SAR EVALUATION REPORT

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

For

Wireless Module
(Tested inside of Panasonic Tablet PC CF-33)

Model: WL15A
FCC ID: ACJ9TGWL15A

Report Number: 11581112H-A
Issue Date: April 23, 2017

Prepared for

PANASONIC CORPORATION OF NORTH AMERICA
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NVLAP TESTING

NVLAP LAB CODE: 200572-0

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	04/13/2017	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 Tablet PC CF-33)
Model	WL15A
Test device is	An identical prototype
Device category	Portable
Exposure category	General Population/Uncontrolled Exposure
Date tested	March 29, 2017 to April 07, 2017

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

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

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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	2400-2483.5 MHz	WLAN: 0.854 W/kg (Edge 4 tilt) Bluetooth: 0.205 W/kg (Edge 2 tilt)	1.6 W/kg
15.407	5150-5350 MHz	Body: 1.186 W/kg (Edge 2 tilt)	
	5470-5725 MHz	Body: 1.133 W/kg (Edge 2 tilt)	
	5725-5850 MHz	Body: 0.972 W/kg (Edge 2 tilt)	
Simultaneous Transmission Condition		1.582 W/kg (refer to Section 14) (The highest across exposure conditions) * All WWAN 1-g SAR values were taken from results recorded in SAR report 11506860H-A, submitted under FCC ID ACJ9TGWW16A.	

LEGEND:

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

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2. Test Methodology

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

- 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- 865664 D02 SAR Reporting v01r02
- 447498 D01 General RF Exposure Guidance v06
- 248227 D01 802.11 Wi-Fi SAR v02r02
- 616217 D04 SAR for laptop and tablets v01r02

Additional Guidance: Manufacturer KDB inquiry
- Test position about Edge2 tilt and Edge4 tilt

3. Facilities and Accreditation

*Shielded room for SAR testings

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

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

The full scope of accreditation can be viewed at

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

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4. Calibration and Uncertainty

4.1. Measuring Instrument Calibration

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

Dielectric Property Measurements

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MNA-03	Vector Reflectometer	Copper Mountain Technologies	PLANAR R140	0030913	SAR	2016/04/22 * 12
MDPK-03	Dielectric assessment kit	Schmid&Partner Engineering AG	DAK-3.5	0008	SAR	2016/04/12 * 12
MOS-37	Digital thermometer	LKM electronic	DTM3000	-	SAR	2016/07/28 * 12
COTS-MSAR-04	Dielectric assessment software	Schmid&Partner Engineering AG	DAK	-	SAR	-

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System check

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MDAE-03	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1372	SAR	2016/06/10 * 12
MPB-09	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3922	SAR	2016/06/16 * 12
MPF-04	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1207	SAR	2016/05/07 * 12
MDH-03	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-35	Digital thermometer	HANNA	Checktemp 4	-	SAR	2016/07/28 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY5	-	SAR	-
MRBT-04	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F13/5PPLA1/A/01	SAR	2016/06/01 * 12
MDAE-02	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1369	SAR	2016/05/13 * 12
MPB-08	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3917	SAR	2016/5/12 * 12
MPF-02	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1045	SAR	2016/05/07 * 12
MDH-01	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2016/04/19 * 12
MRBT-02	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F10/5E3LA1/A/01	SAR	2016/04/30 * 12
MPM-11	Dual Power Meter	Agilent	E4419B	MY45102060	SAR	2016/08/24 * 12
MPSE-15	Power sensor	Agilent	E9301A	MY41498311	SAR	2016/08/24 * 12
MPSE-16	Power sensor	Agilent	E9301A	MY41498313	SAR	2016/08/24 * 12
MRFA-24	Pre Amplifier	R&K	R&K CGA020M602-2633R	B30550	SAR	2016/06/27 * 12
MSG-10	Signal Generator	Agilent	N5181A	MY47421098	SAR	2016/11/09 * 12
MAT-78	Attenuator	Telegrartner	J01156A0011	0042294119	SAR	Pre Check

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Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPM-15	Power Meter	Agilent	N1914A	MY53060017	SAR	2016/06/27 * 12
MPSE-21	Power sensor	Agilent	N8482H	MY52460010	SAR	2016/06/27 * 12
MHDC-12	Dual Directional Coupler	Hewlett Packard	772D	2839A0016	SAR(2-18GHz)	Pre Check
MDA-07	Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	713	SAR(D2450)	2016/09/13 * 12
MMSL2450	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MSL2450V2	SL AA 245 BA	SAR*Daily Check Target Value ±5%	Pre Check
MDA-08	Dipole Antenna	Schmid&Partner Engineering AG	D5GHzV2	1020	SAR(D5G)	2017/01/06 * 12
MMBBL3.5-5.8	Tissue simulation liquid (Body)	Schmid&Partner Engineering AG	MBBL3500-5800V5	SL AAM 501 DA	SAR*Daily Check Target Value ±5%	Pre Check

Other

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPM-16	Power Meter	Agilent	8990B	MY51000271	Power	2016/04/07 * 12
MPSE-22	Power sensor	Agilent	N1923A	MY54070003	Power	2016/04/07 * 12
MPSE-23	Power sensor	Agilent	N1923A	MY54070004	Power	2016/04/07 * 12
MAT-56	Attenuator(10dB)	Suhner	6810.19.A	-	Power	2016/12/14 * 12
MAT-57	Attenuator(10dB)	Suhner	6810.19.A	-	Power	2016/12/15 * 12

The expiration date of the calibration is the end of the expired month.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

4.2. Measurement Uncertainty

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

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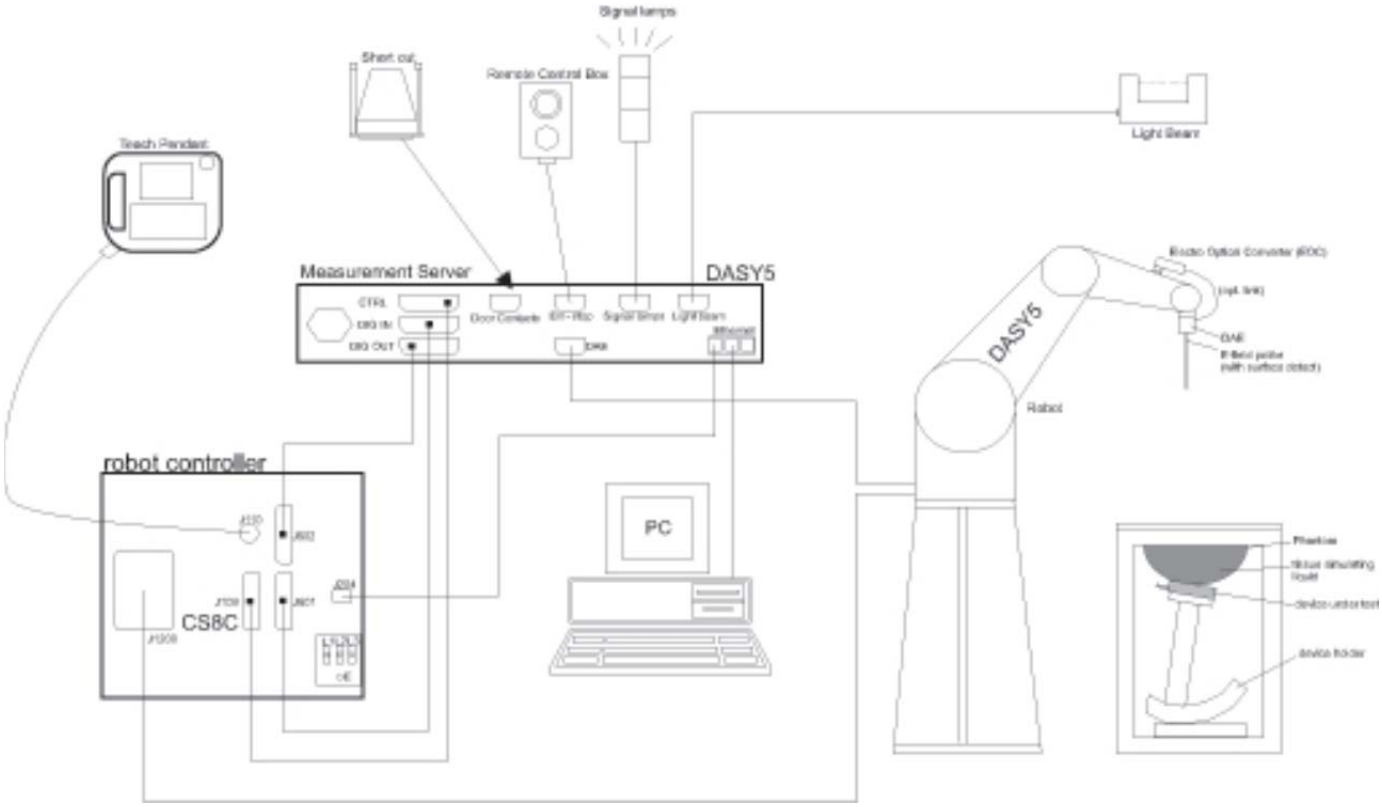
5. Measurement System Description and Setup

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



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

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6. SAR Measurement Procedure

6.1. Normal SAR Measurement Procedure

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

<table>
<tr><td></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td>Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td>Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
</table>

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Step 3: Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
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 Module (Tested inside of Panasonic Tablet PC CF-33) Model: WL15A	
Operating Configuration(s)	• Tablet modes
Exposure Condition(s)	• The device is used in close proximity to the body. Specific details of the required test positions are provided in Section 8 “Exposure Conditions”.
Accessory	• None

7.1. Band and Air Interfaces

Tx Frequency Bands	• 802.11a/b/g/n/ac: 2412 - 2472 MHz, b / g / HT20 / HT40 5180 - 5240 MHz, a / HT20 / HT40 / HT80 5260 - 5320 MHz, a / HT20 / HT40 / HT80 5500 - 5720 MHz, a / HT20 / HT40 / HT80 5745 - 5825 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%

7.2. Testing Rationale

Test selection was performed in accordance with KDB248227 D01.

The standalone (SISO) SAR results were considered acceptable for the MIMO simultaneous transmission analysis as the MIMO power does not exceed the SISO power.

The antenna separation distance will not be less than 50mm.

Bluetooth transmits using the WLAN Aux Antenna. Bluetooth can transmit simultaneously with the WLAN Main Antenna. Bluetooth cannot transmit simultaneously with the WLAN Aux Antenna in WLAN MIMO mode.

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Supported Simultaneous Scenarios

WWAN + WLAN 2.4 GHz SISO (1 Tx)

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

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WWAN + WLAN 5 GHz Bands SISO (1 Tx)

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

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WWAN + Bluetooth

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

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WWAN + WLAN SISO (1 Tx) + Bluetooth

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

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WWAN + WLAN MIMO (2 Tx)

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

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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

Tablet Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	19.3 mm	Yes	Refer to section 12 for SAR exclusion justification.
Front	-	No	SAR is not required as this is not a typical use scenario.
Edge 1	162.5 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Edge 2	> 200 mm	No	Since this position is more than 20 cm away, SAR test was excluded.
Edge 3	45.5 mm	Yes	Refer to section 12 for SAR exclusion justification.
Edge 4	3.3 mm	Yes	Refer to section 12 for SAR exclusion justification.
Edge 4 tilt	2.6 mm	Yes	Refer to 8.4. Additional Test Scenarios. Refer to section 12 for SAR exclusion justification.

Laptop Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side(Laptop mode)	96.6 mm	No	SAR of WLAN Main Antenna does not require testing in this position when operating in Laptop Mode as the same test position for Tablet Mode(Edge 3 equivalence) is far more conservative.

