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
Wireless Module
(Tested inside of Panasonic Tablet PC FZ-G1)

Model: WL14A
FCC ID: ACJ9TGWL14A

Report Number: 10573131H-C
Issue Date: January 5, 2015

Prepared for
PANASONIC CORPORATION OF NORTH AMERICA
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NVLAP LAB CODE: 200572-0

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	01/05/2015	Initial Issue	T. Hatakeda

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1. Attestation of Test Results

Applicant	Panasonic Corporation of North America
DUT description	Wireless Module (Tested inside of Panasonic Laptop PC FZ-G1)
Model	WL14A
Test device is	An identical prototype
Device category	Portable
Exposure category	General Population/Uncontrolled Exposure
Date tested	November 19 to 29, 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.

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1.1. Summary of Highest 1-g SAR Results

Worst Case SAR data for each Frequency Band

RF Exposure Rule	Freq. Range	Highest Reported SAR	Limit
15.247	2400-2480 MHz	Body: 0.605 W/kg (Edge 4)	1.6 W/kg
15.407	5150-5250 MHz	Body: 0.437 W/kg (Edge 4)	
	5250-5350 MHz	Body: 0.340 W/kg (Edge 4)	
	5500-5700 MHz	Body: 0.649 W/kg (Edge 4)	
15.247	5725-5850 MHz	Body: 0.714 W/kg (Edge 4)	
Simultaneous Transmission Condition		1.312 W/kg (refer to Section 14) (The highest across exposure conditions)	

LEGEND:

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

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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:

- 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03
- 865664 D02 SAR Reporting v01r01
- 447498 D01 General RF Exposure Guidance v05r02
- 248227 D01 SAR Meas for 802 11abg v01r02
- 616217 D04 SAR for laptop and tablets v01r01

3. Facilities and Accreditation

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

UL Japan, Inc. is accredited by NVLAP, Laboratory Code 200572-0
The full scope of accreditation can be viewed at
http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap

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4. Calibration and Uncertainty

4.1. Measuring Instrument Calibration

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

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due date		
				MM	DD	Year
Thermo-Hygrometer	Custom	CTH-201	1401	2	20	2015
Attenuator(10dB) (above1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-110	-	1	29	2015
Power Meter	Anritsu	ML2495A	6K00003338	10	16	2015
Power sensor	Anritsu	MA2411B	11737	10	15	2015
Spectrum Analyzer	Agilent	E4440A	MY46185823	6	6	2015
Power Meter	Anritsu	ML2495A	6K00003348	10	6	2015
Power sensor	Anritsu	MA2411B	11598	10	6	2015
Attenuator(10dB)	Suhner	6810.19.A	-	1	15	2015
Power Meter	Agilent	8990B	MY51000271	4	4	2015
Power sensor	Agilent	N1923A	MY54070003	4	4	2015
Power sensor	Agilent	N1923A	MY54070004	4	4	2015
Digtal thermometer	LKM electronic	DTM3000	-	7	31	2015
Dielectric probe kit	Agilent	85070D	702	9	30	2015
Type N Calibration Kit	Agilent	85032F	MY41495257	9	30	2015
Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3825	12	31	2014
Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	7	31	2015
Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3922	6	30	2015
Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1372	6	30	2015
Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	713	9	30	2015
Dipole Antenna	Schmid&Partner Engineering AG	D5GHzV2	1020	1	31	2015
Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	5	31	2015
Digtal thermometer	HANNA	Checktemp-2	MOS-10	8	31	2015
Thermo-Hygrometer	CUSTOM	CTH-201	3101	7	31	2015

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.

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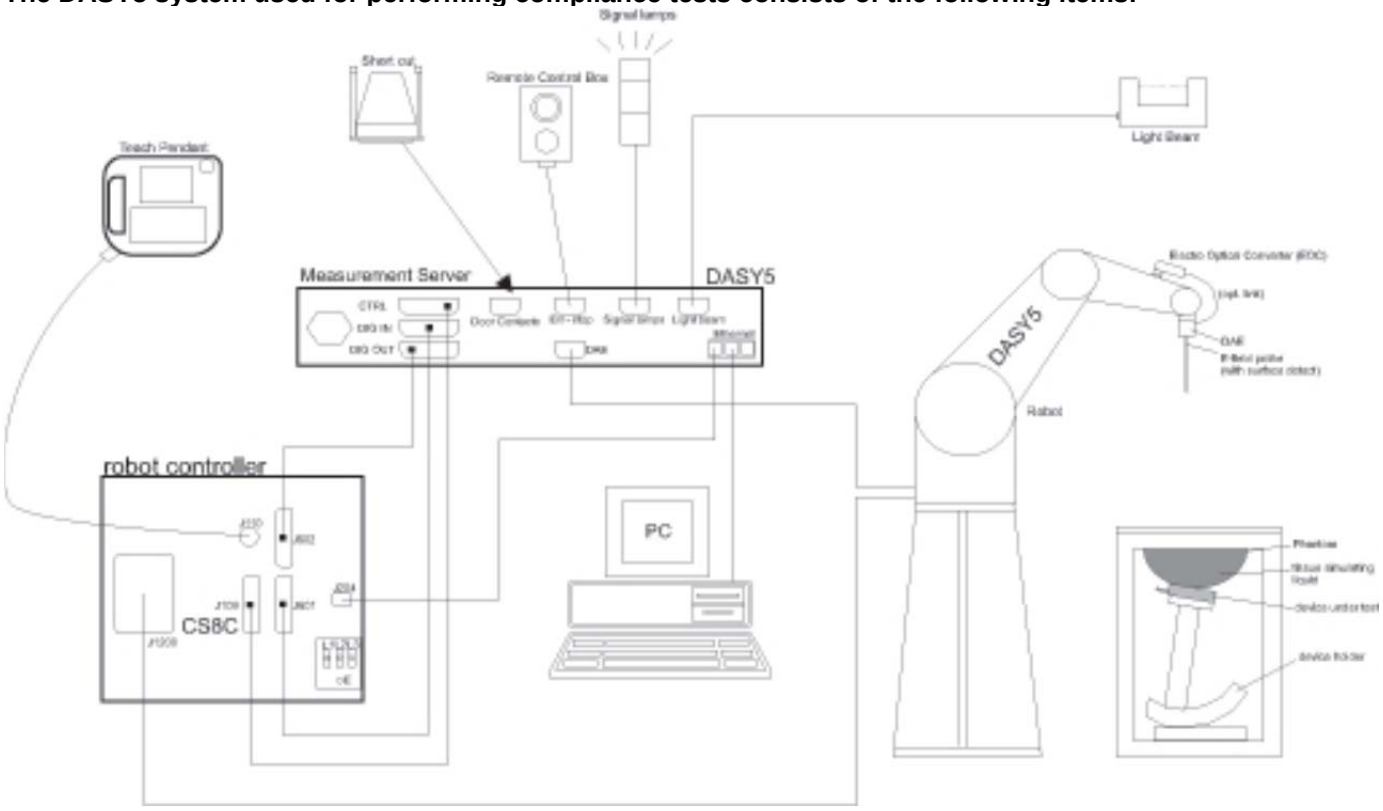
5. Measurement System Description and Setup

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



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

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6. SAR Measurement Procedure

6.1. Normal SAR Measurement Procedure

Step 1: Power Reference Measurement
The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

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

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

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Step 3: Zoom Scan

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

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01 (Draft)

			≤ 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.

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6.2. Volume Scan Procedures

Step 1: Repeat Step 1-4 in Section 6.1

Step 2: Volume Scan
Volume Scans are used to assess peak SAR and averaged SAR measurements in largely extended 3-dimensional volumes within any phantom. This measurement does not need any previous area scan. The grid can be anchored to a user specific point or to the current probe location.

Step 3: Power drift measurement
The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

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7. Device Under Test

Wireless Network Adapter Module (Tested inside of Panasonic Tablet PC FZ-G1) Model: WL14A	
Operating Configuration(s)	• Tablet Mode
Exposure Condition(s)	• The device is used in close proximity to the body. Specific details of the required test positions are provided in Section 8 “Exposure Conditions”
Accessory	• None

7.1. Band and Air Interfaces

Tx Frequency Bands	• 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
Modulation	• 802.11a/b/g/n/ac : BPSK, QPSK, CCK, 16-QAM and 64-QAM and 256-QAM • Bluetooth 4.0+LE: GFSK, DQPSK, 8-DPSK
Duty Cycle	• WLAN: 100% • Bluetooth 89%

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7.2. Simultaneous Transmission

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

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

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

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

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WWAN + Bluetooth

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

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

Usage Scenario	Modes	Mode of Operation	BAND	CDMA 1xRTT	CDMA 1xEV-DO	GPRS/EDGE	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	Wi-Fi 2.4GHz Main	Wi-Fi 2.4GHz Aux	Wi-Fi 5 Ghz Bands Main	Wi-Fi 5 Ghz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + 2.4GHz WLAN 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

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WWAN + Wi-Fi MIMO (2 Tx)

Usage Scenario	Modes	Mode of Operation	BAND	CDMA 1xRTT	CDMA 1xEV-DO	GPRS/EDGE	WCDMA	HSDPA	HSUPA	HSPA+	DC-HSPA	LTE	Wi-Fi 2.4GHz Main	Wi-Fi 2.4GHz Aux	Wi-Fi 5 Ghz Bands Main	Wi-Fi 5 Ghz Bands Aux	BT 2.4 GHz
Body SAR	WWAN + 2.4GHz WLAN + 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.

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8. Exposure Conditions

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

8.1. Test Configurations for the Main Antenna, SISO and MIMO Modes

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	13.0mm	Yes	
Front	-	No	SAR is not required as this is not a typical use scenario
Edge 1	31.5mm	Yes	
Edge 2	265.5mm	No	Refer to section 13.1.2 for SAR exclusion justification
Edge 3	139.0mm	No	Refer to section 13.1.2 for SAR exclusion justification
Edge 4	3.3mm	Yes	

8.2. Test Configurations for the Auxiliary Antenna, SISO and MIMO Modes

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	13mm	Yes	
Front	-	No	SAR is not required as this is not a typical use scenario
Edge 1	184.5mm	Yes	Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation. Refer to section 13.2.1 Notes 4.
Edge 2	228.3mm	No	Refer to section 13.1.2 for SAR exclusion justification
Edge 3	3.3mm	Yes	
Edge 4	23.7mm	Yes	

8.3. Test Configurations for the Auxiliary Antenna, Bluetooth

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	13mm	No	Refer to section 13.1.1 for SAR exclusion justification
Front	-	No	SAR is not required as this is not a typical use scenario
Edge 1	184.5mm	Yes	Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation. Refer to section 13.2.1 Notes 4.
Edge 2	228.3mm	No	Refer to section 13.1.2 for SAR exclusion justification
Edge 3	3.3mm	No	Refer to section 13.1.1 for SAR exclusion justification
Edge 4	23.7mm	No	Refer to section 13.1.1 for SAR exclusion justification

LEGEND:

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

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9. Summary of Required Test Modes

9.1. Wi-Fi 2.4 GHz Band

Mode	Number of Transmitters	Ch. #	Freq. (MHz)	Maximum Target Power from Original Approval (dBm)		Maximum Target Power for Host Approval (dBm)		SAR Test (Yes/No)	Surfaces/Edges requiring SAR evaluation
				Main	Aux	Main	Aux		
802.11b	1 Tx	2	2417	17.5		14.5		Yes	Rear, Edge 1, Edge 4
		6	2437	17.5		14.5			
		10	2557	17.5		14.5			
		2	2417		17.5		14.5	Yes	Rear, Edge 1, Edge 3, Edge 4
		6	2437		17.5		14.5		
		10	2557		17.5		14.5		
802.11g	1 Tx	2	2417	17.5		14.5		No	N/A
		6	2437	17.5		14.5			
		10	2557	17.5		14.5			
		2	2417		17.5		14.5	No	N/A
		6	2437		17.5		14.5		
		10	2557		17.5		14.5		
802.11n HT20	1 Tx	2	2417	17.5		14.5		No	N/A
		6	2437	17.5		14.5			
		10	2557	17.5		14.5			
		2	2417		17.5		14.5	No	N/A
		6	2437		17.5		14.5		
		10	2557		17.5		14.5		
802.11n HT20	2 Tx	2	2417	17.5	17.5	12.0	12.0	Yes	Covered by testing in 802.11b/g/n 1Tx
		6	2437	17.5	17.5	12.0	12.0		
		10	2557	17.5	17.5	12.0	12.0		
802.11n HT40	1 Tx	3	2422	17.5		10.5		No	N/A
		6	2437	17.5		14.5			
		9	2452	17.5		10.5			
		3	2422		17.5		11.0	No	N/A
		6	2437		17.5		14.5		
		9	2452		17.5		9.5		
802.11n HT40	2 Tx	3	2422	17.5	17.5	7.0	7.0	No	N/A
		6	2437	17.5	17.5	12.0	12.0		
		9	2452	17.5	17.5	7.0	7.0		

Note(s):

- Per KDB 248227, SAR is not required for 802.HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.

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9.2. Wi-Fi 5.2 GHz Band

Mode	Number of Transmitters	Ch. #	Freq. (MHz)	Maximum Target Power from Original Approval (dBm)		Maximum Target Power for Host Approval (dBm)		SAR Test (Yes/No)	Surfaces/Edges requiring SAR evaluation
				Main	Aux	Main	Aux		
802.11a	1 Tx	36	5180	16.0		13.5		Yes	Rear, Edge 1, Edge 4
		40	5200	16.0		13.5			
		44	5220	16.0		13.5			
		48	5240	16.0		13.5			
		36	5180		16.0		14.0	Yes	Rear, Edge 1, Edge 3, Edge 4
		40	5200		16.0		14.0		
		44	5220		16.0		14.0		
		48	5240		16.0		14.0		
802.11n HT20	1 Tx	36	5180	16.0		13.5		No	N/A
		40	5200	16.0		13.5			
		44	5220	16.0		13.5			
		48	5240	16.0		13.5			
		36	5180		16.0		14.0	No	N/A
		40	5200		16.0		14.0		
		44	5220		16.0		14.0		
		48	5240		16.0		14.0		
802.11n HT20	2 Tx	36	5180	16.0	16.0	9.0	9.0	Yes	Coverd by testing in 802.11a
		40	5200	16.0	16.0	11.5	11.5		
		44	5220	16.0	16.0	11.5	11.5		
		48	5240	16.0	16.0	11.5	11.5		
802.11n HT40	1 Tx	38	5190	16.5		13.5		No	N/A
		46	5230	16.5		13.5			
		38	5190		16.5		13.5	No	N/A
		46	5230		16.5		14.0		
802.11n HT40	2 Tx	38	5190	16.5	16.5	11.5	11.5	No	N/A
		46	5230	16.5	16.5	11.5	11.5		
802.11ac HT80	1 Tx	42	5210	13.5		13.0		No	N/A
		42	5210		13.5		13.0	No	N/A
802.11ac HT80	2 Tx	42	5210	13.5	13.5	10.5	10.5	No	N/A

Note(s):

- Per KDB 248227, SAR is not required for 802.HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.

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9.3. Wi-Fi 5.3 GHz Band

Mode	Number of Transmitters	Ch. #	Freq. (MHz)	Maximum Target Power from Original Approval (dBm)		Maximum Target Power for Host Approval (dBm)		SAR Test (Yes/No)	Surfaces/Edges requiring SAR evaluation
				Main	Aux	Main	Aux		
802.11a	1 Tx	52	5260	16.0		13.5		Yes	Rear, Edge 1, Edge 4
		56	5280	16.0		13.5			
		60	5300	16.0		13.5			
		64	5320	16.0		13.5			
		52	5260		16.0		14.0	Yes	Rear, Edge1, Edge 3, Edge 4,
		56	5280		16.0		14.0		
		60	5300		16.0		14.0		
		64	5320		16.0		13.5		
802.11n HT20	1 Tx	52	5260	16.0		13.5		No	N/A
		56	5280	16.0		13.5			
		60	5300	16.0		13.5			
		64	5320	16.0		13.5			
		52	5260		16.0		14.0	No	N/A
		56	5280		16.0		14.0		
		60	5300		16.0		14.0		
		64	5320		16.0		14.0		
802.11n HT20	2 Tx	52	5260	16.0	16.0	11.5	11.5	Yes	Covered by testing in 802.11a
		56	5280	16.0	16.0	11.5	11.5		
		60	5300	16.0	16.0	11.5	11.5		
		64	5320	16.0	16.0	10.5	10.5		
802.11n HT40	1 Tx	54	5270	16.5		13.5		No	N/A
		62	5310	16.5		13.5			
		54	5270		16.5		14.0	No	N/A
		62	5310		16.5		14.0		
802.11n HT40	2 Tx	54	5270	16.5	16.5	11.5	11.5	No	N/A
		62	5310	16.5	16.5	11.5	11.5		
802.11ac HT80	1 Tx	58	5290	13.5		13.0		No	N/A
		58	5290		13.5		13.0	No	N/A
802.11ac HT80	2 Tx	58	5290	13.5	13.5	10.5	10.5	No	N/A

Note(s):

- Per KDB 248227, SAR is not required for 802.HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.

