SAR EVALUATION REPORT

IEEE Std 1528-2013

For
GSM/WCDMA/LTE phone with BT, DTS/UNII a/b/g/n/ac/11ax HE 20/40/80, ANT+ and NFC

FCC ID: A3LSMG975F
Model Name: SM-G975F/DS, SM-G975F

Report Number: 12563708-S1V2
Issue Date: 1/29/2019

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Date	Revisions	Revised By
V1	1/25/2019	Initial Issue	--
V2	1/29/2019	Section 4.3: Updated Tables Section 6.5: Updated section Section 9.6: Updated Tune-up limits Removed U-NII I test results Appendix D: Updated Highest SAR test plots Appendix G: Added Probe Appendix H: Updated plots	Coltyce Sanders

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1. Attestation of Test Results

Applicant Name		Samsung Electronics Co., Ltd.			
FCC ID		A3LSMG975F			
Model Name		SM-G975F/DS, SM-G975F			
Applicable Standards		FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
Exposure Category		SAR Limits (W/Kg)			
		Peak spatial-average (1g of tissue)		Extremities (hands, wrists, ankles, etc.) (10g of tissue)	
General population / Uncontrolled exposure		1.6		4	
RF Exposure Conditions		Equipment Class - Highest Reported SAR (W/kg)			
		PCE	DTS	NII	DSS
Head		0.320	1.060	0.444	0.919
Body-worn		0.773	0.147	1.029	0.083
Hotspot		1.388	0.367	1.171	0.194
Product specific 10g		3.243	N/A	2.899	N/A
Simultaneous TX	Head	1.583	1.513	1.583	1.583
	Body-worn	1.594	1.594	1.594	1.500
	Hotspot	1.594	1.594	1.594	1.578
	Product Specific 10g	3.740	N/A	3.740	N/A
Date Tested		11/12/2018 to 1/29/2019			
Test Results		Pass			

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released By:	Prepared By:
	
Dave Weaver Operations Leader UL Verification Services Inc.	AJ Newcomer Laboratory Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

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:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 648474 D04 Handset SAR v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- 941225 D06 Hotspot Mode v02r01

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

- TCB workshop October 2014; RF Exposure Procedures (Other LTE Considerations)
- TCB workshop April 2015; RF Exposure Procedures (Overlapping LTE Bands)
- TCB workshop October 2015; RF Exposure Procedures (KDB 941225 D05A)
- TCB workshop April 2016; RF Exposure Procedures (LTE Carrier Aggregation for DL)
- TCB workshop October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- TCB workshop October 2016; RF Exposure Procedures (DUT Holder Perturbations)
- TCB workshop May 2017; RF Exposure Procedures (Broadband Liquid Above 3 GHz)
- TCB workshop May 2017; RF Exposure Procedures (LTE Band 41 Power Class 2)
- TCB workshop April 2018; RF Exposure Procedures (LTE DL CA SAR Test Exclusion)

3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

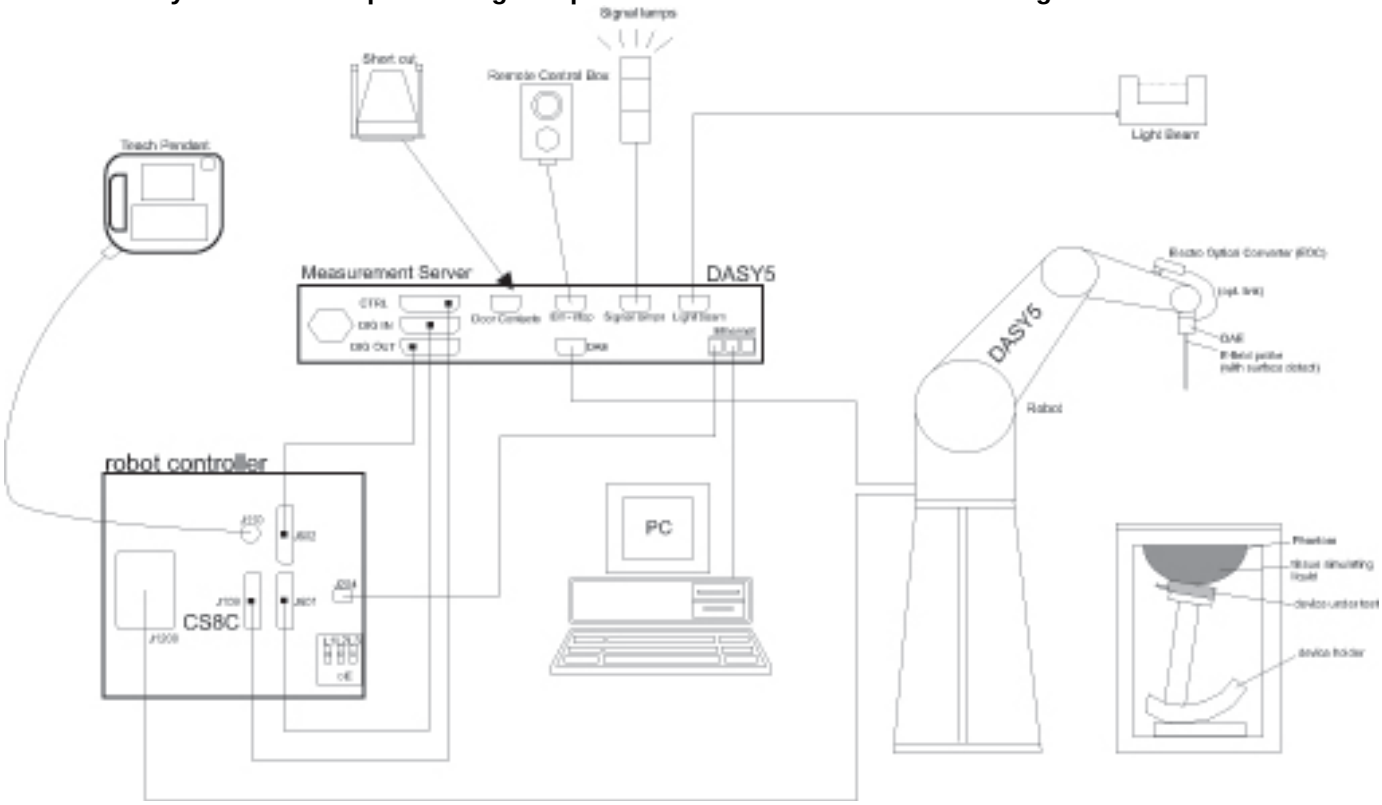
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	
SAR Lab G	
SAR Lab H	

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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.

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

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

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.

4.3. Test Equipment

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

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	ZNLE6	1323	7/16/2019
Dielectric Probe kit	SPEAG	DAK-3.5	1082	9/11/2019
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	9/11/2019
Thermometer*	Traceable Calibration Control Co.	4242	122529162	12/8/2018
Thermometer	Traceable Calibration Control Co.	4242	170064398	3/14/2019

Note(s):

*Equipment not used past calibration due date.

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	Agilent	N5181A	MY50140610	6/7/2019
Power Meter	Keysight	N1912A	MY55196007	7/23/2019
Power Sensor	Agilent	N1921A	MY53020038	4/23/2019
Power Sensor	Agilent	N1921A	MY53260010	10/17/2019
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795093	N/A
Directional coupler	Werlatone	C8060-102	2148	N/A
DC Power Supply	Sorensen	1611	1817A2680	N/A
Synthesized Signal Generator	Agilent	N5181A	MY50240680	5/25/2019
Power Meter	Keysight	N1912A	MY55196004	7/26/2019
Power Sensor	Agilent	N1921A	MY52200012	10/18/2019
Power Sensor*	Agilent	N1921A	MY52270022	12/28/2018
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2141	N/A
DC Power Supply	BK Precision	XT 15-4	215-02292	N/A
Synthesized Signal Generator	R & S	SMB 100A	1406	7/4/2019
Power Sensor	R & S	NRP18A	1424	6/19/2019
Synthesized Signal Generator	R & S	SMB 100A	180969-yC	6/27/2019
Power Sensor	R & S	NRP18A	100992-ic	6/19/2019

Note(s):

*Equipment not used past calibration due date.

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3885	9/18/2019
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	3772	2/13/2019
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	3773	4/23/2019
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3990	8/17/2019
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3929	3/16/2019
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	7463	7/20/2019
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	7483	11/14/2019
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1540	2/23/2019
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1377	9/14/2019
Data Acquisition Electronics (SAR Lab D)	SPEAG	DAE4	1352	11/6/2019
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1548	5/3/2019
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1377	9/14/2019
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1359	2/9/2019
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1257	9/14/2019
System Validation Dipole	SPEAG	D750V3	1024	5/16/2019
System Validation Dipole	SPEAG	D835V2	4d117	5/16/2019
System Validation Dipole	SPEAG	D1750V2	1050	4/10/2019
System Validation Dipole	SPEAG	D1900V2	5d140	4/11/2019
System Validation Dipole	SPEAG	D2450V2	706	5/18/2019
System Validation Dipole	SPEAG	D2450V2	899	3/16/2019
System Validation Dipole	SPEAG	D2600V2	1036	3/16/2019
System Validation Dipole	SPEAG	D2600V2	1006	10/16/2019
System Validation Dipole	SPEAG	D5GHzV2	1003	3/13/2019
System Validation Dipole	SPEAG	D5GHzV2	1138	8/21/2019

Other

Name of Equipment	Manufacturer	Type/Model	T Number	Serial No.	Cal. Due Date
Power Meter	Agilent	N1911A	T733	MY50001018	10/18/2019
Power Sensor	Agilent	N1921A	T734	MY52200012	10/18/2019
Power Sensor	Agilent	N1921A	T751	MY53260010	10/17/2019
Base Station Simulator	R & S	CMW500	T1871	164541	2/19/2019
Base Station Simulator	R & S	CMW500	T959	135384	6/1/2019
Spectrum Analyzer/PXA*	Agilent	N9030A	T1454	MY55410147	1/8/2019
Spectrum Analyzer/PXA	Agilent	N9030A	T1466	MY54410193	4/16/2019

Note(s):

*Equipment not used past calibration due date.