Convertible Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear (Convertible Mode)	42.3 mm	No	SAR of WLAN Main Antenna does not require testing in this position as it is accounted for by the Rear test position for Tablet Mode.
Front (Convertible Mode)	-	No	SAR is not required as this is not a typical use scenario.
Edge 1 (Convertible Mode)	162.5 mm	No	SAR of WLAN Main Antenna does not require testing in this position as it is accounted for by the Edge 1 test position for Tablet Mode.
Edge 2 (Convertible Mode)	> 200 mm	No	SAR of WLAN Main Antenna does not require testing in this position as it is accounted for by the Edge 2 test position for Tablet Mode.
Edge 3 (Convertible Mode)	72 mm	No	SAR of WLAN Main Antenna does not require testing in this position as it is accounted for by the Edge 3 test position for Tablet Mode.
Edge 4 (Convertible Mode)	3.3 mm	No	SAR of WLAN Main Antenna does not require testing in this position as it is accounted for by the Edge 4 test position for Tablet Mode.

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

Tablet Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	19.3 mm	Yes	Refer to section 12 for SAR exclusion justification.
Front	-	No	SAR is not required as this is not a typical use scenario.
Edge 1	169.8 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Edge 2	5.4 mm	Yes	Refer to section 12 for SAR exclusion justification.
Edge 2 tilt	4.5 mm	Yes	Refer to 8.4. Additional Test Scenarios. Refer to section 12 for SAR exclusion justification.
Edge 3	41.8 mm	Yes	Refer to section 12 for SAR exclusion justification.
Edge 4	> 200 mm	No	Since this position is more than 20 cm away, SAR test was excluded.

Laptop Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side(Laptop mode)	92.9 mm	No	SAR of WLAN Aux Antenna does not require testing in this position when operating in Laptop Mode as the same test position for Tablet Mode(Edge 3 equivalence) is far more conservative.

Convertible Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear (Convertible Mode)	42.3 mm	No	SAR of WLAN Aux Antenna does not require testing in this position as it is accounted for by the Rear test position for Tablet Mode.
Front (Convertible Mode)	-	No	SAR is not required as this is not a typical use scenario.
Edge 1 (Convertible Mode)	169.8 mm	No	SAR of WLAN Aux Antenna does not require testing in this position as it is accounted for by the Edge 1 test position for Tablet Mode.
Edge 2 (Convertible Mode)	5.4 mm	No	SAR of WLAN Aux Antenna does not require testing in this position as it is accounted for by the Edge 2 test position for Tablet Mode.
Edge 3 (Convertible Mode)	68.3 mm	No	SAR of WLAN Aux Antenna does not require testing in this position as it is accounted for by the Edge 3 test position for Tablet Mode.
Edge 4 (Convertible Mode)	> 200 mm	No	SAR of WLAN Aux Antenna does not require testing in this position as it is accounted for by the Edge 4 test position for Tablet Mode.

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8.3. Test Configurations for the Auxiliary Antenna, Bluetooth

Tablet Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear	19.3 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Front	-	No	SAR is not required as this is not a typical use scenario.
Edge 1	169.8 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Edge 2	5.4 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Edge 2 tilt	4.5 mm	Yes	Refer to 8.4. Additional Test Scenarios. Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Edge 3	41.8 mm	Yes	Refer to section 12 for SAR exclusion justification. Though SAR was not required for standalone, the test was performed for simultaneous transmitting evaluation with WWAN antenna.
Edge 4	> 200 mm	No	Since this position is more than 20 cm away, SAR test was excluded.

Laptop Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Bottom side(Laptop mode)	92.9 mm	No	SAR of Bluetooth Antenna does not require testing in this position when operating in Laptop Mode as the same test position for Tablet Mode(Edge 3 equivalence) is far more conservative.

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Convertible Mode

Test Configurations	Antenna-to-edge/surface	SAR Required	Note
Rear (Convertible Mode)	42.3 mm	No	SAR of Bluetooth Antenna does not require testing in this position as it is accounted for by the Rear test position for Tablet Mode.
Front (Convertible Mode)	-	No	SAR is not required as this is not a typical use scenario.
Edge 1 (Convertible Mode)	169.8 mm	No	SAR of Bluetooth Antenna does not require testing in this position as it is accounted for by the Edge 1 test position for Tablet Mode.
Edge 2 (Convertible Mode)	5.4 mm	No	SAR of Bluetooth Antenna does not require testing in this position as it is accounted for by the Edge 2 test position for Tablet Mode.
Edge 3 (Convertible Mode)	68.3 mm	No	SAR of Bluetooth Antenna does not require testing in this position as it is accounted for by the Edge 3 test position for Tablet Mode.
Edge 4 (Convertible Mode)	> 200 mm	No	SAR of Bluetooth Antenna does not require testing in this position as it is accounted for by the Edge 4 test position for Tablet Mode.

LEGEND:

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

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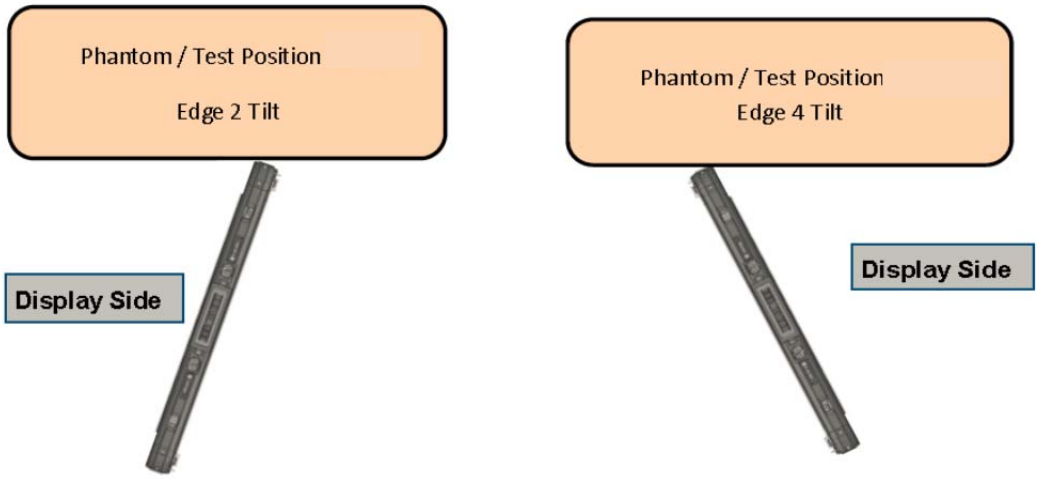
8.4. Additional Test Scenarios

Due to the user separation distance of below setup case is shorter than Edge2 and Edge4. (Refer to Section17)

Therefore below additional 2 positions were tested.

This setup is based on the KDB inquiry.



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9. Summary of Required Test Modes

The initial test configuration for 2.4 GHz and 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n.

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9.1. WLAN 2.4GHz (DTS Band)

SISO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)		Tune-up upper Power (dBm)		Initial SAR Test (Yes/No)	Note(s)
					Main Ant Tx	Sub Ant Tx	Main Ant Tx	Sub Ant Tx		
2.4	802.11b	1 Mbps	1	2412	14.92	14.85	15.0	15.0	Yes	3
			6	2437	14.74	14.75				
			11	2462	14.81	14.68				
			12	2467	14.73	14.69				
			13	2472	11.98	11.76	12.0	12.0		
	802.11g	6 Mbps	1	2412	Not Required	Not Required	15.0	15.0	No	1
			6	2437	Not Required	Not Required				
			11	2462	Not Required	Not Required				
			12	2467	Not Required	Not Required	13.5	13.5		
			13	2472	Not Required	Not Required	2.0	2.0		
	802.11n (HT20)	6.5 Mbps	1	2412	Not Required	Not Required	15.0	15.0	No	1
			6	2437	Not Required	Not Required				
			11	2462	Not Required	Not Required				
			12	2467	Not Required	Not Required	13.5	13.5		
			13	2472	Not Required	Not Required	2.0	2.0		
	802.11n (HT40)	13.5 Mbps	3	2422	14.95	14.82	15.0	15.0	No	1
			6	2437	14.51	14.83				
			9	2452	14.53	14.72				
			10	2457	12.09	12.28	12.5	12.5		
			11	2462	0.82	0.56	1.0	1.0		

MIMO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)	Tune-up upper Power (dBm)	Initial SAR Test (Yes/No)	Note(s)
					Main&Sub Ant Simultaneous Tx	Main&Sub Ant Simultaneous Tx		
2.4	802.11n (HT20)	6.5 Mbps	1	2412	Not Required	13.5	No	2
			6	2437	Not Required	15.0		
			11	2462	Not Required			
			12	2467	Not Required	11.0		
			13	2472	Not Required	-0.5		
	802.11n (HT40)	13.5 Mbps	3	2422	Not Required	13.5	No	2
			6	2437	Not Required	15.0		
			9	2452	Not Required	12.5		
			10	2457	Not Required	11.0		
			11	2462	Not Required	-2.5		

Note(s):

1. According to KDB248227D01, SAR is not required for 802.11g/n HT20/HT40 channels when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. The standalone (SISO) SAR results were considered acceptable for the MIMO simultaneous transmission analysis as the MIMO power does not exceed the SISO power. The antenna separation distance will not be less than 50mm.
3. SAR test channel was chosen according to KDB248227D01. (shaded blue frame)

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9.2. WLAN 5GHz (U-NII-1 and U-NII-2A Bands)

SISO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)		Tune-up upper Power (dBm)		Initial SAR Test (Yes/No)	Note(s)
					Main Ant Tx	Sub Ant Tx	Main Ant Tx	Sub Ant Tx		
5.2 (U-NII-1)	802.11a	6 Mbps	36	5180	Not Required	Not Required	13.5	13.5	No	2
			40	5200	Not Required	Not Required				
			44	5220	Not Required	Not Required				
			48	5240	Not Required	Not Required				
	802.11n (HT20)	6.5 Mbps	36	5180	Not Required	Not Required	13.5	13.5	No	2
			40	5200	Not Required	Not Required				
			44	5220	Not Required	Not Required				
			48	5240	Not Required	Not Required				
	802.11n (HT40)	13.5 Mbps	38	5190	Not Required	Not Required	13.5	13.5	No	2
			46	5230	Not Required	Not Required				
	802.11ac (VHT20)	6.5 Mbps	36	5180	Not Required	Not Required	13.5	13.5	No	2
			40	5200	Not Required	Not Required				
			44	5220	Not Required	Not Required				
			48	5240	Not Required	Not Required				
	802.11ac (VHT40)	13.5 Mbps	38	5190	Not Required	Not Required	13.5	13.5	No	2
			46	5230	Not Required	Not Required				
	802.11ac (VHT80)	29.3 Mbps	42	5210	13.08	13.01	13.5	13.5	No	2
5.3 (U-NII-2A)	802.11a	6 Mbps	52	5260	Not Required	Not Required	13.5	13.5	No	1
			56	5280	Not Required	Not Required				
			60	5300	Not Required	Not Required				
			64	5320	Not Required	Not Required				
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	Not Required	13.5	13.5	No	1
			56	5280	Not Required	Not Required				
			60	5300	Not Required	Not Required				
			64	5320	Not Required	Not Required				
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	Not Required	13.5	13.5	No	1
			62	5310	Not Required	Not Required				
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	Not Required	13.5	13.5	No	1
			56	5280	Not Required	Not Required				
			60	5300	Not Required	Not Required				
			64	5320	Not Required	Not Required				
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	Not Required	13.5	13.5	No	1
			62	5310	Not Required	Not Required				
	802.11ac (VHT80)	29.3 Mbps	58	5290	13.47	13.29	13.5	13.5	Yes	1,4

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MIMO (continued)