9.4. Wi-Fi 5.5 GHz Band

Mode	Number of Transmitters	Ch. #	Freq. (MHz)	Maximum Target Power from Original Approval (dBm)		Maximum Target Power for Host Approval (dBm)		SAR Test (Yes/No)	Surfaces/Edges requiring SAR evaluation
				Main	Aux	Main	Aux		
802.11a	1 Tx	100	5500	16.0		13.5		Yes	Rear, Edge 1, Edge 4
		104	5520	16.0		13.5			
		108	5540	16.0		13.5			
		112	5560	16.0		13.5			
		116	5580	16.0		13.5			
		120	5600	16.0		13.5			
		124	5620	16.0		13.5			
		128	5640	16.0		13.5			
		132	5660	16.0		13.5			
		136	5680	16.0		13.5			
		140	5700	16.0		14.0			
		100	5500		16.0		14.0	Yes	Rear, Edge 1, Edge 3, Edge 4,
		104	5520		16.0		14.0		
		108	5540		16.0		14.0		
		112	5560		16.0		14.0		
		116	5580		16.0		14.0		
		120	5600		16.0		14.0		
		124	5620		16.0		14.0		
		128	5640		16.0		14.0		
		132	5660		16.0		14.0		
		136	5680		16.0		14.0		
		140	5700		16.0		14.5		
802.11n HT20	1 Tx	100	5500	16.0		13.5		No	N/A
		104	5520	16.0		13.5			
		108	5540	16.0		13.5			
		112	5560	16.0		13.5			
		116	5580	16.0		13.5			
		120	5600	16.0		13.5			
		124	5620	16.0		13.5			
		128	5640	16.0		13.5			
		132	5660	16.0		13.5			
		136	5680	16.0		13.5			
		140	5700	16.0		14.0			
		100	5500		16.0		14.0	No	N/A
		104	5520		16.0		14.0		
		108	5540		16.0		14.0		
		112	5560		16.0		14.0		
		116	5580		16.0		14.0		
		120	5600		16.0		14.0		
		124	5620		16.0		14.0		
		128	5640		16.0		14.0		
		132	5660		16.0		14.0		
		136	5680		16.0		14.0		
		140	5700		16.0		14.5		

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Mode	Number of Transmitters	Ch. #	Freq. (MHz)	Maximum Target Power from Original Approval (dBm)		Maximum Target Power for Host Approval (dBm)		SAR Test (Yes/No)	Surfaces/Edges requiring SAR evaluation
				Main	Aux	Main	Aux		
802.11n HT20	2 Tx	100	5500	16.0	16.0	11.0	10.5	Yes	Covered by testing in 802.11a
		116	5580	16.0	16.0	12.0	12.0		
		140	5700	16.0	16.0	12.0	12.0		
802.11n HT40	1 Tx	102	5510	16.5		13.5		No	N/A
		110	5550	16.5		13.5			
		118	5590	16.5		13.5			
		126	5630	16.5		13.5			
		134	5670	16.5		13.5			
		102	5510		16.5		14.0	No	N/A
		110	5550		16.5		14.0		
		118	5590		16.5		14.0		
		126	5630		16.5		14.0		
		134	5670		16.5		14.0		
802.11n HT40	2 Tx	102	5510	16.5	16.5	12.0	12.0	No	N/A
		110	5550	16.5	16.5	12.0	12.0		
		134	5670	16.5	16.5	12.0	12.0		
802.11ac HT20	1 Tx	144	5720	16.0		14.0		No	N/A
		144	5720		16.0		14.5	No	N/A
802.11ac HT20	2 Tx	144	5720	16.0	16.0	12.0	12.0	No	N/A
802.11ac HT40	1 Tx	142	5710	16.5		14.0		No	N/A
		142	5710		16.5		14.5	No	N/A
802.11ac HT40	2 Tx	142	5710	16.5	16.5	12.5	12.5	No	N/A
802.11ac HT80	1 Tx	106	5530	15.0		12.5		No	N/A
		122	5610	15.0		13.5			
		138	5690	15.0		14.0			
		106	5530		15.0		12.5	No	N/A
		122	5610		15.0		13.5		
		138	5690		15.0		14.5		
802.11ac HT80	2 Tx	106	5530	15.0	15.0	11.5	11.5	No	N/A
		122	5610	15.0	15.0	12.0	12.0	No	N/A
		138	5690	15.0	15.0	12.5	12.5	No	N/A

Note(s):

- Per KDB 248227, SAR is not required for 802.HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.

9.5. Wi-Fi 5.8 GHz Band

Mode	Number of Transmitters	Ch. #	Freq. (MHz)	Maximum Target Power from Original Approval (dBm)		Maximum Target Power for Host Approval (dBm)		SAR Test (Yes/No)	Surfaces/Edges requiring SAR evaluation
				Main	Aux	Main	Aux		
802.11a	1 Tx	149	5745	16.0		14.0		Yes	Rear, Edge 1, Edge 4
		153	5765	16.0		14.0			
		157	5785	16.0		14.0			
		161	5805	16.0		14.0			
		165	5825	16.0		14.0			
		149	5745		16.0		14.5	Yes	Rear, Edge 1, Edge 3, Edge 4
		153	5765		16.0		14.5		
		157	5785		16.0		14.5		
		161	5805		16.0		14.5		
		165	5825		16.0		14.5		
802.11n HT20	1 Tx	149	5745	16.0		14.0		No	N/A
		153	5765	16.0		14.0			
		157	5785	16.0		14.0			
		161	5805	16.0		14.0			
		165	5825	16.0		14.0			
		149	5745		16.0		14.5	No	N/A
		153	5765		16.0		14.5		
		157	5785		16.0		14.5		
		161	5805		16.0		14.5		
		165	5825		16.0		14.5		
802.11n HT20	2 Tx	149	5745	16.0	16.0	12.0	12.0	Yes	Covered by testing in 802.11a
		157	5785	16.0	16.0	12.0	12.0		
		165	5825	16.0	16.0	12.0	12.0		
802.11n HT40	1 Tx	151	5755	16.5		14.0		No	N/A
		159	5795	16.5		14.0			
		151	5755		16.5		14.5	No	N/A
		159	5795		16.5		14.5		
802.11n HT40	2 Tx	151	5755	16.5	16.5	12.5	12.5	No	N/A
		159	5795	16.5	16.5	12.5	12.5		
802.11ac HT80	1 Tx	155	5775	15.0		14.0		No	N/A
		155	5775		15.0		14.5		
802.11ac HT80	2 Tx	155	5775	15.0	15.0	12.5	12.5	No	N/A

Note(s):

- Per KDB 248227, SAR is not required for 802.HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.

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10. RF Output Power Measurement

Required Test Channels per KDB 248227 D01

Mode		Band	GHz	Channel	"Default Test Channels"	
					802.11b	802.11g
802.11b/g		2.4 GHz	**2.412**	1#	√	∇
			2.437	6	√	∇
			2.462	11#	√	∇
Mode		**Band**	**GHz**	**Channel**	**"Default Test Channels"**	
					802.11a	
802.11a	UNII (15.407)	5.2 GHz	5.180	36	√	
			5.200	40		*
			5.220	44		*
			5.240	48	√	
		5.3 GHz	5.260	52	√	
			5.280	56		*
			5.300	60		*
			5.320	64	√	
		5.5 GHz	5.500	100		*
			5.520	104	√	
			5.540	108		*
			5.560	112		*
			5.580	116	√	
			5.600	120		*
			5.620	124	√	
			5.640	128		*
			5.660	132		*
			5.680	136	√	
			5.700	140		*
	DTS (15.247)	5.8 GHz	5.745	149	√	
			5.765	153		*
			5.785	157	√	
			5.805	161		*
			5.825	165	√	

√ = "default test channels"

* = possible 802.11a channels with maximum average output > the "default test channels"

∇ = possible 802.11g channels with maximum average output ¼ dB ≥ the "default test channels"

= when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested.

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10.1 Output Power

The target power is the absolute maximum.

Tune-up Tolerance
The Target power is the upper limit of tune-up tolerance.

Mode	Antenna	BAND	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
802.11b	Main	2400MHz	1	2412	13.5	13.49
			2	2417	14.5	14.35
			3	2422	14.5	14.42
			4	2427	14.5	14.49
			5	2432	14.5	14.04
			6	2437	14.5	14.09
			7	2442	14.5	14.17
			8	2447	14.5	14.22
			9	2452	14.5	14.25
			10	2457	14.5	14.28
			11	2462	14.0	13.99
802.11g		2400MHz	1	2412	12.0	11.90
			2	2417	14.5	14.37
			3	2422	14.5	14.43
			4	2427	14.5	14.13
			5	2432	14.5	14.20
			6	2437	14.5	14.27
			7	2442	14.5	14.33
			8	2447	14.5	14.40
			9	2452	14.5	14.45
			10	2457	14.5	14.11
			11	2462	11.0	10.92
802.11a		5200MHz	36	5180	13.5	13.27
			40	5200	13.5	13.34
			44	5220	13.5	13.41
			48	5240	13.5	13.15
		5300MHz	52	5260	13.5	13.37
			56	5280	13.5	13.48
			60	5300	13.5	13.21
			64	5320	13.5	13.32
		5500MHz	100	5500	13.5	13.46
			104	5520	13.5	13.35
			108	5540	13.5	13.25
			112	5560	13.5	13.23
			116	5580	13.5	13.17
			120	5600	13.5	13.15
			124	5620	13.5	13.13
			128	5640	13.5	13.09
			132	5660	13.5	13.09
			136	5680	13.5	13.07
			140	5700	14.0	13.93
		5800MHz	149	5745	14.0	13.80
			153	5765	14.0	13.67
			157	5785	14.0	13.99
			161	5805	14.0	13.85
			165	5825	14.0	13.73

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Output Power (continued)

Mode	Antenna	Band	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
802.11b	Aux	2400MHz	1	2412	14.0	13.75
			2	2417	14.5	14.18
			3	2422	14.5	14.19
			4	2427	14.5	14.21
			5	2432	14.5	14.22
			6	2437	14.5	14.22
			7	2442	14.5	14.25
			8	2447	14.5	14.25
			9	2452	14.5	14.26
			10	2457	14.5	14.26
			11	2462	14.0	13.87
802.11g		2400MHz	1	2412	12.0	11.79
			2	2417	14.5	14.17
			3	2422	14.5	14.18
			4	2427	14.5	14.19
			5	2432	14.5	14.21
			6	2437	14.5	14.20
			7	2442	14.5	14.22
			8	2447	14.5	14.22
			9	2452	14.5	14.22
			10	2457	14.5	14.24
			11	2462	10.5	10.12
802.11a		5200MHz	36	5180	14.0	13.69
			40	5200	14.0	13.67
			44	5220	14.0	13.66
			48	5240	14.0	13.63
		5300MHz	52	5260	14.0	13.68
			56	5280	14.0	13.63
			60	5300	14.0	13.98
			64	5320	13.5	13.39
		5500MHz	100	5500	14.0	13.69
			104	5520	14.0	13.74
			108	5540	14.0	13.76
			112	5560	14.0	13.72
			116	5580	14.0	13.71
			120	5600	14.0	13.79
			124	5620	14.0	13.74
			128	5640	14.0	13.78
			132	5660	14.0	13.73
			136	5680	14.0	13.94
			140	5700	14.5	14.33
		5800MHz	149	5745	14.5	14.24
			153	5765	14.5	14.14
			157	5785	14.5	14.46
			161	5805	14.5	14.31
			165	5825	14.5	14.21

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Output Power (continued)

Mode	Antenna	Band	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
802.11n 20MHz 1Tx	Main	2400MHz	1	2412	11.5	11.40
			6	2437	14.5	14.14
			11	2462	10.5	10.38
	Aux		1	2412	12.0	11.68
			6	2437	14.5	14.48
			11	2462	10.0	9.99
802.11n 20MHz 2Tx	Main	2400MHz	1	2412	9.0	8.87
			6	2437	12.0	11.63
			11	2462	9.5	9.49
	Aux		1	2412	9.0	8.77
			6	2437	12.0	11.97
			11	2462	9.5	9.27
802.11n 40MHz 1Tx	Main	2400MHz	3	2422	10.5	10.19
			6	2437	14.5	14.36
			9	2452	10.5	10.14
	Aux		3	2422	11.0	10.69
			6	2437	14.5	14.32
			9	2452	9.5	9.38
802.11n 40MHz 2Tx	Main	2400MHz	3	2422	7.0	6.83
			6	2437	12.0	11.85
			9	2452	7.0	6.75
	Aux		3	2422	7.0	6.79
			6	2437	12.0	11.73
			9	2452	7.0	6.88
802.11n 20MHz 1Tx	Main	5200MHz	36	5180	13.5	13.23
			40	5200	13.5	13.34
			44	5220	13.5	13.43
			48	5240	13.5	13.09
		5300MHz	52	5260	13.5	13.25
			56	5280	13.5	13.38
			60	5300	13.5	13.48
			64	5320	13.5	13.20
		5500MHz	100	5500	13.5	13.20
			104	5520	13.5	13.10
			108	5540	13.5	13.05
			112	5560	13.5	13.09
			116	5580	13.5	13.02
			120	5600	13.5	13.01
			124	5620	13.5	13.00
			128	5640	13.5	13.01
			132	5660	13.5	13.03
			136	5680	13.5	13.39
			140	5700	14.0	13.61
		5800MHz	149	5745	14.0	13.61
			153	5765	14.0	13.96
			157	5785	14.0	13.87
			161	5805	14.0	13.75
			165	5825	14.0	13.64

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Output Power (continued)

Mode	Antenna	Band	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
802.11n 20MHz 1Tx	Aux	5200MHz	36	5180	14.0	13.98
			40	5200	14.0	13.99
			44	5220	14.0	13.97
			48	5240	14.0	13.96
		5300MHz	52	5260	14.0	14.00
			56	5280	14.0	13.99
			60	5300	14.0	13.91
			64	5320	14.0	13.83
		5500MHz	100	5500	14.0	13.87
			104	5520	14.0	13.75
			108	5540	14.0	13.72
			112	5560	14.0	13.77
			116	5580	14.0	13.74
			120	5600	14.0	13.78
			124	5620	14.0	13.70
			128	5640	14.0	13.69
			132	5660	14.0	13.67
			136	5680	14.0	13.89
			140	5700	14.5	14.08
		5800MHz	149	5745	14.5	14.26
			153	5765	14.5	14.50
			157	5785	14.5	14.39
			161	5805	14.5	14.27
			165	5825	14.5	14.16
802.11n 20MHz 2Tx	Main	5200MHz	36	5180	9.0	8.68
			40	5200	11.5	11.42
			48	5240	11.5	11.27
		5300MHz	52	5260	11.5	11.41
			60	5300	11.5	11.22
			64	5320	10.5	10.47
		5500MHz	100	5500	11.0	10.61
			116	5580	12.0	11.82
			140	5700	12.0	11.76
		5800MHz	149	5745	12.0	11.77
			157	5785	12.0	11.87
			165	5825	12.0	11.89
	Aux	5200MHz	36	5180	9.0	8.57
			40	5200	11.5	11.28
			48	5240	11.5	11.30
		5300MHz	52	5260	11.5	11.32
			60	5300	11.5	11.23
			64	5320	10.5	10.23
		5500MHz	100	5500	10.5	10.42
			116	5580	12.0	11.54
			140	5700	12.0	11.70
		5800MHz	149	5745	12.0	11.86
			157	5785	12.0	11.83
			165	5825	12.0	11.94

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Output Power (continued)