5. 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 and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	Refer to Appendix A. This is a Phablet Device (display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm)
Back Cover	The Back Cover is not removable Glass back cover and Ceramic back cover
Battery Options	The rechargeable battery is not user accessible.
Accessory	Headset
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☒ Mobile Hotspot (Wi-Fi 5.8 GHz)
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other. Wi-Fi Direct is only available in hand use configuration. ☒ Wi-Fi Direct (Wi-Fi 2.4 GHz) ☒ Wi-Fi Direct (Wi-Fi 5.2/5.8 GHz)
Bluetooth Tethering	BT Tethering mode permits the device to share its cellular data connection with other devices. ☒ BT Tethering (Bluetooth 2.4 GHz)
Test sample information	**S/N** / **IMEI** / **Notes** R38KA0L98YA / 351724100213867 / Conducted #1 R38KA0L971T / 351724100213230 / Conducted #2 R38KA0L973P / 351724100213255 / Radiated – Glass R38KA0L990V / 351724100213883 / Radiated – Glass R38KA0L992Y / 351724100213909 / Radiated – Glass R38KA0L966A / 351724100212950 / Radiated – Glass R38KA0L9SXE / 351724100212869 / Radiated – Glass R38KA0L972Z / 351724100213248 / Radiated – Glass R38KA0L97SR / 351724100213271 / Radiated – Glass R38KB0SBESH / 351724100288306 / Radiated – Glass R38KA0KXFHA / 351724100194752 / Radiated – Glass R38KA092LFF / 351724100122792 / Radiated – Ceramic R38KA092KSM / 351724100122571 / Radiated – Ceramic R38KA09ZMAP / 351724100123074 / Radiated – Ceramic R38KA0KV84N / 351724100171032 / Radiated – Ceramic R38KA0KV85R / 351724100171040 / Radiated – Ceramic R38KA092LLD / 351724100122845 / Radiated – Ceramic
Hardware Version	REV0.3
Software Version	G405F.001

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EDGE (8PSK)	GSM Class : B Multi-Slot Class: Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25% 3 Slots: 37.5% 4 Slots: 50%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Cat. 24) HSUPA (Cat. 6) DC-HSDPA (Rel. 8) HSPA+ (DL only)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 TDD Band 38 TDD Band 41 FDD Band 66	QPSK 16QAM 64AQM Rel. 14 Carrier Aggregation (1 Uplink and 4 Downlinks)		100% (FDD) 63.3% (TDD) Refer to §6.4
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20) 802.11ax (HE20)		100.00% (802.11b) [1]
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80) 802.11ax (HE20) 802.11ax (HE40) 802.11ax (HE80)		93.64% (802.11a) [2] 63.65% (802.11ac 80MHz BW) [2]
	Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No			
	Does this device support Band gap channel(s)? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	Version 5.0 LE		76.70% [3]
NFC	13.56 MHz	Type A/B/F		N/A [4]

Notes:

1. Refer to §9.5 for Wi-Fi DTS Duty Cycle.
2. Refer to §9.6 for Wi-Fi U-NII Duty Cycle.
3. Refer to §9.7 for Bluetooth GFSK Duty Cycle.
4. Measured Duty Cycle is not required due to SAR test exemption.

6.3. General LTE SAR Test and Reporting Considerations

Item	Description						
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz (BW = 60 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	**18700 /1860**	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5	18607/ 1850.7
	Mid	**18900/ 1880**	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880
	High	**19100/ 1900**	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19185/ 1908.5	19193/ 1909.3
	Band 4	Frequency range: 1710 - 1755 MHz (BW = 45 MHz)					
		Channel Bandwidth					
		20 MHz [1]	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
	Mid	**20175/ 1732.5**	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz (BW = 25 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz	3 MHz	1.4 MHz
	Low			20450/ 829	20425/ 826.5	20415/ 825.5	20407/ 824.7
	Mid			**20525/ 836.5**	20525/ 836.5	20525/ 836.5	20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5	20643/ 848.3
	Band 7	Frequency range: 2500 - 2570 MHz (BW = 70 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	**20850 2510**	20825 2507.5	20800 2505	20775 2502.5		
	Mid	**21100 2535**	21100 2535	21100 2535	21100 2535		
	High	**21350 2560**	21375 2562.5	21400 2565	21425 2567.5		
	Band 12	Frequency range: 699 – 716 MHz (BW = 17 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz	3 MHz	1.4 MHz
	Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
	Mid			**23095/ 707.5**	23095/ 707.5	23095/ 707.5	23095/ 707.5
	High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz (BW = 10 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz [1]	3 MHz	1.4 MHz
	Low				23205/ 779.5		
	Mid			**23230/ 782**	23230/ 782		
	High				23255/ 784.5		

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies

Band 17	Frequency range: 704 - 716 MHz (BW = 12 MHz)					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz [1]	5 MHz [1]	3 MHz	1.4 MHz
Low			23780/ 709	23755/ 706.5		
Mid			**23790/ 710**	23790/ 710		
High			23800/ 711	23825/ 713.5		

Band 25	Frequency range: 1850 - 1915 MHz (BW = 65 MHz)					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	**26140/ 1860**	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7
Mid	**26365/ 1882.5**	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5
High	**26590/ 1905**	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5	26683/ 1914.3

Band 26	Frequency range: 814 - 849 MHz (BW = 35 MHz)					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low		**26765/ 821.5**	26740/ 819	26715/ 816.5	26705/ 815.5	26697/ 814.7
Mid		**26865/ 831.5**	26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5
High		**26965/ 841.5**	26990/ 844	27015/ 846.5	27025/ 847.5	27033/ 848.3

Band 38	Frequency range: 2570 - 2620 MHz (BW = 50 MHz)					
	Channel Bandwidth					
	20 MHz [1]	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	37850/ 2580	37825/ 2577.5	37800/ 2575	37775/ 2572.5		
Mid	**38000/ 2595**	38000/ 2595	38000/ 2595	38000/ 2595		
High	38150 2610	38175/ 2612.5	38200/ 2615	38225/ 2617.5		

Band 41[2]	Frequency range: 2496 - 2690 MHz (BW = 194MHz)					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	**39750 / 2506.0**					
Low-Mid	**40185 / 2549.5**					
Mid	**40620 / 2593.0**					
Mid-High	**41055 / 2636.5**					
High	**41490 / 2680.0**					

Band 66	Frequency range: 1710 - 1780 MHz (BW = 70 MHz)					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	**132072/ 1720**	132047/ 1717.5	132022/ 1715	131997/ 1712.5	131987/ 1711.5	131979/ 1710.7
Mid	**132322/ 1745**	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745
High	**132572/ 1770**	132597/ 1772.5	132622/ 1775	132647/ 1777.5	132657/ 1778.5	132665/ 1779.3

General LTE SAR Test and Reporting Considerations (Continued)

<table>
<tr><td>LTE transmitter and antenna implementation</td><td>Refer to Appendix A.</td></tr>
<tr><td>Maximum power reduction (MPR)</td><td>
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table>
MPR Built-in by design
The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values.
A-MPR (additional MPR) was disabled during SAR testing
</td></tr>
<tr><td>Power reduction</td><td>Yes</td></tr>
<tr><td>Spectrum plots for RB configurations</td><td>A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
</table>

Notes:

1. Maximum bandwidth does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.
2. LTE band 41 test channels in accordance with October 2014 TCB workshop for all channels bandwidths.
3. SAR Testing for LTE was performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

6.4. LTE (TDD) Considerations

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

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

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

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$	$7680 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$
5	$6592 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-
10	$13168 \cdot T_s$	$13152 \cdot T_s$	$12800 \cdot T_s$	-	-	-

Table 4.2-2: Uplink-downlink configurations & Calculated Duty Cycle

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.3%
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.3%
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.3%
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.7%
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.7%
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.7%
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.3%

Calculated Duty Cycle = Extended cyclic prefix in uplink * (T_s) * # of S + # of U / period

Note(s):
This device supports uplink-downlink configurations 0-6. The configuration with highest duty cycle was used for SAR Testing: configuration 0 at 63.3% duty cycle.

6.5. Dynamic Antenna Tuning Test Considerations and Procedure

This Device supports an AIT (Antenna impedance tuner) feature which optimizes antenna matching for actual certain use conditions. The device supports two states of Dynamic Antenna Tuning: default state and auto tuner state. Default state does not use the AIT, instead using a predetermined Tuner ID and XGND value, while the auto tuner state will dynamically change the impedance of the device to reach the optimal radiated state. Dynamic Antenna Tuning is supported only for LTE Band 5. Please refer to the Dynamic Antenna Tuning Operation Description for full details.

Single point measurements were performed using a time-sweep method on the worst case test position per test configuration for LTE Band 5 to determine which Index produced the highest result.

Band	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Reported SAR	Single Point Measurement											
							Default state				Auto Tuner States				Auto Tuner States			
						(W/kg)	Index	Tuner	XGND	(W/kg)	Index	Tuner	XGND	(W/kg)	Index	Tuner	XGND	(W/kg)
LTE B5 Glass Cover	Head	0	Right Touch	20525	836.5	0.240	2	2200	29900	0.289	1	3A06	29900	0.264	13	19F6	39F00	0.129
	Body-worn	15	Rear	20525	836.5	0.279	2	2200	29900	0.205	1	3A06	29900	0.193	13	19F6	39F00	0.087
	Hotspot	10	Rear	20525	836.5	0.514	2	2200	29900	0.382	1	3A06	29900	0.461	13	19F6	39F00	0.145
Band	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Reported SAR	Single Point Measurement											
							Default state				Auto Tuner States				Auto Tuner States			
						(W/kg)	Index	Tuner	XGND	(W/kg)	Index	Tuner	XGND	(W/kg)	Index	Tuner	XGND	(W/kg)
LTE B5 Ceramic Cover	Head	0	Right Touch	20525	836.5	0.168	2	2200	29900	0.289	1	3A06	29900	0.258	13	19F6	39F00	0.150
	Body-worn	15	Rear	20525	836.5	0.288	2	2200	29900	0.550	1	3A06	29900	0.519	13	19F6	39F00	0.237
	Hotspot	10	Rear	20525	836.5	0.636	2	2200	29900	0.286	1	3A06	29900	0.255	13	19F6	39F00	0.114

Note(s):

Testing was performed on Indexes that had unique Tuner ID and XGND codes, as shown in the Dynamic Antenna Tuning Operational Description and on Default state (DAT not active). From these single point measurement results, the Default state was determined to be the worst case. Full SAR testing was performed on Default state.

6.6. Wi-Fi RSDB (Real Simultaneous Dual Band) Activation Conditions

Please refer to table below for activation conditions for RSDB output power levels. These simultaneous conditions apply during both Max and Reduced Power. Refer to § 9.5 and §9.6 RSDB Output Power Results for further details.

	# TX	5GHz WIFI		2.4GHz WIFI		802.11 Modes
		Ant1	Ant2	Ant1	Ant2	
2.4 GHz + 5 GHz RSDB Only	2	✓	-	-	✓	2.4 GHz: b, g, n, ax 5 GHz: a, n, ac, ax
	2	-	✓	✓	-	
	2	✓	-	✓	-	
	2	-	✓	-	✓	
2.4 GHz + 5 GHz RSDB & MIMO	3	✓	✓	✓	-	2.4 GHz: b, g, n, ax 5 GHz: a, n, ac, ax (CDD+STBC Only)
	3	✓	✓	-	✓	
	3	✓	-	✓	✓	2.4 GHz: b, g, n, ax(CDD+STBC Only), 5 GHz: a, n, ac, ax
	3	-	✓	✓	✓	
2.4 GHz + 5 GHz RSDB MIMO	4	✓	✓	✓	✓	2.4 GHz: b, g, n, ax (CDD+STBC Only) 5 GHz: a, n, ac, ax (CDD+STBC Only)

7. RF Exposure Conditions (Test Configurations)

Refer to Appendix A for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN (Main Ant. 1-1)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	15 mm	Rear	N/A	Yes	
			Front	N/A	Yes	
	Hotspot	10 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	> 25 mm	No	1
			Edge 2 (Right)	< 25 mm	Yes	
			Edge 3 (Bottom)	< 25 mm	Yes	
			Edge 4 (Left)	< 25 mm	Yes	
	Product Specifc 10g	0 mm	Rear	< 25 mm	Yes	3
			Front	< 25 mm	Yes	3
			Edge 1 (Top)	> 25 mm	No	1
			Edge 2 (Right)	< 25 mm	Yes	3
			Edge 3 (Bottom)	< 25 mm	Yes	3
			Edge 4 (Left)	< 25 mm	Yes	3
WWAN (Main Ant. 1-2)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	15 mm	Rear	N/A	Yes	
			Front	N/A	Yes	
	Hotspot	10 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	> 25 mm	No	1
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	< 25 mm	Yes	
			Edge 4 (Left)	< 25 mm	Yes	
	Product Specifc 10g	0 mm	Rear	< 25 mm	Yes	3
			Front	< 25 mm	Yes	3
			Edge 1 (Top)	> 25 mm	No	1
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	< 25 mm	Yes	3
			Edge 4 (Left)	< 25 mm	Yes	3

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. For Phablet devices: when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.
3. For Phablet devices: when hotspot mode applies and power reduction applies to hotspot mode, Product Specific 10-g SAR is required for each test position that has an adjusted SAR to maximum power that is > 1.2 W/kg.
4. Cellular Sub Antenna is Rx only.