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)	Tune-up upper Power (dBm)	Initial SAR Test (Yes/No)	Note(s)
					Main&Sub Ant Simultaneous Tx	Main&Sub Ant Simultaneous Tx		
5.2 (U-NII-1)	802.11n (HT20)	6.5 Mbps	36	5180	Not Required	13.5	No	3
			40	5200	Not Required			
			44	5220	Not Required			
			48	5240	Not Required			
	802.11n (HT40)	13.5 Mbps	38	5190	Not Required	13.5	No	3
			46	5230	Not Required			
	802.11ac (VHT20)	6.5 Mbps	36	5180	Not Required	13.5	No	3
			40	5200	Not Required			
			44	5220	Not Required			
			48	5240	Not Required			
	802.11ac (VHT40)	13.5 Mbps	38	5190	Not Required	13.5	No	3
			46	5230	Not Required			
	802.11ac (VHT80)	29.3 Mbps	42	5210	Not Required	13.5	No	3
5.3 (U-NII-2A)	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	13.5	No	3
			56	5280	Not Required			
			60	5300	Not Required			
			64	5320	Not Required			
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	13.5	No	3
			62	5310	Not Required			
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	13.5	No	3
			56	5280	Not Required			
			60	5300	Not Required			
			64	5320	Not Required			
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	13.5	No	3
			62	5310	Not Required			
	802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	13.5	No	3

Note(s):

1. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac modes, the channel with the largest bandwidth and lowest data rate is selected (i.e. 802.11ac VHT80).
2. When the specified maximum output power is the same for both UNII band I and UNII band 2A, begin SAR measurement in UNII band 2A; and if the highest *reported* SAR for UNII band 2A is
   - o ≤ 1.2 W/kg, SAR is not required for UNII band I
   - o > 1.2 W/kg, both bands should be tested independently for SAR.
3. The standalone (SISO) SAR results were considered acceptable for the MIMO simultaneous transmission analysis as the MIMO power does not exceed the SISO power. The antenna separation distance will not be less than 50mm.
4. SAR test channel was chosen according to KDB248227D01. (shaded blue frame)

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9.3. WLAN 5GHz (U-NII-2C Band)

SISO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)		Tune-up upper Power (dBm)		Initial SAR Test (Yes/No)	Note(s)
					Main Ant Tx	Sub Ant Tx	Main Ant Tx	Sub Ant Tx		
5.5 (U-NII-2C)	802.11a	6 Mbps	100	5500	Not Required	Not Required	13.5	13.5	No	1
			116	5580	Not Required	Not Required				
			140	5700	Not Required	Not Required				
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	Not Required	13.5	13.5	No	1
			116	5580	Not Required	Not Required				
			140	5700	Not Required	Not Required				
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	Not Required	13.5	13.5	No	1
			118	5590	Not Required	Not Required				
			134	5670	Not Required	Not Required				
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	Not Required	13.5	13.5	No	1
			116	5580	Not Required	Not Required				
			140	5700	Not Required	Not Required				
			144	5720	Not Required	Not Required				
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	Not Required	13.5	13.5	No	1
			118	5590	Not Required	Not Required				
			134	5670	Not Required	Not Required				
			142	5710	Not Required	Not Required				
	802.11ac (VHT80)	29.3 Mbps	106	5530	13.19	13.45	13.5	13.5	Yes	1,3
			122	5610	13.03	13.32				
			138	5690	13.08	13.34				

MIMO (continued)

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)	Tune-up upper Power (dBm)	Initial SAR Test (Yes/No)	Note(s)
					Main&Sub Ant Simultaneous Tx	Main&Sub Ant Simultaneous Tx		
5.5 (U-NII-2C)	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	13.5	No	2
			116	5580	Not Required			
			140	5700	Not Required			
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	13.5	No	2
			118	5590	Not Required			
			134	5670	Not Required			
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	13.5	No	2
			116	5580	Not Required			
			140	5700	Not Required			
			144	5720	Not Required			
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	13.5	No	2
			118	5590	Not Required			
			134	5670	Not Required			
			142	5710	Not Required			
	802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	13.5	No	2
			122	5610	Not Required			
			138	5690	Not Required			

Note(s):

1. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac modes, the channel with the largest bandwidth and lowest data rate is selected (i.e. 802.11ac VHT80).
2. The standalone (SISO) SAR results were considered acceptable for the MIMO simultaneous transmission analysis as the MIMO power does not exceed the SISO power. The antenna separation distance will not be less than 50mm.
3. SAR test channel was chosen according to KDB248227D01. (shaded blue frame)

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9.4. WLAN 5GHz (U-NII-3 Band)

SISO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)		Tune-up upper Power (dBm)		Initial SAR Test (Yes/No)	Note(s)
					Main Ant Tx	Sub Ant Tx	Main Ant Tx	Sub Ant Tx		
5.8 (U-NII-3)	802.11a	6 Mbps	149	5745	Not Required	Not Required	13.5	13.5	No	1
			157	5785	Not Required	Not Required				
			165	5825	Not Required	Not Required				
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	Not Required	13.5	13.5	No	1
			157	5785	Not Required	Not Required				
			165	5825	Not Required	Not Required				
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	Not Required	13.5	13.5	No	1
			159	5795	Not Required	Not Required				
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	Not Required	13.5	13.5	No	1
			157	5785	Not Required	Not Required				
			165	5825	Not Required	Not Required				
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	Not Required	13.5	13.5	No	1
			159	5795	Not Required	Not Required				
	802.11ac (VHT80)	29.3 Mbps	155	5775	13.27	13.36	13.5	13.5	Yes	1,3

MIMO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)	Tune-up upper Power (dBm)	Initial SAR Test (Yes/No)	Note(s)
					Main&Sub Ant Simultaneous Tx	Main&Sub Ant Simultaneous Tx		
5.8 (U-NII-3)	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	13.5	No	2
			157	5785	Not Required	13.5		
			165	5825	Not Required	13.5		
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	13.5	No	2
			159	5795	Not Required	13.5		
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	13.5	No	2
			157	5785	Not Required	13.5		
			165	5825	Not Required	13.5		
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	13.5	No	2
			159	5795	Not Required	13.5		
	802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	13.5	No	2

Note(s):

1. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac modes, the channel with the largest bandwidth and lowest data rate is selected (i.e. 802.11ac VHT80).
2. The standalone (SISO) SAR results were considered acceptable for the MIMO simultaneous transmission analysis as the MIMO power does not exceed the SISO power. The antenna separation distance will not be less than 50mm.
3. SAR test channel was chosen according to KDB248227D01. (shaded blue frame)

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9.5. Bluetooth

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Measured average Power (dBm)		Tune-up upper Power (dBm)		SAR Test (Yes/No)	Note(s)
					Main Ant Tx	Sub Ant Tx	Main Ant Tx	Sub Ant Tx		
2.4	BDR	DH5	0	2402	-	7.83	-	9.00	Yes	1
			39	2441	-	8.05				
			78	2480	-	7.97				
	EDR	2DH5	0	2402	-	4.04	-	6.00	No	1
			39	2441	-	4.29				
			78	2480	-	4.31				
	EDR	3DH5	0	2402	-	4.04	-	5.10	No	1
			39	2441	-	4.28				
			78	2480	-	4.12				
	LE	-	0	2402	-	3.00	-	3.70	No	1
			40	2442	-	3.11				
			78	2480	-	3.13				

Note(s):

1. SAR measurement is not required for EDR and LE when the specified tune-up tolerances for EDR and LE are lower than BDR.
2. SAR test channel was chosen according to KDB447498D01. (shaded blue frame)

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10. Dielectric Property Measurements

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

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

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

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73

5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

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Dielectric Property Measurements 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 ±(%)
2017/3/29	Body 5250	Relative Permittivity (ε_r):	48.99	48.95	0.08	10
		Conductivity (σ):	5.52	5.35	3.06	5
	Body 5150	Relative Permittivity (ε_r):	49.35	49.09	0.54	10
		Conductivity (σ):	5.36	5.24	2.44	5
	Body 5350	Relative Permittivity (ε_r):	48.93	48.82	0.23	10
		Conductivity (σ):	5.73	5.47	4.76	5
2017/3/30	Body 5600	Relative Permittivity (ε_r):	47.08	48.48	-2.88	10
		Conductivity (σ):	5.90	5.76	2.46	5
	Body 5470	Relative Permittivity (ε_r):	47.40	48.65	-2.58	10
		Conductivity (σ):	5.80	5.61	3.31	5
	Body 5725	Relative Permittivity (ε_r):	46.62	48.31	-3.50	10
		Conductivity (σ):	6.14	5.91	4.02	5
2017/4/3	Body 5750	Relative Permittivity (ε_r):	47.11	48.27	-2.41	10
		Conductivity (σ):	6.22	5.94	4.84	5
	Body 5725	Relative Permittivity (ε_r):	47.02	48.31	-2.67	10
		Conductivity (σ):	6.15	5.91	4.17	5
	Body 5850	Relative Permittivity (ε_r):	46.93	48.20	-2.63	10
		Conductivity (σ):	6.24	6.00	4.00	5
2017/4/5	Body 2450	Relative Permittivity (ε_r):	50.90	52.70	-3.42	5
		Conductivity (σ):	1.99	1.95	2.21	5
	Body 2400	Relative Permittivity (ε_r):	51.11	52.77	-3.15	5
		Conductivity (σ):	1.93	1.90	1.74	5
	Body 2480	Relative Permittivity (ε_r):	50.80	52.66	-3.54	5
		Conductivity (σ):	2.03	1.99	2.05	5
2017/4/7	Body 2450	Relative Permittivity (ε_r):	50.88	52.70	-3.45	5
		Conductivity (σ):	1.97	1.95	1.03	5
	Body 2400	Relative Permittivity (ε_r):	51.06	52.77	-3.25	5
		Conductivity (σ):	1.91	1.90	0.37	5
	Body 2480	Relative Permittivity (ε_r):	50.79	52.66	-3.56	5
		Conductivity (σ):	2.01	1.99	0.85	5

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11. System Performance Check

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

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 1GHz) 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 2 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 1.4 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.

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Reference Target SAR Values

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

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (mW/g)		
				1g/10g	Head	Body
D2450V2	713	09/13/2016	2450	1g	53.6	52.0
				10g	24.9	24.4
D5GHV2	1020	01/06/2017	5250	1g	80.0	75.6
				10g	22.9	21.3
			5600	1g	83.9	79.7
				10g	23.9	22.4
			5750	1g	79.6	75.9
				10g	22.7	21.2

System Check Results

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

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %
	Type	Serial #			Zoom Scan	Normalize to 1 W		
3/29/2017	D5GHzV2 5.25 GHz	1020	Body	1g	6.96	69.6	75.6	-7.94
				10g	1.93	19.3	21.3	-9.39
3/30/2017	D5GHzV2 5.6 GHz	1020	Body	1g	7.62	76.2	79.7	-4.39
				10g	2.10	21.0	22.4	-6.25
4/3/2017	D5GHzV2 5.75 GHz	1020	Body	1g	7.36	73.6	75.9	-3.03
				10g	2.05	20.5	21.2	-3.30
4/5/2017	D2450V2 2.45GHz	713	Body	1g	13.80	55.2	52.0	6.15
				10g	6.38	25.5	24.4	4.42
4/7/2017	D2450V2 2.45GHz	713	Body	1g	13.80	55.2	52.0	6.15
				10g	6.47	25.9	24.4	5.89

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12. RF Exposure Conditions (Test Configurations)

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

12.1. Standalone SAR Test Exclusion Considerations

Standalone SAR test exclusion was based upon the following criteria:

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

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12.1.1. SAR exclusion calculations for WLAN SISO (1 Tx) and Bluetooth for antenna <50mm from the user