Mode	Antenna	Band	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
802.11n 40MHz 1Tx	Main	5200MHz	38	5190	13.5	13.13
			46	5230	13.5	13.34
		5300MHz	54	5270	13.5	13.15
			62	5310	13.5	13.36
		5500MHz	102	5510	13.5	13.48
			110	5550	13.5	13.46
			118	5590	13.5	13.38
			126	5630	13.5	13.35
			134	5670	13.5	13.32
		5800MHz	151	5755	14.0	13.83
			159	5795	14.0	13.97
	Aux	5200MHz	38	5190	13.5	13.44
			46	5230	14.0	13.55
		5300MHz	54	5270	14.0	13.86
			62	5310	14.0	13.72
		5500MHz	102	5510	14.0	13.87
			110	5550	14.0	13.88
			118	5590	14.0	13.90
			126	5630	14.0	13.86
			134	5670	14.0	13.74
		5800MHz	151	5755	14.5	14.33
			159	5795	14.5	14.48
802.11n 40MHz 2Tx	Main	5200MHz	38	5190	11.5	11.16
			46	5230	11.5	11.41
		5300MHz	54	5270	11.5	11.28
			62	5310	11.5	11.12
		5500MHz	102	5510	12.0	11.80
			110	5550	12.0	11.74
			134	5670	12.0	11.69
		5800MHz	151	5755	12.5	12.24
			159	5795	12.5	12.19
	Aux	5200MHz	38	5190	11.5	11.42
			46	5230	11.5	11.48
		5300MHz	54	5270	11.5	11.45
			62	5310	11.5	11.36
		5500MHz	102	5510	12.0	11.98
			110	5550	12.0	11.95
			134	5670	12.0	11.68
		5800MHz	151	5755	12.5	12.42
			159	5795	12.5	12.32

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Output Power (continued)

Mode	Antenna	Band	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
802.11ac 20MHz 1Tx	Main	5600MHz	144	5720	14.0	13.68
802.11ac 20MHz 1Tx	AUX	5600MHz	144	5720	14.5	14.37
802.11ac 20MHz 2Tx	Main	5600MHz	144	5720	12.0	11.91
802.11ac 20MHz 2Tx	AUX	5600MHz	144	5720	12.0	11.64
802.11ac 40MHz 1Tx	Main	5600MHz	142	5710	14.0	13.75
802.11ac 40MHz 1Tx	AUX	5600MHz	142	5710	14.5	14.40
802.11ac 40MHz 2Tx	Main	5600MHz	142	5710	12.5	12.48
802.11ac 40MHz 2Tx	AUX	5600MHz	142	5710	12.5	12.29
802.11ac 80MHz 1Tx	Main	5200MHz	42	5210	13.0	12.78
		5300MHz	58	5290	13.0	12.81
		5500MHz	106	5530	12.5	12.48
			122	5610	13.5	13.16
			138	5690	14.0	13.64
		5800MHz	155	5775	14.0	13.71
	Aux	5200MHz	42	5210	13.0	12.85
		5300MHz	58	5290	13.0	12.85
		5500MHz	106	5530	12.5	12.32
			122	5610	13.5	13.50
			138	5690	14.5	14.41
		5800MHz	155	5775	14.5	14.22
802.11ac 80MHz 2Tx	Main	5200MHz	42	5210	10.5	10.16
		5300MHz	58	5290	10.5	10.19
		5500MHz	106	5530	11.5	11.36
			122	5610	12.0	11.78
			138	5690	12.5	12.12
		5800MHz	155	5775	12.5	12.39
	Aux	5200MHz	42	5210	10.5	10.42
		5300MHz	58	5290	10.5	10.30
		5500MHz	106	5530	11.5	11.46
			122	5610	12.0	11.60
			138	5690	12.5	12.11
		5800MHz	155	5775	12.5	12.45

Mode	Antenna	Band	Channel	Frequency (MHz)	Target Power (dBm)	Measured Power (dBm)
Bluetooth	Aux	2400MHz	0	2402	7.0	5.78
			39	2441	7.0	6.41
			78	2480	7.0	6.72

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11. 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

KDB865664 D01 SAR Measurement 100 MHz to 6 GHz v01r01

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

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11.1. 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

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11.2. 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.

Date	Freq. (MHz)	Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2014/11/29	Body 2400	Relative Permittivity (ε_r):	51.47	52.77	-2.47	5
		Conductivity (σ):	1.84	1.90	-3.22	5
	Body 2450	Relative Permittivity (ε_r):	51.19	52.70	-2.87	5
		Conductivity (σ):	1.90	1.95	-2.36	5
	Body 2480	Relative Permittivity (ε_r):	51.13	52.66	-2.91	5
		Conductivity (σ):	1.94	1.99	-2.42	5
2014/11/19	Body 5180	Relative Permittivity (ε_r):	48.96	49.05	-0.18	10
		Conductivity (σ):	5.12	5.27	-2.85	5
	Body 5200	Relative Permittivity (ε_r):	48.92	49.02	-0.20	10
		Conductivity (σ):	5.09	5.29	-3.96	5
	Body 5825	Relative Permittivity (ε_r):	48.19	48.20	-0.02	10
		Conductivity (σ):	6.01	6.00	0.15	5
2014/11/20	Body 5180	Relative Permittivity (ε_r):	48.07	49.05	-1.99	10
		Conductivity (σ):	5.30	5.27	0.45	5
	Body 5300	Relative Permittivity (ε_r):	48.02	48.88	-1.77	10
		Conductivity (σ):	5.55	5.30	4.70	5
	Body 5600	Relative Permittivity (ε_r):	47.56	48.48	-1.89	10
		Conductivity (σ):	5.72	5.65	1.31	5
	Body 5825	Relative Permittivity (ε_r):	47.03	48.20	-2.43	10
		Conductivity (σ):	6.23	6.00	3.88	5
2014/11/21	Body 5180	Relative Permittivity (ε_r):	49.34	49.05	0.60	10
		Conductivity (σ):	5.35	5.27	1.51	5
	Body 5800	Relative Permittivity (ε_r):	48.77	48.20	1.18	10
		Conductivity (σ):	6.11	6.00	1.85	5
	Body 5825	Relative Permittivity (ε_r):	48.61	48.20	0.85	10
		Conductivity (σ):	6.06	6.00	1.02	5

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12. 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.

12.1. 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 2.4GHz band).
- The results are normalized to 1 W input power.

12.2. 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
D2450V2	713	9/10/2013	2450	1g	52.0	50.4
				10g	24.2	23.6
D5GHV2	1020	1/17/2014	5.2GHz	1g	81.2	75.0
				10g	23.3	20.9
			5.3GHz	1g	84.1	76.3
				10g	24.2	21.4
			5.5GHz	1g	86.1	79.7
				10g	24.5	22.2
			5.6GHz	1g	86.0	80.8
				10g	24.4	22.4
			5.8GHz	1g	81.3	75.3
				10g	23.1	20.8

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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		
11/29/2014	D2450V2	713	Body	1g	12.80	51.2	50.4	1.59
				10g	5.91	23.6	23.6	0.17
11/19/2014	D5GHzV2 5.2 GHz	1020	Body	1g	7.51	75.1	75.0	0.13
				10g	2.07	20.7	20.9	-0.96
11/20/2014	D5GHzV2 5.3 GHz	1020	Body	1g	8.06	80.6	76.3	5.64
				10g	2.21	22.1	21.4	3.27
11/20/2014	D5GHzV2 5.6 GHz	1020	Body	1g	7.86	78.6	80.8	-2.72
				10g	2.14	21.4	22.4	-4.46
11/21/2014	D5GHzV2 5.8 GHz	1020	Body	1g	6.96	69.6	75.3	-7.57
				10g	1.91	19.1	20.8	-8.17

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13. SAR Test Results

13.1. 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 rear or edge separation distance is >50mm the actual antenna to user separation distance is used to determine SAR exclusion and estimated SAR value
4. As the SISO (1 Tx) mode powers are higher than the MIMO (2Tx) powers separate testing of the MIMO (2 Tx) SAR was considered unnecessary. The reported stand-alone values for 1Tx mode are used to cover simultaneous conditions.

13.1.1. SAR exclusion calculations for Wi-Fi SISO (1 Tx) and Bluetooth for antenna <50mm from the user

Antenna	Tx	Frequency	Output power		Separation distances(mm)						Calcurated Threshold Value					
		(MHz)	dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
WiFi - Main Antenna																
WLAN Main	WiFi	2462	14.50	28	0.00	0.00	265.50	139.00	0.00		**8.8**	**8.8**	>50mm	>50mm	**8.8**	N/A
WLAN Main	WiFi	5240	13.50	22	0.00	0.00	265.50	139.00	0.00		**10.1**	**10.1**	>50mm	>50mm	**10.1**	N/A
WLAN Main	WiFi	5320	13.50	22	0.00	0.00	265.50	139.00	0.00		**10.1**	**10.1**	>50mm	>50mm	**10.1**	N/A
WLAN Main	WiFi	5700	14.00	25	0.00	0.00	265.50	139.00	0.00		**11.9**	**11.9**	>50mm	>50mm	**11.9**	N/A
WLAN Main	WiFi	5825	14.00	25	0.00	0.00	265.50	139.00	0.00		**12.1**	**12.1**	>50mm	>50mm	**12.1**	N/A
Bluetooth / WiFi - Aux Antenna																
WLAN Aux	WiFi	2462	14.50	28	0.00	184.50	228.30	0.00	0.00		**8.8**	>50mm	>50mm	**8.8**	**8.8**	N/A
WLAN Aux	WiFi	5240	14.00	25	0.00	184.50	228.30	0.00	0.00		**11.4**	>50mm	>50mm	**11.4**	**11.4**	N/A
WLAN Aux	WiFi	5320	14.00	25	0.00	184.50	228.30	0.00	0.00		**11.5**	>50mm	>50mm	**11.5**	**11.5**	N/A
WLAN Aux	WiFi	5700	14.50	28	0.00	184.50	228.30	0.00	0.00		**13.4**	>50mm	>50mm	**13.4**	**13.4**	N/A
WLAN Aux	WiFi	5825	14.50	28	0.00	184.50	228.30	0.00	0.00		**13.5**	>50mm	>50mm	**13.5**	**13.5**	N/A
WLAN Aux	Bluetooth	2480	7.00	5	0.00	184.50	228.30	0.00	0.00		1.6	>50mm	>50mm	1.6	1.6	N/A

Note(s):

1. According to KDB 447498, if the calculated threshold value is >3 then SAR testing is required.
2. SAR exclusion was not assessed for 2 Tx (MIMO) as the higher 1 Tx (SISO) SAR values were used for simultaneous transmission analysis.

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13.1.2. SAR exclusion calculations for Wi-Fi SISO (1 Tx) and Bluetooth for antenna >50mm from the user

Antenna	Tx	Frequency	Output power		Separation distances(mm)						Power Threshold (mW)					
		(MHz)	dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
WiFi - Main Antenna																
WLAN Main	WiFi	2462	14.50	28	0.00	0.00	265.50	139.00	0.00		<50mm	<50mm	2250.6	985.6	<50mm	N/A
WLAN Main	WiFi	5240	13.50	22	0.00	0.00	265.50	139.00	0.00		<50mm	<50mm	2220.5	955.5	<50mm	N/A
WLAN Main	WiFi	5320	13.50	22	0.00	0.00	265.50	139.00	0.00		<50mm	<50mm	2220.0	955.0	<50mm	N/A
WLAN Main	WiFi	5700	14.00	25	0.00	0.00	265.50	139.00	0.00		<50mm	<50mm	2217.8	952.8	<50mm	N/A
WLAN Main	WiFi	5825	14.00	25	0.00	0.00	265.50	139.00	0.00		<50mm	<50mm	2217.2	952.2	<50mm	N/A
Bluetooth / WiFi - Aux Antenna																
WLAN Aux	WiFi	2462	14.50	28	0.00	184.50	228.30	0.00	0.00		<50mm	1440.6	1878.6	<50mm	<50mm	N/A
WLAN Aux	WiFi	5240	14.00	25	0.00	184.50	228.30	0.00	0.00		<50mm	1410.5	1848.5	<50mm	<50mm	N/A
WLAN Aux	WiFi	5320	14.00	25	0.00	184.50	228.30	0.00	0.00		<50mm	1410.0	1848.0	<50mm	<50mm	N/A
WLAN Aux	WiFi	5700	14.50	28	0.00	184.50	228.30	0.00	0.00		<50mm	1407.8	1845.8	<50mm	<50mm	N/A
WLAN Aux	WiFi	5825	14.50	28	0.00	184.50	228.30	0.00	0.00		<50mm	1407.2	1845.2	<50mm	<50mm	N/A
WLAN Aux	Bluetooth	2480	7.00	5	0.00	184.50	228.30	0.00	0.00		<50mm	1440.3	1878.3	<50mm	<50mm	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.
2. SAR exclusion was not assessed for 2 Tx (MIMO) as the higher 1 Tx (SISO) SAR values were used for simultaneous transmission analysis

Conclusion:

- As the calculated Power Threshold is greater than the DUT output power for Edge2 and 3 of WIFI Main antenna and Edge1 ,2 of WIFI Aux antenna, SAR testing is not required for these configurations

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13.2. 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

13.2.1. Estimated SAR for Wi-Fi 1 Tx (SISO) and Bluetooth

Antenna	Tx	Frequency	Output power		Separation distances(mm)						Estimated SAR Value					
		(MHz)	dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
WiFi - Main Antenna																
WLAN Main	WiFi	2462	14.50	28	0.00	0.00	265.50	139.00	0.00		Measure	Measure	>200 mm	0.400	Measure	N/A
WLAN Main	WiFi	5240	13.50	22	0.00	0.00	265.50	139.00	0.00		Measure	Measure	>200 mm	0.400	Measure	N/A
WLAN Main	WiFi	5320	13.50	22	0.00	0.00	265.50	139.00	0.00		Measure	Measure	>200 mm	0.400	Measure	N/A
WLAN Main	WiFi	5700	14.00	25	0.00	0.00	265.50	139.00	0.00		Measure	Measure	>200 mm	0.400	Measure	N/A
WLAN Main	WiFi	5825	14.00	25	0.00	0.00	265.50	139.00	0.00		Measure	Measure	>200 mm	0.400	Measure	N/A
Bluetooth / WiFi - Aux Antenna																
WLAN Aux	WiFi	2462	14.50	28	0.00	184.50	228.30	0.00	0.00		Measure	Measure	>200 mm	Measure	Measure	N/A
WLAN Aux	WiFi	5240	14.00	25	0.00	184.50	228.30	0.00	0.00		Measure	Measure	>200 mm	Measure	Measure	N/A
WLAN Aux	WiFi	5320	14.00	25	0.00	184.50	228.30	0.00	0.00		Measure	Measure	>200 mm	Measure	Measure	N/A
WLAN Aux	WiFi	5700	14.50	28	0.00	184.50	228.30	0.00	0.00		Measure	Measure	>200 mm	Measure	Measure	N/A
WLAN Aux	WiFi	5825	14.50	28	0.00	184.50	228.30	0.00	0.00		Measure	Measure	>200 mm	Measure	Measure	N/A
WLAN Aux	Bluetooth	2480	7.00	5	0.00	184.50	228.30	0.00	0.00		0.210	Measure	>200 mm	0.210	0.210	N/A

Notes:

1. Estimated SAR for 2 Tx (MIMO) was not assessed as the higher 1 Tx (SISO) SAR values were used for simultaneous transmission analysis.
2. As Simultaneous Transmission SAR of the DUT was compliant under the higher power conditions of Wi-Fi 1 Tx, it was judged that such analyses would be unnecessary for Wi-Fi 2 Tx (MIMO), given the substantially lower MIMO power levels and considerable separation distance between WLAN Main and the WLAN Auxiliary antennas.
3. Wherever appropriate, Wi-Fi 1 Tx (SISO) SAR values were used to represent those of Wi-Fi 2 Tx (MIMO); if compliance can be shown with the more conservative Wi-Fi 1 Tx values, then there is no need to perform separate assessment for Wi-Fi 2 Tx.
4. Though SAR for Bluetooth/WiFi Aux antenna in edge 1 was not required for standalone, test was performed. The reason is as follows.
   The WLAN model in which only the WLAN module(EUT) was installed. The WLAN+WWAN model in which WLAN module(EUT) and WWAN module were installed. The host device(M/N: FZ-G1) has these two models.
   Since Edge 1 of WLAN Aux/BT was measured standalone SAR for simultaneous transmitting evaluation of a WLAN+WWAN model, measured standalone SAR value was used in this report.
   When considering simultaneous transmitting exclusion of Edge1, 0.4W/kg had very large estimated SAR of Edge1 of WLAN Aux/BT, and since the sum of SAR value exceeded 1.6W/kg, estimated SAR was not used in this report.
   Evaluation of simultaneous transmission of a WLAN+WWAN model is included in the application of WWAN module, and it is not contained in this report.

