	14	1	1	22.04
				8	0	2	2	21.17
				8	4	2	2	21.13
				8	7	2	2	21.09
				15	0	2	2	21.06
	26740	819	QPSK	1	0	0	0	23.02
				1	7	0	0	23.01
				1	14	0	0	23.00
				8	0	1	1	21.92
				8	4	1	1	21.91
				8	7	1	1	21.90
				15	0	1	1	21.89
			16QAM	1	0	1	1	22.49
				1	7	1	1	22.31
				1	14	1	1	22.46
				8	0	2	2	20.96
				8	4	2	2	20.96
				8	7	2	2	20.97
				15	0	2	2	20.87
	26755	822.5	QPSK	1	0	0	0	23.03
				1	7	0	0	23.02
				1	14	0	0	23.05
				8	0	1	1	21.82
				8	4	1	1	21.81
				8	7	1	1	21.79
				15	0	1	1	21.78
			16QAM	1	0	1	1	22.52
				1	7	1	1	22.36
				1	14	1	1	22.51
				8	0	2	2	20.85
				8	4	2	2	20.86
				8	7	2	2	20.82
				15	0	2	2	20.82

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26705	815.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.45
				1	7			18.43
				1	14			18.36
				8	0			18.31
				8	4			18.32
				8	7			18.24
				15	0			18.32
			16QAM	1	0			18.45
				1	7			18.35
				1	14			18.37
				8	0			18.38
				8	4			18.36
				8	7			18.29
				15	0			18.26
	26740	819	QPSK	1	0			18.16
				1	7			18.22
				1	14			18.17
				8	0			18.19
				8	4			18.23
				8	7			18.20
				15	0			18.21
			16QAM	1	0			18.18
				1	7			18.16
				1	14			18.25
				8	0			18.34
				8	4			18.36
				8	7			18.33
				15	0			18.25
	26755	822.5	QPSK	1	0			18.16
				1	7			18.13
				1	14			18.14
				8	0			18.16
				8	4			18.17
				8	7			18.11
				15	0			18.12
			16QAM	1	0			18.26
				1	7			18.12
				1	14			18.29
				8	0			18.26
				8	4			18.29
				8	7			18.27
				15	0			18.18

LTE Band 26, 1.4 MHz Bandwidth Output Power(Range : 814 – 824MHz)
Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26697	814.7	QPSK	1	0	0	0	23.23
				1	2	0	0	23.07
				1	5	0	0	23.06
				3	0	0	0	22.88
				3	1	0	0	22.97
				3	3	0	0	22.98
				6	0	1	1	21.98
			16QAM	1	0	1	1	22.17
				1	2	1	1	22.31
				1	5	1	1	22.10
				3	0	1	1	22.17
				3	1	1	1	22.24
				3	3	1	1	22.22
				6	0	2	2	21.19
	26740	819	QPSK	1	0	0	0	23.04
				1	2	0	0	22.95
				1	5	0	0	23.11
				3	0	0	0	22.87
				3	1	0	0	22.94
				3	3	0	0	22.84
				6	0	1	1	21.87
			16QAM	1	0	1	1	22.30
				1	2	1	1	22.43
				1	5	1	1	22.28
				3	0	1	1	22.01
				3	1	1	1	22.08
				3	3	1	1	22.01
				6	0	2	2	20.75
	26783	823.3	QPSK	1	0	0	0	23.03
				1	2	0	0	22.95
				1	5	0	0	23.09
				3	0	0	0	22.82
				3	1	0	0	22.89
				3	3	0	0	22.81
				6	0	1	1	21.67
			16QAM	1	0	1	1	22.23
				1	2	1	1	22.39
				1	5	1	1	22.29
				3	0	1	1	21.96
				3	1	1	1	22.08
				3	3	1	1	21.96
				6	0	2	2	20.60

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26697	814.7	QPSK	1	0	MPR is disabled when power reduction is enabled		18.44
				1	2			18.46
				1	5			18.30
				3	0			18.24
				3	1			18.29
				3	3			18.26
				6	0			18.19
			16QAM	1	0			18.48
				1	2			18.38
				1	5			18.47
				3	0			18.33
				3	1			18.37
				3	3			18.34
				6	0			18.39
	26740	819	QPSK	1	0			18.21
				1	2			18.38
				1	5			18.24
				3	0			18.06
				3	1			18.14
				3	3			18.05
				6	0			18.14
			16QAM	1	0			18.27
				1	2			18.51
				1	5			18.43
				3	0			18.16
				3	1			18.29
				3	3			18.18
				6	0			18.29
	26783	823.3	QPSK	1	0			18.24
				1	2			18.31
				1	5			18.30
				3	0			18.01
				3	1			18.12
				3	3			17.98
				6	0			17.99
			16QAM	1	0			18.35
				1	2			18.33
				1	5			18.42
				3	0			18.16
				3	1			18.27
				3	3			18.13
				6	0			18.15

**LTE Band 26, 15 MHz Bandwidth Output Power(Range : 824 – 849MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	26865	831.5	QPSK	1	0	0	0	22.90
				1	37	0	0	22.73
				1	74	0	0	22.60
				36	0	1	1	21.61
				36	19	1	1	21.56
				36	39	1	1	21.59
				75	0	1	1	21.60
			16QAM	1	0	1	1	21.69
				1	37	1	1	21.59
				1	74	1	1	21.50
				36	0	2	2	20.65
				36	19	2	2	20.58
				36	39	2	2	20.55
				75	0	2	2	20.67
	26915	836.5	QPSK	1	0	0	0	22.80
				1	37	0	0	22.52
				1	74	0	0	22.94
				36	0	1	1	21.64
				36	19	1	1	21.62
				36	39	1	1	21.59
				75	0	1	1	21.59
			16QAM	1	0	1	1	22.01
				1	37	1	1	21.98
				1	74	1	1	21.94
				36	0	2	2	20.64
				36	19	2	2	20.66
				36	39	2	2	20.60
				75	0	2	2	20.52
	26965	841.5	QPSK	1	0	0	0	22.75
				1	37	0	0	22.48
				1	74	0	0	22.69
				36	0	1	1	21.57
				36	19	1	1	21.56
				36	39	1	1	21.67
				75	0	1	1	21.61
			16QAM	1	0	1	1	21.94
				1	37	1	1	21.89
				1	74	1	1	21.94
				36	0	2	2	20.62
				36	19	2	2	20.61
				36	39	2	2	20.70
				75	0	2	2	20.63

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	26865	831.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.15
				1	37			17.92
				1	74			17.95
				36	0			17.99
				36	19			18.01
				36	39			17.98
				75	0			17.97
			16QAM	1	0			17.98
				1	37			17.95
				1	74			17.82
				36	0			18.00
				36	19			18.00
				36	39			17.96
				75	0			18.06
	26915	836.5	QPSK	1	0			18.04
				1	37			17.57
				1	74			18.10
				36	0			17.95
				36	19			17.96
				36	39			17.95
				75	0			17.92
			16QAM	1	0			17.97
				1	37			17.85
				1	74			17.89
				36	0			17.94
				36	19			17.94
				36	39			17.92
				75	0			17.92
	26965	841.5	QPSK	1	0			17.94
				1	37			17.60
				1	74			17.95
				36	0			17.93
				36	19			17.90
				36	39			17.98
				75	0			17.99
			16QAM	1	0			17.89
				1	37			17.80
				1	74			17.81
				36	0			17.94
				36	19			17.99
				36	39			18.00
				75	0			18.00

**LTE Band 26, 10 MHz Bandwidth Output Power(Range : 824 – 849MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26840	829	QPSK	1	0	0	0	22.84
				1	24	0	0	22.77
				1	49	0	0	22.77
				25	0	1	1	21.84
				25	12	1	1	21.66
				25	24	1	1	21.57
				50	0	1	1	21.77
			16QAM	1	0	1	1	22.03
				1	24	1	1	21.96
				1	49	1	1	21.72
				25	0	2	2	20.82
				25	12	2	2	20.68
				25	24	2	2	20.58
				50	0	2	2	20.62
	26915	836.5	QPSK	1	0	0	0	22.91
				1	24	0	0	22.89
				1	49	0	0	22.89
				25	0	1	1	21.66
				25	12	1	1	21.64
				25	24	1	1	21.69
				50	0	1	1	21.70
			16QAM	1	0	1	1	21.95
				1	24	1	1	22.05
				1	49	1	1	22.12
				25	0	2	2	20.64
				25	12	2	2	20.68
				25	24	2	2	20.70
				50	0	2	2	20.67
	26990	844	QPSK	1	0	0	0	22.93
				1	24	0	0	22.92
				1	49	0	0	22.87
				25	0	1	1	21.75
				25	12	1	1	21.60
				25	24	1	1	21.64
				50	0	1	1	21.73
			16QAM	1	0	1	1	22.15
				1	24	1	1	22.06
				1	49	1	1	22.12
				25	0	2	2	20.70
				25	12	2	2	20.69
				25	24	2	2	20.71
				50	0	2	2	20.76

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	26840	829	QPSK	1	0	MPR is disabled when power reduction is enabled		18.24
				1	24			18.05
				1	49			18.04
				25	0			18.12
				25	12			17.98
				25	24			17.87
				50	0			18.07
			16QAM	1	0			18.28
				1	24			18.29
				1	49			18.19
				25	0			18.15
				25	12			18.02
				25	24			17.95
	26915	836.5	QPSK	50	0			17.97
				1	0			18.01
				1	24			18.07
				1	49			18.14
				25	0			17.94
				25	12			17.95
				25	24			18.03
				50	0			18.01
			16QAM	1	0			18.23
				1	24			18.25
				1	49			18.25
				25	0			17.98
				25	12			18.00
				25	24			18.07
	26990	844	QPSK	50	0			18.02
				1	0			18.21
				1	24			18.16
				1	49			18.20
				25	0			18.02
				25	12			17.97
				25	24			18.01
				50	0			18.11
			16QAM	1	0			18.32
				1	24			18.25
				1	49			18.18
				25	0			18.05
				25	12			18.01
				25	24			18.02
				50	0			18.08

**LTE Band 26, 5 MHz Bandwidth Output Power(Range : 824 – 849MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26815	826.5	QPSK	1	0	0	0	22.97
				1	12	0	0	22.70
				1	24	0	0	22.78
				12	0	1	1	21.77
				12	6	1	1	21.80
				12	11	1	1	21.75
				25	0	1	1	21.75
			16QAM	1	0	1	1	22.07
				1	12	1	1	21.64
				1	24	1	1	21.87
				12	0	2	2	20.81
				12	6	2	2	20.84
				12	11	2	2	20.77
				25	0	2	2	20.65
	26915	836.5	QPSK	1	0	0	0	22.76
				1	12	0	0	22.60
				1	24	0	0	22.73
				12	0	1	1	21.52
				12	6	1	1	21.70
				12	11	1	1	21.69
				25	0	1	1	21.62
			16QAM	1	0	1	1	21.80
				1	12	1	1	21.81
				1	24	1	1	21.85
				12	0	2	2	20.80
				12	6	2	2	20.84
				12	11	2	2	20.79
				25	0	2	2	20.63
	27015	846.5	QPSK	1	0	0	0	22.80
				1	12	0	0	22.55
				1	24	0	0	22.77
				12	0	1	1	21.62
				12	6	1	1	21.69
				12	11	1	1	21.68
				25	0	1	1	21.60
			16QAM	1	0	1	1	21.86
				1	12	1	1	21.83
				1	24	1	1	21.86
				12	0	2	2	20.78
				12	6	2	2	20.84
				12	11	2	2	20.81
				25	0	2	2	20.67

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	26815	826.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.38
				1	12			18.12
				1	24			18.15
				12	0			18.12
				12	6			18.11
				12	11			18.06
				25	0			18.08
			16QAM	1	0			18.38
				1	12			18.09
				1	24			18.23
				12	0			18.17
				12	6			18.23
				12	11			18.13
				25	0			18.01
	26915	836.5	QPSK	1	0			18.17
				1	12			17.96
				1	24			18.32
				12	0			17.95
				12	6			18.02
				12	11			17.99
				25	0			17.98
			16QAM	1	0			18.16
				1	12			18.03
				1	24			18.20
				12	0			18.01
				12	6			18.09
				12	11			18.04
				25	0			17.92
	27015	846.5	QPSK	1	0			18.24
				1	12			18.01
				1	24			18.21
				12	0			17.96
				12	6			18.06
				12	11			18.04
				25	0			17.98
			16QAM	1	0			18.22
				1	12			18.11
				1	24			18.24
				12	0			18.05
				12	6			18.10
				12	11			18.07
				25	0			18.00

**LTE Band 26, 3 MHz Bandwidth Output Power(Range : 824 – 849MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26805	825.5	QPSK	1	0	0	0	22.85
				1	7	0	0	22.80
				1	14	0	0	22.69
				8	0	1	1	21.86
				8	4	1	1	21.76
				8	7	1	1	21.74
				15	0	1	1	21.75
			16QAM	1	0	1	1	21.93
				1	7	1	1	21.71
				1	14	1	1	21.87
				8	0	2	2	20.93
				8	4	2	2	20.84
				8	7	2	2	20.87
				15	0	2	2	20.76
	26915	836.5	QPSK	1	0	0	0	22.81
				1	7	0	0	22.98
				1	14	0	0	22.84
				8	0	1	1	21.65
				8	4	1	1	21.70
				8	7	1	1	21.68
				15	0	1	1	21.70
			16QAM	1	0	1	1	22.26
				1	7	1	1	22.13
				1	14	1	1	22.38
				8	0	2	2	20.75
				8	4	2	2	20.75
				8	7	2	2	20.74
				15	0	2	2	20.72
	27025	847.5	QPSK	1	0	0	0	22.78
				1	7	0	0	22.84
				1	14	0	0	22.82
				8	0	1	1	21.67
				8	4	1	1	21.68
				8	7	1	1	21.65
				15	0	1	1	21.67
			16QAM	1	0	1	1	22.30
				1	7	1	1	22.19
				1	14	1	1	22.25
				8	0	2	2	20.73
				8	4	2	2	20.76
				8	7	2	2	20.72
				15	0	2	2	20.71

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
3	26805	825.5	QPSK	1	0	MPR is disabled when power reduction is enabled		18.02
				1	7			18.03
				1	14			17.98
				8	0			18.16
				8	4			18.08
				8	7			18.08
			16QAM	15	0			18.06
				1	0			18.13
				1	7			17.94
				1	14			18.12
				8	0			18.27
				8	4			18.21
				8	7			18.21
				15	0			18.16
	26915	836.5	QPSK	1	0			17.95
				1	7			18.05
				1	14			18.05
				8	0			17.99
				8	4			18.04
				8	7			18.01
			16QAM	15	0			18.02
				1	0			17.98
				1	7			17.96
				1	14			18.16
				8	0			18.08
				8	4			18.13
				8	7			18.15
				15	0			18.03
	27025	847.5	QPSK	1	0			18.05
				1	7			18.04
				1	14			17.96
				8	0			17.99
				8	4			18.06
				8	7			18.02
			16QAM	15	0			18.03
				1	0			18.00
				1	7			17.98
				1	14			18.09
				8	0			18.11
				8	4			18.14
				8	7			18.14
				15	0			18.07

**LTE Band 26, 1.4 MHz Bandwidth Output Power(Range : 824 – 849MHz)
Full Power (Proximity Sensor Off)**

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26797	824.7	QPSK	1	0	0	0	22.96
				1	2	0	0	23.06
				1	5	0	0	22.88
				3	0	0	0	22.80
				3	1	0	0	22.82
				3	3	0	0	22.79
				6	0	1	1	21.73
			16QAM	1	0	1	1	22.08
				1	2	1	1	22.21
				1	5	1	1	22.08
				3	0	1	1	21.87
				3	1	1	1	21.86
				3	3	1	1	21.84
				6	0	2	2	20.80
	26915	836.5	QPSK	1	0	0	0	22.85
				1	2	0	0	22.73
				1	5	0	0	22.94
				3	0	0	0	22.66
				3	1	0	0	22.71
				3	3	0	0	22.69
				6	0	1	1	21.60
			16QAM	1	0	1	1	22.09
				1	2	1	1	22.19
				1	5	1	1	22.09
				3	0	1	1	21.84
				3	1	1	1	21.86
				3	3	1	1	21.82
				6	0	2	2	20.53
	27033	848.3	QPSK	1	0	0	0	22.85
				1	2	0	0	22.74
				1	5	0	0	22.89
				3	0	0	0	22.63
				3	1	0	0	22.69
				3	3	0	0	22.66
				6	0	1	1	21.60
			16QAM	1	0	1	1	22.08
				1	2	1	1	22.18
				1	5	1	1	22.08
				3	0	1	1	21.84
				3	1	1	1	21.84
				3	3	1	1	21.80
				6	0	2	2	20.53