SAR exclusion calculations for antenna <50mm from the user

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Calculated Threshold Value						
			dBm	mW	Rear	Edge1	Edge2	Edge3	Edge4	Edge4 tilt	Front	Rear	Edge1	Edge2	Edge3	Edge4	Edge4 tilt	Front
Main	WLAN	2462	15.00	32	19	163	298	46	3	3		10 -MEASURE-	> 50 mm	> 50 mm	10 -MEASURE-	10 -MEASURE-	10 -MEASURE-	
Main	WLAN	5240	13.50	22	19	163	298	46	3	3		10.1 -MEASURE-	> 50 mm	> 50 mm	10.1 -MEASURE-	10.1 -MEASURE-	10.1 -MEASURE-	
Main	WLAN	5320	13.50	22	19	163	298	46	3	3		10.1 -MEASURE-	> 50 mm	> 50 mm	10.1 -MEASURE-	10.1 -MEASURE-	10.1 -MEASURE-	
Main	WLAN	5720	13.50	22	19	163	298	46	3	3		10.5 -MEASURE-	> 50 mm	> 50 mm	10.5 -MEASURE-	10.5 -MEASURE-	10.5 -MEASURE-	
Main	WLAN	5825	13.50	22	19	163	298	46	3	3		10.6 -MEASURE-	> 50 mm	> 50 mm	10.6 -MEASURE-	10.6 -MEASURE-	10.6 -MEASURE-	

SAR exclusion calculations for antenna <50mm from the user

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Calculated Threshold Value						
			dBm	mW	Rear	Edge1	Edge2	Edge2 tilt	Edge3	Edge4	Front	Rear	Edge1	Edge2	Edge2 tilt	Edge3	Edge4	Front
Aux	WLAN	2462	15.00	32	19	170	5	5	42	297		10 -MEASURE-	> 50 mm	10 -MEASURE-	10 -MEASURE-	10 -MEASURE-	> 50 mm	
Aux	WLAN	5240	13.50	22	19	170	5	5	42	297		10.1 -MEASURE-	> 50 mm	10.1 -MEASURE-	10.1 -MEASURE-	10.1 -MEASURE-	> 50 mm	
Aux	WLAN	5320	13.50	22	19	170	5	5	42	297		10.1 -MEASURE-	> 50 mm	10.1 -MEASURE-	10.1 -MEASURE-	10.1 -MEASURE-	> 50 mm	
Aux	WLAN	5720	13.50	22	19	170	5	5	42	297		10.5 -MEASURE-	> 50 mm	10.5 -MEASURE-	10.5 -MEASURE-	10.5 -MEASURE-	> 50 mm	
Aux	WLAN	5825	13.50	22	19	170	5	5	42	297		10.6 -MEASURE-	> 50 mm	10.6 -MEASURE-	10.6 -MEASURE-	10.6 -MEASURE-	> 50 mm	
Aux	BT	2480	9.00	8	19	170	5	5	42	297		2.5 -EXEMPT-	> 50 mm	2.5 -EXEMPT-	2.5 -EXEMPT-	2.5 -EXEMPT-	> 50 mm	

Note(s):

1. According to KDB 447498D01, 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.
3. The separation distances from antennas to the Rear or the edge were input. For antennas <50 mm from the Rear or edges the separation distance used for the SAR exclusion calculations is 5 mm.
4. The SAR test of Rear and some edge with Bluetooth was excluded, but we measured Rear and some edge with Bluetooth for simultaneous transmission consideration with WWAN antenna.

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12.1.2. SAR exclusion calculations for WLAN SISO (1 Tx) and Bluetooth for antenna >50mm from the user

SAR exclusion calculations for antenna >50mm from the user

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Calculated Threshold Value						
			dBm	mW	Rear	Edge1	Edge2	Edge3	Edge4	Edge4 tilt	Front	Rear	Edge1	Edge2	Edge3	Edge4	Edge4 tilt	Front
Main	WLAN	2462	15.00	32	19	163	298	46	3	3		< 50 mm	1220.6 mW -EXEMPT-	2574.6 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	
Main	WLAN	5240	13.50	22	19	163	298	46	3	3		< 50 mm	1190.5 mW -EXEMPT-	2544.5 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	
Main	WLAN	5320	13.50	22	19	163	298	46	3	3		< 50 mm	1190 mW -EXEMPT-	2544 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	
Main	WLAN	5720	13.50	22	19	163	298	46	3	3		< 50 mm	1187.7 mW -EXEMPT-	2541.7 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	
Main	WLAN	5825	13.50	22	19	163	298	46	3	3		< 50 mm	1187.2 mW -EXEMPT-	2541.2 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	

SAR exclusion calculations for antenna >50mm from the user

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)							Calculated Threshold Value						
			dBm	mW	Rear	Edge1	Edge2	Edge2 tilt	Edge3	Edge4	Front	Rear	Edge1	Edge2	Edge2 tilt	Edge3	Edge4	Front
Aux	WLAN	2462	15.00	32	19	170	5	5	42	297		< 50 mm	1293.6 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	2562.6 mW -EXEMPT-	
Aux	WLAN	5240	13.50	22	19	170	5	5	42	297		< 50 mm	1263.5 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	2532.5 mW -EXEMPT-	
Aux	WLAN	5320	13.50	22	19	170	5	5	42	297		< 50 mm	1263 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	2532 mW -EXEMPT-	
Aux	WLAN	5720	13.50	22	19	170	5	5	42	297		< 50 mm	1260.7 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	2529.7 mW -EXEMPT-	
Aux	WLAN	5825	13.50	22	19	170	5	5	42	297		< 50 mm	1260.2 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	2529.2 mW -EXEMPT-	
Aux	BT	2480	9.00	8	19	170	5	5	42	297		< 50 mm	1293.3 mW -EXEMPT-	< 50 mm	< 50 mm	< 50 mm	2562.3 mW -EXEMPT-	

Note(s):

1. According to KDB 447498D01, 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.
3. The separation distances from antennas to the Rear or the edge were input. For antennas <50 mm from the Rear or edges the separation distance used for the SAR exclusion calculations is 5 mm.
4. The SAR test of Edge 1 with WLAN Main and Aux antenna was excluded, but we measured Edge 1 with WLAN Main and Aux antenna for simultaneous transmission consideration with WWAN antenna.

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13. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

KDB 248227 D01 SAR meas for 802.11 v02:

SAR test reduction for 802.11 WLAN transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the *initial test position(s)* by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The *initial test position(s)* is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the *reported* SAR for the *initial test position* is:

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported* SAR is ≤ 0.8 W/kg or all required test positions are tested.
  - For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.
  - The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.
- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

To determine the *initial test position*, Area Scans were performed to determine the position with the *Maximum Value of SAR (measured)*. The position that produced the highest *Maximum Value of SAR* is considered the worst case position; thus used as the *initial test position*.

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13.1. WLAN 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		
Edge1	802.11b	0	1	2412	15.00	14.92	0.014	0.014	1	
			6	2437	15.00	14.74				
			11	2462	15.00	14.81				
Edge3	802.11b	0	1	2412	15.00	14.92	0.043	0.044	2	
			6	2437	15.00	14.74				
			11	2462	15.00	14.81				
Edge4	802.11b	0	1	2412	15.00	14.92	0.755	0.769	3	
			6	2437	15.00	14.74				
			11	2462	15.00	14.81				
Edge4 tilt	802.11b	0	1	2412	15.00	14.92	0.838	0.854	4	
			6	2437	15.00	14.74				
			11	2462	15.00	14.81	0.811	0.847	5	
Rear	802.11b	0	1	2412	15.00	14.92	0.094	0.096	6	
			6	2437	15.00	14.74				
			11	2462	15.00	14.81				

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	802.11b	0	1	2412	15.00	14.85	0.013	0.013	7	
			6	2437	15.00	14.75				
			11	2462	15.00	14.68				
Edge2	802.11b	0	1	2412	15.00	14.85	0.634	0.656	8	
			6	2437	15.00	14.75				
			11	2462	15.00	14.68				
Edge2 tilt	802.11b	0	1	2412	15.00	14.85	0.677	0.701	9	
			6	2437	15.00	14.75				
			11	2462	15.00	14.68				
Edge3	802.11b	0	1	2412	15.00	14.85	0.044	0.046	10	
			6	2437	15.00	14.75				
			11	2462	15.00	14.68				
Rear	802.11b	0	1	2412	15.00	14.85	0.130	0.135	11	
			6	2437	15.00	14.75				
			11	2462	15.00	14.68				

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13.2. WLAN 5.2/5.3 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		
Edge1	802.11ac80	0	58	5290	13.50	13.47	0.049	0.049	1	
Edge3	802.11ac80	0	58	5290	13.50	13.47	0.016	0.016	2	
Edge4	802.11ac80	0	58	5290	13.50	13.47	0.616	0.620	3	
Edge4 tilt	802.11ac80	0	58	5290	13.50	13.47	0.758	0.763	4	
Rear	802.11ac80	0	58	5290	13.50	13.47	0.075	0.076	5	

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	802.11ac80	0	58	5290	13.50	13.29	0.029	0.030	6	
Edge2	802.11ac80	0	58	5290	13.50	13.29	1.050	1.102	7	
Edge2 tilt	802.11ac80	0	58	5290	13.50	13.29	1.130	1.186	8	
Edge3	802.11ac80	0	58	5290	13.50	13.29	0.116	0.122	9	
Rear	802.11ac80	0	58	5290	13.50	13.29	0.102	0.107	10	

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13.3. WLAN 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		
Edge1	802.11ac80	0	106	5530	13.50	13.19	0.080	0.086	1	
			122	5610	13.50	13.03				
			138	5690	13.50	13.08				
Edge3	802.11ac80	0	106	5530	13.50	13.19	0.000	0.000	2	
			122	5610	13.50	13.03				
			138	5690	13.50	13.08				
Edge4	802.11ac80	0	106	5530	13.50	13.19	0.567	0.609	3	
			122	5610	13.50	13.03				
			138	5690	13.50	13.08				
Edge4 tilt	802.11ac80	0	106	5530	13.50	13.19	0.690	0.741	4	
			122	5610	13.50	13.03				
			138	5690	13.50	13.08				
Rear	802.11ac80	0	106	5530	13.50	13.19	0.086	0.092	5	
			122	5610	13.50	13.03				
			138	5690	13.50	13.08				

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	802.11ac80	0	106	5530	13.50	13.45	0.017	0.017	6	
			122	5610	13.50	13.32				
			138	5690	13.50	13.34				
Edge2	802.11ac80	0	106	5530	13.50	13.45	1.000	1.012	7	
			122	5610	13.50	13.32				
			138	5690	13.50	13.34	0.712	0.739	8	
Edge2 tilt	802.11ac80	0	106	5530	13.50	13.45	1.120	1.133	9	
			122	5610	13.50	13.32				
			138	5690	13.50	13.34	0.907	0.941	10	
Edge3	802.11ac80	0	106	5530	13.50	13.45	0.076	0.077	11	
			122	5610	13.50	13.32				
			138	5690	13.50	13.34				
Rear	802.11ac80	0	106	5530	13.50	13.45	0.138	0.140	12	
			122	5610	13.50	13.32				
			138	5690	13.50	13.34				

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13.4. WLAN 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		
Edge1	802.11ac80	0	155	5775	13.50	13.27	0.062	0.065	1	
Edge3	802.11ac80	0	155	5775	13.50	13.27	0.0000154	0.0000162	2	
Edge4	802.11ac80	0	155	5775	13.50	13.27	0.674	0.711	3	
Edge4 tilt	802.11ac80	0	155	5775	13.50	13.27	0.788	0.831	4	
Rear	802.11ac80	0	155	5775	13.50	13.27	0.110	0.116	5	