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WLAN & BT (Ant. 1)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	15 mm	Rear	N/A	Yes	
			Front	N/A	Yes	
	Hotspot (2.4/5.2/5.8 GHz Bands)	10 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	
	Product Specifc 10g (2.4 GHz)	0 mm	Rear	< 25 mm	Yes	3
			Front	< 25 mm	Yes	3
			Edge 1 (Top)	< 25 mm	Yes	3
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	3
	Product Specifc 10g (5 GHz Bands)	0 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
			Edge 1 (Top)	< 25 mm	Yes	2
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	2
WLAN (Ant. 2 2.4GHz)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	15 mm	Rear	N/A	Yes	
			Front	N/A	Yes	
	Hotspot	10 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	
	Product Specifc 10g	0 mm	Rear	< 25 mm	Yes	3
			Front	< 25 mm	Yes	3
			Edge 1 (Top)	< 25 mm	Yes	3
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	3

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. For Phablet devices: when Hotspot Mode is not supported, Product Specific 10-g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.
3. For Phablet devices: when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.
4. Wi-Fi Direct is only available in Hand use configuration.

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WLAN (Ant. 2 5GHz)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	15 mm	Rear	N/A	Yes	
			Front	N/A	Yes	
	Hotspot (5.2/5.8 GHz)	10 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	
	Product Specifc 10g	0 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
			Edge 1 (Top)	< 25 mm	Yes	2
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	2

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. For Phablet devices: when Hotspot Mode is not supported, Product Specific 10-g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.
3. For Phablet devices: when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.
4. Wi-Fi Direct is only available in Hand use configuration.

8. Dielectric Property Measurements & System Check

8.1. 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.

The dielectric constant (εr) and conductivity (σ) of typical tissue-equivalent media recipes are expected to be within ± 5% of the required target values; but for SAR measurement systems that have implemented the SAR error compensation algorithms documented in IEEE Std 1528-2013, to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters, the tolerance for εr and σ may be relaxed to ± 10%. This is limited to frequencies ≤ 3 GHz.

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

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
A	12/13/2018	835	Head	835	40.44	41.50	-2.55	0.93	0.90	3.62
				805	40.52	41.68	-2.78	0.92	0.90	2.94
				850	40.40	41.50	-2.65	0.94	0.92	2.58
A	12/13/2018	835	Body	835	54.72	55.20	-0.87	0.99	0.97	2.13
				805	55.02	55.33	-0.57	0.96	0.97	-0.45
				850	54.60	55.16	-1.01	1.01	0.99	1.91
A	12/18/2018	835	Head	835	42.65	41.50	2.77	0.94	0.90	4.64
				805	42.72	41.68	2.50	0.93	0.90	3.83
				850	42.61	41.50	2.67	0.94	0.92	2.93
A	12/18/2018	835	Body	835	52.89	55.20	-4.18	1.00	0.97	2.58
				805	53.19	55.33	-3.88	0.96	0.97	-0.33
				850	52.75	55.16	-4.36	1.01	0.99	2.42
A	12/23/2018	750	Head	750	40.78	41.96	-2.82	0.89	0.89	-0.55
				660	41.43	42.42	-2.34	0.86	0.89	-3.00
				800	40.89	41.71	-1.95	0.91	0.90	1.17
A	12/23/2018	750	Body	750	54.40	55.55	-2.06	0.98	0.96	1.30
				700	55.38	55.74	-0.64	0.92	0.96	-4.41
				725	54.97	55.64	-1.21	0.94	0.96	-2.17
A	1/10/2019	5250	Body	5250	49.44	48.95	1.00	5.32	5.35	-0.69
				5150	49.56	49.09	0.96	5.19	5.24	-0.92
				5350	49.26	48.82	0.91	5.47	5.47	-0.03
A	1/10/2019	5600	Body	5600	48.91	48.48	0.89	5.79	5.76	0.49
				5500	49.09	48.61	0.98	5.64	5.64	-0.15
				5725	48.67	48.31	0.75	5.98	5.91	1.19
A	1/10/2019	5800	Body	5800	48.52	48.20	0.66	6.07	6.00	1.20
				5700	48.70	48.34	0.74	5.94	5.88	1.01
				5850	48.48	48.20	0.58	6.15	6.00	2.55
B	12/10/2018	750	Head	750	40.29	41.96	-3.98	0.89	0.89	-0.15
				660	41.16	42.42	-2.98	0.86	0.89	-3.19
				800	40.54	41.71	-2.79	0.91	0.90	1.10
B	12/10/2018	750	Body	750	53.04	55.55	-4.51	0.98	0.96	1.57
				660	54.66	55.89	-2.20	0.89	0.96	-7.07
				800	52.73	55.35	-4.74	1.03	0.97	6.32
B	12/11/2018	750	Body	750	56.44	55.55	1.61	0.97	0.96	0.37
				660	57.23	55.89	2.39	0.88	0.96	-7.86
				800	55.71	55.35	0.64	1.02	0.97	5.28
B	12/12/2018	1750	Head	1750	38.94	40.08	-2.86	1.36	1.37	-0.95
				1710	39.02	40.15	-2.81	1.33	1.35	-1.14
				1755	38.92	40.08	-2.89	1.36	1.37	-1.01
B	12/12/2018	1750	Body	1750	53.29	53.44	-0.28	1.46	1.49	-1.96
				1710	53.38	53.54	-0.31	1.42	1.46	-3.18
				1755	53.27	53.43	-0.30	1.46	1.49	-1.83
B	12/14/2018	5250	Body	5250	47.50	48.95	-2.97	5.52	5.35	3.08
				5150	47.24	49.09	-3.76	5.40	5.24	3.09
				5350	46.85	48.82	-4.03	5.66	5.47	3.50

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
B	12/18/2018	5250	Head	5250	36.57	35.93	1.77	4.54	4.70	-3.51
				5150	36.72	36.05	1.87	4.47	4.60	-2.76
				5350	36.47	35.82	1.82	4.69	4.80	-2.49
B	12/18/2018	5600	Head	5600	36.12	35.53	1.65	4.96	5.06	-1.92
				5500	36.21	35.65	1.58	4.79	4.96	-3.35
				5725	35.88	35.39	1.38	5.13	5.19	-1.22
B	12/18/2018	5750	Head	5750	35.82	35.36	1.29	5.11	5.21	-1.99
				5700	35.88	35.42	1.30	5.13	5.16	-0.55
				5850	35.71	35.30	1.16	5.29	5.27	0.44
B	12/18/2018	5250	Body	5250	48.15	48.95	-1.64	5.39	5.35	0.67
				5150	48.35	49.09	-1.50	5.34	5.24	1.88
				5350	48.06	48.82	-1.55	5.54	5.47	1.32
B	12/18/2018	5600	Body	5600	47.71	48.48	-1.58	5.85	5.76	1.54
				5500	47.77	48.61	-1.73	5.67	5.64	0.44
				5725	47.49	48.31	-1.69	6.04	5.91	2.21
B	12/18/2018	5750	Body	5750	47.42	48.27	-1.77	6.02	5.94	1.47
				5700	47.47	48.34	-1.80	6.06	5.88	3.15
				5850	47.34	48.20	-1.78	6.23	6.00	3.85
B	12/22/2018	5750	Head	5750	34.12	35.36	-3.51	5.17	5.21	-0.92
				5700	34.25	35.42	-3.30	5.10	5.16	-1.25
				5850	34.00	35.30	-3.68	5.27	5.27	-0.06
B	12/22/2018	5750	Body	5750	49.67	48.27	2.89	5.99	5.94	0.86
				5700	49.75	48.34	2.91	5.92	5.88	0.74
				5850	49.55	48.20	2.80	6.14	6.00	2.30
B	12/24/2018	5600	Body	5600	46.59	48.48	-3.89	5.84	5.76	1.44
				5500	46.75	48.61	-3.83	5.71	5.64	1.23
				5725	46.38	48.31	-3.99	6.03	5.91	2.02
B	12/24/2018	5250	Body	5250	47.12	48.95	-3.74	5.43	5.35	1.42
				5150	47.28	49.09	-3.68	5.31	5.24	1.33
				5350	46.94	48.82	-3.84	5.56	5.47	1.56
B	12/27/2018	5600	Body	5600	46.78	48.48	-3.50	5.97	5.76	3.66
				5500	46.94	48.61	-3.44	5.83	5.64	3.34
				5725	46.54	48.31	-3.66	6.16	5.91	4.25
D	12/26/2018	2600	Head	2600	38.68	39.01	-0.85	1.94	1.96	-1.33
				2495	38.81	39.14	-0.85	1.84	1.85	-0.41
				2690	38.49	38.90	-1.05	2.01	2.06	-2.35
D	12/26/2018	2600	Body	2600	51.96	52.51	-1.05	2.23	2.16	2.97
				2495	52.20	52.64	-0.84	2.09	2.01	4.01
				2690	51.65	52.40	-1.43	2.34	2.29	2.13
D	1/9/2019	2450	Body	2450	50.22	52.70	-4.71	2.04	1.95	4.62
				2400	50.20	52.77	-4.87	1.97	1.90	3.58
				2480	50.15	52.66	-4.77	2.07	1.99	3.76

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
E	11/12/2018	750	Head	750	40.33	41.96	-3.89	0.91	0.89	1.60
				660	40.59	42.42	-4.32	0.88	0.89	-1.16
				800	40.04	41.71	-3.99	0.93	0.90	3.19
E	11/12/2018	750	Body	750	52.94	55.55	-4.69	0.99	0.96	2.90
				660	53.32	55.89	-4.60	0.96	0.96	-0.01
				800	52.74	55.35	-4.72	1.01	0.97	4.46
E	11/13/2018	2600	Head	2600	37.30	39.01	-4.39	1.90	1.96	-3.07
				2495	37.44	39.14	-4.35	1.81	1.85	-2.09
				2690	37.11	38.90	-4.59	1.98	2.06	-4.10
E	11/13/2018	2600	Body	2600	50.43	52.51	-3.96	2.17	2.16	0.47
				2495	50.57	52.64	-3.94	2.06	2.01	2.47
				2690	50.24	52.40	-4.12	2.26	2.29	-1.11
E	11/14/2018	2450	Head	2450	38.56	39.20	-1.63	1.80	1.80	-0.22
				2400	38.61	39.30	-1.75	1.76	1.75	0.36
				2480	38.54	39.16	-1.59	1.81	1.83	-1.06
E	11/14/2018	2450	Body	2450	51.42	52.70	-2.43	2.00	1.95	2.31
				2400	51.47	52.77	-2.47	1.95	1.90	2.79
				2480	51.39	52.66	-2.42	2.02	1.99	1.20
E	11/19/2018	5600	Body	5600	46.50	48.48	-4.08	5.95	5.76	3.33
				5500	46.74	48.61	-3.85	5.80	5.64	2.76
				5725	46.20	48.31	-4.36	6.15	5.91	4.12