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
1.4	26797	824.7	QPSK	1	0	MPR is disabled when power reduction is enabled		18.26
				1	2			18.13
				1	5			18.17
				3	0			18.03
				3	1			18.14
				3	3			18.03
				6	0			18.01
			16QAM	1	0			18.19
				1	2			18.39
				1	5			18.19
				3	0			18.27
				3	1			18.27
				3	3			18.29
	26915	836.5	QPSK	6	0			18.20
				1	0			18.12
				1	2			18.34
				1	5			18.15
				3	0			17.93
				3	1			18.00
				3	3			17.96
				6	0			17.94
			16QAM	1	0			18.16
				1	2			18.30
				1	5			18.35
				3	0			18.04
				3	1			18.09
				3	3			18.02
	27033	848.3	QPSK	6	0			18.10
				1	0			18.18
				1	2			18.23
				1	5			18.14
				3	0			17.89
				3	1			17.94
				3	3			17.87
				6	0			17.95
			16QAM	1	0			18.29
				1	2			18.30
				1	5			18.29
				3	0			18.03
				3	1			18.09
				3	3			18.05
				6	0			18.13

9.12. 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	15.10	+/-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	13	10	Table 6.2.4-2	Table 6.2.4-2
	6.6.3.3.2				
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 41, 20 MHz Bandwidth Output Power
Full Power (Proximity Sensor Off)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	Low	39750	2506	QPSK	1	0	0	0	21.04
					1	49	0	0	21.14
					1	99	0	0	21.18
					50	0	1	1	20.00
					50	24	1	1	20.16
					50	49	1	1	20.08
					100	0	1	1	20.17
				16QAM	1	0	1	1	20.00
					1	49	1	1	20.07
					1	99	1	1	20.00
					50	0	2	2	19.10
					50	24	2	2	19.22
					50	49	2	2	19.18
					100	0	2	2	19.13
	Mid	40620	2593	QPSK	1	0	0	0	21.14
					1	49	0	0	21.13
					1	99	0	0	21.12
					50	0	1	1	20.12
					50	24	1	1	20.19
					50	49	1	1	20.28
					100	0	1	1	20.10
				16QAM	1	0	1	1	20.57
					1	49	1	1	20.62
					1	99	1	1	20.63
					50	0	2	2	19.10
					50	24	2	2	19.21
					50	49	2	2	19.33
					100	0	2	2	19.23
	High	41490	2680	QPSK	1	0	0	0	21.40
					1	49	0	0	21.67
					1	99	0	0	21.66
					50	0	1	1	20.41
					50	24	1	1	20.49
					50	49	1	1	20.48
					100	0	1	1	20.38
				16QAM	1	0	1	1	20.97
					1	49	1	1	20.99
					1	99	1	1	20.84
					50	0	2	2	19.42
					50	24	2	2	19.46
					50	49	2	2	19.46
					100	0	2	2	19.39

LTE Band 41, 20 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	Low-Mid	40185	2549.5	QPSK	1	0	0	0	20.99
					1	49	0	0	21.06
					1	99	0	0	20.98
					50	0	1	1	20.05
					50	24	1	1	20.08
					50	49	1	1	20.01
					100	0	1	1	20.07
				16QAM	1	0	1	1	20.50
					1	49	1	1	20.52
					1	99	1	1	20.45
					50	0	2	2	19.02
					50	24	2	2	19.07
					50	49	2	2	19.03
					100	0	2	2	19.06
	Mid-High	41055	2636.5	QPSK	1	0	0	0	20.94
					1	49	0	0	21.13
					1	99	0	0	21.06
					50	0	1	1	20.07
					50	24	1	1	20.13
					50	49	1	1	20.20
					100	0	1	1	20.14
				16QAM	1	0	1	1	20.13
					1	49	1	1	20.20
					1	99	1	1	20.14
					50	0	2	2	19.09
					50	24	2	2	19.19
					50	49	2	2	19.20
					100	0	2	2	19.16

Reduced Power (Proximity Sensor On)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	Low	39750	2506	QPSK	1	0	MPR is disabled when power reduction is enabled		15.23
					1	49			15.44
					1	99			15.32
					50	0			15.36
					50	24			15.48
					50	49			15.35
					100	0			15.50
				16QAM	1	0			15.63
					1	49			15.79
					1	99			15.63
					50	0			15.27
					50	24			15.44
					50	49			15.37
					100	0			15.45
	Mid	40620	2593	QPSK	1	0			15.43
					1	49			15.51
					1	99			15.52
					50	0			15.46
					50	24			15.58
					50	49			15.59
					100	0			15.60
				16QAM	1	0			15.75
					1	49			15.73
					1	99			15.69
					50	0			15.53
					50	24			15.53
					50	49			15.61
					100	0			15.64
	High	41490	2680	QPSK	1	0			15.77
					1	49			15.80
					1	99			15.71
					50	0			15.70
					50	24			15.74
					50	49			15.78
					100	0			15.68
				16QAM	1	0			15.89
					1	49			16.00
					1	99			15.73
					50	0			15.83
					50	24			15.83
					50	49			15.87
					100	0			15.72

Reduced Power (Proximity Sensor On) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
20	Low-Mid	40185	2549.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.44
					1	49			15.50
					1	99			15.44
					50	0			15.43
					50	24			15.49
					50	49			15.43
					100	0			15.47
				16QAM	1	0			15.91
					1	49			15.97
					1	99			15.95
					50	0			15.45
					50	24			15.49
					50	49			15.49
	Mid-High	41055	2636.5	QPSK	100	0			15.52
					1	0			15.44
					1	49			15.61
					1	99			15.50
					50	0			15.50
					50	24			15.51
					50	49			15.61
					100	0			15.52
				16QAM	1	0			15.53
					1	49			15.58
					1	99			15.62
					50	0			15.54
					50	24			15.59
					50	49			15.62
					100	0			15.57

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

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	Low	39750	2506	QPSK	1	0	0	0	21.07
					1	37	0	0	21.04
					1	74	0	0	21.11
					36	0	1	1	20.03
					36	19	1	1	20.05
					36	39	1	1	20.01
					75	0	1	1	20.01
				16QAM	1	0	1	0	20.77
					1	37	1	1	20.54
					1	74	1	1	20.29
					36	0	2	2	19.01
					36	19	2	2	19.07
					36	39	2	2	19.01
					75	0	2	2	19.01
	Mid	40620	2593	QPSK	1	0	0	0	21.16
					1	37	0	0	21.49
					1	74	0	0	21.20
					36	0	1	1	20.13
					36	19	1	1	20.16
					36	39	1	1	20.18
					75	0	1	1	20.13
				16QAM	1	0	1	1	20.82
					1	37	1	1	20.41
					1	74	1	1	20.77
					36	0	2	2	19.14
					36	19	2	2	19.18
					36	39	2	2	19.14
					75	0	2	2	19.18
	High	41490	2680	QPSK	1	0	0	0	21.21
					1	37	0	0	21.36
					1	74	0	0	21.07
					36	0	1	1	20.33
					36	19	1	1	20.26
					36	39	1	1	20.37
					75	0	1	1	20.27
				16QAM	1	0	1	1	20.34
					1	37	1	1	20.46
					1	74	1	1	20.28
					36	0	2	2	19.32
					36	19	2	2	19.28
					36	39	2	2	19.32
					75	0	2	2	19.28

LTE Band 41, 15 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	Low-Mid	40185	2549.5	QPSK	1	0	0	0	21.03
					1	37	0	0	21.03
					1	74	0	0	21.09
					36	0	1	1	20.06
					36	19	1	1	20.09
					36	39	1	1	20.03
					75	0	1	1	20.06
				16QAM	1	0	1	1	20.06
					1	37	1	1	20.18
					1	74	1	1	20.03
					36	0	2	2	19.05
					36	19	2	2	19.12
					36	39	2	2	19.02
					75	0	2	2	19.02
	Mid-High	41055	2636.5	QPSK	1	0	0	0	21.13
					1	37	0	0	21.49
					1	74	0	0	21.24
					36	0	1	1	20.04
					36	19	1	1	20.14
					36	39	1	1	20.15
					75	0	1	1	20.09
				16QAM	1	0	1	1	20.72
					1	37	1	1	20.71
					1	74	1	1	20.83
					36	0	2	2	19.08
					36	19	2	2	19.21
					36	39	2	2	19.12
					75	0	2	2	19.14

Reduced Power (Proximity Sensor On)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	Low	39750	2506	QPSK	1	0	MPR is disabled when power reduction is enabled		15.35
					1	37			15.61
					1	74			15.28
					36	0			15.34
					36	19			15.43
					36	39			15.32
					75	0			15.35
				16QAM	1	0			15.45
					1	37			15.67
					1	74			15.43
					36	0			15.19
					36	19			15.34
					36	39			15.15
					75	0			15.36
	Mid	40620	2593	QPSK	1	0			15.41
					1	37			15.69
					1	74			15.45
					36	0			15.54
					36	19			15.51
					36	39			15.52
					75	0			15.52
				16QAM	1	0			15.49
					1	37			15.54
					1	74			15.52
					36	0			15.61
					36	19			15.68
					36	39			15.53
	High	41490	2680	QPSK	75	0			15.54
					1	0			15.62
					1	37			15.42
					1	74			15.60
					36	0			15.68
					36	19			15.63
					36	39			15.70
					75	0			15.58
				16QAM	1	0			15.70
					1	37			15.90
					1	74			15.77
					36	0			15.63
					36	19			15.63
					36	39			15.70
					75	0			15.61

Reduced Power (Proximity Sensor On) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
15	Low-Mid	40185	2549.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.37
					1	37			15.47
					1	74			15.24
					36	0			15.46
					36	19			15.48
					36	39			15.47
					75	0			15.42
				16QAM	1	0			15.50
					1	37			15.57
					1	74			15.36
					36	0			15.49
					36	19			15.56
					36	39			15.52
					75	0			15.46
	Mid-High	41055	2636.5	QPSK	1	0			15.45
					1	37			15.65
					1	74			15.52
					36	0			15.43
					36	19			15.48
					36	39			15.52
					75	0			15.47
				16QAM	1	0			15.47
					1	37			15.51
					1	74			15.62
					36	0			15.40
					36	19			15.47
					36	39			15.48
					75	0			15.49

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

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	Low	39750	2506	QPSK	1	0	0	0	21.18
					1	24	0	0	21.19
					1	49	0	0	21.22
					25	0	1	1	20.02
					25	12	1	1	20.02
					25	24	1	1	20.08
					50	0	1	1	20.01
				16QAM	1	0	1	1	20.40
					1	24	1	1	20.68
					1	49	1	1	20.12
					25	0	2	2	19.05
					25	12	2	2	19.07
					25	24	2	2	19.05
					50	0	2	2	19.02
	Mid	40620	2593	QPSK	1	0	0	0	21.03
					1	24	0	0	21.03
					1	49	0	0	21.08
					25	0	1	1	20.00
					25	12	1	1	20.00
					25	24	1	1	20.09
					50	0	1	1	20.00
				16QAM	1	0	1	1	20.27
					1	24	1	1	20.32
					1	49	1	1	20.53
					25	0	2	2	19.05
					25	12	2	2	19.09
					25	24	2	2	19.20
					50	0	2	2	19.10
	High	41490	2680	QPSK	1	0	0	0	21.23
					1	24	0	0	21.20
					1	49	0	0	21.28
					25	0	1	1	20.22
					25	12	1	1	20.07
					25	24	1	1	20.10
					50	0	1	1	20.12
				16QAM	1	0	1	1	20.70
					1	24	1	1	20.66
					1	49	1	1	20.67
					25	0	2	2	19.18
					25	12	2	2	19.03
					25	24	2	2	19.16
					50	0	2	2	19.14

LTE Band 41, 10 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	Low-Mid	40185	2549.5	QPSK	1	0	0	0	21.20
					1	24	0	0	21.16
					1	49	0	0	21.04
					25	0	1	1	20.09
					25	12	1	1	20.03
					25	24	1	1	20.04
					50	0	1	1	20.01
				16QAM	1	0	1	1	20.38
					1	24	1	1	20.25
					1	49	1	1	20.63
					25	0	2	2	19.06
					25	12	2	2	19.03
					25	24	2	2	19.01
					50	0	2	2	19.05
	Mid-High	41055	2636.5	QPSK	1	0	0	0	21.18
					1	24	0	0	21.07
					1	49	0	0	21.18
					25	0	1	1	20.09
					25	12	1	1	20.01
					25	24	1	1	20.09
					50	0	1	1	20.01
				16QAM	1	0	1	1	20.69
					1	24	1	1	20.62
					1	49	1	1	20.54
					25	0	2	2	19.04
					25	12	2	2	19.06
					25	24	2	2	19.04
					50	0	2	2	19.09

Reduced Power (Proximity Sensor On)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	Low	39750	2506	QPSK	1	0	MPR is disabled when power reduction is enabled		15.32
					1	24			15.38
					1	49			15.41
					25	0			15.33
					25	12			15.36
					25	24			15.20
					50	0			15.30
				16QAM	1	0			15.87
					1	24			15.76
					1	49			15.96
					25	0			15.33
					25	12			15.31
					25	24			15.19
					50	0			15.39
	Mid	40620	2593	QPSK	1	0			15.25
					1	24			15.30
					1	49			15.41
					25	0			15.39
					25	12			15.43
					25	24			15.41
					50	0			15.40
				16QAM	1	0			15.63
					1	24			15.54
					1	49			15.87
					25	0			15.44
					25	12			15.50
					25	24			15.54
	High	41490	2680	QPSK	50	0			15.51
					1	0			15.51
					1	24			15.48
					1	49			15.51
					25	0			15.57
					25	12			15.49
					25	24			15.59
					50	0			15.50
				16QAM	1	0			15.99
					1	24			15.88
					1	49			15.92
					25	0			15.60
					25	12			15.43
					25	24			15.52
					50	0			15.60

Reduced Power (Proximity Sensor On) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	Low-Mid	40185	2549.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.26
					1	24			15.08
					1	49			15.12
					25	0			15.23
					25	12			15.19
					25	24			15.25
					50	0			15.21
				16QAM	1	0			15.72
					1	24			15.26
					1	49			15.59
					25	0			15.32
					25	12			15.23
					25	24			15.27
					50	0			15.28
	Mid-High	41055	2636.5	QPSK	1	0			15.29
					1	24			15.27
					1	49			15.41
					25	0			15.31
					25	12			15.30
					25	24			15.39
					50	0			15.37
				16QAM	1	0			15.79
					1	24			15.53
					1	49			15.97
					25	0			15.33
					25	12			15.39
					25	24			15.40
					50	0			15.42

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

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	Low	39750	2506	QPSK	1	0	0	0	21.07
					1	12	0	0	21.09
					1	24	0	0	21.08
					12	0	1	1	20.04
					12	6	1	1	20.04
					12	11	1	1	20.00
					25	0	1	1	20.01
				16QAM	1	0	1	1	20.29
					1	12	1	1	20.30
					1	24	1	1	20.25
					12	0	2	2	19.08
					12	6	2	2	19.05
					12	11	2	2	19.04
					25	0	2	2	19.07
	Mid	40620	2593	QPSK	1	0	0	0	21.13
					1	12	0	0	21.04
					1	24	0	0	21.15
					12	0	1	1	20.00
					12	6	1	1	20.06
					12	11	1	1	20.06
					25	0	1	1	20.03
				16QAM	1	0	1	1	20.35
					1	12	1	1	20.61
					1	24	1	1	20.48
					12	0	2	2	19.05
					12	6	2	2	19.19
					12	11	2	2	19.13
					25	0	2	2	19.06
	High	41490	2680	QPSK	1	0	0	0	21.13
					1	12	0	0	21.34
					1	24	0	0	21.07
					12	0	1	1	20.10
					12	6	1	1	20.20
					12	11	1	1	20.10
					25	0	1	1	20.03
				16QAM	1	0	1	1	20.45
					1	12	1	1	20.72
					1	24	1	1	20.52
					12	0	2	2	19.08
					12	6	2	2	19.18
					12	11	2	2	19.07
					25	0	2	2	19.10

LTE Band 41, 5 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	Low-Mid	40185	2549.5	QPSK	1	0	0	0	21.08
					1	12	0	0	21.06
					1	24	0	0	21.04
					12	0	1	1	20.08
					12	6	1	1	20.08
					12	11	1	1	20.08
					25	0	1	1	20.07
				16QAM	1	0	1	1	20.17
					1	12	1	1	20.13
					1	24	1	1	20.21
					12	0	2	2	19.09
					12	6	2	2	19.08
					12	11	2	2	19.05
					25	0	2	2	19.04
	Mid-High	41055	2636.5	QPSK	1	0	0	0	21.04
					1	12	0	0	21.41
					1	24	0	0	21.08
					12	0	1	1	20.03
					12	6	1	1	20.02
					12	11	1	1	20.02
					25	0	1	1	20.02
				16QAM	1	0	1	1	20.32
					1	12	1	1	20.42
					1	24	1	1	20.36
					12	0	2	2	19.08
					12	6	2	2	19.03
					12	11	2	2	19.01
					25	0	2	2	19.02

Reduced Power (Proximity Sensor On)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	Low	39750	2506	QPSK	1	0	MPR is disabled when power reduction is enabled		15.13
					1	12			16.00
					1	24			15.02
					12	0			15.23
					12	6			15.28
					12	11			15.19
					25	0			15.33
				16QAM	1	0			15.64
					1	12			15.76
					1	24			15.59
					12	0			15.20
					12	6			15.26
					12	11			15.06
					25	0			15.37
	Mid	40620	2593	QPSK	1	0			15.41
					1	12			15.23
					1	24			15.51
					12	0			15.34
					12	6			15.41
					12	11			15.43
					25	0			15.39
				16QAM	1	0			15.67
					1	12			15.89
					1	24			15.77
					12	0			15.40
					12	6			15.56
					12	11			15.49
					25	0			15.46
	High	41490	2680	QPSK	1	0			15.38
					1	12			15.64
					1	24			15.35
					12	0			15.44
					12	6			15.51
					12	11			15.49
					25	0			15.41
				16QAM	1	0			15.80
					1	12			15.98
					1	24			15.84
					12	0			15.53
					12	6			15.60
					12	11			15.52
					25	0			15.47

Reduced Power (Proximity Sensor On) (Continued)

BW	Ch		Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	Low-Mid	40185	2549.5	QPSK	1	0	MPR is disabled when power reduction is enabled		15.29
					1	12			15.08
					1	24			15.29
					12	0			15.18
					12	6			15.14
					12	11			15.19
					25	0			15.16
				16QAM	1	0			15.52
					1	12			15.46
					1	24			15.55
					12	0			15.33
					12	6			15.31
					12	11			15.35
					25	0			15.25
	Mid-High	41055	2636.5	QPSK	1	0			15.34
					1	12			15.42
					1	24			15.34
					12	0			15.27
					12	6			15.32
					12	11			15.38
					25	0			15.35
				16QAM	1	0			15.60
					1	12			15.68
					1	24			15.67
					12	0			15.40
					12	6			15.36
					12	11			15.34
					25	0			15.44

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

<Inter-band CA (Downlink CA only)>

Intra-band CA (Downlink CA only)															
E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_2A_5A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]			[MHz]	Number		Position			[MHz]		[MHz]	
		2	15	19125	1902.5	1-0		QPSK	2	15	1125	1982.5	1-0		QPSK
		SCC1						SCC1*4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
	[MHz]		[MHz]		Number	Position			[MHz]			[MHz]	Number *5	Position	
-	-	-	-	-		-	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
22.94	22.83	-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.

