FCC 47 CFR Parts 1 & 2
Published RF Exposure KDB Procedures
IEEE Std 1528-2003 and IEEE Std 1528a-2005

(Class II Permissive Change)

SAR EVALUATION REPORT

For
Multi-band Radio Module
(Tested inside of Panasonic Tablet PC FZ-G1)

Model: WW13B
FCC ID:ACJ9TGWW13B1

Report Number: 10258100H-A-R2
Issue Date: 05/30/2014

Prepared for
PANASONIC CORPORATION OF NORTH AMERICA
ONE PANASONIC WAY, 4B-8
SECAUCUS, NJ 07094

Prepared by
UL Japan, Inc.
Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
TEL: +81 596 24 8999
FAX: +81 596 24 8124

NVLAP LAB CODE: 200572-0

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

Revision History

Rev.	Issue Date	Revisions	Revised By
--	05/19/2014	Initial Issue	T. Hatakeda
1	05/27/2014	Page 8 Highest Reported SAR 1850-1910MHz range SAR value corrected. 816-823.975MHz range added. Page 141 to 144 2000MHz System check data added for SAR data over 1900MHz. Page 23 The test separation distance of top/rear edges at power back off disabled mode mentioned was corrected. Page 25, 26 and 63 900MHz/1800MHz change to 850MHz/1900MHz. Page 63 FCC ID corrected. Page 145 Section 12.1 item #4 corrected. Page 156 Output power listed for 50% RB in low and middle channels are upside down in both positions was corrected. SAR data of 1860MHz of Rear position 50RB LTE band 2 Reduced Power Operation added and SAR data of 1880MHz removed. Page 174 &192&210 &228 &246 the SAR values listed for rear& edge 1 positions with power back off enabled mode are different from page 152. This mistaken was corrected. Page 182 &200 & 218 &236 & 254 the SAR value listed for LTE Band 2 at edge 1 with power back off disabled mode is not the highest one. This mistaken was corrected. Page 184 the SAR value listed for LTE Band 13 at edge1 with power back off enabled mode is not the highest one. This mistaken was corrected. Page 149 Since the input of dielectric parameter of all data of GSM1900 Reduced Power Operation, Edge4 data of GSM1900 Full Power Operation, all data of WCDMA Reduced Power Operation and Full Power Operation were mistaken, it corrected. For this reason, SAR result of GSM1900 and WCDMA band II also changed.	T. Hatakeda
2	05/29/2014	Page 8 Highest Reported SAR of simultaneous transmission condition was corrected. Page 145, 146 and 147 The target power for GSM850/1900 that indicated in section 12.1.1 & 12.1.2 & 12.2.1 both tables was corrected. Page 148 Measured SAR result of GSM850 full power operation were added edge 2, edge 3.	T. Hatakeda

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Table of Contents

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

1. Attestation of Test Results

Applicant	Panasonic Corporation of North America
DUT description	Multi-band Radio Module (Tested inside of Panasonic Tablet PC FZ-G1)
Model	WW13B
Test device is	An identical prototype
Device category	Portable
Exposure category	General Population/Uncontrolled Exposure
Date tested	03/24/2014 – 04/08/2014

Applicable Standards	Test Results
FCC 47 CFR Parts 1 & 2 FCC Published RF exposure KDB procedures, and TCB workshop updates IEEE Std 1528-2003 and IEEE Std 1528a-2005	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 10258100H-A. 10258100H-A is replaced with this report.

Approved & Released For UL Japan, Inc. By: Tested By:

Takahiro Hatakeda
Leader
Consumer Technology Division

Hisayoshi Sato
Engineer
Consumer Technology Division

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Highest Reported SAR

Worst Case SAR data for each Frequency Band

RF Exposure Rule	Freq. Range	Highest Reported SAR	Limit
22 (GSM850)	824-849 MHz	Body & Tablet: 1.193 W/kg (Edge 1)	1.6 W/kg
24 (CDMA Band 1)	1850-1910 MHz	Body & Tablet: 1.175 W/kg (Edge 1)	
27 (LTE Band 13)	777 – 787 MHz	Body & Tablet: 1.124 W/kg (Edge 1)	
27 (W-CDMA Band IV)	1710–1755 MHz	Body & Tablet: 1.108 W/kg (Edge 1)	
90 (CDMA Band 10)	816-823.975MHz	Body & Tablet: 1.150 W/kg (Edge 1)	
Simultaneous transmission condition		1.252 W/kg(refer to Section 13 of this report.) (highest SAR across exposure conditions)	

LEGEND:

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

2. Test Methodology

The tests documented in this report were performed in accordance with FCC 47 CFR Parts 1 & 2, IEEE STD 1528-2003, IEEE Std 1528a-2005, TCB workshop updates, and the following KDB procedures:

- 941225 D01 SAR test for 3G devices v02
- 941225 D03 SAR Test Reduction GSM GPRS EDGE v01
- 941225 D02 HSPA and 1x Advanced v02r02
- 941225 D05 SAR for LTE Devices v02r03
- 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03
- 865664 D02 SAR Reporting v01r01
- 447498 D01 General RF Exposure Guidance v05r02
- 616217 D04 SAR for laptop and tablets v02

3. Facilities and Accreditation

*Shielded room for SAR testing
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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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.

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due date		
				MM	DD	Year
Dielectronic Probe kit	Agilent	85070D	702	9	9	2014
ENA Series Network Analyzer	Agilent	E8358A	US41080381	9	9	2014
Signal Generator	R & S	SMA 100A	103764	6	5	2014
Power Meter	Agilent	N1914A	MY53060017	6	5	2014
Power Sensor A	Agilent	N8482H	MY52460010	6	5	2014
Power Sensor B	Agilent	N8482H	MY53050001	6	5	2014
Amplifier	R & K	R&K CGA020M602-2633R	B30550	6	6	2014
Directional coupler	Agilent	778D	MY52180243	N/A		
Base Station Simulator	Agilent	E5515C	GB47050683	1	6	2015
Base Station Simulator	Anritsu	MT8820C	6201274351	5	28	2014
Thermo-Hygrometer	Custom	DTH-201	3001	7	29	2014
Thermo-Hygrometer	Custom	DTH-201	3101	7	29	2014
E-Field Probe	SPEAG	EX3DV4	3917	5	14	2014
E-Field Probe	SPEAG	EX3DV4	3922	6	4	2014
Data Acquisition Electronics	SPEAG	DAE4	1369	5	31	2014
Data Acquisition Electronics	SPEAG	DAE4	1372	6	3	2014
System Validation Dipole	SPEAG	D750V3	1058	5	10	2014
System Validation Dipole	SPEAG	D900V2	155	12	6	2014
System Validation Dipole	SPEAG	D1800V2	2d040	12	9	2014
System Validation Dipole	SPEAG	D2000V2	1029	6	15	2014

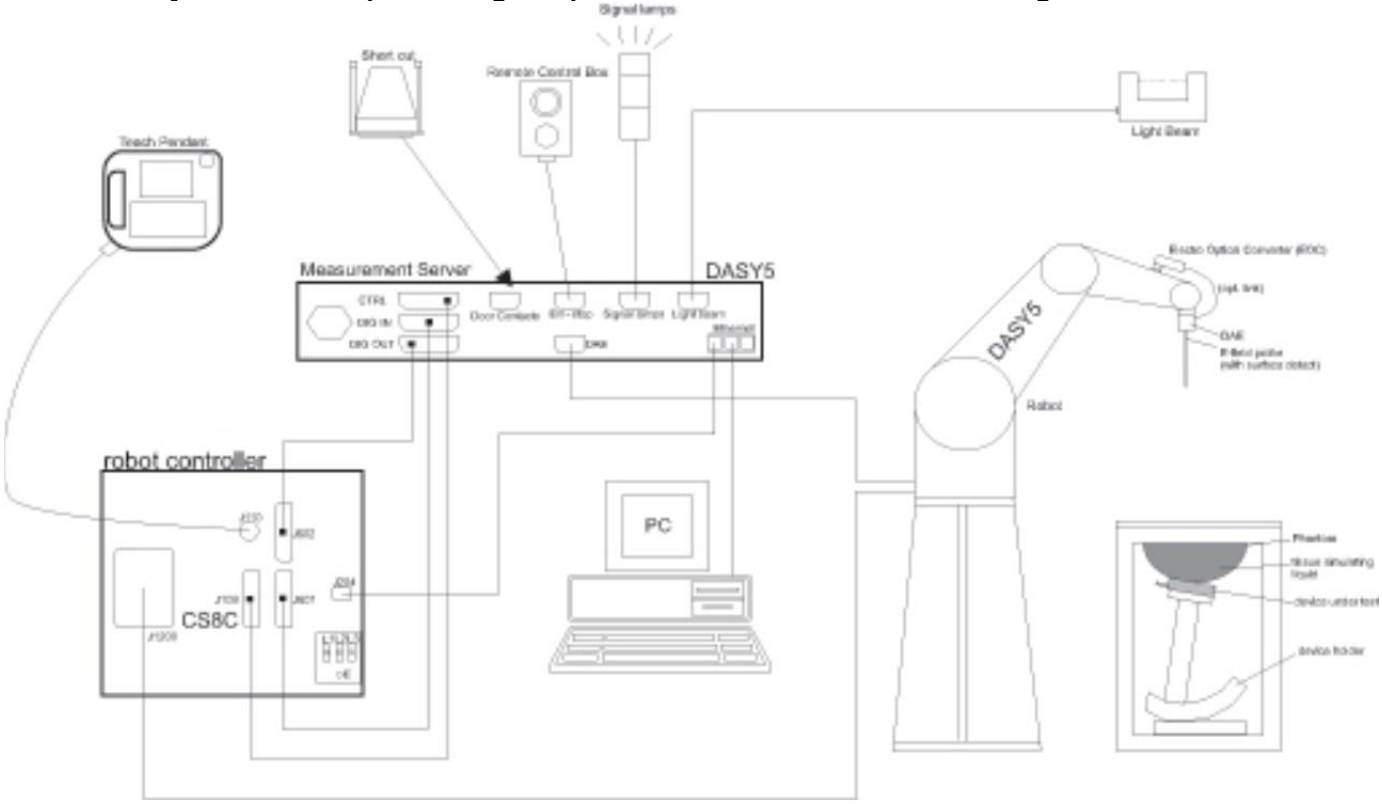
4.2. Measurement Uncertainty

Per KDB 865664, when no measured SAR values exceed 1.5 W/kg, measurement uncertainty analysis does not need to be provided in the test report.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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 v01

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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 v01.

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

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

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

Step 4: Power drift measurement

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

Step 5: Z-Scan (FCC only)

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

7 Device Under Test

Multi-band Radio Module (Tested inside of Panasonic Laptop PC FZ-G1) Model: WW13B	
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 “Summary of Test Configurations”
Accessory	None

7.1. Wireless Technologies

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

7.2. Hotspot (Wireless Router) Exposure Condition

N/A

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

7.3. Simultaneous Transmission

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

WWAN + Bluetooth

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

WWAN + Wi-Fi MIMO (2 Tx)

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

Notes:

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

7.4. LTE Parameters

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Parameters continued

#	Description	Information

B — Identify the high, middle and low (H, M, L) channel numbers and channel frequencies for each LTE bandwidth and frequency band

Band 2	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	18700 /1860	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5	18607/ 1850.7
Mid	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880
High	19100/ 1900	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19184/ 1908.4	19192/ 1909.2

Band 4	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
Mid	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20384/ 1753.4	20392/ 1754.2

Band 5	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low			20450/ 829	20425/ 826.5	20415/ 825.5	20407/ 824.7
Mid			20525/ 836.5	20525/ 836.5	20525/ 836.5	20525/ 836.5
High			20600/ 844	20625/ 846.5	20634/ 847.4	20642/ 848.2

Band 13	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low				23205/ 779.5		
Mid			23230/ 782	23230/ 782		
High				23255/ 784.5		

Band 17	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low			23780/ 709	23755/ 706.5		
Mid			23790/ 710	23790/ 710		
High			23800/ 711	23825/ 713.5		

Band 25	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7
Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5
High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26674/ 1913.4	26682/ 1914.2

C — Descriptions of the LTE transmitter and antenna implementation, and identify if the transmitter operates independently of the other wireless transmitters in the device; i.e., whether the LTE hardware, components and/or antenna(s) are shared with other transmitters.

A single antenna (Main) is used for LTE and other wireless modes (GPRS/EGPRS/W-CDMA/CDMA) for both transmit and receive.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

<table>
<tr><th>#</th><th>Description</th><th>Information</th></tr>
<tr><td>D</td><td>Identify the voice and data transmission requirements for all LTE operating modes and exposure conditions, for standalone and simultaneous transmission, with respect to the required head and body test configurations, antenna locations, handset flip or slide cover positions, antenna diversity requirements, etc.</td><td>Data Only Device
Exposure Conditions:
▪ Proximity Sensor disabled (Full Power)
o Right-edge (Edge 4) of the DUT at 0 mm from the phantom, and Top-edge(Edge1) of the DUT at 20mm or 21mm from the flat phantom, and Rear of the DUT at 13mm from the phantom

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

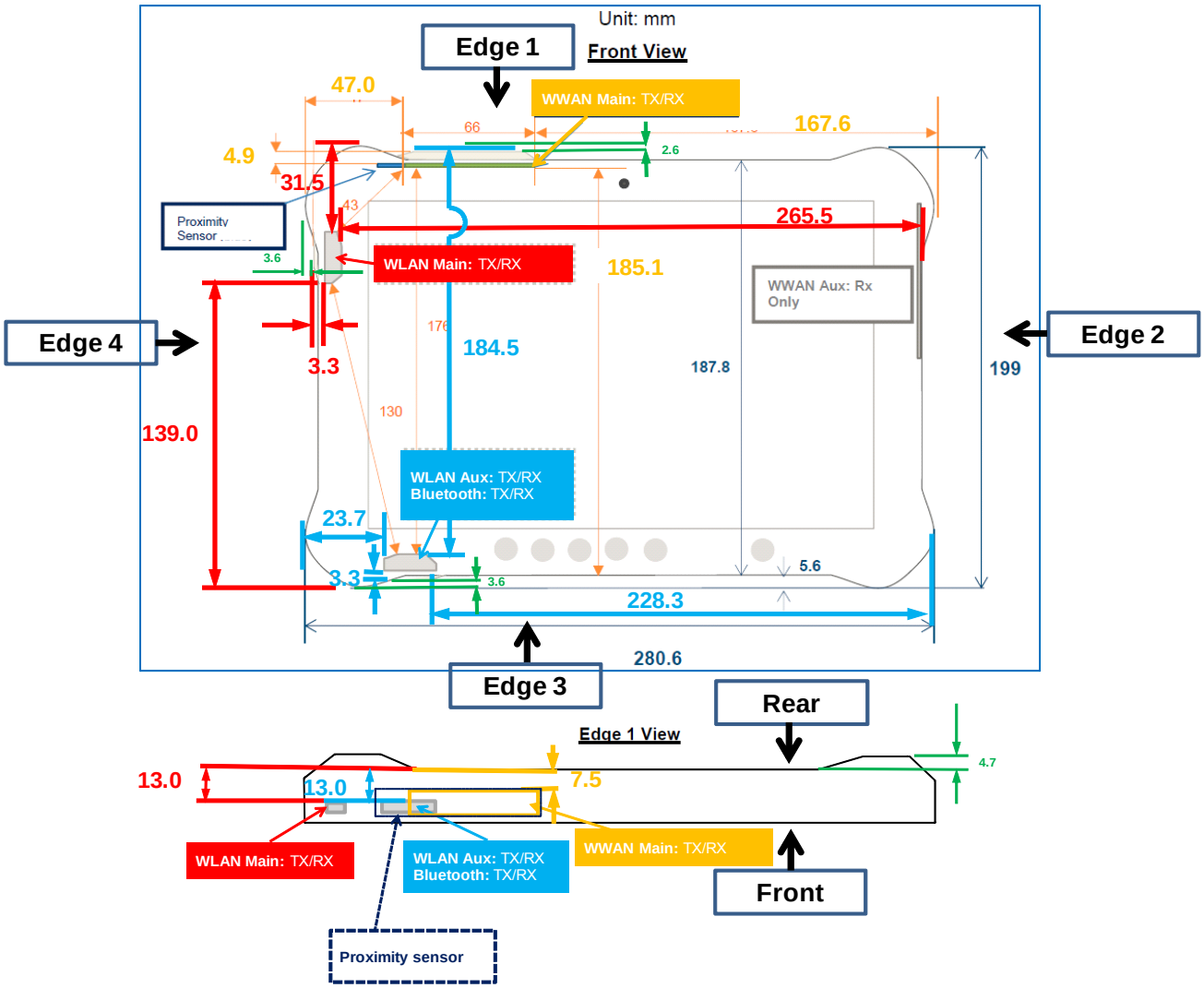
7.5. Proximity Sensor

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

The default power level for sensor failure and malfunctioning, FZ-G1 comes up in low power mode and remain in low power mode until the proximity sensor has toggled from a proximity detected to proximity not-detected state.

Proximity sensor triggering distances were verified for rear and edge 1. SAR testing of edge 4 was performed at full power.

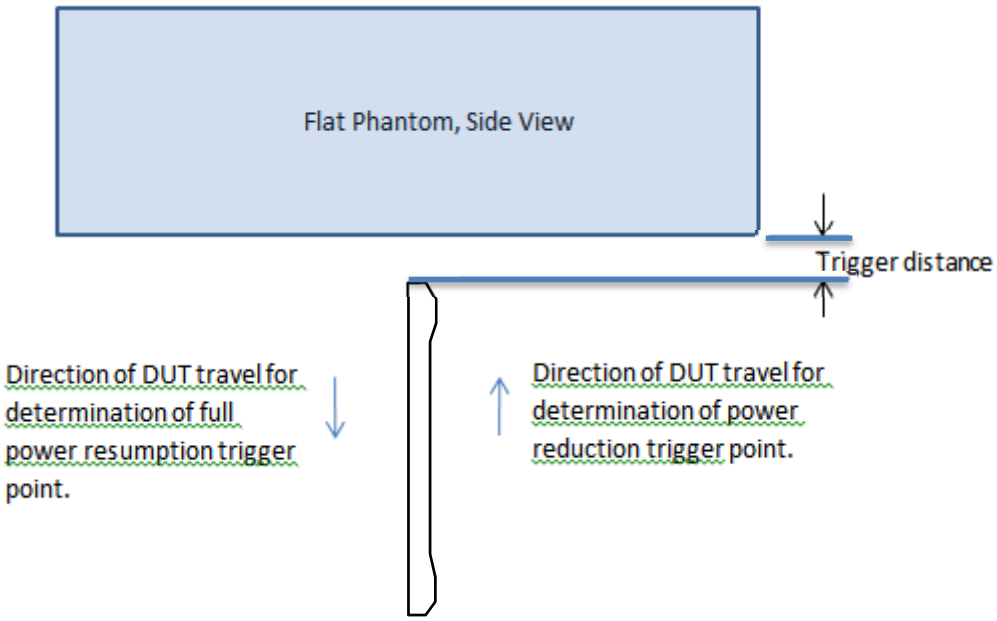
Proximity Sensor and WWAN Main antenna locations and dimensions



UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

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



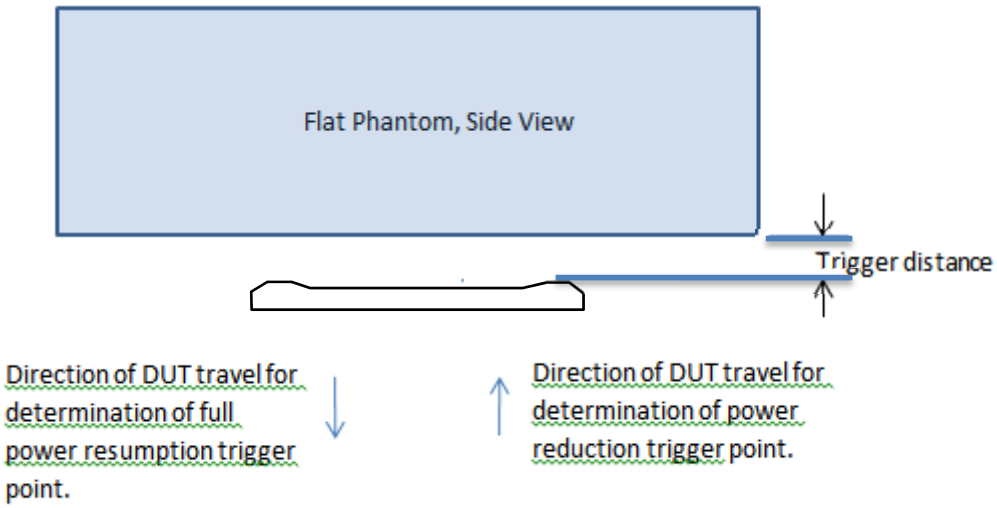
Proximity sensor trigger distance assessment (Edge 1) KDB 616217 §6.2

Summary of triggering distances.

Tissue simulating liquid	Trigger distance - edge 1	
	Moving toward phantom	Moving from phantom
750 muscle	21mm	34mm
850 muscle	22mm	32mm
1900 muscle	22mm	32mm

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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



Proximity sensor trigger distance assessment (Rear) KDB 616217 §6.2

Summary of triggering distances.

Tissue simulating liquid	Trigger distance - Rear	
	Moving toward phantom	Moving from phantom
750 muscle	14mm	22mm
850 muscle	14mm	19mm
1900 muscle	14mm	19mm

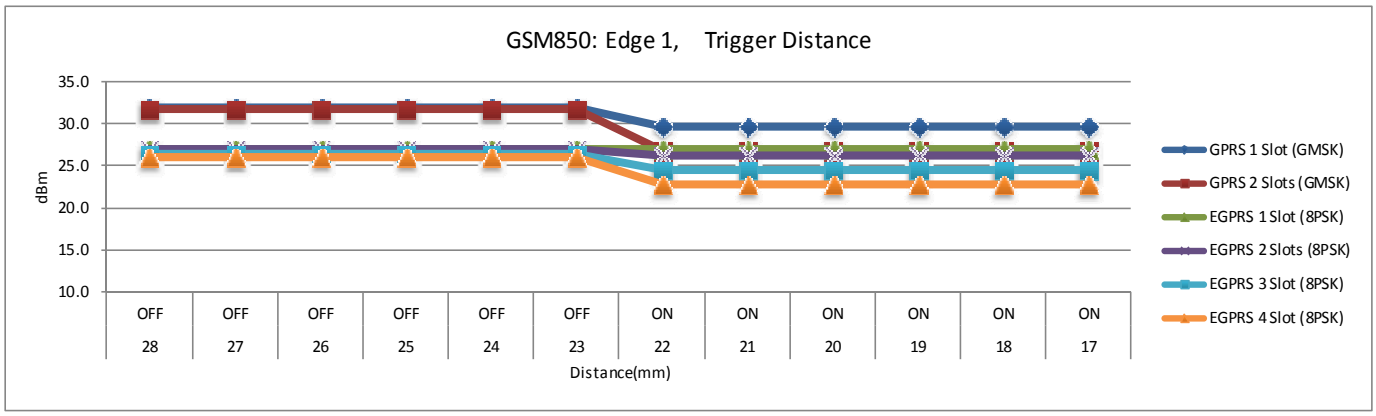
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Triggering distances and power levels

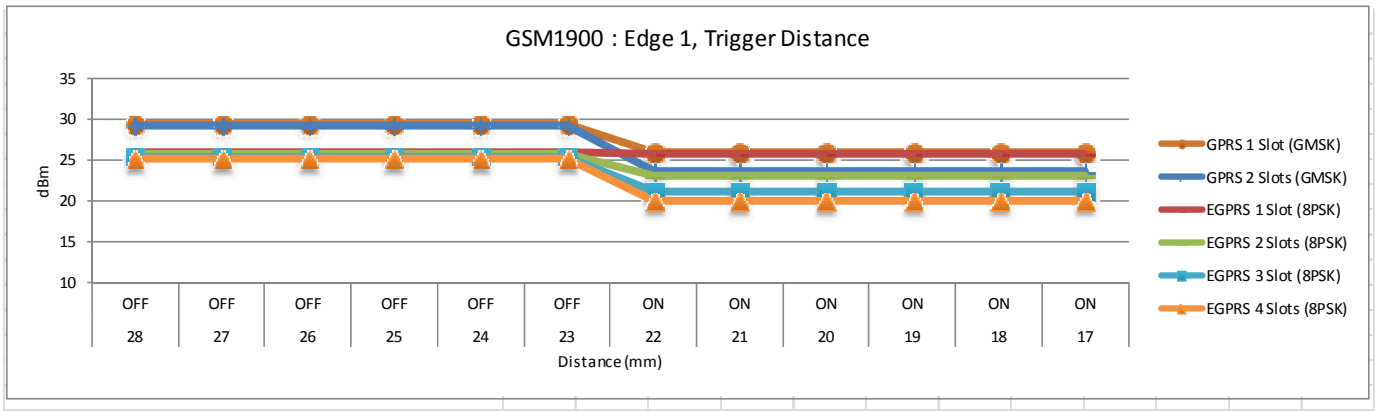
7.6.1. DUT moving toward the phantom

Edge1

Edge 1, GSM850												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
GPRS 1 Slot (GMSK)	31.9	31.9	31.9	31.9	31.9	31.9	29.6	29.6	29.6	29.6	29.6	29.6
GPRS 2 Slots (GMSK)	31.7	31.7	31.7	31.7	31.7	31.7	26.8	26.8	26.8	26.8	26.8	26.8
EGPRS 1 Slot (8PSK)	27.1	27.1	27.1	27.1	27.1	27.1	27.0	27.0	27.0	27.0	27.0	27.0
EGPRS 2 Slots (8PSK)	27.0	27.0	27.0	27.0	27.0	27.0	26.3	26.3	26.3	26.3	26.3	26.3
EGPRS 3 Slot (8PSK)	26.4	26.4	26.4	26.4	26.4	26.4	24.4	24.4	24.4	24.4	24.4	24.4
EGPRS 4 Slot (8PSK)	26.0	26.0	26.0	26.0	26.0	26.0	22.8	22.8	22.8	22.8	22.8	22.8

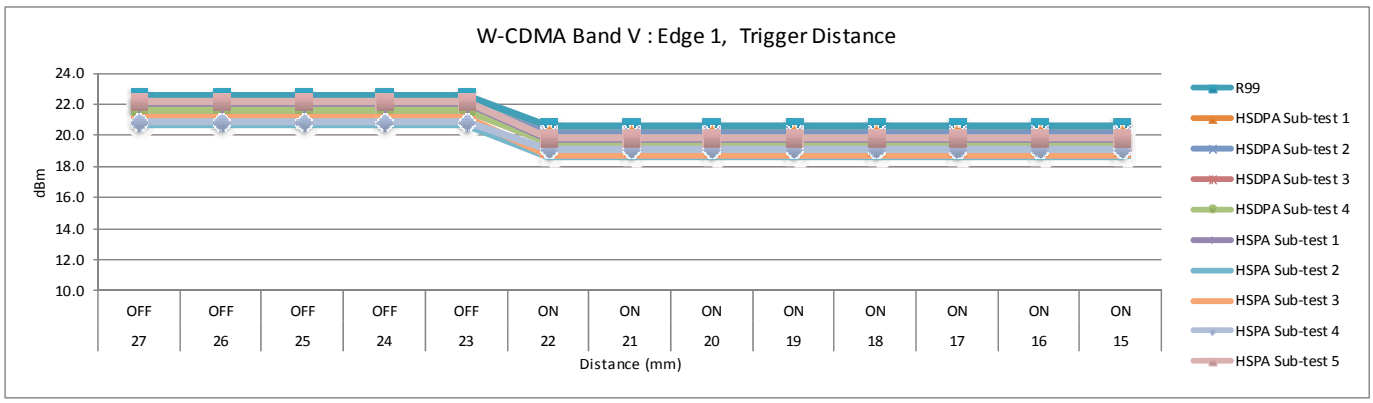


Edge 1, GSM1900												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
GPRS 1 Slot (GMSK)	29.4	29.4	29.4	29.4	29.4	29.4	25.9	25.9	25.9	25.9	25.9	25.9
GPRS 2 Slots (GMSK)	29.2	29.2	29.2	29.2	29.2	29.2	23.6	23.6	23.6	23.6	23.6	23.6
EGPRS 1 Slot (8PSK)	26.0	26.0	26.0	26.0	26.0	26.0	25.6	25.6	25.6	25.6	25.6	25.6
EGPRS 2 Slots (8PSK)	25.8	25.8	25.8	25.8	25.8	25.8	22.9	22.9	22.9	22.9	22.9	22.9
EGPRS 3 Slot (8PSK)	25.4	25.4	25.4	25.4	25.4	25.4	21.0	21.0	21.0	21.0	21.0	21.0
EGPRS 4 Slots (8PSK)	25.2	25.2	25.2	25.2	25.2	25.2	19.9	19.9	19.9	19.9	19.9	19.9

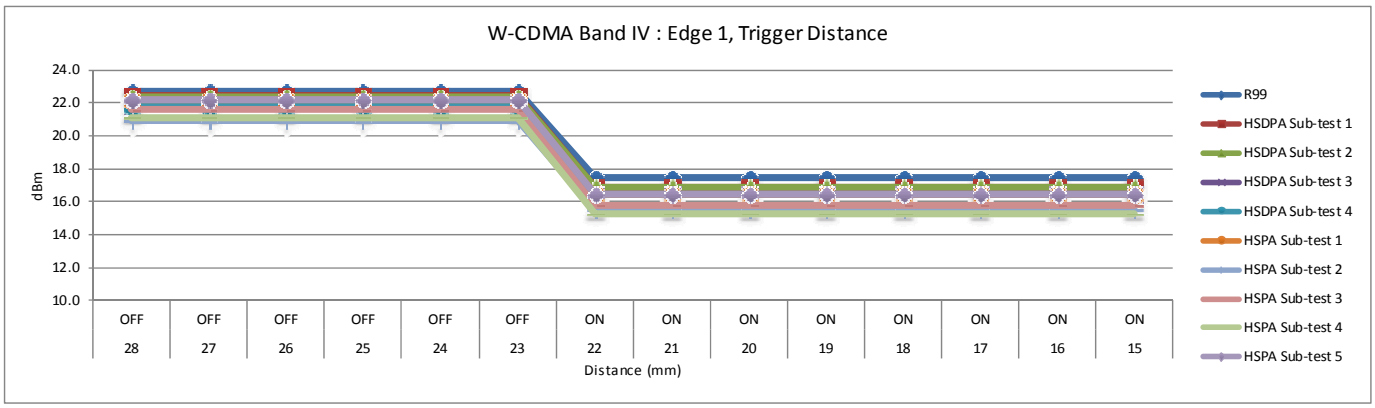


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, W-CDMA Band V													
Distance (mm):	27	26	25	24	23	22	21	20	19	18	17	16	15
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
R99	22.6	22.6	22.6	22.6	22.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
HSDPA Sub-test 1	22.0	22.0	22.0	22.0	22.0	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
HSDPA Sub-test 2	22.1	22.1	22.1	22.1	22.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
HSDPA Sub-test 3	21.6	21.6	21.6	21.6	21.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
HSDPA Sub-test 4	21.6	21.6	21.6	21.6	21.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
HSPA Sub-test 1	22.1	22.1	22.1	22.1	22.1	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8
HSPA Sub-test 2	20.7	20.7	20.7	20.7	20.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
HSPA Sub-test 3	21.1	21.1	21.1	21.1	21.1	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
HSPA Sub-test 4	20.9	20.9	20.9	20.9	20.9	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
HSPA Sub-test 5	22.2	22.2	22.2	22.2	22.2	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8

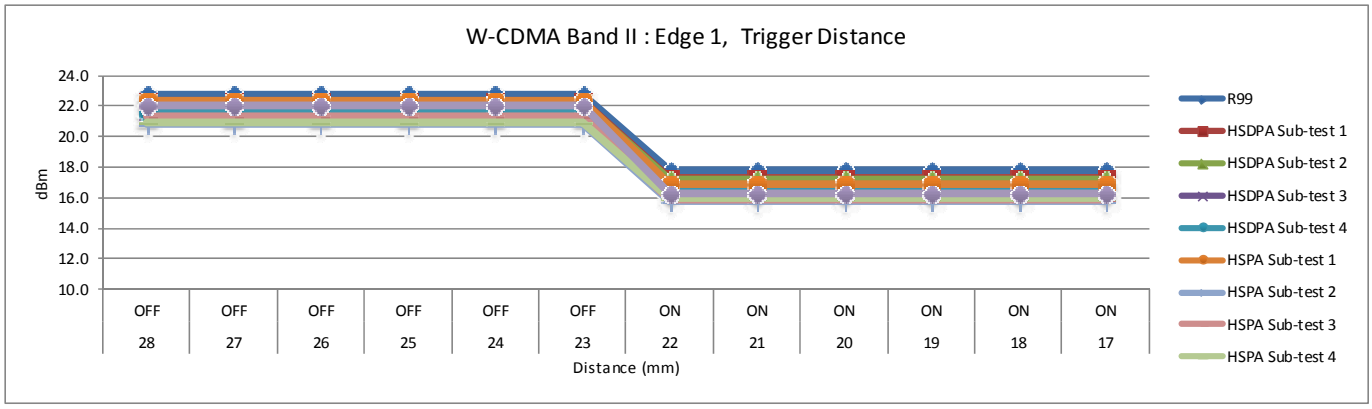


Edge 1, W-CDMA Band IV														
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17	16	15
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
R99	22.7	22.7	22.7	22.7	22.7	22.7	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
HSDPA Sub-test 1	22.5	22.5	22.5	22.5	22.5	22.5	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9
HSDPA Sub-test 2	22.4	22.4	22.4	22.4	22.4	22.4	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
HSDPA Sub-test 3	21.9	21.9	21.9	21.9	21.9	21.9	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
HSDPA Sub-test 4	21.9	21.9	21.9	21.9	21.9	21.9	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
HSPA Sub-test 1	22.2	22.2	22.2	22.2	22.2	22.2	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
HSPA Sub-test 2	20.9	20.9	20.9	20.9	20.9	20.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
HSPA Sub-test 3	21.6	21.6	21.6	21.6	21.6	21.6	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
HSPA Sub-test 4	21.1	21.1	21.1	21.1	21.1	21.1	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
HSPA Sub-test 5	22.2	22.2	22.2	22.2	22.2	22.2	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5



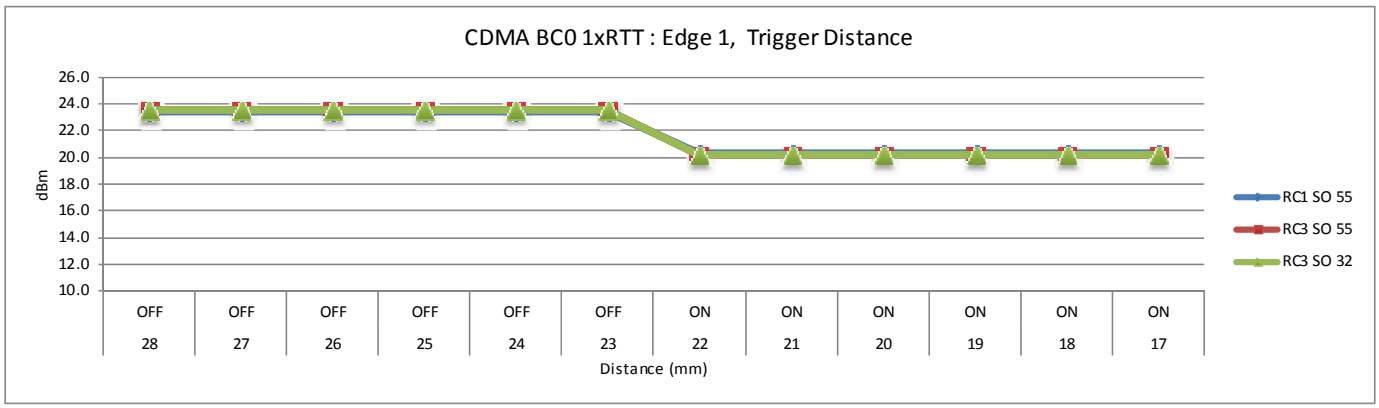
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, W-CDMA Band II												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
R99	22.7	22.7	22.7	22.7	22.7	22.7	17.8	17.8	17.8	17.8	17.8	17.8
HSDPA Sub-test 1	22.3	22.3	22.3	22.3	22.3	22.3	17.3	17.3	17.3	17.3	17.3	17.3
HSDPA Sub-test 2	22.3	22.3	22.3	22.3	22.3	22.3	17.2	17.2	17.2	17.2	17.2	17.2
HSDPA Sub-test 3	21.7	21.7	21.7	21.7	21.7	21.7	16.7	16.7	16.7	16.7	16.7	16.7
HSDPA Sub-test 4	21.7	21.7	21.7	21.7	21.7	21.7	16.7	16.7	16.7	16.7	16.7	16.7
HSPA Sub-test 1	22.3	22.3	22.3	22.3	22.3	22.3	16.9	16.9	16.9	16.9	16.9	16.9
HSPA Sub-test 2	20.8	20.8	20.8	20.8	20.8	20.8	15.7	15.7	15.7	15.7	15.7	15.7
HSPA Sub-test 3	21.3	21.3	21.3	21.3	21.3	21.3	15.9	15.9	15.9	15.9	15.9	15.9
HSPA Sub-test 4	21.0	21.0	21.0	21.0	21.0	21.0	16.0	16.0	16.0	16.0	16.0	16.0
HSPA Sub-test 5	22.0	22.0	22.0	22.0	22.0	22.0	16.3	16.3	16.3	16.3	16.3	16.3

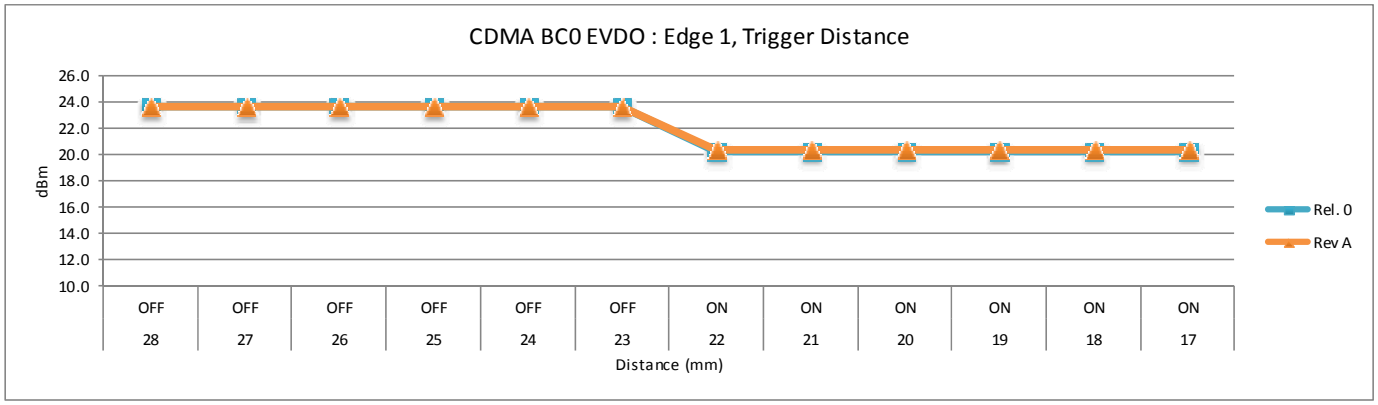


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, CDMA BC0 1xRTT												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
RC1 SO 55	23.5	23.5	23.5	23.5	23.5	23.5	20.3	20.3	20.3	20.3	20.3	20.3
RC3 SO 55	23.5	23.5	23.5	23.5	23.5	23.5	20.2	20.2	20.2	20.2	20.2	20.2
RC3 SO 32	23.5	23.5	23.5	23.5	23.5	23.5	20.2	20.2	20.2	20.2	20.2	20.2

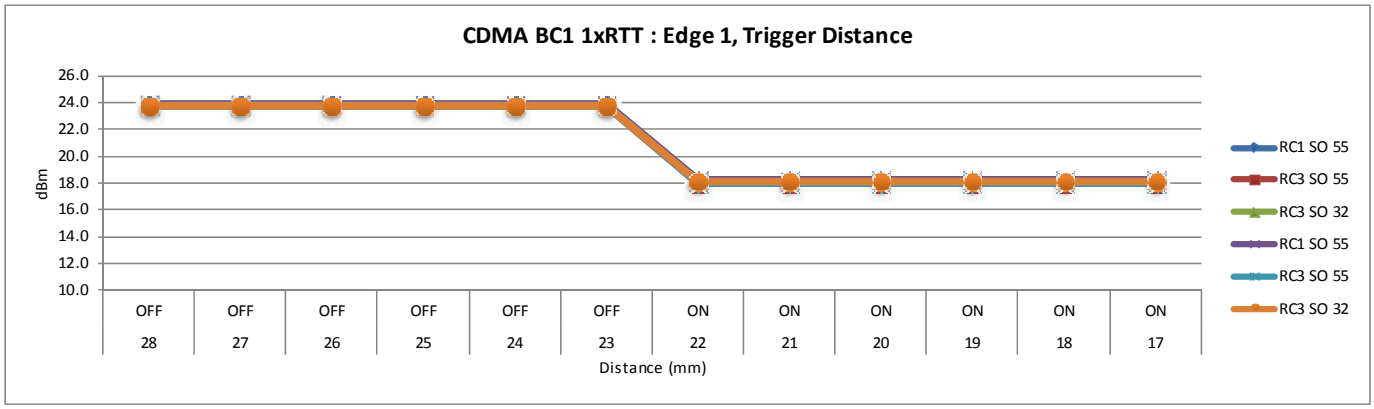


Edge 1, CDMA BC0 EVDO												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Rel. 0	23.6	23.6	23.6	23.6	23.6	23.6	20.3	20.3	20.3	20.3	20.3	20.3
Rev A	23.6	23.6	23.6	23.6	23.6	23.6	20.3	20.3	20.3	20.3	20.3	20.3

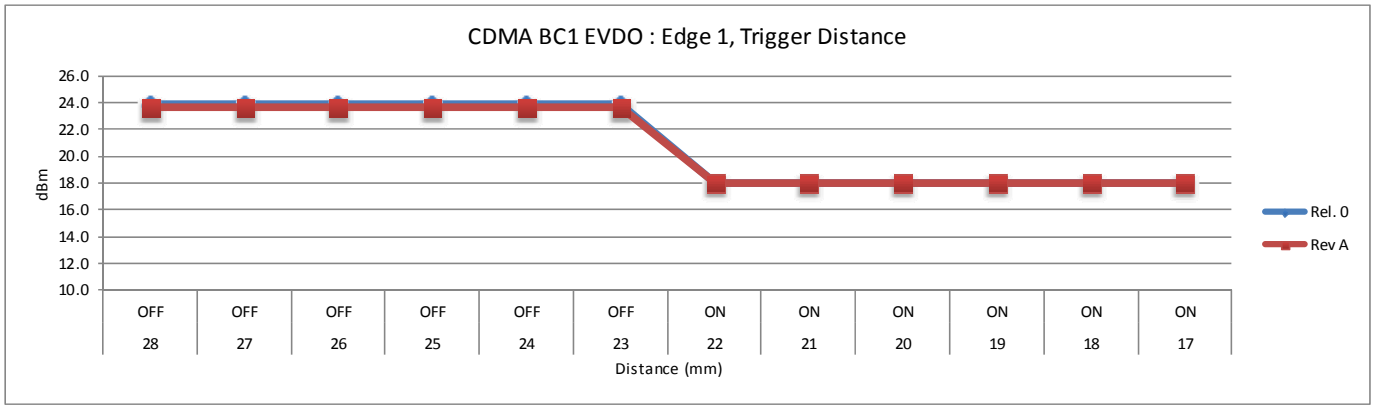


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, CDMA BC1 1xRTT												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
RC1 SO 55	23.9	23.9	23.9	23.9	23.9	23.9	18.2	18.2	18.2	18.2	18.2	18.2
RC3 SO 55	23.7	23.7	23.7	23.7	23.7	23.7	18.0	18.0	18.0	18.0	18.0	18.0
RC3 SO 32	23.7	23.7	23.7	23.7	23.7	23.7	18.1	18.1	18.1	18.1	18.1	18.1

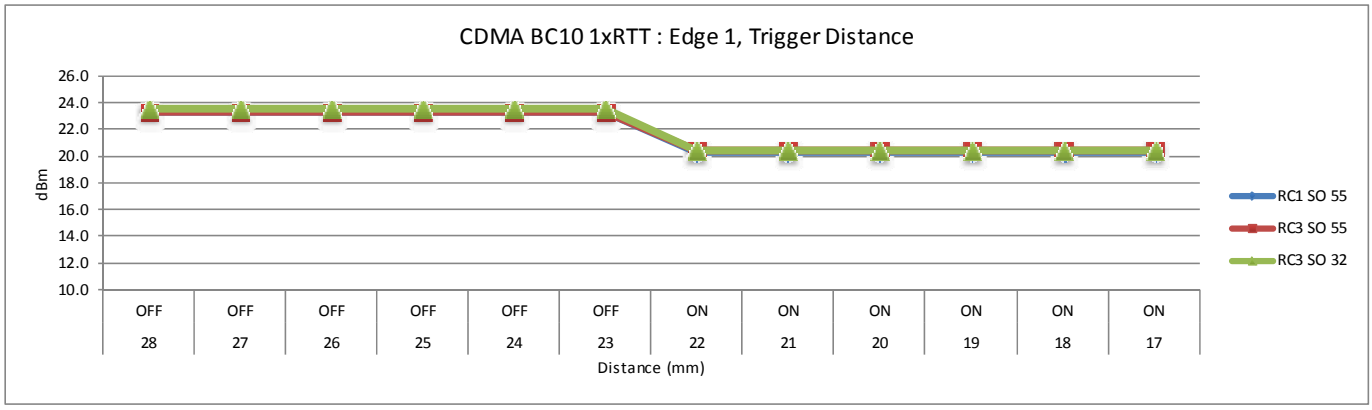


Edge 1, CDMA BC1 EVDO												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Rel. 0	23.8	23.8	23.8	23.8	23.8	23.8	18.0	18.0	18.0	18.0	18.0	18.0
Rev A	23.6	23.6	23.6	23.6	23.6	23.6	18.0	18.0	18.0	18.0	18.0	18.0