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	802.11ac80	0	155	5775	13.50	13.36	0.013	0.013	6	
Edge2	802.11ac80	0	155	5775	13.50	13.36	0.665	0.687	7	
Edge2 tilt	802.11ac80	0	155	5775	13.50	13.36	0.941	0.972	8	
Edge3	802.11ac80	0	155	5775	13.50	13.36	0.028	0.029	9	
Rear	802.11ac80	0	155	5775	13.50	13.36	0.137	0.141	10	

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13.5. 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	9.00	7.83				
			39	2441	9.00	8.05	0.0000489	0.0000609	1	
			78	2480	9.00	7.97				
Edge2	DH5	0	0	2402	9.00	7.83				
			39	2441	9.00	8.05	0.159	0.198	2	
			78	2480	9.00	7.97				
Edge2 tilt	DH5	0	0	2402	9.00	7.83				
			39	2441	9.00	8.05	0.165	0.205	3	
			78	2480	9.00	7.97				
Edge3	DH5	0	0	2402	9.00	7.83				
			39	2441	9.00	8.05	0.011	0.014	4	
			78	2480	9.00	7.97				
Rear	DH5	0	0	2402	9.00	7.83				
			39	2441	9.00	8.05	0.041	0.051	5	
			78	2480	9.00	7.97				

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. Summary of Highest SAR Values

Technology/ Band	Test configuration			Mode	Dist. (mm)	Freq. (MHz)	Power (dBm)	1g SAR (W/kg)
	Transmit Antenna	Exposure	Position					
WLAN 2.4 GHz	Main	Body	Edge 4 tilt	802.11b	0	2412	14.92	0.854
WLAN 5.2/5.3 GHz	Aux	Body	Edge 2 tilt	802.11ac80	0	5290	13.29	1.186
WLAN 5.5 GHz	Aux	Body	Edge 2 tilt	802.11ac80	0	5530	13.45	1.133
WLAN 5.8 GHz	Aux	Body	Edge 2 tilt	802.11ac80	0	5775	13.36	0.972
Bluetooth	Aux	Body	Edge 2 tilt	DH5	0	2441	8.05	0.205

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

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13.7. 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 when 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		
WLAN 2.4 GHz	Main	Body	Edge 4 tilt	802.11b	0	1	2412	0.838	0.816	1.027	1
WLAN 5.2/5.3 GHz	Aux	Body	Edge 2 tilt	802.11ac80	0	58	5290	1.130	1.130	1.000	2
WLAN 5.5 GHz	Aux	Body	Edge 2 tilt	802.11ac80	0	106	5530	1.120	1.120	1.000	3
WLAN 5.8 GHz	Aux	Body	Edge 2 tilt	802.11ac80	0	155	5775	0.941	0.936	1.005	4
Bluetooth	Aux	Body	Edge 2 tilt	DH5	0	39	2441	0.165	N/A	N/A	-

Note(s):

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

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14. Simultaneous Transmission SAR Analysis

1. Bluetooth and WLAN Aux cannot simultaneously transmit.
2. WLAN Main antenna is more than 20 cm away from Edge2 and Edge2 tilt. Stand-alone SAR test of Edge2 and Edge 2 tilt with WLAN Main antenna is excluded and Stand-alone Therefore the Simultaneous Transmission SAR Analysis isn't considered.
3. WLAN Aux antenna is more than 20 cm away from Edge4 and Edge4 tilt. Stand-alone SAR test of Edge4 and Edge4 tilt with WLAN Aux antenna is excluded. Therefore the Simultaneous Transmission SAR Analysis isn't considered.
4. All WWAN 1-g SAR values were taken from results recorded in SAR report 11506860H-A, submitted under FCC ID ACJ9TGWW16A.

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.014		0.0000609	0.933	
		1.085	0.014		0.0000609	1.099	
	0.919			0.013		0.932	
		1.085		0.013		1.098	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.014	0.013		0.946	
		1.085	0.014	0.013		1.112	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.014		0.0000609	0.171	
		0.271	0.014		0.0000609	0.285	
	0.157			0.013		0.170	
		0.271		0.013		0.284	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.014	0.013		0.184	
		0.271	0.014	0.013		0.298	
Edge 2, WLAN 1 Tx	0.026				0.198	0.224	
		0.0093			0.198	0.207	
	0.026			0.656		0.682	
		0.0093		0.656		0.665	
Edge 2 tilt, WLAN 1 Tx	0.017				0.205	0.222	
		0.013			0.205	0.218	
	0.017			0.701		0.718	
		0.013		0.701		0.714	
Edge 3, WLAN 1 Tx	0.114		0.044		0.014	0.172	
		0.00500	0.044		0.014	0.063	
	0.114			0.046		0.160	
		0.00500		0.046		0.051	
Edge 3, WLAN 2 Tx	0.114		0.044	0.046		0.204	
		0.00500	0.044	0.046		0.095	
Edge 4, WLAN 1 Tx	1.067		0.769			1.836	Table 1-1
		0.232	0.769			1.001	
Edge 4 tilt, WLAN 1 Tx	0.798		0.854			1.652	Table 1-2
		0.207	0.854			1.061	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.096		0.051	0.794	
		0.703	0.096		0.051	0.850	
	0.647			0.135		0.782	
		0.703		0.135		0.838	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.096	0.135		0.878	
		0.703	0.096	0.135		0.934	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.096		0.051	0.697	
		0.489	0.096		0.051	0.636	
	0.550			0.135		0.685	
		0.489		0.135		0.624	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.096	0.135		0.781	
		0.489	0.096	0.135		0.720	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 1-1

Test Position	① WCDMA Band2	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.769			① + ②	1.836	179.5	0.014	No	X1

Table 1-2

Test Position	① WCDMA Band2	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tit, WLAN 1 Tx	0.798	0.854			① + ②	1.652	171.2	0.012	No	X2

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.049		0.0000609	0.968	
		1.085	0.049		0.0000609	1.134	
	0.919			0.030		0.949	
		1.085		0.030		1.115	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.049	0.030		0.998	
		1.085	0.049	0.030		1.164	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.049		0.0000609	0.206	
		0.271	0.049		0.0000609	0.320	
	0.157			0.030		0.187	
		0.271		0.030		0.301	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.049	0.030		0.236	
		0.271	0.049	0.030		0.350	
Edge 2, WLAN 1 Tx	0.026				0.198	0.224	
		0.0093			0.198	0.207	
	0.026			1.102		1.128	
		0.0093		1.102		1.111	
Edge 2 tilt, WLAN 1 Tx	0.017				0.205	0.222	
		0.013			0.205	0.218	
	0.017			1.186		1.203	
		0.013		1.186		1.199	
Edge 3, WLAN 1 Tx	0.114		0.016		0.014	0.144	
		0.00500	0.016		0.014	0.035	
	0.114			0.122		0.236	
		0.00500		0.122		0.127	
Edge 3, WLAN 2 Tx	0.114		0.016	0.122		0.252	
		0.00500	0.016	0.122		0.143	
Edge 4, WLAN 1 Tx	1.067		0.620			1.687	Table 2-1
		0.232	0.620			0.852	
Edge 4 tilt, WLAN 1 Tx	0.798		0.763			1.561	
		0.207	0.763			0.970	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.076		0.051	0.774	
		0.703	0.076		0.051	0.830	
	0.647			0.107		0.754	
		0.703		0.107		0.810	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.076	0.107		0.830	
		0.703	0.076	0.107		0.886	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.076		0.051	0.677	
		0.489	0.076		0.051	0.616	
	0.550			0.107		0.657	
		0.489		0.107		0.596	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.076	0.107		0.733	
		0.489	0.076	0.107		0.672	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 2-1

Test Position	① WCDMA Band2	② WLAN 5.3GHz (Main Ant)	③ WLAN 5.3GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.620			① + ②	1.687	166.0	0.013	No	X3

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.086		0.0000609	1.005	
		1.085	0.086		0.0000609	1.171	
	0.919			0.017		0.936	
		1.085		0.017		1.102	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.086	0.017		1.022	
		1.085	0.086	0.017		1.188	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.086		0.0000609	0.243	
		0.271	0.086		0.0000609	0.357	
	0.157			0.017		0.174	
		0.271		0.017		0.288	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.086	0.017		0.260	
		0.271	0.086	0.017		0.374	
Edge 2, WLAN 1 Tx	0.026				0.198	0.224	
		0.0093			0.198	0.207	
	0.026			1.012		1.038	
		0.0093		1.012		1.021	
Edge 2 tilt, WLAN 1 Tx	0.017				0.205	0.222	
		0.013			0.205	0.218	
	0.017			1.133		1.150	
		0.013		1.133		1.146	
Edge 3, WLAN 1 Tx	0.114		0.000		0.014	0.128	
		0.00500	0.000		0.014	0.019	
	0.114			0.077		0.191	
		0.00500		0.077		0.082	
Edge 3, WLAN 2 Tx	0.114		0.000	0.077		0.191	
		0.00500	0.000	0.077		0.082	
Edge 4, WLAN 1 Tx	1.067		0.609			1.676	Table 3-1
		0.232	0.609			0.841	
Edge 4 tilt, WLAN 1 Tx	0.798		0.741			1.539	
		0.207	0.741			0.948	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.092		0.051	0.790	
		0.703	0.092		0.051	0.846	
	0.647			0.140		0.787	
		0.703		0.140		0.843	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.092	0.140		0.879	
		0.703	0.092	0.140		0.935	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.092		0.051	0.693	
		0.489	0.092		0.051	0.632	
	0.550			0.140		0.690	
		0.489		0.140		0.629	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.092	0.140		0.782	
		0.489	0.092	0.140		0.721	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 3-1

Test Position	① WCDMA Band2	② WLAN 5.5GHz (Main Ant)	③ WLAN 5.5GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.609			① + ②	1.676	159.1	0.014	No	X4

Conclusion:

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

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	WCDMA 2	WCDMA 4	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919		0.065		0.0000609	0.984	
		1.085	0.065		0.0000609	1.150	
	0.919			0.013		0.932	
		1.085		0.013		1.098	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919		0.065	0.013		0.997	
		1.085	0.065	0.013		1.163	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.157		0.065		0.0000609	0.222	
		0.271	0.065		0.0000609	0.336	
	0.157			0.013		0.170	
		0.271		0.013		0.284	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.157		0.065	0.013		0.235	
		0.271	0.065	0.013		0.349	
Edge 2, WLAN 1 Tx	0.026				0.198	0.224	
		0.0093			0.198	0.207	
	0.026			0.687		0.713	
		0.0093		0.687		0.696	
Edge 2 tilt, WLAN 1 Tx	0.017				0.205	0.222	
		0.013			0.205	0.218	
	0.017			0.972		0.989	
		0.013		0.972		0.985	
Edge 3, WLAN 1 Tx	0.114		0.0000162		0.014	0.128	
		0.00500	0.0000162		0.014	0.019	
	0.114			0.029		0.143	
		0.00500		0.029		0.034	
Edge 3, WLAN 2 Tx	0.114		0.0000162	0.029		0.143	
		0.00500	0.0000162	0.029		0.034	
Edge 4, WLAN 1 Tx	1.067		0.711			1.778	Table 4-1
		0.232	0.711			0.943	
Edge 4 tilt, WLAN 1 Tx	0.798		0.831			1.629	Table 4-2
		0.207	0.831			1.038	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.647		0.116		0.051	0.814	
		0.703	0.116		0.051	0.870	
	0.647			0.141		0.788	
		0.703		0.141		0.844	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.647		0.116	0.141		0.904	
		0.703	0.116	0.141		0.960	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.550		0.116		0.051	0.717	
		0.489	0.116		0.051	0.656	
	0.550			0.141		0.691	
		0.489		0.141		0.630	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.550		0.116	0.141		0.807	
		0.489	0.116	0.141		0.746	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 4-1