<Inter-band CA (Downlink CA only)>

Single-band CA (Downlink CA only)															
E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_2A_5A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		5	10	20600	844	1-49		QPSK	5	10	2600	889	1-49		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
	[MHz]	[MHz]	Number		Position		[MHz]		[MHz]	Number *5		Position			
-	-	-	-	-		-	2	20	18900	1880	100-0		QPSK		

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.79	22.78	-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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_2A_12A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		2	15	19125	1902.5	1-0		QPSK	2	15	1125	1982.5	1-0		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth*8	Channel*3	Frequency	Resource Block		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
22.94	22.86	-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		Bandwidth Combination Set		Uplink *1						Downlink					
				PCC						PCC *2					
CA_2A_12A	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number	Position		
		12	3	23095	707.5	1-7		QPSK	12	3	5095	737.5	1-7		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
[MHz]	[MHz]		Number		Position	[MHz]	Number *5			Position					
-	-	-	-	-	-		-	2	20	900	1960	100-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
23.36	23.26	-0.10

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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_2A_13A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		2	15	19125	1902.5	1-0		QPSK	2	15	1125	1982.5	1-0		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number *5	Position	
-	-	-	-	-		-	13	10	10	751	50-0		QPSK		

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.94	22.80	-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.

<Inter-band CA (Downlink CA only)>

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

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
22.76	22.89	0.13

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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_2A_29A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number	Position		
		2	15	19125	1902.5	1-0		QPSK	2	15	1125	1982.5	1-0		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number *5	Position		
-	-	-	-	-	-		-	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
22.94	22.86	-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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration		Bandwidth Combination Set		Uplink *1						Downlink					
				PCC						PCC *2					
CA_3A_7A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number	Position		
		7	10	21100	2535	1-0		QPSK	7	10	3100	2655	1-0		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth*8	Channel*3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number *5	Position		
-	-	-	-	-	-		-	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
21.22	21.12	-0.10

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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_5A	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		4	5	1975	1712.5	1-24		QPSK	4	5	1975	2112.5	1-24		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]			[MHz]	Number *5	Position
-	-	-	-	-	-		-	5	10	2525	881.5	50-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive	DL CA active	Delta Power
[dBm] *6	[dBm]	[dB] *7
23.02	23.03	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.

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_5A	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
		[MHz]	[MHz]		Number	Position	[MHz]		Number	Position					
		5	10	20600	844	1-49		QPSK	5	10	2600	889	1-49		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
		[MHz]	[MHz]		Number	Position	[MHz]		Number *5	Position					
-	-	-	-	-	-	-	4	20	2175	2132.5	100-0		QPSK		

Uplink Power Measurement Results		
DL CA inactive	DL CA active	Delta Power
[dBm] *6	[dBm]	[dB] *7
22.79	22.84	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 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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_12A	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		4	1.4	19957	1710.7	1-2		QPSK	4	1.4	1957	2110.7	1-2		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
	[MHz]	[MHz]	Number		Position		[MHz]		[MHz]	Number *5		Position			
-	-	-	-	-		-	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
23.03	22.90	-0.13

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	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_12A	2	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		12	3	23095	707.5	1-7		QPSK	12	3	5095	737.5	1-7		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
	[MHz]	[MHz]	Number		Position		[MHz]		[MHz]	Number *5		Position			
-	-	-	-	-		-	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
23.36	23.38	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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_13A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]			[MHz]	Number		Position			[MHz]		[MHz]	
		4	5	19975	1712.5	1-24		QPSK	4	5	1975	2112.5	1-24		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]			[MHz]	Number		Position			[MHz]		[MHz]	
-	-	-	-	-	-		-	13	10	5230	751	50-0		QPSK	

Uplink Power Measurement Results		
DL CA	DL CA	Delta
inactive	active	Power
[dBm] *6	[dBm]	[dB] *7
23.02	22.98	-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.

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_13A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number	Position		
		13	10	23230	782	1-49		QPSK	13	10	5230	751	1-49		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number *5	Position		
-	-	-	-	-	-	-	4	20	2175	2132.5	100-0		QPSK		

Uplink Power Measurement Results		
DL CA	DL CA	Delta
inactive	active	Power
[dBm] *6	[dBm]	[dB] *7
22.76	22.87	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.

*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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_4A_29A	2	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		4	5	19975	1712.5	1-24		QPSK	4	5	1975	2112.5	1-24		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number *5	Position	
-	-	-	-	-	-		-	29	10	9715	722.5	50-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive	DL CA active	Delta Power
[dBm] *6	[dBm]	[dB] *7
23.02	22.96	-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.

*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

<Inter-band CA (Downlink CA only)>

Intra-band CA (Downlink CA only)															
E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_7A_20A	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number	Position		
		7	10	21100	2535	1-0		QPSK	7	10	3100	2655	1-0		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number *5	Position		
-	-	-	-	-	-	-	-	20	20	6300	806	100-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive	DL CA active	Delta Power
[dBm] *6	[dBm]	[dB] *7
21.22	21.14	-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

<Inter-band CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_12A_30A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		12	5	23035	701.5	1-24		QPSK	12	5	5035	731.5	1-24		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number *5	Position	
-	-	-	-	-		-	30	10	9820	2355	50-0		QPSK		

Uplink Power Measurement Results		
DL CA inactive [dBm] *6	DL CA active [dBm]	Delta Power [dB] *7
23.28	23.18	-0.10

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		Bandwidth Combination Set		Uplink *1						Downlink					
				PCC						PCC *2					
CA_12A_30A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number	Position		
		30	5	27685	2307.5	1-24		QPSK	30	5	9795	2352.5	1-24		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *8	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		Number *5	Position		
-	-	-	-	-	-		-	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
21.70	21.59	-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.

- *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

10.2. Intra-band Contiguous CA

<Intra-band Contiguous CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1							Downlink						
		PCC							PCC *2						
CA_7C	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		7	10	21100	2535	1-0		QPSK	7	10	3100	2655	1-0		QPSK
		SCC1							SCC1 *4						
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *5	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number *6	Position	
-	-	-	-	-	-	-	-	7	20	2956	2640.6	100-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.22	21.26	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	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_41C	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
		[MHz]	[MHz]		Number	Position	[MHz]		Number	Position					
		41	20	41490	2680	1-49		QPSK	41	20	41490	2680	1-49		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *5	Channel *3	Frequency	Resource Block		Modulation
		[MHz]	[MHz]		Number	Position	[MHz]		Number *6	Position					
-	-	-	-	-	-	-	-	41	20	41292	2660.2	100-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.67	21.52	-0.15

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 $[BW_1 + BW_2 - 0.1 * |BW_1 - BW_2|] / 2$ MHz, where BW_1 and BW_2 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

10.3. Intra-band Non-Contiguous CA

<Intra-band Non-Contiguous CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1							Downlink						
		PCC							PCC *2						
CA_2A_2A	0	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number Position		Modulation	Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number Position		Modulation
		2	15	19125	1902.5	1-0		QPSK	2	15	1125	1982.5	1-0		QPSK
		SCC1							SCC1 *4						
		Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Resource Block Number Position		Modulation	Band	Bandwidth *5 [MHz]	Channel *3	Frequency [MHz]	Resource Block Number *6 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
22.94	22.81	-0.13

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.

<Intra-band Non-Contiguous CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1										Downlink					
		PCC						PCC *2									
CA_4A_4A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation		
			[MHz]			[MHz]	Number		Position			[MHz]		[MHz]		Number	Position
		4	5	19975	1712.5	1-24		QPSK	4	5	1975	2112.5	1-24		QPSK		
		SCC1 *4								SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *5	Channel *3	Frequency	Resource Block		Modulation		
	[MHz]		[MHz]		Number	Position			[MHz]			[MHz]	Number *6	Position			
-	-	-	-	-	-	-	-	4	20	2300	2145	100-0		QPSK			

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
23.02	22.94	-0.08

*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, configurable 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

<Intra-band Non-Contiguous CA (Downlink CA only)>

E-UTRA CA Configuration	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_7A_7A	0	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
		[MHz]	[MHz]		Number	Position	[MHz]		Number	Position					
		7	10	21100	2535	1-0		QPSK	7	10	3100	2655	1-0		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *5	Channel *3	Frequency	Resource Block		Modulation
		[MHz]	[MHz]		[MHz]	Number	Position		[MHz]	Number *6		Position			
-	-	-	-	-	-	-	-	7	15	3375	2682.5	75-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.22	21.35	0.13

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	Bandwidth Combination Set	Uplink *1						Downlink							
		PCC						PCC *2							
CA_41A_41A	1	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth	Channel	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number	Position	
		41	20	41490	2680	1-49		QPSK	41	20	41490	2680	1-49		QPSK
		SCC1						SCC1 *4							
		Band	Bandwidth	Channel	Frequency	Resource Block		Modulation	Band	Bandwidth *5	Channel *3	Frequency	Resource Block		Modulation
			[MHz]		[MHz]	Number	Position			[MHz]		[MHz]	Number *6	Position	
-	-	-	-	-	-	-	-	41	20	39750	2506	100-0		QPSK	

Uplink Power Measurement Results		
DL CA inactive [dBm] *7	DL CA active [dBm]	Delta Power [dB] *8
21.67	21.53	-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.

*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, configurable 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

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
CA_2A-13A	12		Y	Y	Y				
	2			Y	Y	Y	Y	30	0
	13				Y				
CA_2A-29A	2			Y	Y			20	0
	29		Y	Y	Y				
	2			Y	Y			20	1
CA_3A-7A	29			Y	Y				
	2			Y	Y	Y	Y	30	2
	29			Y	Y				
CA_4A-5A	3			Y	Y	Y	Y	40	0
	7				Y	Y	Y		
	4			Y	Y			20	0
CA_4A-12A	5			Y	Y				
	4			Y	Y	Y	Y	30	1
	5			Y	Y				
CA_4A-13A	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				
CA_4A-29A	4			Y	Y	Y	Y	30	4
	12			Y	Y				
	4			Y	Y	Y	Y	30	0
	13				Y				
CA_7A-20A	4			Y	Y			20	1
	13				Y				
	4			Y	Y			20	0
	29		Y	Y	Y				
CA_7A-20A	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		

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

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 $\pm 2^\circ\text{C}$ of the temperature when the tissue parameters are characterized.

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

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

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

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 $\pm 2^\circ\text{C}$ of the temperature when the tissue parameters are characterized.

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

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

750MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit $\pm$ (%)
2017/1/16	Body 700	Relative Permittivity (ϵ_r):	57.85	55.74	3.79	5
		Conductivity (σ):	0.91	0.96	-4.96	5
	Body 720	Relative Permittivity (ϵ_r):	57.66	55.66	3.59	5
		Conductivity (σ):	0.93	0.96	-3.37	5
	Body 750	Relative Permittivity (ϵ_r):	57.43	55.55	3.39	5
		Conductivity (σ):	0.96	0.96	-0.82	5
2017/1/17	Body 750	Relative Permittivity (ϵ_r):	55.04	55.55	-0.91	5
		Conductivity (σ):	0.93	0.96	-3.29	5
	Body 775	Relative Permittivity (ϵ_r):	54.75	55.45	-1.26	5
		Conductivity (σ):	0.96	0.97	-0.95	5
	Body 790	Relative Permittivity (ϵ_r):	54.58	55.39	-1.47	5
		Conductivity (σ):	0.97	0.97	0.51	5
2017/2/17	Body 700	Relative Permittivity (ϵ_r):	54.77	55.73	-1.72	5
		Conductivity (σ):	0.92	0.96	-4.82	5
	Body 750	Relative Permittivity (ϵ_r):	54.22	55.53	-2.36	5
		Conductivity (σ):	0.96	0.96	-0.22	5
	Body 800	Relative Permittivity (ϵ_r):	53.69	55.34	-2.98	5
		Conductivity (σ):	1.01	0.97	4.45	5

850MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2017/1/18	Body 835	Relative Permittivity (ϵ_r):	54.77	55.20	-0.78	5
		Conductivity (σ):	0.95	0.97	-2.20	5
	Body 820	Relative Permittivity (ϵ_r):	54.93	55.28	-0.63	5
		Conductivity (σ):	0.93	0.97	-3.73	5
	Body 850	Relative Permittivity (ϵ_r):	54.62	55.16	-0.97	5
		Conductivity (σ):	0.97	0.99	-2.16	5
2017/1/19	Body 835	Relative Permittivity (ϵ_r):	54.31	55.20	-1.61	5
		Conductivity (σ):	0.95	0.97	-1.78	5
	Body 820	Relative Permittivity (ϵ_r):	54.47	55.28	-1.46	5
		Conductivity (σ):	0.94	0.97	-3.30	5
	Body 850	Relative Permittivity (ϵ_r):	54.15	55.16	-1.83	5
		Conductivity (σ):	0.97	0.99	-1.70	5
2017/1/20	Body 835	Relative Permittivity (ϵ_r):	55.88	55.20	1.23	5
		Conductivity (σ):	0.94	0.97	-3.25	5
	Body 820	Relative Permittivity (ϵ_r):	56.03	55.28	1.36	5
		Conductivity (σ):	0.92	0.97	-4.75	5
	Body 850	Relative Permittivity (ϵ_r):	55.73	55.16	1.04	5
		Conductivity (σ):	0.95	0.99	-3.37	5
2017/2/20	Body 835	Relative Permittivity (ϵ_r):	54.68	55.20	-0.94	5
		Conductivity (σ):	0.97	0.97	0.24	5
	Body 820	Relative Permittivity (ϵ_r):	54.83	55.28	-0.81	5
		Conductivity (σ):	0.96	0.97	-1.11	5
	Body 850	Relative Permittivity (ϵ_r):	54.54	55.16	-1.12	5
		Conductivity (σ):	0.99	0.99	-0.16	5

1750MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2017/1/13	Body 1710	Relative Permittivity (ϵ_r):	51.54	53.54	-3.74	5
		Conductivity (σ):	1.45	1.46	-0.65	5
	Body 1750	Relative Permittivity (ϵ_r):	51.44	53.43	-3.72	5
		Conductivity (σ):	1.49	1.49	-0.20	5
	Body 1755	Relative Permittivity (ϵ_r):	51.43	53.43	-3.74	5
		Conductivity (σ):	1.49	1.49	0.25	5
2017/1/16	Body 1710	Relative Permittivity (ϵ_r):	51.31	53.54	-4.17	5
		Conductivity (σ):	1.47	1.46	0.31	5
	Body 1750	Relative Permittivity (ϵ_r):	51.11	53.43	-4.34	5
		Conductivity (σ):	1.51	1.49	1.46	5
	Body 1755	Relative Permittivity (ϵ_r):	51.09	53.43	-4.38	5
		Conductivity (σ):	1.52	1.49	1.86	5
2017/2/15	Body 1710	Relative Permittivity (ϵ_r):	51.34	53.54	-4.12	5
		Conductivity (σ):	1.40	1.46	-4.01	5
	Body 1750	Relative Permittivity (ϵ_r):	51.23	53.43	-4.12	5
		Conductivity (σ):	1.45	1.49	-2.77	5
	Body 1755	Relative Permittivity (ϵ_r):	51.22	53.43	-4.13	5
		Conductivity (σ):	1.45	1.49	-2.37	5