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13.3. Wi-Fi 2.4 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11b	0	2	2417	14.50	14.35	0.196	0.203	1	
			6	2437	14.50	14.09				1
			10	2457	14.50	14.28				1
Edge 1	802.11b	0	2	2417	14.50	14.35	0.081	0.084	2	
			6	2437	14.50	14.09				1
			10	2457	14.50	14.28				1
Edge 4	802.11b	0	2	2417	14.50	14.35	0.584	0.605	3	
			6	2437	14.50	14.09				1
			10	2457	14.50	14.28				1

Note(s):

1. 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

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11b	0	2	2417	14.5	14.18				1
			6	2437	14.5	14.22				1
			10	2457	14.5	14.26	0.154	0.163	4	
Edge 1	802.11b	0	2	2417	14.5	14.18				1
			6	2437	14.5	14.22				1
			10	2457	14.5	14.26	0.00138	0.00146	5	
Edge 3	802.11b	0	2	2417	14.5	14.18				1
			6	2437	14.5	14.22				1
			10	2457	14.5	14.26	0.451	0.477	6	
Edge 4	802.11b	0	2	2417	14.5	14.18				1
			6	2437	14.5	14.22				1
			10	2457	14.5	14.26	0.087	0.092	7	

Note(s):

1. 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

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13.4. Wi-Fi 5.2 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	40	5200	13.50	13.34				1
			44	5220	13.50	13.41	0.145	0.148	1	
Edge1	802.11a	0	40	5200	13.50	13.34				1
			44	5220	13.50	13.41	0.089	0.091	2	
Edge4	802.11a	0	40	5200	13.50	13.34				1
			44	5220	13.50	13.41	0.428	0.437	3	

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	40	5200	14.00	13.67	0.090	0.097	4	
			44	5220	14.00	13.66				1
Edge1	802.11a	0	40	5200	14.00	13.67	0.000	0.000	5	
			44	5220	14.00	13.66				1
Edge3	802.11a	0	40	5200	14.00	13.67	0.259	0.279	6	
			44	5220	14.00	13.66				1
Edge4	802.11a	0	40	5200	14.00	13.67	0.020	0.022	7	
			44	5220	14.00	13.66				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

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13.5. Wi-Fi 5.3 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	56	5280	13.50	13.48	0.142	0.143	8	
			64	5320	13.50	13.32				1
Edge1	802.11a	0	56	5280	13.50	13.48	0.093	0.093	9	
			64	5320	13.50	13.32				1
Edge4	802.11a	0	56	5280	13.50	13.48	0.338	0.340	10	
			64	5320	13.50	13.32				1

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	52	5260	14.00	13.68				1
			60	5300	14.00	13.98	0.132	0.133	11	
Edge1	802.11a	0	52	5260	14.00	13.68				1
			60	5300	14.00	13.98	0.000	0.000	12	
Edge3	802.11a	0	52	5260	14.00	13.68				1
			60	5300	14.00	13.98	0.325	0.327	13	
Edge4	802.11a	0	52	5260	14.00	13.68				1
			60	5300	14.00	13.98	0.014	0.014	14	

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

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13.6. Wi-Fi 5.5 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	100	5500	13.50	13.46				3
			112	5560	13.50	13.23				3
			120	5600	13.50	13.15				3
			140	5700	14.00	13.93	0.152	0.154	15	
Edge1	802.11a	0	100	5500	13.50	13.46				3
			112	5560	13.50	13.23				3
			120	5600	13.50	13.15				3
			140	5700	14.00	13.93	0.055	0.056	16	3
Edge4	802.11a	0	100	5500	13.50	13.46	0.536	0.541	17	
			112	5560	13.50	13.23	0.592	0.630	18	
			120	5600	13.50	13.15	0.563	0.610	19	
			140	5700	14.00	13.93	0.639	0.649	20	

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	100	5500	14.00	13.69				3
			120	5600	14.00	13.79				3
			128	5640	14.00	13.78				3
			140	5700	14.50	14.33	0.106	0.110	21	
Edge1	802.11a	0	100	5500	14.00	13.69				3
			120	5600	14.00	13.79				3
			128	5640	14.00	13.78				3
			140	5700	14.50	14.33	0.000	0.000	22	
Edge3	802.11a	0	100	5500	14.00	13.69				3
			120	5600	14.00	13.79				3
			128	5640	14.00	13.78				3
			140	5700	14.50	14.33	0.272	0.283	23	
Edge4	802.11a	0	100	5500	14.00	13.69				3
			120	5600	14.00	13.79				3
			128	5640	14.00	13.78				3
			140	5700	14.50	14.33	0.000	0.000	24	

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

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13.7. Wi-Fi 5.8 GHz Band

Main Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	149	5745	14.00	13.80				1
			157	5785	14.00	13.99	0.145	0.145	25	
			161	5805	14.00	13.85				1
Edge1	802.11a	0	149	5745	14.00	13.80				1
			157	5785	14.00	13.99	0.032	0.032	26	
			161	5805	14.00	13.85				1
Edge4	802.11a	0	149	5745	14.00	13.80				1
			157	5785	14.00	13.99	0.712	0.714	27	
			161	5805	14.00	13.85				1

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Rear	802.11a	0	149	5745	14.50	14.24				1
			157	5785	14.50	14.46	0.156	0.157	28	
			161	5805	14.50	14.31				1
Edge1	802.11a	0	149	5745	14.50	14.24				1
			157	5785	14.50	14.46	0.000	0.000	29	
			161	5805	14.50	14.31				1
Edge3	802.11a	0	149	5745	14.50	14.24				1
			157	5785	14.50	14.46	0.489	0.494	30	
			161	5805	14.50	14.31				1
Edge4	802.11a	0	149	5745	14.50	14.24				1
			157	5785	14.50	14.46	0.001	0.001	31	
			161	5805	14.50	14.31				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

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13.8. Bluetooth

Auxiliary Antenna

Test Position	Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.	Note
					Tune-up limit	Meas.	Meas.	Scaled		
Edge1	DH5	0	0	2402	7.00	5.78				1
			39	2441	7.00	6.41				1
			78	2480	7.00	6.72	0.000213	0.000227	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

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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)	Power (dBm)	1g SAR (W/kg)
	Transmit Antenna	Exposure	Position					
Wi-Fi 2.4 GHz	Main	Body	Edge 4	802.11b	0	2417	14.35	0.584
Wi-Fi 5.2 GHz	Main	Body	Edge 4	802.11a	0	5220	13.41	0.428
Wi-Fi 5.3 GHz	Main	Body	Edge 4	802.11a	0	5280	13.48	0.338
Wi-Fi 5.5 GHz	Main	Body	Edge 4	802.11a	0	5700	13.93	0.639
Wi-Fi 5.8 GHz	Main	Body	Edge 4	802.11a	0	5785	13.99	0.712
Bluetooth	Auxiliary	Body	Edge 1	DH5	0	2480	6.72	0.000213

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13.9. 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.

Repeated measurement was not performed since the original highest measured SAR is < 0.80 W/kg

Wireless Technologies	Test Configuration			Mode	Dist. (mm)	Ch #.	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio	Plot No.
	Transmit Antenna	Exposure	Position					Original	Repeated		
Wi-Fi 2.4 GHz	Main	Body	Edge 4	802.11b 1Mbps	0	2	2417	0.584	N/A	N/A	-
Wi-Fi 5.2 GHz	Main	Body	Edge 4	802.11a 6 Mbps	0	44	5220	0.428	N/A	N/A	-
Wi-Fi 5.3 GHz	Main	Body	Edge 4	802.11a 6 Mbps	0	56	5280	0.338	N/A	N/A	-
Wi-Fi 5.5 GHz	Main	Body	Edge 4	802.11a 6 Mbps	0	140	5700	0.639	N/A	N/A	-
Wi-Fi 5.8 GHz	Main	Body	Edge 4	802.11a 6 Mbps	0	157	5785	0.712	N/A	N/A	-
Bluetooth	Auxiliary	Body	Edge 1	DH5	0	78	2480	0.000213	N/A	N/A	-

Note(s):
Repeated Measurement is not required since the original highest measured SAR for all band is < 0.80 W/kg.

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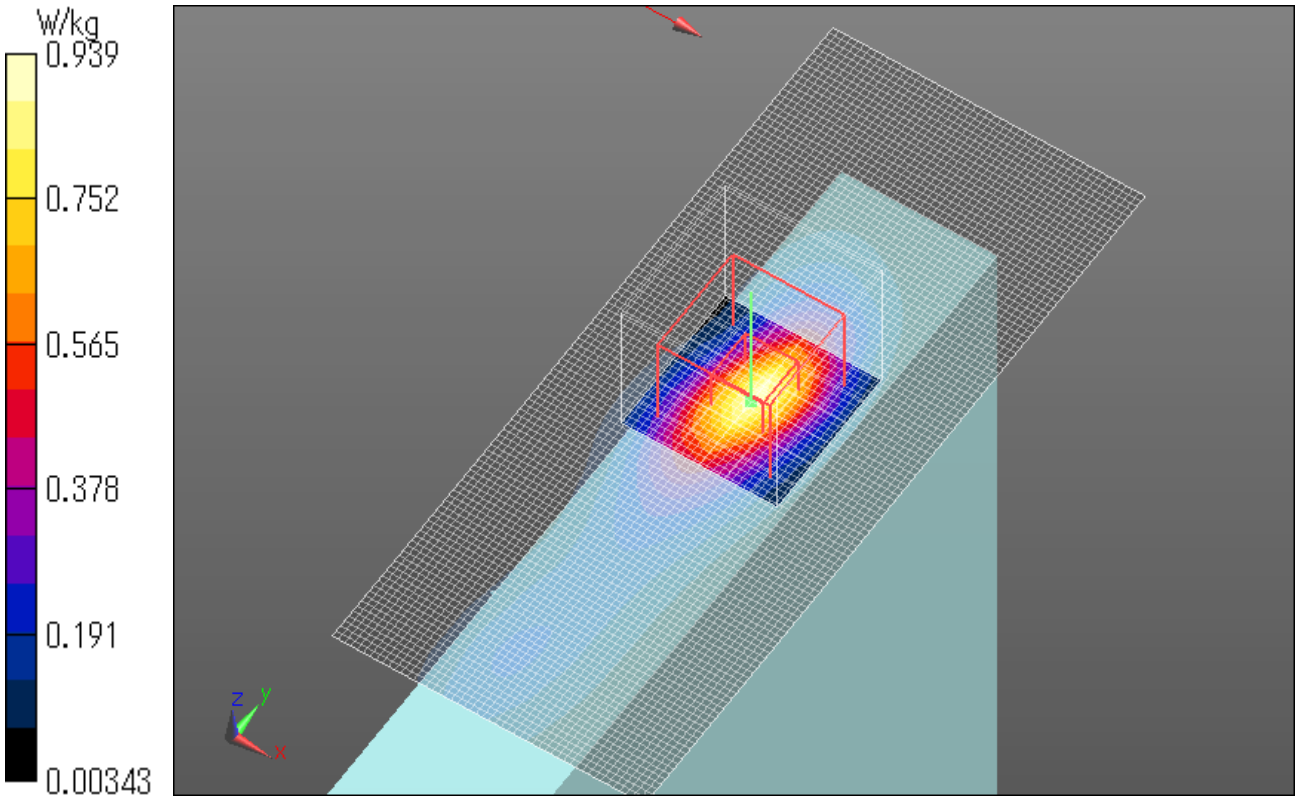
13.10. SAR Plots (from Summary of Highest Measured SAR Values)

WLAN 11b 1Mbps Main Ant Edge4 2417MHz
Communication System: UID 0, WLAN (0); Communication System Band: 11b/g/n; Frequency: 2417 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2417 MHz; σ = 1.862 S/m; ε_r = 51.313; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3922; ConvF(7.36, 7.36, 7.36); Calibrated: 2014/06/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1372; Calibrated: 2014/06/18
Phantom: ELI v5.0 TP1207; Type: QDOVA001BB; Serial: TP:1207
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (51x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.919 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.76 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.584 W/kg; SAR(10 g) = 0.246 W/kg
Maximum value of SAR (measured) = 0.939 W/kg



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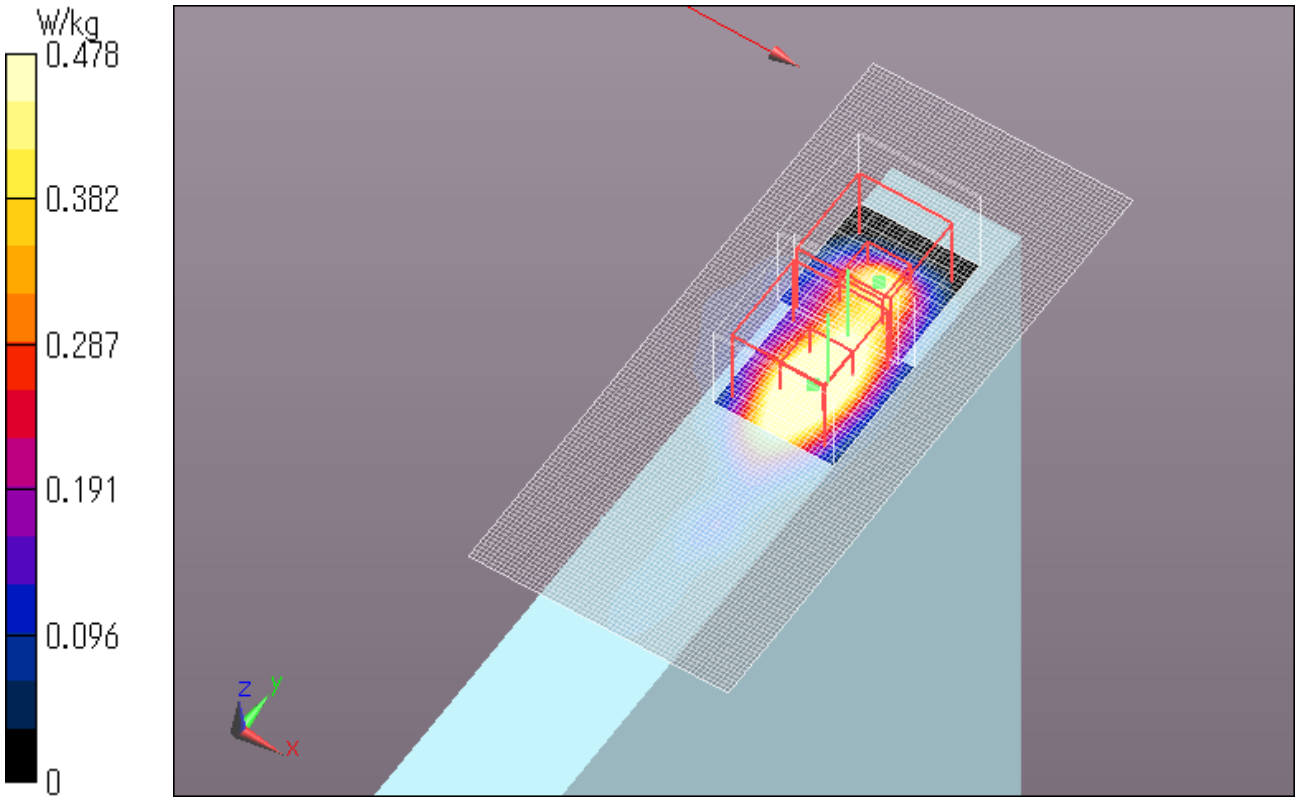
WLAN 11a 6Mbps Main Ant Edge4 5220MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5220 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; σ = 5.107 S/m; ε_r = 48.889; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (61x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.787 W/kg

/Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.41 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.428 W/kg; SAR(10 g) = 0.133 W/kg
Maximum value of SAR (measured) = 0.845 W/kg

Zoom Scan 2 (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.41 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.822 W/kg
SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.068 W/kg
Maximum value of SAR (measured) = 0.478 W/kg