Test Position	① WCDMA Band2	② WLAN 5.8GHz (Main Ant)	③ WLAN 5.8GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	1.067	0.711			① + ②	1.778	157.0	0.015	No	X5

Table 4-2

Test Position	① WCDMA Band2	② WLAN 5.8GHz (Main Ant)	③ WLAN 5.8GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.798	0.831			① + ②	1.629	159.2	0.013	No	X6

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.014		0.0000609	0.771	
	0.757		0.013		0.770	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.014	0.013		0.784	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.014		0.0000609	0.121	
	0.107		0.013		0.120	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.014	0.013		0.134	
Edge 2, WLAN 1 Tx	0.00988			0.198	0.208	
	0.00988		0.656		0.666	
Edge 2 tilt, WLAN 1 Tx	0.0155			0.205	0.221	
	0.0155		0.701		0.717	
Edge 3, WLAN 1 Tx	0.052	0.044		0.014	0.110	
	0.052		0.046		0.098	
Edge 3, WLAN 2 Tx	0.052	0.044	0.046		0.142	
Edge 4, WLAN 1 Tx	0.218	0.769			0.987	
Edge 4 tilt, WLAN 1 Tx	0.347	0.854			1.201	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.096		0.051	0.410	
	0.263		0.135		0.398	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.096	0.135		0.494	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.096		0.051	0.303	
	0.156		0.135		0.291	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.096	0.135		0.387	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.049		0.0000609	0.806	
	0.757		0.030		0.787	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.049	0.030		0.836	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.049		0.0000609	0.156	
	0.107		0.030		0.137	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.049	0.030		0.186	
Edge 2, WLAN 1 Tx	0.00988			0.198	0.208	
	0.00988		1.102		1.112	
Edge 2 tilt, WLAN 1 Tx	0.0155			0.205	0.221	
	0.0155		1.186		1.202	
Edge 3, WLAN 1 Tx	0.052	0.016		0.014	0.082	
	0.052		0.122		0.174	
Edge 3, WLAN 2 Tx	0.052	0.016	0.122		0.190	
Edge 4, WLAN 1 Tx	0.218	0.620			0.838	
Edge 4 tilt, WLAN 1 Tx	0.347	0.763			1.110	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.076		0.051	0.390	
	0.263		0.107		0.370	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.076	0.107		0.446	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.076		0.051	0.283	
	0.156		0.107		0.263	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.076	0.107		0.339	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.086		0.0000609	0.843	
	0.757		0.017		0.774	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.086	0.017		0.860	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.086		0.0000609	0.193	
	0.107		0.017		0.124	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.086	0.017		0.210	
Edge 2, WLAN 1 Tx	0.00988			0.198	0.208	
	0.00988		1.012		1.022	
Edge 2 tilt, WLAN 1 Tx	0.0155			0.205	0.221	
	0.0155		1.133		1.149	
Edge 3, WLAN 1 Tx	0.052	0.000		0.014	0.066	
	0.052		0.077		0.129	
Edge 3, WLAN 2 Tx	0.052	0.000	0.077		0.129	
Edge 4, WLAN 1 Tx	0.218	0.609			0.827	
Edge 4 tilt, WLAN 1 Tx	0.347	0.741			1.088	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.092		0.051	0.406	
	0.263		0.140		0.403	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.092	0.140		0.495	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.092		0.051	0.299	
	0.156		0.140		0.296	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.092	0.140		0.388	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	WCDMA 5	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.757	0.065		0.0000609	0.822	
	0.757		0.013		0.770	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.757	0.065	0.013		0.835	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.107	0.065		0.0000609	0.172	
	0.107		0.013		0.120	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.107	0.065	0.013		0.185	
Edge 2, WLAN 1 Tx	0.0155			0.198	0.214	
	0.0155		0.687		0.703	
Edge 2 tilt, WLAN 1 Tx	0.00645			0.205	0.211	
	0.00645		0.972		0.978	
Edge 3, WLAN 1 Tx	0.052	0.0000162		0.014	0.066	
	0.052		0.029		0.081	
Edge 3, WLAN 2 Tx	0.052	0.0000162	0.029		0.081	
Edge 4, WLAN 1 Tx	0.218	0.711			0.929	
Edge 4 tilt, WLAN 1 Tx	0.347	0.831			1.178	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.263	0.116		0.051	0.430	
	0.263		0.141		0.404	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.263	0.116	0.141		0.520	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.156	0.116		0.051	0.323	
	0.156		0.141		0.297	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.156	0.116	0.141		0.413	

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

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.014		0.0000609	1.036	
	1.022		0.013		1.035	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.014	0.013		1.049	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.014		0.0000609	0.279	
	0.265		0.013		0.278	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.014	0.013		0.292	
Edge 2, WLAN 1 Tx	0.00843			0.198	0.206	
	0.00843		0.656		0.664	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.205	0.216	
	0.01144		0.701		0.712	
Edge 3, WLAN 1 Tx	0.00648	0.044		0.014	0.064	
	0.00648		0.046		0.052	
Edge 3, WLAN 2 Tx	0.00648	0.044	0.046		0.096	
Edge 4, WLAN 1 Tx	0.251	0.769			1.020	
Edge 4 tilt, WLAN 1 Tx	0.197	0.854			1.051	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.096		0.051	0.923	
	0.776		0.135		0.911	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.096	0.135		1.007	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.096		0.051	0.647	
	0.500		0.135		0.635	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.096	0.135		0.731	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.049		0.0000609	1.071	
	1.022		0.030		1.052	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.049	0.030		1.101	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.049		0.0000609	0.314	
	0.265		0.030		0.295	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.049	0.030		0.344	
Edge 2, WLAN 1 Tx	0.00843			0.198	0.206	
	0.00843		1.102		1.110	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.205	0.216	
	0.01144		1.186		1.197	
Edge 3, WLAN 1 Tx	0.00648	0.016		0.014	0.037	
	0.00648		0.122		0.128	
Edge 3, WLAN 2 Tx	0.00648	0.016	0.122		0.145	
Edge 4, WLAN 1 Tx	0.251	0.620			0.871	
Edge 4 tilt, WLAN 1 Tx	0.197	0.763			0.960	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.076		0.051	0.903	
	0.776		0.107		0.883	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.076	0.107		0.959	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.076		0.051	0.627	
	0.500		0.107		0.607	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.076	0.107		0.683	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.086		0.0000609	1.108	
	1.022		0.017		1.039	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.086	0.017		1.125	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.086		0.0000609	0.351	
	0.265		0.017		0.282	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.086	0.017		0.368	
Edge 2, WLAN 1 Tx	0.00843			0.198	0.206	
	0.00843		1.012		1.020	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.205	0.216	
	0.01144		1.133		1.144	
Edge 3, WLAN 1 Tx	0.00648	0.000		0.014	0.020	
	0.00648		0.077		0.083	
Edge 3, WLAN 2 Tx	0.00648	0.000	0.077		0.083	
Edge 4, WLAN 1 Tx	0.251	0.609			0.860	
Edge 4 tilt, WLAN 1 Tx	0.197	0.741			0.938	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.092		0.051	0.919	
	0.776		0.140		0.916	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.092	0.140		1.008	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.092		0.051	0.643	
	0.500		0.140		0.640	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.092	0.140		0.732	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 4	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.022	0.065		0.0000609	1.087	
	1.022		0.013		1.035	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.022	0.065	0.013		1.100	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.265	0.065		0.0000609	0.330	
	0.265		0.013		0.278	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.265	0.065	0.013		0.343	
Edge 2, WLAN 1 Tx	0.00843			0.198	0.206	
	0.00843		0.687		0.695	
Edge 2 tilt, WLAN 1 Tx	0.01144			0.205	0.216	
	0.01144		0.972		0.983	
Edge 3, WLAN 1 Tx	0.00648	0.0000162		0.014	0.020	
	0.00648		0.029		0.035	
Edge 3, WLAN 2 Tx	0.00648	0.0000162	0.029		0.035	
Edge 4, WLAN 1 Tx	0.251	0.711			0.962	
Edge 4 tilt, WLAN 1 Tx	0.197	0.831			1.028	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.776	0.116		0.051	0.943	
	0.776		0.141		0.917	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.776	0.116	0.141		1.033	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.500	0.116		0.051	0.667	
	0.500		0.141		0.641	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.500	0.116	0.141		0.757	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.014		0.000609	1.020	
	1.005		0.013		1.018	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.014	0.013		1.032	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.096		0.051	0.547	
	0.400		0.135		0.535	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.096	0.135		0.631	

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.049		0.0000609	1.054	
	1.005		0.030		1.035	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.049	0.030		1.084	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.076		0.051	0.527	
	0.400		0.107		0.507	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.076	0.107		0.583	

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.086		0.0000609	1.091	
	1.005		0.017		1.022	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.086	0.017		1.108	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.092		0.051	0.543	
	0.400		0.140		0.540	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.092	0.140		0.632	

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 5	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.005	0.065		0.0000609	1.070	
	1.005		0.013		1.018	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.005	0.065	0.013		1.083	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.400	0.116		0.051	0.567	
	0.400		0.141		0.541	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.400	0.116	0.141		0.657	

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.014		0.0000609	0.913	
	0.899		0.013		0.912	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.014	0.013		0.926	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.014		0.0000609	0.391	
	0.377		0.013		0.390	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.014	0.013		0.404	
Edge 2, WLAN 1 Tx	0.059			0.198	0.257	
	0.059		0.656		0.715	
Edge 2 tilt, WLAN 1 Tx	0.033			0.205	0.238	
	0.033		0.701		0.734	
Edge 3, WLAN 1 Tx	0.019	0.044		0.014	0.077	
	0.019		0.046		0.065	
Edge 3, WLAN 2 Tx	0.019	0.044	0.046		0.109	
Edge 4, WLAN 1 Tx	0.285	0.769			1.054	
Edge 4 tilt, WLAN 1 Tx	0.319	0.854			1.173	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.096		0.051	0.641	
	0.494		0.135		0.629	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.096	0.135		0.725	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.096		0.051	0.509	
	0.362		0.135		0.497	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.096	0.135		0.593	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.049		0.0000609	0.948	
	0.899		0.030		0.929	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.049	0.030		0.978	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.049		0.0000609	0.426	
	0.377		0.030		0.407	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.049	0.030		0.456	
Edge 2, WLAN 1 Tx	0.059			0.198	0.257	
	0.059		1.102		1.161	
Edge 2 tilt, WLAN 1 Tx	0.033			0.205	0.238	
	0.033		1.186		1.219	
Edge 3, WLAN 1 Tx	0.019	0.016		0.014	0.049	
	0.019		0.122		0.141	
Edge 3, WLAN 2 Tx	0.019	0.016	0.122		0.157	
Edge 4, WLAN 1 Tx	0.285	0.620			0.905	
Edge 4 tilt, WLAN 1 Tx	0.319	0.763			1.082	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.076		0.051	0.621	
	0.494		0.107		0.601	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.076	0.107		0.677	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.076		0.051	0.489	
	0.362		0.107		0.469	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.076	0.107		0.545	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.086		0.0000609	0.985	
	0.899		0.017		0.916	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.086	0.017		1.002	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.086		0.0000609	0.463	
	0.377		0.017		0.394	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.086	0.017		0.480	
Edge 2, WLAN 1 Tx	0.059			0.198	0.257	
	0.059		1.012		1.071	
Edge 2 tilt, WLAN 1 Tx	0.033			0.205	0.238	
	0.033		1.133		1.166	
Edge 3, WLAN 1 Tx	0.019	0.000		0.014	0.033	
	0.019		0.077		0.096	
Edge 3, WLAN 2 Tx	0.019	0.000	0.077		0.096	
Edge 4, WLAN 1 Tx	0.285	0.609			0.894	
Edge 4 tilt, WLAN 1 Tx	0.319	0.741			1.060	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.092		0.051	0.637	
	0.494		0.140		0.634	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.092	0.140		0.726	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.092		0.051	0.505	
	0.362		0.140		0.502	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.092	0.140		0.594	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 7	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.899	0.065		0.0000609	0.964	
	0.899		0.013		0.912	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.899	0.065	0.013		0.977	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.377	0.065		0.0000609	0.442	
	0.377		0.013		0.390	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.377	0.065	0.013		0.455	
Edge 2, WLAN 1 Tx	0.059			0.198	0.257	
	0.059		0.687		0.746	
Edge 2 tilt, WLAN 1 Tx	0.033			0.205	0.238	
	0.033		0.972		1.005	
Edge 3, WLAN 1 Tx	0.019	0.0000162		0.014	0.033	
	0.019		0.029		0.048	
Edge 3, WLAN 2 Tx	0.019	0.0000162	0.029		0.048	
Edge 4, WLAN 1 Tx	0.285	0.711			0.996	
Edge 4 tilt, WLAN 1 Tx	0.319	0.831			1.150	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.494	0.116		0.051	0.661	
	0.494		0.141		0.635	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.494	0.116	0.141		0.751	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.362	0.116		0.051	0.529	
	0.362		0.141		0.503	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.362	0.116	0.141		0.619	