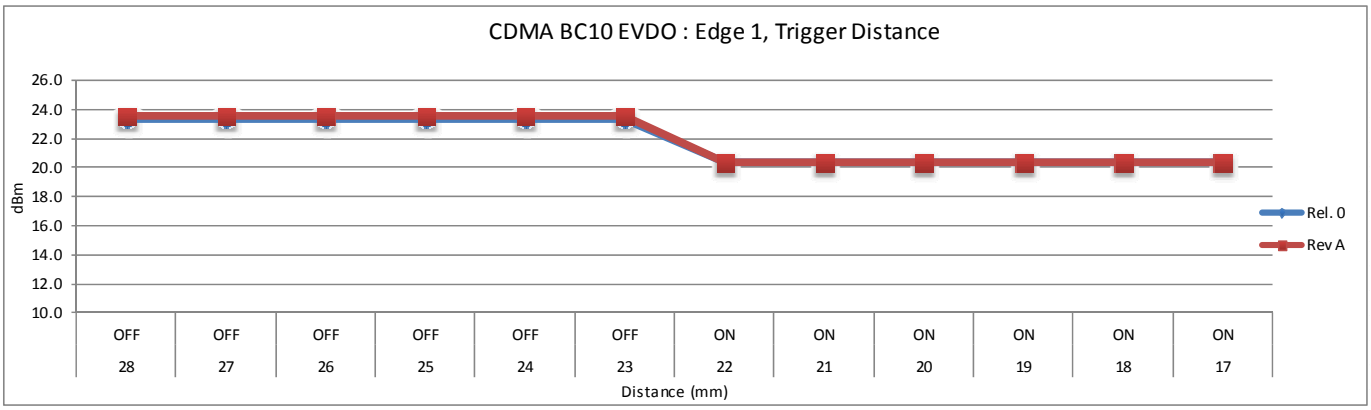


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, CDMA BC10 1xRTT												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
RC1 SO 55	23.3	23.3	23.3	23.3	23.3	23.3	20.3	20.3	20.3	20.3	20.3	20.3
RC3 SO 55	23.3	23.3	23.3	23.3	23.3	23.3	20.4	20.4	20.4	20.4	20.4	20.4
RC3 SO 32	23.6	23.6	23.6	23.6	23.6	23.6	20.4	20.4	20.4	20.4	20.4	20.4

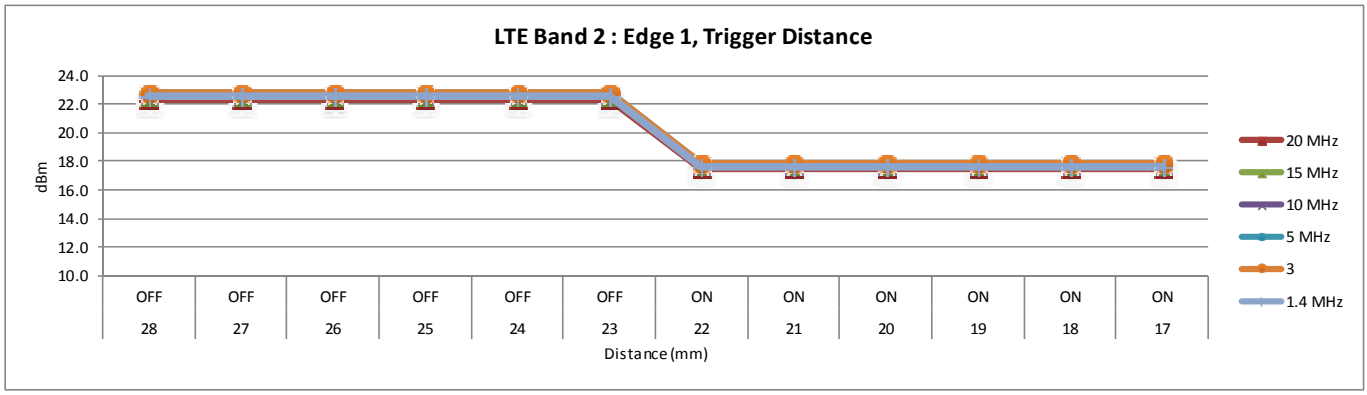


Edge 1, CDMA BC10 EVDO												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Rel. 0	23.3	23.3	23.3	23.3	23.3	23.3	20.3	20.3	20.3	20.3	20.3	20.3
Rev A	23.6	23.6	23.6	23.6	23.6	23.6	20.4	20.4	20.4	20.4	20.4	20.4

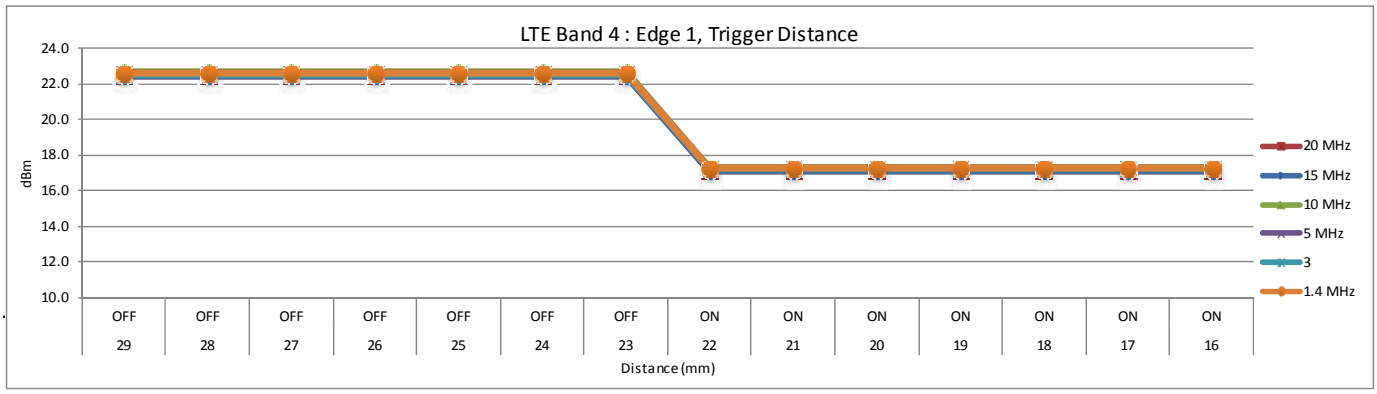


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, LTE Band 2												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
20 MHz	22.4	22.4	22.4	22.4	22.4	22.4	17.5	17.5	17.5	17.5	17.5	17.5
15 MHz	22.6	22.6	22.6	22.6	22.6	22.6	17.7	17.7	17.7	17.7	17.7	17.7
10 MHz	22.7	22.7	22.7	22.7	22.7	22.7	17.8	17.8	17.8	17.8	17.8	17.8
5 MHz	22.8	22.8	22.8	22.8	22.8	22.8	17.8	17.8	17.8	17.8	17.8	17.8
3	22.8	22.8	22.8	22.8	22.8	22.8	17.8	17.8	17.8	17.8	17.8	17.8
1.4 MHz	22.6	22.6	22.6	22.6	22.6	22.6	17.6	17.6	17.6	17.6	17.6	17.6

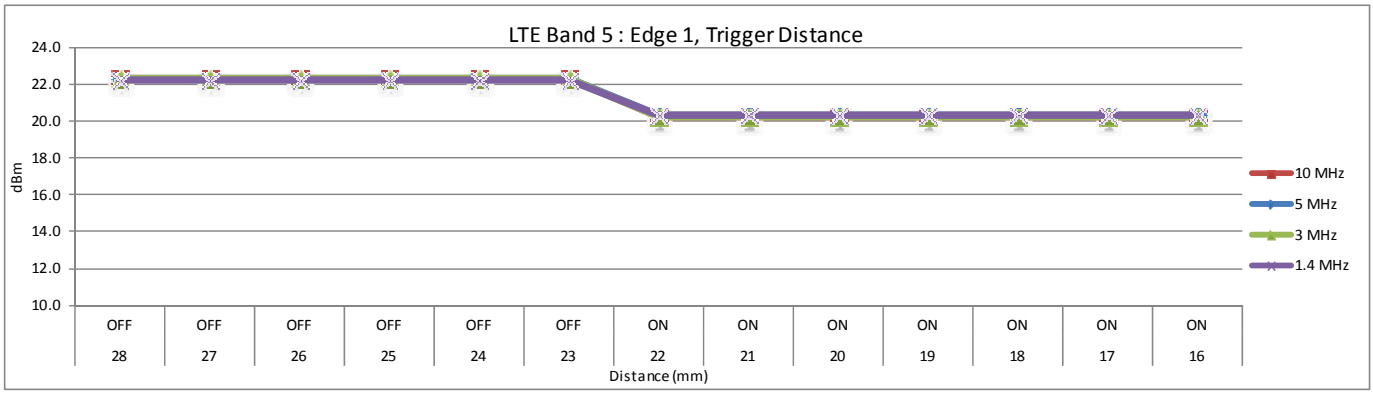


Edge 1, LTE Band 4														
Distance (mm):	29	28	27	26	25	24	23	22	21	20	19	18	17	16
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
20 MHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	17.1	17.1	17.1	17.1	17.1	17.1	17.1
15 MHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	17.1	17.1	17.1	17.1	17.1	17.1	17.1
10 MHz	22.7	22.7	22.7	22.7	22.7	22.7	22.7	17.3	17.3	17.3	17.3	17.3	17.3	17.3
5 MHz	22.6	22.6	22.6	22.6	22.6	22.6	22.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3
3	22.6	22.6	22.6	22.6	22.6	22.6	22.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3
1.4 MHz	22.6	22.6	22.6	22.6	22.6	22.6	22.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3

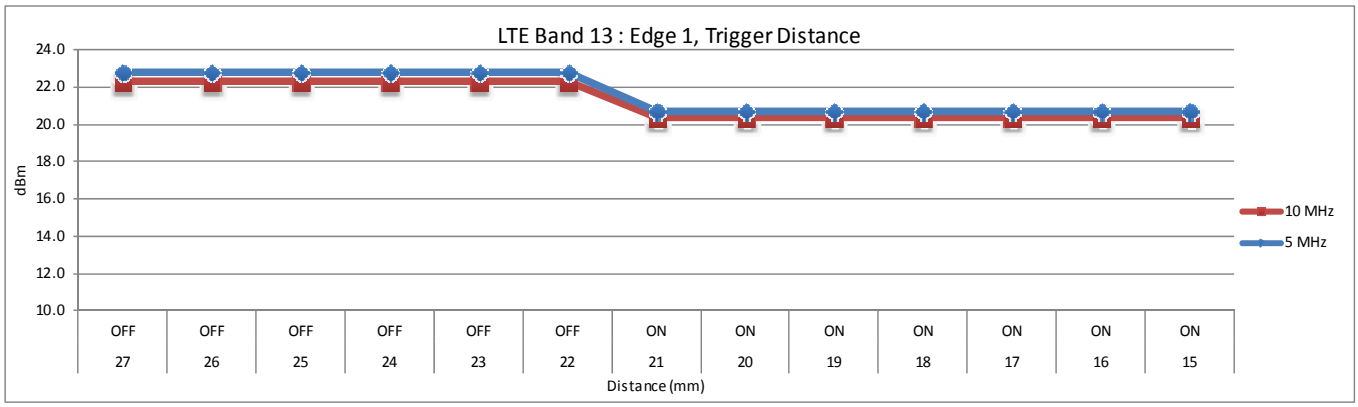


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, LTE Band 5													
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17	16
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
10 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.2	20.2	20.2	20.2	20.2	20.2	20.2
5 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
3 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.2	20.2	20.2	20.2	20.2	20.2	20.2
1.4 MHz	22.2	22.2	22.2	22.2	22.2	22.2	20.3	20.3	20.3	20.3	20.3	20.3	20.3

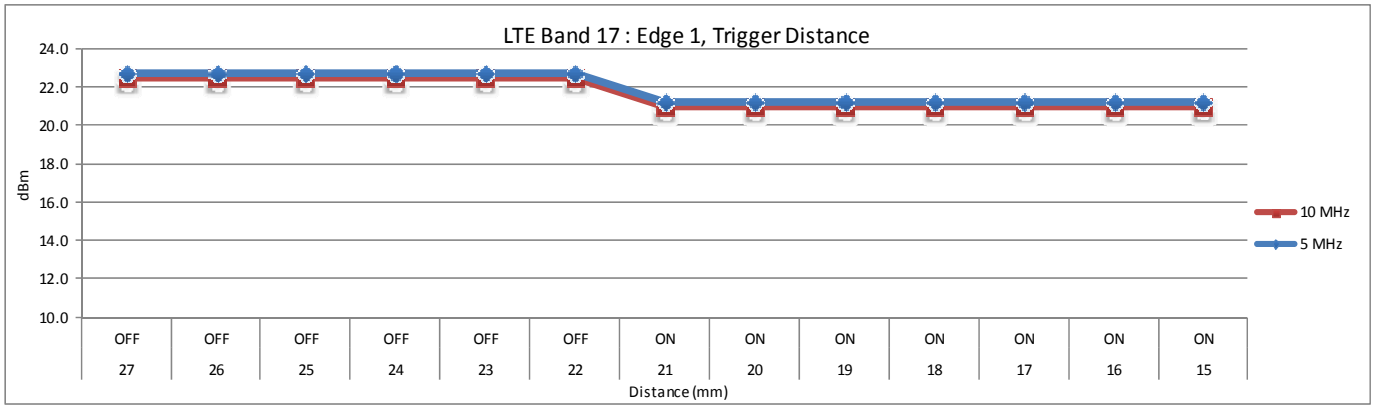


Edge 1, LTE Band 13													
Distance (mm):	27	26	25	24	23	22	21	20	19	18	17	16	15
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
10 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.4	20.4	20.4	20.4	20.4	20.4	20.4
5 MHz	22.8	22.8	22.8	22.8	22.8	22.8	20.7	20.7	20.7	20.7	20.7	20.7	20.7

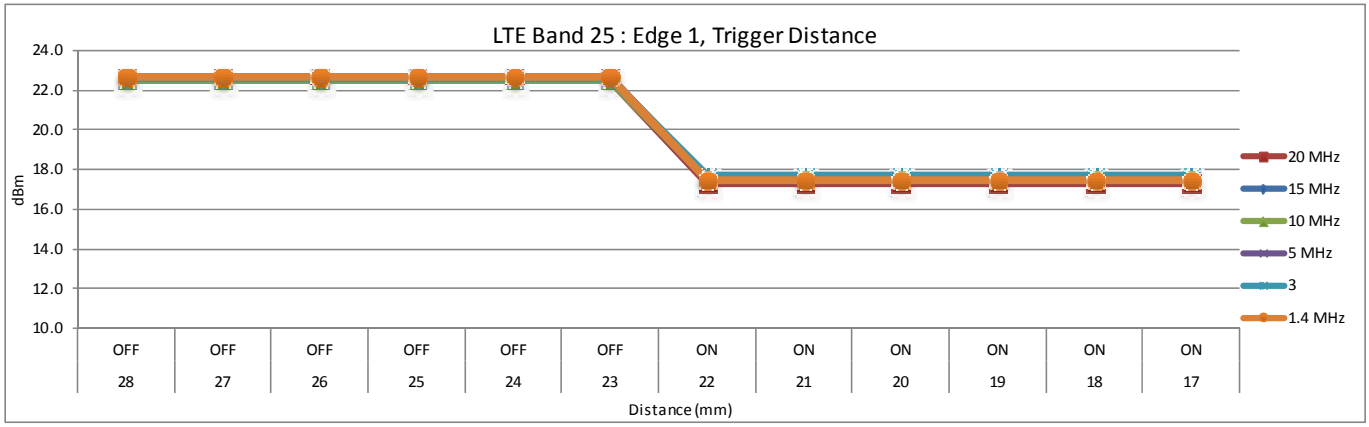


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, LTE Band 17													
Distance (mm):	27	26	25	24	23	22	21	20	19	18	17	16	15
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
10 MHz	22.5	22.5	22.5	22.5	22.5	22.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0
5 MHz	22.8	22.8	22.8	22.8	22.8	22.8	21.2	21.2	21.2	21.2	21.2	21.2	21.2



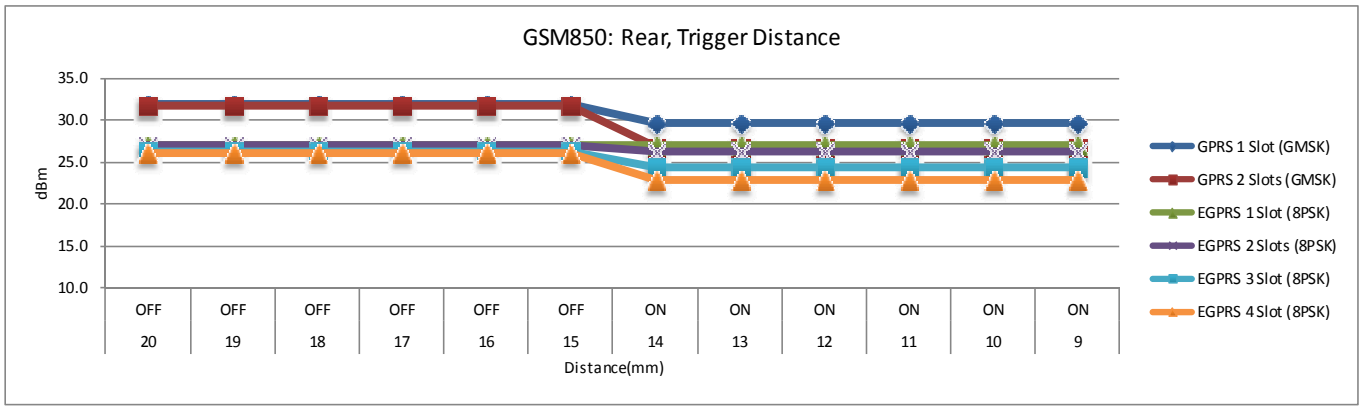
Edge 1, LTE Band 25												
Distance (mm):	28	27	26	25	24	23	22	21	20	19	18	17
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
20 MHz	22.5	22.5	22.5	22.5	22.5	22.5	17.3	17.3	17.3	17.3	17.3	17.3
15 MHz	22.6	22.6	22.6	22.6	22.6	22.6	17.5	17.5	17.5	17.5	17.5	17.5
10 MHz	22.5	22.5	22.5	22.5	22.5	22.5	17.6	17.6	17.6	17.6	17.6	17.6
5 MHz	22.7	22.7	22.7	22.7	22.7	22.7	17.6	17.6	17.6	17.6	17.6	17.6
3	22.6	22.6	22.6	22.6	22.6	22.6	17.7	17.7	17.7	17.7	17.7	17.7
1.4 MHz	22.7	22.7	22.7	22.7	22.7	22.7	17.5	17.5	17.5	17.5	17.5	17.5



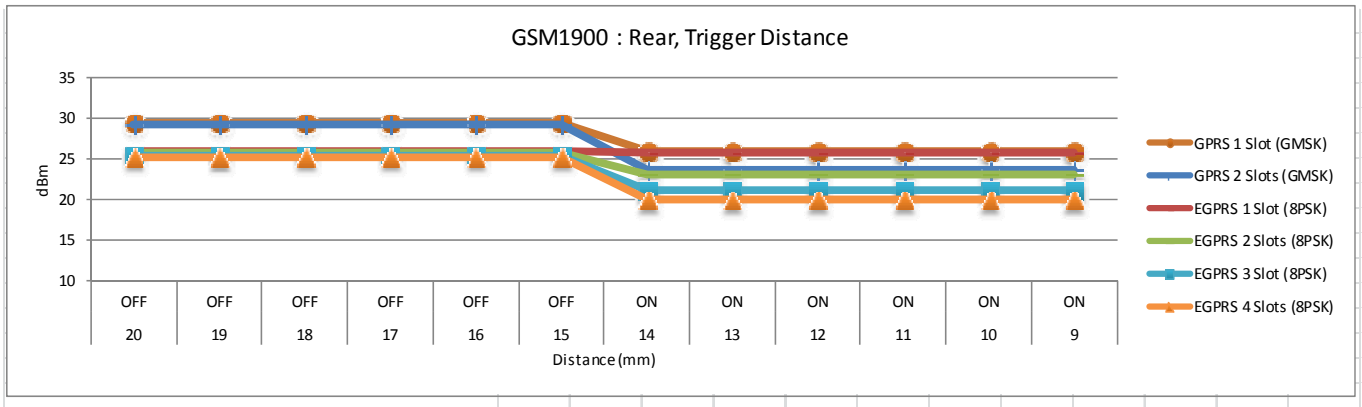
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear

Rear, GSM850												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
GPRS 1 Slot (GMSK)	31.9	31.9	31.9	31.9	31.9	31.9	29.6	29.6	29.6	29.6	29.6	29.6
GPRS 2 Slots (GMSK)	31.7	31.7	31.7	31.7	31.7	31.7	26.8	26.8	26.8	26.8	26.8	26.8
EGPRS 1 Slot (8PSK)	27.1	27.1	27.1	27.1	27.1	27.1	27.0	27.0	27.0	27.0	27.0	27.0
EGPRS 2 Slots (8PSK)	27.0	27.0	27.0	27.0	27.0	27.0	26.3	26.3	26.3	26.3	26.3	26.3
EGPRS 3 Slot (8PSK)	26.4	26.4	26.4	26.4	26.4	26.4	24.4	24.4	24.4	24.4	24.4	24.4
EGPRS 4 Slot (8PSK)	26.0	26.0	26.0	26.0	26.0	26.0	22.8	22.8	22.8	22.8	22.8	22.8

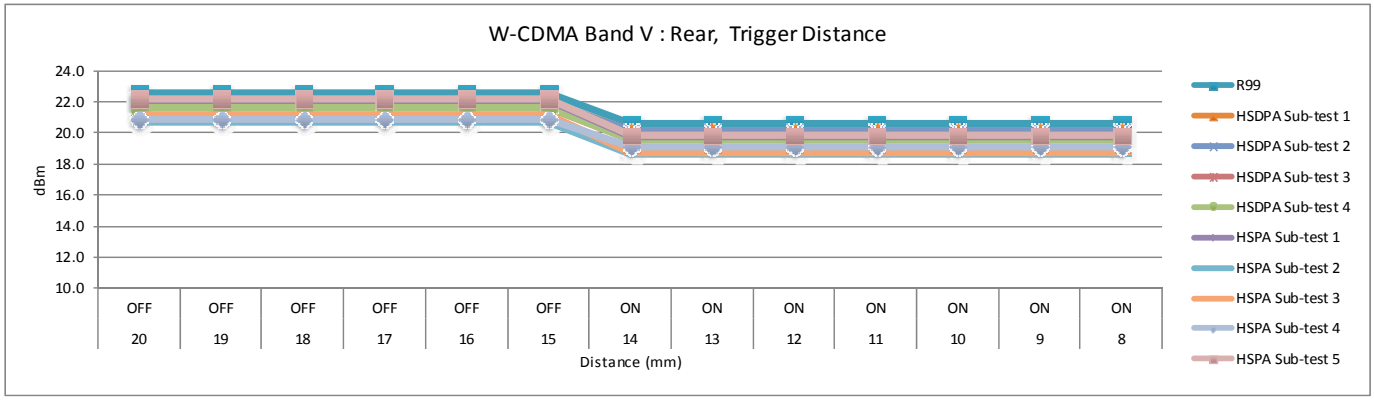


Rear, GSM1900												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
GPRS 1 Slot (GMSK)	29.4	29.4	29.4	29.4	29.4	29.4	25.9	25.9	25.9	25.9	25.9	25.9
GPRS 2 Slots (GMSK)	29.2	29.2	29.2	29.2	29.2	29.2	23.6	23.6	23.6	23.6	23.6	23.6
EGPRS 1 Slot (8PSK)	26.0	26.0	26.0	26.0	26.0	26.0	25.6	25.6	25.6	25.6	25.6	25.6
EGPRS 2 Slots (8PSK)	25.8	25.8	25.8	25.8	25.8	25.8	22.9	22.9	22.9	22.9	22.9	22.9
EGPRS 3 Slot (8PSK)	25.4	25.4	25.4	25.4	25.4	25.4	21.0	21.0	21.0	21.0	21.0	21.0
EGPRS 4 Slots (8PSK)	25.2	25.2	25.2	25.2	25.2	25.2	19.9	19.9	19.9	19.9	19.9	19.9

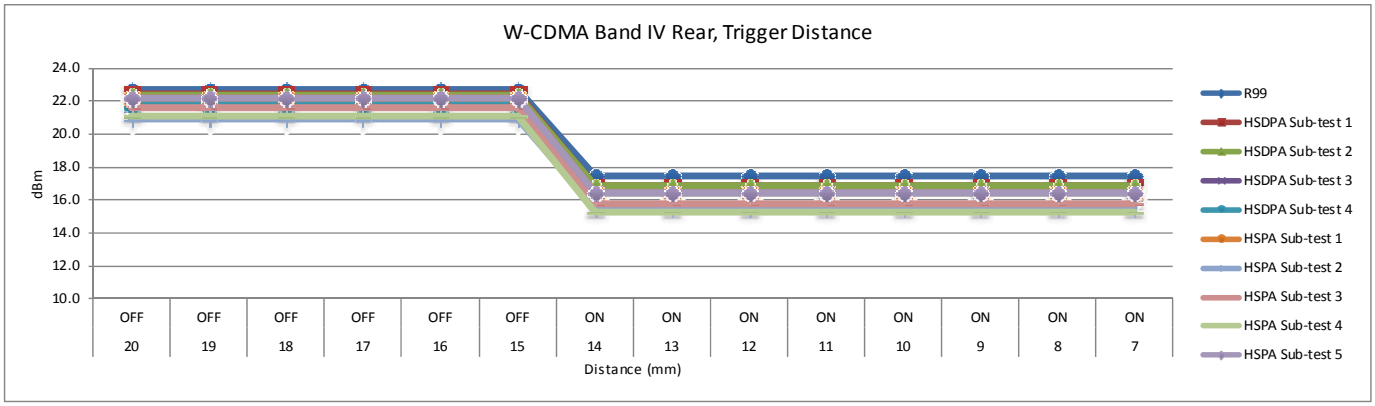


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, W-CDMA Band V													
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9	8
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
R99	22.6	22.6	22.6	22.6	22.6	22.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
HSDPA Sub-test 1	22.0	22.0	22.0	22.0	22.0	22.0	20.1	20.1	20.1	20.1	20.1	20.1	20.1
HSDPA Sub-test 2	22.1	22.1	22.1	22.1	22.1	22.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
HSDPA Sub-test 3	21.6	21.6	21.6	21.6	21.6	21.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
HSDPA Sub-test 4	21.6	21.6	21.6	21.6	21.6	21.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
HSPA Sub-test 1	22.1	22.1	22.1	22.1	22.1	22.1	19.8	19.8	19.8	19.8	19.8	19.8	19.8
HSPA Sub-test 2	20.7	20.7	20.7	20.7	20.7	20.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
HSPA Sub-test 3	21.1	21.1	21.1	21.1	21.1	21.1	18.7	18.7	18.7	18.7	18.7	18.7	18.7
HSPA Sub-test 4	20.9	20.9	20.9	20.9	20.9	20.9	19.1	19.1	19.1	19.1	19.1	19.1	19.1
HSPA Sub-test 5	22.2	22.2	22.2	22.2	22.2	22.2	19.8	19.8	19.8	19.8	19.8	19.8	19.8

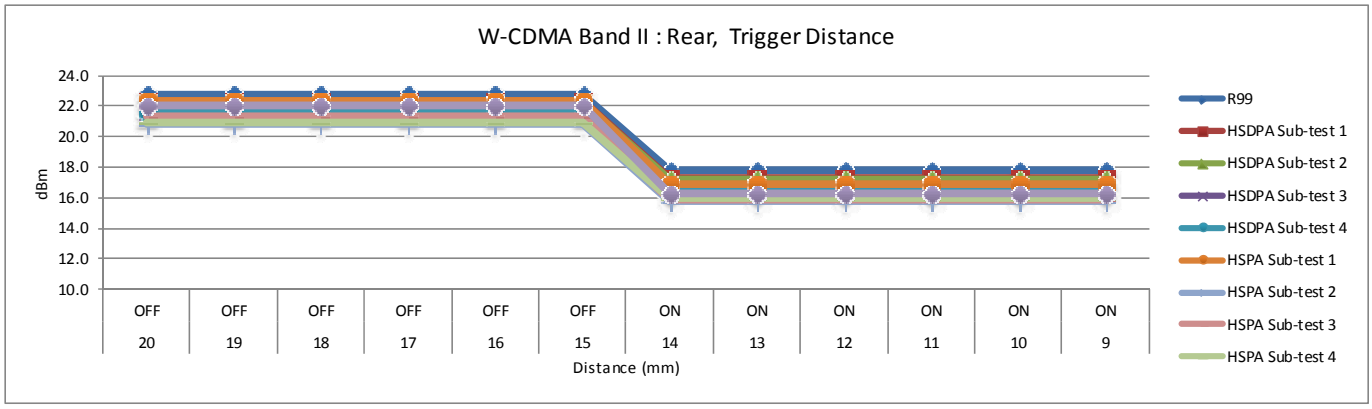


Rear, W-CDMA Band IV														
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9	8	7
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
R99	22.7	22.7	22.7	22.7	22.7	22.7	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
HSDPA Sub-test 1	22.5	22.5	22.5	22.5	22.5	22.5	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9
HSDPA Sub-test 2	22.4	22.4	22.4	22.4	22.4	22.4	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
HSDPA Sub-test 3	21.9	21.9	21.9	21.9	21.9	21.9	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
HSDPA Sub-test 4	21.9	21.9	21.9	21.9	21.9	21.9	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
HSPA Sub-test 1	22.2	22.2	22.2	22.2	22.2	22.2	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
HSPA Sub-test 2	20.9	20.9	20.9	20.9	20.9	20.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
HSPA Sub-test 3	21.6	21.6	21.6	21.6	21.6	21.6	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
HSPA Sub-test 4	21.1	21.1	21.1	21.1	21.1	21.1	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
HSPA Sub-test 5	22.2	22.2	22.2	22.2	22.2	22.2	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5



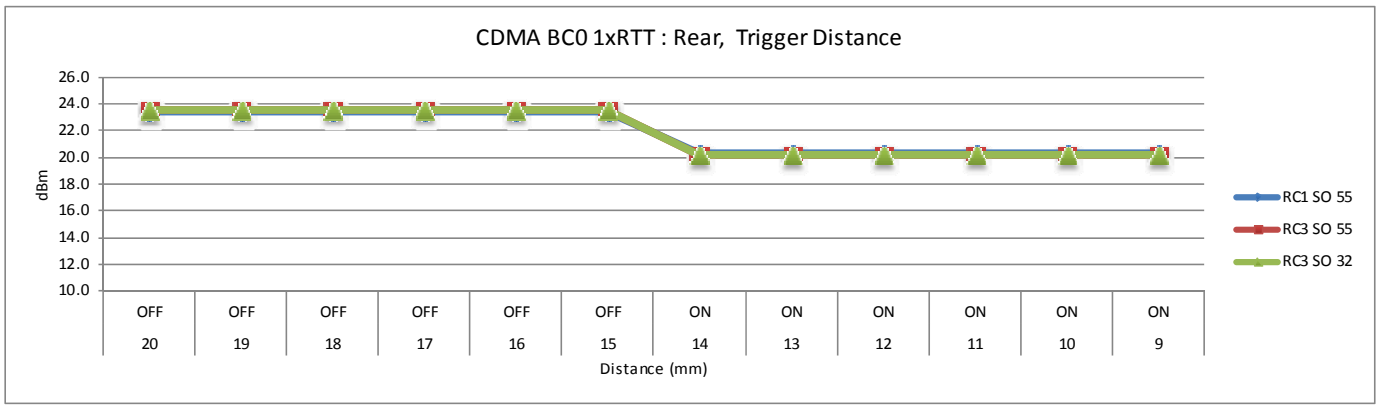
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, W-CDMA Band II												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
R99	22.7	22.7	22.7	22.7	22.7	22.7	17.8	17.8	17.8	17.8	17.8	17.8
HSDPA Sub-test 1	22.3	22.3	22.3	22.3	22.3	22.3	17.3	17.3	17.3	17.3	17.3	17.3
HSDPA Sub-test 2	22.3	22.3	22.3	22.3	22.3	22.3	17.2	17.2	17.2	17.2	17.2	17.2
HSDPA Sub-test 3	21.7	21.7	21.7	21.7	21.7	21.7	16.7	16.7	16.7	16.7	16.7	16.7
HSDPA Sub-test 4	21.7	21.7	21.7	21.7	21.7	21.7	16.7	16.7	16.7	16.7	16.7	16.7
HSPA Sub-test 1	22.3	22.3	22.3	22.3	22.3	22.3	16.9	16.9	16.9	16.9	16.9	16.9
HSPA Sub-test 2	20.8	20.8	20.8	20.8	20.8	20.8	15.7	15.7	15.7	15.7	15.7	15.7
HSPA Sub-test 3	21.3	21.3	21.3	21.3	21.3	21.3	15.9	15.9	15.9	15.9	15.9	15.9
HSPA Sub-test 4	21.0	21.0	21.0	21.0	21.0	21.0	16.0	16.0	16.0	16.0	16.0	16.0
HSPA Sub-test 5	22.0	22.0	22.0	22.0	22.0	22.0	16.3	16.3	16.3	16.3	16.3	16.3

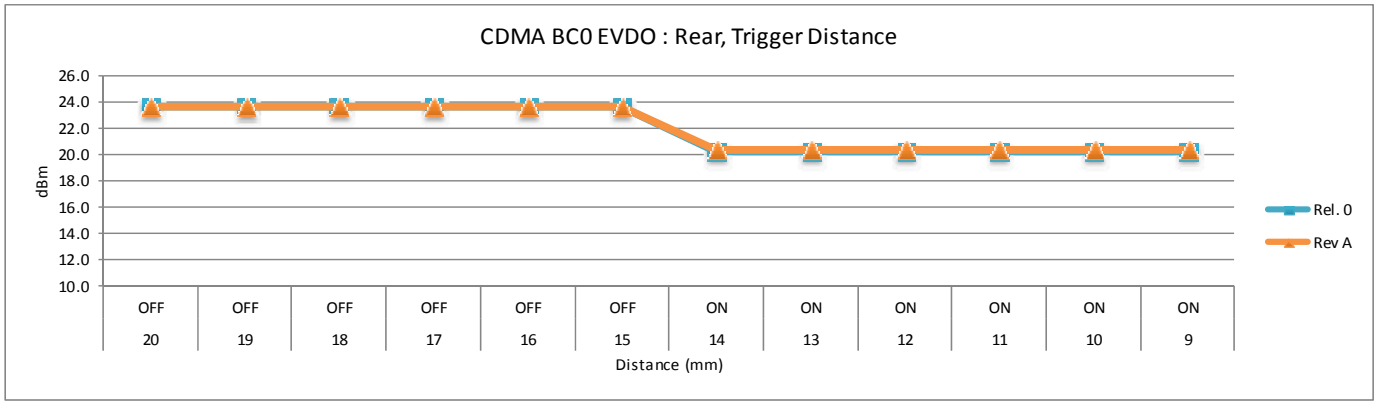


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, CDMA BC0 1xRTT												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
RC1 SO 55	23.5	23.5	23.5	23.5	23.5	23.5	20.3	20.3	20.3	20.3	20.3	20.3
RC3 SO 55	23.5	23.5	23.5	23.5	23.5	23.5	20.2	20.2	20.2	20.2	20.2	20.2
RC3 SO 32	23.5	23.5	23.5	23.5	23.5	23.5	20.2	20.2	20.2	20.2	20.2	20.2

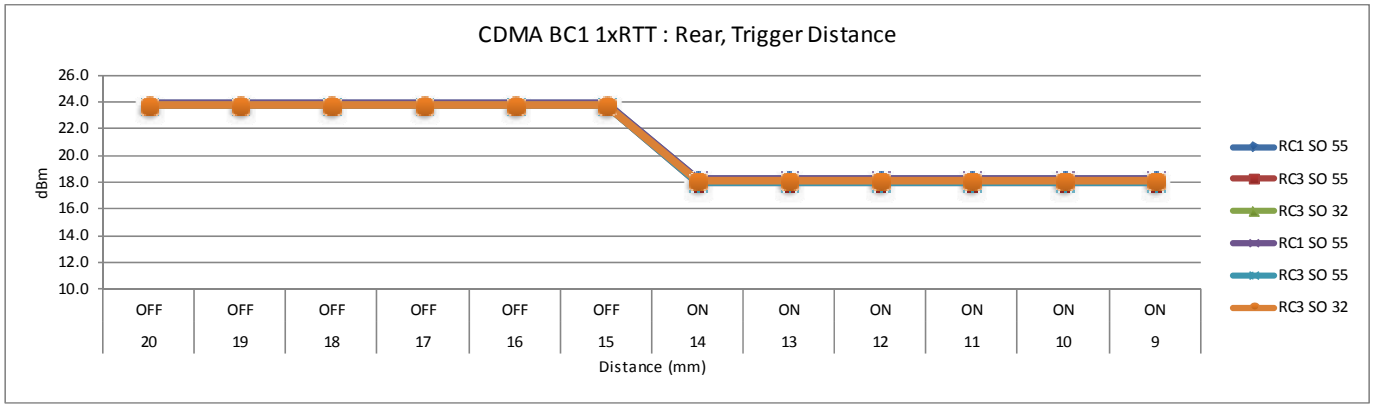


Rear, CDMA BC0 EVDO												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Rel. 0	23.6	23.6	23.6	23.6	23.6	23.6	20.3	20.3	20.3	20.3	20.3	20.3
Rev A	23.6	23.6	23.6	23.6	23.6	23.6	20.3	20.3	20.3	20.3	20.3	20.3

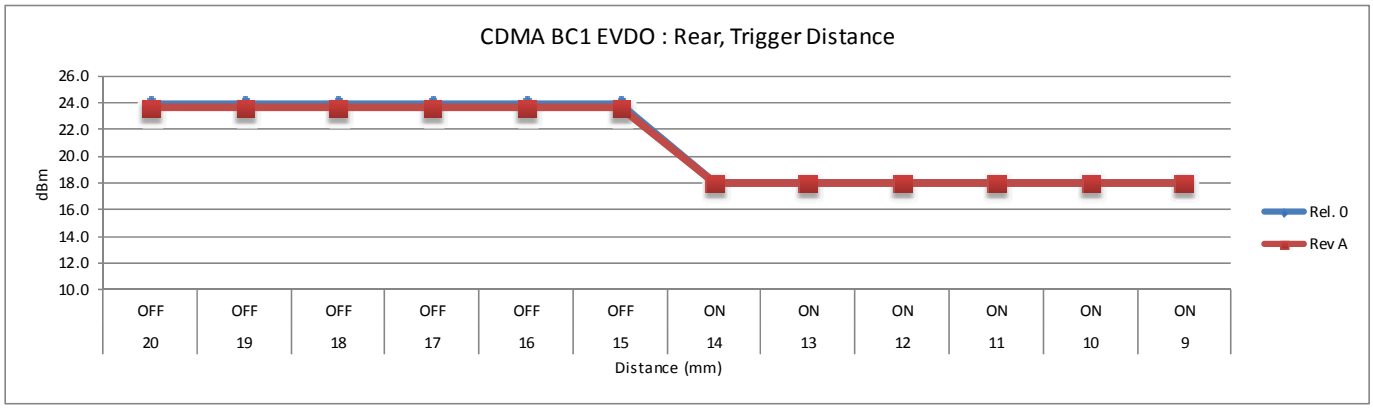


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, CDMA BC1 1xRTT												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
RC1 SO 55	23.9	23.9	23.9	23.9	23.9	23.9	18.2	18.2	18.2	18.2	18.2	18.2
RC3 SO 55	23.7	23.7	23.7	23.7	23.7	23.7	18.0	18.0	18.0	18.0	18.0	18.0
RC3 SO 32	23.7	23.7	23.7	23.7	23.7	23.7	18.1	18.1	18.1	18.1	18.1	18.1

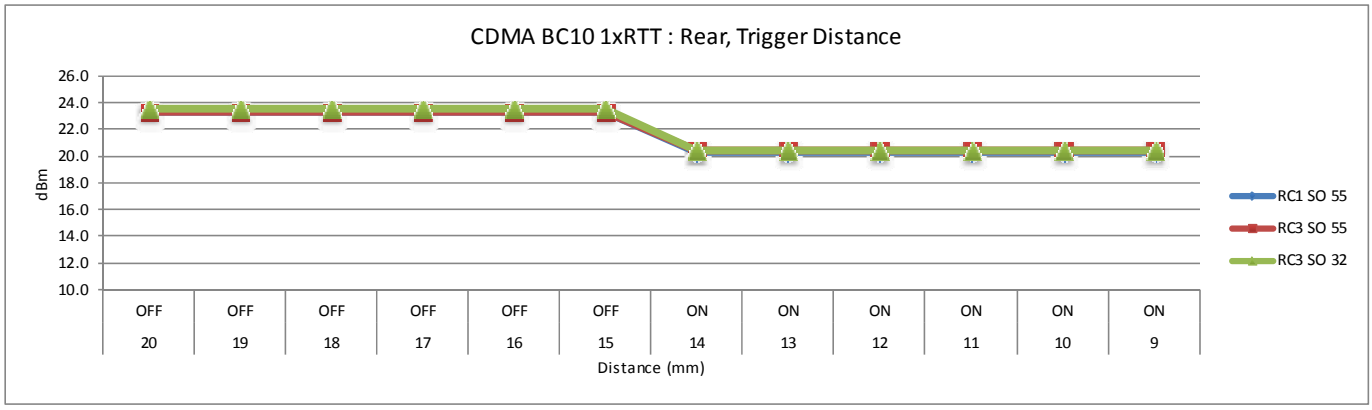


Rear, CDMA BC1 EVDO												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Rel. 0	23.8	23.8	23.8	23.8	23.8	23.8	18.0	18.0	18.0	18.0	18.0	18.0
Rev A	23.6	23.6	23.6	23.6	23.6	23.6	18.0	18.0	18.0	18.0	18.0	18.0

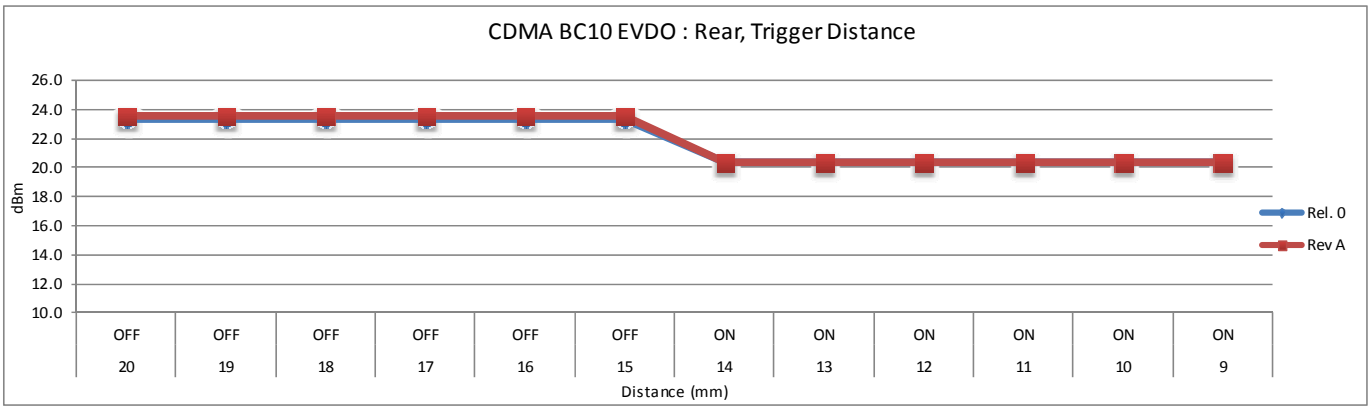


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, CDMA BC10 1xRTT												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
RC1 SO 55	23.3	23.3	23.3	23.3	23.3	23.3	20.3	20.3	20.3	20.3	20.3	20.3
RC3 SO 55	23.3	23.3	23.3	23.3	23.3	23.3	20.4	20.4	20.4	20.4	20.4	20.4
RC3 SO 32	23.6	23.6	23.6	23.6	23.6	23.6	20.4	20.4	20.4	20.4	20.4	20.4

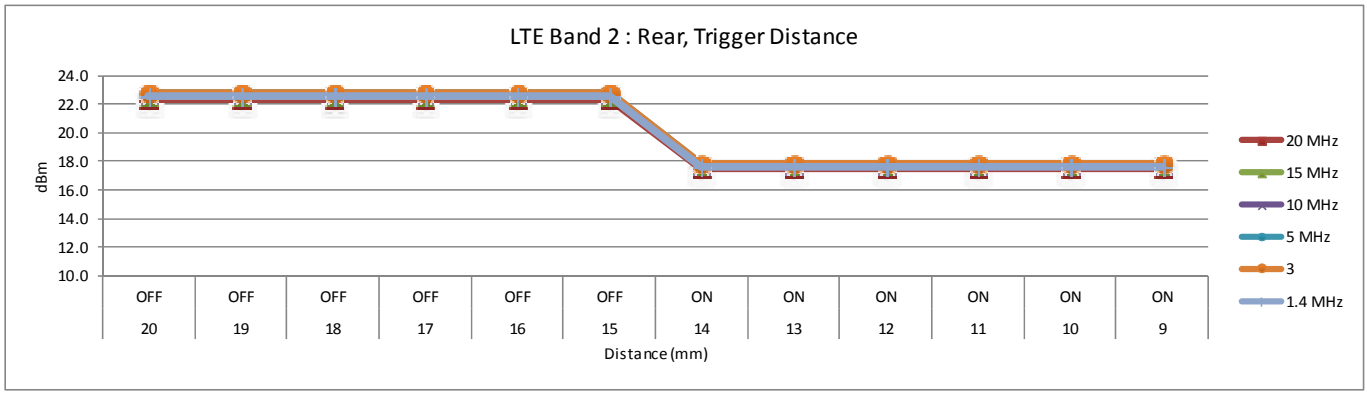


Rear, CDMA BC10 EVDO												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Rel. 0	23.3	23.3	23.3	23.3	23.3	23.3	20.3	20.3	20.3	20.3	20.3	20.3
Rev A	23.6	23.6	23.6	23.6	23.6	23.6	20.4	20.4	20.4	20.4	20.4	20.4