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
E	11/24/2018	2450	Body	2450	52.19	52.70	-0.97	2.02	1.95	3.64
				2400	52.24	52.77	-1.01	1.97	1.90	4.00
				2480	52.18	52.66	-0.92	2.04	1.99	2.60
E	11/24/2018	5250	Body	5250	47.01	48.95	-3.97	5.45	5.35	1.72
				5150	47.23	49.09	-3.78	5.31	5.24	1.31
				5350	46.79	48.82	-4.15	5.59	5.47	2.24
E	11/24/2018	5600	Body	5600	46.32	48.48	-4.45	5.93	5.76	3.00
				5500	46.51	48.61	-4.33	5.79	5.64	2.53
				5725	46.03	48.31	-4.72	6.13	5.91	3.80
E	12/3/2018	5250	Body	5250	47.83	48.95	-2.29	5.35	5.35	-0.07
				5150	48.04	49.09	-2.13	5.15	5.24	-1.61
				5350	47.49	48.82	-2.72	5.48	5.47	0.14
E	12/20/2018	2450	Head	2450	37.90	39.20	-3.32	1.81	1.80	0.67
				2400	37.97	39.30	-3.38	1.77	1.75	1.22
				2480	37.92	39.16	-3.17	1.83	1.83	-0.02
E	12/20/2018	2450	Body	2450	51.44	52.70	-2.39	2.01	1.95	3.08
				2400	51.49	52.77	-2.43	1.97	1.90	3.63
				2480	51.45	52.66	-2.30	2.03	1.99	2.00
E	12/27/2018	5200	Body	5200	46.93	49.02	-4.26	5.46	5.29	3.05
				5150	47.07	49.09	-4.11	5.37	5.24	2.53
				5350	46.64	48.82	-4.46	5.65	5.47	3.32
E	1/8/2019	5250	Body	5250	47.98	48.95	-1.99	5.37	5.35	0.28
				5150	48.30	49.09	-1.60	5.17	5.24	-1.25
				5350	47.63	48.82	-2.43	5.45	5.47	-0.28
E	1/8/2019	5600	Body	5600	47.12	48.48	-2.80	5.78	5.76	0.26
				5500	47.48	48.61	-2.33	5.74	5.64	1.60
				5725	46.83	48.31	-3.06	5.95	5.91	0.70
E	1/8/2019	5750	Body	5750	46.77	48.27	-3.12	6.12	5.94	3.15
				5700	47.19	48.34	-2.38	5.82	5.88	-1.01
				5850	46.58	48.20	-3.36	6.10	6.00	1.63
E	1/22/2019	2450	Body	2450	51.48	52.70	-2.31	2.01	1.95	2.97
				2400	51.53	52.77	-2.35	1.97	1.90	3.53
				2480	51.46	52.66	-2.28	2.03	1.99	1.85
E	1/28/2019	5750	Body	5750	46.57	48.27	-3.53	6.02	5.94	1.42
				5700	46.71	48.34	-3.38	6.15	5.88	4.62
				5850	46.73	48.20	-3.05	6.27	6.00	4.57

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
F	11/12/2018	1900	Head	1900	38.96	40.00	-2.60	1.45	1.40	3.29
				1850	39.04	40.00	-2.40	1.41	1.40	0.93
				1920	38.96	40.00	-2.60	1.46	1.40	4.36
F	11/12/2018	1900	Body	1900	52.07	53.30	-2.31	1.55	1.52	1.91
				1850	52.13	53.30	-2.20	1.51	1.52	-0.39
				1920	52.06	53.30	-2.33	1.57	1.52	2.96
F	11/14/2018	5800	Body	5750	47.53	48.27	-1.54	6.06	5.94	2.01
				5700	47.64	48.34	-1.45	5.96	5.88	1.44
				5850	47.34	48.20	-1.78	6.19	6.00	3.22
F	11/14/2018	5800	Head	5750	34.39	35.36	-2.75	5.13	5.21	-1.53
				5700	34.52	35.42	-2.54	5.06	5.16	-2.01
				5850	34.23	35.30	-3.03	5.24	5.27	-0.61
F	11/19/2018	1900	Body	1900	52.32	53.30	-1.84	1.57	1.52	3.42
				1850	52.36	53.30	-1.76	1.54	1.52	1.51
				1920	52.32	53.30	-1.84	1.59	1.52	4.47
F	11/26/2018	1900	Body	1900	51.56	53.30	-3.26	1.57	1.52	3.22
				1850	51.68	53.30	-3.04	1.54	1.52	1.18
				1920	51.55	53.30	-3.28	1.58	1.52	4.14
F	12/5/2018	5250	Body	5250	47.42	48.95	-3.13	5.51	5.35	2.84
				5150	47.62	49.09	-2.99	5.36	5.24	2.30
				5350	47.18	48.82	-3.35	5.65	5.47	3.37
F	12/17/2018	835	Head	835	40.32	41.50	-2.84	0.91	0.90	0.90
				805	40.33	41.68	-3.24	0.90	0.90	0.17
				850	40.33	41.50	-2.82	0.91	0.92	-0.17
F	12/17/2018	835	Body	835	53.67	55.20	-2.77	0.96	0.97	-0.61
				805	53.66	55.33	-3.03	0.95	0.97	-1.41
				850	53.67	55.16	-2.70	0.97	0.99	-1.76
F	12/20/2018	1900	Head	1900	38.29	40.00	-4.28	1.40	1.40	-0.07
				1850	38.36	40.00	-4.10	1.38	1.40	-1.79
				1920	38.29	40.00	-4.28	1.41	1.40	1.00
F	12/20/2018	1900	Body	1900	50.73	53.30	-4.82	1.57	1.52	3.36
				1850	50.84	53.30	-4.62	1.54	1.52	1.45
				1920	50.74	53.30	-4.80	1.59	1.52	4.54
F	1/9/2019	5250	Body	5250	49.11	48.95	0.32	5.21	5.35	-2.62
				5150	49.08	49.09	-0.01	5.11	5.24	-2.49
				5350	48.97	48.82	0.31	5.40	5.47	-1.35
F	1/9/2019	5600	Body	5600	48.58	48.48	0.21	5.74	5.76	-0.33
				5500	48.78	48.61	0.34	5.55	5.64	-1.74
				5725	48.37	48.31	0.13	5.93	5.91	0.43
F	1/9/2019	5750	Body	5750	48.36	48.27	0.18	5.93	5.94	-0.10
				5700	48.28	48.34	-0.13	5.90	5.88	0.31
				5850	48.07	48.20	-0.27	6.11	6.00	1.87

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
G	11/12/2018	835	Body	835	52.70	55.20	-4.53	0.94	0.97	-2.64
				805	52.91	55.33	-4.38	0.93	0.97	-3.53
				850	52.69	55.16	-4.47	0.95	0.99	-3.61
G	11/12/2018	835	Head	835	42.25	41.50	1.81	0.92	0.90	1.99
				805	42.39	41.68	1.70	0.91	0.90	1.23
				850	42.24	41.50	1.78	0.92	0.92	0.99
G	11/14/2018	2450	Body	2450	51.88	52.70	-1.56	2.03	1.95	4.05
				2400	51.97	52.77	-1.52	1.98	1.90	4.53
				2480	51.86	52.66	-1.52	2.05	1.99	3.00
G	11/14/2018	2450	Head	2450	40.90	39.20	4.34	1.88	1.80	4.50
				2400	40.97	39.30	4.26	1.84	1.75	4.93
				2480	40.88	39.16	4.39	1.90	1.83	3.80
G	11/19/2018	1750	Body	1750	52.90	53.44	-1.01	1.46	1.49	-1.56
				1710	52.94	53.54	-1.13	1.43	1.46	-1.88
				1755	52.88	53.43	-1.03	1.47	1.49	-1.56
G	11/24/2018	1750	Body	1750	51.22	53.44	-4.16	1.47	1.49	-1.15
				1710	51.23	53.54	-4.32	1.44	1.46	-1.54
				1755	51.21	53.43	-4.15	1.47	1.49	-1.09
G	11/27/2018	835	Body	835	53.39	55.20	-3.28	0.98	0.97	1.33
				805	53.36	55.33	-3.57	0.98	0.97	0.91
				850	53.37	55.16	-3.24	0.99	0.99	0.02
G	11/28/2018	1750	Body	1750	51.14	53.44	-4.31	1.50	1.49	0.60
				1710	51.20	53.54	-4.38	1.47	1.46	0.24
				1755	51.12	53.43	-4.32	1.50	1.49	0.59
G	12/27/2018	1750	Body	1750	50.86	53.44	-4.83	1.52	1.49	2.14
				1710	50.89	53.54	-4.96	1.49	1.46	2.02
				1755	50.84	53.43	-4.84	1.52	1.49	2.13
G	1/2/2019	5200	Body	5200	48.64	49.02	-0.77	5.36	5.29	1.25
				5150	49.10	49.09	0.03	5.25	5.24	0.16
				5350	48.48	48.82	-0.69	5.55	5.47	1.54
G	1/2/2019	5600	Body	5600	47.97	48.48	-1.05	5.93	5.76	2.86
				5500	48.24	48.61	-0.77	5.78	5.64	2.37
				5725	47.60	48.31	-1.47	6.10	5.91	3.24
G	1/8/2019	5250	Body	5250	48.86	48.95	-0.19	5.44	5.35	1.55
				5150	49.21	49.09	0.25	5.23	5.24	-0.08
				5350	48.52	48.82	-0.61	5.52	5.47	0.96
G	1/8/2019	5600	Body	5600	48.00	48.48	-0.99	5.86	5.76	1.63
				5500	48.35	48.61	-0.54	5.81	5.64	2.93
				5725	47.71	48.31	-1.24	6.03	5.91	2.09
G	1/8/2019	5750	Body	5750	47.63	48.27	-1.34	6.20	5.94	4.45
				5700	48.08	48.34	-0.54	5.91	5.88	0.50
				5850	47.46	48.20	-1.54	6.18	6.00	3.07
G	1/22/2019	2450	Body	2450	51.43	52.70	-2.41	2.02	1.95	3.74
				2400	51.47	52.77	-2.47	1.98	1.90	4.27
				2480	51.40	52.66	-2.40	2.05	1.99	2.65