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.014		0.0000609	1.035	
		1.086	0.014		0.0000609	1.100	
	1.021			0.013		1.034	
		1.086		0.013		1.099	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.014	0.013		1.048	
		1.086	0.014	0.013		1.113	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.014		0.0000609	0.052	
		0.174	0.014		0.0000609	0.188	
	0.038			0.013		0.051	
		0.174		0.013		0.187	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.014	0.013		0.065	
		0.174	0.014	0.013		0.201	
Edge 2, WLAN 1 Tx	0.014				0.198	0.212	
		0.020			0.198	0.218	
	0.014			0.656		0.670	
		0.020		0.656		0.676	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.205	0.216	
		0.028			0.205	0.233	
	0.01114			0.701		0.712	
		0.028		0.701		0.729	
Edge 3, WLAN 1 Tx	0.024		0.044		0.014	0.082	
		0.082	0.044		0.014	0.140	
	0.024			0.046		0.070	
		0.082		0.046		0.128	
Edge 3, WLAN 2 Tx	0.024		0.044	0.046		0.114	
		0.082	0.044	0.046		0.172	
Edge 4, WLAN 1 Tx	0.162		0.769			0.931	
		0.357	0.769			1.126	
Edge 4 tilt, WLAN 1 Tx	0.158		0.854			1.012	
		0.422	0.854			1.276	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.096		0.051	0.650	
		0.547	0.096		0.051	0.694	
	0.503			0.135		0.638	
		0.547		0.135		0.682	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.096	0.135		0.734	
		0.547	0.096	0.135		0.778	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.096		0.051	0.234	
		0.261	0.096		0.051	0.408	
	0.087			0.135		0.222	
		0.261		0.135		0.396	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.096	0.135		0.318	
		0.261	0.096	0.135		0.492	

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.049		0.0000609	1.070	
		1.086	0.049		0.0000609	1.135	
	1.021			0.030		1.051	
		1.086		0.030		1.116	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.049	0.030		1.100	
		1.086	0.049	0.030		1.165	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.049		0.0000609	0.087	
		0.174	0.049		0.0000609	0.223	
	0.038			0.030		0.068	
		0.174		0.030		0.204	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.049	0.030		0.117	
		0.174	0.049	0.030		0.253	
Edge 2, WLAN 1 Tx	0.014				0.198	0.212	
		0.020			0.198	0.218	
	0.014			1.102		1.116	
		0.020		1.102		1.122	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.205	0.216	
		0.028			0.205	0.233	
	0.01114			1.186		1.197	
		0.028		1.186		1.214	
Edge 3, WLAN 1 Tx	0.024		0.016		0.014	0.054	
		0.082	0.016		0.014	0.112	
	0.024			0.122		0.146	
		0.082		0.122		0.204	
Edge 3, WLAN 2 Tx	0.024		0.016	0.122		0.162	
		0.082	0.016	0.122		0.220	
Edge 4, WLAN 1 Tx	0.162		0.620			0.782	
		0.357	0.620			0.977	
Edge 4 tilt, WLAN 1 Tx	0.158		0.763			0.921	
		0.422	0.763			1.185	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.076		0.051	0.630	
		0.547	0.076		0.051	0.674	
	0.503			0.107		0.610	
		0.547		0.107		0.654	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.076	0.107		0.686	
		0.547	0.076	0.107		0.730	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.076		0.051	0.214	
		0.261	0.076		0.051	0.388	
	0.087			0.107		0.194	
		0.261		0.107		0.368	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.076	0.107		0.270	
		0.261	0.076	0.107		0.444	

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.086		0.0000609	1.107	
		1.086	0.086		0.0000609	1.172	
	1.021			0.017		1.038	
		1.086		0.017		1.103	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.086	0.017		1.124	
		1.086	0.086	0.017		1.189	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.086		0.0000609	0.124	
		0.174	0.086		0.0000609	0.260	
	0.038			0.017		0.055	
		0.174		0.017		0.191	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.086	0.017		0.141	
		0.174	0.086	0.017		0.277	
Edge 2, WLAN 1 Tx	0.014				0.198	0.212	
		0.020			0.198	0.218	
	0.014			1.012		1.026	
		0.020		1.012		1.032	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.205	0.216	
		0.028			0.205	0.233	
	0.01114			1.133		1.144	
		0.028		1.133		1.161	
Edge 3, WLAN 1 Tx	0.024		0.000		0.014	0.038	
		0.082	0.000		0.014	0.096	
	0.024			0.077		0.101	
		0.082		0.077		0.159	
Edge 3, WLAN 2 Tx	0.024		0.000	0.077		0.101	
		0.082	0.000	0.077		0.159	
Edge 4, WLAN 1 Tx	0.162		0.609			0.771	
		0.357	0.609			0.966	
Edge 4 tilt, WLAN 1 Tx	0.158		0.741			0.899	
		0.422	0.741			1.163	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.092		0.051	0.646	
		0.547	0.092		0.051	0.690	
	0.503			0.140		0.643	
		0.547		0.140		0.687	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.092	0.140		0.735	
		0.547	0.092	0.140		0.779	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.092		0.051	0.230	
		0.261	0.092		0.051	0.404	
	0.087			0.140		0.227	
		0.261		0.140		0.401	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.092	0.140		0.319	
		0.261	0.092	0.140		0.493	

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

Test Position	Data					∑ 1-g SAR (mW/g)	Remark
	LTE 12	LTE 13	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	1.021		0.065		0.0000609	1.086	
		1.086	0.065		0.0000609	1.151	
	1.021			0.013		1.034	
		1.086		0.013		1.099	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	1.021		0.065	0.013		1.099	
		1.086	0.065	0.013		1.164	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.038		0.065		0.0000609	0.103	
		0.174	0.065		0.0000609	0.239	
	0.038			0.013		0.051	
		0.174		0.013		0.187	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.038		0.065	0.013		0.116	
		0.174	0.065	0.013		0.252	
Edge 2, WLAN 1 Tx	0.014				0.198	0.212	
		0.020			0.198	0.218	
	0.014			0.687		0.701	
		0.020		0.687		0.707	
Edge 2 tilt, WLAN 1 Tx	0.01114				0.205	0.216	
		0.028			0.205	0.233	
	0.01114			0.972		0.983	
		0.028		0.972		1.000	
Edge 3, WLAN 1 Tx	0.024		0.0000162		0.014	0.038	
		0.082	0.0000162		0.014	0.096	
	0.024			0.029		0.053	
		0.082		0.029		0.111	
Edge 3, WLAN 2 Tx	0.024		0.0000162	0.029		0.053	
		0.082	0.0000162	0.029		0.111	
Edge 4, WLAN 1 Tx	0.162		0.711			0.873	
		0.357	0.711			1.068	
Edge 4 tilt, WLAN 1 Tx	0.158		0.831			0.989	
		0.422	0.831			1.253	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.503		0.116		0.051	0.670	
		0.547	0.116		0.051	0.714	
	0.503			0.141		0.644	
		0.547		0.141		0.688	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.503		0.116	0.141		0.760	
		0.547	0.116	0.141		0.804	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.087		0.116		0.051	0.254	
		0.261	0.116		0.051	0.428	
	0.087			0.141		0.228	
		0.261		0.141		0.402	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.087		0.116	0.141		0.344	
		0.261	0.116	0.141		0.518	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.014		0.0000609	0.979	
	0.965		0.013		0.978	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.014	0.013		0.992	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.014		0.0000609	0.165	
	0.151		0.013		0.164	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.014	0.013		0.178	
Edge 2, WLAN 1 Tx	0.022			0.198	0.220	
	0.022		0.656		0.678	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.205	0.212	
	0.00733		0.701		0.708	
Edge 3, WLAN 1 Tx	0.059	0.044		0.014	0.117	
	0.059		0.046		0.105	
Edge 3, WLAN 2 Tx	0.059	0.044	0.046		0.149	
Edge 4, WLAN 1 Tx	0.962	0.769			1.731	Table 26-1
Edge 4 tilt, WLAN 1 Tx	0.995	0.854			1.849	Table 26-2
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.096		0.051	0.854	
	0.707		0.135		0.842	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.096	0.135		0.938	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.096		0.051	0.539	
	0.392		0.135		0.527	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.096	0.135		0.623	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 26-1

Test Position	① LTE Band25	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	0.962	0.769			① + ②	1.731	174.5	0.013	No	X7

Table 26-2

Test Position	① LTE Band25	② WLAN 2.4GHz (Main Ant)	③ WLAN 2.4GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.854			① + ②	1.849	170.2	0.015	No	X8

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.049		0.0000609	1.014	
	0.965		0.030		0.995	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.049	0.030		1.044	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.049		0.0000609	0.200	
	0.151		0.030		0.181	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.049	0.030		0.230	
Edge 2, WLAN 1 Tx	0.022			0.198	0.220	
	0.022		1.102		1.124	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.205	0.212	
	0.00733		1.186		1.193	
Edge 3, WLAN 1 Tx	0.059	0.016		0.014	0.089	
	0.059		0.122		0.181	
Edge 3, WLAN 2 Tx	0.059	0.016	0.122		0.197	
Edge 4, WLAN 1 Tx	0.962	0.620			1.582	
Edge 4 tilt, WLAN 1 Tx	0.995	0.763			1.758	Table 27-1
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.076		0.051	0.834	
	0.707		0.107		0.814	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.076	0.107		0.890	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.076		0.051	0.519	
	0.392		0.107		0.499	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.076	0.107		0.575	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 27-1

Test Position	① LTE Band25	② WLAN 5.3GHz (Main Ant)	③ WLAN 5.3GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.763			① + ②	1.758	166.1	0.014	No	X9

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.086		0.0000609	1.051	
	0.965		0.017		0.982	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.086	0.017		1.068	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.086		0.0000609	0.237	
	0.151		0.017		0.168	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.086	0.017		0.254	
Edge 2, WLAN 1 Tx	0.022			0.198	0.220	
	0.022		1.012		1.034	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.205	0.212	
	0.00733		1.133		1.140	
Edge 3, WLAN 1 Tx	0.059	0.000		0.014	0.073	
	0.059		0.077		0.136	
Edge 3, WLAN 2 Tx	0.059	0.000	0.077		0.136	
Edge 4, WLAN 1 Tx	0.962	0.609			1.571	
Edge 4 tilt, WLAN 1 Tx	0.995	0.741			1.736	Table 28-1
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.092		0.051	0.850	
	0.707		0.140		0.847	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.092	0.140		0.939	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.092		0.051	0.535	
	0.392		0.140		0.532	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.092	0.140		0.624	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 28-1