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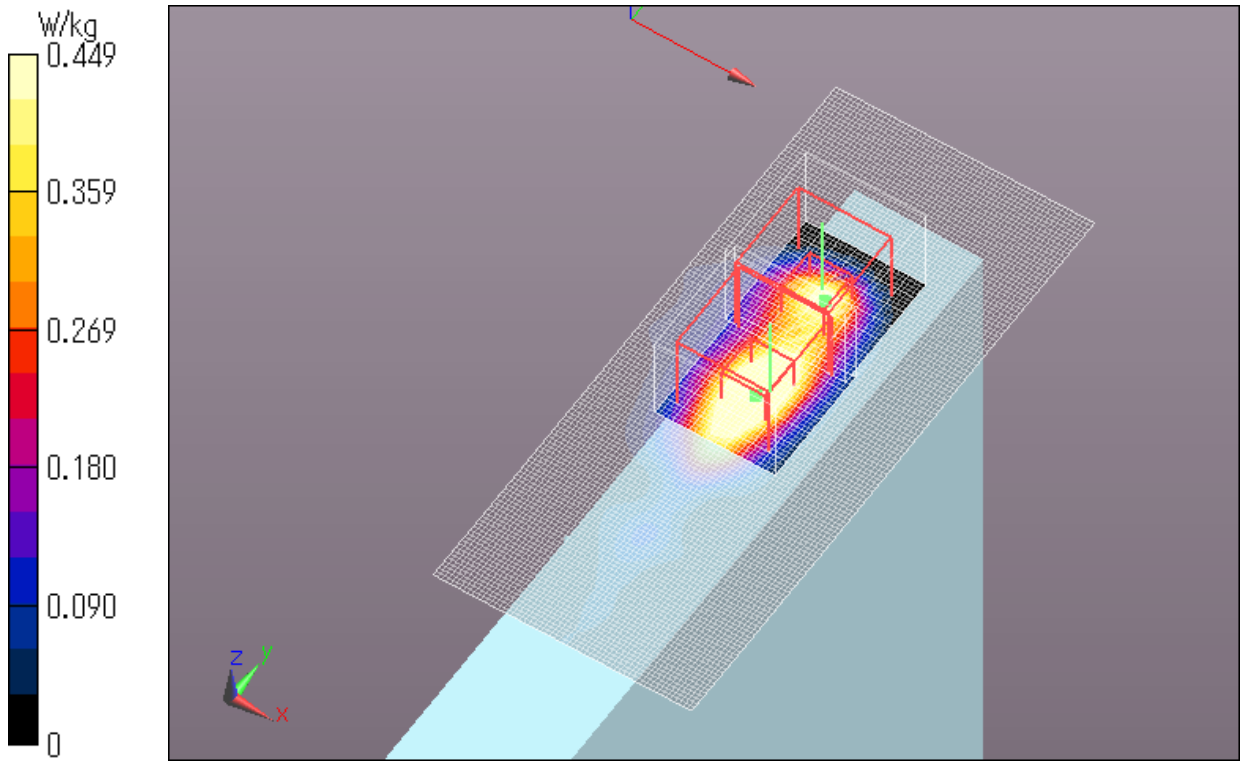
WLAN 11a 6Mbps Main Ant Edge4 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.378 S/m; ε_r = 47.973; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (61x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.718 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.63 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.338 W/kg; SAR(10 g) = 0.104 W/kg
Maximum value of SAR (measured) = 0.668 W/kg

Zoom Scan 2 (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.63 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.795 W/kg
SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.068 W/kg
Maximum value of SAR (measured) = 0.449 W/kg



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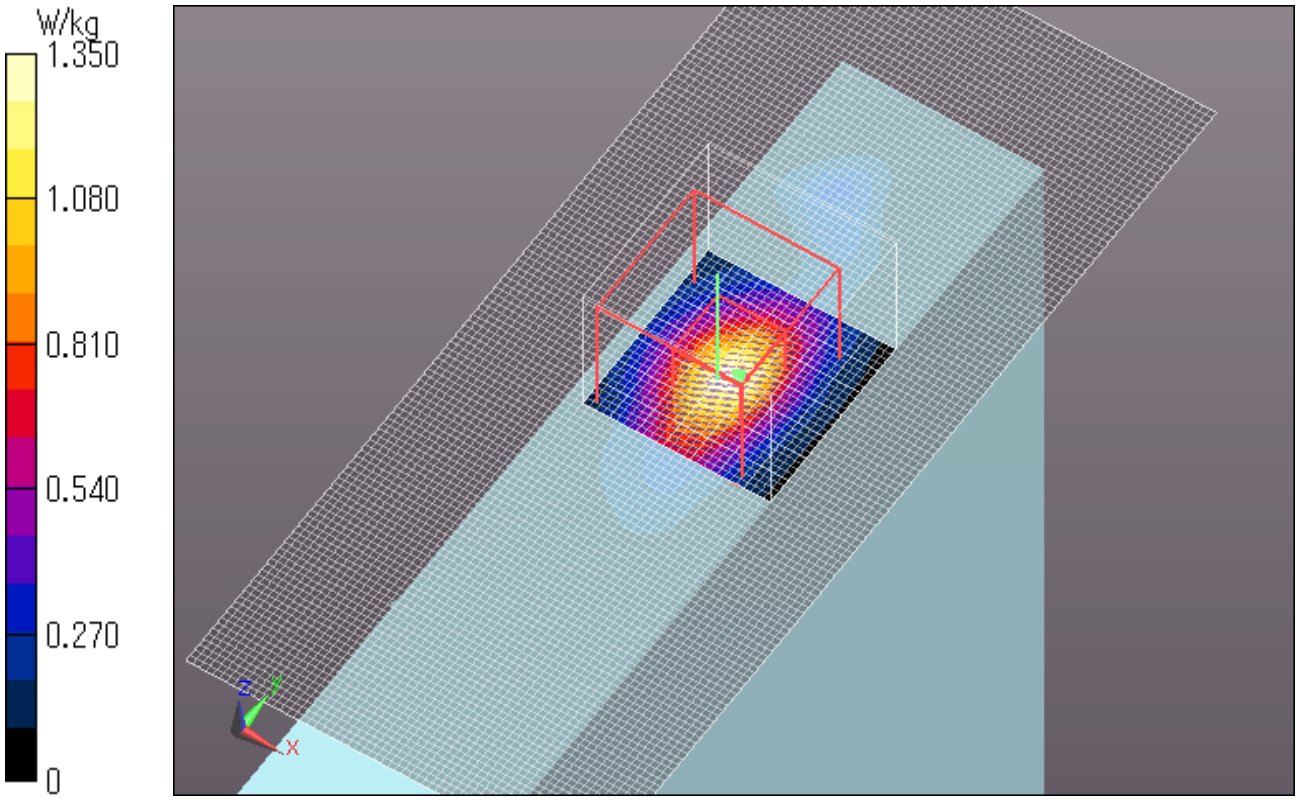
WLAN 11a 6Mbps Main Ant Edge4 5700MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5700 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5700 MHz; σ = 6.002 S/m; ε_r = 47.401; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)),
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (61x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.472 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.67 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.62 W/kg
SAR(1 g) = 0.639 W/kg; SAR(10 g) = 0.184 W/kg
Maximum value of SAR (measured) = 1.35 W/kg



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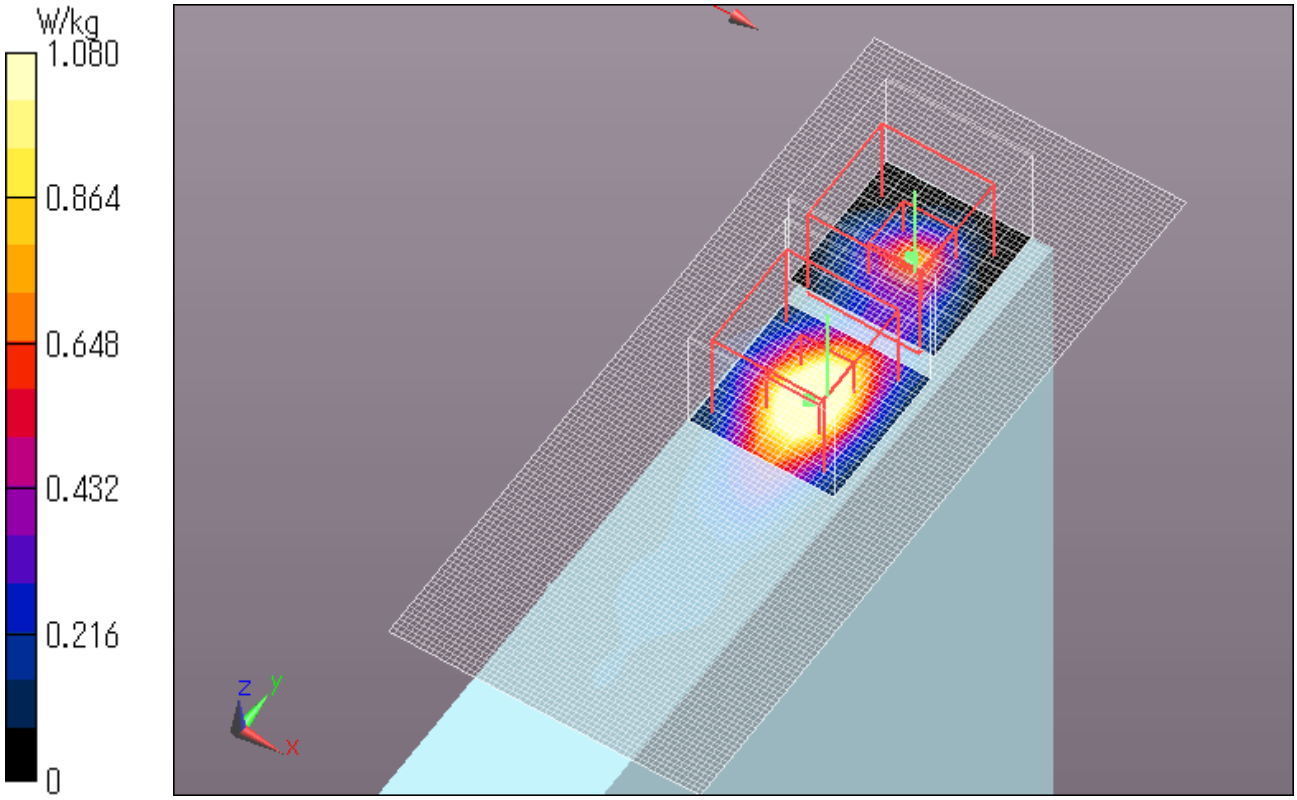
WLAN 11a 6Mbps Main Ant Edge4 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 6.096 S/m; ε_r = 48.713; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)),
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (61x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.08 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 17.50 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 2.90 W/kg
SAR(1 g) = 0.712 W/kg; SAR(10 g) = 0.203 W/kg
Maximum value of SAR (measured) = 1.46 W/kg

Zoom Scan 2 (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 17.50 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.57 W/kg
SAR(1 g) = 0.361 W/kg; SAR(10 g) = 0.088 W/kg
Maximum value of SAR (measured) = 0.857 W/kg



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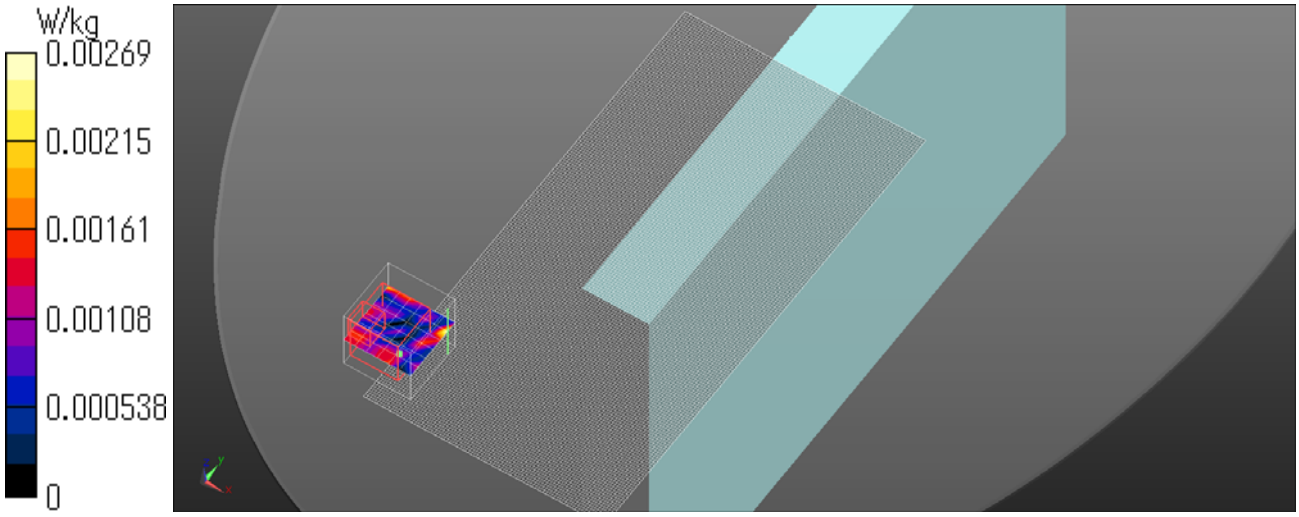
Bluetooth DH5 Aux Ant Edge1 2480MHz
Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth; Frequency: 2480 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2480 MHz; σ = 1.944 S/m; ε_r = 51.126; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3922; ConvF(7.36, 7.36, 7.36); Calibrated: 2014/06/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1372; Calibrated: 2014/06/18
Phantom: ELI v5.0 TP1207; Type: QDOVA001BB; Serial: TP:1207
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x181x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.00181 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.8550 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.00374 W/kg
SAR(1 g) = 0.000213 W/kg; SAR(10 g) = 2.92e-005 W/kg
Maximum value of SAR (measured) = 0.00269 W/kg



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14. Simultaneous Transmission SAR Analysis

All WWAN 1-g SAR values were taken from results recorded in SAR report 10258100H-A, submitted under FCC ID PCJ9TGWW13B1.

All Simultaneous Transmission SAR analysis applies scaling in accordance with the scaled values documented in this report (for the WLAN radios) and the aforementioned SAR report (10258100H-A) with scaling applied (for the WWAN radios).

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

Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Rear, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.643		0.203		0.210	1.056
		0.205	0.203		0.210	0.618
	0.643			0.163		0.806
		0.205		0.163		0.368
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.203		0.210	1.083
		0.256	0.203		0.210	0.669
	0.670			0.163		0.833
		0.256		0.163		0.419
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.203	0.163		1.009
		0.205	0.203	0.163		0.571
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.203	0.163		1.036
		0.256	0.203	0.163		0.622
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.084		0.000227	1.277
		1.059	0.084		0.000227	1.143
	1.193			0.00146		1.194
		1.059		0.00146		1.060
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.084		0.000227	0.565
		0.456	0.084		0.000227	0.540
	0.481			0.00146		0.482
		0.456		0.00146		0.457
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.084	0.00146		1.278
		1.059	0.084	0.00146		1.144
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.084	0.00146		0.566
		0.456	0.084	0.00146		0.541

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.477		0.504
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.477		0.904
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.197		0.605		0.210	1.012
		0.388	0.605		0.210	1.203
	0.197			0.092		0.289
		0.388		0.092		0.480
Edge 4, Wi-Fi 2 Tx	0.197		0.605	0.092		0.894
		0.388	0.605	0.092		1.085

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.

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14.2 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		0.203		0.210	0.866
		0.178	0.203		0.210	0.591
	0.453			0.163		0.616
		0.178		0.163		0.341
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.203		0.210	0.630
		0.157	0.203		0.210	0.570
	0.217			0.163		0.380
		0.157		0.163		0.320
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.203	0.163		0.819
		0.178	0.203	0.163		0.544
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.203	0.163		0.583
		0.157	0.203	0.163		0.523
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.084		0.000227	1.268
		1.108	0.084		0.000227	1.192
	1.184			0.00146		1.185
		1.108		0.00146		1.109
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.084		0.000227	0.235
		0.299	0.084		0.000227	0.383
	0.151			0.00146		0.152
		0.299		0.00146		0.300
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.084	0.00146		1.269
		1.108	0.084	0.00146		1.193
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.084	0.00146		0.236
		0.299	0.084	0.00146		0.384

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.057		0.605		0.210	0.872
		0.174	0.605		0.210	0.989
	0.057			0.092		0.149
		0.174		0.092		0.266
Edge 4, Wi-Fi 2 Tx	0.057		0.605	0.092		0.754
		0.174	0.605	0.092		0.871

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.

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14.3 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	0.203		0.210	0.690
	0.277		0.163		0.440
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.203		0.210	0.565
	0.152		0.163		0.315
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.203	0.163		0.643
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.203	0.163		0.518
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.084		0.000227	1.182
	1.098		0.00146		1.099
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.084		0.000227	0.327
	0.243		0.00146		0.244
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.084	0.00146		1.183
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.084	0.00146		0.328
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.077	0.605		0.210	0.892
	0.077		0.092		0.169
Edge 4, Wi-Fi 2 Tx	0.077	0.605	0.092		0.774

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.