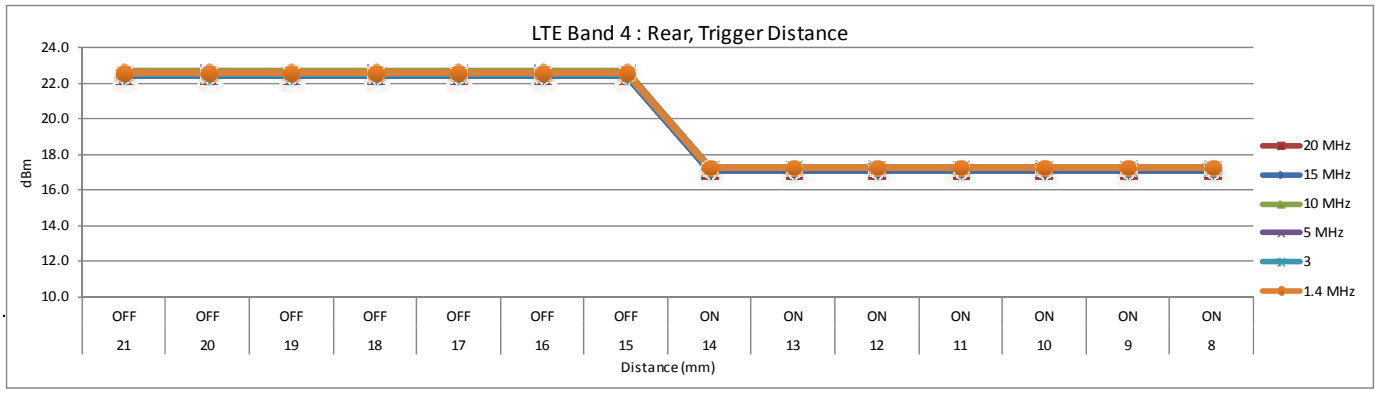


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, LTE Band 2												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
20 MHz	22.4	22.4	22.4	22.4	22.4	22.4	17.5	17.5	17.5	17.5	17.5	17.5
15 MHz	22.6	22.6	22.6	22.6	22.6	22.6	17.7	17.7	17.7	17.7	17.7	17.7
10 MHz	22.7	22.7	22.7	22.7	22.7	22.7	17.8	17.8	17.8	17.8	17.8	17.8
5 MHz	22.8	22.8	22.8	22.8	22.8	22.8	17.8	17.8	17.8	17.8	17.8	17.8
3	22.8	22.8	22.8	22.8	22.8	22.8	17.8	17.8	17.8	17.8	17.8	17.8
1.4 MHz	22.6	22.6	22.6	22.6	22.6	22.6	17.6	17.6	17.6	17.6	17.6	17.6

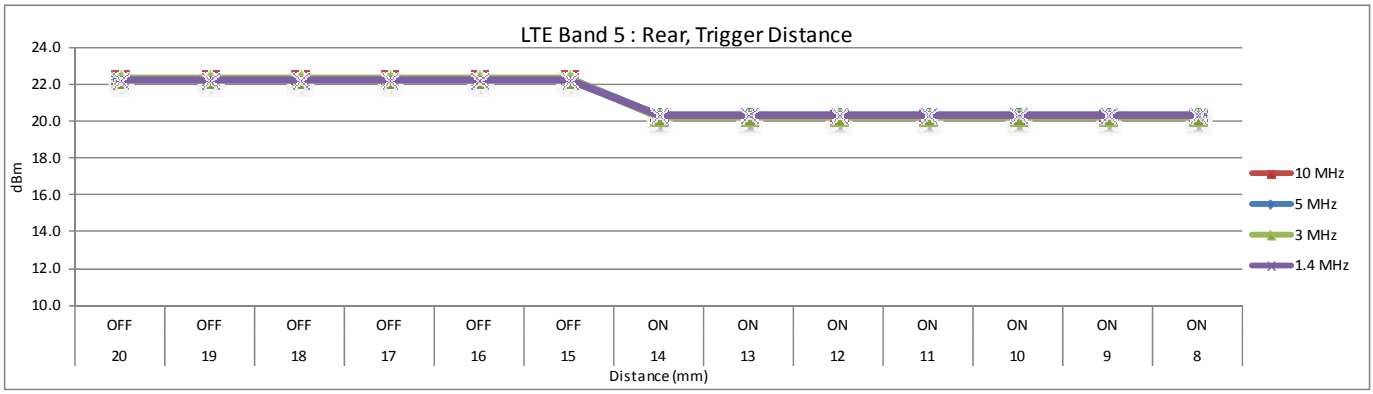


Rear, LTE Band 4														
Distance (mm):	21	20	19	18	17	16	15	14	13	12	11	10	9	8
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
20 MHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	17.1	17.1	17.1	17.1	17.1	17.1	17.1
15 MHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	17.1	17.1	17.1	17.1	17.1	17.1	17.1
10 MHz	22.7	22.7	22.7	22.7	22.7	22.7	22.7	17.3	17.3	17.3	17.3	17.3	17.3	17.3
5 MHz	22.6	22.6	22.6	22.6	22.6	22.6	22.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3
3	22.6	22.6	22.6	22.6	22.6	22.6	22.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3
1.4 MHz	22.6	22.6	22.6	22.6	22.6	22.6	22.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3

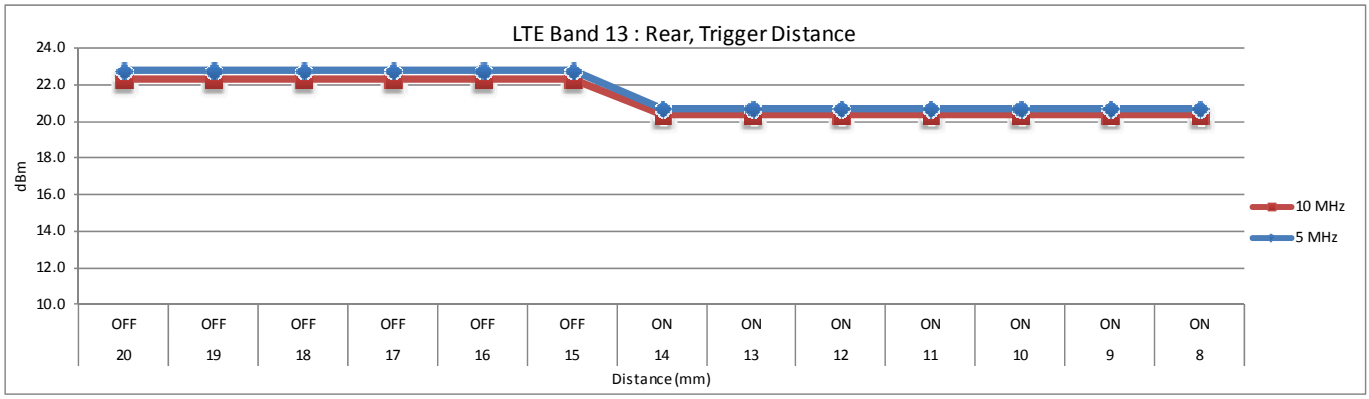


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, LTE Band 5													
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9	8
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
10 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.2	20.2	20.2	20.2	20.2	20.2	20.2
5 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
3 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.2	20.2	20.2	20.2	20.2	20.2	20.2
1.4 MHz	22.2	22.2	22.2	22.2	22.2	22.2	20.3	20.3	20.3	20.3	20.3	20.3	20.3

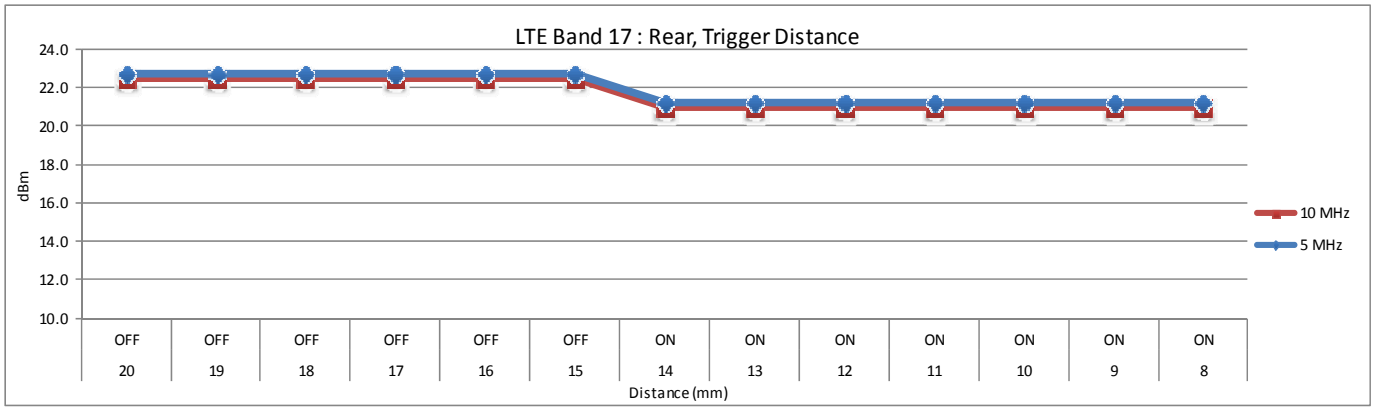


Rear, LTE Band 13													
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9	8
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
10 MHz	22.3	22.3	22.3	22.3	22.3	22.3	20.4	20.4	20.4	20.4	20.4	20.4	20.4
5 MHz	22.8	22.8	22.8	22.8	22.8	22.8	20.7	20.7	20.7	20.7	20.7	20.7	20.7

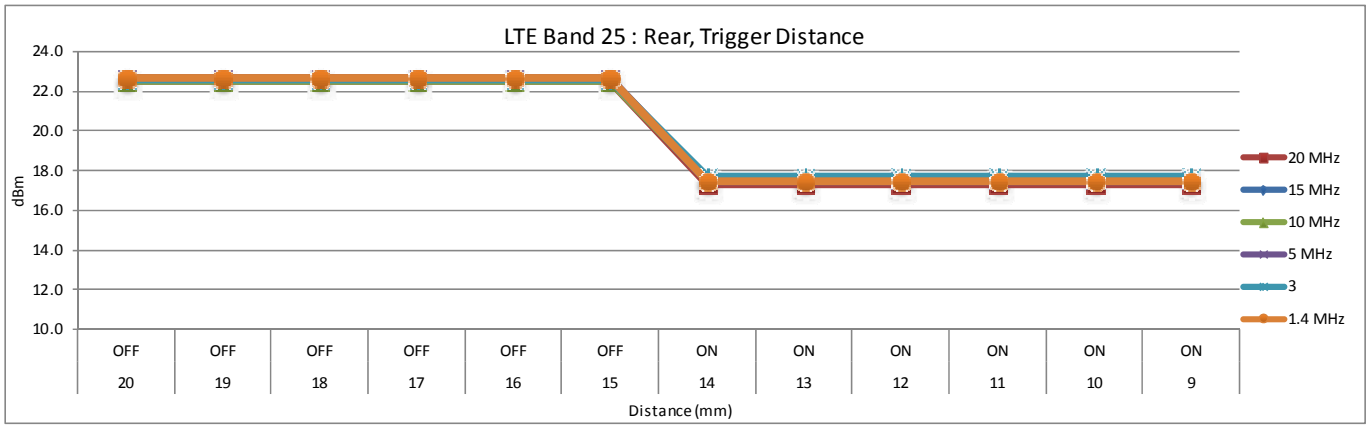


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, LTE Band 17													
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9	8
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
10 MHz	22.5	22.5	22.5	22.5	22.5	22.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0
5 MHz	22.8	22.8	22.8	22.8	22.8	22.8	21.2	21.2	21.2	21.2	21.2	21.2	21.2



Rear, LTE Band 25												
Distance (mm):	20	19	18	17	16	15	14	13	12	11	10	9
Proximity sensor with reduced power activation:	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
20 MHz	22.5	22.5	22.5	22.5	22.5	22.5	17.3	17.3	17.3	17.3	17.3	17.3
15 MHz	22.6	22.6	22.6	22.6	22.6	22.6	17.5	17.5	17.5	17.5	17.5	17.5
10 MHz	22.5	22.5	22.5	22.5	22.5	22.5	17.6	17.6	17.6	17.6	17.6	17.6
5 MHz	22.7	22.7	22.7	22.7	22.7	22.7	17.6	17.6	17.6	17.6	17.6	17.6
3	22.6	22.6	22.6	22.6	22.6	22.6	17.7	17.7	17.7	17.7	17.7	17.7
1.4 MHz	22.7	22.7	22.7	22.7	22.7	22.7	17.5	17.5	17.5	17.5	17.5	17.5

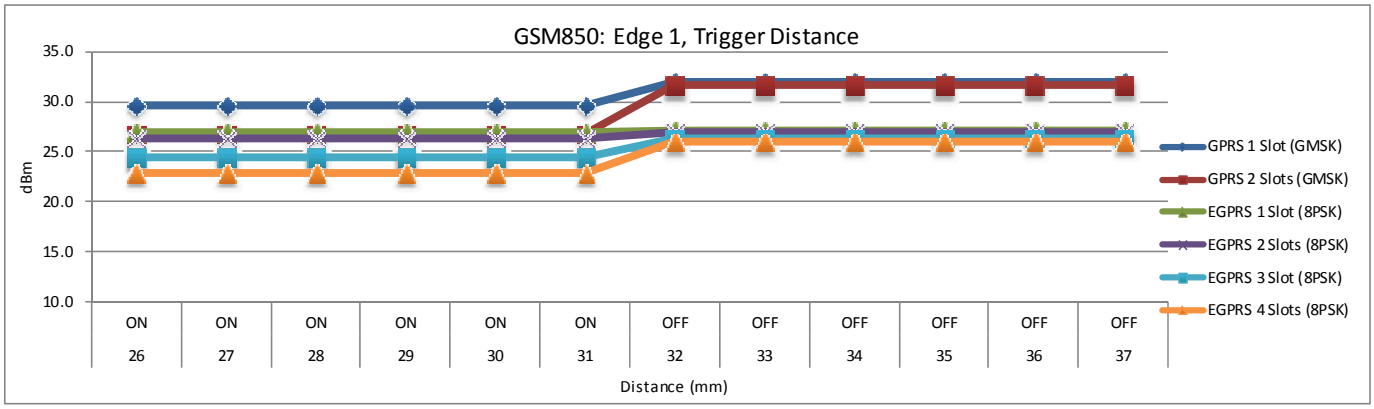


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

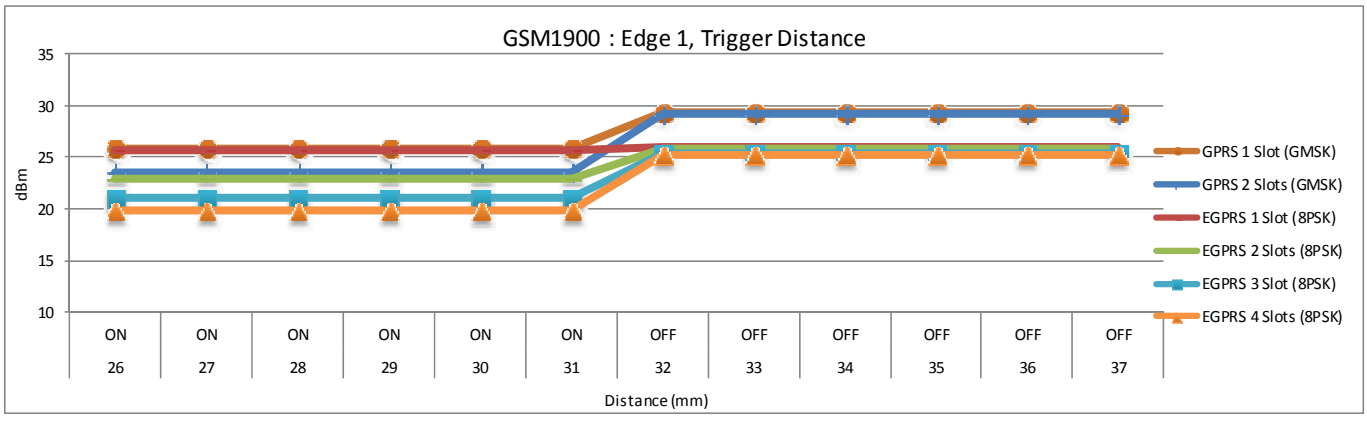
7.6.2. DUT moving away from the phantom

Edge1

Edge 1, GSM850												
Distance (mm):	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1 Slot (GMSK)	29.6	29.6	29.6	29.6	29.6	29.6	31.9	31.9	31.9	31.9	31.9	31.9
GPRS 2 Slots (GMSK)	26.8	26.8	26.8	26.8	26.8	26.8	31.7	31.7	31.7	31.7	31.7	31.7
EGPRS 1 Slot (8PSK)	27.0	27.0	27.0	27.0	27.0	27.0	27.1	27.1	27.1	27.1	27.1	27.1
EGPRS 2 Slots (8PSK)	26.3	26.3	26.3	26.3	26.3	26.3	27.0	27.0	27.0	27.0	27.0	27.0
EGPRS 3 Slot (8PSK)	24.4	24.4	24.4	24.4	24.4	24.4	26.4	26.4	26.4	26.4	26.4	26.4
EGPRS 4 Slots (8PSK)	22.8	22.8	22.8	22.8	22.8	22.8	26.0	26.0	26.0	26.0	26.0	26.0

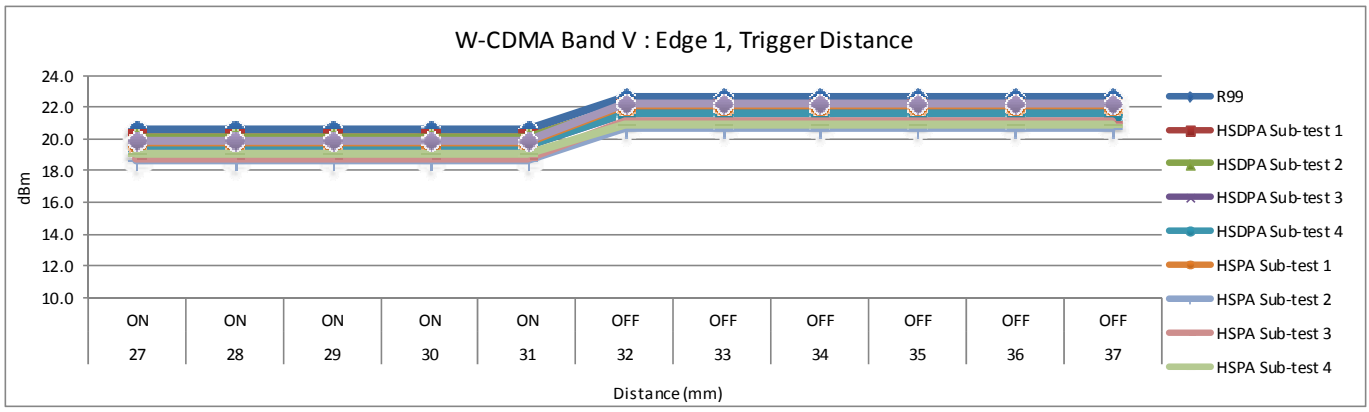


Edge 1, GSM1900												
Distance (mm):	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1 Slot (GMSK)	25.9	25.9	25.9	25.9	25.9	25.9	29.4	29.4	29.4	29.4	29.4	29.4
GPRS 2 Slots (GMSK)	23.6	23.6	23.6	23.6	23.6	23.6	29.2	29.2	29.2	29.2	29.2	29.2
EGPRS 1 Slot (8PSK)	25.6	25.6	25.6	25.6	25.6	25.6	26.0	26.0	26.0	26.0	26.0	26.0
EGPRS 2 Slots (8PSK)	22.9	22.9	22.9	22.9	22.9	22.9	25.8	25.8	25.8	25.8	25.8	25.8
EGPRS 3 Slot (8PSK)	21.0	21.0	21.0	21.0	21.0	21.0	25.4	25.4	25.4	25.4	25.4	25.4
EGPRS 4 Slots (8PSK)	19.9	19.9	19.9	19.9	19.9	19.9	25.2	25.2	25.2	25.2	25.2	25.2

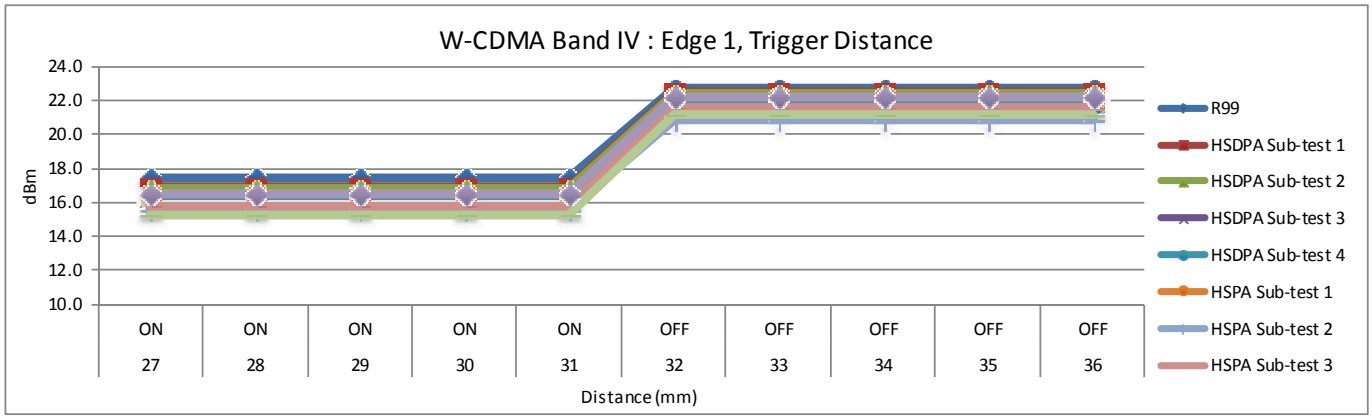


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, W-CDMA Band V											
Distance (mm):	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
R99	20.6	20.6	20.6	20.6	20.6	22.6	22.6	22.6	22.6	22.6	22.6
HSDPA Sub-test 1	20.1	20.1	20.1	20.1	20.1	22.0	22.0	22.0	22.0	22.0	22.0
HSDPA Sub-test 2	20.1	20.1	20.1	20.1	20.1	22.1	22.1	22.1	22.1	22.1	22.1
HSDPA Sub-test 3	19.6	19.6	19.6	19.6	19.6	21.6	21.6	21.6	21.6	21.6	21.6
HSDPA Sub-test 4	19.6	19.6	19.6	19.6	19.6	21.6	21.6	21.6	21.6	21.6	21.6
HSPA Sub-test 1	19.8	19.8	19.8	19.8	19.8	22.1	22.1	22.1	22.1	22.1	22.1
HSPA Sub-test 2	18.7	18.7	18.7	18.7	18.7	20.7	20.7	20.7	20.7	20.7	20.7
HSPA Sub-test 3	18.7	18.7	18.7	18.7	18.7	21.1	21.1	21.1	21.1	21.1	21.1
HSPA Sub-test 4	19.1	19.1	19.1	19.1	19.1	20.9	20.9	20.9	20.9	20.9	20.9
HSPA Sub-test 5	19.8	19.8	19.8	19.8	19.8	22.2	22.2	22.2	22.2	22.2	22.2

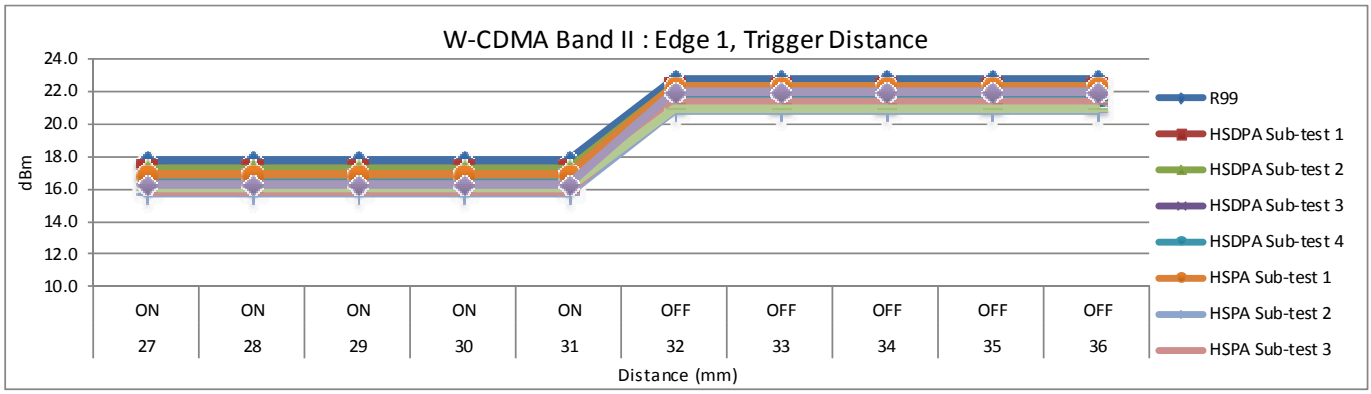


Edge 1, W-CDMA Band IV										
Distance (mm):	27	28	29	30	31	32	33	34	35	36
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
R99	17.5	17.5	17.5	17.5	17.5	22.7	22.7	22.7	22.7	22.7
HSDPA Sub-test 1	16.9	16.9	16.9	16.9	16.9	22.5	22.5	22.5	22.5	22.5
HSDPA Sub-test 2	16.8	16.8	16.8	16.8	16.8	22.4	22.4	22.4	22.4	22.4
HSDPA Sub-test 3	16.4	16.4	16.4	16.4	16.4	21.9	21.9	21.9	21.9	21.9
HSDPA Sub-test 4	16.4	16.4	16.4	16.4	16.4	21.9	21.9	21.9	21.9	21.9
HSPA Sub-test 1	16.5	16.5	16.5	16.5	16.5	22.2	22.2	22.2	22.2	22.2
HSPA Sub-test 2	15.5	15.5	15.5	15.5	15.5	20.9	20.9	20.9	20.9	20.9
HSPA Sub-test 3	15.8	15.8	15.8	15.8	15.8	21.6	21.6	21.6	21.6	21.6
HSPA Sub-test 4	15.3	15.3	15.3	15.3	15.3	21.1	21.1	21.1	21.1	21.1
HSPA Sub-test 5	16.5	16.5	16.5	16.5	16.5	22.2	22.2	22.2	22.2	22.2



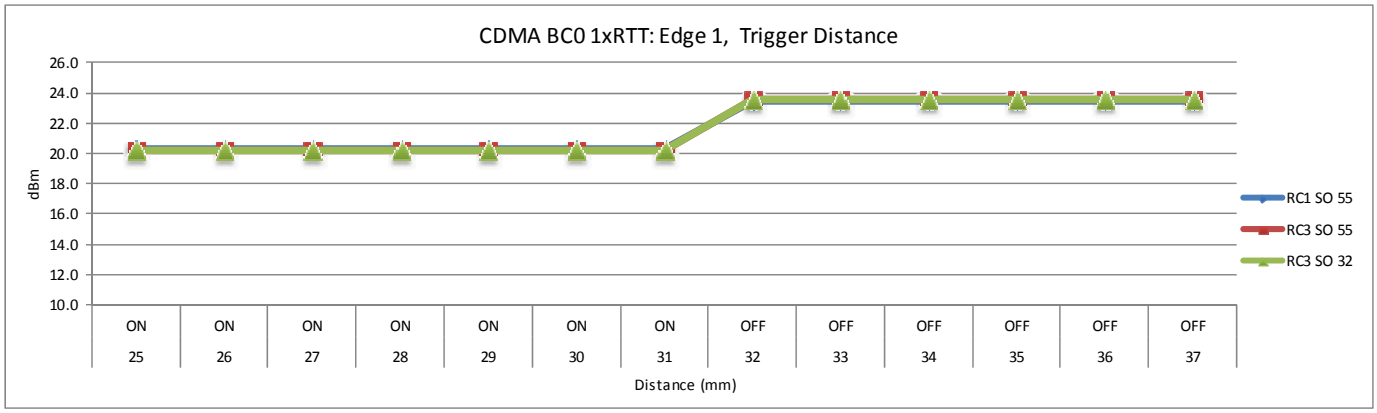
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, W-CDMA Band II										
Distance (mm):	27	28	29	30	31	32	33	34	35	36
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
R99	17.8	17.8	17.8	17.8	17.8	22.7	22.7	22.7	22.7	22.7
HSDPA Sub-test 1	17.3	17.3	17.3	17.3	17.3	22.3	22.3	22.3	22.3	22.3
HSDPA Sub-test 2	17.2	17.2	17.2	17.2	17.2	22.3	22.3	22.3	22.3	22.3
HSDPA Sub-test 3	16.7	16.7	16.7	16.7	16.7	21.7	21.7	21.7	21.7	21.7
HSDPA Sub-test 4	16.7	16.7	16.7	16.7	16.7	21.7	21.7	21.7	21.7	21.7
HSPA Sub-test 1	16.9	16.9	16.9	16.9	16.9	22.3	22.3	22.3	22.3	22.3
HSPA Sub-test 2	15.7	15.7	15.7	15.7	15.7	20.8	20.8	20.8	20.8	20.8
HSPA Sub-test 3	15.9	15.9	15.9	15.9	15.9	21.3	21.3	21.3	21.3	21.3
HSPA Sub-test 4	16.0	16.0	16.0	16.0	16.0	21.0	21.0	21.0	21.0	21.0
HSPA Sub-test 5	16.3	16.3	16.3	16.3	16.3	22.0	22.0	22.0	22.0	22.0

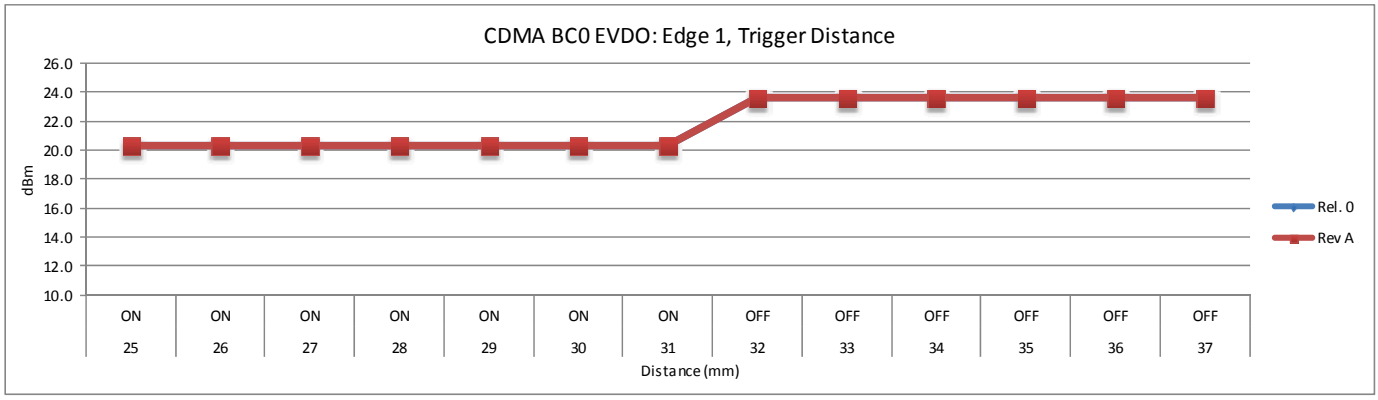


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, CDMA BC0 1xRTT													
Distance (mm):	25	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RC1 SO 55	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.5	23.5	23.5	23.5	23.5	23.5
RC3 SO 55	20.2	20.2	20.2	20.2	20.2	20.2	20.2	23.5	23.5	23.5	23.5	23.5	23.5
RC3 SO 32	20.2	20.2	20.2	20.2	20.2	20.2	20.2	23.5	23.5	23.5	23.5	23.5	23.5

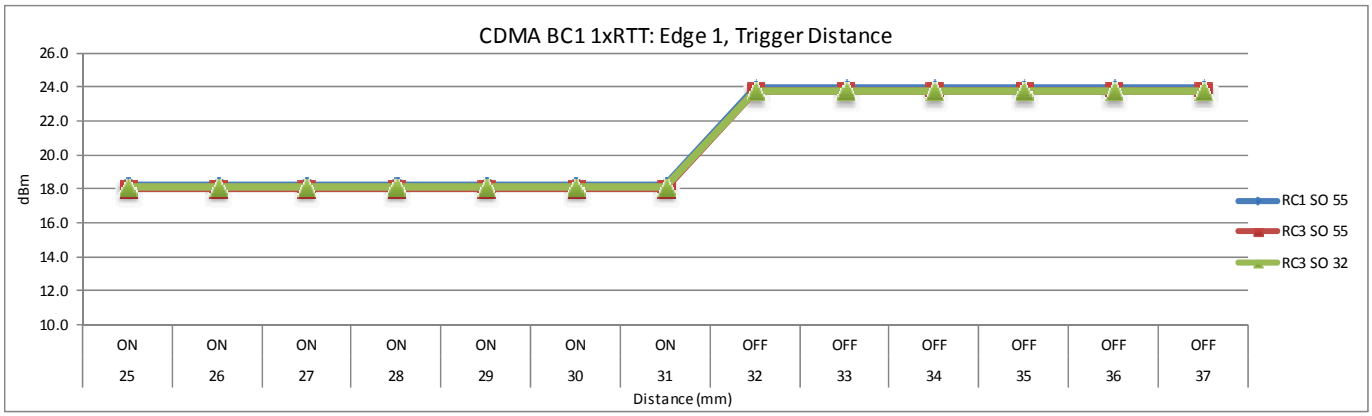


Edge 1, CDMA BC0 EVDO													
Distance (mm):	25	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Rel. 0	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.6	23.6	23.6	23.6	23.6	23.6
Rev A	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.6	23.6	23.6	23.6	23.6	23.6

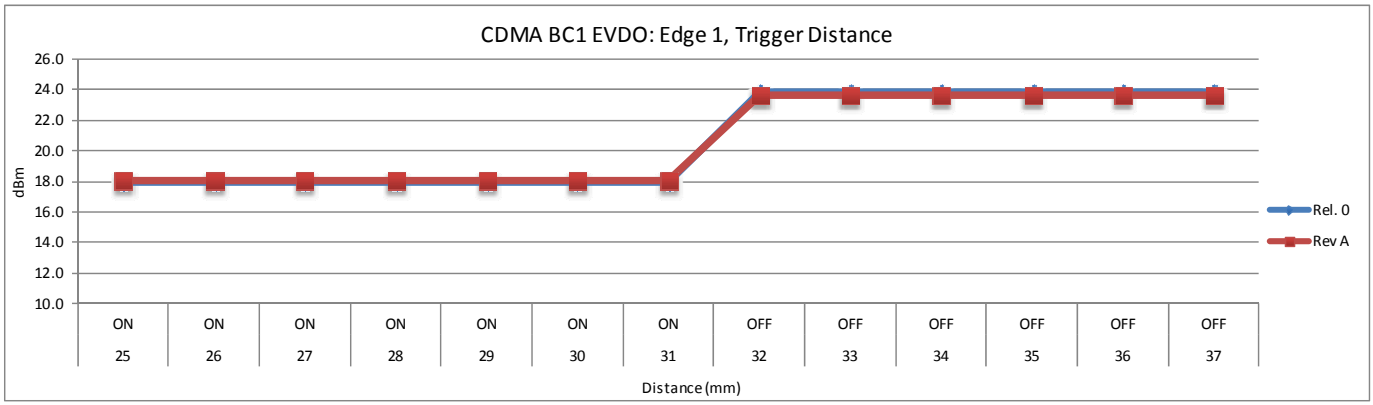


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, CDMA BC1 1xRTT													
Distance (mm):	25	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RC1 SO 55	18.2	18.2	18.2	18.2	18.2	18.2	18.2	23.9	23.9	23.9	23.9	23.9	23.9
RC3 SO 55	18.0	18.0	18.0	18.0	18.0	18.0	18.0	23.7	23.7	23.7	23.7	23.7	23.7
RC3 SO 32	18.1	18.1	18.1	18.1	18.1	18.1	18.1	23.7	23.7	23.7	23.7	23.7	23.7

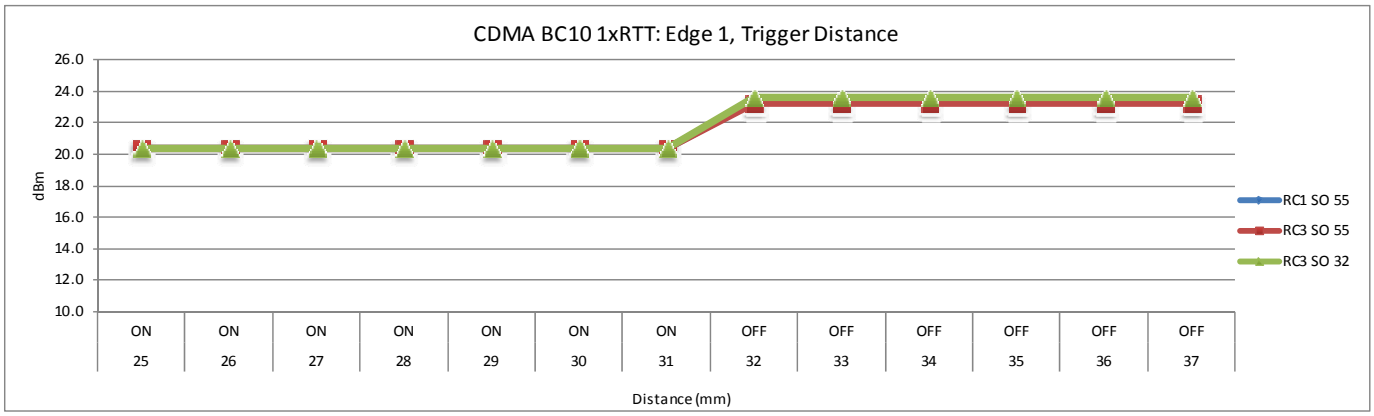


Edge 1, CDMA BC1 EVDO													
Distance (mm):	25	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Rel. 0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	23.8	23.8	23.8	23.8	23.8	23.8
Rev A	18.0	18.0	18.0	18.0	18.0	18.0	18.0	23.6	23.6	23.6	23.6	23.6	23.6

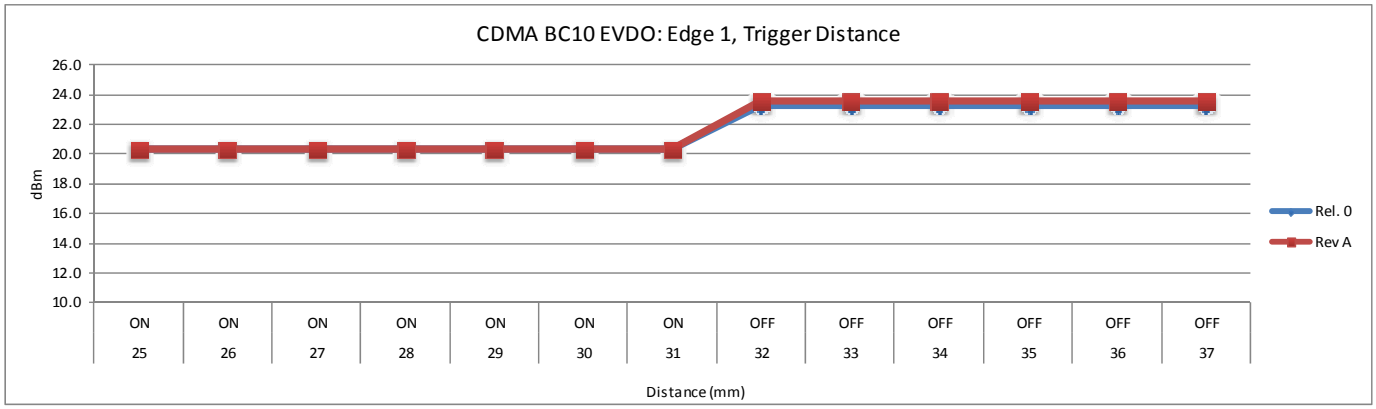


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, CDMA BC10 1xRTT													
Distance (mm):	25	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RC1 SO 55	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3
RC3 SO 55	20.4	20.4	20.4	20.4	20.4	20.4	20.4	23.3	23.3	23.3	23.3	23.3	23.3
RC3 SO 32	20.4	20.4	20.4	20.4	20.4	20.4	20.4	23.6	23.6	23.6	23.6	23.6	23.6

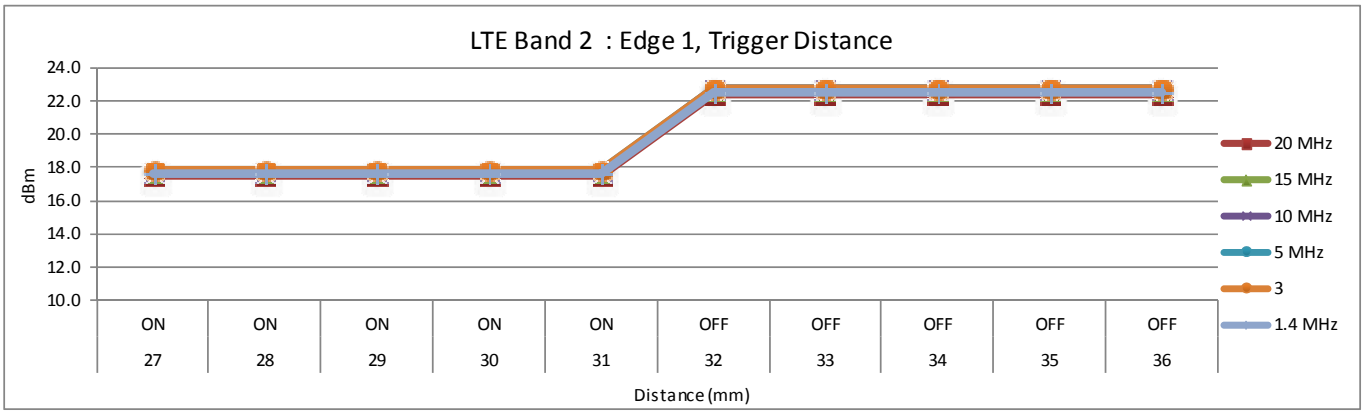


Edge 1, CDMA BC10 EVDO													
Distance (mm):	25	26	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Rel. 0	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3
Rev A	20.4	20.4	20.4	20.4	20.4	20.4	20.4	23.6	23.6	23.6	23.6	23.6	23.6

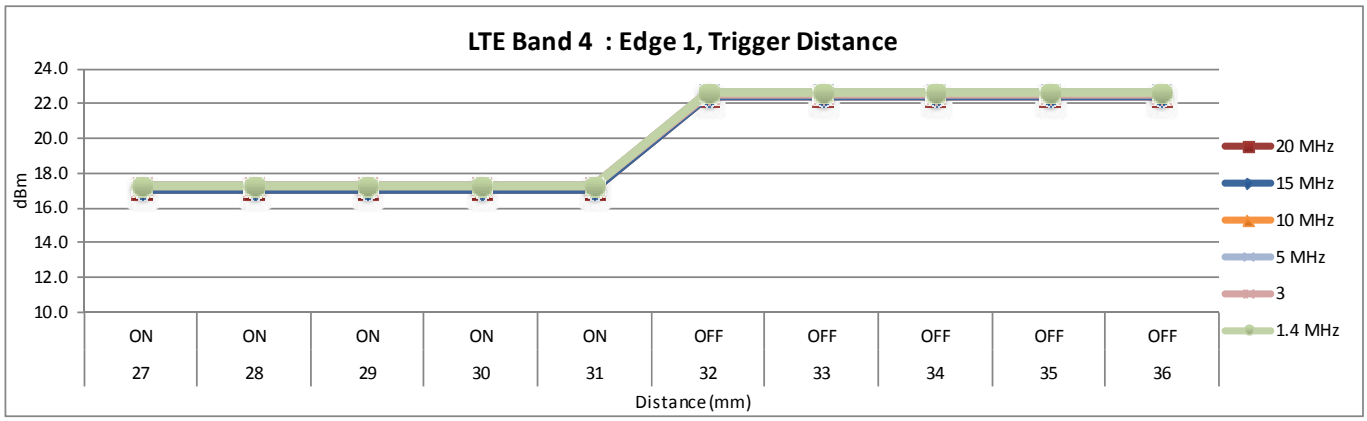


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, LTE Band 2										
Distance (mm):	27	28	29	30	31	32	33	34	35	36
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
20 MHz	17.5	17.5	17.5	17.5	17.5	22.4	22.4	22.4	22.4	22.4
15 MHz	17.7	17.7	17.7	17.7	17.7	22.6	22.6	22.6	22.6	22.6
10 MHz	17.8	17.8	17.8	17.8	17.8	22.7	22.7	22.7	22.7	22.7
5 MHz	17.8	17.8	17.8	17.8	17.8	22.8	22.8	22.8	22.8	22.8
3	17.8	17.8	17.8	17.8	17.8	22.8	22.8	22.8	22.8	22.8
1.4 MHz	17.6	17.6	17.6	17.6	17.6	22.6	22.6	22.6	22.6	22.6