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
H	11/12/2018	1750	Head	1750	39.97	40.08	-0.29	1.37	1.37	0.00
				1710	40.01	40.15	-0.34	1.34	1.35	-0.25
				1755	39.96	40.08	-0.29	1.37	1.37	0.01
H	11/12/2018	1750	Body	1750	53.04	53.44	-0.75	1.45	1.49	-2.70
				1710	53.05	53.54	-0.92	1.42	1.46	-3.05
				1755	53.03	53.43	-0.75	1.45	1.49	-2.63
H	11/14/2018	5250	Head	5250	36.79	35.93	2.38	4.76	4.70	1.15
				5150	36.97	36.05	2.56	4.63	4.60	0.66
				5350	36.56	35.82	2.07	4.87	4.80	1.43
H	11/14/2018	5600	Head	5600	36.15	35.53	1.73	5.14	5.06	1.66
				5500	36.35	35.65	1.97	5.03	4.96	1.41
				5725	35.87	35.39	1.35	5.31	5.19	2.35
H	11/14/2018	5250	Body	5250	49.21	48.95	0.53	5.34	5.35	-0.26
				5150	49.39	49.09	0.62	5.19	5.24	-0.85
				5350	49.00	48.82	0.38	5.48	5.47	0.25
H	11/14/2018	5600	Body	5600	48.56	48.48	0.17	5.83	5.76	1.18
				5500	48.76	48.61	0.30	5.68	5.64	0.61
				5725	48.30	48.31	-0.02	6.03	5.91	2.02
H	11/19/2018	5600	Head	5600	34.25	35.53	-3.61	4.85	5.06	-4.08
				5500	34.44	35.65	-3.39	4.75	4.96	-4.29
				5725	33.97	35.39	-4.02	5.01	5.19	-3.51
H	11/19/2018	5600	Body	5600	46.57	48.48	-3.96	6.00	5.76	4.11
				5500	46.80	48.61	-3.73	5.85	5.64	3.62
				5725	46.27	48.31	-4.22	6.20	5.91	4.93
H	11/28/2018	2450	Body	2450	51.16	52.70	-2.92	2.02	1.95	3.38
				2400	51.18	52.77	-3.02	1.97	1.90	3.74
				2480	51.14	52.66	-2.89	2.04	1.99	2.30

Dielectric Property Measurements Results (continued):

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
H	12/18/2018	2600	Head	2600	38.14	39.01	-2.23	1.96	1.96	-0.21
				2495	38.30	39.14	-2.15	1.87	1.85	1.26
				2690	37.99	38.90	-2.33	2.03	2.06	-1.48
H	12/18/2018	2600	Body	2600	51.61	52.51	-1.72	2.16	2.16	-0.18
				2495	51.79	52.64	-1.62	2.06	2.01	2.17
				2690	51.44	52.40	-1.83	2.24	2.29	-1.89
H	12/21/2018	1750	Head	1750	40.03	40.08	-0.14	1.37	1.37	-0.07
				1710	40.11	40.15	-0.09	1.35	1.35	-0.10
				1755	40.01	40.08	-0.17	1.37	1.37	-0.06
H	12/21/2018	1750	Body	1750	51.85	53.44	-2.98	1.46	1.49	-1.63
				1710	51.94	53.54	-2.99	1.43	1.46	-1.88
				1755	51.84	53.43	-2.97	1.47	1.49	-1.63
H	12/26/2018	1900	Body	1900	52.00	53.30	-2.44	1.58	1.52	3.75
				1850	52.08	53.30	-2.29	1.55	1.52	1.71
				1920	51.99	53.30	-2.46	1.59	1.52	4.80
H	1/8/2019	5200	Body	5200	47.82	49.02	-2.45	5.22	5.29	-1.34
				5150	48.11	49.09	-1.99	5.21	5.24	-0.49
				5350	47.44	48.82	-2.82	5.50	5.47	0.46
H	1/8/2019	5600	Body	5600	46.93	48.48	-3.19	5.81	5.76	0.88
				5500	47.29	48.61	-2.72	5.77	5.64	2.26
				5725	46.64	48.31	-3.45	5.99	5.91	1.38
H	1/8/2019	5800	Body	5800	46.98	48.20	-2.53	6.08	6.00	1.30
				5700	47.01	48.34	-2.76	5.86	5.88	-0.30
				5850	46.38	48.20	-3.78	6.13	6.00	2.20
H	1/22/2019	2450	Body	2450	50.33	52.70	-4.50	2.03	1.95	4.00
				2400	50.38	52.77	-4.53	1.99	1.90	4.64
				2480	50.30	52.66	-4.49	2.05	1.99	2.80

8.2. System 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 re-measured 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 for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
  For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

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. Refer to Appendix B for the SAR System Check Plots.

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
A	12/13/2018	Head	D835V2 SN:4d117	5/16/2019	1.010	10.10	9.87	2.33	0.654	6.54	6.40	2.19	
A	12/13/2018	Body	D835V2 SN:4d117	5/16/2019	1.010	10.10	10.31	-2.04	0.665	6.65	6.84	-2.78	
A	12/18/2018	Head	D835V2 SN:4d117	5/16/2019	1.030	10.30	9.87	**4.36**	0.669	6.69	6.40	4.53	1,2
A	12/18/2018	Body	D835V2 SN:4d117	5/16/2019	1.040	10.40	10.31	0.87	0.681	6.81	6.84	-0.44	
A	12/23/2018	Head	D750V3 SN:1024	5/16/2019	0.763	7.63	8.28	**-7.85**	0.511	5.11	5.41	-5.55	3,4
A	12/23/2018	Body	D750V3 SN:1024	5/16/2019	0.937	9.37	9.03	3.77	0.624	6.24	6.05	3.14	
A	1/10/2019	Body	D5GHzV2 SN:1138 (5.25 GHz)	8/21/2019	8.150	81.50	76.60	**6.40**	2.300	23.00	21.40	7.48	5,6
A	1/10/2019	Body	D5GHzV2 SN:1138 (5.6 GHz)	8/21/2019	8.570	85.70	79.50	**7.80**	2.390	23.90	22.20	7.66	7,8
A	1/10/2019	Body	D5GHzV2 SN:1138 (5.75 GHz)	8/21/2019	7.790	77.90	74.10	**5.13**	2.180	21.80	20.60	5.83	9,10
B	12/10/2018	Head	D750V3 SN:1024	5/16/2019	0.807	8.07	8.28	**-2.54**	0.530	5.30	5.41	-2.03	11,12
B	12/10/2018	Body	D750V3 SN:1024	5/16/2019	0.908	9.08	9.03	0.55	0.606	6.06	6.05	0.17	
B	12/12/2018	Head	D1750V2 SN:1050	4/10/2019	3.600	36.00	36.50	-1.37	1.910	19.10	19.42	-1.65	
B	12/12/2018	Body	D1750V2 SN:1050	4/10/2019	3.600	36.00	37.18	**-3.17**	1.900	19.00	19.74	-3.75	13,14
B	12/14/2018	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.790	77.90	73.60	5.84	2.190	21.90	20.50	6.83	
B	12/18/2018	Head	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	8.470	84.70	80.60	5.09	2.420	24.20	23.20	4.31	
B	12/18/2018	Head	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.650	86.50	84.50	2.37	2.460	24.60	24.00	2.50	
B	12/18/2018	Head	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.850	78.50	78.40	0.13	2.250	22.50	22.20	1.35	
B	12/18/2018	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	8.000	80.00	73.60	**8.70**	2.210	22.10	20.50	7.80	15,16
B	12/18/2018	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.510	85.10	77.70	**9.52**	2.320	23.20	21.70	6.91	17,18
B	12/18/2018	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.880	78.80	73.90	**6.63**	2.180	21.80	20.60	5.83	19,20
B	12/22/2018	Head	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.810	78.10	78.40	-0.38	2.240	22.40	22.20	0.90	
B	12/22/2018	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.240	72.40	73.90	-2.03	1.990	19.90	20.60	-3.40	
B	12/24/2018	Body	D5GHzV2 SN:1138 (5.6 GHz)	8/21/2019	8.600	86.00	79.50	**8.18**	2.410	24.10	22.20	8.56	21,22
B	12/26/2018	Body	D5GHzV2 SN:1138 (5.25 GHz)	8/21/2019	8.190	81.90	76.60	**6.92**	2.270	22.70	21.40	6.07	23,24
B	12/27/2018	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.140	81.40	77.70	4.76	2.230	22.30	21.70	2.76	
D	12/26/2018	Head	D2600V2 SN:1036	3/16/2019	5.430	54.30	54.54	-0.44	2.430	24.30	24.56	-1.06	
D	12/26/2018	Body	D2600V2 SN:1036	3/16/2019	5.640	56.40	56.13	**0.48**	2.470	24.70	25.04	-1.36	25,26
D	1/9/2019	Body	D2450V2 SN:899	3/16/2019	5.210	52.10	50.55	**3.07**	2.380	23.80	23.20	2.59	27,28

System Check Results (continued):

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
E	11/12/2018	Head	D750V3 SN:1024	5/16/2019	0.858	8.58	8.28	**3.62**	0.564	5.64	5.41	4.25	29,30
E	11/12/2018	Body	D750V3 SN:1024	5/16/2019	0.894	8.94	9.03	-1.00	0.588	5.88	6.05	-2.81	
E	11/13/2018	Head	D2600V2 SN:1036	3/16/2019	5.700	57.00	54.54	**4.51**	2.550	25.50	24.56	3.83	31,32
E	11/13/2018	Body	D2600V2 SN:1036	3/16/2019	5.630	56.30	56.13	0.30	2.490	24.90	25.04	-0.56	
E	11/14/2018	Head	D2450V2 SN:899	3/16/2019	4.970	49.70	51.75	-3.96	2.310	23.10	24.20	-4.55	
E	11/14/2018	Body	D2450V2 SN:899	3/16/2019	5.470	54.70	50.55	**8.21**	2.520	25.20	23.20	8.62	33,34
E	11/19/2018	Body	D5GHzV2 SN:1138 (5.6 GHz)	8/21/2019	8.120	81.20	79.50	**2.14**	2.370	23.70	22.20	6.76	35,36
E	11/24/2018	Body	D2450V2 SN:899	3/16/2019	5.200	52.00	50.55	2.87	2.390	23.90	23.20	3.02	
E	11/24/2018	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.540	75.40	73.60	2.45	2.120	21.20	20.50	3.41	
E	11/24/2018	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.380	83.80	77.70	**7.85**	2.350	23.50	21.70	8.29	37,38
E	12/3/2018	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.350	73.50	73.60	-0.14	2.090	20.90	20.50	1.95	
E	12/20/2018	Head	D2450V2 SN:899	3/16/2019	5.480	54.80	51.75	5.89	2.550	25.50	24.20	5.37	
E	12/20/2018	Body	D2450V2 SN:899	3/16/2019	5.180	51.80	50.55	2.47	2.390	23.90	23.20	3.02	
E	12/27/2018	Body	D5GHzV2 SN:1138 (5.25 GHz)	8/21/2019	7.480	74.80	76.60	**-2.35**	2.070	20.70	21.40	-3.27	39,40
E	1/8/2019	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.760	77.60	73.60	**5.43**	2.180	21.80	20.50	6.34	41,42
E	1/8/2019	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	7.330	73.30	77.70	-5.66	2.060	20.60	21.70	-5.07	
E	1/8/2019	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	6.690	66.90	73.90	**-9.47**	1.860	18.60	20.60	-9.71	43,44
E	1/22/2019	Body	D2450V2 SN:706	5/18/2019	5.370	53.70	50.60	**6.13**	2.470	24.70	23.70	4.22	45,46
E	1/28/2019	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.020	70.20	73.90	-5.01	1.970	19.70	20.60	-4.37	
F	11/12/2018	Head	D1900V2 SN:5d140	4/11/2019	4.110	41.10	38.93	**5.57**	2.120	21.20	20.14	5.26	47,48
F	11/12/2018	Body	D1900V2 SN:5d140	4/11/2019	4.140	41.40	41.00	0.98	2.120	21.20	21.05	0.71	
F	11/14/2018	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.890	78.90	73.90	**6.77**	2.220	22.20	20.60	7.77	49,50
F	11/14/2018	Head	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.410	74.10	78.40	-5.48	2.140	21.40	22.20	-3.60	
F	11/19/2018	Body	D1900V2 SN:5d140	4/11/2019	4.230	42.30	41.00	3.17	2.160	21.60	21.05	2.61	
F	11/26/2018	Body	D1900V2 SN:5d140	4/11/2019	3.910	39.10	41.00	-4.63	2.020	20.20	21.05	-4.04	
F	12/5/2018	Body	D5GHzV2 SN:1138 (5.25 GHz)	8/21/2019	7.380	73.80	76.60	**-3.66**	2.090	20.90	21.40	-2.34	51,52
F	12/17/2018	Head	D835V2 SN:4d117	5/16/2019	0.976	9.76	9.87	-1.11	0.635	6.35	6.40	-0.78	
F	12/17/2018	Body	D835V2 SN:4d117	5/16/2019	0.962	9.62	10.31	**-6.69**	0.631	6.31	6.84	-7.75	53,54
F	12/20/2018	Head	D1900V2 SN:5d140	4/11/2019	3.850	38.50	38.93	-1.10	1.970	19.70	20.14	-2.18	
F	12/20/2018	Body	D1900V2 SN:5d140	4/11/2019	4.010	40.10	41.00	-2.20	2.070	20.70	21.05	-1.66	
F	1/9/2019	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.480	74.80	73.60	**1.63**	2.120	21.20	20.50	3.41	55,56
F	1/9/2019	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.230	82.30	77.70	**5.92**	2.300	23.00	21.70	5.99	57,58
F	1/9/2019	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	7.140	71.40	73.90	-3.38	2.010	20.10	20.60	-2.43	