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14.4 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		0.203		0.210	1.130
		0.671	0.203		0.210	1.084
	0.717			0.163		0.880
		0.671		0.163		0.834
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.203		0.210	0.897
		0.472	0.203		0.210	0.885
	0.484			0.163		0.647
		0.472		0.163		0.635
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.203	0.163		1.083
		0.671	0.203	0.163		1.037
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.203	0.163		0.850
		0.472	0.203	0.163		0.838
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.084		0.000227	1.200
		1.171	0.084		0.000227	1.255
	1.116			0.00146		1.117
		1.171		0.00146		1.172
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.084		0.000227	0.377
		0.291	0.084		0.000227	0.375
	0.293			0.00146		0.294
		0.291		0.00146		0.292
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.084	0.00146		1.201
		1.171	0.084	0.00146		1.256
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.084	0.00146		0.378
		0.291	0.084	0.00146		0.376

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.121		0.605		0.210	0.936
		0.036	0.605		0.210	0.851
	0.121			0.092		0.213
		0.036		0.092		0.128
Edge 4, Wi-Fi 2 Tx	0.121		0.605	0.092		0.818
		0.036	0.605	0.092		0.733

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.

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14.5 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		0.203		0.210	0.727
		0.318	0.203		0.210	0.731
	0.314			0.163		0.477
		0.318		0.163		0.481
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.203		0.210	0.776
		0.382	0.203		0.210	0.795
	0.363			0.163		0.526
		0.382		0.163		0.545
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.203	0.163		0.680
		0.318	0.203	0.163		0.684
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.203	0.163		0.729
		0.382	0.203	0.163		0.748
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.084		0.000227	1.211
		1.175	0.084		0.000227	1.259
	1.127			0.00146		1.128
		1.175		0.00146		1.176
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.084		0.000227	0.626
		0.662	0.084		0.000227	0.746
	0.542			0.00146		0.543
		0.662		0.00146		0.663
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.084	0.00146		1.212
		1.175	0.084	0.00146		1.260
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.084	0.00146		0.627
		0.662	0.084	0.00146		0.747

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.148		0.605		0.210	0.963
		0.141	0.605		0.210	0.956
	0.148			0.092		0.240
		0.141		0.092		0.233
Edge 4, Wi-Fi 2 Tx	0.148		0.605	0.092		0.845
		0.141	0.605	0.092		0.838

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.

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14.6 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		0.203		0.210	1.181
		0.775	0.203		0.210	1.188
	0.768			0.163		0.931
		0.775		0.163		0.938
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.203		0.210	0.867
		0.491	0.203		0.210	0.904
	0.454			0.163		0.617
		0.491		0.163		0.654
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.203	0.163		1.134
		0.775	0.203	0.163		1.141
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.203	0.163		0.820
		0.491	0.203	0.163		0.857
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.084		0.000227	1.223
		1.150	0.084		0.000227	1.234
	1.139			0.00146		1.140
		1.150		0.00146		1.151
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.084		0.000227	0.433
		0.378	0.084		0.000227	0.462
	0.349			0.00146		0.350
		0.378		0.00146		0.379
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.084	0.00146		1.224
		1.150	0.084	0.00146		1.235
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.084	0.00146		0.434
		0.378	0.084	0.00146		0.463

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.134		0.605		0.210	0.949
		0.176	0.605		0.210	0.991
	0.134			0.092		0.226
		0.176		0.092		0.268
Edge 4, Wi-Fi 2 Tx	0.134		0.605	0.092		0.831
		0.176	0.605	0.092		0.873

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.

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14.7 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		0.203		0.210	0.675
		0.165	0.203		0.210	0.578
	0.262			0.163		0.425
		0.165		0.163		0.328
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.203		0.210	0.627
		0.261	0.203		0.210	0.674
	0.214			0.163		0.377
		0.261		0.163		0.424
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.203	0.163		0.628
		0.165	0.203	0.163		0.531
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.203	0.163		0.580
		0.261	0.203	0.163		0.627
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.084		0.000227	1.130
		1.038	0.084		0.000227	1.122
	1.046			0.00146		1.047
		1.038		0.00146		1.039
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.084		0.000227	0.517
		0.409	0.084		0.000227	0.493
	0.433			0.00146		0.434
		0.409		0.00146		0.410
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.084	0.00146		1.131
		1.038	0.084	0.00146		1.123
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.084	0.00146		0.518
		0.409	0.084	0.00146		0.494

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 2.4 GHz Main	WiFi 2.4 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.356		0.605		0.210	1.171
		0.199	0.605		0.210	1.014
	0.356			0.092		0.448
		0.199		0.092		0.291
Edge 4, Wi-Fi 2 Tx	0.356		0.605	0.092		1.053
		0.199	0.605	0.092		0.896

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.

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14.8 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		0.203		0.210	1.157
		0.746	0.203		0.210	1.159
	0.744			0.163		0.907
		0.746		0.163		0.909
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.203		0.210	0.772
		0.359	0.203		0.210	0.772
	0.359			0.163		0.522
		0.359		0.163		0.522
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.203	0.163		1.110
		0.746	0.203	0.163		1.112
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.203	0.163		0.725
		0.359	0.203	0.163		0.725
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.084		0.000227	1.243
		1.124	0.084		0.000227	1.208
	1.159			0.00146		1.160
		1.124		0.00146		1.125
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.084		0.000227	0.368
		0.244	0.084		0.000227	0.328
	0.284			0.00146		0.285
		0.244		0.00146		0.245
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.084	0.00146		1.244
		1.124	0.084	0.00146		1.209
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.084	0.00146		0.369
		0.244	0.084	0.00146		0.329

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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			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.123		0.605		0.210	0.938
		0.134	0.605		0.210	0.949
	0.123			0.092		0.215
		0.134		0.092		0.226
Edge 4, Wi-Fi 2 Tx	0.123		0.605	0.092		0.820
		0.134	0.605	0.092		0.831

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.

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14.9 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		0.203		0.210	0.882
		0.289	0.203		0.210	0.702
	0.469			0.163		0.632
		0.289		0.163		0.452
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.203		0.210	0.552
		0.304	0.203		0.210	0.717
	0.139			0.163		0.302
		0.304		0.163		0.467
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.203	0.163		0.835
		0.289	0.203	0.163		0.655
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.203	0.163		0.505
		0.304	0.203	0.163		0.670
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.084		0.000227	1.066
		1.027	0.084		0.000227	1.111
	0.982			0.00146		0.983
		1.027		0.00146		1.028
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.084		0.000227	0.210
		0.440	0.084		0.000227	0.524
	0.126			0.00146		0.127
		0.440		0.00146		0.441
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.084	0.00146		1.067
		1.027	0.084	0.00146		1.112
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.084	0.00146		0.211
		0.440	0.084	0.00146		0.525

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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			0.477		0.877
		0.400		0.477		0.877
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.477		1.277
		0.400	0.400	0.477		1.277
Edge 4, Wi-Fi 1 Tx	0.106		0.605		0.210	0.921
		0.286	0.605		0.210	1.101
	0.106			0.092		0.198
		0.286		0.092		0.378
Edge 4, Wi-Fi 2 Tx	0.106		0.605	0.092		0.803
		0.286	0.605	0.092		0.983

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.

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14.10 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		0.148		0.210	1.001
		0.205	0.148		0.210	0.563
	0.643			0.097		0.740
		0.205		0.097		0.302
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.148		0.210	1.028
		0.256	0.148		0.210	0.614
	0.670			0.097		0.767
		0.256		0.097		0.353
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.148	0.097		0.888
		0.205	0.148	0.097		0.450
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.148	0.097		0.915
		0.256	0.148	0.097		0.501
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.091		0.000227	1.284
		1.059	0.091		0.000227	1.150
	1.193			0.000		1.193
		1.059		0.000		1.059
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.091		0.000227	0.572
		0.456	0.091		0.000227	0.547
	0.481			0.000		0.481
		0.456		0.000		0.456
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.091	0.000		1.284
		1.059	0.091	0.000		1.150
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.091	0.000		0.572
		0.456	0.091	0.000		0.547

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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			0.279		0.306
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.279		0.706
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.197		0.437		0.210	0.844
		0.388	0.437		0.210	1.035
	0.197			0.022		0.219
		0.388		0.022		0.410
Edge 4, Wi-Fi 2 Tx	0.197		0.437	0.022		0.656
		0.388	0.437	0.022		0.847

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.

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14.11 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		0.148		0.210	0.811
		0.178	0.148		0.210	0.536
	0.453			0.097		0.550
		0.178		0.097		0.275
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.148		0.210	0.575
		0.157	0.148		0.210	0.515
	0.217			0.097		0.314
		0.157		0.097		0.254
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.148	0.097		0.698
		0.178	0.148	0.097		0.423
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.148	0.097		0.462
		0.157	0.148	0.097		0.402
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.091		0.000227	1.275
		1.108	0.091		0.000227	1.199
	1.184			0.000		1.184
		1.108		0.000		1.108
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.091		0.000227	0.242
		0.299	0.091		0.000227	0.390
	0.151			0.000		0.151
		0.299		0.000		0.299
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.091	0.000		1.275
		1.108	0.091	0.000		1.199
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.091	0.000		0.242
		0.299	0.091	0.000		0.390

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.057		0.437		0.210	0.704
		0.174	0.437		0.210	0.821
	0.057			0.022		0.079
		0.174		0.022		0.196
Edge 4, Wi-Fi 2 Tx	0.057		0.437	0.022		0.516
		0.174	0.437	0.022		0.633

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.

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14.12 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	0.148		0.210	0.635
	0.277		0.097		0.374
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.148		0.210	0.510
	0.152		0.097		0.249
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.148	0.097		0.522
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.148	0.097		0.397
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.091		0.000227	1.189
	1.098		0.000		1.098
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.091		0.000227	0.334
	0.243		0.000		0.243
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.091	0.000		1.189
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.091	0.000		0.334
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.077	0.437		0.210	0.724
	0.077		0.022		0.099
Edge 4, Wi-Fi 2 Tx	0.077	0.437	0.022		0.536

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.

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14.13 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		0.148		0.210	1.075
		0.671	0.148		0.210	1.029
	0.717			0.097		0.814
		0.671		0.097		0.768
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.148		0.210	0.842
		0.472	0.148		0.210	0.830
	0.484			0.097		0.581
		0.472		0.097		0.569
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.148	0.097		0.962
		0.671	0.148	0.097		0.916
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.148	0.097		0.729
		0.472	0.148	0.097		0.717
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.091		0.000227	1.207
		1.171	0.091		0.000227	1.262
	1.116			0.000		1.116
		1.171		0.000		1.171
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.091		0.000227	0.384
		0.291	0.091		0.000227	0.382
	0.293			0.000		0.293
		0.291		0.000		0.291
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.091	0.000		1.207
		1.171	0.091	0.000		1.262
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.091	0.000		0.384
		0.291	0.091	0.000		0.382

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.121		0.437		0.210	0.768
		0.036	0.437		0.210	0.683
	0.121			0.022		0.143
		0.036		0.022		0.058
Edge 4, Wi-Fi 2 Tx	0.121		0.437	0.022		0.580
		0.036	0.437	0.022		0.495

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.

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14.14 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		0.148		0.210	0.672
		0.318	0.148		0.210	0.676
	0.314			0.097		0.411
		0.318		0.097		0.415
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.148		0.210	0.721
		0.382	0.148		0.210	0.740
	0.363			0.097		0.460
		0.382		0.097		0.479
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.148	0.097		0.559
		0.318	0.148	0.097		0.563
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.148	0.097		0.608
		0.382	0.148	0.097		0.627
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.091		0.000227	1.218
		1.175	0.091		0.000227	1.266
	1.127			0.000		1.127
		1.175		0.000		1.175
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.091		0.000227	0.633
		0.662	0.091		0.000227	0.753
	0.542			0.000		0.542
		0.662		0.000		0.662
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.091	0.000		1.218
		1.175	0.091	0.000		1.266
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.091	0.000		0.633
		0.662	0.091	0.000		0.753

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.148		0.437		0.210	0.795
		0.141	0.437		0.210	0.788
	0.148			0.022		0.170
		0.141		0.022		0.163
Edge 4, Wi-Fi 2 Tx	0.148		0.437	0.022		0.607
		0.141	0.437	0.022		0.600

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.

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14.15 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		0.148		0.210	1.126
		0.775	0.148		0.210	1.133
	0.768			0.097		0.865
		0.775		0.097		0.872
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.148		0.210	0.812
		0.491	0.148		0.210	0.849
	0.454			0.097		0.551
		0.491		0.097		0.588
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.148	0.097		1.013
		0.775	0.148	0.097		1.020
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.148	0.097		0.699
		0.491	0.148	0.097		0.736
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.091		0.000227	1.230
		1.150	0.091		0.000227	1.241
	1.139			0.000		1.139
		1.150		0.000		1.150
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.091		0.000227	0.440
		0.378	0.091		0.000227	0.469
	0.349			0.000		0.349
		0.378		0.000		0.378
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.091	0.000		1.230
		1.150	0.091	0.000		1.241
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.091	0.000		0.440
		0.378	0.091	0.000		0.469

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.134		0.437		0.210	0.781
		0.176	0.437		0.210	0.823
	0.134			0.022		0.156
		0.176		0.022		0.198
Edge 4, Wi-Fi 2 Tx	0.134		0.437	0.022		0.593
		0.176	0.437	0.022		0.635

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.

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14.16 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		0.148		0.210	0.620
		0.165	0.148		0.210	0.523
	0.262			0.097		0.359
		0.165		0.097		0.262
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.148		0.210	0.572
		0.261	0.148		0.210	0.619
	0.214			0.097		0.311
		0.261		0.097		0.358
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.148	0.097		0.507
		0.165	0.148	0.097		0.410
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.148	0.097		0.459
		0.261	0.148	0.097		0.506
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.091		0.000227	1.137
		1.038	0.091		0.000227	1.129
	1.046			0.000		1.046
		1.038		0.000		1.038
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.091		0.000227	0.524
		0.409	0.091		0.000227	0.500
	0.433			0.000		0.433
		0.409		0.000		0.409
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.091	0.000		1.137
		1.038	0.091	0.000		1.129
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.091	0.000		0.524
		0.409	0.091	0.000		0.500

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.356		0.437		0.210	1.003
		0.199	0.437		0.210	0.846
	0.356			0.022		0.378
		0.199		0.022		0.221
Edge 4, Wi-Fi 2 Tx	0.356		0.437	0.022		0.815
		0.199	0.437	0.022		0.658

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.

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14.17 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		0.148		0.210	1.102
		0.746	0.148		0.210	1.104
	0.744			0.097		0.841
		0.746		0.097		0.843
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.148		0.210	0.717
		0.359	0.148		0.210	0.717
	0.359			0.097		0.456
		0.359		0.097		0.456
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.148	0.097		0.989
		0.746	0.148	0.097		0.991
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.148	0.097		0.604
		0.359	0.148	0.097		0.604
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.091		0.000227	1.250
		1.124	0.091		0.000227	1.215
	1.159			0.000		1.159
		1.124		0.000		1.124
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.091		0.000227	0.375
		0.244	0.091		0.000227	0.335
	0.284			0.000		0.284
		0.244		0.000		0.244
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.091	0.000		1.250
		1.124	0.091	0.000		1.215
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.091	0.000		0.375
		0.244	0.091	0.000		0.335

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.123		0.437		0.210	0.770
		0.134	0.437		0.210	0.781
	0.123			0.022		0.145
		0.134		0.022		0.156
Edge 4, Wi-Fi 2 Tx	0.123		0.437	0.022		0.582
		0.134	0.437	0.022		0.593

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.