Test Position	① LTE Band25	② WLAN 5.5GHz (Main Ant)	③ WLAN 5.5GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.741			① + ②	1.736	163.1	0.014	No	X10

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 25	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.965	0.065		0.0000609	1.030	
	0.965		0.013		0.978	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.965	0.065	0.013		1.043	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.151	0.065		0.0000609	0.216	
	0.151		0.013		0.164	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.151	0.065	0.013		0.229	
Edge 2, WLAN 1 Tx	0.022			0.198	0.220	
	0.022		0.687		0.709	
Edge 2 tilt, WLAN 1 Tx	0.00733			0.205	0.212	
	0.00733		0.972		0.979	
Edge 3, WLAN 1 Tx	0.059	0.0000162		0.014	0.073	
	0.059		0.029		0.088	
Edge 3, WLAN 2 Tx	0.059	0.0000162	0.029		0.088	
Edge 4, WLAN 1 Tx	0.962	0.711			1.673	Table 29-1
Edge 4 tilt, WLAN 1 Tx	0.995	0.831			1.826	Table 29-2
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.707	0.116		0.051	0.874	
	0.707		0.141		0.848	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.707	0.116	0.141		0.964	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.392	0.116		0.051	0.559	
	0.392		0.141		0.533	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.392	0.116	0.141		0.649	

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SAR to Peak Location Separation Ratio (SPLSR)

Table 29-1

Test Position	① LTE Band25	② WLAN 5.8GHz (Main Ant)	③ WLAN 5.8GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4, WLAN 1 Tx	0.962	0.711			① + ②	1.673	152.0	0.014	No	X11

Table 29-2

Test Position	① LTE Band25	② WLAN 5.8GHz (Main Ant)	③ WLAN 5.8GHz (Aux Ant)	④ BT (Aux Ant)	∑ 1-g SAR (mW/g)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
Edge 4 tilt, WLAN 1 Tx	0.995	0.831			① + ②	1.826	158.2	0.016	No	X12

Conclusion:

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

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.014		0.0000609	0.933	
	0.919		0.013		0.932	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.014	0.013		0.946	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.014		0.0000609	0.191	
	0.177		0.013		0.190	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.014	0.013		0.204	
Edge 2, WLAN 1 Tx	0.013			0.198	0.211	
	0.013		0.656		0.669	
Edge 2 tilt, WLAN 1 Tx	0.020			0.205	0.225	
	0.020		0.701		0.721	
Edge 3, WLAN 1 Tx	0.056	0.044		0.014	0.114	
	0.056		0.046		0.102	
Edge 3, WLAN 2 Tx	0.056	0.044	0.046		0.146	
Edge 4, WLAN 1 Tx	0.306	0.769			1.075	
Edge 4 tilt, WLAN 1 Tx	0.372	0.854			1.226	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.096		0.051	0.523	
	0.376		0.135		0.511	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.096	0.135		0.607	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.096		0.051	0.388	
	0.241		0.135		0.376	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.096	0.135		0.472	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.049		0.0000609	0.968	
	0.919		0.030		0.949	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.049	0.030		0.998	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.049		0.0000609	0.226	
	0.177		0.030		0.207	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.049	0.030		0.256	
Edge 2, WLAN 1 Tx	0.013			0.198	0.211	
	0.013		1.102		1.115	
Edge 2 tilt, WLAN 1 Tx	0.020			0.205	0.225	
	0.020		1.186		1.206	
Edge 3, WLAN 1 Tx	0.056	0.016		0.014	0.086	
	0.056		0.122		0.178	
Edge 3, WLAN 2 Tx	0.056	0.016	0.122		0.194	
Edge 4, WLAN 1 Tx	0.306	0.620			0.926	
Edge 4 tilt, WLAN 1 Tx	0.372	0.763			1.135	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.076		0.051	0.503	
	0.376		0.107		0.483	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.076	0.107		0.559	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.076		0.051	0.368	
	0.241		0.107		0.348	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.076	0.107		0.424	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.086		0.0000609	1.005	
	0.919		0.017		0.936	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.086	0.017		1.022	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.086		0.0000609	0.263	
	0.177		0.017		0.194	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.086	0.017		0.280	
Edge 2, WLAN 1 Tx	0.013			0.198	0.211	
	0.013		1.012		1.025	
Edge 2 tilt, WLAN 1 Tx	0.020			0.205	0.225	
	0.020		1.133		1.153	
Edge 3, WLAN 1 Tx	0.056	0.000		0.014	0.070	
	0.056		0.077		0.133	
Edge 3, WLAN 2 Tx	0.056	0.000	0.077		0.133	
Edge 4, WLAN 1 Tx	0.306	0.609			0.915	
Edge 4 tilt, WLAN 1 Tx	0.372	0.741			1.113	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.092		0.051	0.519	
	0.376		0.140		0.516	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.092	0.140		0.608	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.092		0.051	0.384	
	0.241		0.140		0.381	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.092	0.140		0.473	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 26	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.919	0.065		0.0000609	0.984	
	0.919		0.013		0.932	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.919	0.065	0.013		0.997	
Edge 1, WLAN 1 Tx 37mm → w/WWAN Full power	0.177	0.065		0.0000609	0.242	
	0.177		0.013		0.190	
Edge 1, WLAN 2 Tx 37mm → w/WWAN Full power	0.177	0.065	0.013		0.255	
Edge 2, WLAN 1 Tx	0.013			0.198	0.211	
	0.013		0.687		0.700	
Edge 2 tilt, WLAN 1 Tx	0.020			0.205	0.225	
	0.020		0.972		0.992	
Edge 3, WLAN 1 Tx	0.056	0.0000162		0.014	0.070	
	0.056		0.029		0.085	
Edge 3, WLAN 2 Tx	0.056	0.0000162	0.029		0.085	
Edge 4, WLAN 1 Tx	0.306	0.711			1.017	
Edge 4 tilt, WLAN 1 Tx	0.372	0.831			1.203	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.376	0.116		0.051	0.543	
	0.376		0.141		0.517	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.376	0.116	0.141		0.633	
Rear, WLAN 1 Tx 20mm → w/WWAN Full power	0.241	0.116		0.051	0.408	
	0.241		0.141		0.382	
Rear, WLAN 2 Tx 20mm → w/WWAN Full power	0.241	0.116	0.141		0.498	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 2.4 GHz Main	WLAN 2.4 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.014		0.0000609	0.610	
	0.596		0.013		0.609	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.014	0.013		0.623	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.014		0.0000609	0.185	
	0.171		0.013		0.184	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.014	0.013		0.198	
Edge 2, WLAN 1 Tx	0.00708			0.198	0.205	
	0.00708		0.656		0.663	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.205	0.215	
	0.0099		0.701		0.711	
Edge 3, WLAN 1 Tx	0.00797	0.044		0.014	0.066	
	0.00797		0.046		0.054	
Edge 3, WLAN 2 Tx	0.00797	0.044	0.046		0.098	
Edge 4, WLAN 1 Tx	0.179	0.769			0.948	
Edge 4 tilt, WLAN 1 Tx	0.156	0.854			1.010	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.096		0.051	0.581	
	0.434		0.135		0.569	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.096	0.135		0.665	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.096		0.051	0.378	
	0.231		0.135		0.366	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.096	0.135		0.462	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 5.3 GHz Main	WLAN 5.3 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.049		0.0000609	0.645	
	0.596		0.030		0.626	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.049	0.030		0.675	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.049		0.0000609	0.220	
	0.171		0.030		0.201	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.049	0.030		0.250	
Edge 2, WLAN 1 Tx	0.00708			0.198	0.205	
	0.00708		1.102		1.109	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.205	0.215	
	0.0099		1.186		1.196	
Edge 3, WLAN 1 Tx	0.00797	0.016		0.014	0.038	
	0.00797		0.122		0.130	
Edge 3, WLAN 2 Tx	0.00797	0.016	0.122		0.146	
Edge 4, WLAN 1 Tx	0.179	0.620			0.799	
Edge 4 tilt, WLAN 1 Tx	0.156	0.763			0.919	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.076		0.051	0.561	
	0.434		0.107		0.541	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.076	0.107		0.617	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.076		0.051	0.358	
	0.231		0.107		0.338	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.076	0.107		0.414	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 5.5 GHz Main	WLAN 5.5 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.086		0.0000609	0.682	
	0.596		0.017		0.613	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.086	0.017		0.699	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.086		0.0000609	0.257	
	0.171		0.017		0.188	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.086	0.017		0.274	
Edge 2, WLAN 1 Tx	0.00708			0.198	0.205	
	0.00708		1.012		1.019	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.205	0.215	
	0.0099		1.133		1.143	
Edge 3, WLAN 1 Tx	0.00797	0.000		0.014	0.022	
	0.00797		0.077		0.085	
Edge 3, WLAN 2 Tx	0.00797	0.000	0.077		0.085	
Edge 4, WLAN 1 Tx	0.179	0.609			0.788	
Edge 4 tilt, WLAN 1 Tx	0.156	0.741			0.897	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.092		0.051	0.577	
	0.434		0.140		0.574	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.092	0.140		0.666	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.092		0.051	0.374	
	0.231		0.140		0.371	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.092	0.140		0.463	

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

Test Position	Data				∑ 1-g SAR (mW/g)	Remark
	LTE 41	WLAN 5.8 GHz Main	WLAN 5.8 GHz Aux	Bluetooth		
Edge 1, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.596	0.065		0.0000609	0.661	
	0.596		0.013		0.609	
Edge 1, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.596	0.065	0.013		0.674	
Edge 1, WLAN 1 Tx 39mm → w/WWAN Full power	0.171	0.065		0.0000609	0.236	
	0.171		0.013		0.184	
Edge 1, WLAN 2 Tx 39mm → w/WWAN Full power	0.171	0.065	0.013		0.249	
Edge 2, WLAN 1 Tx	0.00708			0.198	0.205	
	0.00708		0.687		0.694	
Edge 2 tilt, WLAN 1 Tx	0.0099			0.205	0.215	
	0.0099		0.972		0.982	
Edge 3, WLAN 1 Tx	0.00797	0.0000162		0.014	0.022	
	0.00797		0.029		0.037	
Edge 3, WLAN 2 Tx	0.00797	0.0000162	0.029		0.037	
Edge 4, WLAN 1 Tx	0.179	0.711			0.890	
Edge 4 tilt, WLAN 1 Tx	0.156	0.831			0.987	
Rear, WLAN 1 Tx 0mm → w/WWAN Power reduction	0.434	0.116		0.051	0.601	
	0.434		0.141		0.575	
Rear, WLAN 2 Tx 0mm → w/WWAN Power reduction	0.434	0.116	0.141		0.691	
Rear, WLAN 1 Tx 21mm → w/WWAN Full power	0.231	0.116		0.051	0.398	
	0.231		0.141		0.372	
Rear, WLAN 2 Tx 21mm → w/WWAN Full power	0.231	0.116	0.141		0.488	

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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 WLAN 2.4 GHz Band

15.3. SAR Test Plots for WLAN 5.2/5.3 GHz Bands

15.4. SAR Test Plots for WLAN 5.5 GHz Bands

15.5. SAR Test Plots for WLAN 5.8 GHz Bands

15.6. SAR Test Plots for Bluetooth

15.7. SAR Test Plots for Repeat Measurement

15.8. Calibration Certificate for E-Field Probe EX3DV4 - SN 3917

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

15.10. Calibration Certificate for D2450V2 - SN 713

15.11. Calibration Certificate for D5GHzV2 - SN 1020

15.12. SAR Tissue Ingredients

15.13. SAR peak separation for SPLSR

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