1900MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2017/1/17	Body 1840	Relative Permittivity (ϵ_r):	51.06	53.30	-4.20	5
		Conductivity (σ):	1.48	1.52	-2.70	5
	Body 1900	Relative Permittivity (ϵ_r):	50.83	53.30	-4.63	5
		Conductivity (σ):	1.56	1.52	2.37	5
	Body 1910	Relative Permittivity (ϵ_r):	50.80	53.30	-4.69	5
		Conductivity (σ):	1.57	1.52	3.09	5
2017/1/18	Body 1840	Relative Permittivity (ϵ_r):	51.46	53.30	-3.45	5
		Conductivity (σ):	1.47	1.52	-3.09	5
	Body 1900	Relative Permittivity (ϵ_r):	51.26	53.30	-3.83	5
		Conductivity (σ):	1.54	1.52	1.32	5
	Body 1910	Relative Permittivity (ϵ_r):	51.24	53.30	-3.86	5
		Conductivity (σ):	1.55	1.52	1.91	5
2017/2/16	Body 1840	Relative Permittivity (ϵ_r):	51.20	53.30	-3.94	5
		Conductivity (σ):	1.51	1.52	-0.99	5
	Body 1900	Relative Permittivity (ϵ_r):	50.97	53.30	-4.37	5
		Conductivity (σ):	1.58	1.52	3.62	5
	Body 1910	Relative Permittivity (ϵ_r):	50.96	53.30	-4.39	5
		Conductivity (σ):	1.59	1.52	4.34	5

2600MHz Band

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2017/1/19	Body 2500	Relative Permittivity (ϵ_r):	50.60	52.64	-3.87	5
		Conductivity (σ):	2.10	2.02	3.90	5
	Body 2570	Relative Permittivity (ϵ_r):	50.31	52.55	-4.26	5
		Conductivity (σ):	2.19	2.12	3.18	5
	Body 2600	Relative Permittivity (ϵ_r):	50.18	52.51	-4.44	5
		Conductivity (σ):	2.23	2.16	3.20	5
2017/1/20	Body 2500	Relative Permittivity (ϵ_r):	51.66	52.64	-1.86	5
		Conductivity (σ):	2.11	2.02	4.24	5
	Body 2600	Relative Permittivity (ϵ_r):	51.26	52.51	-2.38	5
		Conductivity (σ):	2.23	2.16	3.39	5
	Body 2700	Relative Permittivity (ϵ_r):	50.89	52.38	-2.85	5
		Conductivity (σ):	2.37	2.30	3.03	5
2017/1/23	Body 2500	Relative Permittivity (ϵ_r):	51.66	52.64	-1.86	5
		Conductivity (σ):	2.10	2.02	3.75	5
	Body 2600	Relative Permittivity (ϵ_r):	51.27	52.51	-2.36	5
		Conductivity (σ):	2.23	2.16	3.02	5
	Body 2700	Relative Permittivity (ϵ_r):	50.89	52.38	-2.85	5
		Conductivity (σ):	2.37	2.30	2.85	5
2017/2/21	Body 2500	Relative Permittivity (ϵ_r):	51.41	52.64	-2.33	5
		Conductivity (σ):	1.96	2.02	-2.83	5
	Body 2600	Relative Permittivity (ϵ_r):	51.04	52.51	-2.80	5
		Conductivity (σ):	2.11	2.16	-2.31	5
	Body 2700	Relative Permittivity (ϵ_r):	50.63	52.38	-3.35	5
		Conductivity (σ):	2.25	2.30	-2.36	5

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) and 15 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.

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 17). The target SAR values are SAR measured value in the calibration certificate scaled to 1W.

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (mW/g)		
				1g/10g	Head	Body
D750V3	1058	05/28/2015	750	1g	8.24	8.64
				10g	5.40	5.72
D835V2	4d149	03/08/2016	835	1g	9.56	9.84
				10g	6.20	6.44
D1750V2	1089	03/11/2016	1750	1g	35.88	35.80
				10g	19.04	19.08
D1900V2	5d169	03/09/2016	1900	1g	38.72	39.96
				10g	20.32	21.12
D2600V2	1030	03/09/2016	2600	1g	57.60	54.40
				10g	25.56	24.16

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		
1/16/2017	D750V3	1058	Body	1g	2.09	8.4	8.64	-3.24
				10g	1.40	5.60	5.72	-2.10
1/17/2017	D750V3	1058	Body	1g	2.06	8.2	8.64	-4.63
				10g	1.38	5.52	5.72	-3.50
2/17/2017	D750V3	1058	Body	1g	2.26	9.0	8.64	4.63
				10g	1.51	6.04	5.72	5.59
1/18/2017	D835V2	4d149	Body	1g	2.51	10.04	9.84	2.03
				10g	1.66	6.64	6.44	3.11
1/19/2017	D835V2	4d149	Body	1g	2.43	9.72	9.84	-1.22
				10g	1.61	6.44	6.44	0.00
1/20/2017	D835V2	4d149	Body	1g	2.53	10.12	9.84	2.85
				10g	1.67	6.68	6.44	3.73
2/20/2017	D835V2	4d149	Body	1g	2.50	10.00	9.84	1.63
				10g	1.64	6.56	6.44	1.86
1/13/2017	D1750V2	1089	Body	1g	9.39	37.56	35.80	4.92
				10g	5.00	20.00	19.08	4.82
1/16/2017	D1750V2	1089	Body	1g	8.81	35.24	35.80	-1.56
				10g	4.62	18.48	19.08	-3.14
2/15/2017	D1750V2	1089	Body	1g	9.23	36.92	35.80	3.13
				10g	4.97	19.88	19.08	4.19
1/17/2017	D1900V2	5d169	Body	1g	9.76	39.04	39.96	-2.30
				10g	5.12	20.48	21.12	-3.03
1/18/2017	D1900V2	5d169	Body	1g	10.30	41.20	39.96	3.10
				10g	5.41	21.64	21.12	2.46
2/16/2017	D1900V2	5d169	Body	1g	10.30	41.20	39.96	3.10
				10g	5.32	21.28	21.12	0.76
1/19/2017	D2600V2	1030	Body	1g	13.90	55.60	54.40	2.21
				10g	6.09	24.36	24.16	0.83
1/20/2017	D2600V2	1030	Body	1g	13.90	55.60	54.40	2.21
				10g	6.02	24.08	24.16	-0.33
1/23/2017	D2600V2	1030	Body	1g	13.50	54.00	54.40	-0.74
				10g	5.84	23.36	24.16	-3.31
2/21/2017	D2600V2	1030	Body	1g	13.20	52.80	54.40	-2.94
				10g	5.85	23.40	24.16	-3.15

14. RF Exposure Conditions (Test Configurations)

Refer to Section 19 "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 2, 3 and 4.

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	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Full Power WWAN																
WWAN	WCDMA2	1907.6	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		16.5 -MEASURE-	8.9 -MEASURE-	> 50 mm	> 50 mm	69.3 -MEASURE-	
WWAN	WCDMA4	1752.6	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		15.8 -MEASURE-	8.5 -MEASURE-	> 50 mm	> 50 mm	66.5 -MEASURE-	
WWAN	WCDMA5	846.6	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		11.5 -MEASURE-	6.2 -MEASURE-	> 50 mm	> 50 mm	46.2 -MEASURE-	
WWAN	LTE2	1909.2	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		16.5 -MEASURE-	8.9 -MEASURE-	> 50 mm	> 50 mm	69.4 -MEASURE-	
WWAN	LTE4	1754.2	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		15.8 -MEASURE-	8.5 -MEASURE-	> 50 mm	> 50 mm	66.5 -MEASURE-	
WWAN	LTE5	848.2	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		11.6 -MEASURE-	6.2 -MEASURE-	> 50 mm	> 50 mm	46.2 -MEASURE-	
WWAN	LTE7	2567.5	22.0	158	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		12.1 -MEASURE-	6.5 -MEASURE-	> 50 mm	> 50 mm	50.6 -MEASURE-	
WWAN	LTE12	715.3	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		10.6 -MEASURE-	5.7 -MEASURE-	> 50 mm	> 50 mm	42.5 -MEASURE-	
WWAN	LTE13	784.5	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		11.1 -MEASURE-	6 -MEASURE-	> 50 mm	> 50 mm	44.5 -MEASURE-	
WWAN	LTE25	1914.3	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		16.5 -MEASURE-	8.9 -MEASURE-	> 50 mm	> 50 mm	69.5 -MEASURE-	
WWAN	LTE26	848.3	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		11.6 -MEASURE-	6.2 -MEASURE-	> 50 mm	> 50 mm	46.2 -MEASURE-	
WWAN	LTE41	2680	23.0	200	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		15.6 -MEASURE-	8.4 -MEASURE-	> 50 mm	> 50 mm	65.5 -MEASURE-	
Reduction Power WWAN																
WWAN	WCDMA2	1907.6	16.7	47	4.25	2.10					13 -MEASURE-	13 -MEASURE-				
WWAN	WCDMA4	1752.6	16.2	42	4.25	2.10					11.1 -MEASURE-	11.1 -MEASURE-				
WWAN	WCDMA5	846.6	18.9	78	4.25	2.10					14.4 -MEASURE-	14.4 -MEASURE-				
WWAN	LTE2	1909.2	16.8	48	4.25	2.10					13.3 -MEASURE-	13.3 -MEASURE-				
WWAN	LTE4	1754.2	16.5	45	4.25	2.10					11.9 -MEASURE-	11.9 -MEASURE-				
WWAN	LTE5	848.2	18.9	78	4.25	2.10					14.4 -MEASURE-	14.4 -MEASURE-				
WWAN	LTE7	2567.5	14.1	26	4.25	2.10					8.3 -MEASURE-	8.3 -MEASURE-				
WWAN	LTE12	715.3	21.2	132	4.25	2.10					22.3 -MEASURE-	22.3 -MEASURE-				
WWAN	LTE13	784.5	19.7	93	4.25	2.10					16.5 -MEASURE-	16.5 -MEASURE-				
WWAN	LTE25	1914.3	16.9	49	4.25	2.10					13.6 -MEASURE-	13.6 -MEASURE-				
WWAN	LTE26	848.3	18.6	72	4.25	2.10					13.3 -MEASURE-	13.3 -MEASURE-				
WWAN	LTE41	2680	16.1	41	4.25	2.10					13.4 -MEASURE-	13.4 -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 Rear or the Edge were input. For antennas <50 mm from the Rear 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 Rear 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 20 mm (Rear with below 1GHz Band), 21 mm (Rear with above 1GHz Band), 37 mm (Edge1 with below 1GHz Band) and 39 mm (Edge1 with above 1GHz Band).

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	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Full Power WWAN																
WWAN	WCDMA2	1907.6	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1315.6 mW -EXEMPT-	1886.6 mW -EXEMPT-	< 50 mm	
WWAN	WCDMA4	1752.6	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1320.3 mW -EXEMPT-	1891.3 mW -EXEMPT-	< 50 mm	
WWAN	WCDMA5	846.6	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	844.3 mW -EXEMPT-	1166.5 mW -EXEMPT-	< 50 mm	
WWAN	LTE2	1909.2	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1315.6 mW -EXEMPT-	1886.6 mW -EXEMPT-	< 50 mm	
WWAN	LTE4	1754.2	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1320.3 mW -EXEMPT-	1891.3 mW -EXEMPT-	< 50 mm	
WWAN	LTE5	848.2	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	845.4 mW -EXEMPT-	1168.3 mW -EXEMPT-	< 50 mm	
WWAN	LTE7	2567.5	22.0	158	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1300.6 mW -EXEMPT-	1871.6 mW -EXEMPT-	< 50 mm	
WWAN	LTE12	715.3	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	752.9 mW -EXEMPT-	1025.2 mW -EXEMPT-	< 50 mm	
WWAN	LTE13	784.5	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	800.6 mW -EXEMPT-	1099.2 mW -EXEMPT-	< 50 mm	
WWAN	LTE25	1914.3	24.0	251	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1315.4 mW -EXEMPT-	1886.4 mW -EXEMPT-	< 50 mm	
WWAN	LTE26	848.3	24.0	251	4.25 (20.00)	2.10 (37.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	845.5 mW -EXEMPT-	1168.4 mW -EXEMPT-	< 50 mm	
WWAN	LTE41	2680	23.0	200	4.25 (21.00)	2.10 (39.00)	170.70	227.80	24.70		< 50 mm	< 50 mm	1298.6 mW -EXEMPT-	1869.6 mW -EXEMPT-	< 50 mm	
Reduction Power WWAN																
WWAN	WCDMA2	1907.6	16.7	47	4.25	2.10					< 50 mm	< 50 mm				
WWAN	WCDMA4	1752.6	16.2	42	4.25	2.10					< 50 mm	< 50 mm				
WWAN	WCDMA5	846.6	18.9	78	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE2	1909.2	16.8	48	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE4	1754.2	16.5	45	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE5	848.2	18.9	78	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE7	2567.5	14.1	26	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE12	715.3	21.2	132	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE13	784.5	19.7	93	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE25	1914.3	16.9	49	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE26	848.3	18.6	72	4.25	2.10					< 50 mm	< 50 mm				
WWAN	LTE41	2680	16.1	41	4.25	2.10					< 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 Rear or the Edge were input. For antennas <50 mm from the Rear 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 Rear 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 20 mm (Rear with below 1GHz Band), 21 mm (Rear with above 1GHz Band), 37 mm (Edge1 with below 1GHz Band) and 39 mm (Edge1 with above 1GHz Band).

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

KDB 941225 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 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.

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	16.7	16.42	0.858	0.915	1	
			9400	1880.0	16.7	16.49	0.876	0.919	2	
			9538	1907.6	16.7	16.42	0.855	0.912	3	
Rear	0	Rel 99 RMC 12.2 kbps	9262	1852.4	16.7	16.42				
			9400	1880.0	16.7	16.49	0.616	0.647	4	
			9538	1907.6	16.7	16.42				

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	39	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.126	0.157	5	
			9400	1880.0	24.0	23.02				
			9538	1907.6	24.0	22.95				
Edge 2	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.021	0.026	6	
			9400	1880.0	24.0	23.02				
			9538	1907.6	24.0	22.95				
Edge 2 tilt	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.014	0.017	7	
			9400	1880.0	24.0	23.02				
			9538	1907.6	24.0	22.95				
Edge 3	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.092	0.114	8	
			9400	1880.0	24.0	23.02				
			9538	1907.6	24.0	22.95				
Edge 4	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.702	0.874	9	
			9400	1880.0	24.0	23.02	0.836	1.048	10	
			9538	1907.6	24.0	22.95	0.838	1.067	11	
Edge 4 tilt	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.641	0.798	12	
			9400	1880.0	24.0	23.02				
			9538	1907.6	24.0	22.95				
Rear	21	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	23.05	0.442	0.550	13	
			9400	1880.0	24.0	23.02				
			9538	1907.6	24.0	22.95				

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	16.2	15.93	1.020	1.085	1	
			1413	1732.6	16.2	15.78	0.963	1.061	2	
			1513	1752.6	16.2	15.77	0.954	1.053	3	
Rear	0	Rel 99 RMC 12.2 kbps	1312	1712.4	16.2	15.93	0.661	0.703	4	
			1413	1732.6	16.2	15.78				
			1513	1752.6	16.2	15.77				

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	39	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.216	0.271	5	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				
Edge 2	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.0074	0.0093	6	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				
Edge 2 tilt	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.010	0.013	7	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				
Edge 3	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.00399	0.00500	8	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				
Edge 4	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.185	0.232	9	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				
Edge 4 tilt	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.165	0.207	10	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				
Rear	21	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	23.02	0.390	0.489	11	
			1413	1732.6	24.0	22.87				
			1513	1752.6	24.0	22.86				

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	18.9	18.77				
			4183	836.6	18.9	18.81	0.741	0.757	1	
			4233	846.6	18.9	18.79				
Rear	0	Rel 99 RMC 12.2 kbps	4132	826.4	18.9	18.77				
			4183	836.6	18.9	18.81	0.258	0.263	2	
			4233	846.6	18.9	18.79				

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	37	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.082	0.107	3	
			4233	846.6	24.0	22.84				
Edge 2	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.00758	0.00988	4	
			4233	846.6	24.0	22.84				
Edge 2 tilt	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.0119	0.0155	5	
			4233	846.6	24.0	22.84				
Edge 3	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.040	0.052	6	
			4233	846.6	24.0	22.84				
Edge 4	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.167	0.218	7	
			4233	846.6	24.0	22.84				
Edge 4 tilt	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.266	0.347	8	
			4233	846.6	24.0	22.84				
Rear	20	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.79				
			4183	836.6	24.0	22.85	0.120	0.156	9	
			4233	846.6	24.0	22.84				