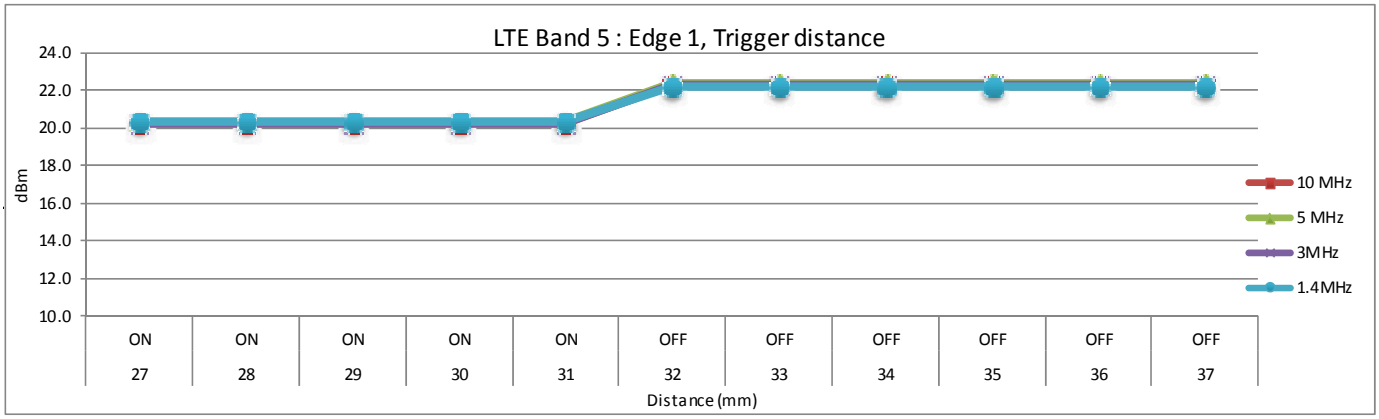


Edge 1, LTE Band 4										
Distance (mm):	27	28	29	30	31	32	33	34	35	36
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
20 MHz	17.1	17.1	17.1	17.1	17.1	22.5	22.5	22.5	22.5	22.5
15 MHz	17.1	17.1	17.1	17.1	17.1	22.5	22.5	22.5	22.5	22.5
10 MHz	17.3	17.3	17.3	17.3	17.3	22.7	22.7	22.7	22.7	22.7
5 MHz	17.3	17.3	17.3	17.3	17.3	22.6	22.6	22.6	22.6	22.6
3	17.3	17.3	17.3	17.3	17.3	22.6	22.6	22.6	22.6	22.6
1.4 MHz	17.3	17.3	17.3	17.3	17.3	22.6	22.6	22.6	22.6	22.6

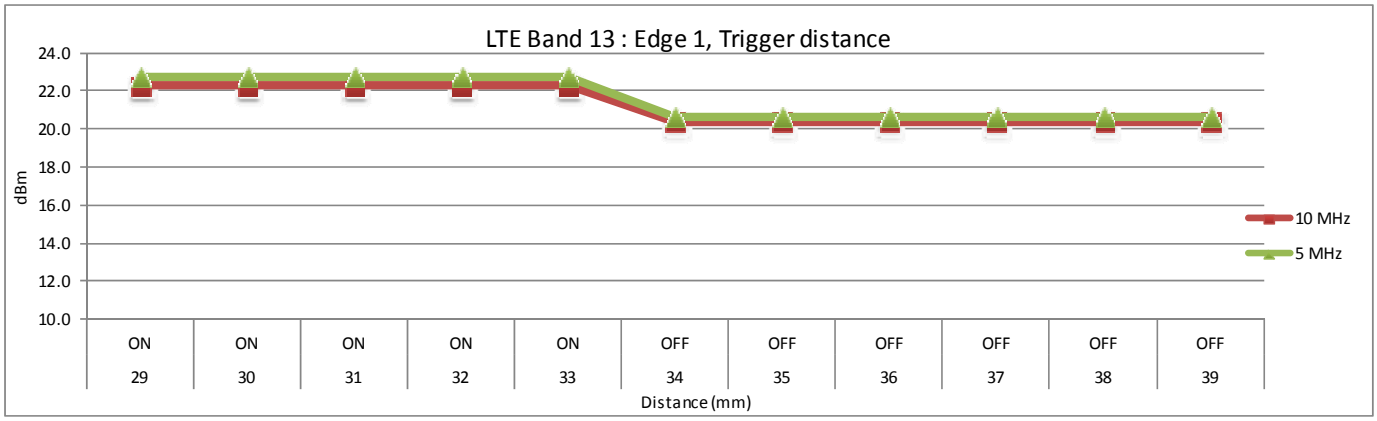


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, LTE Band 5											
Distance (mm):	27	28	29	30	31	32	33	34	35	36	37
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
10 MHz	20.2	20.2	20.2	20.2	20.2	22.3	22.3	22.3	22.3	22.3	22.3
5 MHz	20.3	20.3	20.3	20.3	20.3	22.3	22.3	22.3	22.3	22.3	22.3
3MHz	20.2	20.2	20.2	20.2	20.2	22.3	22.3	22.3	22.3	22.3	22.3
1.4MHz	20.3	20.3	20.3	20.3	20.3	22.2	22.2	22.2	22.2	22.2	22.2

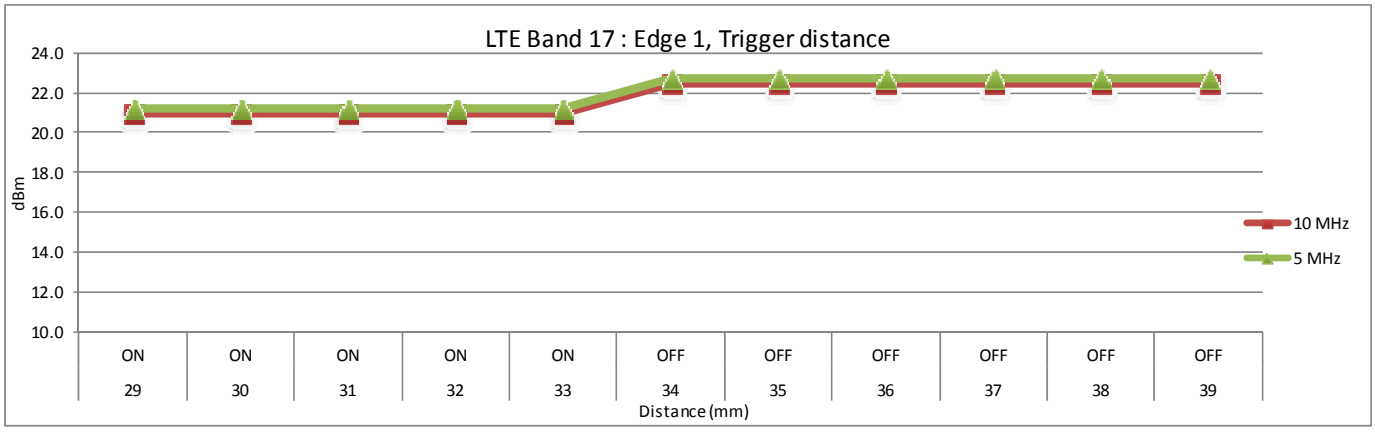


Edge 1, LTE Band 13											
Distance (mm):	29	30	31	32	33	34	35	36	37	38	39
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
10 MHz	22.3	22.3	22.3	22.3	22.3	20.4	20.4	20.4	20.4	20.4	20.4
5 MHz	22.8	22.8	22.8	22.8	22.8	20.7	20.7	20.7	20.7	20.7	20.7

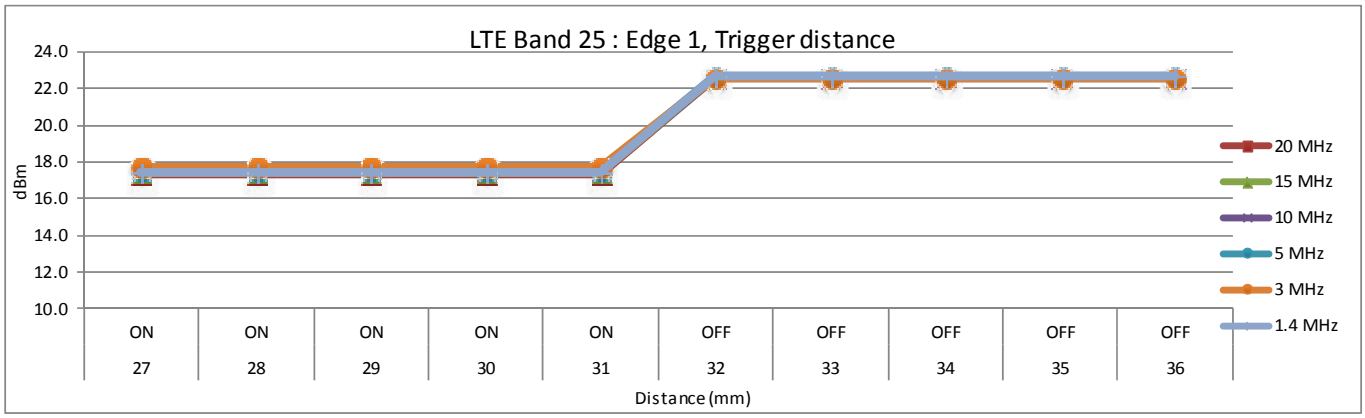


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Edge 1, LTE Band 17											
Distance (mm):	29	30	31	32	33	34	35	36	37	38	39
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
10 MHz	21.0	21.0	21.0	21.0	21.0	22.5	22.5	22.5	22.5	22.5	22.5
5 MHz	21.2	21.2	21.2	21.2	21.2	22.8	22.8	22.8	22.8	22.8	22.8



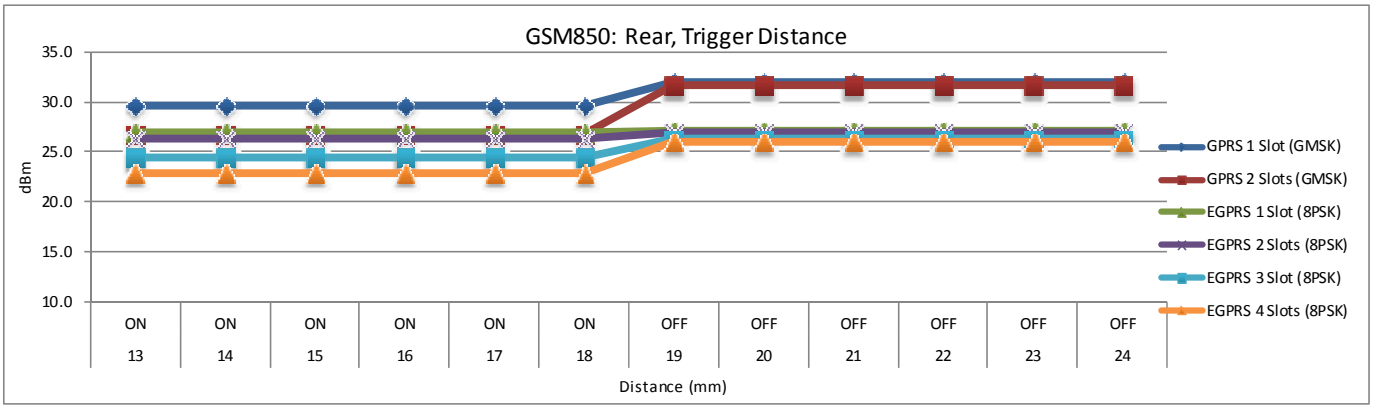
Edge 1, LTE Band 25										
Distance (mm):	27	28	29	30	31	32	33	34	35	36
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
20 MHz	17.3	17.3	17.3	17.3	17.3	22.5	22.5	22.5	22.5	22.5
15 MHz	17.5	17.5	17.5	17.5	17.5	22.6	22.6	22.6	22.6	22.6
10 MHz	17.6	17.6	17.6	17.6	17.6	22.5	22.5	22.5	22.5	22.5
5 MHz	17.6	17.6	17.6	17.6	17.6	22.7	22.7	22.7	22.7	22.7
3 MHz	17.7	17.7	17.7	17.7	17.7	22.6	22.6	22.6	22.6	22.6
1.4 MHz	17.5	17.5	17.5	17.5	17.5	22.7	22.7	22.7	22.7	22.7



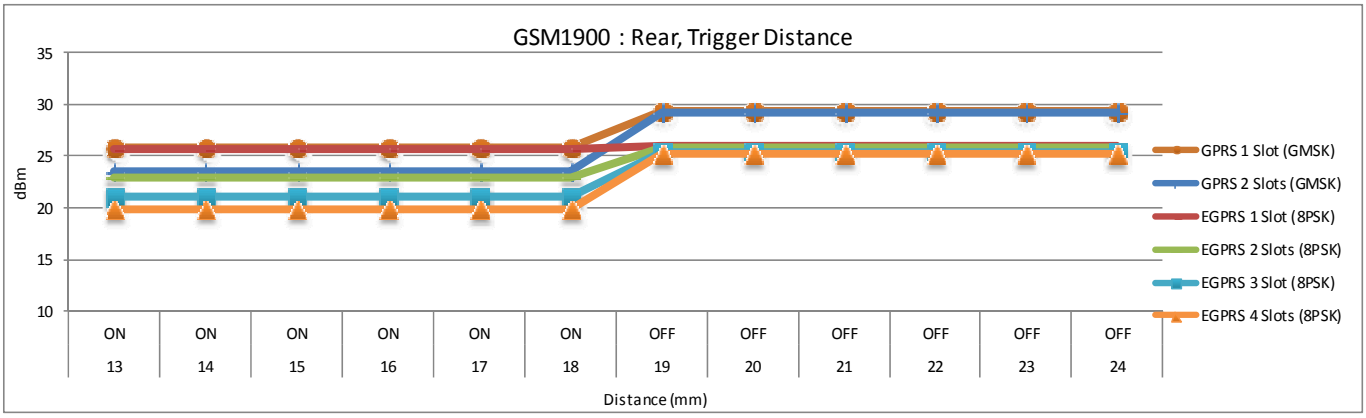
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear

Rear, GSM850												
Distance (mm):	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1 Slot (GMSK)	29.6	29.6	29.6	29.6	29.6	29.6	31.9	31.9	31.9	31.9	31.9	31.9
GPRS 2 Slots (GMSK)	26.8	26.8	26.8	26.8	26.8	26.8	31.7	31.7	31.7	31.7	31.7	31.7
EGPRS 1 Slot (8PSK)	27.0	27.0	27.0	27.0	27.0	27.0	27.1	27.1	27.1	27.1	27.1	27.1
EGPRS 2 Slots (8PSK)	26.3	26.3	26.3	26.3	26.3	26.3	27.0	27.0	27.0	27.0	27.0	27.0
EGPRS 3 Slot (8PSK)	24.4	24.4	24.4	24.4	24.4	24.4	26.4	26.4	26.4	26.4	26.4	26.4
EGPRS 4 Slots (8PSK)	22.8	22.8	22.8	22.8	22.8	22.8	26.0	26.0	26.0	26.0	26.0	26.0

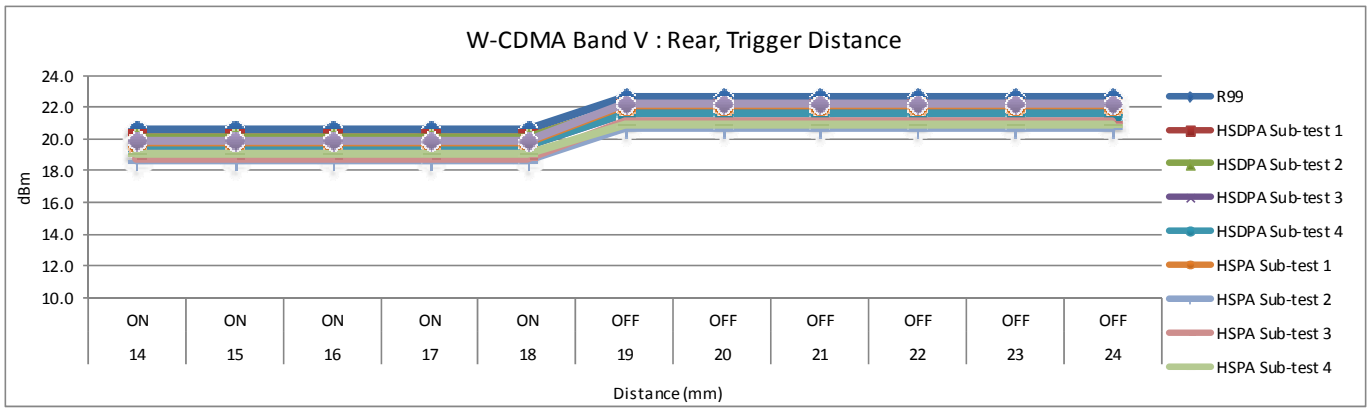


Rear, GSM1900												
Distance (mm):	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
GPRS 1 Slot (GMSK)	25.9	25.9	25.9	25.9	25.9	25.9	29.4	29.4	29.4	29.4	29.4	29.4
GPRS 2 Slots (GMSK)	23.6	23.6	23.6	23.6	23.6	23.6	29.2	29.2	29.2	29.2	29.2	29.2
EGPRS 1 Slot (8PSK)	25.6	25.6	25.6	25.6	25.6	25.6	26.0	26.0	26.0	26.0	26.0	26.0
EGPRS 2 Slots (8PSK)	22.9	22.9	22.9	22.9	22.9	22.9	25.8	25.8	25.8	25.8	25.8	25.8
EGPRS 3 Slot (8PSK)	21.0	21.0	21.0	21.0	21.0	21.0	25.4	25.4	25.4	25.4	25.4	25.4
EGPRS 4 Slots (8PSK)	19.9	19.9	19.9	19.9	19.9	19.9	25.2	25.2	25.2	25.2	25.2	25.2

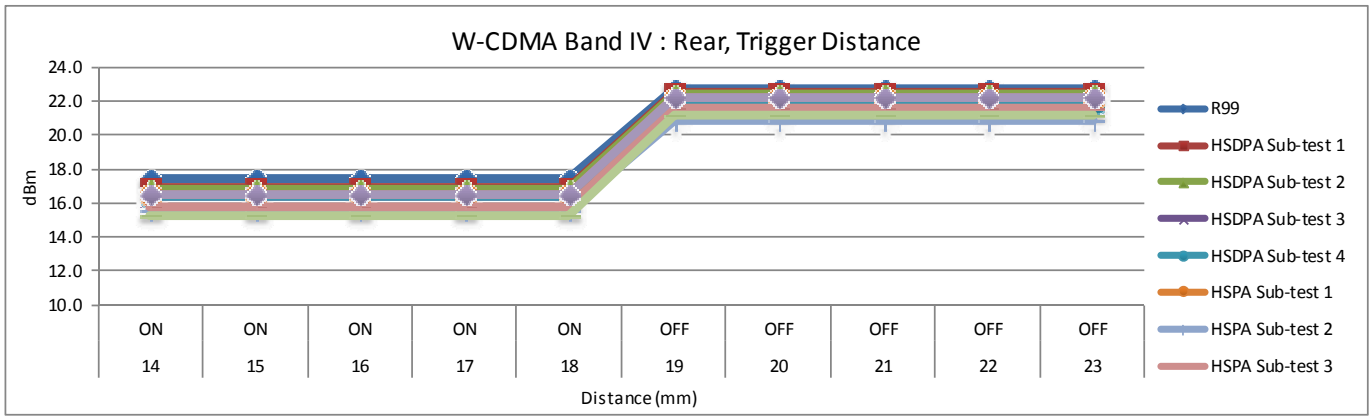


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, W-CDMA Band V											
Distance (mm):	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
R99	20.6	20.6	20.6	20.6	20.6	22.6	22.6	22.6	22.6	22.6	22.6
HSDPA Sub-test 1	20.1	20.1	20.1	20.1	20.1	22.0	22.0	22.0	22.0	22.0	22.0
HSDPA Sub-test 2	20.1	20.1	20.1	20.1	20.1	22.1	22.1	22.1	22.1	22.1	22.1
HSDPA Sub-test 3	19.6	19.6	19.6	19.6	19.6	21.6	21.6	21.6	21.6	21.6	21.6
HSDPA Sub-test 4	19.6	19.6	19.6	19.6	19.6	21.6	21.6	21.6	21.6	21.6	21.6
HSPA Sub-test 1	19.8	19.8	19.8	19.8	19.8	22.1	22.1	22.1	22.1	22.1	22.1
HSPA Sub-test 2	18.7	18.7	18.7	18.7	18.7	20.7	20.7	20.7	20.7	20.7	20.7
HSPA Sub-test 3	18.7	18.7	18.7	18.7	18.7	21.1	21.1	21.1	21.1	21.1	21.1
HSPA Sub-test 4	19.1	19.1	19.1	19.1	19.1	20.9	20.9	20.9	20.9	20.9	20.9
HSPA Sub-test 5	19.8	19.8	19.8	19.8	19.8	22.2	22.2	22.2	22.2	22.2	22.2

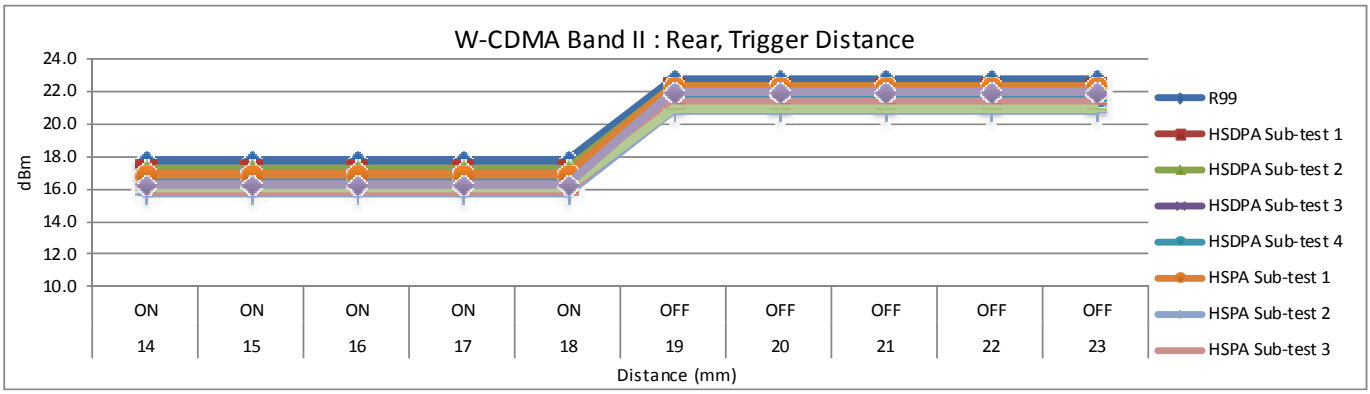


Rear, W-CDMA Band IV										
Distance (mm):	14	15	16	17	18	19	20	21	22	23
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
R99	17.5	17.5	17.5	17.5	17.5	22.7	22.7	22.7	22.7	22.7
HSDPA Sub-test 1	16.9	16.9	16.9	16.9	16.9	22.5	22.5	22.5	22.5	22.5
HSDPA Sub-test 2	16.8	16.8	16.8	16.8	16.8	22.4	22.4	22.4	22.4	22.4
HSDPA Sub-test 3	16.4	16.4	16.4	16.4	16.4	21.9	21.9	21.9	21.9	21.9
HSDPA Sub-test 4	16.4	16.4	16.4	16.4	16.4	21.9	21.9	21.9	21.9	21.9
HSPA Sub-test 1	16.5	16.5	16.5	16.5	16.5	22.2	22.2	22.2	22.2	22.2
HSPA Sub-test 2	15.5	15.5	15.5	15.5	15.5	20.9	20.9	20.9	20.9	20.9
HSPA Sub-test 3	15.8	15.8	15.8	15.8	15.8	21.6	21.6	21.6	21.6	21.6
HSPA Sub-test 4	15.3	15.3	15.3	15.3	15.3	21.1	21.1	21.1	21.1	21.1
HSPA Sub-test 5	16.5	16.5	16.5	16.5	16.5	22.2	22.2	22.2	22.2	22.2



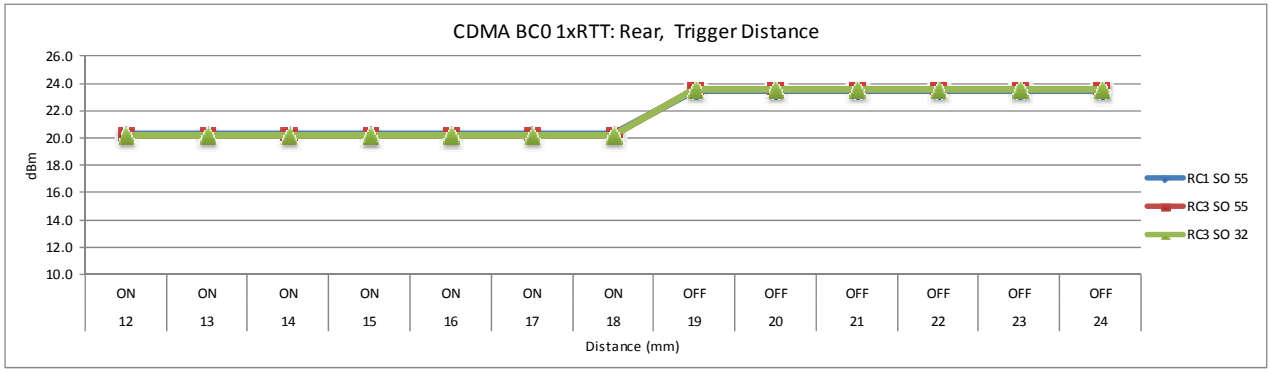
UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, W-CDMA Band II										
Distance (mm):	14	15	16	17	18	19	20	21	22	23
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
R99	17.8	17.8	17.8	17.8	17.8	22.7	22.7	22.7	22.7	22.7
HSDPA Sub-test 1	17.3	17.3	17.3	17.3	17.3	22.3	22.3	22.3	22.3	22.3
HSDPA Sub-test 2	17.2	17.2	17.2	17.2	17.2	22.3	22.3	22.3	22.3	22.3
HSDPA Sub-test 3	16.7	16.7	16.7	16.7	16.7	21.7	21.7	21.7	21.7	21.7
HSDPA Sub-test 4	16.7	16.7	16.7	16.7	16.7	21.7	21.7	21.7	21.7	21.7
HSPA Sub-test 1	16.9	16.9	16.9	16.9	16.9	22.3	22.3	22.3	22.3	22.3
HSPA Sub-test 2	15.7	15.7	15.7	15.7	15.7	20.8	20.8	20.8	20.8	20.8
HSPA Sub-test 3	15.9	15.9	15.9	15.9	15.9	21.3	21.3	21.3	21.3	21.3
HSPA Sub-test 4	16.0	16.0	16.0	16.0	16.0	21.0	21.0	21.0	21.0	21.0
HSPA Sub-test 5	16.3	16.3	16.3	16.3	16.3	22.0	22.0	22.0	22.0	22.0

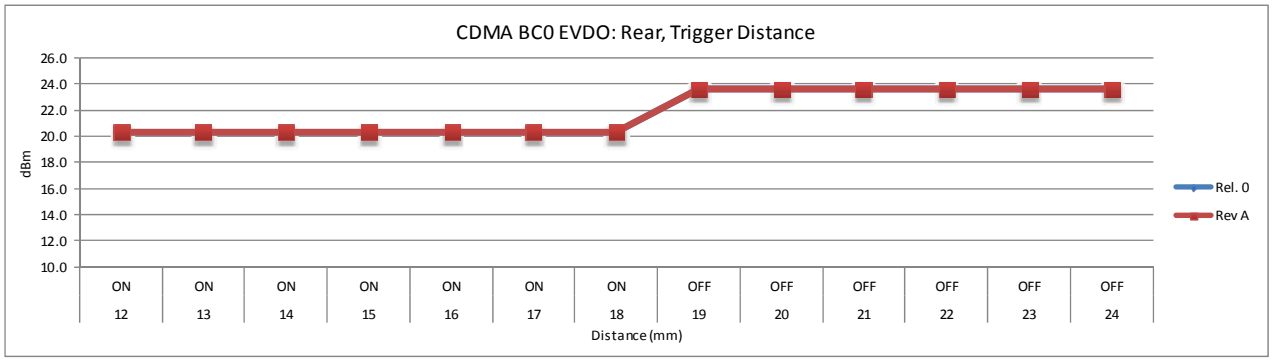


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, CDMA BC0 1xRTT													
Distance (mm):	12	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RC1 SO 55	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.5	23.5	23.5	23.5	23.5	23.5
RC3 SO 55	20.2	20.2	20.2	20.2	20.2	20.2	20.2	23.5	23.5	23.5	23.5	23.5	23.5
RC3 SO 32	20.2	20.2	20.2	20.2	20.2	20.2	20.2	23.5	23.5	23.5	23.5	23.5	23.5

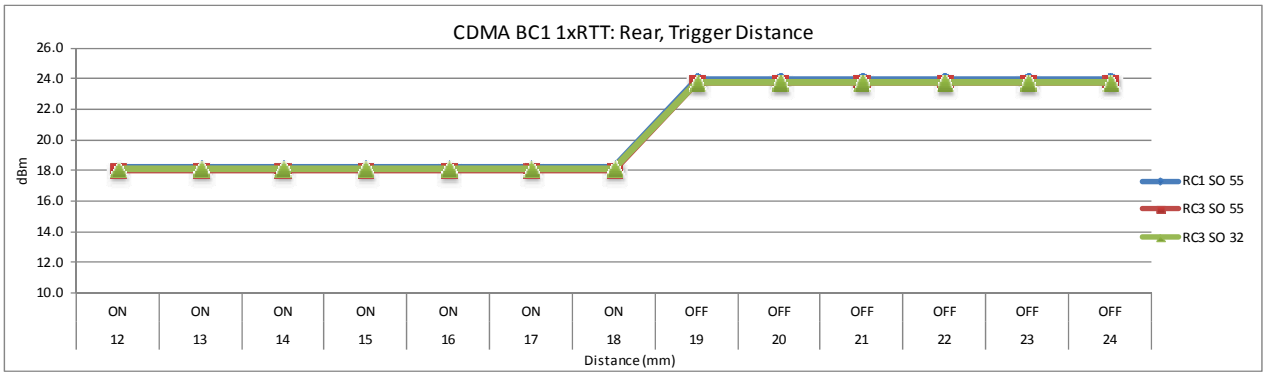


Rear, CDMA BC0 EVDO													
Distance (mm):	12	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Rel. 0	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.6	23.6	23.6	23.6	23.6	23.6
Rev A	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.6	23.6	23.6	23.6	23.6	23.6

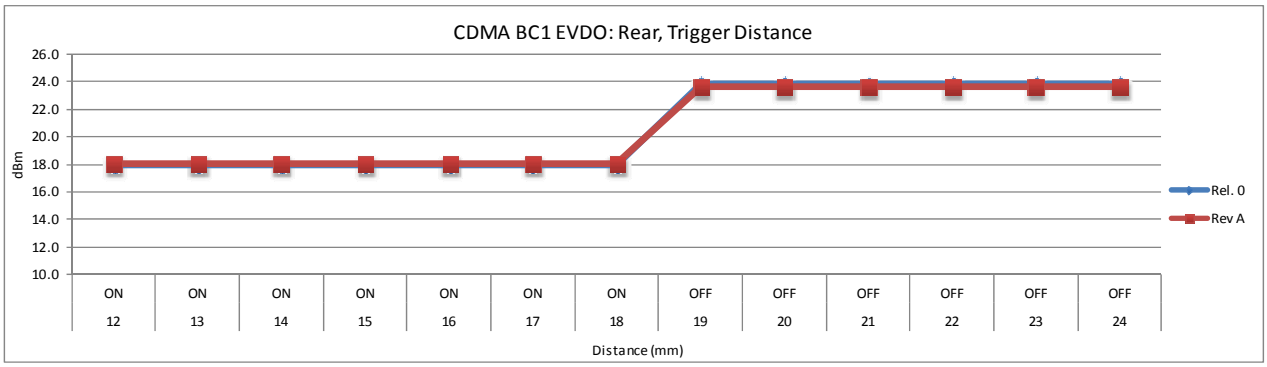


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, CDMA BC1 1xRTT													
Distance (mm):	12	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RC1 SO 55	18.2	18.2	18.2	18.2	18.2	18.2	18.2	23.9	23.9	23.9	23.9	23.9	23.9
RC3 SO 55	18.0	18.0	18.0	18.0	18.0	18.0	18.0	23.7	23.7	23.7	23.7	23.7	23.7
RC3 SO 32	18.1	18.1	18.1	18.1	18.1	18.1	18.1	23.7	23.7	23.7	23.7	23.7	23.7

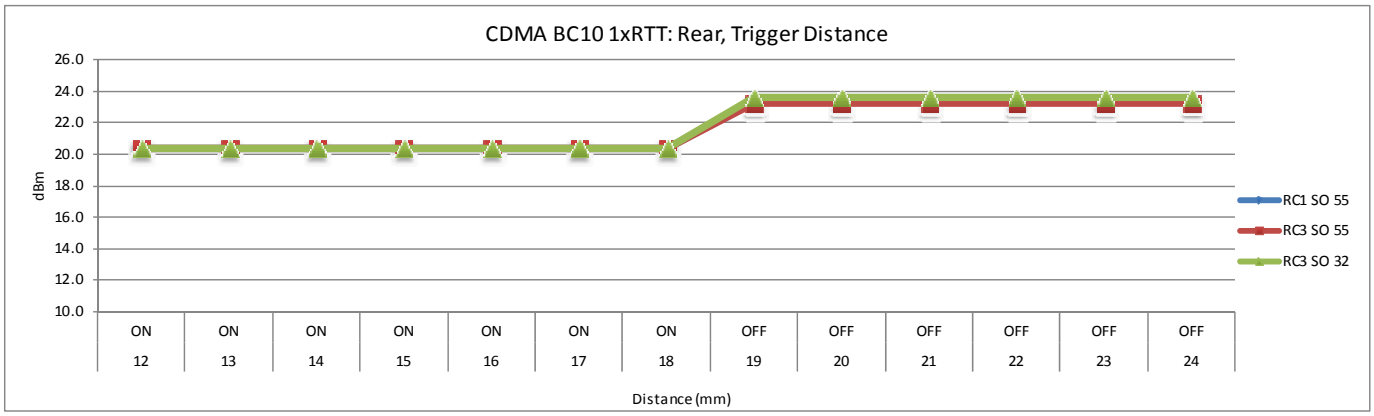


Rear, CDMA BC1 EVDO													
Distance (mm):	12	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Rel. 0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	23.8	23.8	23.8	23.8	23.8	23.8
Rev A	18.0	18.0	18.0	18.0	18.0	18.0	18.0	23.6	23.6	23.6	23.6	23.6	23.6

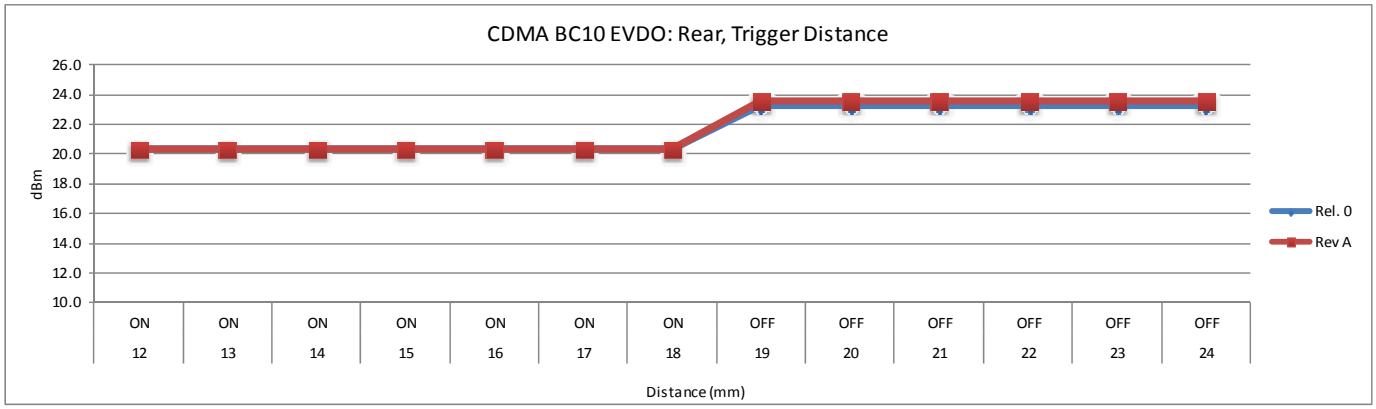


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, CDMA BC10 1xRTT													
Distance (mm):	12	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
RC1 SO 55	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3
RC3 SO 55	20.4	20.4	20.4	20.4	20.4	20.4	20.4	23.3	23.3	23.3	23.3	23.3	23.3
RC3 SO 32	20.4	20.4	20.4	20.4	20.4	20.4	20.4	23.6	23.6	23.6	23.6	23.6	23.6

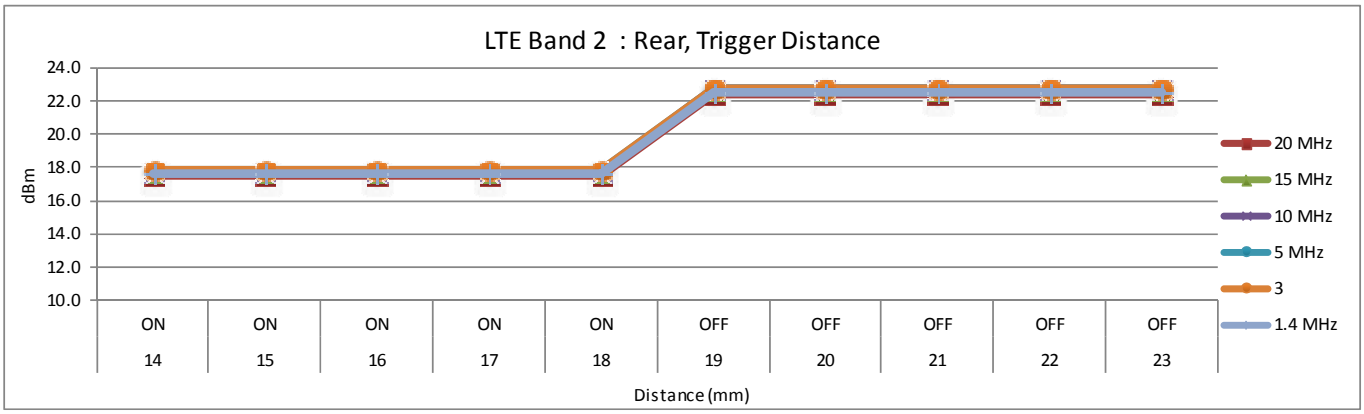


Rear, CDMA BC10 EVDO													
Distance (mm):	12	13	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
Rel. 0	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3
Rev A	20.4	20.4	20.4	20.4	20.4	20.4	20.4	23.6	23.6	23.6	23.6	23.6	23.6

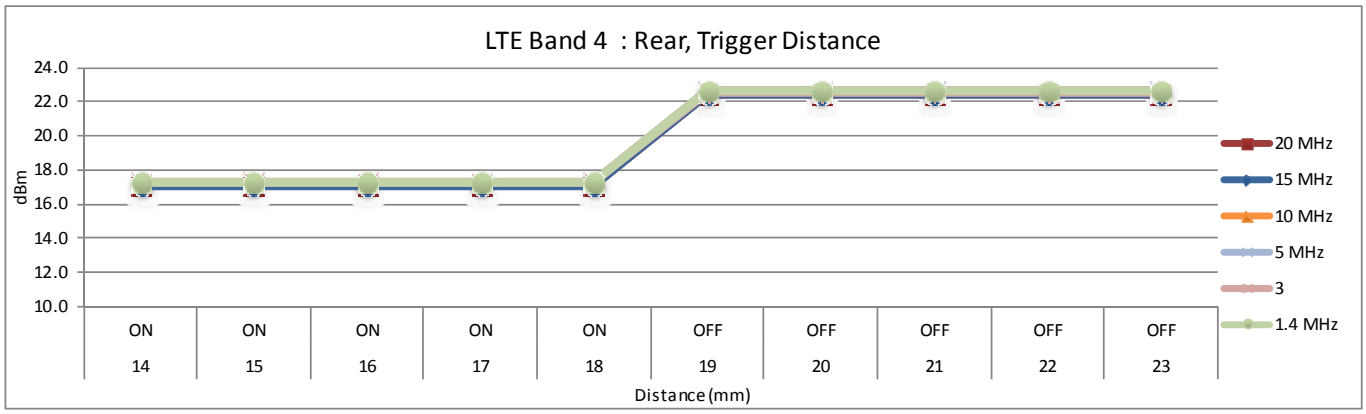


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, LTE Band 2										
Distance (mm):	14	15	16	17	18	19	20	21	22	23
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
20 MHz	17.5	17.5	17.5	17.5	17.5	22.4	22.4	22.4	22.4	22.4
15 MHz	17.7	17.7	17.7	17.7	17.7	22.6	22.6	22.6	22.6	22.6
10 MHz	17.8	17.8	17.8	17.8	17.8	22.7	22.7	22.7	22.7	22.7
5 MHz	17.8	17.8	17.8	17.8	17.8	22.8	22.8	22.8	22.8	22.8
3	17.8	17.8	17.8	17.8	17.8	22.8	22.8	22.8	22.8	22.8
1.4 MHz	17.6	17.6	17.6	17.6	17.6	22.6	22.6	22.6	22.6	22.6

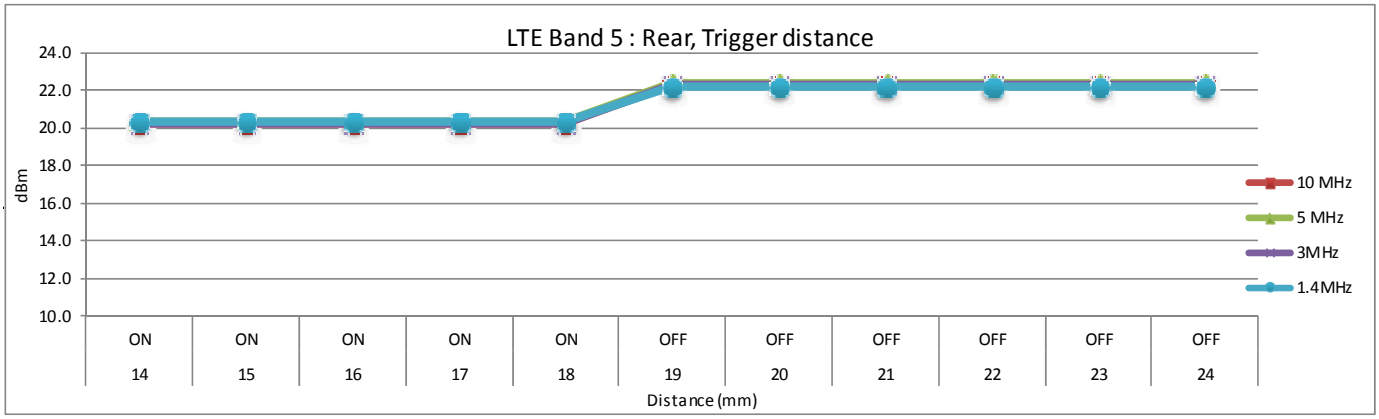


Rear, LTE Band 4										
Distance (mm):	14	15	16	17	18	19	20	21	22	23
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
20 MHz	17.1	17.1	17.1	17.1	17.1	22.5	22.5	22.5	22.5	22.5
15 MHz	17.1	17.1	17.1	17.1	17.1	22.5	22.5	22.5	22.5	22.5
10 MHz	17.3	17.3	17.3	17.3	17.3	22.7	22.7	22.7	22.7	22.7
5 MHz	17.3	17.3	17.3	17.3	17.3	22.6	22.6	22.6	22.6	22.6
3	17.3	17.3	17.3	17.3	17.3	22.6	22.6	22.6	22.6	22.6
1.4 MHz	17.3	17.3	17.3	17.3	17.3	22.6	22.6	22.6	22.6	22.6

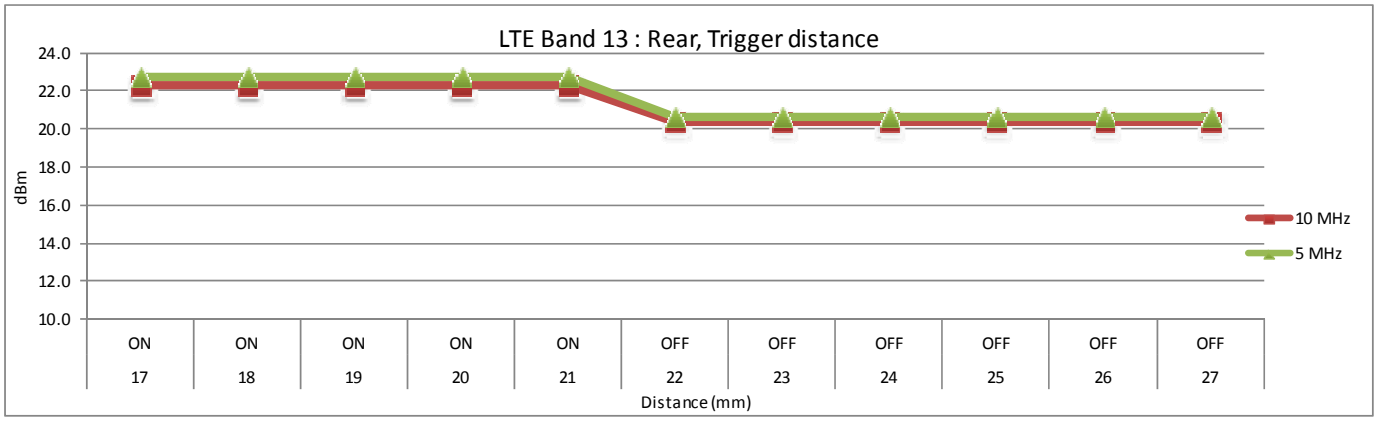


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, LTE Band 5											
Distance (mm):	14	15	16	17	18	19	20	21	22	23	24
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
10 MHz	20.2	20.2	20.2	20.2	20.2	22.3	22.3	22.3	22.3	22.3	22.3
5 MHz	20.3	20.3	20.3	20.3	20.3	22.3	22.3	22.3	22.3	22.3	22.3
3MHz	20.2	20.2	20.2	20.2	20.2	22.3	22.3	22.3	22.3	22.3	22.3
1.4MHz	20.3	20.3	20.3	20.3	20.3	22.2	22.2	22.2	22.2	22.2	22.2