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14.18 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		0.148		0.210	0.827
		0.289	0.148		0.210	0.647
	0.469			0.097		0.566
		0.289		0.097		0.386
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.148		0.210	0.497
		0.304	0.148		0.210	0.662
	0.139			0.097		0.236
		0.304		0.097		0.401
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.148	0.097		0.714
		0.289	0.148	0.097		0.534
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.148	0.097		0.384
		0.304	0.148	0.097		0.549
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.091		0.000227	1.073
		1.027	0.091		0.000227	1.118
	0.982			0.000		0.982
		1.027		0.000		1.027
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.091		0.000227	0.217
		0.440	0.091		0.000227	0.531
	0.126			0.000		0.126
		0.440		0.000		0.440
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.091	0.000		1.073
		1.027	0.091	0.000		1.118
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.091	0.000		0.217
		0.440	0.091	0.000		0.531

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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			0.279		0.679
		0.400		0.279		0.679
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.279		1.079
		0.400	0.400	0.279		1.079
Edge 4, Wi-Fi 1 Tx	0.106		0.437		0.210	0.753
		0.286	0.437		0.210	0.933
	0.106			0.022		0.128
		0.286		0.022		0.308
Edge 4, Wi-Fi 2 Tx	0.106		0.437	0.022		0.565
		0.286	0.437	0.022		0.745

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.

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14.19 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		0.143		0.210	0.996
		0.205	0.143		0.210	0.558
	0.643			0.133		0.776
		0.205		0.133		0.338
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.143		0.210	1.023
		0.256	0.143		0.210	0.609
	0.670			0.133		0.803
		0.256		0.133		0.389
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.143	0.133		0.919
		0.205	0.143	0.133		0.481
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.143	0.133		0.946
		0.256	0.143	0.133		0.532
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.093		0.000227	1.286
		1.059	0.093		0.000227	1.152
	1.193			0.000		1.193
		1.059		0.000		1.059
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.093		0.000227	0.574
		0.456	0.093		0.000227	0.549
	0.481			0.000		0.481
		0.456		0.000		0.456
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.093	0.000		1.286
		1.059	0.093	0.000		1.152
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.093	0.000		0.574
		0.456	0.093	0.000		0.549

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.327		0.354
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.327		0.754
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.197		0.340		0.210	0.747
		0.388	0.340		0.210	0.938
	0.197			0.014		0.211
		0.388		0.014		0.402
Edge 4, Wi-Fi 2 Tx	0.197		0.340	0.014		0.551
		0.388	0.340	0.014		0.742

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.

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14.20 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		0.143		0.210	0.806
		0.178	0.143		0.210	0.531
	0.453			0.133		0.586
		0.178		0.133		0.311
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.143		0.210	0.570
		0.157	0.143		0.210	0.510
	0.217			0.133		0.350
		0.157		0.133		0.290
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.143	0.133		0.729
		0.178	0.143	0.133		0.454
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.143	0.133		0.493
		0.157	0.143	0.133		0.433
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.093		0.000227	1.277
		1.108	0.093		0.000227	1.201
	1.184			0.000		1.184
		1.108		0.000		1.108
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.093		0.000227	0.244
		0.299	0.093		0.000227	0.392
	0.151			0.000		0.151
		0.299		0.000		0.299
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.093	0.000		1.277
		1.108	0.093	0.000		1.201
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.093	0.000		0.244
		0.299	0.093	0.000		0.392

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.057		0.340		0.210	0.607
		0.174	0.340		0.210	0.724
	0.057			0.014		0.071
		0.174		0.014		0.188
Edge 4, Wi-Fi 2 Tx	0.057		0.340	0.014		0.411
		0.174	0.340	0.014		0.528

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.

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14.21 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	0.143		0.210	0.630
	0.277		0.133		0.410
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.143		0.210	0.505
	0.152		0.133		0.285
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.143	0.133		0.553
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.143	0.133		0.428
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.093		0.000227	1.191
	1.098		0.000		1.098
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.093		0.000227	0.336
	0.243		0.000		0.243
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.093	0.000		1.191
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.093	0.000		0.336
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.077	0.340		0.210	0.627
	0.077		0.014		0.091
Edge 4, Wi-Fi 2 Tx	0.077	0.340	0.014		0.431

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.

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14.22 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		0.143		0.210	1.070
		0.671	0.143		0.210	1.024
	0.717			0.133		0.850
		0.671		0.133		0.804
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.143		0.210	0.837
		0.472	0.143		0.210	0.825
	0.484			0.133		0.617
		0.472		0.133		0.605
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.143	0.133		0.993
		0.671	0.143	0.133		0.947
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.143	0.133		0.760
		0.472	0.143	0.133		0.748
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.093		0.000227	1.209
		1.171	0.093		0.000227	1.264
	1.116			0.000		1.116
		1.171		0.000		1.171
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.093		0.000227	0.386
		0.291	0.093		0.000227	0.384
	0.293			0.000		0.293
		0.291		0.000		0.291
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.093	0.000		1.209
		1.171	0.093	0.000		1.264
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.093	0.000		0.386
		0.291	0.093	0.000		0.384

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			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.121		0.340		0.210	0.671
		0.036	0.340		0.210	0.586
	0.121			0.014		0.135
		0.036		0.014		0.050
Edge 4, Wi-Fi 2 Tx	0.121		0.340	0.014		0.475
		0.036	0.340	0.014		0.390

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.

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14.23 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		0.143		0.210	0.667
		0.318	0.143		0.210	0.671
	0.314			0.133		0.447
		0.318		0.133		0.451
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.143		0.210	0.716
		0.382	0.143		0.210	0.735
	0.363			0.133		0.496
		0.382		0.133		0.515
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.143	0.133		0.590
		0.318	0.143	0.133		0.594
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.143	0.133		0.639
		0.382	0.143	0.133		0.658
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.093		0.000227	1.220
		1.175	0.093		0.000227	1.268
	1.127			0.000		1.127
		1.175		0.000		1.175
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.093		0.000227	0.635
		0.662	0.093		0.000227	0.755
	0.542			0.000		0.542
		0.662		0.000		0.662
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.093	0.000		1.220
		1.175	0.093	0.000		1.268
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.093	0.000		0.635
		0.662	0.093	0.000		0.755

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.148		0.340		0.210	0.698
		0.141	0.340		0.210	0.691
	0.148			0.014		0.162
		0.141		0.014		0.155
Edge 4, Wi-Fi 2 Tx	0.148		0.340	0.014		0.502
		0.141	0.340	0.014		0.495

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.

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14.24 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		0.143		0.210	1.121
		0.775	0.143		0.210	1.128
	0.768			0.133		0.901
		0.775		0.133		0.908
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.143		0.210	0.807
		0.491	0.143		0.210	0.844
	0.454			0.133		0.587
		0.491		0.133		0.624
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.143	0.133		1.044
		0.775	0.143	0.133		1.051
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.143	0.133		0.730
		0.491	0.143	0.133		0.767
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.093		0.000227	1.232
		1.150	0.093		0.000227	1.243
	1.139			0.000		1.139
		1.150		0.000		1.150
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.093		0.000227	0.442
		0.378	0.093		0.000227	0.471
	0.349			0.000		0.349
		0.378		0.000		0.378
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.093	0.000		1.232
		1.150	0.093	0.000		1.243
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.093	0.000		0.442
		0.378	0.093	0.000		0.471

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			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.134		0.340		0.210	0.684
		0.176	0.340		0.210	0.726
	0.134			0.014		0.148
		0.176		0.014		0.190
Edge 4, Wi-Fi 2 Tx	0.134		0.340	0.014		0.488
		0.176	0.340	0.014		0.530

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.

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14.25 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		0.143		0.210	0.615
		0.165	0.143		0.210	0.518
	0.262			0.133		0.395
		0.165		0.133		0.298
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.143		0.210	0.567
		0.261	0.143		0.210	0.614
	0.214			0.133		0.347
		0.261		0.133		0.394
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.143	0.133		0.538
		0.165	0.143	0.133		0.441
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.143	0.133		0.490
		0.261	0.143	0.133		0.537
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.093		0.000227	1.139
		1.038	0.093		0.000227	1.131
	1.046			0.000		1.046
		1.038		0.000		1.038
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.093		0.000227	0.526
		0.409	0.093		0.000227	0.502
	0.433			0.000		0.433
		0.409		0.000		0.409
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.093	0.000		1.139
		1.038	0.093	0.000		1.131
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.093	0.000		0.526
		0.409	0.093	0.000		0.502

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.3 GHz Main	WiFi 5.3 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.356		0.340		0.210	0.906
		0.199	0.340		0.210	0.749
	0.356			0.014		0.370
		0.199		0.014		0.213
Edge 4, Wi-Fi 2 Tx	0.356		0.340	0.014		0.710
		0.199	0.340	0.014		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.

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14.26 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		0.143		0.210	1.097
		0.746	0.143		0.210	1.099
	0.744			0.133		0.877
		0.746		0.133		0.879
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.143		0.210	0.712
		0.359	0.143		0.210	0.712
	0.359			0.133		0.492
		0.359		0.133		0.492
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.143	0.133		1.020
		0.746	0.143	0.133		1.022
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.143	0.133		0.635
		0.359	0.143	0.133		0.635
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.093		0.000227	1.252
		1.124	0.093		0.000227	1.217
	1.159			0.000		1.159
		1.124		0.000		1.124
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.093		0.000227	0.377
		0.244	0.093		0.000227	0.337
	0.284			0.000		0.284
		0.244		0.000		0.244
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.093	0.000		1.252
		1.124	0.093	0.000		1.217
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.093	0.000		0.377
		0.244	0.093	0.000		0.337

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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			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.123		0.340		0.210	0.673
		0.134	0.340		0.210	0.684
	0.123			0.014		0.137
		0.134		0.014		0.148
Edge 4, Wi-Fi 2 Tx	0.123		0.340	0.014		0.477
		0.134	0.340	0.014		0.488

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.

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14.27 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		0.143		0.210	0.822
		0.289	0.143		0.210	0.642
	0.469			0.133		0.602
		0.289		0.133		0.422
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.143		0.210	0.492
		0.304	0.143		0.210	0.657
	0.139			0.133		0.272
		0.304		0.133		0.437
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.143	0.133		0.745
		0.289	0.143	0.133		0.565
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.143	0.133		0.415
		0.304	0.143	0.133		0.580
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.093		0.000227	1.075
		1.027	0.093		0.000227	1.120
	0.982			0.000		0.982
		1.027		0.000		1.027
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.093		0.000227	0.219
		0.440	0.093		0.000227	0.533
	0.126			0.000		0.126
		0.440		0.000		0.440
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.093	0.000		1.075
		1.027	0.093	0.000		1.120
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.093	0.000		0.219
		0.440	0.093	0.000		0.533

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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			0.327		0.727
		0.400		0.327		0.727
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.327		1.127
		0.400	0.400	0.327		1.127
Edge 4, Wi-Fi 1 Tx	0.106		0.340		0.210	0.656
		0.286	0.340		0.210	0.836
	0.106			0.014		0.120
		0.286		0.014		0.300
Edge 4, Wi-Fi 2 Tx	0.106		0.340	0.014		0.460
		0.286	0.340	0.014		0.640

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.

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14.28 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		0.154		0.210	1.007
		0.205	0.154		0.210	0.569
	0.643			0.110		0.753
		0.205		0.110		0.315
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.154		0.210	1.034
		0.256	0.154		0.210	0.620
	0.670			0.110		0.780
		0.256		0.110		0.366
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.154	0.110		0.907
		0.205	0.154	0.110		0.469
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.154	0.110		0.934
		0.256	0.154	0.110		0.520
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.056		0.000227	1.249
		1.059	0.056		0.000227	1.115
	1.193			0.000		1.193
		1.059		0.000		1.059
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.056		0.000227	0.537
		0.456	0.056		0.000227	0.512
	0.481			0.000		0.481
		0.456		0.000		0.456
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.056	0.000		1.249
		1.059	0.056	0.000		1.115
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.056	0.000		0.537
		0.456	0.056	0.000		0.512

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.283		0.310
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.283		0.710
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.197		0.649		0.210	1.056
		0.388	0.649		0.210	1.247
	0.197			0.000		0.197
		0.388		0.000		0.388
Edge 4, Wi-Fi 2 Tx	0.197		0.649	0.000		0.846
		0.388	0.649	0.000		1.037

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.

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14.29 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		0.154		0.210	0.817
		0.178	0.154		0.210	0.542
	0.453			0.110		0.563
		0.178		0.110		0.288
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.154		0.210	0.581
		0.157	0.154		0.210	0.521
	0.217			0.110		0.327
		0.157		0.110		0.267
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.154	0.110		0.717
		0.178	0.154	0.110		0.442
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.154	0.110		0.481
		0.157	0.154	0.110		0.421
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.056		0.000227	1.240
		1.108	0.056		0.000227	1.164
	1.184			0.000		1.184
		1.108		0.000		1.108
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.056		0.000227	0.207
		0.299	0.056		0.000227	0.355
	0.151			0.000		0.151
		0.299		0.000		0.299
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.056	0.000		1.240
		1.108	0.056	0.000		1.164
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.056	0.000		0.207
		0.299	0.056	0.000		0.355

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.057		0.649		0.210	0.916
		0.174	0.649		0.210	1.033
	0.057			0.000		0.057
		0.174		0.000		0.174
Edge 4, Wi-Fi 2 Tx	0.057		0.649	0.000		0.706
		0.174	0.649	0.000		0.823

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.

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14.30 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	0.154		0.210	0.641
	0.277		0.110		0.387
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.154		0.210	0.516
	0.152		0.110		0.262
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.154	0.110		0.541
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.154	0.110		0.416
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.056		0.000227	1.154
	1.098		0.000		1.098
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.056		0.000227	0.299
	0.243		0.000		0.243
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.056	0.000		1.154
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.056	0.000		0.299
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.077	0.649		0.210	0.936
	0.077		0.000		0.077
Edge 4, Wi-Fi 2 Tx	0.077	0.649	0.000		0.726

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.

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14.31 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		0.154		0.210	1.081
		0.671	0.154		0.210	1.035
	0.717			0.110		0.827
		0.671		0.110		0.781
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.154		0.210	0.848
		0.472	0.154		0.210	0.836
	0.484			0.110		0.594
		0.472		0.110		0.582
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.154	0.110		0.981
		0.671	0.154	0.110		0.935
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.154	0.110		0.748
		0.472	0.154	0.110		0.736
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.056		0.000227	1.172
		1.171	0.056		0.000227	1.227
	1.116			0.000		1.116
		1.171		0.000		1.171
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.056		0.000227	0.349
		0.291	0.056		0.000227	0.347
	0.293			0.000		0.293
		0.291		0.000		0.291
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.056	0.000		1.172
		1.171	0.056	0.000		1.227
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.056	0.000		0.349
		0.291	0.056	0.000		0.347

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.121		0.649		0.210	0.980
		0.036	0.649		0.210	0.895
	0.121			0.000		0.121
		0.036		0.000		0.036
Edge 4, Wi-Fi 2 Tx	0.121		0.649	0.000		0.770
		0.036	0.649	0.000		0.685

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.

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14.32 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		0.154		0.210	0.678
		0.318	0.154		0.210	0.682
	0.314			0.110		0.424
		0.318		0.110		0.428
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.154		0.210	0.727
		0.382	0.154		0.210	0.746
	0.363			0.110		0.473
		0.382		0.110		0.492
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.154	0.110		0.578
		0.318	0.154	0.110		0.582
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.154	0.110		0.627
		0.382	0.154	0.110		0.646
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.056		0.000227	1.183
		1.175	0.056		0.000227	1.231
	1.127			0.000		1.127
		1.175		0.000		1.175
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.056		0.000227	0.598
		0.662	0.056		0.000227	0.718
	0.542			0.000		0.542
		0.662		0.000		0.662
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.056	0.000		1.183
		1.175	0.056	0.000		1.231
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.056	0.000		0.598
		0.662	0.056	0.000		0.718

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.148		0.649		0.210	1.007
		0.141	0.649		0.210	1.000
	0.148			0.000		0.148
		0.141		0.000		0.141
Edge 4, Wi-Fi 2 Tx	0.148		0.649	0.000		0.797
		0.141	0.649	0.000		0.790

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.

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14.33 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		0.154		0.210	1.132
		0.775	0.154		0.210	1.139
	0.768			0.110		0.878
		0.775		0.110		0.885
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.154		0.210	0.818
		0.491	0.154		0.210	0.855
	0.454			0.110		0.564
		0.491		0.110		0.601
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.154	0.110		1.032
		0.775	0.154	0.110		1.039
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.154	0.110		0.718
		0.491	0.154	0.110		0.755
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.056		0.000227	1.195
		1.150	0.056		0.000227	1.206
	1.139			0.000		1.139
		1.150		0.000		1.150
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.056		0.000227	0.405
		0.378	0.056		0.000227	0.434
	0.349			0.000		0.349
		0.378		0.000		0.378
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.056	0.000		1.195
		1.150	0.056	0.000		1.206
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.056	0.000		0.405
		0.378	0.056	0.000		0.434

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.134		0.649		0.210	0.993
		0.176	0.649		0.210	1.035
	0.134			0.000		0.134
		0.176		0.000		0.176
Edge 4, Wi-Fi 2 Tx	0.134		0.649	0.000		0.783
		0.176	0.649	0.000		0.825

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.