15.4. **LTE Band 2**

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

15.5. LTE Band 4

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	20050	1720	1	0	16.5	15.99	0.876	0.985	1	
			20175	1732.5	1	0	16.5	15.88	0.855	0.986	2	
			20300	1745	1	99	16.5	15.85	0.801	0.930	3	
			20050	1720	50	0	16.5	15.91	0.883	1.011	4	
			20175	1732.5	50	49	16.5	15.71	0.838	1.005	5	
			20300	1745	50	49	16.5	15.68	0.846	1.022	6	
			20050	1720	100	0	16.5	15.87	0.873	1.009	7	
Rear	0	QPSK	20050	1720	1	0	16.5	15.99	0.666	0.749	8	
			20175	1732.5	1	0	16.5	15.88				
			20300	1745	1	99	16.5	15.85				
			20050	1720	50	0	16.5	15.91	0.677	0.776	9	
			20175	1732.5	50	49	16.5	15.71				
			20300	1745	50	49	16.5	15.68				
			20050	1720	100	0	16.5	15.87				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	39	QPSK	20050	1720	1	0	24.0	22.95	0.208	0.265	10	
			20175	1732.5	1	0	24.0	22.73				
			20300	1745	1	99	24.0	22.62				
			20050	1720	50	24	23.0	21.82	0.171	0.224	11	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			20050	1720	100	0	23.0	21.77				
Edge 2	0	QPSK	20050	1720	1	0	24.0	22.95	0.00662	0.00843	12	
			20175	1732.5	1	0	24.0	22.73				
			20300	1745	1	99	24.0	22.62				
			20050	1720	50	24	23.0	21.82	0.00618	0.00811	13	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			20050	1720	100	0	23.0	21.77				
Edge 2 tilt	0	QPSK	20050	1720	1	0	24.0	22.95	0.00898	0.01144	14	
			20175	1732.5	1	0	24.0	22.73				
			20175	1732.5	1	0	24.0	22.90				
			20050	1720	50	24	23.0	21.82	0.00738	0.00968	15	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			20050	1720	100	0	23.0	21.77				
Edge 3	0	QPSK	20050	1720	1	0	24.0	22.95	0.00356	0.00453	16	
			20175	1732.5	1	0	24.0	22.73				
			20300	1745	1	99	24.0	22.62				
			20050	1720	50	24	23.0	21.82	0.00494	0.00648	17	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			20050	1720	100	0	23.0	21.77				
Edge 4	0	QPSK	20050	1720	1	0	24.0	22.95	0.192	0.245	18	
			20175	1732.5	1	0	24.0	22.73				
			20300	1745	1	99	24.0	22.62				
			20050	1720	50	24	23.0	21.82	0.191	0.251	19	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			18700	1860	100	0	23.0	21.77				
Edge 4 tilt	0	QPSK	20050	1720	1	0	24.0	22.95	0.153	0.195	20	
			20175	1732.5	1	0	24.0	22.73				
			20300	1745	1	99	24.0	22.62				
			20050	1720	50	24	23.0	21.82	0.150	0.197	21	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			18700	1860	100	0	23.0	21.77				
Rear	21	QPSK	20050	1720	1	0	24.0	22.95	0.393	0.500	22	
			20175	1732.5	1	0	24.0	22.73				
			20300	1745	1	99	24.0	22.62				
			20050	1720	50	24	23.0	21.82	0.336	0.441	23	
			20175	1732.5	50	49	23.0	21.63				
			20300	1745	50	49	23.0	21.58				
			18700	1860	100	0	23.0	21.77				

15.6. LTE Band 5

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	20450	829	1	0	18.9	18.55	0.850	0.921	1	
			20525	836.5	1	49	18.9	18.56	0.842	0.911	2	
			20600	844	1	49	18.9	18.65	0.892	0.945	3	
			20450	829	25	12	18.9	18.54	0.865	0.940	4	
			20525	836.5	25	0	18.9	18.40	0.829	0.930	5	
			20600	844	25	12	18.9	18.53	0.923	1.005	6	
			20450	829	50	0	18.9	18.53	0.850	0.926	7	
Rear	0	QPSK	20450	829	1	0	18.9	18.55				
			20525	836.5	1	49	18.9	18.56				
			20600	844	1	49	18.9	18.65	0.343	0.363	8	
			20450	829	25	12	18.9	18.54	0.368	0.400	9	
			20525	836.5	25	0	18.9	18.40				
			20600	844	25	12	18.9	18.53				
			20450	829	50	0	18.9	18.53				

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

15.7. LTE Band 7

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	20850	2510	1	99	14.1	13.44	0.756	0.880	1	
			21100	2535	1	49	14.1	13.64	0.794	0.883	2	
			21350	2560	1	49	14.1	13.43	0.720	0.840	3	
			20850	2510	50	49	14.1	13.50	0.782	0.898	4	
			21100	2535	50	49	14.1	13.65	0.781	0.866	5	
			21350	2560	50	49	14.1	13.42	0.719	0.841	6	
			21100	2535	100	0	14.1	13.50	0.783	0.899	7	
Rear	0	QPSK	20850	2510	1	99	14.1	13.44				
			21100	2535	1	49	14.1	13.64	0.444	0.494	8	
			21350	2560	1	49	14.1	13.43				
			20850	2510	50	49	14.1	13.50				
			21100	2535	50	49	14.1	13.65	0.442	0.490	9	
			21350	2560	50	49	14.1	13.42				
			21100	2535	100	0	14.1	13.50				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	39	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.306	0.377	10	
			21350	2560	1	49	22.0	20.92				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.236	0.292	11	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				
Edge 2	0	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.048	0.059	12	
			21350	2560	1	49	22.0	20.92				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.040	0.050	13	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				
Edge 2 tilt	0	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.027	0.033	14	
			20175	2560	1	0	24.0	22.90				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.021	0.026	15	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				
Edge 3	0	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.016	0.019	16	
			21350	2560	1	49	22.0	20.92				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.012	0.015	17	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				
Edge 4	0	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.231	0.285	18	
			21350	2560	1	49	22.0	20.92				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.191	0.237	19	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				
Edge 4 tilt	0	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.259	0.319	20	
			21350	2560	1	49	22.0	20.92				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.224	0.277	21	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				
Rear	21	QPSK	20850	2510	1	0	22.0	21.00				
			21100	2535	1	49	22.0	21.09	0.293	0.361	22	
			21350	2560	1	49	22.0	20.92				
			20850	2510	50	24	21.0	19.91				
			21100	2535	50	24	21.0	20.07	0.292	0.362	23	
			21350	2560	50	24	21.0	19.94				
			21100	2535	100	0	21.0	20.01				

15.8. LTE Band 12

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	23060	704	1	0	21.2	20.99	0.916	0.961	1	
			23095	707.5	1	0	21.2	20.88	0.922	0.993	2	
			23130	711	1	0	21.2	20.97	0.939	0.990	3	
			23060	704	25	0	21.2	20.80	0.931	1.021	4	
			23095	707.5	25	12	21.2	20.83	0.933	1.016	5	
			23130	711	25	0	21.2	20.80	0.927	1.016	6	
			23060	704	50	0	21.2	20.89	0.935	1.004	7	
Rear	0	QPSK	23060	704	1	0	21.2	20.99	0.453	0.475	8	
			23095	707.5	1	0	21.2	20.88				
			23130	711	1	0	21.2	20.97				
			23060	704	25	0	21.2	20.80				
			23095	707.5	25	12	21.2	20.83	0.462	0.503	9	
			23130	711	25	0	21.2	20.80				
			23060	704	50	0	21.2	20.89	0.452	0.485	10	

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	37	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.032	0.038	11	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.023	0.029	12	
			23060	704	50	0	23.0	22.00				
Edge 2	0	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.012	0.014	13	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.00404	0.00504	14	
			23060	704	50	0	23.0	22.00				
Edge 2 tilt	0	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.00516	0.00612	15	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.00893	0.01114	16	
			23060	704	50	0	23.0	22.00				
Edge 3	0	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.00818	0.00970	17	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.019	0.024	18	
			23060	704	50	0	23.0	22.00				
Edge 4	0	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.137	0.162	19	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.120	0.150	20	
			20525	836.5	50	0	23.0	22.00				
Edge 4 tilt	0	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.133	0.158	21	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.101	0.126	22	
			20525	836.5	50	0	23.0	22.00				
Rear	20	QPSK	23060	704	1	0	24.0	23.18				
			23095	707.5	1	0	24.0	23.26	0.073	0.087	23	
			23130	711	1	0	24.0	23.18				
			23060	704	25	0	23.0	21.95				
			23095	707.5	25	12	23.0	21.98				
			23130	711	25	0	23.0	22.04	0.063	0.079	24	
			20525	836.5	50	0	23.0	22.00				

15.9. LTE Band 13

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	23230	782	1	49	19.70	19.30	0.952	1.044	1	
			23230	782	25	0	19.70	19.22	0.939	1.049	2	
			23230	782	50	0	19.70	19.14	0.955	1.086	3	
Rear	0	QPSK	23230	782	1	49	19.70	19.30	0.496	0.544	4	
			23230	782	25	0	19.70	19.22	0.490	0.547	5	
			23230	782	50	0	19.70	19.14				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	37	QPSK	23230	782	1	49	24.0	22.76	0.131	0.174	6	
			23230	782	25	0	23.0	21.73	0.090	0.121	7	
			23230	782	50	0	23.0	21.67				
Edge 2	0	QPSK	23230	782	1	49	24.0	22.76	0.015	0.020	8	
			23230	782	25	0	23.0	21.73	0.010	0.013	9	
			23230	782	50	0	23.0	21.67				
Edge 2 tilt	0	QPSK	23230	782	1	49	24.0	22.76	0.021	0.028	10	
			23230	782	25	0	23.0	21.73	0.016	0.021	11	
			23230	782	50	0	23.0	21.67				
Edge 3	0	QPSK	23230	782	1	49	24.0	22.76	0.062	0.082	12	
			23230	782	25	0	23.0	21.73	0.040	0.054	13	
			23230	782	50	0	23.0	21.67				
Edge 4	0	QPSK	23230	782	1	49	24.0	22.76	0.268	0.357	14	
			23230	782	25	0	23.0	21.73	0.227	0.304	15	
			23230	782	50	0	23.0	21.67				
Edge 4 tilt	0	QPSK	23230	782	1	49	24.0	22.76	0.317	0.422	16	
			23230	782	25	0	23.0	21.73	0.248	0.332	17	
			23230	782	50	0	23.0	21.67				
Rear	20	QPSK	23230	782	1	49	24.0	22.76	0.194	0.258	18	
			23230	782	25	0	23.0	21.73	0.195	0.261	19	
			23230	782	50	0	23.0	21.67				

15.10. LTE Band 25

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	26140	1860	1	49	16.9	16.23	0.772	0.901	1	
			26365	1882.5	1	49	16.9	16.43	0.797	0.888	2	
			26590	1905	1	0	16.9	16.28	0.803	0.926	3	
			26140	1860	50	24	16.9	16.07	0.797	0.965	4	
			26365	1882.5	50	24	16.9	16.17	0.809	0.957	5	
			26590	1905	50	49	16.9	16.07	0.774	0.937	6	
			26365	1882.5	100	0	16.9	16.08	0.796	0.961	7	
Rear	0	QPSK	26140	1860	1	49	16.9	16.23				
			26365	1882.5	1	49	16.9	16.43	0.599	0.667	8	
			26590	1905	1	0	16.9	16.28				
			26140	1860	50	24	16.9	16.07				
			26365	1882.5	50	24	16.9	16.17	0.598	0.707	9	
			26590	1905	50	49	16.9	16.07				
			26365	1882.5	100	0	16.9	16.08				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	39	QPSK	26140	1860	1	0	24.0	22.79				
			26365	1882.5	1	49	24.0	22.92	0.118	0.151	10	
			26590	1905	1	49	24.0	22.75				
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.093	0.125	11	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65				
Edge 2	0	QPSK	26140	1860	1	0	24.0	22.79				
			26365	1882.5	1	49	24.0	22.92	0.017	0.022	12	
			26590	1905	1	49	24.0	22.75				
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.013	0.017	13	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65				
Edge 2 tilt	0	QPSK	26140	1860	1	0	24.0	22.79				
			26365	1882.5	1	49	24.0	22.92	0.00476	0.00610	14	
			26590	1905	1	49	24.0	22.75				
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.00547	0.00733	15	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65				
Edge 3	0	QPSK	26140	1860	1	0	24.0	22.79				
			26365	1882.5	1	49	24.0	22.92	0.045	0.058	16	
			26590	1905	1	49	24.0	22.75				
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.044	0.059	17	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65				
Edge 4	0	QPSK	26140	1860	1	0	24.0	22.79	0.603	0.797	18	
			26365	1882.5	1	49	24.0	22.92	0.750	0.962	19	
			26590	1905	1	49	24.0	22.75	0.706	0.941	20	
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.545	0.730	21	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65	0.495	0.675	22	
Edge 4 tilt	0	QPSK	26140	1860	1	0	24.0	22.79	0.614	0.811	23	
			26365	1882.5	1	49	24.0	22.92	0.711	0.912	24	
			26590	1905	1	49	24.0	22.75	0.746	0.995	25	
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.558	0.748	26	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65	0.525	0.716	27	
Rear	21	QPSK	26140	1860	1	0	24.0	22.79				
			26365	1882.5	1	49	24.0	22.92	0.306	0.392	28	
			26590	1905	1	49	24.0	22.75				
			26140	1860	50	24	23.0	21.66				
			26365	1882.5	50	24	23.0	21.73	0.243	0.326	29	
			26590	1905	50	49	23.0	21.61				
			26365	1882.5	100	0	23.0	21.65				

15.11. LTE Band 26 (Range: 814 – 824MHz)

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	26740	819	1	0	18.60	18.38	0.838	0.882	1	
			26740	819	25	0	18.60	18.25	0.832	0.902	2	
			26740	819	50	0	18.60	18.24	0.826	0.897	3	
Rear	0	QPSK	26740	819	1	0	18.60	18.38	0.348	0.366	4	
			26740	819	25	0	18.60	18.25	0.347	0.376	5	
			26740	819	50	0	18.60	18.24				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	37	QPSK	26740	819	1	0	24.0	22.96	0.139	0.177	6	
			26740	819	25	0	23.0	21.99	0.119	0.150	7	
			26740	819	50	0	23.0	21.98				
Edge 2	0	QPSK	26740	819	1	0	24.0	22.96	0.00943	0.01198	8	
			26740	819	25	0	23.0	21.99	0.00821	0.01036	9	
			26740	819	50	0	23.0	21.98				
Edge 2 tilt	0	QPSK	26740	819	1	0	24.0	22.96	0.012	0.015	10	
			26740	819	25	0	23.0	21.99	0.00744	0.00939	11	
			26740	819	50	0	23.0	21.98				
Edge 3	0	QPSK	26740	819	1	0	24.0	22.96	0.044	0.056	12	
			26740	819	25	0	23.0	21.99	0.043	0.054	13	
			26740	819	50	0	23.0	21.98				
Edge 4	0	QPSK	26740	819	1	0	24.0	22.96	0.241	0.306	14	
			26740	819	25	0	23.0	21.99	0.186	0.235	15	
			26740	819	50	0	23.0	21.98				
Edge 4 tilt	0	QPSK	26740	819	1	0	24.0	22.96	0.293	0.372	16	
			26740	819	25	0	23.0	21.99	0.221	0.279	17	
			26740	819	50	0	23.0	21.98				
Rear	20	QPSK	26740	819	1	0	24.0	22.96	0.159	0.202	18	
			26740	819	25	0	23.0	21.99	0.128	0.162	19	
			26740	819	50	0	23.0	21.98				