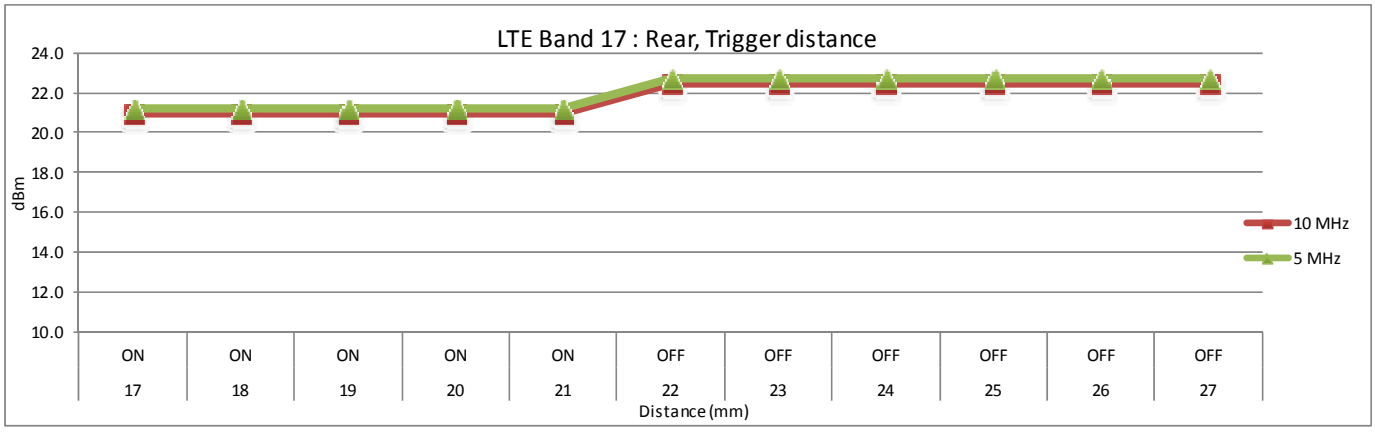


Rear, LTE Band 13											
Distance (mm):	17	18	19	20	21	22	23	24	25	26	27
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
10 MHz	22.3	22.3	22.3	22.3	22.3	20.4	20.4	20.4	20.4	20.4	20.4
5 MHz	22.8	22.8	22.8	22.8	22.8	20.7	20.7	20.7	20.7	20.7	20.7

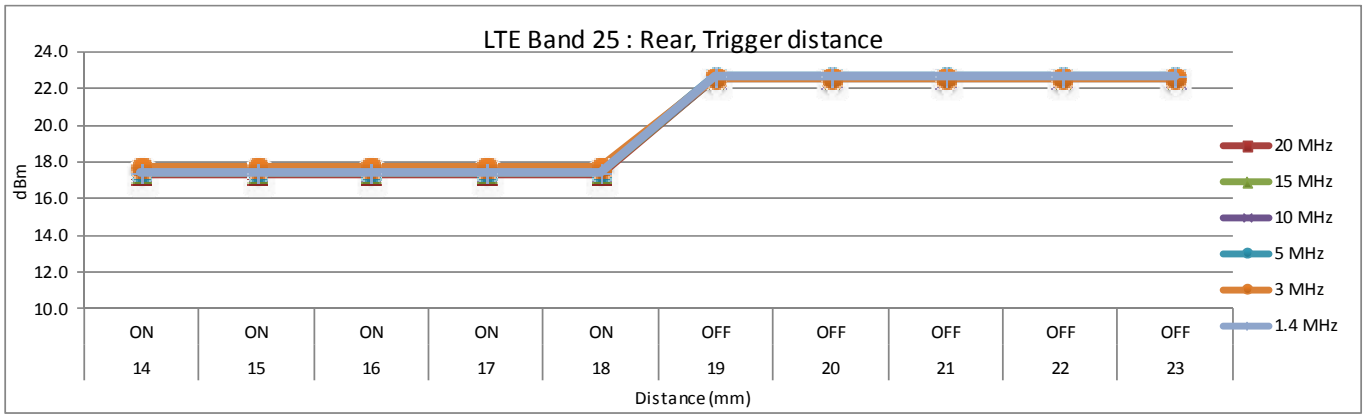


UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Rear, LTE Band 17											
Distance (mm):	17	18	19	20	21	22	23	24	25	26	27
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
10 MHz	21.0	21.0	21.0	21.0	21.0	22.5	22.5	22.5	22.5	22.5	22.5
5 MHz	21.2	21.2	21.2	21.2	21.2	22.8	22.8	22.8	22.8	22.8	22.8



Rear, LTE Band 25										
Distance (mm):	14	15	16	17	18	19	20	21	22	23
Proximity sensor with reduced power activation:	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
20 MHz	17.3	17.3	17.3	17.3	17.3	22.5	22.5	22.5	22.5	22.5
15 MHz	17.5	17.5	17.5	17.5	17.5	22.6	22.6	22.6	22.6	22.6
10 MHz	17.6	17.6	17.6	17.6	17.6	22.5	22.5	22.5	22.5	22.5
5 MHz	17.6	17.6	17.6	17.6	17.6	22.7	22.7	22.7	22.7	22.7
3 MHz	17.7	17.7	17.7	17.7	17.7	22.6	22.6	22.6	22.6	22.6
1.4 MHz	17.5	17.5	17.5	17.5	17.5	22.7	22.7	22.7	22.7	22.7



UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

8. RF Exposure Conditions

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

8.1. Body Exposure Conditions for WWAN

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	7.5 mm	**YES**	A proximity sensor is incorporated at this side that, when triggered, will reduce the transmit power of the WWAN transmitter. As such, two separate sets of evaluations are required for this test position: one with the device operating at a reduced power level and in contact with the phantom, and one with the device operating at full power level and at 13 mm away from the phantom. 13mm is 1 mm less than the closest distance away from an object the device will operate at full power.
Front	-	No	SAR is not required as this is not a typical use scenario
Edge 1	4.9 mm	**YES**	A proximity sensor is incorporated at this edge 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: one with the device operating at a reduced power level and in contact with the phantom, and one with the device operating at full power level and at 20 mm (750MHz), and 21 mm(850 & 1900MHz) away from the phantom. Each distance is 1 mm less than the closest distance away from an object the device will operate at full power.
Edge 2	167.6 mm	No (It does not include GSM850.)	Refer to section 12 for SAR exclusion justification.
Edge 3	185.1 mm	No (It does not include GSM850.)	Refer to section 12 for SAR exclusion justification.
Edge 4	47.0 mm	**YES**	

LEGEND:

- Bottom = Bottom Face
- Edge 1 = Top Edge
- Edge 2 = Left Edge
- Edge 3 = Bottom Edge
- Edge 4 = Right Edge

8.2. Test Configurations for WLAN

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 10258104H, submitted under FCC ID ACJ9TGWL13A.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9. RF Output Power Measurement

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

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.1. GSM850

Target Power for GSM850 32.5 dBm

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

Full Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	31.97	20.73	31.73	23.76				
	190	836.6	31.93	20.73	31.70	23.76				
	251	848.8	31.82	20.72	31.68	23.76				
EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	27.06	18.01	27.04	20.74	26.38	21.77	26.02	22.53
	190	836.6	27.07	17.98	26.96	20.79	26.35	21.77	26.01	22.48
	251	848.8	26.99	17.97	26.92	20.42	26.35	21.76	26.00	22.50

Reduced Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	29.69	19.90	26.76	20.42				
	190	836.6	29.63	19.92	26.80	20.40				
	251	848.8	29.77	20.09	26.88	20.47				
EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
850	128	824.2	26.97	17.81	26.34	20.03	24.37	20.14	22.85	19.54
	190	836.6	26.96	17.84	26.29	19.99	24.43	20.11	22.84	19.56
	251	848.8	26.97	17.85	26.27	20.01	24.38	20.08	22.78	19.56

Notes:

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.2. GSM1900

Target Power for GSM1900 29.5 dBm

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

Full Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	29.43	19.63	29.34	22.76				
	661	1880	29.39	19.75	29.24	22.60				
	810	1909.8	29.17	19.59	29.18	22.58				
EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	25.94	17.68	25.87	19.39	25.52	20.81	25.21	21.67
	661	1880	25.97	17.71	25.77	19.51	25.40	20.93	25.15	21.52
	810	1909.8	25.88	17.18	25.74	19.23	25.35	20.57	25.18	21.53

Reduced Power

Reduced Power

GPRS (GMSK) - Coding Scheme: CS1										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	25.93	16.43	23.74	17.35				
	661	1880	25.86	16.42	23.57	17.08				
	810	1909.8	25.66	16.26	23.62	17.26				
EGPRS (8PSK) - Coding Scheme: MCS5										
Band	Ch No.	f (MHz)	1 Slot Power (dBm)		2 Slot Power (dBm)		3 Slot Power (dBm)		4 Slot Power (dBm)	
			Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg	Burst Avg	Frame Avg
1900	512	1850.2	25.71	16.26	23.03	16.62	21.13	16.53	19.91	16.43
	661	1880	25.62	16.19	22.94	16.50	21.00	16.51	19.89	16.57
	810	1909.8	25.51	16.11	22.87	16.46	20.94	16.36	19.76	16.40

Notes:

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.3. W-CDMA Band V

Target Power for W-CDMA Band V 23 dBm

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

Release 99

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

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

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)	
				Full Power	Reduced Power
W-CDMA (UMTS) Band V	Rel 99 (RMC, 12.2 kbps)	4132	826.4	22.65	20.58
		4183	836.6	22.61	20.60
		4233	846.6	22.67	20.51

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSDPA

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

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

HSDPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
W-CDMA (UMTS) Band V	Subtest 1	4132	826.4	22.04	20.19
		4183	836.6	22.00	20.10
		4233	846.6	22.17	20.08
	Subtest 2	4132	826.4	22.07	20.11
		4183	836.6	22.05	20.10
		4233	846.6	22.18	20.09
	Subtest 3	4132	826.4	21.57	19.60
		4183	836.6	21.62	19.59
		4233	846.6	21.70	19.67
	Subtest 4	4132	826.4	21.56	19.59
		4183	836.6	21.61	19.58
		4233	846.6	21.69	19.67

Note(s):

KDB 941225 D01 – Body SAR is not required for HSDPA when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is < 75% of the SAR limit.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSPA (HSDPA & HSUPA)

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band V	Subtest 1	4132	826.4	22.00	19.78
		4183	836.6	22.12	19.76
		4233	846.6	22.05	19.55
	Subtest 2	4132	826.4	20.66	18.66
		4183	836.6	20.67	18.68
		4233	846.6	20.79	18.50
	Subtest 3	4132	826.4	21.07	18.69
		4183	836.6	21.12	18.71
		4233	846.6	21.30	18.64
	Subtest 4	4132	826.4	20.96	18.93
		4183	836.6	20.90	19.07
		4233	846.6	20.74	18.97
	Subtest 5	4132	826.4	22.06	19.73
		4183	836.6	22.22	19.84
		4233	846.6	22.02	19.61

Note(s):

KDB 941225 D01 – Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.3. W-CDMA Band IV

Target Power for W-CDMA Band IV 23 dBm

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

Release 99

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

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

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)	
				Full Power	Reduced Power
W-CDMA (UMTS) Band IV	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.66	17.35
		1413	1732.6	22.69	17.46
		1513	1752.6	22.61	17.31

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSDPA

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

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

HSDPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
W-CDMA (UMTS) Band IV	Subtest 1	1312	1712.4	22.21	16.91
		1413	1732.6	22.47	16.89
		1513	1752.6	22.20	16.79
	Subtest 2	1312	1712.4	22.20	16.90
		1413	1732.6	22.36	16.84
		1513	1752.6	22.19	16.72
	Subtest 3	1312	1712.4	21.65	16.37
		1413	1732.6	21.85	16.43
		1513	1752.6	21.55	16.30
	Subtest 4	1312	1712.4	21.69	16.36
		1413	1732.6	21.85	16.42
		1513	1752.6	21.55	16.30

Note(s):

KDB 941225 D01 – Body SAR is not required for HSDPA when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is < 75% of the SAR limit.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSPA (HSDPA & HSUPA)

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band IV	Subtest 1	1312	1712.4	22.12	16.51
		1413	1732.6	22.23	16.47
		1513	1752.6	22.20	16.42
	Subtest 2	1312	1712.4	20.63	15.32
		1413	1732.6	20.89	15.51
		1513	1752.6	20.63	15.37
	Subtest 3	1312	1712.4	21.21	15.76
		1413	1732.6	21.61	15.77
		1513	1752.6	21.04	15.52
	Subtest 4	1312	1712.4	20.96	15.34
		1413	1732.6	21.14	15.29
		1513	1752.6	20.76	15.57
	Subtest 5	1312	1712.4	22.11	16.39
		1413	1732.6	22.16	16.49
		1513	1752.6	22.27	16.31

Note(s):

KDB 941225 D01 – Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.4. W-CDMA Band II

Target Power for W-CDMA Band II 23 dBm

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

Release 99

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

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

Release 99 RMC Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr (dBm)	
				Full Power	Reduced Power
W-CDMA (UMTS) Band II	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.75	17.89
		9400	1880.0	22.71	17.76
		9538	1907.6	22.73	17.71

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSDPA

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

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

HSDPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
W-CDMA (UMTS) Band II	Subtest 1	9262	1852.4	22.22	17.14
		9400	1880.0	22.33	17.26
		9538	1907.6	22.29	17.29
	Subtest 2	9262	1852.4	22.19	17.12
		9400	1880.0	22.30	17.24
		9538	1907.6	22.28	17.24
	Subtest 3	9262	1852.4	21.73	16.64
		9400	1880.0	21.71	16.69
		9538	1907.6	21.67	16.72
	Subtest 4	9262	1852.4	21.71	16.67
		9400	1880.0	21.74	16.69
		9538	1907.6	21.73	16.72

Note(s):

KDB 941225 D01 – Body SAR is not required for HSDPA when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is < 75% of the SAR limit.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSPA (HSDPA & HSUPA)

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

HSUPA Output Power Measurement Results

Band	Mode	UL Ch No.	Freq. (MHz)	Avg Pwr	
				Full Power	Reduced Power
WCDMA (UMTS) Band II	Subtest 1	9262	1852.4	22.01	16.66
		9400	1880.0	22.32	16.85
		9538	1907.6	22.12	16.83
	Subtest 2	9262	1852.4	20.79	15.56
		9400	1880.0	20.84	15.74
		9538	1907.6	20.87	15.71
	Subtest 3	9262	1852.4	21.09	15.81
		9400	1880.0	21.30	15.86
		9538	1907.6	21.15	15.98
	Subtest 4	9262	1852.4	21.01	15.95
		9400	1880.0	20.95	16.03
		9538	1907.6	20.99	16.01
	Subtest 5	9262	1852.4	22.13	16.42
		9400	1880.0	22.01	16.31
		9538	1907.6	22.06	16.67

Note(s):

KDB 941225 D01 – Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.5. CDMA BC0

Target Power for CDMA BC0 24 dBm

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

1xRTT Output Power Measurement Results

CDMA			Avg Pwr (dBm)					
			RC1 - SO55		RC3 - SO55		RC3 - SO32	
Band	Ch	Freq. (MHz)	(Loopback)		(Loopback)		(+F-SCH)	
			Full Power	Reduced Power	Full Power	Reduced Power	Full Power	Reduced Power
BC 0	1013	824.70	23.38	20.16	23.44	20.29	23.46	20.37
	384	836.52	23.46	20.25	23.53	20.18	23.53	20.18
	777	848.31	23.49	20.16	23.46	20.14	23.33	20.10

1xEV-DO Rel. 0 Output Power Measurement Results

Band	FTAP Rate	RTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 0	307.2 kbps (2 slot, QPSK)	153.6 kbps	1013	824.70	23.50	20.17
			384	836.52	23.61	20.27
			777	848.31	23.35	20.14

1xEV-DO Rev. A Output Power Measurement Results

Band	FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 0	307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	1013	824.70	23.56	20.21
			384	836.52	23.58	20.32
			777	848.31	23.43	20.20

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.6. CDMA BC1

Target Power for CDMA BC1 24 dBm

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

1xRTT Output Power Measurement Results

CDMA			Avg Pwr (dBm)					
			RC1 - SO55		RC3 - SO55		RC3 - SO32	
Band	Ch	Freq. (MHz)	(Loopback)		(Loopback)		(+F-SCH)	
			Full Power	Reduced Power	Full Power	Reduced Power	Full Power	Reduced Power
BC 1	25	1851.25	23.77	18.27	23.73	18.30	23.69	18.31
	600	1880	23.93	18.18	23.73	18.04	23.73	18.12
	1175	1908.75	23.87	18.21	23.83	18.17	23.82	18.25

1xEV-DO Rel. 0 Output Power Measurement Results

Band	FTAP Rate	RTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 1	307.2 kbps (2 slot, QPSK)	153.6 kbps	25	1851.25	23.72	18.34
			600	1880	23.83	17.99
			1175	1908.75	23.76	18.07

1xEV-DO Rev. A Output Power Measurement Results

Band	FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 1	307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	25	1851.25	23.70	18.16
			600	1880	23.64	18.01
			1175	1908.75	23.77	18.19

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.7. CDMA BC10

Target Power for CDMA BC10 24 dBm

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

1xRTT Output Power Measurement Results

CDMA			Avg Pwr (dBm)					
			RC1 - SO55		RC3 - SO55		RC3 - SO32	
Band	Ch	Freq. (MHz)	(Loopback)		(Loopback)		(+F-SCH)	
			Full Power	Reduced Power	Full Power	Reduced Power	Full Power	Reduced Power
BC 10	450	817.25	23.23	20.33	23.26	20.38	23.42	20.37
	560	820	23.32	20.34	23.25	20.36	23.59	20.41
	670	822.75	23.25	20.30	23.33	20.34	23.39	20.37

1xEV-DO Rel. 0 Output Power Measurement Results

Band	FTAP Rate	RTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 10	307.2 kbps (2 slot, QPSK)	153.6 kbps	450	817.25	23.20	20.33
			560	820.0	23.29	20.34
			670	822.75	23.33	20.34

1xEV-DO Rev. A Output Power Measurement Results

Band	FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	Avg Pwr (dBm)	
					Full Power	Reduced Power
BC 10	307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	450	817.25	23.52	20.23
			560	820.0	23.55	20.36
			670	822.75	23.49	20.33

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.8. LTE Band 2

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

LTE Band 2	
All Bandwidths	23.0 dBm

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

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

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

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

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

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

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

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.47
				1	49	0	0	22.63
				1	99	0	0	22.53
				50	0	1	1	21.38
				50	24	1	1	21.47
				50	49	1	1	21.46
				100	0	1	1	21.49
			16QAM	1	0	1	1	21.78
				1	49	1	1	21.95
				1	99	1	1	21.86
				50	0	2	2	20.55
				50	24	2	2	20.35
				50	49	2	2	20.40
				100	0	2	2	20.40
	18900	1880	QPSK	1	0	0	0	22.39
				1	49	0	0	22.63
				1	99	0	0	22.51
				50	0	1	1	21.49
				50	24	1	1	21.42
				50	49	1	1	21.41
				100	0	1	1	21.47
			16QAM	1	0	1	1	21.63
				1	49	1	1	21.81
				1	99	1	1	21.73
				50	0	2	2	20.43
				50	24	2	2	20.34
				50	49	2	2	20.34
				100	0	2	2	20.37
	19100	1900	QPSK	1	0	0	0	22.50
				1	49	0	0	22.33
				1	99	0	0	22.61
				50	0	1	1	21.31
				50	24	1	1	21.32
				50	49	1	1	21.33
				100	0	1	1	21.34
			16QAM	1	0	1	1	21.71
				1	49	1	1	21.74
				1	99	1	1	21.97
				50	0	2	2	20.38
				50	24	2	2	20.17
				50	49	2	2	20.32
				100	0	2	2	20.35

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.66
				1	49			17.57
				1	99			17.69
				50	0			17.83
				50	24			17.70
				50	49			17.75
				100	0			17.78
			16QAM	1	0			17.84
				1	49			17.95
				1	99			17.84
				50	0			17.68
				50	24			17.66
				50	49			17.63
				100	0			17.68
	18900	1880	QPSK	1	0			17.54
				1	49			17.84
				1	99			17.73
				50	0			17.69
				50	24			17.66
				50	49			17.63
				100	0			17.54
			16QAM	1	0			17.65
				1	49			17.96
				1	99			17.77
				50	0			17.90
				50	24			17.56
				50	49			17.54
				100	0			17.56
	19100	1900	QPSK	1	0			17.66
				1	49			17.49
				1	99			17.71
				50	0			17.50
				50	24			17.40
				50	49			17.54
				100	0			17.54
			16QAM	1	0			17.83
				1	49			17.85
				1	99			17.86
				50	0			17.47
				50	24			17.40
				50	49			17.53
				100	0			17.44

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.66
				1	37	0	0	22.74
				1	74	0	0	22.71
				36	0	1	1	21.65
				36	19	1	1	21.74
				36	39	1	1	21.73
				75	0	1	1	21.55
			16QAM	1	0	1	1	21.78
				1	37	1	1	21.99
				1	74	1	1	22.10
				36	0	2	2	20.76
				36	19	2	2	20.67
				36	39	2	2	20.66
				75	0	2	2	20.67
	18900	1880	QPSK	1	0	0	0	22.59
				1	37	0	0	22.77
				1	74	0	0	22.57
				36	0	1	1	21.62
				36	19	1	1	21.57
				36	39	1	1	21.57
				75	0	1	1	21.56
			16QAM	1	0	1	1	21.89
				1	37	1	1	22.05
				1	74	1	1	21.92
				36	0	2	2	20.68
				36	19	2	2	20.57
				36	39	2	2	20.55
				75	0	2	2	20.44
	19125	1902.5	QPSK	1	0	0	0	22.40
				1	37	0	0	22.61
				1	74	0	0	22.76
				36	0	1	1	21.37
				36	19	1	1	21.44
				36	39	1	1	21.55
				75	0	1	1	21.39
			16QAM	1	0	1	1	21.68
				1	37	1	1	21.93
				1	74	1	1	22.01
				36	0	2	2	20.40
				36	19	2	2	20.40
				36	39	2	2	20.48
				75	0	2	2	20.44

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.69
				1	37			17.86
				1	74			17.84
				36	0			17.71
				36	19			17.75
				36	39			17.74
				75	0			17.69
			16QAM	1	0			17.79
				1	37			17.96
				1	74			17.90
				36	0			17.78
				36	19			17.79
				36	39			17.77
				75	0			17.73
	18900	1880	QPSK	1	0			17.68
				1	37			17.84
				1	74			17.67
				36	0			17.68
				36	19			17.61
				36	39			17.60
				75	0			17.54
			16QAM	1	0			17.76
				1	37			17.94
				1	74			17.73
				36	0			17.70
				36	19			17.66
				36	39			17.60
				75	0			17.58
	19125	1902.5	QPSK	1	0			17.51
				1	37			17.62
				1	74			17.73
				36	0			17.42
				36	19			17.53
				36	39			17.57
				75	0			17.49
			16QAM	1	0			17.58
				1	37			17.74
				1	74			17.86
				36	0			17.44
				36	19			17.54
				36	39			17.64
				75	0			17.49

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.56
				1	24	0	0	22.71
				1	49	0	0	22.70
				25	0	1	1	21.73
				25	12	1	1	21.72
				25	24	1	1	21.76
				50	0	1	1	21.71
			16QAM	1	0	1	1	21.82
				1	24	1	1	22.01
				1	49	1	1	21.93
				25	0	2	2	20.68
				25	12	2	2	20.78
				25	24	2	2	20.71
				50	0	2	2	20.60
	18900	1880	QPSK	1	0	0	0	22.68
				1	24	0	0	22.69
				1	49	0	0	22.55
				25	0	1	1	21.82
				25	12	1	1	21.77
				25	24	1	1	21.66
				50	0	1	1	21.49
			16QAM	1	0	1	1	21.85
				1	24	1	1	21.95
				1	49	1	1	21.76
				25	0	2	2	20.71
				25	12	2	2	20.72
				25	24	2	2	20.61
				50	0	2	2	20.48
	19150	1905	QPSK	1	0	0	0	22.32
				1	24	0	0	22.54
				1	49	0	0	22.58
				25	0	1	1	21.59
				25	12	1	1	21.62
				25	24	1	1	21.54
				50	0	1	1	21.52
			16QAM	1	0	1	1	21.53
				1	24	1	1	21.71
				1	49	1	1	21.90
				25	0	2	2	20.71
				25	12	2	2	20.61
				25	24	2	2	20.50
				50	0	2	2	20.42

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.59
				1	24			17.76
				1	49			17.71
				25	0			17.80
				25	12			17.81
				25	24			17.83
				50	0			17.62
			16QAM	1	0			17.79
				1	24			17.90
				1	49			17.89
				25	0			17.98
				25	12			17.87
				25	24			17.80
				50	0			17.61
	18900	1880	QPSK	1	0			17.75
				1	24			17.84
				1	49			17.68
				25	0			17.79
				25	12			17.86
				25	24			17.71
				50	0			17.60
			16QAM	1	0			17.93
				1	24			17.94
				1	49			17.79
				25	0			17.78
				25	12			17.76
				25	24			17.65
				50	0			17.62
	19150	1905	QPSK	1	0			17.43
				1	24			17.65
				1	49			17.74
				25	0			17.66
				25	12			17.69
				25	24			17.60
				50	0			17.51
			16QAM	1	0			17.92
				1	24			17.81
				1	49			17.90
				25	0			17.66
				25	12			17.72
				25	24			17.64
				50	0			17.52

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.62
				1	12	0	0	22.87
				1	24	0	0	22.78
				12	0	1	1	21.73
				12	6	1	1	21.68
				12	11	1	1	21.75
				25	0	1	1	21.64
			16QAM	1	0	1	1	21.74
				1	12	1	1	21.88
				1	24	1	1	21.80
				12	0	2	2	20.69
				12	6	2	2	20.77
				12	11	2	2	20.73
				25	0	2	2	20.64
	18900	1880	QPSK	1	0	0	0	22.76
				1	12	0	0	22.77
				1	24	0	0	22.64
				12	0	1	1	21.74
				12	6	1	1	21.81
				12	11	1	1	21.69
				25	0	1	1	21.68
			16QAM	1	0	1	1	21.92
				1	12	1	1	22.07
				1	24	1	1	21.84
				12	0	2	2	20.78
				12	6	2	2	20.77
				12	11	2	2	20.66
				25	0	2	2	20.75
	19175	1907.5	QPSK	1	0	0	0	22.57
				1	12	0	0	22.76
				1	24	0	0	22.91
				12	0	1	1	21.72
				12	6	1	1	21.59
				12	11	1	1	21.63
				25	0	1	1	21.51
			16QAM	1	0	1	1	21.72
				1	12	1	1	21.70
				1	24	1	1	21.82
				12	0	2	2	20.76
				12	6	2	2	20.64
				12	11	2	2	20.62
				25	0	2	2	20.51

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.64
				1	12			17.79
				1	24			17.70
				12	0			17.73
				12	6			17.78
				12	11			17.85
				25	0			17.76
			16QAM	1	0			17.80
				1	12			17.92
				1	24			17.84
				12	0			17.77
				12	6			17.75
				12	11			17.81
				25	0			17.71
	18900	1880	QPSK	1	0			17.79
				1	12			17.96
				1	24			17.99
				12	0			17.76
				12	6			17.80
				12	11			17.63
				25	0			17.64
			16QAM	1	0			17.96
				1	12			17.99
				1	24			17.90
				12	0			17.79
				12	6			17.82
				12	11			17.71
				25	0			17.70
	19175	1907.5	QPSK	1	0			17.59
				1	12			17.67
				1	24			17.81
				12	0			17.61
				12	6			17.66
				12	11			17.74
				25	0			17.53
			16QAM	1	0			17.79
				1	12			17.87
				1	24			17.93
				12	0			17.66
				12	6			17.67
				12	11			17.68
				25	0			17.52

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.57
				1	14	0	0	22.77
				8	0	1	1	21.59
				8	4	1	1	21.55
				8	7	1	1	21.71
				15	0	1	1	21.54
			16QAM	1	0	1	1	21.83
				1	7	1	1	21.80
				1	14	1	1	21.96
				8	0	2	2	20.55
				8	4	2	2	20.57
				8	7	2	2	20.59
				15	0	2	2	20.67
	18900	1880	QPSK	1	0	0	0	22.75
				1	7	0	0	22.73
				1	14	0	0	22.46
				8	0	1	1	21.72
				8	4	1	1	21.69
				8	7	1	1	21.66
				15	0	1	1	21.74
			16QAM	1	0	1	1	21.34
				1	7	1	1	21.33
				1	14	1	1	21.33
				8	0	2	2	20.71
				8	4	2	2	20.77
				8	7	2	2	20.57
				15	0	2	2	20.59
	19184	1908.4	QPSK	1	0	0	0	22.43
				1	7	0	0	22.55
				1	14	0	0	22.64
				8	0	1	1	21.60
				8	4	1	1	21.66
				8	7	1	1	21.70
				15	0	1	1	21.61
			16QAM	1	0	1	1	21.52
				1	7	1	1	21.30
				1	14	1	1	21.41
				8	0	2	2	20.53
				8	4	2	2	20.72
				8	7	2	2	20.77
				15	0	2	2	20.57

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.80
				1	7			17.75
				1	14			17.69
				8	0			17.72
				8	4			17.69
				8	7			17.70
				15	0			17.81
			16QAM	1	0			17.76
				1	7			17.87
				1	14			17.91
				8	0			17.63
				8	4			17.70
				8	7			17.73
				15	0			17.77
	18900	1880	QPSK	1	0			17.81
				1	7			17.70
				1	14			17.70
				8	0			17.69
				8	4			17.65
				8	7			17.66
				15	0			17.77
			16QAM	1	0			17.71
				1	7			17.85
				1	14			17.92
				8	0			17.60
				8	4			17.73
				8	7			17.71
				15	0			17.72
	19184	1908.4	QPSK	1	0			17.81
				1	7			17.70
				1	14			17.66
				8	0			17.71
				8	4			17.66
				8	7			17.77
				15	0			17.80
			16QAM	1	0			17.71
				1	7			17.82
				1	14			17.90
				8	0			17.60
				8	4			17.71
				8	7			17.76
				15	0			17.75

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.58
				1	2	0	0	22.55
				1	5	0	0	22.55
				3	0	0	0	22.59
				3	1	0	0	22.54
				3	3	0	0	22.65
				6	0	1	1	21.61
			16QAM	1	0	1	1	21.85
				1	2	1	1	21.86
				1	5	1	1	21.80
				3	0	1	1	21.57
				3	1	1	1	21.61
				3	3	1	1	21.59
				6	0	2	2	20.44
	18900	1880	QPSK	1	0	0	0	22.55
				1	2	0	0	22.57
				1	5	0	0	22.53
				3	0	0	0	22.51
				3	1	0	0	22.56
				3	3	0	0	22.62
				6	0	1	1	21.60
			16QAM	1	0	1	1	21.78
				1	2	1	1	21.81
				1	5	1	1	21.81
				3	0	1	1	21.60
				3	1	1	1	21.55
				3	3	1	1	21.52
				6	0	2	2	20.32
	19192	1909.2	QPSK	1	0	0	0	22.56
				1	2	0	0	22.53
				1	5	0	0	22.51
				3	0	0	0	22.54
				3	1	0	0	22.51
				3	3	0	0	22.66
				6	0	1	1	21.67
			16QAM	1	0	1	1	21.85
				1	2	1	1	21.86
				1	5	1	1	21.82
				3	0	1	1	21.58
				3	1	1	1	21.60
				3	3	1	1	21.59
				6	0	2	2	20.47

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.65
				1	2			17.66
				1	5			17.70
				3	0			17.68
				3	1			17.64
				3	3			17.70
				6	0			17.66
			16QAM	1	0			17.82
				1	2			17.81
				1	5			17.97
				3	0			17.69
				3	1			17.67
				3	3			17.66
				6	0			17.48
	18900	1880	QPSK	1	0			17.61
				1	2			17.67
				1	5			17.69
				3	0			17.70
				3	1			17.66
				3	3			17.71
				6	0			17.62
			16QAM	1	0			17.83
				1	2			17.81
				1	5			17.97
				3	0			17.70
				3	1			17.69
				3	3			17.65
				6	0			17.58
	19192	1909.2	QPSK	1	0			17.62
				1	2			17.60
				1	5			17.69
				3	0			17.70
				3	1			17.68
				3	3			17.74
				6	0			17.69
			16QAM	1	0			17.83
				1	2			17.84
				1	5			17.97
				3	0			17.67
				3	1			17.63
				3	3			17.61
				6	0			17.49

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.9. LTE Band 4

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

LTE Band 4	
All Bandwidths	23.0 dBm

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

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

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

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

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

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

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

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

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	22.57
				1	49	0	0	22.77
				1	99	0	0	22.71
				50	0	1	1	21.59
				50	24	1	1	21.65
				50	49	1	1	21.62
				100	0	1	1	21.56
			16QAM	1	0	1	1	21.77
				1	49	1	1	22.05
				1	99	1	1	21.99
				50	0	2	2	20.57
				50	24	2	2	20.57
				50	49	2	2	20.55
				100	0	2	2	20.56
	20175	1732.5	QPSK	1	0	0	0	22.48
				1	49	0	0	22.60
				1	99	0	0	22.61
				50	0	1	1	21.56
				50	24	1	1	21.48
				50	49	1	1	21.51
				100	0	1	1	21.52
			16QAM	1	0	1	1	21.80
				1	49	1	1	21.89
				1	99	1	1	21.82
				50	0	2	2	20.40
				50	24	2	2	20.48
				50	49	2	2	20.42
				100	0	2	2	20.46
	20300	1745	QPSK	1	0	0	0	22.58
				1	49	0	0	22.63
				1	99	0	0	22.70
				50	0	1	1	21.59
				50	24	1	1	21.56
				50	49	1	1	21.48
				100	0	1	1	21.53
			16QAM	1	0	1	1	21.89
				1	49	1	1	21.85
				1	99	1	1	21.93
				50	0	2	2	20.45
				50	24	2	2	20.47
				50	49	2	2	20.46
				100	0	2	2	20.53

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.17
				1	49			17.31
				1	99			17.32
				50	0			17.16
				50	24			17.25
				50	49			17.24
				100	0			17.19
			16QAM	1	0			17.29
				1	49			17.44
				1	99			17.49
				50	0			17.15
				50	24			17.17
				50	49			17.15
				100	0			17.16
	20175	1732.5	QPSK	1	0			17.12
				1	49			17.26
				1	99			17.26
				50	0			17.16
				50	24			17.23
				50	49			17.18
				100	0			17.13
			16QAM	1	0			17.22
				1	49			17.49
				1	99			17.49
				50	0			17.28
				50	24			17.10
				50	49			17.10
				100	0			17.28
	20300	1745	QPSK	1	0			17.44
				1	49			17.35
				1	99			17.33
				50	0			17.21
				50	24			17.23
				50	49			17.21
				100	0			17.26
			16QAM	1	0			17.39
				1	49			17.49
				1	99			17.49
				50	0			17.20
				50	24			17.19
				50	49			17.39
				100	0			17.22

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.57
				1	37	0	0	22.77
				1	74	0	0	22.71
				36	0	1	1	21.59
				36	19	1	1	21.65
				36	39	1	1	21.62
				75	0	1	1	21.56
			16QAM	1	0	1	1	21.77
				1	37	1	1	22.05
				1	74	1	1	21.99
				36	0	2	2	20.57
				36	19	2	2	20.57
				36	39	2	2	20.55
				75	0	2	2	20.56
	20175	1732.5	QPSK	1	0	0	0	22.48
				1	37	0	0	22.60
				1	74	0	0	22.61
				36	0	1	1	21.56
				36	19	1	1	21.48
				36	39	1	1	21.51
				75	0	1	1	21.52
			16QAM	1	0	1	1	21.80
				1	37	1	1	21.89
				1	74	1	1	21.82
				36	0	2	2	20.40
				36	19	2	2	20.48
				36	39	2	2	20.42
				75	0	2	2	20.46
	20325	1747.5	QPSK	1	0	0	0	22.58
				1	37	0	0	22.63
				1	74	0	0	22.70
				36	0	1	1	21.59
				36	19	1	1	21.56
				36	39	1	1	21.48
				75	0	1	1	21.53
			16QAM	1	0	1	1	21.89
				1	37	1	1	21.85
				1	74	1	1	21.93
				36	0	2	2	20.45
				36	19	2	2	20.47
				36	39	2	2	20.46
				75	0	2	2	20.53

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.17
				1	37			17.31
				1	74			17.32
				36	0			17.16
				36	19			17.25
				36	39			17.24
				75	0			17.19
			16QAM	1	0			17.29
				1	37			17.44
				1	74			17.70
				36	0			17.15
				36	19			17.17
				36	39			17.15
				75	0			17.16
	20175	1732.5	QPSK	1	0			17.12
				1	37			17.26
				1	74			17.26
				36	0			17.16
				36	19			17.23
				36	39			17.18
				75	0			17.13
			16QAM	1	0			17.22
				1	37			17.42
				1	74			17.47
				36	0			17.28
				36	19			17.10
				36	39			17.10
				75	0			17.28
	20325	1747.5	QPSK	1	0			17.44
				1	37			17.35
				1	74			17.33
				36	0			17.21
				36	19			17.23
				36	39			17.21
				75	0			17.26
			16QAM	1	0			17.39
				1	37			17.40
				1	74			17.44
				36	0			17.20
				36	19			17.19
				36	39			17.39
				75	0			17.22

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.65
				1	24	0	0	22.78
				1	49	0	0	22.75
				25	0	1	1	21.70
				25	12	1	1	21.79
				25	24	1	1	21.79
				50	0	1	1	21.68
			16QAM	1	0	1	1	21.87
				1	24	1	1	22.05
				1	49	1	1	22.05
				25	0	2	2	20.88
				25	12	2	2	20.73
				25	24	2	2	20.80
				50	0	2	2	20.62
	20175	1732.5	QPSK	1	0	0	0	22.67
				1	24	0	0	22.72
				1	49	0	0	22.69
				25	0	1	1	21.72
				25	12	1	1	21.61
				25	24	1	1	21.73
				50	0	1	1	21.62
			16QAM	1	0	1	1	22.02
				1	24	1	1	21.90
				1	49	1	1	22.00
				25	0	2	2	20.77
				25	12	2	2	20.64
				25	24	2	2	20.66
				50	0	2	2	20.48
	20350	1750	QPSK	1	0	0	0	22.69
				1	24	0	0	22.59
				1	49	0	0	22.60
				25	0	1	1	21.64
				25	12	1	1	21.64
				25	24	1	1	21.47
				50	0	1	1	21.52
			16QAM	1	0	1	1	21.83
				1	24	1	1	21.90
				1	49	1	1	21.99
				25	0	2	2	20.79
				25	12	2	2	20.68
				25	24	2	2	20.57
				50	0	2	2	20.52

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.23
				1	24			17.35
				1	49			17.36
				25	0			17.23
				25	12			17.26
				25	24			17.28
				50	0			17.21
			16QAM	1	0			17.27
				1	24			17.41
				1	49			17.49
				25	0			17.43
				25	12			17.26
				25	24			17.28
				50	0			17.34
	20175	1732.5	QPSK	1	0			17.31
				1	24			17.26
				1	49			17.30
				25	0			17.32
				25	12			17.18
				25	24			17.31
				50	0			17.19
			16QAM	1	0			17.40
				1	24			17.43
				1	49			17.44
				25	0			17.30
				25	12			17.23
				25	24			17.49
				50	0			17.19
	20350	1750	QPSK	1	0			17.29
				1	24			17.33
				1	49			17.31
				25	0			17.25
				25	12			17.24
				25	24			17.16
				50	0			17.16
			16QAM	1	0			17.47
				1	24			17.41
				1	49			17.42
				25	0			17.23
				25	12			17.23
				25	24			17.27
				50	0			17.37

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.69
				1	12	0	0	22.94
				1	24	0	0	22.96
				12	0	1	1	21.88
				12	6	1	1	21.77
				12	11	1	1	21.79
				25	0	1	1	21.76
			16QAM	1	0	1	1	21.79
				1	12	1	1	21.91
				1	24	1	1	21.91
				12	0	2	2	20.78
				12	6	2	2	20.84
				12	11	2	2	20.82
				25	0	2	2	20.74
	20175	1732.5	QPSK	1	0	0	0	22.60
				1	12	0	0	22.75
				1	24	0	0	22.78
				12	0	1	1	21.73
				12	6	1	1	21.73
				12	11	1	1	21.64
				25	0	1	1	21.66
			16QAM	1	0	1	1	21.71
				1	12	1	1	21.80
				1	24	1	1	21.85
				12	0	2	2	20.67
				12	6	2	2	20.71
				12	11	2	2	20.70
				25	0	2	2	20.62
	20375	1752.5	QPSK	1	0	0	0	22.73
				1	12	0	0	22.66
				1	24	0	0	22.80
				12	0	1	1	21.77
				12	6	1	1	21.66
				12	11	1	1	21.64
				25	0	1	1	21.69
			16QAM	1	0	1	1	21.82
				1	12	1	1	21.74
				1	24	1	1	21.92
				12	0	2	2	20.66
				12	6	2	2	20.68
				12	11	2	2	20.67
				25	0	2	2	20.58

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.27
				1	12			17.40
				1	24			17.40
				12	0			17.35
				12	6			17.34
				12	11			17.39
				25	0			17.29
			16QAM	1	0			17.44
				1	12			17.45
				1	24			17.49
				12	0			17.35
				12	6			17.34
				12	11			17.38
				25	0			17.30
	20175	1732.5	QPSK	1	0			17.29
				1	12			17.33
				1	24			17.35
				12	0			17.28
				12	6			17.27
				12	11			17.30
				25	0			17.29
			16QAM	1	0			17.39
				1	12			17.46
				1	24			17.48
				12	0			17.28
				12	6			17.36
				12	11			17.34
				25	0			17.24
	20375	1752.5	QPSK	1	0			17.33
				1	12			17.24
				1	24			17.30
				12	0			17.22
				12	6			17.26
				12	11			17.26
				25	0			17.18
			16QAM	1	0			17.48
				1	12			17.48
				1	24			17.43
				12	0			17.28
				12	6			17.27
				12	11			17.32
				25	0			17.17

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.54
				1	7	0	0	22.55
				1	14	0	0	22.66
				8	0	1	1	21.59
				8	4	1	1	21.59
				8	7	1	1	21.61
				15	0	1	1	21.66
			16QAM	1	0	1	1	21.82
				1	7	1	1	21.97
				1	14	1	1	21.98
				8	0	2	2	20.61
				8	4	2	2	20.59
				8	7	2	2	20.62
				15	0	2	2	20.71
	20175	1732.5	QPSK	1	0	0	0	22.55
				1	7	0	0	22.58
				1	14	0	0	22.68
				8	0	1	1	21.60
				8	4	1	1	21.61
				8	7	1	1	21.63
				15	0	1	1	21.68
			16QAM	1	0	1	1	21.84
				1	7	1	1	21.96
				1	14	1	1	21.95
				8	0	2	2	20.59
				8	4	2	2	20.57
				8	7	2	2	20.63
				15	0	2	2	20.73
	20384	1753.4	QPSK	1	0	0	0	22.54
				1	7	0	0	22.53
				1	14	0	0	22.66
				8	0	1	1	21.59
				8	4	1	1	21.60
				8	7	1	1	21.61
				15	0	1	1	21.65
			16QAM	1	0	1	1	21.81
				1	7	1	1	21.92
				1	14	1	1	21.91
				8	0	2	2	20.55
				8	4	2	2	20.56
				8	7	2	2	20.66
				15	0	2	2	20.70

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.22
				1	7			17.37
				1	14			17.45
				8	0			17.19
				8	4			17.32
				8	7			17.25
				15	0			17.31
			16QAM	1	0			17.31
				1	7			17.45
				1	14			17.44
				8	0			17.21
				8	4			17.18
				8	7			17.21
				15	0			17.26
	20175	1732.5	QPSK	1	0			17.28
				1	7			17.32
				1	14			17.42
				8	0			17.21
				8	4			17.38
				8	7			17.22
				15	0			17.29
			16QAM	1	0			17.35
				1	7			17.41
				1	14			17.42
				8	0			17.19
				8	4			17.19
				8	7			17.23
				15	0			17.24
	20384	1753.4	QPSK	1	0			17.29
				1	7			17.31
				1	14			17.44
				8	0			17.22
				8	4			17.33
				8	7			17.26
				15	0			17.31
			16QAM	1	0			17.31
				1	7			17.42
				1	14			17.34
				8	0			17.16
				8	4			17.23
				8	7			17.27
				15	0			17.29

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.59
				1	2	0	0	22.72
				1	5	0	0	22.67
				3	0	0	0	22.58
				3	1	0	0	22.59
				3	3	0	0	22.71
				6	0	1	1	21.60
			16QAM	1	0	1	1	21.94
				1	2	1	1	21.90
				1	5	1	1	21.89
				3	0	1	1	21.60
				3	1	1	1	21.57
				3	3	1	1	21.49
				6	0	2	2	20.48
	20175	1732.5	QPSK	1	0	0	0	22.62
				1	2	0	0	22.71
				1	5	0	0	22.65
				3	0	0	0	22.60
				3	1	0	0	22.60
				3	3	0	0	22.74
				6	0	1	1	21.63
			16QAM	1	0	1	1	21.92
				1	2	1	1	21.89
				1	5	1	1	21.86
				3	0	1	1	21.61
				3	1	1	1	21.55
				3	3	1	1	21.51
				6	0	2	2	20.45
	20392	1754.2	QPSK	1	0	0	0	22.64
				1	2	0	0	22.74
				1	5	0	0	22.68
				3	0	0	0	22.66
				3	1	0	0	22.62
				3	3	0	0	22.75
				6	0	1	1	21.61
			16QAM	1	0	1	1	21.94
				1	2	1	1	21.88
				1	5	1	1	21.88
				3	0	1	1	21.62
				3	1	1	1	21.51
				3	3	1	1	21.55
				6	0	2	2	20.49