System Check Results (continued)

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
G	11/12/2018	Head	D835V2 SN:4d117	5/16/2019	0.969	9.69	9.87	-1.82	0.637	6.37	6.40	-0.47	
G	11/12/2018	Body	D835V2 SN:4d117	5/16/2019	0.964	9.64	10.31	**-6.50**	0.639	6.39	6.84	-6.58	59,60
G	11/14/2018	Head	D2450V2 SN:899	3/16/2019	5.160	51.60	51.75	-0.29	2.430	24.30	24.20	0.41	
G	11/14/2018	Body	D2450V2 SN:899	3/16/2019	5.170	51.70	50.55	**2.27**	2.420	24.20	23.20	4.31	61,62
G	11/19/2018	Body	D1750V2 SN:1050	4/10/2019	3.620	36.20	37.18	**-2.64**	1.920	19.20	19.74	-2.74	63,64
G	11/24/2018	Body	D1750V2 SN:1050	4/10/2019	3.760	37.60	37.18	1.13	1.990	19.90	19.74	0.81	
G	11/27/2018	Body	D835V2 SN:4d117	5/16/2019	0.990	9.90	10.31	-3.98	0.654	6.54	6.84	-4.39	
G	11/28/2018	Body	D1750V2 SN:1050	4/10/2019	3.730	37.30	37.18	0.32	1.980	19.80	19.74	0.30	
G	12/27/2018	Body	D1750V2 SN:1050	4/10/2019	3.790	37.90	37.18	1.94	2.020	20.20	19.74	2.33	
G	1/2/2019	Body	D5GHzV2 SN:1138 (5.25 GHz)	8/21/2019	7.540	75.40	76.60	**-1.57**	2.160	21.60	21.40	0.93	65,66
G	1/2/2019	Body	D5GHzV2 SN:1138 (5.6 GHz)	8/21/2019	8.110	81.10	79.50	**2.01**	2.280	22.80	22.20	2.70	67,68
G	1/8/2019	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.830	78.30	73.60	**6.39**	2.230	22.30	20.50	8.78	69,70
G	1/8/2019	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	7.300	73.00	77.70	**-6.05**	2.050	20.50	21.70	-5.53	71,72
G	1/8/2019	Body	D5GHzV2 SN:1003 (5.75 GHz)	3/13/2019	6.880	68.80	73.90	**-6.90**	1.940	19.40	20.60	-5.83	73,74
G	1/22/2019	Body	D2450V2 SN:706	5/18/2019	5.230	52.30	50.60	**3.36**	2.430	24.30	23.70	2.53	75,76
H	11/12/2018	Head	D1750V2 SN:1050	4/10/2019	3.890	38.90	36.50	6.58	2.070	20.70	19.42	6.59	
H	11/12/2018	Body	D1750V2 SN:1050	4/10/2019	3.600	36.00	37.18	-3.17	1.900	19.00	19.74	-3.75	
H	11/14/2018	Head	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.870	78.70	80.60	-2.36	2.240	22.40	23.20	-3.45	
H	11/14/2018	Head	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.560	85.60	84.50	1.30	2.410	24.10	24.00	0.42	
H	11/14/2018	Body	D5GHzV2 SN:1003 (5.25 GHz)	3/13/2019	7.690	76.90	73.60	**4.48**	2.150	21.50	20.50	4.88	77,78
H	11/14/2018	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.180	81.80	77.70	5.28	2.270	22.70	21.70	4.61	
H	11/19/2018	Head	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.180	81.80	84.50	-3.20	2.320	23.20	24.00	-3.33	
H	11/19/2018	Body	D5GHzV2 SN:1003 (5.60 GHz)	3/13/2019	8.220	82.20	77.70	**5.79**	2.230	22.30	21.70	2.76	79,80
H	11/28/2018	Body	D2450V2 SN:899	3/16/2019	5.430	54.30	50.55	**7.42**	2.480	24.80	23.20	6.90	81,82
H	12/18/2018	Head	D2600V2 SN:1006	10/16/2019	5.770	57.70	59.31	-2.71	2.570	25.70	26.43	-2.76	
H	12/18/2018	Body	D2600V2 SN:1006	10/16/2019	5.420	54.20	58.52	**-7.38**	2.410	24.10	26.15	-7.84	83,84
H	12/21/2018	Head	D1750V2 SN:1050	4/10/2019	3.970	39.70	36.50	**8.77**	2.090	20.90	19.42	7.62	85,86
H	12/21/2018	Body	D1750V2 SN:1050	4/10/2019	3.980	39.80	37.18	7.05	2.110	21.10	19.74	6.89	
H	12/27/2018	Body	D1900V2 SN:5d140	4/11/2019	4.320	43.20	41.00	**5.37**	2.240	22.40	21.05	6.41	87,88
H	1/8/2019	Body	D5GHzV2 SN:1138 (5.25 GHz)	8/21/2019	7.810	78.10	76.60	**1.96**	2.200	22.00	21.40	2.80	89,90
H	1/8/2019	Body	D5GHzV2 SN:1138 (5.6 GHz)	8/21/2019	8.060	80.60	79.50	**1.38**	2.230	22.30	22.20	0.45	91,92
H	1/8/2019	Body	D5GHzV2 SN:1138 (5.75 GHz)	8/21/2019	7.940	79.40	74.10	**7.15**	2.210	22.10	20.60	7.28	93,94
H	1/22/2019	Body	D2450V2 SN:899	3/16/2019	4.940	49.40	50.55	-2.27	2.290	22.90	23.20	-1.29	

9. Conducted Output Power Measurements

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:
SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

When different maximum output power applies to GSM voice or GPRS/EDGE time slots, GSM voice and GPRS/EDGE time slots should be tested separately to determine compliance by summing the corresponding reported SAR.

The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance

Per October 2013 TCB Workshop:
When the maximum frame-averaged powers levels are within 0.25 dB of each other, test the configuration with the most number of time slots.

SAR is not required for EDGE (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GPRS/EDGE (GMSK) or the adjusted SAR of the highest reported SAR of GPRS/EDGE (GMSK) is ≤ 1.2W/kg.

GSM850 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			
					Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	128	824.2	33.46	24.43	34.00	**24.97**
			190	836.6	33.50	24.47		
			251	848.8	33.48	24.45		
		2	128	824.2	30.76	24.74	32.50	26.48
			190	836.6	30.68	24.66		
			251	848.8	30.70	24.68		
		3	128	824.2	30.00	25.74	30.80	**26.54**
			190	836.6	30.00	25.74		
			251	848.8	30.00	25.74		
		4	128	824.2	28.80	25.79	29.50	26.49
			190	836.6	28.80	25.79		
			251	848.8	28.90	25.89		
EDGE (8PSK)	MCS5	1	128	824.2	26.90	17.87	27.50	18.47
			190	836.6	27.01	17.98		
			251	848.8	26.90	17.87		
		2	128	824.2	24.80	18.78	25.50	19.48
			190	836.6	24.90	18.88		
			251	848.8	24.80	18.78		
		3	128	824.2	23.60	19.34	24.30	20.04
			190	836.6	23.70	19.44		
			251	848.8	23.70	19.44		
		4	128	824.2	22.40	19.39	23.10	20.09
			190	836.6	22.20	19.19		
			251	848.8	22.70	19.69		

Notes:
1. Head and Body-worn RF Exposure Conditions only supports GMSK Voice mode with 1 time slot. SAR testing was performed on GMSK Voice mode with 1time slot.
2. Hotspot RF Exposure Condition supports GPRS/EDGE (GMSK) mode. SAR testing was performed on GPRS/EDGE (GMSK) mode with 3 time slots for Max power based on the Tune-up Procedure.

GSM1900 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Maximum Average Power (dBm)				Reduced Average Power (dBm)			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	512	1850.2	30.40	21.37	31.00	**21.97**	30.40	21.37	31.00	**21.97**
			661	1880.0	30.70	21.67			30.70	21.67		
			810	1909.8	30.39	21.36			30.39	21.36		
		2	512	1850.2	27.65	21.63	29.00	22.98	24.90	18.88	25.70	19.68
			661	1880.0	28.04	22.02			25.23	19.21		
			810	1909.8	27.94	21.92			24.90	18.88		
		3	512	1850.2	25.66	21.40	27.00	22.74	22.80	18.54	24.50	20.24
			661	1880.0	26.09	21.83			23.28	19.02		
			810	1909.8	25.56	21.30			22.83	18.57		
		4	512	1850.2	23.74	20.73	25.50	22.49	21.30	18.29	23.00	19.99
			661	1880.0	24.21	21.20			21.55	18.54		
			810	1909.8	24.04	21.03			21.43	18.42		
EDGE (8PSK)	MCS5	1	512	1850.2	25.70	16.67	26.50	17.47	25.45	16.42	26.50	17.47
			661	1880.0	26.00	16.97			25.84	16.81		
			810	1909.8	25.60	16.57			25.70	16.67		
		2	512	1850.2	23.85	17.83	24.50	18.48	23.40	17.38	24.50	18.48
			661	1880.0	24.14	18.12			23.70	17.68		
			810	1909.8	23.78	17.76			23.40	17.38		
		3	512	1850.2	22.52	18.26	23.30	19.04	22.00	17.74	23.30	19.04
			661	1880.0	22.83	18.57			22.30	18.04		
			810	1909.8	22.37	18.11			22.07	17.81		
		4	512	1850.2	20.84	17.83	22.10	19.09	20.30	17.29	22.10	19.09
			661	1880.0	21.11	18.10			20.70	17.69		
			810	1909.8	20.91	17.90			20.37	17.36		

Notes:

1. Head and Body-worn RF Exposure Conditions only supports GMSK Voice mode with 1 time slot. SAR testing was performed on GMSK Voice mode.
2. Hotspot RF Exposure Condition supports GPRS/EDGE (GMSK) mode. SAR testing was performed on GPRS/EDGE (GMSK) mode 1 time slot for Reduced power, based on the Tune-up Procedure.