15.12. LTE Band 26 (Range: 824 – 849MHz)

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	26865	831.5	1	0	18.6	18.15	0.736	0.816	1	
			26915	836.5	1	74	18.6	18.10	0.763	0.856	2	
			26965	841.5	1	74	18.6	17.95	0.780	0.906	3	
			26865	831.5	36	19	18.6	18.01	0.767	0.879	4	
			26915	836.5	36	19	18.6	17.96	0.786	0.911	5	
			26965	841.5	36	39	18.6	17.98	0.797	0.919	6	
			26965	841.5	75	0	18.6	17.99	0.794	0.914	7	
Rear	0	QPSK	26865	831.5	1	0	18.6	18.15	0.328	0.364	8	
			26915	836.5	1	74	18.6	18.10				
			26965	841.5	1	74	18.6	17.95				
			26865	831.5	36	19	18.6	18.01	0.312	0.357	9	
			26915	836.5	36	19	18.6	17.96				
			26965	841.5	36	39	18.6	17.98				
			26965	841.5	75	0	18.6	17.99				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	37	QPSK	26865	831.5	1	0	24.0	22.90				
			26915	836.5	1	74	24.0	22.94	0.111	0.142	10	
			26965	841.5	1	0	24.0	22.75				
			26865	831.5	36	0	23.0	21.61				
			26915	836.5	36	0	23.0	21.64				
			26965	841.5	36	39	23.0	21.67	0.091	0.124	11	
			26965	841.5	75	0	23.0	21.61				
Edge 2	0	QPSK	26865	831.5	1	0	24.0	22.90				
			26915	836.5	1	74	24.0	22.94	0.010	0.013	12	
			26965	841.5	1	0	24.0	22.75				
			26865	831.5	36	0	23.0	21.61				
			26915	836.5	36	0	23.0	21.64				
			26965	841.5	36	39	23.0	21.67	0.00618	0.00839	13	
Edge 2 tilt	0	QPSK	26965	841.5	75	0	23.0	21.61				
			26865	831.5	1	0	24.0	22.90				
			26915	836.5	1	74	24.0	22.94	0.016	0.020	14	
			26965	841.5	1	0	24.0	22.75				
			26865	831.5	36	0	23.0	21.61				
			26915	836.5	36	0	23.0	21.64				
Edge 3	0	QPSK	26965	841.5	36	39	23.0	21.67	0.00849	0.01153	15	
			26965	841.5	75	0	23.0	21.61				
			26865	831.5	1	0	24.0	22.90				
			26915	836.5	1	74	24.0	22.94	0.036	0.046	16	
			26965	841.5	1	0	24.0	22.75				
			26865	831.5	36	0	23.0	21.61				
Edge 4	0	QPSK	26915	836.5	36	0	23.0	21.64				
			26965	841.5	36	39	23.0	21.67	0.041	0.056	17	
			26965	841.5	75	0	23.0	21.61				
			26865	831.5	1	0	24.0	22.90				
			26915	836.5	1	74	24.0	22.94	0.206	0.263	18	
			26965	841.5	1	0	24.0	22.75				
Edge 4 tilt	0	QPSK	26865	831.5	36	0	23.0	21.61				
			26915	836.5	36	0	23.0	21.64				
			26965	841.5	36	39	23.0	21.67	0.167	0.227	21	
			26965	841.5	100	0	23.0	21.61				
			26865	831.5	1	0	24.0	22.90				
			26915	836.5	1	74	24.0	22.94	0.189	0.241	22	
Rear	20	QPSK	26965	841.5	1	0	24.0	22.75				
			26865	831.5	36	0	23.0	21.61				
			26915	836.5	36	0	23.0	21.64				
			26965	841.5	36	39	23.0	21.67	0.154	0.209	23	
			26965	841.5	100	0	23.0	21.61				

15.13. LTE Band 41

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	0	QPSK	39750	2506	1	49	16.1	15.44				
			40185	2549.5	1	49	16.1	15.50				
			40620	2593	1	99	16.1	15.52				
			41055	2636.5	1	49	16.1	15.61				
			41490	2680	1	49	16.1	15.80	0.549	0.588	1	
			39750	2506	50	24	16.1	15.48				
			40185	2549.5	50	24	16.1	15.49				
			40620	2593	50	49	16.1	15.59				
			41055	2636.5	50	49	16.1	15.61				
			41490	2680	50	49	16.1	15.78	0.554	0.596	2	
			41490	2680	100	0	16.1	15.68				
Rear	0	QPSK	39750	2506	1	49	16.1	15.44				
			40185	2549.5	1	49	16.1	15.50				
			40620	2593	1	99	16.1	15.52				
			41055	2636.5	1	49	16.1	15.61				
			41490	2680	1	49	16.1	15.80	0.405	0.434	3	
			39750	2506	50	24	16.1	15.48				
			40185	2549.5	50	24	16.1	15.49				
			40620	2593	50	49	16.1	15.59				
			41055	2636.5	50	49	16.1	15.61				
			41490	2680	50	49	16.1	15.78	0.401	0.432	4	
			41490	2680	100	0	16.1	15.68				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 1	39	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.126	0.171	5	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.102	0.144	6	
			41490	2680	100	0	22.0	20.38				
Edge 2	0	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.00521	0.00708	7	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.00331	0.00469	8	
			41490	2680	100	0	22.0	20.38				
Edge 2 tilt	0	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.0073	0.0099	9	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.00538	0.00762	10	
			41490	2680	100	0	22.0	20.38				
Edge 3	0	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.00587	0.00797	11	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.00319	0.00452	12	
			41490	2680	100	0	22.0	20.38				

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation - continued -

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Edge 4	0	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.132	0.179	13	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.104	0.147	14	
			41490	2680	100	0	22.0	20.38				
Edge 4 tilt	0	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.115	0.156	15	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.087	0.123	16	
			41490	2680	100	0	22.0	20.38				
Rear	21	QPSK	39750	2506	1	99	23.0	21.18				
			40185	2549.5	1	49	23.0	21.06				
			40620	2593	1	0	23.0	21.14				
			41055	2636.5	1	49	23.0	21.13				
			41490	2680	1	49	23.0	21.67	0.170	0.231	17	
			39750	2506	50	24	22.0	20.16				
			40185	2549.5	50	24	22.0	20.08				
			40620	2593	50	49	22.0	20.28				
			41055	2636.5	50	49	22.0	20.20				
			41490	2680	50	24	22.0	20.49	0.135	0.191	18	
			41490	2680	100	0	22.0	20.38				

15.14. 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					
WCDMA Band 2	Body	Edge 4	Rel 99 RMC 12.2kbps	0	1907.6	22.95	1.067
WCDMA Band 4	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	1712.4	15.93	1.085
WCDMA Band 5	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	836.6	18.81	0.757
LTE Band 4	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 50/49	0	1745	15.68	1.022
LTE Band 5	Body	Edge 1 (Prox on)	10 MHz(QPSK) RB 25/12	0	844	18.53	1.005
LTE Band 7	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 100/0	0	2535	13.50	0.899
LTE Band 12	Body	Edge 1 (Prox on)	10 MHz(QPSK) RB 25/0	0	704	20.80	1.021
LTE Band 13	Body	Edge 1 (Prox on)	10 MHz(QPSK) RB 50/0	0	782	19.14	1.086
LTE Band 25	Body	Edge 4 tilt	20 MHz (QPSK) RB 1/49	0	1905	22.75	0.995
LTE Band 26	Body	Edge 1 (Prox on)	15 MHz(QPSK) RB 36/39	0	841.5	17.98	0.919
LTE Band 41	Body	Edge 1 (Prox on)	20 MHz (QPSK) RB 50/49	0	2680	15.78	0.596

15.15. SAR Measurement Variability and Uncertainty

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

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

Wireless Technologies	Test Configuration		Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio	Plot No.
	Exposure	Position					Original	Repeated		
LTE band 13	Body	Edge 1 Prox. On	10 MHz (QPSK) 50/0	0	23230	782	0.955	0.954	1.00	1
LTE Band 5	Body	Edge 1 Prox. On	10 MHz (QPSK) 25/12	0	20600	844	0.923	0.910	1.01	2
W-CDMA Band 4	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	1312	1712.4	1.020	1.020	1.00	3
W-CDMA Band 2	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	9400	1880	0.876	0.862	1.02	4
LTE Band 7	Body	Edge 1 Prox. On	20 MHz (QPSK) 1/49	0	21100	2535	0.794	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.

16. Simultaneous Transmission SAR Analysis

All WLAN 1-g SAR values were taken from results recorded in SAR report 11424282H-A, submitted under FCC ID ACJ9TGWL16A.

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 (11424282H-A) with scaling applied (for the WLAN radios).

Bluetooth and WLAN Aux cannot simultaneously transmit

WLAN main antenna is more than 20cm away from Edge2 and Edge2 tilt, and standalone SAR test is excluded. Therefore Simultaneous Transmission SAR Analysis is not considered.

WLAN aux antenna is more than 20cm away from Edge4 and Edge4 tilt, and standalone SAR test is excluded. Therefore Simultaneous Transmission SAR Analysis is not considered.

16.1. Sum of the SAR for W-CDMA Band 2, 4 & WLAN 2.4 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.018		0.005	0.942	
		1.085	0.018		0.005	1.108	
	0.919			0.020		0.939	
		1.085		0.020		1.105	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.018	0.020		0.957	
		1.085	0.018	0.020		1.123	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.018		0.005	0.180	
		0.271	0.018		0.005	0.294	
	0.157			0.020		0.177	
		0.271		0.020		0.291	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.018	0.020		0.195	
		0.271	0.018	0.020		0.309	
Edge 2, WLAN 1 Tx	0.026				0.181	0.207	
		0.0093			0.181	0.190	
	0.026			0.776		0.802	
		0.0093		0.776		0.785	
Edge 2 tilt, WLAN 1 Tx	0.017				0.211	0.228	
		0.013			0.211	0.224	
	0.017			0.859		0.876	
		0.013		0.859		0.872	
Edge 3, WLAN 1 Tx	0.114		0.052		0.019	0.185	
		0.00500	0.052		0.019	0.076	
	0.114			0.062		0.176	
		0.00500		0.062		0.067	
Edge 3, WLAN 2 Tx	0.114		0.052	0.062		0.228	
		0.00500	0.052	0.062		0.119	
Edge 4, WLAN 1 Tx	1.067		0.793			1.860	Table 1-1
		0.232	0.793			1.025	
Edge 4 tilt, WLAN 1 Tx	0.798		0.789			1.587	
		0.207	0.789			0.996	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.105		0.044	0.796	
		0.703	0.105		0.044	0.852	
	0.647			0.169		0.816	
		0.703		0.169		0.872	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.105	0.169		0.921	
		0.703	0.105	0.169		0.977	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.105		0.044	0.699	
		0.489	0.105		0.044	0.638	
	0.550			0.169		0.719	
		0.489		0.169		0.658	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.105	0.169		0.824	
		0.489	0.105	0.169		0.763	

SAR to Peak Location Separation Ratio (SPLSR)

Table 1-1

Test Position	① WCDMA Band2	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.793			① + ②	1.860	164.4	0.015	No	X1

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.

16.2. Sum of the SAR for W-CDMA Band 2, 4 & WLAN 5.2/5.3 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.033		0.005	0.957	
		1.085	0.033		0.005	1.123	
	0.919			0.016		0.935	
		1.085		0.016		1.101	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.033	0.016		0.968	
		1.085	0.033	0.016		1.134	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.033		0.005	0.195	
		0.271	0.033		0.005	0.309	
	0.157			0.016		0.173	
		0.271		0.016		0.287	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.033	0.016		0.206	
		0.271	0.033	0.016		0.320	
Edge 2, WLAN 1 Tx	0.026				0.181	0.207	
		0.0093			0.181	0.190	
	0.026			1.036		1.062	
		0.0093		1.036		1.045	
Edge 2 tilt, WLAN 1 Tx	0.017				0.211	0.228	
		0.013			0.211	0.224	
	0.017			1.263		1.280	
		0.013		1.263		1.276	
Edge 3, WLAN 1 Tx	0.114		0.018		0.019	0.151	
		0.00500	0.018		0.019	0.042	
	0.114			0.087		0.201	
		0.00500		0.087		0.092	
Edge 3, WLAN 2 Tx	0.114		0.018	0.087		0.219	
		0.00500	0.018	0.087		0.110	
Edge 4, WLAN 1 Tx	1.067		0.690			1.757	Table 2-1
		0.232	0.690			0.922	
Edge 4 tilt, WLAN 1 Tx	0.798		0.837			1.635	Table 2-2
		0.207	0.837			1.044	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.065		0.044	0.756	
		0.703	0.065		0.044	0.812	
	0.647			0.109		0.756	
		0.703		0.109		0.812	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.065	0.109		0.821	
		0.703	0.065	0.109		0.877	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.065		0.044	0.659	
		0.489	0.065		0.044	0.598	
	0.550			0.109		0.659	
		0.489		0.109		0.598	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.065	0.109		0.724	
		0.489	0.065	0.109		0.663	

SAR to Peak Location Separation Ratio (SPLSR)

Table 2-1

Test Position	① WCDMA Band2	② WLAN 5.3GHz (Main Ant)	③ WLAN 5.3GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.690			① + ②	1.757	171.1	0.014	No	X2

Table 2-2

Test Position	① WCDMA Band2	② WLAN 5.3GHz (Main Ant)	③ WLAN 5.3GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.798	0.837			① + ②	1.635	173.0	0.012	No	X3

Conclusion:

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

16.3. Sum of the SAR for W-CDMA Band 2, 4 & WLAN 5.5 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.042		0.005	0.966	
		1.085	0.042		0.005	1.132	
	0.919			0.014		0.933	
		1.085		0.014		1.099	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.042	0.014		0.975	
		1.085	0.042	0.014		1.141	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.042		0.005	0.204	
		0.271	0.042		0.005	0.318	
	0.157			0.014		0.171	
		0.271		0.014		0.285	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.042	0.014		0.213	
		0.271	0.042	0.014		0.327	
Edge 2, WLAN 1 Tx	0.026				0.181	0.207	
		0.0093			0.181	0.190	
	0.026			1.015		1.041	
		0.0093		1.015		1.024	
Edge 2 tilt, WLAN 1 Tx	0.017				0.211	0.228	
		0.013			0.211	0.224	
	0.017			0.961		0.978	
		0.013		0.961		0.974	
Edge 3, WLAN 1 Tx	0.114		0.021		0.019	0.154	
		0.00500	0.021		0.019	0.045	
	0.114			0.061		0.175	
		0.00500		0.061		0.066	
Edge 3, WLAN 2 Tx	0.114		0.021	0.061		0.196	
		0.00500	0.021	0.061		0.087	
Edge 4, WLAN 1 Tx	1.067		0.601			1.668	Table 3-1
		0.232	0.601			0.833	
Edge 4 tilt, WLAN 1 Tx	0.798		0.721			1.519	
		0.207	0.721			0.928	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.081		0.044	0.772	
		0.703	0.081		0.044	0.828	
	0.647			0.112		0.759	
		0.703		0.112		0.815	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.081	0.112		0.840	
		0.703	0.081	0.112		0.896	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.081		0.044	0.675	
		0.489	0.081		0.044	0.614	
	0.550			0.112		0.662	
		0.489		0.112		0.601	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.081	0.112		0.743	
		0.489	0.081	0.112		0.682	

SAR to Peak Location Separation Ratio (SPLSR)

Table 3-1

Test Position	① WCDMA Band2	② WLAN 5.5GHz (Main Ant)	③ WLAN 5.5GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.601			① + ②	1.668	169.1	0.013	No	X4

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.

16.4. Sum of the SAR for W-CDMA Band 2, 4 & WLAN 5.8 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.059		0.005	0.983	
		1.085	0.059		0.005	1.149	
	0.919			0.019		0.938	
		1.085		0.019		1.104	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.059	0.019		0.997	
		1.085	0.059	0.019		1.163	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.059		0.005	0.221	
		0.271	0.059		0.005	0.335	
	0.157			0.019		0.176	
		0.271		0.019		0.290	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.059	0.019		0.235	
		0.271	0.059	0.019		0.349	
Edge 2, WLAN 1 Tx	0.026				0.181	0.207	
		0.0093			0.181	0.190	
	0.026			0.506		0.532	
		0.0093		0.506		0.515	
Edge 2 tilt, WLAN 1 Tx	0.017				0.211	0.228	
		0.013			0.211	0.224	
	0.017			0.670		0.687	
		0.013		0.670		0.683	
Edge 3, WLAN 1 Tx	0.114		0.000		0.019	0.133	
		0.00500	0.000		0.019	0.024	
	0.114			0.025		0.139	
		0.00500		0.025		0.030	
Edge 3, WLAN 2 Tx	0.114		0.000	0.025		0.139	
		0.00500	0.000	0.025		0.030	
Edge 4, WLAN 1 Tx	1.067		0.546			1.613	Table 4-1
		0.232	0.546			0.778	
Edge 4 tilt, WLAN 1 Tx	0.798		0.745			1.543	
		0.207	0.745			0.952	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.110		0.044	0.801	
		0.703	0.110		0.044	0.857	
	0.647			0.115		0.762	
		0.703		0.115		0.818	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.110	0.115		0.872	
		0.703	0.110	0.115		0.928	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.110		0.044	0.704	
		0.489	0.110		0.044	0.643	
	0.550			0.115		0.665	
		0.489		0.115		0.604	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.110	0.115		0.775	
		0.489	0.110	0.115		0.714	

SAR to Peak Location Separation Ratio (SPLSR)

Table 4-1

Test Position	① WCDMA Band2	② WLAN 5.8GHz (Main Ant)	③ WLAN 5.8GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.546			① + ②	1.613	160.1	0.013	No	X5

Conclusion:

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

16.5. Sum of the SAR for W-CDMA Band 5 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.018		0.005	0.780	
	0.757		0.020		0.777	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.018	0.020		0.795	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.018		0.005	0.130	
	0.107		0.020		0.127	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.018	0.020		0.145	
Edge 2, WLAN 1 Tx	0.00988			0.181	0.191	
	0.00988		0.776		0.786	
Edge 2 tilt, WLAN 1 Tx	0.0155			0.211	0.227	
	0.0155		0.859		0.875	
Edge 3, WLAN 1 Tx	0.052	0.052		0.019	0.123	
	0.052		0.062		0.114	
Edge 3, WLAN 2 Tx	0.052	0.052	0.062		0.166	
Edge 4, WLAN 1 Tx	0.218	0.793			1.011	
Edge 4 tilt, WLAN 1 Tx	0.347	0.789			1.136	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.105		0.044	0.412	
	0.263		0.169		0.432	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.105	0.169		0.537	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.105		0.044	0.305	
	0.156		0.169		0.325	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.105	0.169		0.430	