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14.34 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		0.154		0.210	0.626
		0.165	0.154		0.210	0.529
	0.262			0.110		0.372
		0.165		0.110		0.275
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.154		0.210	0.578
		0.261	0.154		0.210	0.625
	0.214			0.110		0.324
		0.261		0.110		0.371
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.154	0.110		0.526
		0.165	0.154	0.110		0.429
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.154	0.110		0.478
		0.261	0.154	0.110		0.525
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.056		0.000227	1.102
		1.038	0.056		0.000227	1.094
	1.046			0.000		1.046
		1.038		0.000		1.038
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.056		0.000227	0.489
		0.409	0.056		0.000227	0.465
	0.433			0.000		0.433
		0.409		0.000		0.409
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.056	0.000		1.102
		1.038	0.056	0.000		1.094
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.056	0.000		0.489
		0.409	0.056	0.000		0.465

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.5 GHz Main	WiFi 5.5 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.356		0.649		0.210	1.215
		0.199	0.649		0.210	1.058
	0.356			0.000		0.356
		0.199		0.000		0.199
Edge 4, Wi-Fi 2 Tx	0.356		0.649	0.000		1.005
		0.199	0.649	0.000		0.848

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.

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14.35 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		0.154		0.210	1.108
		0.746	0.154		0.210	1.110
	0.744			0.110		0.854
		0.746		0.110		0.856
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.154		0.210	0.723
		0.359	0.154		0.210	0.723
	0.359			0.110		0.469
		0.359		0.110		0.469
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.154	0.110		1.008
		0.746	0.154	0.110		1.010
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.154	0.110		0.623
		0.359	0.154	0.110		0.623
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.056		0.000227	1.215
		1.124	0.056		0.000227	1.180
	1.159			0.000		1.159
		1.124		0.000		1.124
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.056		0.000227	0.340
		0.244	0.056		0.000227	0.300
	0.284			0.000		0.284
		0.244		0.000		0.244
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.056	0.000		1.215
		1.124	0.056	0.000		1.180
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.056	0.000		0.340
		0.244	0.056	0.000		0.300

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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			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.123		0.649		0.210	0.982
		0.134	0.649		0.210	0.993
	0.123			0.000		0.123
		0.134		0.000		0.134
Edge 4, Wi-Fi 2 Tx	0.123		0.649	0.000		0.772
		0.134	0.649	0.000		0.783

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.

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14.36 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		0.154		0.210	0.833
		0.289	0.154		0.210	0.653
	0.469			0.110		0.579
		0.289		0.110		0.399
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.154		0.210	0.503
		0.304	0.154		0.210	0.668
	0.139			0.110		0.249
		0.304		0.110		0.414
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.154	0.110		0.733
		0.289	0.154	0.110		0.553
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.154	0.110		0.403
		0.304	0.154	0.110		0.568
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.056		0.000227	1.038
		1.027	0.056		0.000227	1.083
	0.982			0.000		0.982
		1.027		0.000		1.027
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.056		0.000227	0.182
		0.440	0.056		0.000227	0.496
	0.126			0.000		0.126
		0.440		0.000		0.440
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.056	0.000		1.038
		1.027	0.056	0.000		1.083
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.056	0.000		0.182
		0.440	0.056	0.000		0.496

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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			0.283		0.683
		0.400		0.283		0.683
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.283		1.083
		0.400	0.400	0.283		1.083
Edge 4, Wi-Fi 1 Tx	0.106		0.649		0.210	0.965
		0.286	0.649		0.210	1.145
	0.106			0.000		0.106
		0.286		0.000		0.286
Edge 4, Wi-Fi 2 Tx	0.106		0.649	0.000		0.755
		0.286	0.649	0.000		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.

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14.37 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		0.145		0.210	0.998
		0.205	0.145		0.210	0.560
	0.643			0.157		0.800
		0.205		0.157		0.362
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.670		0.145		0.210	1.025
		0.256	0.145		0.210	0.611
	0.670			0.157		0.827
		0.256		0.157		0.413
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.643		0.145	0.157		0.945
		0.205	0.145	0.157		0.507
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.670		0.145	0.157		0.972
		0.256	0.145	0.157		0.558
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.193		0.032		0.000227	1.225
		1.059	0.032		0.000227	1.091
	1.193			0.000		1.193
		1.059		0.000		1.059
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.481		0.032		0.000227	0.513
		0.456	0.032		0.000227	0.488
	0.481			0.000		0.481
		0.456		0.000		0.456
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.193		0.032	0.000		1.225
		1.059	0.032	0.000		1.091
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.481		0.032	0.000		0.513
		0.456	0.032	0.000		0.488

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Test Position	Data					∑ 1-g SAR (mW/g)
	GSM850	GSM1900	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.027		0.400		0.210	0.637
		0.400	0.400		0.210	1.010
	0.027			0.494		0.521
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.027		0.400	0.494		0.921
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.197		0.714		0.210	1.121
		0.388	0.714		0.210	1.312
	0.197			0.001		0.198
		0.388		0.001		0.389
Edge 4, Wi-Fi 2 Tx	0.197		0.714	0.001		0.912
		0.388	0.714	0.001		1.103

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.

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14.38 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		0.145		0.210	0.808
		0.178	0.145		0.210	0.533
	0.453			0.157		0.610
		0.178		0.157		0.335
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.217		0.145		0.210	0.572
		0.157	0.145		0.210	0.512
	0.217			0.157		0.374
		0.157		0.157		0.314
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.453		0.145	0.157		0.755
		0.178	0.145	0.157		0.480
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.217		0.145	0.157		0.519
		0.157	0.145	0.157		0.459
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.184		0.032		0.000227	1.216
		1.108	0.032		0.000227	1.140
	1.184			0.000		1.184
		1.108		0.000		1.108
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.151		0.032		0.000227	0.183
		0.299	0.032		0.000227	0.331
	0.151			0.000		0.151
		0.299		0.000		0.299
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.184		0.032	0.000		1.216
		1.108	0.032	0.000		1.140
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.151		0.032	0.000		0.183
		0.299	0.032	0.000		0.331

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Test Position	Data					∑ 1-g SAR (mW/g)
	WCDMA V	WCDMA IV	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.057		0.714		0.210	0.981
		0.174	0.714		0.210	1.098
	0.057			0.001		0.058
		0.174		0.001		0.175
Edge 4, Wi-Fi 2 Tx	0.057		0.714	0.001		0.772
		0.174	0.714	0.001		0.889

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.

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14.39 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	0.145		0.210	0.632
	0.277		0.157		0.434
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.152	0.145		0.210	0.507
	0.152		0.157		0.309
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.277	0.145	0.157		0.579
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.152	0.145	0.157		0.454
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.098	0.032		0.000227	1.130
	1.098		0.000		1.098
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.243	0.032		0.000227	0.275
	0.243		0.000		0.243
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.098	0.032	0.000		1.130
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.243	0.032	0.000		0.275
Edge 3, Wi-Fi 1 Tx	0.400	0.400		0.210	1.010
	0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.077	0.714		0.210	1.001
	0.077		0.001		0.078
Edge 4, Wi-Fi 2 Tx	0.077	0.714	0.001		0.792

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.

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14.40 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		0.145		0.210	1.072
		0.671	0.145		0.210	1.026
	0.717			0.157		0.874
		0.671		0.157		0.828
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.484		0.145		0.210	0.839
		0.472	0.145		0.210	0.827
	0.484			0.157		0.641
		0.472		0.157		0.629
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.717		0.145	0.157		1.019
		0.671	0.145	0.157		0.973
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.484		0.145	0.157		0.786
		0.472	0.145	0.157		0.774
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.116		0.032		0.000227	1.148
		1.171	0.032		0.000227	1.203
	1.116			0.000		1.116
		1.171		0.000		1.171
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.293		0.032		0.000227	0.325
		0.291	0.032		0.000227	0.323
	0.293			0.000		0.293
		0.291		0.000		0.291
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.116		0.032	0.000		1.148
		1.171	0.032	0.000		1.203
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.293		0.032	0.000		0.325
		0.291	0.032	0.000		0.323

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.121		0.714		0.210	1.045
		0.036	0.714		0.210	0.960
	0.121			0.001		0.122
		0.036		0.001		0.037
Edge 4, Wi-Fi 2 Tx	0.121		0.714	0.001		0.836
		0.036	0.714	0.001		0.751

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.

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14.41 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		0.145		0.210	0.669
		0.318	0.145		0.210	0.673
	0.314			0.157		0.471
		0.318		0.157		0.475
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.363		0.145		0.210	0.718
		0.382	0.145		0.210	0.737
	0.363			0.157		0.520
		0.382		0.157		0.539
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.314		0.145	0.157		0.616
		0.318	0.145	0.157		0.620
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.363		0.145	0.157		0.665
		0.382	0.145	0.157		0.684
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.127		0.032		0.000227	1.159
		1.175	0.032		0.000227	1.207
	1.127			0.000		1.127
		1.175		0.000		1.175
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.542		0.032		0.000227	0.574
		0.662	0.032		0.000227	0.694
	0.542			0.000		0.542
		0.662		0.000		0.662
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.127		0.032	0.000		1.159
		1.175	0.032	0.000		1.207
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.542		0.032	0.000		0.574
		0.662	0.032	0.000		0.694

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.148		0.714		0.210	1.072
		0.141	0.714		0.210	1.065
	0.148			0.001		0.149
		0.141		0.001		0.142
Edge 4, Wi-Fi 2 Tx	0.148		0.714	0.001		0.863
		0.141	0.714	0.001		0.856

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.

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14.42 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		0.145		0.210	1.123
		0.775	0.145		0.210	1.130
	0.768			0.157		0.925
		0.775		0.157		0.932
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.454		0.145		0.210	0.809
		0.491	0.145		0.210	0.846
	0.454			0.157		0.611
		0.491		0.157		0.648
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.768		0.145	0.157		1.070
		0.775	0.145	0.157		1.077
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.454		0.145	0.157		0.756
		0.491	0.145	0.157		0.793
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.139		0.032		0.000227	1.171
		1.150	0.032		0.000227	1.182
	1.139			0.000		1.139
		1.150		0.000		1.150
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.349		0.032		0.000227	0.381
		0.378	0.032		0.000227	0.410
	0.349			0.000		0.349
		0.378		0.000		0.378
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.139		0.032	0.000		1.171
		1.150	0.032	0.000		1.182
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.349		0.032	0.000		0.381
		0.378	0.032	0.000		0.410

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Test Position	Data					∑ 1-g SAR (mW/g)
	1xRTT	EVDO	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.134		0.714		0.210	1.058
		0.176	0.714		0.210	1.100
	0.134			0.001		0.135
		0.176		0.001		0.177
Edge 4, Wi-Fi 2 Tx	0.134		0.714	0.001		0.849
		0.176	0.714	0.001		0.891

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.

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14.43 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		0.145		0.210	0.617
		0.165	0.145		0.210	0.520
	0.262			0.157		0.419
		0.165		0.157		0.322
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.214		0.145		0.210	0.569
		0.261	0.145		0.210	0.616
	0.214			0.157		0.371
		0.261		0.157		0.418
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.262		0.145	0.157		0.564
		0.165	0.145	0.157		0.467
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.214		0.145	0.157		0.516
		0.261	0.145	0.157		0.563
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.046		0.032		0.000227	1.078
		1.038	0.032		0.000227	1.070
	1.046			0.000		1.046
		1.038		0.000		1.038
Edge 1, Wi-Fi 1 Tx 21mm → w/WWAN Full power	0.433		0.032		0.000227	0.465
		0.409	0.032		0.000227	0.441
	0.433			0.000		0.433
		0.409		0.000		0.409
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.046		0.032	0.000		1.078
		1.038	0.032	0.000		1.070
Edge 1, Wi-Fi 2 Tx 21mm → w/WWAN Full power	0.433		0.032	0.000		0.465
		0.409	0.032	0.000		0.441

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Test Position	Data					∑ 1-g SAR (mW/g)
	LTE Band 2	LTE Band 4	WiFi 5.8 GHz Main	WiFi 5.8 GHz Aux	Bluetooth	
Edge 3, Wi-Fi 1 Tx	0.400		0.400		0.210	1.010
		0.400	0.400		0.210	1.010
	0.400			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.356		0.714		0.210	1.280
		0.199	0.714		0.210	1.123
	0.356			0.001		0.357
		0.199		0.001		0.200
Edge 4, Wi-Fi 2 Tx	0.356		0.714	0.001		1.071
		0.199	0.714	0.001		0.914

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.

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14.44 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		0.145		0.210	1.099
		0.746	0.145		0.210	1.101
	0.744			0.157		0.901
		0.746		0.157		0.903
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.359		0.145		0.210	0.714
		0.359	0.145		0.210	0.714
	0.359			0.157		0.516
		0.359		0.157		0.516
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.744		0.145	0.157		1.046
		0.746	0.145	0.157		1.048
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.359		0.145	0.157		0.661
		0.359	0.145	0.157		0.661
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	1.159		0.032		0.000227	1.191
		1.124	0.032		0.000227	1.156
	1.159			0.000		1.159
		1.124		0.000		1.124
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.032		0.000227	0.316
		0.244	0.032		0.000227	0.276
	0.284			0.000		0.284
		0.244		0.000		0.244
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	1.159		0.032	0.000		1.191
		1.124	0.032	0.000		1.156
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 5), 20mm(LTE Band 13) → w/WWAN Full power	0.284		0.032	0.000		0.316
		0.244	0.032	0.000		0.276

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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			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.123		0.714		0.210	1.047
		0.134	0.714		0.210	1.058
	0.123			0.001		0.124
		0.134		0.001		0.135
Edge 4, Wi-Fi 2 Tx	0.123		0.714	0.001		0.838
		0.134	0.714	0.001		0.849

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.

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14.45 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		0.145		0.210	0.824
		0.289	0.145		0.210	0.644
	0.469			0.157		0.626
		0.289		0.157		0.446
Rear, Wi-Fi 1 Tx 13mm → w/WWAN Full power	0.139		0.145		0.210	0.494
		0.304	0.145		0.210	0.659
	0.139			0.157		0.296
		0.304		0.157		0.461
Rear, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.469		0.145	0.157		0.771
		0.289	0.145	0.157		0.591
Rear, Wi-Fi 2 Tx 13mm → w/WWAN Full power	0.139		0.145	0.157		0.441
		0.304	0.145	0.157		0.606
Edge 1, Wi-Fi 1 Tx 0mm → w/WWAN Power reduction	0.982		0.032		0.000227	1.014
		1.027	0.032		0.000227	1.059
	0.982			0.000		0.982
		1.027		0.000		1.027
Edge 1, Wi-Fi 1 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.032		0.000227	0.158
		0.440	0.032		0.000227	0.472
	0.126			0.000		0.126
		0.440		0.000		0.440
Edge 1, Wi-Fi 2 Tx 0mm → w/WWAN Power reduction	0.982		0.032	0.000		1.014
		1.027	0.032	0.000		1.059
Edge 1, Wi-Fi 2 Tx 21mm(LTE Band 25), 20mm(LTE Band 17) → w/WWAN Full power	0.126		0.032	0.000		0.158
		0.440	0.032	0.000		0.472

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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			0.494		0.894
		0.400		0.494		0.894
Edge 3, Wi-Fi 2 Tx	0.400		0.400	0.494		1.294
		0.400	0.400	0.494		1.294
Edge 4, Wi-Fi 1 Tx	0.106		0.714		0.210	1.030
		0.286	0.714		0.210	1.210
	0.106			0.001		0.107
		0.286		0.001		0.287
Edge 4, Wi-Fi 2 Tx	0.106		0.714	0.001		0.821
		0.286	0.714	0.001		1.001

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.

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15. Appendixes

Refer to separated files for the following appendixes.

15.1. System Performance Check Plots

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

15.3. SAR Test Plots for Wi-Fi 5 GHz Bands

15.4. SAR Test Plots for Bluetooth

15.5. Calibration Certificate for E-Field Probe EX3DV4 - SN 3825

15.6. Calibration Certificate for E-Field Probe EX3DV4 - SN 3922

15.7. Calibration Certificate for D2450V2 - SN 713

15.8. Calibration Certificate for D5GHzV2 - SN 1020

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