9.2. W-CDMA

Per KDB 941225 D01 3G SAR Procedures for W-CDMA:

Maximum output power is verified on the high, middle and low channels and using the appropriate 12.2 kbps RMC with TPC (transmit power control) set to all "1's"

Release 99 Setup Procedures used to establish the test signals

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1. A summary of these settings is illustrated below:

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 2
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

HSDPA Setup Procedures used to establish the test signals

The following 4 Sub-tests were completed according to procedures in table C.10.1.4 of 3GPP TS 34.121-1
A summary of these settings is illustrated below:

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

HSUPA Setup Procedures used to establish the test signals

The following 5 Sub-tests were completed according to procedures in table C.11.1.3 of 3GPP TS 34.121-1. A summary of these settings is illustrated below:

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

DC-HSDPA Setup Procedures used to establish the test signals

The following 4 Sub-tests for DC-HSDPA were completed according to procedures in table C08.1.12 of 3GPP TS 34.121-1. A summary of subtest settings is illustrated below:

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

HSPA+ Setup Procedures used to establish the test signals

Since 16QAM is not used for uplink, the uplink Category and release is same as HSUPA. Therefore, the RF conducted power is not measured.

SAR measurement is not required for the HSDPA, HSUPA, DC-HSDPA and HSPA+. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			Reduced Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.11	N/A	23.50	19.00	N/A	20.50
		9400	1880.0	23.22			20.00		
		9538	1907.6	22.74			19.70		
HSDPA	Subtest 1	9262	1852.4	22.10	0	23.50	18.94	0	20.50
		9400	1880.0	23.21			20.00		
		9538	1907.6	22.66			19.63		
	Subtest 2	9262	1852.4	21.77	0	23.50	19.06	0	20.50
		9400	1880.0	22.83			20.00		
		9538	1907.6	22.44			19.73		
	Subtest 3	9262	1852.4	21.38	0.5	23.00	19.08	0	20.50
		9400	1880.0	22.36			20.00		
		9538	1907.6	22.00			19.62		
	Subtest 4	9262	1852.4	20.85	1.0	22.50	19.04	0	20.50
		9400	1880.0	21.87			20.00		
		9538	1907.6	21.42			19.60		
HSUPA	Subtest 1	9262	1852.4	20.96	1	22.50	17.96	1	19.50
		9400	1880.0	22.00			19.00		
		9538	1907.6	20.95			18.58		
	Subtest 2	9262	1852.4	20.09	1.5	22.00	17.96	1	19.50
		9400	1880.0	21.23			19.00		
		9538	1907.6	20.84			18.58		
	Subtest 3	9262	1852.4	21.00	1.5	22.00	17.96	1	19.50
		9400	1880.0	22.00			19.00		
		9538	1907.6	21.56			18.58		
	Subtest 4	9262	1852.4	20.09	2.5	21.00	17.98	0.2	20.30
		9400	1880.0	21.00			20.00		
		9538	1907.6	20.84			19.60		
	Subtest 5	9262	1852.4	22.00	0	23.50	18.95	0	20.50
		9400	1880.0	23.00			20.00		
		9538	1907.6	22.60			19.59		
DC-HSDPA	Subtest 1	9262	1852.4	21.95	0	23.50	19.81	0	20.50
		9400	1880.0	22.90			19.89		
		9538	1907.6	23.00			20.00		
	Subtest 2	9262	1852.4	22.59	0	23.50	19.85	0	20.50
		9400	1880.0	22.68			19.87		
		9538	1907.6	22.70			20.00		
	Subtest 3	9262	1852.4	21.19	1.5	22.00	19.87	0	20.50
		9400	1880.0	21.20			19.94		
		9538	1907.6	21.25			20.00		
	Subtest 4	9262	1852.4	21.56	1.0	22.50	19.89	0	20.50
		9400	1880.0	21.64			19.89		
		9538	1907.6	21.42			20.00		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			Reduced Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.27	N/A	23.30	19.11	N/A	20.50
		1413	1732.6	22.89			20.30		
		1513	1752.6	22.71			19.68		
HSDPA	Subtest 1	1312	1712.4	22.27	0	23.30	19.11	0	20.50
		1413	1732.6	22.70			20.30		
		1513	1752.6	22.71			19.68		
	Subtest 2	1312	1712.4	22.24	0	23.30	19.12	0	20.50
		1413	1732.6	22.71			20.30		
		1513	1752.6	22.79			19.64		
	Subtest 3	1312	1712.4	21.48	0	23.30	19.07	0	20.50
		1413	1732.6	22.40			20.27		
		1513	1752.6	22.04			19.65		
	Subtest 4	1312	1712.4	21.50	0	23.30	19.12	0	20.50
		1413	1732.6	22.40			20.32		
		1513	1752.6	22.23			19.78		
HSUPA	Subtest 1	1312	1712.4	21.17	0.5	22.80	18.16	1	19.50
		1413	1732.6	22.32			19.28		
		1513	1752.6	21.66			18.67		
	Subtest 2	1312	1712.4	19.85	2.0	21.30	18.17	1	19.50
		1413	1732.6	21.08			19.29		
		1513	1752.6	20.63			18.66		
	Subtest 3	1312	1712.4	21.19	0.5	22.80	18.17	1	19.50
		1413	1732.6	22.31			19.30		
		1513	1752.6	21.66			18.67		
	Subtest 4	1312	1712.4	20.29	1.0	22.30	18.17	1	19.50
		1413	1732.6	21.54			19.30		
		1513	1752.6	21.15			18.67		
	Subtest 5	1312	1712.4	22.25	0	23.30	19.12	0	20.50
		1413	1732.6	22.69			20.30		
		1513	1752.6	22.73			19.72		
DC-HSDPA	Subtest 1	1312	1712.4	23.15	0	24.00	20.14	0	20.70
		1413	1732.6	23.50			20.50		
		1513	1752.6	22.87			19.88		
	Subtest 2	1312	1712.4	23.16	0	24.00	20.15	0	20.70
		1413	1732.6	23.50			20.50		
		1513	1752.6	22.93			19.86		
	Subtest 3	1312	1712.4	21.38	2.0	22.00	20.13	0	20.70
		1413	1732.6	21.50			20.50		
		1513	1752.6	21.16			19.85		
	Subtest 4	1312	1712.4	22.41	0.5	23.50	20.15	0	20.70
		1413	1732.6	22.79			20.50		
		1513	1752.6	22.16			19.92		

W-CDMA Band V Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	24.35	N/A	25.00
		4183	836.6	24.30		
		4233	846.6	24.41		
HSDPA	Subtest 1	4132	826.4	23.16	0	24.00
		4183	836.6	23.13		
		4233	846.6	23.24		
	Subtest 2	4132	826.4	22.67	0.5	23.50
		4183	836.6	22.64		
		4233	846.6	22.63		
	Subtest 3	4132	826.4	22.20	1.0	23.00
		4183	836.6	22.14		
		4233	846.6	22.20		
	Subtest 4	4132	826.4	21.68	1.5	22.50
		4183	836.6	21.66		
		4233	846.6	21.76		
HSUPA	Subtest 1	4132	826.4	22.32	0.5	23.50
		4183	836.6	22.29		
		4233	846.6	22.40		
	Subtest 2	4132	826.4	20.17	2.5	21.50
		4183	836.6	20.15		
		4233	846.6	20.25		
	Subtest 3	4132	826.4	21.16	1.5	22.50
		4183	836.6	21.16		
		4233	846.6	21.28		
	Subtest 4	4132	826.4	20.18	2.5	21.50
		4183	836.6	20.15		
		4233	846.6	20.25		
	Subtest 5	4132	826.4	23.20	0	24.00
		4183	836.6	23.16		
		4233	846.6	23.28		
DC-HSDPA	Subtest 1	4132	826.4	23.25	0	24.00
		4183	836.6	23.11		
		4233	846.6	23.22		
	Subtest 2	4132	826.4	22.78	0	24.00
		4183	836.6	22.83		
		4233	846.6	22.69		
	Subtest 3	4132	826.4	21.26	1.5	22.50
		4183	836.6	21.33		
		4233	846.6	21.26		
	Subtest 4	4132	826.4	21.82	1.5	22.50
		4183	836.6	21.87		
		4233	846.6	21.76		

9.3. LTE

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

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

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

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

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

Network Signalling value	Requirements (subclause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	N/A

According to April 2015 TCB workshop, SAR test exclusion can be applied for testing overlapping LTE bands as follows:

a) The maximum output power, including tolerance, for the smaller band must be ≤ the larger band to qualify for the SAR test exclusion.
b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.
   - LTE Band 2 (1850-1910 MHz) is covered by LTE Band 25 (1850-1915 MHz)
   - LTE Band 4 (1710-1755 MHz) is covered by LTE Band 66 (1710-1780 MHz)
   - LTE Band 17 (704-716 MHz) is covered by LTE Band 12 (699-716 MHz)
   - LTE Band 38 (2570-2620 MHz) is covered by LTE Band 41 (2496-2690 MHz)

LTE QPSK configuration has the highest maximum average output power per 3GPP standard.

SAR measurement is not required for the 16QAM and 64QAM. When the highest maximum output power for 16QAM and 64QAM is ≤ ½ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.

Please refer to section 6.3. for LTE detail test channels.