16.6. Sum of the SAR for W-CDMA Band 5 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.033		0.005	0.795	
	0.757		0.016		0.773	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.033	0.016		0.806	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.033		0.005	0.145	
	0.107		0.016		0.123	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.033	0.016		0.156	
Edge 2, WLAN 1 Tx	0.00988			0.181	0.191	
	0.00988		1.036		1.046	
Edge 2 tilt, WLAN 1 Tx	0.0155			0.211	0.227	
	0.0155		1.263		1.279	
Edge 3, WLAN 1 Tx	0.052	0.018		0.019	0.089	
	0.052		0.087		0.139	
Edge 3, WLAN 2 Tx	0.052	0.018	0.087		0.157	
Edge 4, WLAN 1 Tx	0.218	0.690			0.908	
Edge 4 tilt, WLAN 1 Tx	0.347	0.837			1.184	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.065		0.044	0.372	
	0.263		0.109		0.372	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.065	0.109		0.437	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.065		0.044	0.265	
	0.156		0.109		0.265	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.065	0.109		0.330	

16.7. Sum of the SAR for W-CDMA Band 5 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.042		0.005	0.804	
	0.757		0.014		0.771	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.042	0.014		0.813	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.042		0.005	0.154	
	0.107		0.014		0.121	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.042	0.014		0.163	
Edge 2, WLAN 1 Tx	0.00988			0.181	0.191	
	0.00988		1.015		1.025	
Edge 2 tilt, WLAN 1 Tx	0.0155			0.211	0.227	
	0.0155		0.961		0.977	
Edge 3, WLAN 1 Tx	0.052	0.021		0.019	0.092	
	0.052		0.061		0.113	
Edge 3, WLAN 2 Tx	0.052	0.021	0.061		0.134	
Edge 4, WLAN 1 Tx	0.218	0.601			0.819	
Edge 4 tilt, WLAN 1 Tx	0.347	0.721			1.068	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.081		0.044	0.388	
	0.263		0.112		0.375	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.081	0.112		0.456	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.081		0.044	0.281	
	0.156		0.112		0.268	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.081	0.112		0.349	

16.8. Sum of the SAR for W-CDMA Band 5 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.059		0.005	0.821	
	0.757		0.019		0.776	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.059	0.019		0.835	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.059		0.005	0.171	
	0.107		0.019		0.126	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.059	0.019		0.185	
Edge 2, WLAN 1 Tx	0.0155			0.181	0.197	
	0.0155		0.506		0.522	
Edge 2 tilt, WLAN 1 Tx	0.00645			0.211	0.217	
	0.00645		0.745		0.751	
Edge 3, WLAN 1 Tx	0.052	0.000		0.019	0.071	
	0.052		0.025		0.077	
Edge 3, WLAN 2 Tx	0.052	0.000	0.025		0.077	
Edge 4, WLAN 1 Tx	0.218	0.546			0.764	
Edge 4 tilt, WLAN 1 Tx	0.347	0.670			1.017	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.110		0.044	0.417	
	0.263		0.115		0.378	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.110	0.115		0.488	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.110		0.044	0.310	
	0.156		0.115		0.271	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.110	0.115		0.381	

16.9. Sum of the SAR for LTE Band 2 & WLAN All Band

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

16.10. Sum of the SAR for LTE Band 4 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.018		0.005	1.045	
	1.022		0.020		1.042	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.018	0.020		1.060	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.018		0.005	0.288	
	0.265		0.020		0.285	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.018	0.020		0.303	
Edge 2, WLAN 1 Tx	0.00843			0.181	0.189	
	0.00843		0.776		0.784	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.211	0.222	
	0.01144		0.859		0.870	
Edge 3, WLAN 1 Tx	0.00648	0.052		0.019	0.077	
	0.00648		0.062		0.068	
Edge 3, WLAN 2 Tx	0.00648	0.052	0.062		0.120	
Edge 4, WLAN 1 Tx	0.251	0.793			1.044	
Edge 4 tilt, WLAN 1 Tx	0.197	0.789			0.986	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.105		0.044	0.925	
	0.776		0.169		0.945	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.105	0.169		1.050	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.105		0.044	0.649	
	0.500		0.169		0.669	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.105	0.169		0.774	

16.11. Sum of the SAR for LTE Band 4 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.033		0.005	1.060	
	1.022		0.016		1.038	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.033	0.016		1.071	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.033		0.005	0.303	
	0.265		0.016		0.281	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.033	0.016		0.314	
Edge 2, WLAN 1 Tx	0.00843			0.181	0.189	
	0.00843		1.036		1.044	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.211	0.222	
	0.01144		1.263		1.274	
Edge 3, WLAN 1 Tx	0.00648	0.018		0.019	0.043	
	0.00648		0.087		0.093	
Edge 3, WLAN 2 Tx	0.00648	0.018	0.087		0.111	
Edge 4, WLAN 1 Tx	0.251	0.690			0.941	
Edge 4 tilt, WLAN 1 Tx	0.197	0.837			1.034	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.065		0.044	0.885	
	0.776		0.109		0.885	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.065	0.109		0.950	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.065		0.044	0.609	
	0.500		0.109		0.609	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.065	0.109		0.674	

16.12. Sum of the SAR for LTE Band 4 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.042		0.005	1.069	
	1.022		0.014		1.036	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.042	0.014		1.078	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.042		0.005	0.312	
	0.265		0.014		0.279	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.042	0.014		0.321	
Edge 2, WLAN 1 Tx	0.00843			0.181	0.189	
	0.00843		1.015		1.023	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.211	0.222	
	0.01144		0.961		0.972	
Edge 3, WLAN 1 Tx	0.00648	0.021		0.019	0.046	
	0.00648		0.061		0.067	
Edge 3, WLAN 2 Tx	0.00648	0.021	0.061		0.088	
Edge 4, WLAN 1 Tx	0.251	0.601			0.852	
Edge 4 tilt, WLAN 1 Tx	0.197	0.721			0.918	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.081		0.044	0.901	
	0.776		0.112		0.888	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.081	0.112		0.969	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.081		0.044	0.625	
	0.500		0.112		0.612	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.081	0.112		0.693	

16.13. Sum of the SAR for LTE Band 4 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.059		0.005	1.086	
	1.022		0.019		1.041	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.059	0.019		1.100	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.059		0.005	0.329	
	0.265		0.019		0.284	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.059	0.019		0.343	
Edge 2, WLAN 1 Tx	0.00843			0.181	0.189	
	0.00843		0.506		0.514	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.211	0.222	
	0.01144		0.745		0.756	
Edge 3, WLAN 1 Tx	0.00648	0.000		0.019	0.025	
	0.00648		0.025		0.031	
Edge 3, WLAN 2 Tx	0.00648	0.000	0.025		0.031	
Edge 4, WLAN 1 Tx	0.251	0.546			0.797	
Edge 4 tilt, WLAN 1 Tx	0.197	0.670			0.867	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.110		0.044	0.930	
	0.776		0.115		0.891	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.110	0.115		1.001	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.110		0.044	0.654	
	0.500		0.115		0.615	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.110	0.115		0.725	

16.14. Sum of the SAR for LTE Band 5 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.018		0.005	1.028	
	1.005		0.020		1.025	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.018	0.020		1.043	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.105		0.044	0.549	
	0.400		0.169		0.569	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.105	0.169		0.674	

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

16.15. Sum of the SAR for LTE Band 5 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.033		0.005	1.043	
	1.005		0.016		1.021	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.033	0.016		1.054	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.065		0.044	0.509	
	0.400		0.109		0.509	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.065	0.109		0.574	

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

16.16. Sum of the SAR for LTE Band 5 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.042		0.005	1.052	
	1.005		0.014		1.019	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.042	0.014		1.061	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.081		0.044	0.525	
	0.400		0.112		0.512	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.081	0.112		0.593	

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

16.17. Sum of the SAR for LTE Band 5 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.059		0.005	1.069	
	1.005		0.019		1.024	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.059	0.019		1.083	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.110		0.044	0.554	
	0.400		0.115		0.515	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.110	0.115		0.625	

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

16.18. Sum of the SAR for LTE Band 7 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.018		0.005	0.922	
	0.899		0.020		0.919	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.018	0.020		0.937	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.018		0.005	0.400	
	0.377		0.020		0.397	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.018	0.020		0.415	
Edge 2, WLAN 1 Tx	0.059			0.181	0.240	
	0.059		0.776		0.835	
Edge 2 tilt, WLAN 1 Tx	0.033			0.211	0.244	
	0.033		0.859		0.892	
Edge 3, WLAN 1 Tx	0.019	0.052		0.019	0.090	
	0.019		0.062		0.081	
Edge 3, WLAN 2 Tx	0.019	0.052	0.062		0.133	
Edge 4, WLAN 1 Tx	0.285	0.793			1.078	
Edge 4 tilt, WLAN 1 Tx	0.319	0.789			1.108	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.105		0.044	0.643	
	0.494		0.169		0.663	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.105	0.169		0.768	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.105		0.044	0.511	
	0.362		0.169		0.531	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.105	0.169		0.636	

16.19. Sum of the SAR for LTE Band 7 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.033		0.005	0.937	
	0.899		0.016		0.915	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.033	0.016		0.948	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.033		0.005	0.415	
	0.377		0.016		0.393	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.033	0.016		0.426	
Edge 2, WLAN 1 Tx	0.059			0.181	0.240	
	0.059		1.036		1.095	
Edge 2 tilt, WLAN 1 Tx	0.033			0.211	0.244	
	0.033		1.263		1.296	
Edge 3, WLAN 1 Tx	0.019	0.018		0.019	0.056	
	0.019		0.087		0.106	
Edge 3, WLAN 2 Tx	0.019	0.018	0.087		0.124	
Edge 4, WLAN 1 Tx	0.285	0.690			0.975	
Edge 4 tilt, WLAN 1 Tx	0.319	0.837			1.156	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.065		0.044	0.603	
	0.494		0.109		0.603	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.065	0.109		0.668	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.065		0.044	0.471	
	0.362		0.109		0.471	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.065	0.109		0.536	

16.20. Sum of the SAR for LTE Band 7 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.042		0.005	0.946	
	0.899		0.014		0.913	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.042	0.014		0.955	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.042		0.005	0.424	
	0.377		0.014		0.391	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.042	0.014		0.433	
Edge 2, WLAN 1 Tx	0.059			0.181	0.240	
	0.059		1.015		1.074	
Edge 2 tilt, WLAN 1 Tx	0.033			0.211	0.244	
	0.033		0.961		0.994	
Edge 3, WLAN 1 Tx	0.019	0.021		0.019	0.059	
	0.019		0.061		0.080	
Edge 3, WLAN 2 Tx	0.019	0.021	0.061		0.101	
Edge 4, WLAN 1 Tx	0.285	0.601			0.886	
Edge 4 tilt, WLAN 1 Tx	0.319	0.721			1.040	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.081		0.044	0.619	
	0.494		0.112		0.606	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.081	0.112		0.687	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.081		0.044	0.487	
	0.362		0.112		0.474	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.081	0.112		0.555	

16.21. Sum of the SAR for LTE Band 7 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.059		0.005	0.963	
	0.899		0.019		0.918	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.059	0.019		0.977	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.059		0.005	0.441	
	0.377		0.019		0.396	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.059	0.019		0.455	
Edge 2, WLAN 1 Tx	0.059			0.181	0.240	
	0.059		0.506		0.565	
Edge 2 tilt, WLAN 1 Tx	0.033			0.211	0.244	
	0.033		0.745		0.778	
Edge 3, WLAN 1 Tx	0.019	0.000		0.019	0.038	
	0.019		0.025		0.044	
Edge 3, WLAN 2 Tx	0.019	0.000	0.025		0.044	
Edge 4, WLAN 1 Tx	0.285	0.546			0.831	
Edge 4 tilt, WLAN 1 Tx	0.319	0.670			0.989	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.110		0.044	0.648	
	0.494		0.115		0.609	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.110	0.115		0.719	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.110		0.044	0.516	
	0.362		0.115		0.477	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.110	0.115		0.587	

16.22. Sum of the SAR for LTE Band 12, 13 & WLAN 2.4 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.018		0.005	1.044	
		1.086	0.018		0.005	1.109	
	1.021			0.020		1.041	
		1.086		0.020		1.106	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.018	0.020		1.059	
		1.086	0.018	0.020		1.124	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.018		0.005	0.061	
		0.174	0.018		0.005	0.197	
	0.038			0.020		0.058	
		0.174		0.020		0.194	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.018	0.020		0.076	
		0.174	0.018	0.020		0.212	
Edge 2, WLAN 1 Tx	0.014				0.181	0.195	
		0.020			0.181	0.201	
	0.014			0.776		0.790	
		0.020		0.776		0.796	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.211	0.222	
		0.028			0.211	0.239	
	0.01114			0.859		0.870	
		0.028		0.859		0.887	
Edge 3, WLAN 1 Tx	0.024		0.052		0.019	0.095	
		0.082	0.052		0.019	0.153	
	0.024			0.062		0.086	
		0.082		0.062		0.144	
Edge 3, WLAN 2 Tx	0.024		0.052	0.062		0.138	
		0.082	0.052	0.062		0.196	
Edge 4, WLAN 1 Tx	0.162		0.793			0.955	
		0.357	0.793			1.150	
Edge 4 tilt, WLAN 1 Tx	0.158		0.789			0.947	
		0.422	0.789			1.211	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.105		0.044	0.652	
		0.547	0.105		0.044	0.696	
	0.503			0.169		0.672	
		0.547		0.169		0.716	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.105	0.169		0.777	
		0.547	0.105	0.169		0.821	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.105		0.044	0.236	
		0.261	0.105		0.044	0.410	
	0.087			0.169		0.256	
		0.261		0.169		0.430	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.105	0.169		0.361	
		0.261	0.105	0.169		0.535	

16.23. Sum of the SAR for LTE Band 12, 13 & WLAN 5.2/5.3 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.033		0.005	1.059	
		1.086	0.033		0.005	1.124	
	1.021			0.016		1.037	
		1.086		0.016		1.102	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.033	0.016		1.070	
		1.086	0.033	0.016		1.135	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.033		0.005	0.076	
		0.174	0.033		0.005	0.212	
	0.038			0.016		0.054	
		0.174		0.016		0.190	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.033	0.016		0.087	
		0.174	0.033	0.016		0.223	
Edge 2, WLAN 1 Tx	0.014				0.181	0.195	
		0.020			0.181	0.201	
	0.014			1.036		1.050	
		0.020		1.036		1.056	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.211	0.222	
		0.028			0.211	0.239	
	0.01114			1.263		1.274	
		0.028		1.263		1.291	
Edge 3, WLAN 1 Tx	0.024		0.018		0.019	0.061	
		0.082	0.018		0.019	0.119	
	0.024			0.087		0.111	
		0.082		0.087		0.169	
Edge 3, WLAN 2 Tx	0.024		0.018	0.087		0.129	
		0.082	0.018	0.087		0.187	
Edge 4, WLAN 1 Tx	0.162		0.690			0.852	
		0.357	0.690			1.047	
Edge 4 tilt, WLAN 1 Tx	0.158		0.837			0.995	
		0.422	0.837			1.259	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.065		0.044	0.612	
		0.547	0.065		0.044	0.656	
	0.503			0.109		0.612	
		0.547		0.109		0.656	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.065	0.109		0.677	
		0.547	0.065	0.109		0.721	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.065		0.044	0.196	
		0.261	0.065		0.044	0.370	
	0.087			0.109		0.196	
		0.261		0.109		0.370	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.065	0.109		0.261	
		0.261	0.065	0.109		0.435	

16.24. Sum of the SAR for LTE Band 12, 13 & WLAN 5.5 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.042		0.005	1.068	
		1.086	0.042		0.005	1.133	
	1.021			0.014		1.035	
		1.086		0.014		1.100	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.042	0.014		1.077	
		1.086	0.042	0.014		1.142	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.042		0.005	0.085	
		0.174	0.042		0.005	0.221	
	0.038			0.014		0.052	
		0.174		0.014		0.188	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.042	0.014		0.094	
		0.174	0.042	0.014		0.230	
Edge 2, WLAN 1 Tx	0.014				0.181	0.195	
		0.020			0.181	0.201	
	0.014			1.015		1.029	
		0.020		1.015		1.035	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.211	0.222	
		0.028			0.211	0.239	
	0.01114			0.961		0.972	
		0.028		0.961		0.989	
Edge 3, WLAN 1 Tx	0.024		0.021		0.019	0.064	
		0.082	0.021		0.019	0.122	
	0.024			0.061		0.085	
		0.082		0.061		0.143	
Edge 3, WLAN 2 Tx	0.024		0.021	0.061		0.106	
		0.082	0.021	0.061		0.164	
Edge 4, WLAN 1 Tx	0.162		0.601			0.763	
		0.357	0.601			0.958	
Edge 4 tilt, WLAN 1 Tx	0.158		0.721			0.879	
		0.422	0.721			1.143	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.081		0.044	0.628	
		0.547	0.081		0.044	0.672	
	0.503			0.112		0.615	
		0.547		0.112		0.659	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.081	0.112		0.696	
		0.547	0.081	0.112		0.740	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.081		0.044	0.212	
		0.261	0.081		0.044	0.386	
	0.087			0.112		0.199	
		0.261		0.112		0.373	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.081	0.112		0.280	
		0.261	0.081	0.112		0.454	