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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**		17.33
				1	2			17.25
				1	5			17.31
				3	0			17.25
				3	1			17.22
				3	3			17.37
				6	0			17.22
			16QAM	1	0			17.41
				1	2			17.40
				1	5			17.36
				3	0			17.20
				3	1			17.18
				3	3			17.17
				6	0			17.10
	20175	1732.5	QPSK	1	0			17.31
				1	2			17.27
				1	5			17.33
				3	0			17.22
				3	1			17.21
				3	3			17.35
				6	0			17.27
			16QAM	1	0			17.43
				1	2			17.41
				1	5			17.34
				3	0			17.18
				3	1			17.17
				3	3			17.17
				6	0			17.07
	20392	1754.2	QPSK	1	0			17.33
				1	2			17.29
				1	5			17.35
				3	0			17.21
				3	1			17.19
				3	3			17.31
				6	0			17.20
			16QAM	1	0			17.40
				1	2			17.41
				1	5			17.36
				3	0			17.19
				3	1			17.19
				3	3			17.18
				6	0			17.09

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.10. LTE Band 5

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

LTE Band 5	
All Bandwidths	23.0 dBm

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

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

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

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

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

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

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

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.23
				1	24	0	0	22.39
				1	49	0	0	22.35
				25	0	1	1	21.42
				25	12	1	1	21.40
				25	24	1	1	21.39
				50	0	1	1	21.29
			16QAM	1	0	1	1	21.30
				1	24	1	1	21.50
				1	49	1	1	21.50
				25	0	2	2	20.30
				25	12	2	2	20.27
				25	24	2	2	20.37
				50	0	2	2	20.13
	20525	836.5	QPSK	1	0	0	0	22.27
				1	24	0	0	22.32
				1	49	0	0	22.17
				25	0	1	1	21.17
				25	12	1	1	21.19
				25	24	1	1	21.24
				50	0	1	1	21.22
			16QAM	1	0	1	1	21.46
				1	24	1	1	21.38
				1	49	1	1	21.23
				25	0	2	2	20.13
				25	12	2	2	20.15
				25	24	2	2	20.21
				50	0	2	2	20.03
	20600	844	QPSK	1	0	0	0	22.31
				1	24	0	0	22.16
				1	49	0	0	22.01
				25	0	1	1	21.09
				25	12	1	1	21.16
				25	24	1	1	21.07
				50	0	1	1	20.92
			16QAM	1	0	1	1	21.43
				1	24	1	1	21.28
				1	49	1	1	21.15
				25	0	2	2	20.10
				25	12	2	2	20.03
				25	24	2	2	20.18
				50	0	2	2	20.07

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		20.30
				1	24			20.24
				1	49			20.27
				25	0			20.29
				25	12			20.29
				25	24			20.34
				50	0			20.11
			16QAM	1	0			20.24
				1	24			20.61
				1	49			20.68
				25	0			20.37
				25	12			20.24
				25	24			20.23
				50	0			20.09
	20525	836.5	QPSK	1	0			20.23
				1	24			20.22
				1	49			20.08
				25	0			20.17
				25	12			20.18
				25	24			20.20
				50	0			20.16
			16QAM	1	0			20.36
				1	24			20.40
				1	49			20.27
				25	0			20.17
				25	12			20.16
				25	24			20.22
				50	0			20.08
	20600	844	QPSK	1	0			20.26
				1	24			20.12
				1	49			19.99
				25	0			20.00
				25	12			20.00
				25	24			19.90
				50	0			19.90
			16QAM	1	0			20.35
				1	24			20.20
				1	49			20.10
				25	0			20.11
				25	12			20.01
				25	24			19.98
				50	0			19.89

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.30
				1	12	0	0	22.60
				1	24	0	0	22.46
				12	0	1	1	21.35
				12	6	1	1	21.57
				12	11	1	1	21.53
				25	0	1	1	21.42
			16QAM	1	0	1	1	21.41
				1	12	1	1	21.65
				1	24	1	1	21.51
				12	0	2	2	20.32
				12	6	2	2	20.45
				12	11	2	2	20.48
				25	0	2	2	20.36
	20525	836.5	QPSK	1	0	0	0	22.33
				1	12	0	0	22.42
				1	24	0	0	22.53
				12	0	1	1	21.32
				12	6	1	1	21.37
				12	11	1	1	21.29
				25	0	1	1	21.28
			16QAM	1	0	1	1	21.43
				1	12	1	1	21.71
				1	24	1	1	21.72
				12	0	2	2	20.27
				12	6	2	2	20.34
				12	11	2	2	20.31
				25	0	2	2	20.22
	20625	846.5	QPSK	1	0	0	0	22.22
				1	12	0	0	22.41
				1	24	0	0	22.36
				12	0	1	1	21.12
				12	6	1	2	21.06
				12	11	1	2	21.10
				25	0	1	2	21.02
			16QAM	1	0	1	1	21.33
				1	12	1	1	21.35
				1	24	1	1	21.17
				12	0	2	2	20.17
				12	6	2	2	20.12
				12	11	2	2	20.17
				25	0	2	2	20.11

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		20.33
				1	12			20.51
				1	24			20.44
				12	0			20.32
				12	6			20.47
				12	11			20.45
				25	0			20.36
			16QAM	1	0			20.41
				1	12			20.65
				1	24			20.52
				12	0			20.32
				12	6			20.43
				12	11			20.45
				25	0			20.37
	20525	836.5	QPSK	1	0			20.30
				1	12			20.34
				1	24			20.46
				12	0			20.25
				12	6			20.29
				12	11			20.34
				25	0			20.28
			16QAM	1	0			20.41
				1	12			20.50
				1	24			20.53
				12	0			20.31
				12	6			20.33
				12	11			20.30
				25	0			20.23
	20625	846.5	QPSK	1	0			20.18
				1	12			20.18
				1	24			20.07
				12	0			20.11
				12	6			20.08
				12	11			20.14
				25	0			19.94
			16QAM	1	0			20.33
				1	12			20.33
				1	24			20.26
				12	0			20.12
				12	6			20.08
				12	11			20.12
				25	0			19.98

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.32
				1	7	0	0	22.30
				1	14	0	0	22.33
				8	0	1	1	21.30
				8	4	1	1	21.26
				8	7	1	1	21.31
				15	0	1	1	21.33
			16QAM	1	0	1	1	21.45
				1	7	1	1	21.62
				1	14	1	1	21.68
				8	0	2	2	20.20
				8	4	2	2	20.20
				8	7	2	2	20.21
				15	0	2	2	20.32
	20525	836.5	QPSK	1	0	0	0	22.30
				1	7	0	0	22.26
				1	14	0	0	22.34
				8	0	1	1	21.32
				8	4	1	1	21.27
				8	7	1	1	21.30
				15	0	1	1	21.37
			16QAM	1	0	1	1	21.43
				1	7	1	1	21.63
				1	14	1	1	21.67
				8	0	2	2	20.21
				8	4	2	2	20.23
				8	7	2	2	20.27
				15	0	2	2	20.33
	20634	847.4	QPSK	1	0	0	0	22.31
				1	7	0	0	22.29
				1	14	0	0	22.35
				8	0	1	1	21.30
				8	4	1	1	21.22
				8	7	1	1	21.28
				15	0	1	1	21.38
			16QAM	1	0	1	1	21.41
				1	7	1	1	21.63
				1	14	1	1	21.66
				8	0	2	2	20.21
				8	4	2	2	20.22
				8	7	2	2	20.27
				15	0	2	2	20.31

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		20.22
				1	7			20.21
				1	14			20.29
				8	0			20.19
				8	4			20.18
				8	7			20.15
				15	0			20.13
			16QAM	1	0			20.44
				1	7			20.31
				1	14			20.36
				8	0			20.18
				8	4			20.17
				8	7			20.13
				15	0			20.19
	20525	836.5	QPSK	1	0			20.23
				1	7			20.28
				1	14			20.30
				8	0			20.17
				8	4			20.16
				8	7			20.17
				15	0			20.18
			16QAM	1	0			20.51
				1	7			20.37
				1	14			20.38
				8	0			20.13
				8	4			20.15
				8	7			20.13
				15	0			20.20
	20634	847.4	QPSK	1	0			20.22
				1	7			20.25
				1	14			20.33
				8	0			20.20
				8	4			20.11
				8	7			20.13
				15	0			20.11
			16QAM	1	0			20.44
				1	7			20.33
				1	14			20.38
				8	0			20.12
				8	4			20.15
				8	7			20.11
				15	0			20.22

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.23
				1	2	0	0	22.33
				1	5	0	0	22.30
				3	0	0	0	22.23
				3	1	0	0	22.25
				3	3	0	0	22.27
				6	0	1	1	21.06
			16QAM	1	0	1	1	21.61
				1	2	1	1	21.58
				1	5	1	1	21.58
				3	0	1	1	21.23
				3	1	1	1	21.21
				3	3	1	1	21.22
				6	0	2	2	20.09
	20525	836.5	QPSK	1	0	0	0	22.22
				1	2	0	0	22.31
				1	5	0	0	22.31
				3	0	0	0	22.23
				3	1	0	0	22.28
				3	3	0	0	22.29
				6	0	1	1	21.06
			16QAM	1	0	1	1	21.60
				1	2	1	1	21.55
				1	5	1	1	21.57
				3	0	1	1	21.22
				3	1	1	1	21.21
				3	3	1	1	21.21
				6	0	2	2	20.08
	20642	848.2	QPSK	1	0	0	0	22.22
				1	2	0	0	22.32
				1	5	0	0	22.31
				3	0	0	0	22.20
				3	1	0	0	22.30
				3	3	0	0	22.28
				6	0	1	1	21.05
			16QAM	1	0	1	1	21.63
				1	2	1	1	21.58
				1	5	1	1	21.55
				3	0	1	1	21.22
				3	1	1	1	21.26
				3	3	1	1	21.22
				6	0	2	2	20.11

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		20.31
				1	2			20.33
				1	5			20.20
				3	0			20.21
				3	1			20.22
				3	3			20.28
				6	0			20.41
			16QAM	1	0			20.60
				1	2			20.41
				1	5			20.40
				3	0			20.22
				3	1			20.25
				3	3			20.20
				6	0			20.19
	20525	836.5	QPSK	1	0			20.30
				1	2			20.32
				1	5			20.23
				3	0			20.25
				3	1			20.29
				3	3			20.26
				6	0			20.44
			16QAM	1	0			20.63
				1	2			20.43
				1	5			20.43
				3	0			20.23
				3	1			20.20
				3	3			20.17
				6	0			20.14
	20642	848.2	QPSK	1	0			20.32
				1	2			20.30
				1	5			20.26
				3	0			20.20
				3	1			20.26
				3	3			20.24
				6	0			20.40
			16QAM	1	0			20.69
				1	2			20.41
				1	5			20.43
				3	0			20.20
				3	1			20.21
				3	3			20.20
				6	0			20.18

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.11. LTE Band 13

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

LTE Band 13	
All Bandwidths	23.0 dBm

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

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

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

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

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

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

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

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

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.33
				1	24	0	0	22.53
				1	49	0	0	22.39
				25	0	1	1	21.43
				25	12	1	1	21.65
				25	24	1	1	21.59
				50	0	1	1	21.53
			16QAM	1	0	1	1	21.51
				1	24	1	1	21.95
				1	49	1	1	21.83
				25	0	2	2	20.54
				25	12	2	2	20.63
				25	24	2	2	20.65
				50	0	2	2	20.43

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**		20.37
				1	24			20.62
				1	49			20.46
				25	0			20.40
				25	12			20.60
				25	24			20.57
				50	0			20.41
			16QAM	1	0			20.40
				1	24			20.72
				1	49			20.44
				25	0			20.46
				25	12			20.61
				25	24			20.56
				50	0			20.45

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.60
				1	12	0	0	22.68
				1	24	0	0	23.01
				12	0	1	1	21.54
				12	6	1	1	21.67
				12	11	1	1	21.73
				25	0	1	1	21.57
			16QAM	1	0	1	1	21.55
				1	12	1	1	21.82
				1	24	1	1	22.00
				12	0	2	2	20.54
				12	6	2	2	20.65
				12	11	2	2	20.69
				25	0	2	2	20.55
	23230	782	QPSK	1	0	0	0	22.76
				1	12	0	0	22.74
				1	24	0	0	22.89
				12	0	1	1	21.62
				12	6	1	1	21.74
				12	11	1	1	21.80
				25	0	1	1	21.60
			16QAM	1	0	1	1	21.80
				1	12	1	1	21.81
				1	24	1	1	21.86
				12	0	2	2	20.62
				12	6	2	2	20.76
				12	11	2	2	20.77
				25	0	2	2	20.58
	23255	784.5	QPSK	1	0	0	0	22.80
				1	12	0	0	22.76
				1	24	0	0	22.42
				12	0	1	1	21.76
				12	6	1	1	21.69
				12	11	1	1	21.65
				25	0	1	1	21.68
			16QAM	1	0	1	1	21.80
				1	12	1	1	21.87
				1	24	1	1	21.51
				12	0	2	2	20.74
				12	6	2	2	20.78
				12	11	2	2	20.75
				25	0	2	2	20.61

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		20.43
				1	12			20.61
				1	24			20.93
				12	0			20.41
				12	6			20.61
				12	11			20.61
				25	0			20.54
			16QAM	1	0			20.49
				1	12			20.74
				1	24			20.99
				12	0			20.41
				12	6			20.51
				12	11			20.39
				25	0			20.41
	23230	782	QPSK	1	0			20.68
				1	12			20.71
				1	24			20.84
				12	0			20.81
				12	6			20.84
				12	11			20.69
				25	0			20.60
			16QAM	1	0			20.74
				1	12			20.77
				1	24			20.85
				12	0			20.69
				12	6			20.74
				12	11			20.76
				25	0			20.60
	23255	784.5	QPSK	1	0			20.77
				1	12			20.78
				1	24			20.49
				12	0			20.76
				12	6			20.71
				12	11			20.64
				25	0			20.69
			16QAM	1	0			20.83
				1	12			20.86
				1	24			20.51
				12	0			20.97
				12	6			20.89
				12	11			20.64
				25	0			20.63

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.12. LTE Band 17

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

LTE Band 17	
All Bandwidths	23.0 dBm

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

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

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

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

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

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

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 17, 10 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23780	709	QPSK	1	0	0	0	22.49
				1	24	0	0	22.78
				1	49	0	0	22.80
				25	0	1	1	21.69
				25	12	1	1	21.78
				25	24	1	1	21.80
				50	0	1	1	21.66
			16QAM	1	0	1	1	21.63
				1	24	1	1	22.13
				1	49	1	1	22.14
				25	0	2	2	20.64
				25	12	2	2	20.75
				25	24	2	2	20.74
				50	0	2	2	20.51
	23790	710	QPSK	1	0	0	0	22.47
				1	24	0	0	22.61
				1	49	0	0	22.28
				25	0	1	1	21.67
				25	12	1	1	21.71
				25	24	1	1	21.69
				50	0	1	1	21.59
			16QAM	1	0	1	1	21.55
				1	24	1	1	21.83
				1	49	1	1	21.50
				25	0	2	2	20.62
				25	12	2	2	20.67
				25	24	2	2	20.68
				50	0	2	2	20.45
	23800	711	QPSK	1	0	0	0	22.56
				1	24	0	0	22.69
				1	49	0	0	22.31
				25	0	1	1	21.66
				25	12	1	1	21.70
				25	24	1	1	21.56
				50	0	1	1	21.57
			16QAM	1	0	1	1	21.68
				1	24	1	1	21.88
				1	49	1	1	21.31
				25	0	2	2	20.61
				25	12	2	2	20.64
				25	24	2	2	20.58
				50	0	2	2	20.46

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
10	23780	709	QPSK	1	0	MPR is disabled when power reduction is enabled		20.88
				1	24			21.29
				1	49			21.21
				25	0			21.12
				25	12			21.14
				25	24			21.22
				50	0			20.98
			16QAM	1	0			20.97
				1	24			21.40
				1	49			21.20
				25	0			20.53
				25	12			20.64
				25	24			20.70
				50	0			20.40
	23790	710	QPSK	1	0			20.95
				1	24			21.07
				1	49			20.74
				25	0			21.06
				25	12			21.13
				25	24			21.15
				50	0			21.02
			16QAM	1	0			21.05
				1	24			21.29
				1	49			20.92
				25	0			20.55
				25	12			20.63
				25	24			20.64
				50	0			20.35
	23800	711	QPSK	1	0			21.07
				1	24			21.26
				1	49			20.52
				25	0			21.09
				25	12			21.09
				25	24			20.93
				50	0			20.96
			16QAM	1	0			21.19
				1	24			21.31
				1	49			20.63
				25	0			20.53
				25	12			20.54
				25	24			20.60
				50	0			20.35

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 17, 5 MHz Bandwidth Output Power

Full Power (Proximity Sensor Off)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23755	706.5	QPSK	1	0	0	0	22.48
				1	12	0	0	22.80
				1	24	0	0	22.92
				12	0	1	1	21.70
				12	6	1	1	21.73
				12	11	1	1	21.68
				25	0	1	1	21.66
			16QAM	1	0	1	1	21.55
				1	12	1	1	21.84
				1	24	1	1	22.01
				12	0	2	2	20.65
				12	6	2	2	20.66
				12	11	2	2	20.65
				25	0	2	2	20.62
	23790	710	QPSK	1	0	0	0	22.75
				1	12	0	0	22.85
				1	24	0	0	22.79
				12	0	1	1	21.75
				12	6	1	1	21.82
				12	11	1	1	21.74
				25	0	1	1	21.74
			16QAM	1	0	1	1	21.72
				1	12	1	1	21.94
				1	24	1	1	21.91
				12	0	2	2	20.73
				12	6	2	2	20.78
				12	11	2	2	20.83
				25	0	2	2	20.65
	23825	713.5	QPSK	1	0	0	0	22.92
				1	12	0	0	22.74
				1	24	0	0	22.43
				12	0	1	1	21.62
				12	6	1	1	21.62
				12	11	1	1	21.43
				25	0	1	1	21.50
			16QAM	1	0	1	1	22.00
				1	12	1	1	21.86
				1	24	1	1	21.43
				12	0	2	2	20.72
				12	6	2	2	20.62
				12	11	2	2	20.44
				25	0	2	2	20.51

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Reduced Power (Proximity Sensor On)

BW	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	Target MPR	Meas. MPR	Avg Pwr (dBm)
5	23755	706.5	QPSK	1	0	MPR is disabled when power reduction is enabled		20.75
				1	12			21.09
				1	24			21.30
				12	0			20.91
				12	6			21.01
				12	11			21.08
				25	0			21.00
			16QAM	1	0			20.84
				1	12			21.23
				1	24			21.44
				12	0			20.46
				12	6			20.58
				12	11			20.56
				25	0			20.46
	23790	710	QPSK	1	0			21.23
				1	12			21.30
				1	24			21.18
				12	0			21.21
				12	6			21.19
				12	11			21.16
				25	0			21.14
			16QAM	1	0			21.25
				1	12			21.42
				1	24			21.23
				12	0			20.88
				12	6			20.78
				12	11			20.73
				25	0			20.64
	23825	713.5	QPSK	1	0			21.28
				1	12			21.10
				1	24			20.46
				12	0			21.06
				12	6			20.96
				12	11			20.83
				25	0			20.89
			16QAM	1	0			21.38
				1	12			21.29
				1	24			20.62
				12	0			20.56
				12	6			20.59
				12	11			20.41
				25	0			20.39

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

9.13. LTE Band 25

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

LTE Band 25	
All Bandwidths	23.0 dBm

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

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

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

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

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

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

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

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

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.49
				1	49	0	0	22.49
				1	99	0	0	22.59
				50	0	1	1	21.47
				50	24	1	1	21.48
				50	49	1	1	21.44
				100	0	1	1	21.50
			16QAM	1	0	1	1	21.63
				1	49	1	1	21.72
				1	99	1	1	21.89
				50	0	2	2	20.35
				50	24	2	2	20.30
				50	49	2	2	20.30
				100	0	2	2	20.36
	26365	1882.5	QPSK	1	0	0	0	22.54
				1	49	0	0	22.62
				1	99	0	0	22.44
				50	0	1	1	21.40
				50	24	1	1	21.35
				50	49	1	1	21.25
				100	0	1	1	21.30
			16QAM	1	0	1	1	21.64
				1	49	1	1	21.77
				1	99	1	1	21.63
				50	0	2	2	20.33
				50	24	2	2	20.29
				50	49	2	2	20.31
				100	0	2	2	20.22
	26590	1905	QPSK	1	0	0	0	22.45
				1	49	0	0	22.54
				1	99	0	0	22.57
				50	0	1	1	21.22
				50	24	1	1	21.30
				50	49	1	1	21.58
				100	0	1	1	21.40
			16QAM	1	0	1	1	21.58
				1	49	1	1	21.73
				1	99	1	1	21.94
				50	0	2	2	20.22
				50	24	2	2	20.17
				50	49	2	2	20.55
				100	0	2	2	20.30

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.34
				1	49			17.43
				1	99			17.42
				50	0			17.38
				50	24			17.36
				50	49			17.33
				100	0			17.41
			16QAM	1	0			17.51
				1	49			17.58
				1	99			17.56
				50	0			17.33
				50	24			17.27
				50	49			17.29
				100	0			17.34
	26365	1882.5	QPSK	1	0			17.30
				1	49			17.53
				1	99			17.31
				50	0			17.35
				50	24			17.26
				50	49			17.22
				100	0			17.29
			16QAM	1	0			17.47
				1	49			17.67
				1	99			17.47
				50	0			17.57
				50	24			17.47
				50	49			17.20
				100	0			17.23
	26590	1905	QPSK	1	0			17.33
				1	49			17.46
				1	99			17.46
				50	0			17.23
				50	24			17.34
				50	49			17.47
				100	0			17.34
			16QAM	1	0			17.47
				1	49			17.56
				1	99			17.55
				50	0			17.16
				50	24			17.26
				50	49			17.51
				100	0			17.40

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.66
				1	37	0	0	22.62
				1	74	0	0	22.68
				36	0	1	1	21.41
				36	19	1	1	21.45
				36	39	1	1	21.55
				75	0	1	1	21.41
			16QAM	1	0	1	1	21.82
				1	37	1	1	21.85
				1	74	1	1	21.88
				36	0	2	2	20.55
				36	19	2	2	20.37
				36	39	2	2	20.45
				75	0	2	2	20.28
	26365	1882.5	QPSK	1	0	0	0	22.60
				1	37	0	0	22.56
				1	74	0	0	22.47
				36	0	1	1	21.44
				36	19	1	1	21.43
				36	39	1	1	21.33
				75	0	1	1	21.27
			16QAM	1	0	1	1	21.78
				1	37	1	1	21.79
				1	74	1	1	21.51
				36	0	2	2	20.56
				36	19	2	2	20.37
				36	39	2	2	20.32
				75	0	2	2	20.24
	26615	1907.5	QPSK	1	0	0	0	22.42
				1	37	0	0	22.63
				1	74	0	0	22.61
				36	0	1	1	21.37
				36	19	1	1	21.49
				36	39	1	1	21.64
				75	0	1	1	21.36
			16QAM	1	0	1	1	21.58
				1	37	1	1	21.84
				1	74	1	1	21.85
				36	0	2	2	20.46
				36	19	2	2	20.53
				36	39	2	2	20.51
				75	0	2	2	20.35

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.50
				1	37			17.45
				1	74			17.45
				36	0			17.31
				36	19			17.32
				36	39			17.43
				75	0			17.36
			16QAM	1	0			17.63
				1	37			17.57
				1	74			17.56
				36	0			17.41
				36	19			17.34
				36	39			17.46
				75	0			17.32
	26365	1882.5	QPSK	1	0			17.47
				1	37			17.40
				1	74			17.25
				36	0			17.34
				36	19			17.28
				36	39			17.17
				75	0			17.22
			16QAM	1	0			17.82
				1	37			17.49
				1	74			17.37
				36	0			17.39
				36	19			17.54
				36	39			17.27
				75	0			17.21
	26615	1907.5	QPSK	1	0			17.27
				1	37			17.44
				1	74			17.44
				36	0			17.29
				36	19			17.36
				36	39			17.44
				75	0			17.36
			16QAM	1	0			17.39
				1	37			17.55
				1	74			17.50
				36	0			17.36
				36	19			17.43
				36	39			17.50
				75	0			17.40

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.49
				1	24	0	0	22.49
				1	49	0	0	22.59
				25	0	1	1	21.47
				25	12	1	1	21.48
				25	24	1	1	21.44
				50	0	1	1	21.50
			16QAM	1	0	1	1	21.63
				1	24	1	1	21.72
				1	49	1	1	21.89
				25	0	2	2	20.35
				25	12	2	2	20.30
				25	24	2	2	20.30
				50	0	2	2	20.36
	26365	1882.5	QPSK	1	0	0	0	22.54
				1	24	0	0	22.62
				1	49	0	0	22.44
				25	0	1	1	21.40
				25	12	1	1	21.35
				25	24	1	1	21.25
				50	0	1	1	21.30
			16QAM	1	0	1	1	21.64
				1	24	1	1	21.77
				1	49	1	1	21.63
				25	0	2	2	20.33
				25	12	2	2	20.29
				25	24	2	2	20.31
				50	0	2	2	20.22
	26640	1910	QPSK	1	0	0	0	22.45
				1	24	0	0	22.54
				1	49	0	0	22.57
				25	0	1	1	21.22
				25	12	1	1	21.30
				25	24	1	1	21.58
				50	0	1	1	21.40
			16QAM	1	0	1	1	21.58
				1	24	1	1	21.73
				1	49	1	1	21.94
				25	0	2	2	20.22
				25	12	2	2	20.17
				25	24	2	2	20.55
				50	0	2	2	20.30

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.56
				1	24			17.60
				1	49			17.56
				25	0			17.57
				25	12			17.62
				25	24			17.52
				50	0			17.46
			16QAM	1	0			17.72
				1	24			17.69
				1	49			17.71
				25	0			17.58
				25	12			17.54
				25	24			17.46
				50	0			17.49
	26365	1882.5	QPSK	1	0			17.55
				1	24			17.55
				1	49			17.39
				25	0			17.51
				25	12			17.45
				25	24			17.39
				50	0			17.33
			16QAM	1	0			17.69
				1	24			17.71
				1	49			17.48
				25	0			17.53
				25	12			17.46
				25	24			17.40
				50	0			17.37
	26640	1910	QPSK	1	0			17.49
				1	24			17.52
				1	49			17.38
				25	0			17.59
				25	12			17.52
				25	24			17.47
				50	0			17.41
			16QAM	1	0			17.68
				1	24			17.66
				1	49			17.49
				25	0			17.62
				25	12			17.52
				25	24			17.43
				50	0			17.44

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.71
				1	12	0	0	22.77
				1	24	0	0	22.65
				12	0	1	1	21.57
				12	6	1	1	21.61
				12	11	1	1	21.55
				25	0	1	1	21.58
			16QAM	1	0	1	1	21.77
				1	12	1	1	21.88
				1	24	1	1	21.85
				12	0	2	2	20.75
				12	6	2	2	20.70
				12	11	2	2	20.53
				25	0	2	2	20.53
	26365	1882.5	QPSK	1	0	0	0	22.69
				1	12	0	0	22.66
				1	24	0	0	22.60
				12	0	1	1	21.59
				12	6	1	1	21.57
				12	11	1	1	21.51
				25	0	1	1	21.53
			16QAM	1	0	1	1	21.81
				1	12	1	1	21.76
				1	24	1	1	21.63
				12	0	2	2	20.61
				12	6	2	2	20.52
				12	11	2	2	20.52
				25	0	2	2	20.42
	26665	1912.5	QPSK	1	0	0	0	22.65
				1	12	0	0	22.71
				1	24	0	0	22.55
				12	0	1	1	21.61
				12	6	1	1	21.61
				12	11	1	1	21.58
				25	0	1	1	21.53
			16QAM	1	0	1	1	21.69
				1	12	1	1	21.86
				1	24	1	1	21.67
				12	0	2	2	20.73
				12	6	2	2	20.58
				12	11	2	2	20.60
				25	0	2	2	20.44

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.55
				1	12			17.65
				1	24			17.61
				12	0			17.52
				12	6			17.54
				12	11			17.54
				25	0			17.49
			16QAM	1	0			17.77
				1	12			17.80
				1	24			17.71
				12	0			17.51
				12	6			17.58
				12	11			17.54
				25	0			17.52
	26365	1882.5	QPSK	1	0			17.55
				1	12			17.54
				1	24			17.45
				12	0			17.49
				12	6			17.46
				12	11			17.43
				25	0			17.43
			16QAM	1	0			17.74
				1	12			17.64
				1	24			17.60
				12	0			17.56
				12	6			17.44
				12	11			17.45
				25	0			17.43
	26665	1912.5	QPSK	1	0			17.51
				1	12			17.56
				1	24			17.38
				12	0			17.51
				12	6			17.54
				12	11			17.48
				25	0			17.47
			16QAM	1	0			17.71
				1	12			17.72
				1	24			17.56
				12	0			17.51
				12	6			17.51
				12	11			17.56
				25	0			17.42

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.74
				1	7	0	0	22.63
				1	14	0	0	22.66
				8	0	1	1	21.65
				8	4	1	1	21.40
				8	7	1	1	21.52
				15	0	1	1	21.61
			16QAM	1	0	1	1	21.77
				1	7	1	1	21.79
				1	14	1	1	21.65
				8	0	2	2	20.47
				8	4	2	2	20.48
				8	7	2	2	20.38
				15	0	2	2	20.45
	26365	1882.5	QPSK	1	0	0	0	22.57
				1	7	0	0	22.39
				1	14	0	0	22.50
				8	0	1	1	21.51
				8	4	1	1	21.46
				8	7	1	1	21.45
				15	0	1	1	21.53
			16QAM	1	0	1	1	21.17
				1	7	1	1	21.14
				1	14	1	1	21.10
				8	0	2	2	20.56
				8	4	2	2	20.43
				8	7	2	2	20.48
				15	0	2	2	20.43
	26674	1913.4	QPSK	1	0	0	0	22.76
				1	7	0	0	22.53
				1	14	0	0	22.59
				8	0	1	1	21.49
				8	4	1	1	21.59
				8	7	1	1	21.50
				15	0	1	1	21.53
			16QAM	1	0	1	1	21.90
				1	7	1	1	21.95
				1	14	1	1	21.87
				8	0	2	2	20.60
				8	4	2	2	20.58
				8	7	2	2	20.42
				15	0	2	2	20.56

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.78
				1	7			17.51
				1	14			17.44
				8	0			17.62
				8	4			17.34
				8	7			17.38
				15	0			17.41
			16QAM	1	0			17.49
				1	7			17.51
				1	14			17.59
				8	0			17.33
				8	4			17.39
				8	7			17.48
				15	0			17.37
	26365	1882.5	QPSK	1	0			17.67
				1	7			17.42
				1	14			17.52
				8	0			17.70
				8	4			17.34
				8	7			17.38
				15	0			17.43
			16QAM	1	0			17.51
				1	7			17.68
				1	14			17.50
				8	0			17.31
				8	4			17.38
				8	7			17.33
				15	0			17.51
	26674	1913.4	QPSK	1	0			17.80
				1	7			17.41
				1	14			17.50
				8	0			17.73
				8	4			17.30
				8	7			17.35
				15	0			17.46
			16QAM	1	0			17.58
				1	7			17.61
				1	14			17.52
				8	0			17.34
				8	4			17.31
				8	7			17.38
				15	0			17.47

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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	22.66
				1	2	0	0	22.57
				1	5	0	0	22.66
				3	0	0	0	22.61
				3	1	0	0	22.66
				3	3	0	0	22.53
				6	0	1	1	21.55
			16QAM	1	0	1	1	21.69
				1	2	1	1	21.80
				1	5	1	1	21.71
				3	0	1	1	21.56
				3	1	1	1	21.54
				3	3	1	1	21.40
				6	0	2	2	20.44
	26365	1882.5	QPSK	1	0	0	0	22.68
				1	2	0	0	22.55
				1	5	0	0	22.44
				3	0	0	0	22.60
				3	1	0	0	22.48
				3	3	0	0	22.57
				6	0	1	1	21.51
			16QAM	1	0	1	1	21.82
				1	2	1	1	21.81
				1	5	1	1	21.72
				3	0	1	1	21.49
				3	1	1	1	21.33
				3	3	1	1	21.30
				6	0	2	2	20.24
	26682	1914.2	QPSK	1	0	0	0	22.61
				1	2	0	0	22.56
				1	5	0	0	22.52
				3	0	0	0	22.53
				3	1	0	0	22.58
				3	3	0	0	22.42
				6	0	1	1	21.59
			16QAM	1	0	1	1	21.86
				1	2	1	1	21.88
				1	5	1	1	21.84
				3	0	1	1	21.50
				3	1	1	1	21.59
				3	3	1	1	21.35
				6	0	2	2	20.31

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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		17.42
				1	2			17.43
				1	5			17.36
				3	0			17.74
				3	1			17.41
				3	3			17.50
				6	0			17.49
			16QAM	1	0			17.25
				1	2			17.27
				1	5			17.15
				3	0			17.43
				3	1			17.41
				3	3			17.42
				6	0			17.54
	26365	1882.5	QPSK	1	0			17.46
				1	2			17.48
				1	5			17.39
				3	0			17.40
				3	1			17.31
				3	3			17.26
				6	0			17.27
			16QAM	1	0			17.87
				1	2			17.64
				1	5			17.56
				3	0			17.35
				3	1			17.23
				3	3			17.19
				6	0			17.12
	26682	1914.2	QPSK	1	0			17.44
				1	2			17.40
				1	5			17.40
				3	0			17.49
				3	1			17.39
				3	3			17.64
				6	0			17.59
			16QAM	1	0			17.51
				1	2			17.51
				1	5			17.43
				3	0			17.31
				3	1			17.33
				3	3			17.21
				6	0			17.22

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

10. Tissue Dielectric Properties

IEEE Std 1528-2003 Table 2

Target Frequency (MHz)	Head	
	ε_r	σ (S/m)
300	45.3	0.87
450	43.5	0.87
835	41.5	0.90
900	41.5	0.97
1450	40.5	1.20
1800 – 2000	40.0	1.40
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40

KDB 865664 D01 SAR Measurement 100MHz to 6GHz v01r03

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

10.1. Composition of Ingredients for the Tissue Material Used in the SAR Tests

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99+% Pure Sodium Chloride Sugar: 98+% Pure Sucrose
Water: De-ionized, 16 MΩ+ resistivity HEC: Hydroxyethyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

Simulating Liquids for 5 GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	78
Mineral oil	11
Emulsifiers	9
Additives and Salt	2

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

10.2. Tissue Dielectric Parameter Check Results

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.
The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.
Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

Tissue Dielectric Parameter Check Results

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2014/3/24	Body 900	Relative Permittivity (ϵ_r):	54.24	55.00	-1.38	5
		Conductivity (σ):	1.06	1.05	0.86	5
	Body 820	Relative Permittivity (ϵ_r):	55.10	55.28	-0.31	5
		Conductivity (σ):	0.97	0.97	0.06	5
	Body 850	Relative Permittivity (ϵ_r):	54.71	55.16	-0.80	5
		Conductivity (σ):	1.00	0.99	1.00	5
2014/3/26	Body 900	Relative Permittivity (ϵ_r):	53.38	55.00	-2.95	5
		Conductivity (σ):	1.04	1.05	-0.95	5
	Body 820	Relative Permittivity (ϵ_r):	54.26	55.28	-1.84	5
		Conductivity (σ):	0.96	0.97	-1.39	5
	Body 850	Relative Permittivity (ϵ_r):	53.94	55.16	-2.20	5
		Conductivity (σ):	0.99	0.99	-0.01	5
2014/3/27	Body 1800	Relative Permittivity (ϵ_r):	53.14	53.30	-0.30	5
		Conductivity (σ):	1.46	1.52	-4.08	5
	Body 1850	Relative Permittivity (ϵ_r):	52.96	53.30	-0.64	5
		Conductivity (σ):	1.51	1.52	-0.46	5
	Body 1910	Relative Permittivity (ϵ_r):	52.79	53.30	-0.96	5
		Conductivity (σ):	1.58	1.52	3.88	5
	Body 2000	Relative Permittivity (ϵ_r):	51.58	53.30	-3.23	5
		Conductivity (σ):	1.59	1.52	4.67	5
2014/3/28	Body 1800	Relative Permittivity (ϵ_r):	53.80	53.30	0.94	5
		Conductivity (σ):	1.53	1.52	0.53	5
	Body 1710	Relative Permittivity (ϵ_r):	54.01	53.54	0.87	5
		Conductivity (σ):	1.43	1.46	-2.36	5
	Body 1755	Relative Permittivity (ϵ_r):	53.97	53.43	1.01	5
		Conductivity (σ):	1.48	1.49	-0.82	5
2014/3/29	Body 1800	Relative Permittivity (ϵ_r):	52.28	53.30	-1.91	5
		Conductivity (σ):	1.50	1.52	-1.32	5
	Body 1710	Relative Permittivity (ϵ_r):	52.62	53.54	-1.72	5
		Conductivity (σ):	1.40	1.46	-4.42	5
	Body 1755	Relative Permittivity (ϵ_r):	52.49	53.43	-1.76	5
		Conductivity (σ):	1.45	1.49	-2.97	5
2014/3/31	Body 900	Relative Permittivity (ϵ_r):	53.63	55.00	-2.49	5
		Conductivity (σ):	1.03	1.05	-1.81	5
	Body 820	Relative Permittivity (ϵ_r):	54.54	55.28	-1.33	5
		Conductivity (σ):	0.94	0.97	-2.53	5
	Body 850	Relative Permittivity (ϵ_r):	54.19	55.16	-1.75	5
		Conductivity (σ):	0.98	0.99	-1.05	5
2014/3/31	Body 1800	Relative Permittivity (ϵ_r):	54.31	53.30	1.89	5
		Conductivity (σ):	1.54	1.52	1.51	5
	Body 1710	Relative Permittivity (ϵ_r):	54.59	53.54	1.94	5
		Conductivity (σ):	1.45	1.46	-1.06	5
	Body 1755	Relative Permittivity (ϵ_r):	54.44	53.43	1.90	5
		Conductivity (σ):	1.50	1.49	0.39	5

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Tissue Dielectric Parameter Check Results (continued)

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2014/4/1	Body 1800	Relative Permittivity (ϵ_r):	51.58	53.30	-3.23	5
		Conductivity (σ):	1.47	1.52	-3.29	5
	Body 1850	Relative Permittivity (ϵ_r):	51.69	53.30	-3.02	5
		Conductivity (σ):	1.53	1.52	0.46	5
	Body 1910	Relative Permittivity (ϵ_r):	51.47	53.30	-3.43	5
		Conductivity (σ):	1.59	1.52	4.74	5
2013/4/2	Body 900	Relative Permittivity (ϵ_r):	53.34	55.00	-3.03	5
		Conductivity (σ):	1.06	1.05	0.86	5
	Body 820	Relative Permittivity (ϵ_r):	54.24	55.28	-1.88	5
		Conductivity (σ):	0.97	0.97	-0.05	5
	Body 850	Relative Permittivity (ϵ_r):	53.91	55.16	-2.27	5
		Conductivity (σ):	1.00	0.99	1.51	5
2014/4/2	Body 1800	Relative Permittivity (ϵ_r):	52.66	53.30	-1.20	5
		Conductivity (σ):	1.46	1.52	-3.68	5
	Body 1850	Relative Permittivity (ϵ_r):	52.49	53.30	-1.52	5
		Conductivity (σ):	1.52	1.52	0.07	5
	Body 1915	Relative Permittivity (ϵ_r):	52.23	53.30	-2.02	5
		Conductivity (σ):	1.59	1.52	4.74	5
	Body 2000	Relative Permittivity (ϵ_r):	51.92	53.30	-2.59	5
		Conductivity (σ):	1.59	1.52	4.87	5
2014/4/4	Body 750	Relative Permittivity (ϵ_r):	55.89	55.55	0.62	5
		Conductivity (σ):	0.97	0.96	0.72	5
	Body 705	Relative Permittivity (ϵ_r):	56.34	55.72	1.11	5
		Conductivity (σ):	0.92	0.96	-4.22	5
	Body 720	Relative Permittivity (ϵ_r):	56.20	55.66	0.97	5
		Conductivity (σ):	0.93	0.96	-2.81	5
	Body 775	Relative Permittivity (ϵ_r):	55.62	55.45	0.31	5
		Conductivity (σ):	0.99	0.97	2.48	5
	Body 790	Relative Permittivity (ϵ_r):	55.45	55.39	0.10	5
		Conductivity (σ):	1.00	0.97	3.92	5
2014/4/4	Body 900	Relative Permittivity (ϵ_r):	55.32	55.00	0.58	5
		Conductivity (σ):	1.04	1.05	-0.76	5
	Body 820	Relative Permittivity (ϵ_r):	56.16	55.28	1.60	5
		Conductivity (σ):	0.96	0.97	-0.97	5
	Body 850	Relative Permittivity (ϵ_r):	55.86	55.16	1.27	5
		Conductivity (σ):	0.99	0.99	0.32	5
2014/4/6	Body 900	Relative Permittivity (ϵ_r):	55.15	55.00	0.27	5
		Conductivity (σ):	1.03	1.05	-1.52	5
	Body 820	Relative Permittivity (ϵ_r):	55.95	55.28	1.22	5
		Conductivity (σ):	0.95	0.97	-2.15	5
	Body 850	Relative Permittivity (ϵ_r):	55.65	55.16	0.89	5
		Conductivity (σ):	0.98	0.99	-0.71	5
2014/4/7	Body 900	Relative Permittivity (ϵ_r):	53.70	55.00	-2.36	5
		Conductivity (σ):	1.05	1.05	-0.19	5
	Body 820	Relative Permittivity (ϵ_r):	54.60	55.28	-1.22	5
		Conductivity (σ):	0.96	0.97	-1.03	5
	Body 850	Relative Permittivity (ϵ_r):	54.26	55.16	-1.63	5
		Conductivity (σ):	0.99	0.99	0.47	5
2014/4/8	Body 900	Relative Permittivity (ϵ_r):	53.18	55.00	-3.31	5
		Conductivity (σ):	1.04	1.05	-0.57	5
	Body 820	Relative Permittivity (ϵ_r):	54.06	55.28	-2.20	5
		Conductivity (σ):	0.96	0.97	-1.21	5
	Body 850	Relative Permittivity (ϵ_r):	53.75	55.16	-2.55	5
		Conductivity (σ):	0.99	0.99	0.28	5
2014/5/26	Body 1800	Relative Permittivity (ϵ_r):	51.23	53.30	-3.88	5
		Conductivity (σ):	1.50	1.52	-1.64	5
	Body 1860	Relative Permittivity (ϵ_r):	50.93	53.30	-4.45	5
		Conductivity (σ):	1.56	1.52	2.57	5

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

11. System Performance Check

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

11.1. System Performance Check Measurement Conditions

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

11.2. Reference SAR Values for System Performance Check

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

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (mW/g)		
				1g/10g	Head	Body
D750v3	1058	05/10/2012	750	1g	8.64	8.88
				10g	5.64	5.84
D900v2	155	12/06/2013	900	1g	10.48	10.60
				10g	6.72	6.84
D1800v2	2d040	12/09/2013	1800	1g	38.72	38.96
				10g	20.20	20.52
D2000v2	1029	11/21/2011	2000	1g	40.00	39.64
				10g	21.12	20.72

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

11.3. System Performance Check Results

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

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %
	Type	Serial #			Zoom Scan	Normalize to 1 W		
3/24/2014	D900V2	155	Body	1g	2.74	11.0	10.60	3.40
				10g	1.78	7.1	6.84	4.09
3/26/2014	D900V2	155	Body	1g	2.50	10.00	10.60	-5.66
				10g	1.62	6.48	6.84	-5.26
3/27/2014	D1800V2	2d040	Body	1g	9.42	37.68	38.96	-3.29
				10g	4.94	19.76	20.52	-3.70
3/27/2014	D2000V2	1029	Body	1g	10.80	43.20	39.64	8.98
				10g	5.39	21.56	20.72	4.05
3/28/2014	D1800V2	2d040	Body	1g	9.93	39.7	38.96	1.95
				10g	5.27	21.1	20.52	2.73
3/29/2014	D1800V2	2d040	Body	1g	9.78	39.12	38.96	0.41
				10g	5.17	20.68	20.52	0.78
3/31/2014	D900V2	155	Body	1g	2.43	9.72	10.60	-8.30
				10g	1.60	6.40	6.84	-6.43
3/31/2014	D1800V2	2d040	Body	1g	9.75	39.0	38.96	0.10
				10g	5.10	20.40	20.52	-0.58
4/1/2014	D1800V2	2d040	Body	1g	9.43	37.7	38.96	-3.18
				10g	4.90	19.60	20.52	-4.48
4/2/2014	D900V2	155	Body	1g	2.80	11.20	10.60	5.66
				10g	1.81	7.24	6.84	5.85
4/2/2014	D1800V2	2d040	Body	1g	9.50	38.0	38.96	-2.46
				10g	5.01	20.04	20.52	-2.34
4/2/2014	D2000V2	1029	Body	1g	10.90	43.60	39.64	9.99
				10g	5.41	21.64	20.72	4.44
4/4/2014	D750V3	1058	Body	1g	2.13	8.5	8.88	-4.05
				10g	1.42	5.68	5.84	-2.74
4/4/2014	D900V2	155	Body	1g	2.65	10.60	10.60	0.00
				10g	1.73	6.92	6.84	1.17
4/6/2014	D900V2	155	Body	1g	2.73	10.92	10.60	3.02
				10g	1.75	7.00	6.84	2.34
4/7/2014	D900V2	155	Body	1g	2.64	10.56	10.60	-0.38
				10g	1.71	6.84	6.84	0.00
4/8/2014	D900V2	155	Body	1g	2.76	11.04	10.60	4.15
				10g	1.78	7.12	6.84	4.09
5/26/2014	D1800V2	2d040	Body	1g	10.30	41.20	38.96	5.75
				10g	5.39	21.56	20.52	5.07

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12. SAR Test Results

12.1. Standalone SAR Test Exclusion Considerations

Standalone SAR test exclusion was based upon the following criteria:

1. According to KDB 447498 § 4.1.5 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 0mm.
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.