16.25. Sum of the SAR for LTE Band 12, 13 & WLAN 5.8 GHz Band

Test Position	Data					Σ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.059		0.005	1.085	
		1.086	0.059		0.005	1.150	
	1.021			0.019		1.040	
		1.086		0.019		1.105	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.059	0.019		1.099	
		1.086	0.059	0.019		1.164	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.059		0.005	0.102	
		0.174	0.059		0.005	0.238	
	0.038			0.019		0.057	
		0.174		0.019		0.193	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.059	0.019		0.116	
		0.174	0.059	0.019		0.252	
Edge 2, WLAN 1 Tx	0.014				0.181	0.195	
		0.020			0.181	0.201	
	0.014			0.506		0.520	
		0.020		0.506		0.526	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.211	0.222	
		0.028			0.211	0.239	
	0.01114			0.745		0.756	
		0.028		0.745		0.773	
Edge 3, WLAN 1 Tx	0.024		0.000		0.019	0.043	
		0.082	0.000		0.019	0.101	
	0.024			0.025		0.049	
		0.082		0.025		0.107	
Edge 3, WLAN 2 Tx	0.024		0.000	0.025		0.049	
		0.082	0.000	0.025		0.107	
Edge 4, WLAN 1 Tx	0.162		0.546			0.708	
		0.357	0.546			0.903	
Edge 4 tilt, WLAN 1 Tx	0.158		0.670			0.828	
		0.422	0.670			1.092	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.110		0.044	0.657	
		0.547	0.110		0.044	0.701	
	0.503			0.115		0.618	
		0.547		0.115		0.662	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.110	0.115		0.728	
		0.547	0.110	0.115		0.772	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.110		0.044	0.241	
		0.261	0.110		0.044	0.415	
	0.087			0.115		0.202	
		0.261		0.115		0.376	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.110	0.115		0.312	
		0.261	0.110	0.115		0.486	

16.26. Sum of the SAR for LTE Band 25 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.018		0.005	0.988	
	0.965		0.020		0.985	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.018	0.020		1.003	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.018		0.005	0.174	
	0.151		0.020		0.171	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.018	0.020		0.189	
Edge 2, WLAN 1 Tx	0.022			0.181	0.203	
	0.022		0.776		0.798	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.211	0.218	
	0.00733		0.859		0.866	
Edge 3, WLAN 1 Tx	0.059	0.052		0.019	0.130	
	0.059		0.062		0.121	
Edge 3, WLAN 2 Tx	0.059	0.052	0.062		0.173	
Edge 4, WLAN 1 Tx	0.962	0.793			1.755	Table 26-1
Edge 4 tilt, WLAN 1 Tx	0.995	0.789			1.784	Table 26-2
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.105		0.044	0.856	
	0.707		0.169		0.876	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.105	0.169		0.981	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.105		0.044	0.541	
	0.392		0.169		0.561	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.105	0.169		0.666	

SAR to Peak Location Separation Ratio (SPLSR)

Table 26-1

Test Position	① LTE Band25	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	0.962	0.793			① + ②	1.755	159.4	0.015	No	X6

Table 26-2

Test Position	① LTE Band25	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.789			① + ②	1.784	169.0	0.014	No	X7

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.

16.27. Sum of the SAR for LTE Band 25 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.033		0.005	1.003	
	0.965		0.016		0.981	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.033	0.016		1.014	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.033		0.005	0.189	
	0.151		0.016		0.167	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.033	0.016		0.200	
Edge 2, WLAN 1 Tx	0.022			0.181	0.203	
	0.022		1.036		1.058	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.211	0.218	
	0.00733		1.263		1.270	
Edge 3, WLAN 1 Tx	0.059	0.018		0.019	0.096	
	0.059		0.019		0.078	
Edge 3, WLAN 2 Tx	0.059	0.018	0.019		0.096	
Edge 4, WLAN 1 Tx	0.962	0.690			1.652	Table 27-1
Edge 4 tilt, WLAN 1 Tx	0.995	0.837			1.832	Table 27-2
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.065		0.044	0.816	
	0.707		0.109		0.816	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.065	0.109		0.881	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.065		0.044	0.501	
	0.392		0.109		0.501	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.065	0.109		0.566	

SAR to Peak Location Separation Ratio (SPLSR)

Table 27-1

Test Position	① LTE Band25	② WLAN 5.3GHz (Main Ant)	③ WLAN 5.3GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	0.962	0.690			① + ②	1.652	166.2	0.013	No	X8

Table 27-2

Test Position	① LTE Band25	② WLAN 5.3GHz (Main Ant)	③ WLAN 5.3GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.837			① + ②	1.832	172.0	0.014	No	X9

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.

16.28. Sum of the SAR for LTE Band 25 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.042		0.005	1.012	
	0.965		0.014		0.979	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.042	0.014		1.021	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.042		0.005	0.198	
	0.151		0.014		0.165	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.042	0.014		0.207	
Edge 2, WLAN 1 Tx	0.022			0.181	0.203	
	0.022		1.015		1.037	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.211	0.218	
	0.00733		0.961		0.968	
Edge 3, WLAN 1 Tx	0.059	0.021		0.019	0.099	
	0.059		0.061		0.120	
Edge 3, WLAN 2 Tx	0.059	0.021	0.061		0.141	
Edge 4, WLAN 1 Tx	0.962	0.601			1.563	
Edge 4 tilt, WLAN 1 Tx	0.995	0.721			1.716	Table 28-1
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.081		0.044	0.832	
	0.707		0.112		0.819	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.081	0.112		0.900	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.081		0.044	0.517	
	0.392		0.112		0.504	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.081	0.112		0.585	

SAR to Peak Location Separation Ratio (SPLSR)

Table 28-1

Test Position	① LTE Band25	② WLAN 5.5GHz (Main Ant)	③ WLAN 5.5GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.721			① + ②	1.716	170.0	0.013	No	X10

Conclusion:

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

16.29. Sum of the SAR for LTE Band 25 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.059		0.005	1.029	
	0.965		0.019		0.984	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.059	0.019		1.043	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.059		0.005	0.215	
	0.151		0.019		0.170	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.059	0.019		0.229	
Edge 2, WLAN 1 Tx	0.022			0.181	0.203	
	0.022		0.506		0.528	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.211	0.218	
	0.00733		0.745		0.752	
Edge 3, WLAN 1 Tx	0.059	0.000		0.019	0.078	
	0.059		0.025		0.084	
Edge 3, WLAN 2 Tx	0.059	0.000	0.025		0.084	
Edge 4, WLAN 1 Tx	0.962	0.546			1.508	
Edge 4 tilt, WLAN 1 Tx	0.995	0.670			1.665	Table 29-1
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.110		0.044	0.861	
	0.707		0.115		0.822	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.110	0.115		0.932	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.110		0.044	0.546	
	0.392		0.115		0.507	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.110	0.115		0.617	

SAR to Peak Location Separation Ratio (SPLSR)

Table 29-1

Test Position	① LTE Band25	② WLAN 5.8GHz (Main Ant)	③ WLAN 5.8GHz (Aux Ant)	④ BT (Aux Ant)	Σ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.670			① + ②	1.665	158.1	0.014	No	X11

Conclusion:

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

16.30. Sum of the SAR for LTE Band 26 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.018		0.005	0.942	
	0.919		0.020		0.939	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.018	0.020		0.957	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.018		0.005	0.200	
	0.177		0.020		0.197	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.018	0.020		0.215	
Edge 2, WLAN 1 Tx	0.013			0.181	0.194	
	0.013		0.776		0.789	
Edge 2 tilt, WLAN 1 Tx	0.020			0.211	0.231	
	0.020		0.859		0.879	
Edge 3, WLAN 1 Tx	0.056	0.052		0.019	0.127	
	0.056		0.062		0.118	
Edge 3, WLAN 2 Tx	0.056	0.052	0.062		0.170	
Edge 4, WLAN 1 Tx	0.306	0.793			1.099	
Edge 4 tilt, WLAN 1 Tx	0.372	0.789			1.161	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.105		0.044	0.525	
	0.376		0.169		0.545	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.105	0.169		0.650	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.105		0.044	0.390	
	0.241		0.169		0.410	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.105	0.169		0.515	

16.31. Sum of the SAR for LTE Band 26 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.033		0.005	0.957	
	0.919		0.016		0.935	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.033	0.016		0.968	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.033		0.005	0.215	
	0.177		0.016		0.193	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.033	0.016		0.226	
Edge 2, WLAN 1 Tx	0.013			0.181	0.194	
	0.013		1.036		1.049	
Edge 2 tilt, WLAN 1 Tx	0.020			0.211	0.231	
	0.020		1.263		1.283	
Edge 3, WLAN 1 Tx	0.056	0.018		0.019	0.093	
	0.056		0.087		0.143	
Edge 3, WLAN 2 Tx	0.056	0.018	0.087		0.161	
Edge 4, WLAN 1 Tx	0.306	0.690			0.996	
Edge 4 tilt, WLAN 1 Tx	0.372	0.837			1.209	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.065		0.044	0.485	
	0.376		0.109		0.485	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.065	0.109		0.550	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.065		0.044	0.350	
	0.241		0.109		0.350	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.065	0.109		0.415	

16.32. Sum of the SAR for LTE Band 26 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.042		0.005	0.966	
	0.919		0.014		0.933	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.042	0.014		0.975	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.042		0.005	0.224	
	0.177		0.014		0.191	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.042	0.014		0.233	
Edge 2, WLAN 1 Tx	0.013			0.181	0.194	
	0.013		1.015		1.028	
Edge 2 tilt, WLAN 1 Tx	0.020			0.211	0.231	
	0.020		0.961		0.981	
Edge 3, WLAN 1 Tx	0.056	0.021		0.019	0.096	
	0.056		0.061		0.117	
Edge 3, WLAN 2 Tx	0.056	0.021	0.061		0.138	
Edge 4, WLAN 1 Tx	0.306	0.601			0.907	
Edge 4 tilt, WLAN 1 Tx	0.372	0.721			1.093	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.081		0.044	0.501	
	0.376		0.112		0.488	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.081	0.112		0.569	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.081		0.044	0.366	
	0.241		0.112		0.353	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.081	0.112		0.434	

16.33. Sum of the SAR for LTE Band 26 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.059		0.005	0.983	
	0.919		0.019		0.938	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.059	0.019		0.997	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.059		0.005	0.241	
	0.177		0.019		0.196	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.059	0.019		0.255	
Edge 2, WLAN 1 Tx	0.013			0.181	0.194	
	0.013		0.506		0.519	
Edge 2 tilt, WLAN 1 Tx	0.020			0.211	0.231	
	0.020		0.745		0.765	
Edge 3, WLAN 1 Tx	0.056	0.000		0.019	0.075	
	0.056		0.025		0.081	
Edge 3, WLAN 2 Tx	0.056	0.000	0.025		0.081	
Edge 4, WLAN 1 Tx	0.306	0.546			0.852	
Edge 4 tilt, WLAN 1 Tx	0.372	0.670			1.042	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.110		0.044	0.530	
	0.376		0.115		0.491	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.110	0.115		0.601	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.110		0.044	0.395	
	0.241		0.115		0.356	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.110	0.115		0.466	

16.34. Sum of the SAR for LTE Band 41 & WLAN 2.4 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.018		0.005	0.619	
	0.596		0.020		0.616	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.018	0.020		0.634	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.018		0.005	0.194	
	0.171		0.020		0.191	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.018	0.020		0.209	
Edge 2, WLAN 1 Tx	0.00708			0.181	0.188	
	0.00708		0.776		0.783	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.211	0.221	
	0.0099		0.859		0.869	
Edge 3, WLAN 1 Tx	0.00797	0.052		0.019	0.079	
	0.00797		0.062		0.070	
Edge 3, WLAN 2 Tx	0.00797	0.052	0.062		0.122	
Edge 4, WLAN 1 Tx	0.179	0.793			0.972	
Edge 4 tilt, WLAN 1 Tx	0.156	0.789			0.945	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.105		0.044	0.583	
	0.434		0.169		0.603	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.105	0.169		0.708	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.105		0.044	0.380	
	0.231		0.169		0.400	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.105	0.169		0.505	

16.35. Sum of the SAR for LTE Band 41 & WLAN 5.2/5.3 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.033		0.005	0.634	
	0.596		0.016		0.612	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.033	0.016		0.645	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.033		0.005	0.209	
	0.171		0.016		0.187	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.033	0.016		0.220	
Edge 2, WLAN 1 Tx	0.00708			0.181	0.188	
	0.00708		1.036		1.043	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.211	0.221	
	0.0099		1.263		1.273	
Edge 3, WLAN 1 Tx	0.00797	0.018		0.019	0.045	
	0.00797		0.087		0.095	
Edge 3, WLAN 2 Tx	0.00797	0.018	0.087		0.113	
Edge 4, WLAN 1 Tx	0.179	0.690			0.869	
Edge 4 tilt, WLAN 1 Tx	0.156	0.837			0.993	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.065		0.044	0.543	
	0.434		0.109		0.543	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.065	0.109		0.608	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.065		0.044	0.340	
	0.231		0.109		0.340	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.065	0.109		0.405	

16.36. Sum of the SAR for LTE Band 41 & WLAN 5.5 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.042		0.005	0.643	
	0.596		0.014		0.610	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.042	0.014		0.652	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.042		0.005	0.218	
	0.171		0.014		0.185	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.042	0.014		0.227	
Edge 2, WLAN 1 Tx	0.00708			0.181	0.188	
	0.00708		1.015		1.022	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.211	0.221	
	0.0099		0.961		0.971	
Edge 3, WLAN 1 Tx	0.00797	0.021		0.019	0.048	
	0.00797		0.061		0.069	
Edge 3, WLAN 2 Tx	0.00797	0.021	0.061		0.090	
Edge 4, WLAN 1 Tx	0.179	0.601			0.780	
Edge 4 tilt, WLAN 1 Tx	0.156	0.721			0.877	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.081		0.044	0.559	
	0.434		0.112		0.546	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.081	0.112		0.627	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.081		0.044	0.356	
	0.231		0.112		0.343	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.081	0.112		0.424	

16.37. Sum of the SAR for LTE Band 41 & WLAN 5.8 GHz Band

Test Position	Data				Σ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.059		0.005	0.660	
	0.596		0.019		0.615	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.059	0.019		0.674	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.059		0.005	0.235	
	0.171		0.019		0.190	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.059	0.019		0.249	
Edge 2, WLAN 1 Tx	0.00708			0.181	0.188	
	0.00708		0.506		0.513	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.211	0.221	
	0.0099		0.745		0.755	
Edge 3, WLAN 1 Tx	0.00797	0.000		0.019	0.027	
	0.00797		0.025		0.033	
Edge 3, WLAN 2 Tx	0.00797	0.000	0.025		0.033	
Edge 4, WLAN 1 Tx	0.179	0.546			0.725	
Edge 4 tilt, WLAN 1 Tx	0.156	0.670			0.826	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.110		0.044	0.588	
	0.434		0.115		0.549	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.110	0.115		0.659	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.110		0.044	0.385	
	0.231		0.115		0.346	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.110	0.115		0.456	

17. Appendixes

Refer to separated files for the following appendixes.

- 17.1. System Performance Check Plots**
- 17.2. SAR test plots for WCDMA Band 2**
- 17.3. SAR test plots for WCDMA Band 4**
- 17.4. SAR test plots for WCDMA Band 5**
- 17.5. SAR test plots for LTE Band 4**
- 17.6. SAR test plots for LTE Band 5**
- 17.7. SAR test plots for LTE Band 7**
- 17.8. SAR test plots for LTE Band 12**
- 17.9. SAR test plots for LTE Band 13**
- 17.10. SAR test plots for LTE Band 25**
- 17.11. SAR test plots for LTE Band 26 (Range: 814 - 824 MHz)**
- 17.12. SAR test plots for LTE Band 26 (Range: 824 - 849 MHz)**
- 17.13. SAR test plots for LTE Band 41**
- 17.14. SAR Test Plots for Repeat Measurement**
- 17.15. SAR Calibration Certificate for E-Field Probe EX3DV4 - SN 3917**
- 17.16. SAR Calibration Certificate for E-Field Probe EX3DV4 - SN 3825**
- 17.17. SAR Calibration Certificate for Dipole D750V3 - SN 1058**
- 17.18. SAR Calibration Certificate for Dipole D835V2 - SN 4d149**
- 17.19. SAR Calibration Certificate for Dipole D1750V2 - SN 1089**
- 17.20. SAR Calibration Certificate for Dipole D1900V2 - SN 5d169**
- 17.21. SAR Calibration Certificate for Dipole D2600V2 - SN 1030**
- 17.22. SAR Tissue Ingredients**
- 17.23. SAR peak separation for SPLSR**
- 17.24. Triggering distances and power levels**