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

Antenna	Tx	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 3G - distances include sensor triggering distance for edge 1																
3G Main	GSM850	848.8	33.5	2239	13	21	167.6	185.1	47		158.7	103.2	> 50 mm	> 50 mm	43.9	N/A
3G Main	GSM1900	1909.8	30.5	1122	13	21	167.6	185.1	47		119.3	77.7	> 50 mm	> 50 mm	33.0	N/A
3G Main	WCDMA V	846.6	24.0	251	13	21	167.6	185.1	47		17.8	46.2	> 50 mm	> 50 mm	4.9	N/A
3G Main	WCDMA IV	1752.6	24.0	251	13	21	167.6	185.1	47		25.6	66.5	> 50 mm	> 50 mm	7.1	N/A
3G Main	WCDMA II	1907.6	24.0	251	13	21	167.6	185.1	47		26.7	69.3	> 50 mm	> 50 mm	7.4	N/A
3G Main	CDMA BC0	848.3	25.0	316	13	21	167.6	185.1	47		22.4	58.2	> 50 mm	> 50 mm	6.2	N/A
3G Main	CDMA BC1	1908.8	25.0	316	13	21	167.6	185.1	47		33.6	87.3	> 50 mm	> 50 mm	9.3	N/A
3G Main	CDMA BC10	822.75	25.0	316	13	21	167.6	185.1	47		22.0	57.3	> 50 mm	> 50 mm	6.1	N/A
3G Main	LTE 2	1909.2	24.0	251	13	21	167.6	185.1	47		26.7	69.4	> 50 mm	> 50 mm	7.4	N/A
3G Main	LTE 4	1754.2	24.0	251	13	21	167.6	185.1	47		25.6	66.5	> 50 mm	> 50 mm	7.1	N/A
3G Main	LTE 5	848.2	24.0	251	13	21	167.6	185.1	47		17.8	46.2	> 50 mm	> 50 mm	4.9	N/A
3G Main	LTE 13	784.5	24.0	251	13	20	167.6	185.1	47		17.1	44.5	> 50 mm	> 50 mm	4.7	N/A
3G Main	LTE 17	713.5	24.0	251	13	20	167.6	185.1	47		16.3	42.4	> 50 mm	> 50 mm	4.5	N/A
3G Main	LTE 25	1914.2	24.0	251	13	21	167.6	185.1	47		26.7	69.5	> 50 mm	> 50 mm	7.4	N/A

Antenna	Tx	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
Reduction Power 3G																
3G Main	GSM850	848.8	30.3	1072	0	0					197.5	197.5	N/A	N/A	N/A	N/A
3G Main	GSM1900	1909.8	26.1	407	0	0					112.5	112.5	N/A	N/A	N/A	N/A
3G Main	WCDMA V	846.6	20.9	123	0	0					22.6	22.6	N/A	N/A	N/A	N/A
3G Main	WCDMA IV	1752.6	18.0	63	0	0					16.7	16.7	N/A	N/A	N/A	N/A
3G Main	WCDMA II	1907.6	18.5	71	0	0					19.6	19.6	N/A	N/A	N/A	N/A
3G Main	CDMA BC0	848.3	20.9	123	0	0					22.7	22.7	N/A	N/A	N/A	N/A
3G Main	CDMA BC1	1908.8	18.7	74	0	0					20.4	20.4	N/A	N/A	N/A	N/A
3G Main	CDMA BC10	822.75	21.2	132	0	0					23.9	23.9	N/A	N/A	N/A	N/A
3G Main	LTE 2	1909.2	18.0	63	0	0					17.4	17.4	N/A	N/A	N/A	N/A
3G Main	LTE 4	1754.2	17.5	56	0	0					14.8	14.8	N/A	N/A	N/A	N/A
3G Main	LTE 5	848.2	21.0	126	0	0					23.2	23.2	N/A	N/A	N/A	N/A
3G Main	LTE 13	784.5	21.0	126	0	0					22.3	22.3	N/A	N/A	N/A	N/A
3G Main	LTE 17	713.5	21.5	141	0	0					23.8	23.8	N/A	N/A	N/A	N/A
3G Main	LTE 25	1914.2	18.0	63	0	0					17.4	17.4	N/A	N/A	N/A	N/A

Note(s):

1. According to KDB 447498, if the calculated threshold value is >3 then SAR testing is required.

Conclusion:

As the calculated threshold value is >3 SAR testing is required for the Edge1 and Rear at full and reduced power. Testing is required for Edge 4 at full power.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Antenna	Tx	Frequency (MHz)	Output power		Separation distances (mm)						Calculated Threshold Value					
			dBm	mW	Bottom	Edge 1	Edge 2	Edge 3	Edge 4	Front	Bottom	Edge 1	Edge 2	Edge 3	Edge 4	Front
Full Power 3G – distances include sensor triggering distance for edge 1 (16mm)																
3G Main	GSM850	848.8	33.5	2239	13	21	167.6	185.1	47		< 50 mm	< 50 mm	828.3	927.3	< 50 mm	N/A
3G Main	GSM1900	1909.8	30.5	1122	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1284.5	1459.5	< 50 mm	N/A
3G Main	WCDMA V	846.6	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	826.8	925.5	< 50 mm	N/A
3G Main	WCDMA IV	1752.6	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1289.3	1464.3	< 50 mm	N/A
3G Main	WCDMA II	1907.6	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1284.6	1459.6	< 50 mm	N/A
3G Main	CDMA BC0	848.3	25.0	316	13	21	167.6	185.1	47		< 50 mm	< 50 mm	827.9	926.9	< 50 mm	N/A
3G Main	CDMA BC1	1908.8	25.0	316	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1284.6	1459.6	< 50 mm	N/A
3G Main	CDMA BC10	822.75	25.0	316	13	21	167.6	185.1	47		< 50 mm	< 50 mm	810.4	906.4	< 50 mm	N/A
3G Main	LTE 2	1909.2	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1284.6	1459.6	< 50 mm	N/A
3G Main	LTE 4	1754.2	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1289.3	1464.3	< 50 mm	N/A
3G Main	LTE 5	848.2	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	827.9	926.8	< 50 mm	N/A
3G Main	LTE 13	784.5	24.0	251	13	20	167.6	185.1	47		< 50 mm	< 50 mm	784.4	875.9	< 50 mm	N/A
3G Main	LTE 17	713.5	24.0	251	13	20	167.6	185.1	47		< 50 mm	< 50 mm	737.0	820.2	< 50 mm	N/A
3G Main	LTE 25	1914.2	24.0	251	13	21	167.6	185.1	47		< 50 mm	< 50 mm	1284.4	1459.4	< 50 mm	N/A

Antenna	Tx	Frequency (MHz)	Output power		Separation distances (mm)						Calculated Threshold Value					
			dBm	mW	Bottom	Edge 1	Edge 2	Edge 3	Edge 4	Front	Bottom	Edge 1	Edge 2	Edge 3	Edge 4	Front
Reduction Power 3G																
3G Main	GSM850	848.8	30.3	1072	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	GSM1900	1909.8	26.1	407	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	WCDMA V	846.6	20.9	123	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	WCDMA IV	1752.6	18.0	63	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	WCDMA II	1907.6	18.5	71	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	CDMA BC0	848.3	20.9	123	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	CDMA BC1	1908.8	18.7	74	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	CDMA BC10	822.75	21.2	132	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	LTE 2	1909.2	18.0	63	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	LTE 4	1754.2	17.5	56	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	LTE 5	848.2	21.0	126	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	LTE 13	784.5	21.0	126	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	LTE 17	713.5	21.5	141	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A
3G Main	LTE 25	1914.2	18.0	63	0	0					< 50 mm	< 50 mm	N/A	N/A	N/A	N/A

Note(s):

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

Conclusion:

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.2. Estimated SAR for Simultaneous Transmission SAR Analysis

Considerations for using estimated SAR values:

1. According to KDB 447498 § 4.1.5 if the antenna is at close proximity to user then the outer surface of the DUT should be treated as the radiating surface. The test separation distance is then determined by the smallest distance between the outer surface of the device and the user. For the purposes of this report close proximity has been defined as closer than 50 mm. For antennas <50 mm from the rear or edge the separation distance used for the estimated SAR calculations is 0mm.
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
3. Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.
4. If the antenna separation distance is > 50mm then the estimated SAR value is 0.4 W/Kg.
5. Formulas round separation distance to nearest mm and power to nearest mW before calculating estimated SAR

12.2.1. Estimated SAR for WWAN

Antenna	Tx	Frequency (MHz)	Output power		Separation distances (mm)						Estimated SAR 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 3G – distances include sensor triggering distance for edge 1 (16mm)																
3G Main	GSM850	848.8	33.5	2239	13	21	167.6	185.1	47		Measure	Measure	Measure	Measure	Measure	N/A
3G Main	GSM1900	1909.8	30.5	1122	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	WCDMA V	846.6	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	WCDMA IV	1752.6	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	WCDMA II	1907.6	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	CDMA BC0	848.3	25.0	316	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	CDMA BC1	1908.8	25.0	316	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	CDMA BC10	822.75	25.0	316	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	LTE 2	1909.2	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	LTE 4	1754.2	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	LTE 5	848.2	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	LTE 13	784.5	24.0	251	13	20	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	LTE 17	713.5	24.0	251	13	20	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A
3G Main	LTE 25	1914.2	24.0	251	13	21	167.6	185.1	47		Measure	Measure	0.400	0.400	Measure	N/A

Antenna	Tx	Frequency (MHz)	Output power		Separation distances (mm)						Estimated SAR Value					
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Reduction Power 3G																
3G Main	GSM850	848.8	30.3	1072	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	GSM1900	1909.8	26.1	407	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	WCDMA V	846.6	20.9	123	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	WCDMA IV	1752.6	18.0	63	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	WCDMA II	1907.6	18.5	71	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	CDMA BC0	848.3	20.9	123	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	CDMA BC1	1908.8	18.7	74	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	CDMA BC10	822.75	21.2	132	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	LTE 2	1909.2	18.0	63	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	LTE 4	1754.2	17.5	56	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	LTE 5	848.2	21.0	126	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	LTE 13	784.5	21.0	126	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	LTE 17	713.5	21.5	141	0	0					Measure	Measure	N/A	N/A	N/A	N/A
3G Main	LTE 25	1914.2	18.0	63	0	0					Measure	Measure	N/A	N/A	N/A	N/A

Notes:

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.3. GSM850

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	0	GPRS 2 Slots	128	824.2	28.3	26.76				1
			190	836.6	28.3	26.80				1
			251	848.8	28.3	26.88	0.464	0.643	1	
Edge 1	0	GPRS 2 Slots	128	824.2	28.3	26.76	0.837	1.193	2	
			190	836.6	28.3	26.80	0.730	1.031	3	
			251	848.8	28.3	26.88	0.687	0.953	4	

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		
Rear	13	GPRS 2 Slots	128	824.2	33.5	31.73	0.446	0.670	5	
			190	836.6	33.5	31.70				1
			251	848.8	33.5	31.68				1
Edge 1	21	GPRS 2 Slots	128	824.2	33.5	31.73	0.320	0.481	6	
			190	836.6	33.5	31.70				1
			251	848.8	33.5	31.68				1
Edge 2	0	GPRS 2 Slots	128	824.2	33.5	31.73	0.084	0.126	7	
			190	836.6	33.5	31.70				1
			251	848.8	33.5	31.68				1
Edge 3	0	GPRS 2 Slots	128	824.2	33.5	31.73	0.018	0.027	8	
			190	836.6	33.5	31.70				1
			251	848.8	33.5	31.68				1
Edge 4	0	GPRS 2 Slots	128	824.2	33.5	31.73	0.131	0.197	9	
			190	836.6	33.5	31.70				1
			251	848.8	33.5	31.68				1

Note(s):
According to KDB 447498 D01 General RF Exposure Guidance v05, 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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.4. GSM1900

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	0	GPRS 2 Slots	512	1850.2	24.1	23.74	0.189	0.205	1	
			661	1880.0	24.1	23.57				1
			810	1909.8	24.1	23.62				1
Edge 1	0	GPRS 2 Slots	512	1850.2	24.1	23.74	0.702	0.763	2	
			661	1880.0	24.1	23.57	0.818	0.924	3	
			810	1909.8	24.1	23.62	0.948	1.059	4	

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		
Rear	13	GPRS 2 Slots	512	1850.2	30.5	29.34	0.196	0.256	5	
			661	1880.0	30.5	29.24				1
			810	1909.8	30.5	29.18				1
Edge 1	21	GPRS 2 Slots	512	1850.2	30.5	29.34	0.349	0.456	6	
			661	1880.0	30.5	29.24				1
			810	1909.8	30.5	29.18				1
Edge 4	0	GPRS 2 Slots	512	1850.2	30.5	29.34	0.297	0.388	7	
			661	1880.0	30.5	29.24				1
			810	1909.8	30.5	29.18				1

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, 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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.5. W-CDMA Band V

Test mode reduction considerations

Per KDB 941225 D01, Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit.

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		
Rear	0	Rel 99 RMC 12.2 kbps	4132	826.4	20.9	20.58				1
			4183	836.6	20.9	20.60	0.423	0.453	1	
			4233	846.6	20.9	20.51				1
Edge 1	0	Rel 99 RMC 12.2 kbps	4132	826.4	20.9	20.58	1.100	1.184	2	
			4183	836.6	20.9	20.60	1.020	1.093	3	
			4233	846.6	20.9	20.51	0.987	1.080	4	

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		
Rear	13	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.65				1
			4183	836.6	24.0	22.61				1
			4233	846.6	24.0	22.67	0.160	0.217	5	
Edge 1	21	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.65				1
			4183	836.6	24.0	22.61				1
			4233	846.6	24.0	22.67	0.111	0.151	6	
Edge 4	0	Rel 99 RMC 12.2 kbps	4132	826.4	24.0	22.65				1
			4183	836.6	24.0	22.61				1
			4233	846.6	24.0	22.67	0.042	0.057	7	

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

The maximum SAR value of WCDMA Band V is Repeated SAR. Please refer to Section 12.18.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.6. W-CDMA Band IV

Test mode reduction considerations

Per KDB 941225 D01, Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit

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		
Rear	0	Rel 99 RMC 12.2 kbps	1312	1712.4	18.0	17.35				1
			1413	1732.6	18.0	17.46	0.157	0.178	1	
			1513	1752.6	18.0	17.31				1
Edge 1	0	Rel 99 RMC 12.2 kbps	1312	1712.4	18.0	17.35	0.954	1.108	2	
			1413	1732.6	18.0	17.46	0.904	1.024	3	
			1513	1752.6	18.0	17.31	0.781	0.915	4	

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		
Rear	13	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.66				1
			1413	1732.6	24.0	22.69	0.116	0.157	5	
			1513	1752.6	24.0	22.61				1
Edge 1	21	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.66				1
			1413	1732.6	24.0	22.69	0.221	0.299	6	
			1513	1752.6	24.0	22.61				1
Edge 4	0	Rel 99 RMC 12.2 kbps	1312	1712.4	24.0	22.66				1
			1413	1732.6	24.0	22.69	0.129	0.174	7	
			1513	1752.6	24.0	22.61				1

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

The maximum SAR value of WCDMA Band IV is Repeated SAR. Please refer to Section 12.18.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.7 W-CDMA Band II

Test mode reduction considerations

Per KDB 941225 D01, Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit.

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		
Rear	0	Rel 99 RMC 12.2 kbps	9262	1852.4	18.5	17.89	0.241	0.277	1	
			9400	1880	18.5	17.76				1
			9538	1907.6	18.5	17.71				1
Edge 1	0	Rel 99 RMC 12.2 kbps	9262	1852.4	18.5	17.89	0.906	1.043	2	
			9400	1880	18.5	17.76	0.916	1.086	3	
			9538	1907.6	18.5	17.71	0.915	1.098	4	

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		
Rear	13	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	22.75	0.114	0.152	5	
			9400	1880	24.0	22.71				1
			9538	1907.6	24.0	22.73				1
Edge 1	21	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	22.75	0.182	0.243	6	
			9400	1880	24.0	22.71				1
			9538	1907.6	24.0	22.73				1
Edge 4	0	Rel 99 RMC 12.2 kbps	9262	1852.4	24.0	22.75	0.058	0.077	7	
			9400	1880	24.0	22.71				1
			9538	1907.6	24.0	22.73				1

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, 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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.8 CDMA Band 0

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-Up Limit	Meas.	Meas.	Scaled		
Rear	0	1xRTT (RC3 SO32)	1013	824.7	20.9	20.37	0.635	0.717	1	
			384	836.52	20.9	20.18	0.594	0.701	2	
			777	848.31	20.9	20.10	0.538	0.647	3	
		1xEVDO Rel. 0	1013	824.7	20.9	20.17				1
			384	836.52	20.9	20.27	0.580	0.671	4	
			777	848.31	20.9	20.14				1
Edge 1	0	1xRTT (RC3 SO32)	1013	824.7	20.9	20.37	0.988	1.116	5	
			384	836.52	20.9	20.18	0.894	1.055	6	
			777	848.31	20.9	20.10	0.862	1.036	7	
		1xEVDO Rel. 0	1013	824.7	20.9	20.17	0.990	1.171	8	
			384	836.52	20.9	20.27	0.891	1.030	9	
			777	848.31	20.9	20.14	0.846	1.008	10	

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		
Rear	13	1xRTT (RC3 SO32)	1013	824.7	25.0	23.46				1
			384	836.52	25.0	23.53	0.345	0.484	11	
			777	848.31	25.0	23.33				1
		1xEVDO Rel. 0	1013	824.7	25.0	23.50				1
			384	836.52	25.0	23.61	0.343	0.472	12	
			777	848.31	25.0	23.35				1
Edge 1	21	1xRTT (RC3 SO32)	1013	824.7	25.0	23.46				1
			384	836.52	25.0	23.53	0.209	0.293	13	
			777	848.31	25.0	23.33				1
		1xEVDO Rel. 0	1013	824.7	25.0	23.50				1
			384	836.52	25.0	23.61	0.211	0.291	14	
			777	848.31	25.0	23.35				1
Edge 4	0	1xRTT (RC3 SO32)	1013	824.7	25.0	23.46				1
			384	836.52	25.0	23.53	0.086	0.121	15	
			777	848.31	25.0	23.33				1
		1xEVDO Rel. 0	1013	824.7	25.0	23.50				1
			384	836.52	25.0	23.61	0.026	0.036	16	
			777	848.31	25.0	23.35				1

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, 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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.9 CDMA Band 1

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)			1-g SAR (W/kg)		Plot No.	Note
					Tune-Up Limit	Meas.	Meas.	Scaled		
Rear	0	1xRTT (RC3 SO32)	25	1851.25	18.7	18.31	0.287	0.314	1	
			600	1880	18.7	18.12				1
			1175	1908.75	18.7	18.25				1
		1xEVDO Rel. 0	25	1851.25	18.7	18.34	0.293	0.318	2	
			600	1880	18.7	17.99				1
			1175	1908.75	18.7	18.07				1
Edge 1	0	1xRTT (RC3 SO32)	25	1851.25	18.7	18.31	1.030	1.127	3	
			600	1880	18.7	18.12	0.938	1.072	4	
			1175	1908.75	18.7	18.25	0.988	1.096	5	
		1xEVDO Rel. 0	25	1851.25	18.7	18.34	1.010	1.097	6	
			600	1880	18.7	17.99	0.998	1.175	7	
			1175	1908.75	18.7	18.07	0.985	1.139	8	

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		
Rear	13	1xRTT (RC3 SO32)	25	1851.25	25.0	23.69				1
			600	1880	25.0	23.73				1
			1175	1908.75	25.0	23.82	0.277	0.363	9	
		1xEVDO Rel. 0	25	1851.25	25.0	23.72				1
			600	1880	25.0	23.83	0.292	0.382	10	
			1175	1908.75	25.0	23.76				1
Edge 1	21	1xRTT (RC3 SO32)	25	1851.25	25.0	23.69				1
			600	1880	25.0	23.73				1
			1175	1908.75	25.0	23.82	0.413	0.542	11	
		1xEVDO Rel. 0	25	1851.25	25.0	23.72				1
			600	1880	25.0	23.83	0.506	0.662	12	
			1175	1908.75	25.0	23.76				1
Edge 4	0	1xRTT (RC3 SO32)	25	1851.25	25.0	23.69				1
			600	1880	25.0	23.73				1
			1175	1908.75	25.0	23.82	0.113	0.148	13	
		1xEVDO Rel. 0	25	1851.25	25.0	23.72				1
			600	1880	25.0	23.83	0.108	0.141	14	
			1175	1908.75	25.0	23.76				1

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is.

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

The maximum SAR value of CDMA Band 1 is Repeated SAR. Please refer to Section 12.18.

12.10 CDMA Band 10

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-Up Limit	Meas.	Meas.	Scaled		
Rear	0	1xRTT (RC3 SO32)	450	817.25	21.2	20.37	0.629	0.761	1	
			560	820	21.2	20.41	0.632	0.758	2	
			670	822.75	21.2	20.37	0.634	0.768	3	
		1xEVDO Rel. 0	450	817.25	21.2	20.33				1
			560	820	21.2	20.34	0.636	0.775	4	
			670	822.75	21.2	20.34				1
Edge 1	0	1xRTT (RC3 SO32)	450	817.25	21.2	20.37	0.941	1.139	5	
			560	820	21.2	20.41	0.920	1.104	6	
			670	822.75	21.2	20.37	0.921	1.115	7	
		1xEVDO Rel. 0	450	817.25	21.2	20.33	0.941	1.150	8	
			560	820	21.2	20.34	0.939	1.145	9	
			670	822.75	21.2	20.34	0.910	1.109	10	

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		
Rear	13	1xRTT (RC3 SO32)	450	817.25	25.0	23.42				1
			560	820	25.0	23.59	0.328	0.454	11	
			670	822.75	25.0	23.39				1
		1xEVDO Rel. 0	450	817.25	25.0	23.20				1
			560	820	25.0	23.29				1
			670	822.75	25.0	23.33	0.334	0.491	12	
Edge 1	21	1xRTT (RC3 SO32)	450	817.25	25.0	23.42				1
			560	820	25.0	23.59	0.252	0.349	13	
			670	822.75	25.0	23.39				1
		1xEVDO Rel. 0	450	817.25	25.0	23.20				1
			560	820	25.0	23.29				1
			670	822.75	25.0	23.33	0.257	0.378	14	
Edge 4	0	1xRTT (RC3 SO32)	450	817.25	25.0	23.42				1
			560	820	25.0	23.59	0.097	0.134	15	
			670	822.75	25.0	23.39				1
		1xEVDO Rel. 0	450	817.25	25.0	23.20				1
			560	820	25.0	23.29				1
			670	822.75	25.0	23.33	0.120	0.176	16	

Note(s):

According to KDB 447498 D01 General RF Exposure Guidance v05, 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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.11 LTE Band 2

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	0	QPSK	18900	1880	1	49	18.0	17.84	0.171	0.177	1	1
			18700	1860	1	99	18.0	17.69				
			19100	1900	1	99	18.0	17.71				
			18700	1860	50	0	18.0	17.83	0.252	0.262	2	1
			18900	1880	50	0	18.0	17.69				
			19100	1900	50	49	18.0	17.54				
			18700	1860	100	0	18.0	17.78				
Edge 1	0	QPSK	18900	1880	1	49	18.0	17.84	0.970	1.006	3	1
			18700	1860	1	99	18.0	17.69	0.931	1.000	4	1
			19100	1900	1	99	18.0	17.71	0.929	0.993	5	1
			18700	1860	50	0	18.0	17.83	0.944	0.982	6	1
			18900	1880	50	0	18.0	17.69	0.950	1.020	7	1
			19100	1900	50	49	18.0	17.54	0.941	1.046	8	1
			18700	1860	100	0	18.0	17.78	0.934	0.983	9	1

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is $\geq$ 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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 2 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	13	QPSK	18900	1880	1	49	24.0	22.63	0.156	0.214	10	1
			18700	1860	1	49	24.0	22.63				
			19100	1900	1	99	24.0	22.61				
			18900	1880	50	0	24.0	21.49	0.120	0.214	11	1
			18700	1860	50	24	24.0	21.47				
			19100	1900	50	49	24.0	21.33				
			18700	1860	100	0	24.0	21.49				
Edge 1	21	QPSK	18900	1880	1	49	24.0	22.63	0.313	0.429	12	1
			18700	1860	1	49	24.0	22.63				
			19100	1900	1	99	24.0	22.61				
			18900	1880	50	0	24.0	21.49	0.243	0.433	13	1
			18700	1860	50	24	24.0	21.47				
			19100	1900	50	49	24.0	21.33				
			18700	1860	100	0	24.0	21.49				
Edge 4	0	QPSK	18900	1880	1	49	24.0	22.63	0.257	0.352	14	1
			18700	1860	1	49	24.0	22.63				
			19100	1900	1	99	24.0	22.61				
			18900	1880	50	0	24.0	21.49	0.200	0.356	15	1
			18700	1860	50	24	24.0	21.47				
			19100	1900	50	49	24.0	21.33				
			18700	1860	100	0	24.0	21.49				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.12 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		
Rear	0	QPSK	20300	1745	1	0	17.5	17.44	0.163	0.165	1	1
			20050	1720	1	99	17.5	17.32				
			20175	1732.5	1	99	17.5	17.26				
			20050	1720	50	24	17.5	17.25	0.154	0.163	2	1
			20175	1732.5	50	24	17.5	17.23				
			20300	1745	50	24	17.5	17.23				
			20300	1745	100	0	17.5	17.26	0.163	0.172	3	1
Edge 1	0	QPSK	20300	1745	1	0	17.5	17.44	0.963	0.976	4	1
			20050	1720	1	99	17.5	17.32	0.940	0.980	5	1
			20175	1732.5	1	99	17.5	17.26	0.921	0.973	6	1
			20050	1720	50	24	17.5	17.25	0.980	1.038	7	1
			20175	1732.5	50	24	17.5	17.23	0.910	0.968	8	1
			20300	1745	50	24	17.5	17.23	0.892	0.949	9	1
			20300	1745	100	0	17.5	17.26	0.899	0.950	10	1

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is $\geq$ 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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 4 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	13	QPSK	20050	1720	1	49	24.0	22.77	0.197	0.261	11	1
			20175	1732.5	1	99	24.0	22.61				
			20300	1745	1	99	24.0	22.70				
			20050	1720	50	24	24.0	21.65	0.150	0.258	12	1
			20175	1732.5	50	0	24.0	21.56				
			20300	1745	50	0	24.0	21.59				
			20050	1720	100	0	24.0	21.56				
Edge 1	21	QPSK	20050	1720	1	49	24.0	22.77	0.308	0.409	13	1
			20175	1732.5	1	99	24.0	22.61				
			20300	1745	1	99	24.0	22.70				
			20050	1720	50	24	24.0	21.65	0.238	0.409	14	1
			20175	1732.5	50	0	24.0	21.56				
			20300	1745	50	0	24.0	21.59				
			20050	1720	100	0	24.0	21.56				
Edge 4	0	QPSK	20050	1720	1	49	24.0	22.77	0.150	0.199	15	1
			20175	1732.5	1	99	24.0	22.61				
			20300	1745	1	99	24.0	22.70				
			20050	1720	50	24	24.0	21.65	0.116	0.199	16	1
			20175	1732.5	50	0	24.0	21.56				
			20300	1745	50	0	24.0	21.59				
			20050	1720	100	0	24.0	21.56				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is $\geq$ 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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.13 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		
Rear	0	QPSK	20450	829	1	0	21.0	20.30	0.633	0.744	1	1
			20525	836.5	1	0	21.0	20.23				
			20600	844	1	0	21.0	20.26				
			20450	829	25	24	21.0	20.34	0.633	0.737	2	1
			20525	836.5	25	24	21.0	20.20				
			20600	844	25	12	21.0	20.00				
			20525	836.5	50	0	21.0	20.16				
Edge 1	0	QPSK	20450	829	1	0	21.0	20.30	0.952	1.119	3	1
			20525	836.5	1	0	21.0	20.23	0.971	1.159	4	1
			20600	844	1	0	21.0	20.26	0.964	1.143	5	1
			20450	829	25	24	21.0	20.34	0.936	1.090	6	1
			20525	836.5	25	24	21.0	20.20	0.913	1.098	7	1
			20600	844	25	12	21.0	20.00	0.900	1.133	8	1
			20525	836.5	50	0	21.0	20.16	0.895	1.086	9	1

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 25% 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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 5 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	13	QPSK	20450	829	1	24	24.0	22.39	0.245	0.355	10	1
			20525	836.5	1	24	24.0	22.32				
			20600	844	1	0	24.0	22.31				
			20450	829	25	0	24.0	21.42	0.198	0.359	11	1
			20525	836.5	25	24	24.0	21.24				
			20600	844	25	12	24.0	21.16				
			20450	829	50	0	24.0	21.29				
Edge 1	21	QPSK	20450	829	1	24	24.0	22.39	0.188	0.272	12	1
			20525	836.5	1	24	24.0	22.32				
			20600	844	1	0	24.0	22.31				
			20450	829	25	0	24.0	21.42	0.157	0.284	13	1
			20525	836.5	25	24	24.0	21.24				
			20600	844	25	12	24.0	21.16				
			20450	829	50	0	24.0	21.29				
Edge 4	0	QPSK	20450	829	1	24	24.0	22.39	0.080	0.116	14	1
			20525	836.5	1	24	24.0	22.32				
			20600	844	1	0	24.0	22.31				
			20450	829	25	0	24.0	21.42	0.068	0.123	15	1
			20525	836.5	25	24	24.0	21.24				
			20600	844	25	12	24.0	21.16				
			20450	829	50	0	24.0	21.29				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is $\geq$ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 25% RB allocation configurations.
     - 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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.14 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		
Rear	0	QPSK	23230	782	1	24	21.0	20.62	0.664	0.725	1	1
			23230	782	25	12	21.0	20.60	0.680	0.746	2	1
			23230	782	50	0	21.0	20.41				
Edge 1	0	QPSK	23230	782	1	24	21.0	20.62	1.030	1.124	3	1
			23230	782	25	12	21.0	20.60	1.020	1.118	4	1
			23230	782	50	0	21.0	20.41	0.920	1.054	5	1

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

2. The maximum SAR value of LTE Band 13 is Repeated SAR. Please refer to Section 12.18.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 13 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	13	QPSK	23230	782	1	24	24.0	22.53	0.256	0.359	6	1
			23230	782	25	12	24.0	21.65	0.207	0.356	7	1
			23230	782	50	0	24.0	21.53				
Edge 1	20	QPSK	23230	782	1	24	24.0	22.53	0.174	0.244	8	1
			23230	782	25	12	24.0	21.65	0.141	0.242	9	1
			23230	782	50	0	24.0	21.53				
Edge 4	0	QPSK	23230	782	1	24	24.0	22.53	0.093	0.130	10	1
			23230	782	25	12	24.0	21.65	0.078	0.134	11	1
			23230	782	50	0	24.0	21.53				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is $\geq$ 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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.15 LTE Band 17

Usage Scenario: Proximity Sensor Activated, Reduced Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	0	QPSK	23780	709	1	24	21.5	21.29	0.447	0.469	1	1
			23790	710	1	24	21.5	21.07				
			23800	711	1	24	21.5	21.26				
			23780	709	25	24	21.5	21.22	0.440	0.469	2	1
			23790	710	25	24	21.5	21.15				
			23800	711	25	12	21.5	21.09				
			23790	710	50	0	21.5	21.02				
Edge 1	0	QPSK	23780	709	1	24	21.5	21.29	0.889	0.933	3	1
			23790	710	1	24	21.5	21.07	0.889	0.982	4	1
			23800	711	1	24	21.5	21.26	0.908	0.960	5	1
			23780	709	25	24	21.5	21.22	0.879	0.938	6	1
			23790	710	25	24	21.5	21.15	0.857	0.929	7	1
			23800	711	25	12	21.5	21.09	0.863	0.948	8	1
			23790	710	50	0	21.5	21.02	0.813	0.908	9	1

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 17 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	13	QPSK	23780	709	1	49	24.0	22.80	0.099	0.131	10	1
			23790	710	1	24	24.0	22.61				
			23800	711	1	24	24.0	22.69				
			23780	709	25	24	24.0	21.80	0.084	0.139	11	1
			23790	710	25	12	24.0	21.71				
			23800	711	25	12	24.0	21.70				
			23780	709	50	0	24.0	21.66				
Edge 1	20	QPSK	23780	709	1	49	24.0	22.80	0.082	0.108	12	1
			23790	710	1	24	24.0	22.61				
			23800	711	1	24	24.0	22.69				
			23780	709	25	24	24.0	21.80	0.076	0.126	13	1
			23790	710	25	12	24.0	21.71				
			23800	711	25	12	24.0	21.70				
			23780	709	50	0	24.0	21.66				
Edge 4	0	QPSK	23780	709	1	49	24.0	22.80	0.078	0.103	14	1
			23790	710	1	24	24.0	22.61				
			23800	711	1	24	24.0	22.69				
			23780	709	25	24	24.0	21.80	0.064	0.106	15	1
			23790	710	25	12	24.0	21.71				
			23800	711	25	12	24.0	21.70				
			23780	709	50	0	24.0	21.66				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.16 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		
Rear	0	QPSK	26365	1882.5	1	49	18.0	17.53	0.238	0.265	1	1
			26140	1860	1	49	18.0	17.43				
			26590	1905	1	49	18.0	17.46				
			26590	1905	50	49	18.0	17.47	0.256	0.289	2	1
			26140	1860	50	0	18.0	17.38				
			26365	1882.5	50	0	18.0	17.35				
			26140	1860	100	0	18.0	17.41				
Edge 1	0	QPSK	26365	1882.5	1	49	18.0	17.53	0.894	0.996	3	1
			26140	1860	1	49	18.0	17.43	0.885	1.009	4	1
			26590	1905	1	49	18.0	17.46	0.901	1.020	5	1
			26590	1905	50	49	18.0	17.47	0.877	0.991	6	1
			26140	1860	50	0	18.0	17.38	0.850	0.980	7	1
			26365	1882.5	50	0	18.0	17.35	0.884	1.027	8	1
			26140	1860	100	0	18.0	17.41	0.874	1.001	9	1

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

LTE Band 25 Continued

Usage Scenario: Proximity Sensor Deactivated, Full Power Operation

Test Position	Dist. (mm)	Mode	UL Ch #.	Freq. (MHz)	UL RB Allocation	UL RB Start	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
							Tune-up limit	Meas.	Meas.	Scaled		
Rear	13	QPSK	26365	1882.5	1	49	24.0	22.62	0.213	0.293	10	1
			26140	1860	1	99	24.0	22.59				
			26590	1905	1	99	24.0	22.57				
			26590	1905	50	49	24.0	21.58	0.174	0.304	11	1
			26140	1860	50	24	24.0	21.48				
			26365	1882.5	50	0	24.0	21.40				
			26140	1860	100	0	24.0	21.50				
Edge 1	21	QPSK	26365	1882.5	1	49	24.0	22.62	0.320	0.440	12	1
			26140	1860	1	99	24.0	22.59				
			26590	1905	1	99	24.0	22.57				
			26590	1905	50	49	24.0	21.58	0.247	0.431	13	1
			26140	1860	50	24	24.0	21.48				
			26365	1882.5	50	0	24.0	21.40				
			26140	1860	100	0	24.0	21.50				
Edge 4	0	QPSK	26365	1882.5	1	49	24.0	22.62	0.208	0.286	14	1
			26140	1860	1	99	24.0	22.59				
			26590	1905	1	99	24.0	22.57				
			26590	1905	50	49	24.0	21.58	0.126	0.220	15	1
			26140	1860	50	24	24.0	21.48				
			26365	1882.5	50	0	24.0	21.40				
			26140	1860	100	0	24.0	21.50				

Note(s):

1. Per KDB 941225 D05 SAR for LTE Devices v02, SAR test reduction is applied using the following criteria:
   - Beginning with QPSK modulation at the largest channel bandwidth, testing for 1 RB allocation configurations is initially performed for the channel/RB offset combination with the highest output power among 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is < 0.8 W/kg, no further assessment is required for 1 RB allocation configurations.
     - o When the reported SAR for the initial measurement is > 0.8 W/kg, the remaining channels are evaluated using the RB offset with the highest output power within the respective channels.
     - o For all reported SAR that is > 1.45 W/kg, SAR, SAR is required for the remaining RB offset configurations of the same channel.
   - The same procedures apply to QPSK 50% RB allocation configurations at the largest channel bandwidth.
   - Testing for 100% RB allocation configurations at the largest channel bandwidth is performed for the channel, across low, mid and high, with the highest output power, when the highest reported SAR for either 1 RB or 50% RB is ≥ 0.8 W/kg, or when the maximum output power among 100% RB allocation configurations is greater than the maximum output power among either 1 RB or 50% RB allocation configurations.
     - o Testing for the remaining channels in 100% RB allocation configurations is required only when reported SAR for the initial 100% RB allocation configuration is > 1.45 W/kg.
   - Testing for higher order modulations (16-QAM or 64-QAM) is required only when the highest reported SAR for QPSK is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of QPSK.
   - Testing for the other channel bandwidths is required only when the highest reported SAR for the highest channel bandwidth is > 1.45 W/Kg or if its output power is more than 0.5 dB higher than that of the highest channel bandwidth.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.17. Summary of Highest SAR Values

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

Technology Band	Test Configuration		Mode	Dist. (mm)	Freq. (MHz)	dBm	1g/SAR (w/kg)
	Exposure	Position					
GSM 850	Body	Edge 1 (Prox on)	GPRS 2 Slot	0	824.2	26.76	0.837
GSM 1900	Body	Edge 1 (Prox on)	GPRS 2 slot	0	1909.8	23.62	0.948
W-CDMA Band V	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	826.4	20.58	1.100
W-CDMA Band IV	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	1712.4	17.35	0.954
W-CDMA Band II	Body	Edge 1 (Prox on)	Rel 99 RMC 12.2kbps	0	1880	17.76	0.916
CDMA BC0	Body	Edge 1 (Prox on)	1xEVDO Rel.0	0	824.7	20.17	0.990
CDMA BC1	Body	Edge 1 (Prox on)	1xRTT (RC3 SO32)	0	1851.25	18.31	1.030
CDMA BC 10	Body	Edge 1 (Prox on)	1xRTT (RC3 SO32)	0	817.25	20.37	0.941
LTE Band 2	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 1/49	0	1880	17.84	0.970
LTE Band 4	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 50/24	0	1720	17.25	0.980
LTE Band 5	Body	Edge 1 (Prox on)	10 MHz (QPSK) RB 1/0	0	836.5	20.23	0.971
LTE Band 13	Body	Edge 1 (Prox on)	10 MHZ (QPSK) RB 1/24	0	782	20.62	1.030
LTE Band 17	Body	Edge 1 (Prox on)	10 MHz (QPSK) RB 1/24	0	711	21.26	0.908
LTE Band 25	Body	Edge 1 (Prox on)	20 MHz(QPSK) RB 1/49	0	1905	17.46	0.901

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

12.18 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) 1/24	0	23230	782.0	1.030	0.975	1.06	1
W-CDMA Band V	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	4132	826.4	1.100	1.030	1.07	2
W-CDMA Band IV	Body	Edge 1 Prox. On	Rel 99 RMC 12.2kbps	0	1312	1712.4	0.954	0.931	1.02	3
CDMA BC1	Body	Edge 1 Prox. On	1xRTT (RC3 SO32)	0	25	1851.25	1.03	1.03	1.00	4

Note(s):

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

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13 Simultaneous Transmission SAR Analysis

All Wi-Fi 1-g SAR values were taken from results recorded in SAR report 10258104H, submitted under FCC ID PD97260NG.

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 (10258104H) with scaling applied (for the WLAN radios).

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

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.643		0.129		0.210	0.982
		0.205	0.129		0.210	0.544
	0.643			0.196		0.839
		0.205		0.196		0.401
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.129		0.210	1.009
		0.256	0.129		0.210	0.595
	0.670			0.196		0.866
		0.256		0.196		0.452
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.129	0.196		0.968
		0.205	0.129	0.196		0.530
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.129	0.196		0.995
		0.256	0.129	0.196		0.581
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.057		0.000128	1.250
		1.059	0.057		0.000128	1.116
	1.193			0.00204		1.195
		1.059		0.00204		1.061
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.057		0.000128	0.538
		0.456	0.057		0.000128	0.513
	0.481			0.00204		0.483
		0.456		0.00204		0.458
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.057	0.00204		1.252
		1.059	0.057	0.00204		1.118
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.057	0.00204		0.540
		0.456	0.057	0.00204		0.515

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.520		0.547
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.520		0.947
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.197		0.467		0.210	0.874
		0.388	0.467		0.210	1.065
	0.197			0.080		0.277
		0.388		0.080		0.468
Edge 4, Wi-Fi 2 Tx	0.197		0.467	0.080		0.744
		0.388	0.467	0.080		0.935

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.453		0.129		0.210	0.792
		0.178	0.129		0.210	0.517
	0.453			0.196		0.649
		0.178		0.196		0.374
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.129		0.210	0.556
		0.157	0.129		0.210	0.496
	0.217			0.196		0.413
		0.157		0.196		0.353
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.129	0.196		0.778
		0.178	0.129	0.196		0.503
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.129	0.196		0.542
		0.157	0.129	0.196		0.482
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.057		0.000128	1.241
		1.108	0.057		0.000128	1.165
	1.184			0.00204		1.186
		1.108		0.00204		1.110
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.057		0.000128	0.208
		0.299	0.057		0.000128	0.356
	0.151			0.00204		0.153
		0.299		0.00204		0.301
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.057	0.00204		1.243
		1.108	0.057	0.00204		1.167
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.057	0.00204		0.210
		0.299	0.057	0.00204		0.358

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.057		0.467		0.210	0.734
		0.174	0.467		0.210	0.851
	0.057			0.080		0.137
		0.174		0.080		0.254
Edge 4, Wi-Fi 2 Tx	0.057		0.467	0.080		0.604
		0.174	0.467	0.080		0.721

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.277	0.129		0.210	0.616
	0.277		0.196		0.473
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.129		0.210	0.491
	0.152		0.196		0.348
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.129	0.196		0.602
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.129	0.196		0.477
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.057		0.000128	1.155
	1.098		0.00204		1.100
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.057		0.000128	0.300
	0.243		0.00204		0.245
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.057	0.00204		1.157
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.057	0.00204		0.302
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.077	0.467		0.210	0.754
	0.077		0.080		0.157
Edge 4, Wi-Fi 2 Tx	0.077	0.467	0.080		0.624

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.717		0.129		0.210	1.056
		0.671	0.129		0.210	1.010
	0.717			0.196		0.913
		0.671		0.196		0.867
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.129		0.210	0.823
		0.472	0.129		0.210	0.811
	0.484			0.196		0.680
		0.472		0.196		0.668
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.129	0.196		1.042
		0.671	0.129	0.196		0.996
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.129	0.196		0.809
		0.472	0.129	0.196		0.797
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.057		0.000128	1.173
		1.171	0.057		0.000128	1.228
	1.116			0.00204		1.118
		1.171		0.00204		1.173
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.057		0.000128	0.350
		0.291	0.057		0.000128	0.348
	0.293			0.00204		0.295
		0.291		0.00204		0.293
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.057	0.00204		1.175
		1.171	0.057	0.00204		1.230
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.057	0.00204		0.352
		0.291	0.057	0.00204		0.350

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.121		0.467		0.210	0.798
		0.036	0.467		0.210	0.713
	0.121			0.080		0.201
		0.036		0.080		0.116
Edge 4, Wi-Fi 2 Tx	0.121		0.467	0.080		0.668
		0.036	0.467	0.080		0.583

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.314		0.129		0.210	0.653
		0.318	0.129		0.210	0.657
	0.314			0.196		0.510
		0.318		0.196		0.514
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.129		0.210	0.702
		0.382	0.129		0.210	0.721
	0.363			0.196		0.559
		0.382		0.196		0.578
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.129	0.196		0.639
		0.318	0.129	0.196		0.643
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.129	0.196		0.688
		0.382	0.129	0.196		0.707
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.057		0.000128	1.184
		1.175	0.057		0.000128	1.232
	1.127			0.00204		1.129
		1.175		0.00204		1.177
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.057		0.000128	0.599
		0.662	0.057		0.000128	0.719
	0.542			0.00204		0.544
		0.662		0.00204		0.664
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.057	0.00204		1.186
		1.175	0.057	0.00204		1.234
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.057	0.00204		0.601
		0.662	0.057	0.00204		0.721

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.148		0.467		0.210	0.825
		0.141	0.467		0.210	0.818
	0.148			0.080		0.228
		0.141		0.080		0.221
Edge 4, Wi-Fi 2 Tx	0.148		0.467	0.080		0.695
		0.141	0.467	0.080		0.688

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.768		0.129		0.210	1.107
		0.775	0.129		0.210	1.114
	0.768			0.196		0.964
		0.775		0.196		0.971
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.129		0.210	0.793
		0.491	0.129		0.210	0.830
	0.454			0.196		0.650
		0.491		0.196		0.687
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.129	0.196		1.093
		0.775	0.129	0.196		1.100
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.129	0.196		0.779
		0.491	0.129	0.196		0.816
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.057		0.000128	1.196
		1.150	0.057		0.000128	1.207
	1.139			0.00204		1.141
		1.150		0.00204		1.152
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.057		0.000128	0.406
		0.378	0.057		0.000128	0.435
	0.349			0.00204		0.351
		0.378		0.00204		0.380
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.057	0.00204		1.198
		1.150	0.057	0.00204		1.209
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.057	0.00204		0.408
		0.378	0.057	0.00204		0.437

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.134		0.467		0.210	0.811
		0.176	0.467		0.210	0.853
	0.134			0.080		0.214
		0.176		0.080		0.256
Edge 4, Wi-Fi 2 Tx	0.134		0.467	0.080		0.681
		0.176	0.467	0.080		0.723

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.262		0.129		0.210	0.601
		0.165	0.129		0.210	0.504
	0.262			0.196		0.458
		0.165		0.196		0.361
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.129		0.210	0.553
		0.261	0.129		0.210	0.600
	0.214			0.196		0.410
		0.261		0.196		0.457
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.129	0.196		0.587
		0.165	0.129	0.196		0.490
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.129	0.196		0.539
		0.261	0.129	0.196		0.586
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.057		0.000128	1.103
		1.038	0.057		0.000128	1.095
	1.046			0.00204		1.048
		1.038		0.00204		1.040
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.057		0.000128	0.490
		0.409	0.057		0.000128	0.466
	0.433			0.00204		0.435
		0.409		0.00204		0.411
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.057	0.00204		1.105
		1.038	0.057	0.00204		1.097
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.057	0.00204		0.492
		0.409	0.057	0.00204		0.468

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.356		0.467		0.210	1.033
		0.199	0.467		0.210	0.876
	0.356			0.080		0.436
		0.199		0.080		0.279
Edge 4, Wi-Fi 2 Tx	0.356		0.467	0.080		0.903
		0.199	0.467	0.080		0.746

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.8 Sum of the SAR for LTE Bands 5 and 13 & Wi-Fi 2.4 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.744		0.129		0.210	1.083
		0.746	0.129		0.210	1.085
	0.744			0.196		0.940
		0.746		0.196		0.942
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.129		0.210	0.698
		0.359	0.129		0.210	0.698
	0.359			0.196		0.555
		0.359		0.196		0.555
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.129	0.196		1.069
		0.746	0.129	0.196		1.071
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.129	0.196		0.684
		0.359	0.129	0.196		0.684
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.057		0.000128	1.216
		1.124	0.057		0.000128	1.181
	1.159			0.00204		1.161
		1.124		0.00204		1.126
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.057		0.000128	0.341
		0.244	0.057		0.000128	0.301
	0.284			0.00204		0.286
		0.244		0.00204		0.246
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.057	0.00204		1.218
		1.124	0.057	0.00204		1.183
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.057	0.00204		0.343
		0.244	0.057	0.00204		0.303

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.123		0.467		0.210	0.800
		0.134	0.467		0.210	0.811
	0.123			0.080		0.203
		0.134		0.080		0.214
Edge 4, Wi-Fi 2 Tx	0.123		0.467	0.080		0.670
		0.134	0.467	0.080		0.681

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.9 Sum of the SAR for LTE Bands 17 and 25 & Wi-Fi 2.4 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.469		0.129		0.210	0.808
		0.289	0.129		0.210	0.628
	0.469			0.196		0.665
		0.289		0.196		0.485
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.129		0.210	0.478
		0.304	0.129		0.210	0.643
	0.139			0.196		0.335
		0.304		0.196		0.500
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.129	0.196		0.794
		0.289	0.129	0.196		0.614
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.129	0.196		0.464
		0.304	0.129	0.196		0.629
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.057		0.000128	1.039
		1.027	0.057		0.000128	1.084
	0.982			0.00204		0.984
		1.027		0.00204		1.029
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.057		0.000128	0.183
		0.440	0.057		0.000128	0.497
	0.126			0.00204		0.128
		0.440		0.00204		0.442
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.057	0.00204		1.041
		1.027	0.057	0.00204		1.086
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.057	0.00204		0.185
		0.440	0.057	0.00204		0.499

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.520		0.920
		0.400		0.520		0.920
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.520		1.320
		0.400	0.400	0.520		1.320
Edge 4, Wi-Fi 1 Tx	0.106		0.467		0.210	0.783
		0.286	0.467		0.210	0.963
	0.106			0.080		0.186
		0.286		0.080		0.366
Edge 4, Wi-Fi 2 Tx	0.106		0.467	0.080		0.653
		0.286	0.467	0.080		0.833

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.10 Sum of the SAR for GSM & Wi-Fi 5.2 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.643		0.040		0.210	0.893
		0.205	0.040		0.210	0.455
	0.643			0.106		0.749
		0.205		0.106		0.311
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.040		0.210	0.920
		0.256	0.040		0.210	0.506
	0.670			0.106		0.776
		0.256		0.106		0.362
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.040	0.106		0.789
		0.205	0.040	0.106		0.351
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.040	0.106		0.816
		0.256	0.040	0.106		0.402
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.032		0.000128	1.225
		1.059	0.032		0.000128	1.091
	1.193			0.016		1.209
		1.059		0.016		1.075
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.032		0.000128	0.513
		0.456	0.032		0.000128	0.488
	0.481			0.016		0.497
		0.456		0.016		0.472
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.032	0.016		1.241
		1.059	0.032	0.016		1.107
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.032	0.016		0.529
		0.456	0.032	0.016		0.504

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.219		0.246
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.219		0.646
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.197		0.236		0.210	0.643
		0.388	0.236		0.210	0.834
	0.197			0.032		0.229
		0.388		0.032		0.420
Edge 4, Wi-Fi 2 Tx	0.197		0.236	0.032		0.465
		0.388	0.236	0.032		0.656

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.11 Sum of the SAR for W-CDMA Bands V and IV & Wi-Fi 5.2 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.453		0.040		0.210	0.703
		0.178	0.040		0.210	0.428
	0.453			0.106		0.559
		0.178		0.106		0.284
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.040		0.210	0.467
		0.157	0.040		0.210	0.407
	0.217			0.106		0.323
		0.157		0.106		0.263
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.040	0.106		0.599
		0.178	0.040	0.106		0.324
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.040	0.106		0.363
		0.157	0.040	0.106		0.303
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.032		0.000128	1.216
		1.108	0.032		0.000128	1.140
	1.184			0.016		1.200
		1.108		0.016		1.124
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.032		0.000128	0.183
		0.299	0.032		0.000128	0.331
	0.151			0.016		0.167
		0.299		0.016		0.315
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.032	0.016		1.232
		1.108	0.032	0.016		1.156
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.032	0.016		0.199
		0.299	0.032	0.016		0.347

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.057		0.236		0.210	0.503
		0.174	0.236		0.210	0.620
	0.057			0.032		0.089
		0.174		0.032		0.206
Edge 4, Wi-Fi 2 Tx	0.057		0.236	0.032		0.325
		0.174	0.236	0.032		0.442

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.12 Sum of the SAR for W-CDMA Band II & Wi-Fi 5.2 GHz Band

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.277	0.040		0.210	0.527
	0.277		0.106		0.383
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.040		0.210	0.402
	0.152		0.106		0.258
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.040	0.106		0.423
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.040	0.106		0.298
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.032		0.000128	1.130
	1.098		0.016		1.114
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.032		0.000128	0.275
	0.243		0.016		0.259
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.032	0.016		1.146
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.032	0.016		0.291
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.077	0.236		0.210	0.523
	0.077		0.032		0.109
Edge 4, Wi-Fi 2 Tx	0.077	0.236	0.032		0.345

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.13 Sum of the SAR for CDMA BC0 & Wi-Fi 5.2GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.717		0.040		0.210	0.967
		0.671	0.040		0.210	0.921
	0.717			0.106		0.823
		0.671		0.106		0.777
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.040		0.210	0.734
		0.472	0.040		0.210	0.722
	0.484			0.106		0.590
		0.472		0.106		0.578
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.040	0.106		0.863
		0.671	0.040	0.106		0.817
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.040	0.106		0.630
		0.472	0.040	0.106		0.618
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.032		0.000128	1.148
		1.171	0.032		0.000128	1.203
	1.116			0.016		1.132
		1.171		0.016		1.187
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.032		0.000128	0.325
		0.291	0.032		0.000128	0.323
	0.293			0.016		0.309
		0.291		0.016		0.307
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.032	0.016		1.164
		1.171	0.032	0.016		1.219
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.032	0.016		0.341
		0.291	0.032	0.016		0.339

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.121		0.236		0.210	0.567
		0.036	0.236		0.210	0.482
	0.121			0.032		0.153
		0.036		0.032		0.068
Edge 4, Wi-Fi 2 Tx	0.121		0.236	0.032		0.389
		0.036	0.236	0.032		0.304

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.14 Sum of the SAR for CDMA BC1 & Wi-Fi5.2GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.314		0.040		0.210	0.564
		0.318	0.040		0.210	0.568
	0.314			0.106		0.420
		0.318		0.106		0.424
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.040		0.210	0.613
		0.382	0.040		0.210	0.632
	0.363			0.106		0.469
		0.382		0.106		0.488
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.040	0.106		0.460
		0.318	0.040	0.106		0.464
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.040	0.106		0.509
		0.382	0.040	0.106		0.528
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.032		0.000128	1.159
		1.175	0.032		0.000128	1.207
	1.127			0.016		1.143
		1.175		0.016		1.191
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.032		0.000128	0.574
		0.662	0.032		0.000128	0.694
	0.542			0.016		0.558
		0.662		0.016		0.678
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.032	0.016		1.175
		1.175	0.032	0.016		1.223
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.032	0.016		0.590
		0.662	0.032	0.016		0.710

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.148		0.236		0.210	0.594
		0.141	0.236		0.210	0.587
	0.148			0.032		0.180
		0.141		0.032		0.173
Edge 4, Wi-Fi 2 Tx	0.148		0.236	0.032		0.416
		0.141	0.236	0.032		0.409

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.15 Sum of the SAR for CDMA BC10 & Wi-Fi 5.2GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.768		0.040		0.210	1.018
		0.775	0.040		0.210	1.025
	0.768			0.106		0.874
		0.775		0.106		0.881
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.040		0.210	0.704
		0.491	0.040		0.210	0.741
	0.454			0.106		0.560
		0.491		0.106		0.597
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.040	0.106		0.914
		0.775	0.040	0.106		0.921
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.040	0.106		0.600
		0.491	0.040	0.106		0.637
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.032		0.000128	1.171
		1.150	0.032		0.000128	1.182
	1.139			0.016		1.155
		1.150		0.016		1.166
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.032		0.000128	0.381
		0.378	0.032		0.000128	0.410
	0.349			0.016		0.365
		0.378		0.016		0.394
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.032	0.016		1.187
		1.150	0.032	0.016		1.198
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.032	0.016		0.397
		0.378	0.032	0.016		0.426

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.134		0.236		0.210	0.580
		0.176	0.236		0.210	0.622
	0.134			0.032		0.166
		0.176		0.032		0.208
Edge 4, Wi-Fi 2 Tx	0.134		0.236	0.032		0.402
		0.176	0.236	0.032		0.444

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.16 Sum of the SAR for LTE Bands 2 and 4 & Wi-Fi 5.2 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.262		0.040		0.210	0.512
		0.165	0.040		0.210	0.415
	0.262			0.106		0.368
		0.165		0.106		0.271
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.040		0.210	0.464
		0.261	0.040		0.210	0.511
	0.214			0.106		0.320
		0.261		0.106		0.367
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.040	0.106		0.408
		0.165	0.040	0.106		0.311
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.040	0.106		0.360
		0.261	0.040	0.106		0.407
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.032		0.000128	1.078
		1.038	0.032		0.000128	1.070
	1.046			0.016		1.062
		1.038		0.016		1.054
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.032		0.000128	0.465
		0.409	0.032		0.000128	0.441
	0.433			0.016		0.449
		0.409		0.016		0.425
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.032	0.016		1.094
		1.038	0.032	0.016		1.086
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.032	0.016		0.481
		0.409	0.032	0.016		0.457

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.356		0.236		0.210	0.802
		0.199	0.236		0.210	0.645
	0.356			0.032		0.388
		0.199		0.032		0.231
Edge 4, Wi-Fi 2 Tx	0.356		0.236	0.032		0.624
		0.199	0.236	0.032		0.467

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.17 Sum of the SAR for LTE Bands 5 and 13 & Wi-Fi 5.2 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.744		0.040		0.210	0.994
		0.746	0.040		0.210	0.996
	0.744			0.106		0.850
		0.746		0.106		0.852
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.040		0.210	0.609
		0.359	0.040		0.210	0.609
	0.359			0.106		0.465
		0.359		0.106		0.465
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.040	0.106		0.890
		0.746	0.040	0.106		0.892
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.040	0.106		0.505
		0.359	0.040	0.106		0.505
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.032		0.000128	1.191
		1.124	0.032		0.000128	1.156
	1.159			0.016		1.175
		1.124		0.016		1.140
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.032		0.000128	0.316
		0.244	0.032		0.000128	0.276
	0.284			0.016		0.300
		0.244		0.016		0.260
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.032	0.016		1.207
		1.124	0.032	0.016		1.172
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.032	0.016		0.332
		0.244	0.032	0.016		0.292

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.123		0.236		0.210	0.569
		0.134	0.236		0.210	0.580
	0.123			0.032		0.155
		0.134		0.032		0.166
Edge 4, Wi-Fi 2 Tx	0.123		0.236	0.032		0.391
		0.134	0.236	0.032		0.402

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.18 Sum of the SAR for LTE Bands 17 and 25 & Wi-Fi 5.2 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.469		0.040		0.210	0.719
		0.289	0.040		0.210	0.539
	0.469			0.106		0.575
		0.289		0.106		0.395
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.040		0.210	0.389
		0.304	0.040		0.210	0.554
	0.139			0.106		0.245
		0.304		0.106		0.410
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.040	0.106		0.615
		0.289	0.040	0.106		0.435
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.040	0.106		0.285
		0.304	0.040	0.106		0.450
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.032		0.000128	1.014
		1.027	0.032		0.000128	1.059
	0.982			0.016		0.998
		1.027		0.016		1.043
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.032		0.000128	0.158
		0.440	0.032		0.000128	0.472
	0.126			0.016		0.142
		0.440		0.016		0.456
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.032	0.016		1.030
		1.027	0.032	0.016		1.075
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.032	0.016		0.174
		0.440	0.032	0.016		0.488

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.2 GHz Main	WiFi 5.2 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.219		0.619
		0.400		0.219		0.619
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.219		1.019
		0.400	0.400	0.219		1.019
Edge 4, Wi-Fi 1 Tx	0.106		0.236		0.210	0.552
		0.286	0.236		0.210	0.732
	0.106			0.032		0.138
		0.286		0.032		0.318
Edge 4, Wi-Fi 2 Tx	0.106		0.236	0.032		0.374
		0.286	0.236	0.032		0.554

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.643		0.047		0.210	0.900
		0.205	0.047		0.210	0.462
	0.643			0.162		0.805
		0.205		0.162		0.367
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.047		0.210	0.927
		0.256	0.047		0.210	0.513
	0.670			0.162		0.832
		0.256		0.162		0.418
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.047	0.162		0.852
		0.205	0.047	0.162		0.414
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.047	0.162		0.879
		0.256	0.047	0.162		0.465
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.025		0.000128	1.218
		1.059	0.025		0.000128	1.084
	1.193			0.013		1.206
		1.059		0.013		1.072
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.025		0.000128	0.506
		0.456	0.025		0.000128	0.481
	0.481			0.013		0.494
		0.456		0.013		0.469
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.025	0.013		1.231
		1.059	0.025	0.013		1.097
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.025	0.013		0.519
		0.456	0.025	0.013		0.494

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.337		0.364
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.337		0.764
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.197		0.228		0.210	0.635
		0.388	0.228		0.210	0.826
	0.197			0.039		0.236
		0.388		0.039		0.427
Edge 4, Wi-Fi 2 Tx	0.197		0.228	0.039		0.464
		0.388	0.228	0.039		0.655

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.20 Sum of the SAR for W-CDMA Bands V and IV & Wi-Fi 5.3 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.453		0.047		0.210	0.710
		0.178	0.047		0.210	0.435
	0.453			0.162		0.615
		0.178		0.162		0.340
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.047		0.210	0.474
		0.157	0.047		0.210	0.414
	0.217			0.162		0.379
		0.157		0.162		0.319
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.047	0.162		0.662
		0.178	0.047	0.162		0.387
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.047	0.162		0.426
		0.157	0.047	0.162		0.366
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.025		0.000128	1.209
		1.108	0.025		0.000128	1.133
	1.184			0.013		1.197
		1.108		0.013		1.121
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.025		0.000128	0.176
		0.299	0.025		0.000128	0.324
	0.151			0.013		0.164
		0.299		0.013		0.312
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.025	0.013		1.222
		1.108	0.025	0.013		1.146
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.025	0.013		0.189
		0.299	0.025	0.013		0.337

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.057		0.228		0.210	0.495
		0.174	0.228		0.210	0.612
	0.057			0.039		0.096
		0.174		0.039		0.213
Edge 4, Wi-Fi 2 Tx	0.057		0.228	0.039		0.324
		0.174	0.228	0.039		0.441

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.277	0.047		0.210	0.534
	0.277		0.162		0.439
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.047		0.210	0.409
	0.152		0.162		0.314
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.047	0.162		0.486
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.047	0.162		0.361
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.025		0.000128	1.123
	1.098		0.013		1.111
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.025		0.000128	0.268
	0.243		0.013		0.256
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.025	0.013		1.136
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.025	0.013		0.281
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.077	0.228		0.210	0.515
	0.077		0.039		0.116
Edge 4, Wi-Fi 2 Tx	0.077	0.228	0.039		0.344

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.717		0.047		0.210	0.974
		0.671	0.047		0.210	0.928
	0.717			0.162		0.879
		0.671		0.162		0.833
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.047		0.210	0.741
		0.472	0.047		0.210	0.729
	0.484			0.162		0.646
		0.472		0.162		0.634
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.047	0.162		0.926
		0.671	0.047	0.162		0.880
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.047	0.162		0.693
		0.472	0.047	0.162		0.681
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.025		0.000128	1.141
		1.171	0.025		0.000128	1.196
	1.116			0.013		1.129
		1.171		0.013		1.184
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.025		0.000128	0.318
		0.291	0.025		0.000128	0.316
	0.293			0.013		0.306
		0.291		0.013		0.304
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.025	0.013		1.154
		1.171	0.025	0.013		1.209
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.025	0.013		0.331
		0.291	0.025	0.013		0.329

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.121		0.228		0.210	0.559
		0.036	0.228		0.210	0.474
	0.121			0.039		0.160
		0.036		0.039		0.075
Edge 4, Wi-Fi 2 Tx	0.121		0.228	0.039		0.388
		0.036	0.228	0.039		0.303

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.23 Sum of the SAR for CDMA BC1 & Wi-Fi5.3GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.314		0.047		0.210	0.571
		0.318	0.047		0.210	0.575
	0.314			0.162		0.476
		0.318		0.162		0.480
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.047		0.210	0.620
		0.382	0.047		0.210	0.639
	0.363			0.162		0.525
		0.382		0.162		0.544
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.047	0.162		0.523
		0.318	0.047	0.162		0.527
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.047	0.162		0.572
		0.382	0.047	0.162		0.591
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.025		0.000128	1.152
		1.175	0.025		0.000128	1.200
	1.127			0.013		1.140
		1.175		0.013		1.188
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.025		0.000128	0.567
		0.662	0.025		0.000128	0.687
	0.542			0.013		0.555
		0.662		0.013		0.675
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.025	0.013		1.165
		1.175	0.025	0.013		1.213
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.025	0.013		0.580
		0.662	0.025	0.013		0.700

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.148		0.228		0.210	0.586
		0.141	0.228		0.210	0.579
	0.148			0.039		0.187
		0.141		0.039		0.180
Edge 4, Wi-Fi 2 Tx	0.148		0.228	0.039		0.415
		0.141	0.228	0.039		0.408

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.768		0.047		0.210	1.025
		0.775	0.047		0.210	1.032
	0.768			0.162		0.930
		0.775		0.162		0.937
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.047		0.210	0.711
		0.491	0.047		0.210	0.748
	0.454			0.162		0.616
		0.491		0.162		0.653
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.047	0.162		0.977
		0.775	0.047	0.162		0.984
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.047	0.162		0.663
		0.491	0.047	0.162		0.700
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.025		0.000128	1.164
		1.150	0.025		0.000128	1.175
	1.139			0.013		1.152
		1.150		0.013		1.163
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.025		0.000128	0.374
		0.378	0.025		0.000128	0.403
	0.349			0.013		0.362
		0.378		0.013		0.391
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.025	0.013		1.177
		1.150	0.025	0.013		1.188
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.025	0.013		0.387
		0.378	0.025	0.013		0.416

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.134		0.228		0.210	0.572
		0.176	0.228		0.210	0.614
	0.134			0.039		0.173
		0.176		0.039		0.215
Edge 4, Wi-Fi 2 Tx	0.134		0.228	0.039		0.401
		0.176	0.228	0.039		0.443

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.262		0.047		0.210	0.519
		0.165	0.047		0.210	0.422
	0.262			0.162		0.424
		0.165		0.162		0.327
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.047		0.210	0.471
		0.261	0.047		0.210	0.518
	0.214			0.162		0.376
		0.261		0.162		0.423
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.047	0.162		0.471
		0.165	0.047	0.162		0.374
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.047	0.162		0.423
		0.261	0.047	0.162		0.470
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.025		0.000128	1.071
		1.038	0.025		0.000128	1.063
	1.046			0.013		1.059
		1.038		0.013		1.051
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.025		0.000128	0.458
		0.409	0.025		0.000128	0.434
	0.433			0.013		0.446
		0.409		0.013		0.422
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.025	0.013		1.084
		1.038	0.025	0.013		1.076
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.025	0.013		0.471
		0.409	0.025	0.013		0.447

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.356		0.228		0.210	0.794
		0.199	0.228		0.210	0.637
	0.356			0.039		0.395
		0.199		0.039		0.238
Edge 4, Wi-Fi 2 Tx	0.356		0.228	0.039		0.623
		0.199	0.228	0.039		0.466

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.26 Sum of the SAR for LTE Bands 5 and 13 & Wi-Fi 5.3 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.744		0.047		0.210	1.001
		0.746	0.047		0.210	1.003
	0.744			0.162		0.906
		0.746		0.162		0.908
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.047		0.210	0.616
		0.359	0.047		0.210	0.616
	0.359			0.162		0.521
		0.359		0.162		0.521
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.047	0.162		0.953
		0.746	0.047	0.162		0.955
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.047	0.162		0.568
		0.359	0.047	0.162		0.568
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.025		0.000128	1.184
		1.124	0.025		0.000128	1.149
	1.159			0.013		1.172
		1.124		0.013		1.137
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.025		0.000128	0.309
		0.244	0.025		0.000128	0.269
	0.284			0.013		0.297
		0.244		0.013		0.257
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.025	0.013		1.197
		1.124	0.025	0.013		1.162
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.025	0.013		0.322
		0.244	0.025	0.013		0.282

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.123		0.228		0.210	0.561
		0.134	0.228		0.210	0.572
	0.123			0.039		0.162
		0.134		0.039		0.173
Edge 4, Wi-Fi 2 Tx	0.123		0.228	0.039		0.390
		0.134	0.228	0.039		0.401

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.27 Sum of the SAR for LTE Bands 17 and 25 & Wi-Fi 5.3 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.469		0.047		0.210	0.726
		0.289	0.047		0.210	0.546
	0.469			0.162		0.631
		0.289		0.162		0.451
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.047		0.210	0.396
		0.304	0.047		0.210	0.561
	0.139			0.162		0.301
		0.304		0.162		0.466
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.047	0.162		0.678
		0.289	0.047	0.162		0.498
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.047	0.162		0.348
		0.304	0.047	0.162		0.513
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.025		0.000128	1.007
		1.027	0.025		0.000128	1.052
	0.982			0.013		0.995
		1.027		0.013		1.040
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.025		0.000128	0.151
		0.440	0.025		0.000128	0.465
	0.126			0.013		0.139
		0.440		0.013		0.453
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.025	0.013		1.020
		1.027	0.025	0.013		1.065
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.025	0.013		0.164
		0.440	0.025	0.013		0.478

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.337		0.737
		0.400		0.337		0.737
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.337		1.137
		0.400	0.400	0.337		1.137
Edge 4, Wi-Fi 1 Tx	0.106		0.228		0.210	0.544
		0.286	0.228		0.210	0.724
	0.106			0.039		0.145
		0.286		0.039		0.325
Edge 4, Wi-Fi 2 Tx	0.106		0.228	0.039		0.373
		0.286	0.228	0.039		0.553

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.643		0.059		0.210	0.912
		0.205	0.059		0.210	0.474
	0.643			0.143		0.786
		0.205		0.143		0.348
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.059		0.210	0.939
		0.256	0.059		0.210	0.525
	0.670			0.143		0.813
		0.256		0.143		0.399
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.059	0.143		0.845
		0.205	0.059	0.143		0.407
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.059	0.143		0.872
		0.256	0.059	0.143		0.458
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.038		0.000128	1.231
		1.059	0.038		0.000128	1.097
	1.193			0.018		1.211
		1.059		0.018		1.077
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.038		0.000128	0.519
		0.456	0.038		0.000128	0.494
	0.481			0.018		0.499
		0.456		0.018		0.474
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.038	0.018		1.249
		1.059	0.038	0.018		1.115
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.038	0.018		0.537
		0.456	0.038	0.018		0.512

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.312		0.339
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.312		0.739
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.197		0.306		0.210	0.713
		0.388	0.306		0.210	0.904
	0.197			0.026		0.223
		0.388		0.026		0.414
Edge 4, Wi-Fi 2 Tx	0.197		0.306	0.026		0.529
		0.388	0.306	0.026		0.720

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.29 Sum of the SAR for W-CDMA Bands V and IV & Wi-Fi 5.5 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.453		0.059		0.210	0.722
		0.178	0.059		0.210	0.447
	0.453			0.143		0.596
		0.178		0.143		0.321
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.059		0.210	0.486
		0.157	0.059		0.210	0.426
	0.217			0.143		0.360
		0.157		0.143		0.300
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.059	0.143		0.655
		0.178	0.059	0.143		0.380
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.059	0.143		0.419
		0.157	0.059	0.143		0.359
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.038		0.000128	1.222
		1.108	0.038		0.000128	1.146
	1.184			0.018		1.202
		1.108		0.018		1.126
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.038		0.000128	0.189
		0.299	0.038		0.000128	0.337
	0.151			0.018		0.169
		0.299		0.018		0.317
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.038	0.018		1.240
		1.108	0.038	0.018		1.164
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.038	0.018		0.207
		0.299	0.038	0.018		0.355

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.057		0.306		0.210	0.573
		0.174	0.306		0.210	0.690
	0.057			0.026		0.083
		0.174		0.026		0.200
Edge 4, Wi-Fi 2 Tx	0.057		0.306	0.026		0.389
		0.174	0.306	0.026		0.506

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.277	0.059		0.210	0.546
	0.277		0.143		0.420
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.059		0.210	0.421
	0.152		0.143		0.295
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.059	0.143		0.479
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.059	0.143		0.354
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.038		0.000128	1.136
	1.098		0.018		1.116
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.038		0.000128	0.281
	0.243		0.018		0.261
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.038	0.018		1.154
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.038	0.018		0.299
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.077	0.306		0.210	0.593
	0.077		0.026		0.103
Edge 4, Wi-Fi 2 Tx	0.077	0.306	0.026		0.409

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.717		0.059		0.210	0.986
		0.671	0.059		0.210	0.940
	0.717			0.143		0.860
		0.671		0.143		0.814
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.059		0.210	0.753
		0.472	0.059		0.210	0.741
	0.484			0.143		0.627
		0.472		0.143		0.615
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.059	0.143		0.919
		0.671	0.059	0.143		0.873
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.059	0.143		0.686
		0.472	0.059	0.143		0.674
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.038		0.000128	1.154
		1.171	0.038		0.000128	1.209
	1.116			0.018		1.134
		1.171		0.018		1.189
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.038		0.000128	0.331
		0.291	0.038		0.000128	0.329
	0.293			0.018		0.311
		0.291		0.018		0.309
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.038	0.018		1.172
		1.171	0.038	0.018		1.227
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.038	0.018		0.349
		0.291	0.038	0.018		0.347

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.121		0.306		0.210	0.637
		0.036	0.306		0.210	0.552
	0.121			0.026		0.147
		0.036		0.026		0.062
Edge 4, Wi-Fi 2 Tx	0.121		0.306	0.026		0.453
		0.036	0.306	0.026		0.368

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.32 Sum of the SAR for CDMA BC1 & Wi-Fi5.5GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.314		0.059		0.210	0.583
		0.318	0.059		0.210	0.587
	0.314			0.143		0.457
		0.318		0.143		0.461
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.059		0.210	0.632
		0.382	0.059		0.210	0.651
	0.363			0.143		0.506
		0.382		0.143		0.525
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.059	0.143		0.516
		0.318	0.059	0.143		0.520
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.059	0.143		0.565
		0.382	0.059	0.143		0.584
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.038		0.000128	1.165
		1.175	0.038		0.000128	1.213
	1.127			0.018		1.145
		1.175		0.018		1.193
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.038		0.000128	0.580
		0.662	0.038		0.000128	0.700
	0.542			0.018		0.560
		0.662		0.018		0.680
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.038	0.018		1.183
		1.175	0.038	0.018		1.231
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.038	0.018		0.598
		0.662	0.038	0.018		0.718

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.148		0.306		0.210	0.664
		0.141	0.306		0.210	0.657
	0.148			0.026		0.174
		0.141		0.026		0.167
Edge 4, Wi-Fi 2 Tx	0.148		0.306	0.026		0.480
		0.141	0.306	0.026		0.473

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.768		0.059		0.210	1.037
		0.775	0.059		0.210	1.044
	0.768			0.143		0.911
		0.775		0.143		0.918
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.059		0.210	0.723
		0.491	0.059		0.210	0.760
	0.454			0.143		0.597
		0.491		0.143		0.634
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.059	0.143		0.970
		0.775	0.059	0.143		0.977
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.059	0.143		0.656
		0.491	0.059	0.143		0.693
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.038		0.000128	1.177
		1.150	0.038		0.000128	1.188
	1.139			0.018		1.157
		1.150		0.018		1.168
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.038		0.000128	0.387
		0.378	0.038		0.000128	0.416
	0.349			0.018		0.367
		0.378		0.018		0.396
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.038	0.018		1.195
		1.150	0.038	0.018		1.206
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.038	0.018		0.405
		0.378	0.038	0.018		0.434

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.134		0.306		0.210	0.650
		0.176	0.306		0.210	0.692
	0.134			0.026		0.160
		0.176		0.026		0.202
Edge 4, Wi-Fi 2 Tx	0.134		0.306	0.026		0.466
		0.176	0.306	0.026		0.508

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.262		0.059		0.210	0.531
		0.165	0.059		0.210	0.434
	0.262			0.143		0.405
		0.165		0.143		0.308
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.059		0.210	0.483
		0.261	0.059		0.210	0.530
	0.214			0.143		0.357
		0.261		0.143		0.404
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.059	0.143		0.464
		0.165	0.059	0.143		0.367
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.059	0.143		0.416
		0.261	0.059	0.143		0.463
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.038		0.000128	1.084
		1.038	0.038		0.000128	1.076
	1.046			0.018		1.064
		1.038		0.018		1.056
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.038		0.000128	0.471
		0.409	0.038		0.000128	0.447
	0.433			0.018		0.451
		0.409		0.018		0.427
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.038	0.018		1.102
		1.038	0.038	0.018		1.094
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.038	0.018		0.489
		0.409	0.038	0.018		0.465

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.356		0.306		0.210	0.872
		0.199	0.306		0.210	0.715
	0.356			0.026		0.382
		0.199		0.026		0.225
Edge 4, Wi-Fi 2 Tx	0.356		0.306	0.026		0.688
		0.199	0.306	0.026		0.531

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.35 Sum of the SAR for LTE Bands 5 and 13 & Wi-Fi 5.5 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.744		0.059		0.210	1.013
		0.746	0.059		0.210	1.015
	0.744			0.143		0.887
		0.746		0.143		0.889
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.059		0.210	0.628
		0.359	0.059		0.210	0.628
	0.359			0.143		0.502
		0.359		0.143		0.502
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.059	0.143		0.946
		0.746	0.059	0.143		0.948
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.059	0.143		0.561
		0.359	0.059	0.143		0.561
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.038		0.000128	1.197
		1.124	0.038		0.000128	1.162
	1.159			0.018		1.177
		1.124		0.018		1.142
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.038		0.000128	0.322
		0.244	0.038		0.000128	0.282
	0.284			0.018		0.302
		0.244		0.018		0.262
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.038	0.018		1.215
		1.124	0.038	0.018		1.180
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.038	0.018		0.340
		0.244	0.038	0.018		0.300

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.123		0.306		0.210	0.639
		0.134	0.306		0.210	0.650
	0.123			0.026		0.149
		0.134		0.026		0.160
Edge 4, Wi-Fi 2 Tx	0.123		0.306	0.026		0.455
		0.134	0.306	0.026		0.466

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.36 Sum of the SAR for LTE Bands 17 and 25 & Wi-Fi 5.5 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.469		0.059		0.210	0.738
		0.289	0.059		0.210	0.558
	0.469			0.143		0.612
		0.289		0.143		0.432
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.059		0.210	0.408
		0.304	0.059		0.210	0.573
	0.139			0.143		0.282
		0.304		0.143		0.447
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.059	0.143		0.671
		0.289	0.059	0.143		0.491
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.059	0.143		0.341
		0.304	0.059	0.143		0.506
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.038		0.000128	1.020
		1.027	0.038		0.000128	1.065
	0.982			0.018		1.000
		1.027		0.018		1.045
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.038		0.000128	0.164
		0.440	0.038		0.000128	0.478
	0.126			0.018		0.144
		0.440		0.018		0.458
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.038	0.018		1.038
		1.027	0.038	0.018		1.083
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.038	0.018		0.182
		0.440	0.038	0.018		0.496

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.312		0.712
		0.400		0.312		0.712
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.312		1.112
		0.400	0.400	0.312		1.112
Edge 4, Wi-Fi 1 Tx	0.106		0.306		0.210	0.622
		0.286	0.306		0.210	0.802
	0.106			0.026		0.132
		0.286		0.026		0.312
Edge 4, Wi-Fi 2 Tx	0.106		0.306	0.026		0.438
		0.286	0.306	0.026		0.618

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.643		0.041		0.210	0.894
		0.205	0.041		0.210	0.456
	0.643			0.162		0.805
		0.205		0.162		0.367
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.041		0.210	0.921
		0.256	0.041		0.210	0.507
	0.670			0.162		0.832
		0.256		0.162		0.418
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.041	0.162		0.846
		0.205	0.041	0.162		0.408
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.041	0.162		0.873
		0.256	0.041	0.162		0.459
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.00718		0.000128	1.200
		1.059	0.00718		0.000128	1.066
	1.193			0.020		1.213
		1.059		0.020		1.079
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.00718		0.000128	0.488
		0.456	0.00718		0.000128	0.463
	0.481			0.020		0.501
		0.456		0.020		0.476
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.00718	0.020		1.220
		1.059	0.00718	0.020		1.086
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.00718	0.020		0.508
		0.456	0.00718	0.020		0.483

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.369		0.396
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.369		0.796
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.197		0.266		0.210	0.673
		0.388	0.266		0.210	0.864
	0.197			0.021		0.218
		0.388		0.021		0.409
Edge 4, Wi-Fi 2 Tx	0.197		0.266	0.021		0.484
		0.388	0.266	0.021		0.675

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.38 Sum of the SAR for W-CDMA Bands V and IV & Wi-Fi 5.8 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.453		0.041		0.210	0.704
		0.178	0.041		0.210	0.429
	0.453			0.162		0.615
		0.178		0.162		0.340
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.041		0.210	0.468
		0.157	0.041		0.210	0.408
	0.217			0.162		0.379
		0.157		0.162		0.319
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.041	0.162		0.656
		0.178	0.041	0.162		0.381
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.041	0.162		0.420
		0.157	0.041	0.162		0.360
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.00718		0.000128	1.191
		1.108	0.00718		0.000128	1.115
	1.184			0.020		1.204
		1.108		0.020		1.128
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.00718		0.000128	0.158
		0.299	0.00718		0.000128	0.306
	0.151			0.020		0.171
		0.299		0.020		0.319
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.00718	0.020		1.211
		1.108	0.00718	0.020		1.135
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.00718	0.020		0.178
		0.299	0.00718	0.020		0.326

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.057		0.266		0.210	0.533
		0.174	0.266		0.210	0.650
	0.057			0.021		0.078
		0.174		0.021		0.195
Edge 4, Wi-Fi 2 Tx	0.057		0.266	0.021		0.344
		0.174	0.266	0.021		0.461

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data				∑ 1-g SAR (mW/g)
	WCDMA II	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.277	0.041		0.210	0.528
	0.277		0.162		0.439
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.041		0.210	0.403
	0.152		0.162		0.314
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.041	0.162		0.480
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.041	0.162		0.355
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.00718		0.000128	1.105
	1.098		0.020		1.118
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.00718		0.000128	0.250
	0.243		0.020		0.263
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.00718	0.020		1.125
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.00718	0.020		0.270
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.077	0.266		0.210	0.553
	0.077		0.021		0.098
Edge 4, Wi-Fi 2 Tx	0.077	0.266	0.021		0.364

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.717		0.041		0.210	0.968
		0.671	0.041		0.210	0.922
	0.717			0.162		0.879
		0.671		0.162		0.833
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.041		0.210	0.735
		0.472	0.041		0.210	0.723
	0.484			0.162		0.646
		0.472		0.162		0.634
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.041	0.162		0.920
		0.671	0.041	0.162		0.874
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.041	0.162		0.687
		0.472	0.041	0.162		0.675
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.00718		0.000128	1.123
		1.171	0.00718		0.000128	1.178
	1.116			0.020		1.136
		1.171		0.020		1.191
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.00718		0.000128	0.300
		0.291	0.00718		0.000128	0.298
	0.293			0.020		0.313
		0.291		0.020		0.311
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.00718	0.020		1.143
		1.171	0.00718	0.020		1.198
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.00718	0.020		0.320
		0.291	0.00718	0.020		0.318

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.121		0.266		0.210	0.597
		0.036	0.266		0.210	0.512
	0.121			0.021		0.142
		0.036		0.021		0.057
Edge 4, Wi-Fi 2 Tx	0.121		0.266	0.021		0.408
		0.036	0.266	0.021		0.323

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.41 Sum of the SAR for CDMA BC1 & Wi-Fi5.8GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.314		0.041		0.210	0.565
		0.318	0.041		0.210	0.569
	0.314			0.162		0.476
		0.318		0.162		0.480
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.041		0.210	0.614
		0.382	0.041		0.210	0.633
	0.363			0.162		0.525
		0.382		0.162		0.544
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.041	0.162		0.517
		0.318	0.041	0.162		0.521
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.041	0.162		0.566
		0.382	0.041	0.162		0.585
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.00718		0.000128	1.134
		1.175	0.00718		0.000128	1.182
	1.127			0.020		1.147
		1.175		0.020		1.195
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.00718		0.000128	0.549
		0.662	0.00718		0.000128	0.669
	0.542			0.020		0.562
		0.662		0.020		0.682
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.00718	0.020		1.154
		1.175	0.00718	0.020		1.202
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.00718	0.020		0.569
		0.662	0.00718	0.020		0.689

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.148		0.266		0.210	0.624
		0.141	0.266		0.210	0.617
	0.148			0.021		0.169
		0.141		0.021		0.162
Edge 4, Wi-Fi 2 Tx	0.148		0.266	0.021		0.435
		0.141	0.266	0.021		0.428

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.768		0.041		0.210	1.019
		0.775	0.041		0.210	1.026
	0.768			0.162		0.930
		0.775		0.162		0.937
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.041		0.210	0.705
		0.491	0.041		0.210	0.742
	0.454			0.162		0.616
		0.491		0.162		0.653
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.041	0.162		0.971
		0.775	0.041	0.162		0.978
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.041	0.162		0.657
		0.491	0.041	0.162		0.694
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.00718		0.000128	1.146
		1.150	0.00718		0.000128	1.157
	1.139			0.020		1.159
		1.150		0.020		1.170
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.00718		0.000128	0.356
		0.378	0.00718		0.000128	0.385
	0.349			0.020		0.369
		0.378		0.020		0.398
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.00718	0.020		1.166
		1.150	0.00718	0.020		1.177
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.00718	0.020		0.376
		0.378	0.00718	0.020		0.405

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.134		0.266		0.210	0.610
		0.176	0.266		0.210	0.652
	0.134			0.021		0.155
		0.176		0.021		0.197
Edge 4, Wi-Fi 2 Tx	0.134		0.266	0.021		0.421
		0.176	0.266	0.021		0.463

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

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

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.262		0.041		0.210	0.513
		0.165	0.041		0.210	0.416
	0.262			0.162		0.424
		0.165		0.162		0.327
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.041		0.210	0.465
		0.261	0.041		0.210	0.512
	0.214			0.162		0.376
		0.261		0.162		0.423
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.041	0.162		0.465
		0.165	0.041	0.162		0.368
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.041	0.162		0.417
		0.261	0.041	0.162		0.464
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.00718		0.000128	1.053
		1.038	0.00718		0.000128	1.045
	1.046			0.020		1.066
		1.038		0.020		1.058
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.00718		0.000128	0.440
		0.409	0.00718		0.000128	0.416
	0.433			0.020		0.453
		0.409		0.020		0.429
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.00718	0.020		1.073
		1.038	0.00718	0.020		1.065
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.00718	0.020		0.460
		0.409	0.00718	0.020		0.436

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.356		0.266		0.210	0.832
		0.199	0.266		0.210	0.675
	0.356			0.021		0.377
		0.199		0.021		0.220
Edge 4, Wi-Fi 2 Tx	0.356		0.266	0.021		0.643
		0.199	0.266	0.021		0.486

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.44 Sum of the SAR for LTE Bands 5 and 13 & Wi-Fi 5.8 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	TE Band 5	LTE Band 13	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.744		0.041		0.210	0.995
		0.746	0.041		0.210	0.997
	0.744			0.162		0.906
		0.746		0.162		0.908
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.041		0.210	0.610
		0.359	0.041		0.210	0.610
	0.359			0.162		0.521
		0.359		0.162		0.521
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.041	0.162		0.947
		0.746	0.041	0.162		0.949
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.041	0.162		0.562
		0.359	0.041	0.162		0.562
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.00718		0.000128	1.166
		1.124	0.00718		0.000128	1.131
	1.159			0.020		1.179
		1.124		0.020		1.144
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.00718		0.000128	0.291
		0.244	0.00718		0.000128	0.251
	0.284			0.020		0.304
		0.244		0.020		0.264
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.00718	0.020		1.186
		1.124	0.00718	0.020		1.151
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.00718	0.020		0.311
		0.244	0.00718	0.020		0.271

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 5	LTE Band 13	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.123		0.266		0.210	0.599
		0.134	0.266		0.210	0.610
	0.123			0.021		0.144
		0.134		0.021		0.155
Edge 4, Wi-Fi 2 Tx	0.123		0.266	0.021		0.410
		0.134	0.266	0.021		0.421

Note(s):
1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

13.45 Sum of the SAR for LTE Bands 17 and 25 & Wi-Fi 5.8 GHz Band

Test Position	Data					∑ 1-g SAR (mW/g)
	TE Band 17	LTE Band 25	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.469		0.041		0.210	0.720
		0.289	0.041		0.210	0.540
	0.469			0.162		0.631
		0.289		0.162		0.451
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.041		0.210	0.390
		0.304	0.041		0.210	0.555
	0.139			0.162		0.301
		0.304		0.162		0.466
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.041	0.162		0.672
		0.289	0.041	0.162		0.492
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.041	0.162		0.342
		0.304	0.041	0.162		0.507
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.00718		0.000128	0.989
		1.027	0.00718		0.000128	1.034
	0.982			0.020		1.002
		1.027		0.020		1.047
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.00718		0.000128	0.133
		0.440	0.00718		0.000128	0.447
	0.126			0.020		0.146
		0.440		0.020		0.460
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.00718	0.020		1.009
		1.027	0.00718	0.020		1.054
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.00718	0.020		0.153
		0.440	0.00718	0.020		0.467

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 17	LTE Band 25	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.369		0.769
		0.400		0.369		0.769
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.369		1.169
		0.400	0.400	0.369		1.169
Edge 4, Wi-Fi 1 Tx	0.106		0.266		0.210	0.582
		0.286	0.266		0.210	0.762
	0.106			0.021		0.127
		0.286		0.021		0.307
Edge 4, Wi-Fi 2 Tx	0.106		0.266	0.021		0.393
		0.286	0.266	0.021		0.573

Note(s):

1. Bluetooth and Wi-Fi Aux cannot simultaneously transmit
2. Values shaded green are estimated SAR

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.

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124

14 Appendixes

Refer to separated files for the following appendixes.

14.1 SAR system check plots

14.2 SAR test plots for GSM850

14.3 SAR test plots for GSM1900

14.4 SAR test plots for WCDMA Band V

14.5 SAR test plots for WCDMA Band IV

14.6 SAR test plots for WCDMA Band II

14.7 SAR test plots for CDMA Band0

14.8 SAR test plots for CDMA Band1

14.9 SAR test plots for CDMA Band10

14.10 SAR test plots for LTE Band 2

14.11 SAR test plots for LTE Band 4

14.12 SAR test plots for LTE Band 5

14.13 SAR test plots for LTE Band 13

14.14 SAR test plots for LTE Band 17

14.15 SAR test plots for LTE Band 25

14.16 SAR test plots for Repeat Measurement

14.17 SAR Calibration Certificate - Probe EX3DV4 SN3917

14.18 SAR Calibration Certificate - Probe EX3DV4 SN3922

14.19 SAR Calibration Certificate - Dipole D750V3 SN1058

14.20 SAR Calibration Certificate - Dipole D900V2 SN155

14.21 SAR Calibration Certificate - Dipole D1800V2 SN2d040

14.22 SAR Calibration Certificate - Dipole D2000V2 SN1029

UL Japan, Inc. Ise HQ EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN TEL: +81 596 24 8999 FAX: +81 596 24 8124