LTE Band 5 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	20525	[redacted]		
				[redacted]	836.5 MHz	[redacted]		
10 MHz	QPSK	1	0	[redacted]	24.74	[redacted]	0	25
		1	25	[redacted]	24.55	[redacted]	0	25
		1	49	[redacted]	24.59	[redacted]	0	25
		25	0	[redacted]	22.17	[redacted]	2	23
		25	12	[redacted]	22.14	[redacted]	2	23
		25	25	[redacted]	22.13	[redacted]	2	23
		50	0	[redacted]	22.17	[redacted]	2	23
	16QAM	1	0	[redacted]	22.50	[redacted]	2	23
		1	25	[redacted]	22.09	[redacted]	2	23
		1	49	[redacted]	22.38	[redacted]	2	23
		25	0	[redacted]	21.24	[redacted]	3	22
		25	12	[redacted]	21.21	[redacted]	3	22
		25	25	[redacted]	21.19	[redacted]	3	22
		50	0	[redacted]	21.20	[redacted]	3	22
	64QAM	1	0	[redacted]	21.53	[redacted]	3	22
		1	25	[redacted]	21.32	[redacted]	3	22
		1	49	[redacted]	21.45	[redacted]	3	22
		25	0	[redacted]	20.20	[redacted]	4	21
		25	12	[redacted]	20.19	[redacted]	4	21
		25	25	[redacted]	20.15	[redacted]	4	21
		50	0	[redacted]	20.16	[redacted]	4	21

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				20425	20525	20625		
				826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	24.73	24.69	24.62	0	25
		1	12	24.86	24.60	24.46	0	25
		1	24	24.76	24.69	24.62	0	25
		12	0	22.20	22.17	22.14	2	23
		12	7	22.17	22.16	22.11	2	23
		12	13	22.17	22.18	22.13	2	23
		25	0	22.14	22.14	22.10	2	23
	16QAM	1	0	22.53	22.37	22.58	2	23
		1	12	22.47	22.42	22.58	2	23
		1	24	22.57	22.42	22.56	2	23
		12	0	21.35	21.21	21.26	3	22
		12	7	21.27	21.17	21.17	3	22
		12	13	21.27	21.17	21.18	3	22
		25	0	21.17	21.11	21.14	3	22
	64QAM	1	0	21.67	21.25	21.29	3	22
		1	12	21.51	21.43	21.16	3	22
		1	24	21.59	21.29	21.35	3	22
		12	0	20.23	20.07	20.23	4	21
		12	7	20.22	20.07	20.23	4	21
		12	13	20.24	20.08	20.23	4	21
		25	0	20.15	20.11	20.18	4	21

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				20415	20525	20635		
				825.5 MHz	836.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	24.76	24.71	24.69	0	25
		1	8	24.94	24.56	25.00	0	25
		1	14	24.72	24.62	24.73	0	25
		8	0	22.23	22.21	22.17	2	23
		8	4	22.21	22.16	22.16	2	23
		8	7	22.22	22.17	22.15	2	23
		15	0	22.19	22.16	22.14	2	23
	16QAM	1	0	22.56	22.58	22.27	2	23
		1	8	22.86	22.53	22.45	2	23
		1	14	22.65	22.39	22.35	2	23
		8	0	21.20	21.11	21.17	3	22
		8	4	21.18	21.15	21.14	3	22
		8	7	21.21	21.12	21.13	3	22
		15	0	21.17	21.18	21.19	3	22
	64QAM	1	0	21.27	21.23	21.25	3	22
		1	8	21.33	21.35	21.06	3	22
		1	14	21.44	21.29	21.09	3	22
		8	0	20.07	20.15	20.16	4	21
		8	4	20.08	20.19	20.14	4	21
		8	7	20.05	20.18	20.13	4	21
		15	0	20.08	20.10	20.11	4	21

Note(s):

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

LTE Band 5 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				20407	20525	20643		
				824.7 MHz	836.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	24.77	24.78	24.81	0	25
		1	3	24.64	24.71	24.69	0	25
		1	5	24.71	24.68	24.72	0	25
		3	0	24.64	24.66	24.61	0	25
		3	1	24.62	24.63	24.60	0	25
		3	3	24.69	24.69	24.63	0	25
		6	0	22.22	22.17	22.22	2	23
	16QAM	1	0	22.44	22.34	22.57	2	23
		1	3	22.29	22.15	22.43	2	23
		1	5	22.30	22.24	22.46	2	23
		3	0	22.06	22.22	22.26	2	23
		3	1	22.05	22.18	22.37	2	23
		3	3	22.07	22.18	22.36	2	23
		6	0	21.21	21.22	21.15	3	22
	64QAM	1	0	21.24	21.21	21.43	3	22
		1	3	21.13	21.17	21.50	3	22
		1	5	21.38	21.05	21.27	3	22
		3	0	21.15	21.21	21.28	3	22
		3	1	21.20	21.21	21.29	3	22
		3	3	21.19	21.25	21.28	3	22
		6	0	20.21	20.07	20.17	4	21

LTE Band 7 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				20850	21100	21350	MPR	Tune-up Limit	20850	21100	21350	MPR	Tune-up Limit
				2510 MHz	2535 MHz	2560 MHz			2510 MHz	2535 MHz	2560 MHz		
20 MHz	QPSK	1	0	24.73	24.45	24.61	0	25	20.92	20.50	20.58	0	21.5
		1	49	24.62	24.36	24.40	0	25	20.73	20.28	20.21	0	21.5
		1	99	24.64	24.35	24.62	0	25	20.64	20.19	20.31	0	21.5
		50	0	22.18	21.89	22.08	2	23	20.79	20.41	20.50	0	21.5
		50	24	22.15	21.87	22.08	2	23	20.71	20.34	20.49	0	21.5
		50	50	22.12	21.85	22.09	2	23	20.64	20.26	20.42	0	21.5
		100	0	22.13	21.85	22.07	2	23	20.68	20.30	20.46	0	21.5
	16QAM	1	0	22.62	22.32	22.53	2	23	21.22	20.91	21.03	0	21.5
		1	49	22.27	22.17	22.41	2	23	20.83	20.66	20.91	0	21.5
		1	99	22.50	22.19	22.62	2	23	20.91	20.53	20.89	0	21.5
		50	0	21.17	20.90	21.05	3	22	20.76	20.47	20.52	0	21.5
		50	24	21.14	20.89	21.08	3	22	20.67	20.40	20.54	0	21.5
		50	50	21.10	20.86	21.10	3	22	20.59	20.29	20.50	0	21.5
		100	0	21.10	20.83	21.06	3	22	20.65	20.28	20.46	0	21.5
	64QAM	1	0	21.60	21.28	21.36	3	22	21.07	20.90	20.90	0	21.5
		1	49	21.49	21.07	21.18	3	22	20.90	20.64	20.71	0	21.5
		1	99	21.48	21.17	21.36	3	22	20.79	20.54	20.72	0	21.5
		50	0	20.14	19.85	19.94	4	21	19.75	19.50	19.50	0	21.5
		50	24	20.10	19.85	19.98	4	21	19.64	19.50	19.54	0	21.5
		50	50	20.06	19.81	20.05	4	21	19.56	19.50	19.51	0	21.5
		100	0	20.10	19.81	20.01	4	21	19.62	19.50	19.50	0	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				20825	21100	21375	MPR	Tune-up Limit	20825	21100	21375	MPR	Tune-up Limit
				2507.5 MHz	2535 MHz	2562.5 MHz			2507.5 MHz	2535 MHz	2562.5 MHz		
15 MHz	QPSK	1	0	24.77	24.38	24.58	0	25	20.84	20.41	20.55	0	21.5
		1	37	25.00	24.40	24.67	0	25	20.97	20.15	20.62	0	21.5
		1	74	24.70	24.29	24.52	0	25	20.64	20.22	20.35	0	21.5
		36	0	22.27	21.88	22.09	2	23	20.80	20.36	20.55	0	21.5
		36	20	22.23	21.84	22.04	2	23	20.75	20.31	20.50	0	21.5
		36	39	22.21	21.83	22.03	2	23	20.72	20.27	20.46	0	21.5
		75	0	22.29	21.91	22.10	2	23	20.82	20.39	20.59	0	21.5
	16QAM	1	0	22.67	22.10	22.22	2	23	21.10	20.67	20.87	0	21.5
		1	37	22.73	21.93	22.24	2	23	21.16	20.64	21.03	0	21.5
		1	74	22.56	22.02	22.24	2	23	20.84	20.40	20.73	0	21.5
		36	0	21.22	20.86	21.03	3	22	20.80	20.43	20.56	0	21.5
		36	20	21.19	20.83	21.01	3	22	20.73	20.38	20.52	0	21.5
		36	39	21.19	20.82	21.02	3	22	20.69	20.32	20.49	0	21.5
		75	0	21.26	20.89	21.05	3	22	20.78	20.40	20.55	0	21.5
	64QAM	1	0	21.47	21.13	21.48	3	22	21.05	20.58	20.96	0	21.5
		1	37	21.55	21.28	21.51	3	22	20.96	20.57	20.94	0	21.5
		1	74	21.37	21.00	21.55	3	22	20.80	20.28	20.81	0	21.5
		36	0	20.26	19.85	20.07	4	21	19.79	19.50	19.61	0	21.5
		36	20	20.22	19.84	20.05	4	21	19.72	19.50	19.56	0	21.5
		36	39	20.21	19.81	20.07	4	21	19.68	19.50	19.53	0	21.5
		75	0	20.24	19.90	20.08	4	21	19.74	19.50	19.57	0	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				20800	21100	21400	MPR	Tune-up Limit	20800	21100	21400	MPR	Tune-up Limit
				2505 MHz	2535 MHz	2565 MHz			2505 MHz	2535 MHz	2565 MHz		
10 MHz	QPSK	1	0	24.71	24.34	24.52	0	25	20.76	20.32	20.60	0	21.5
		1	25	24.66	24.20	24.48	0	25	20.66	20.12	20.50	0	21.5
		1	49	24.75	24.28	24.56	0	25	20.69	20.19	20.52	0	21.5
		25	0	22.22	21.84	22.04	2	23	20.75	20.32	20.59	0	21.5
		25	12	22.21	21.81	22.01	2	23	20.74	20.30	20.56	0	21.5
		25	25	22.21	21.82	22.03	2	23	20.70	20.25	20.54	0	21.5
		50	0	22.20	21.81	22.01	2	23	20.71	20.29	20.54	0	21.5
	16QAM	1	0	22.70	22.24	22.12	2	23	21.10	20.81	20.74	0	21.5
		1	25	22.58	22.00	22.00	2	23	20.99	20.50	20.60	0	21.5
		1	49	22.72	22.14	22.17	2	23	21.03	20.58	20.66	0	21.5
		25	0	21.23	20.88	21.04	3	22	20.78	20.34	20.57	0	21.5
		25	12	21.24	20.85	21.03	3	22	20.74	20.31	20.56	0	21.5
		25	25	21.23	20.86	21.07	3	22	20.72	20.25	20.52	0	21.5
		50	0	21.16	20.79	21.00	3	22	20.69	20.26	20.59	0	21.5
	64QAM	1	0	21.46	21.08	21.26	3	22	20.92	20.67	20.84	0	21.5
		1	25	21.38	20.91	21.08	3	22	20.79	20.40	20.64	0	21.5
		1	49	21.54	21.08	21.20	3	22	20.88	20.52	20.65	0	21.5
		25	0	20.15	19.84	20.02	4	21	19.73	19.50	19.64	0	21.5
		25	12	20.13	19.83	20.03	4	21	19.71	19.50	19.62	0	21.5
		25	25	20.13	19.82	20.05	4	21	19.66	19.50	19.58	0	21.5
		50	0	20.14	19.81	20.04	4	21	19.67	19.50	19.61	0	21.5

LTE Band 7 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				20775	21100	21425	MPR	Tune-up Limit	20775	21100	21425	MPR	Tune-up Limit
				2502.5 MHz	2535 MHz	2567.5 MHz			2502.5 MHz	2535 MHz	2567.5 MHz		
5 MHz	QPSK	1	0	24.77	24.28	24.51	0	25	20.79	20.34	20.54	0	21.5
		1	12	24.91	24.26	24.71	0	25	20.72	20.53	20.64	0	21.5
		1	24	24.86	24.33	24.58	0	25	20.81	20.35	20.55	0	21.5
		12	0	22.24	21.79	22.01	2	23	20.81	20.29	20.51	0	21.5
		12	7	22.22	21.77	22.00	2	23	20.79	20.27	20.48	0	21.5
		12	13	22.23	21.81	22.01	2	23	20.79	20.27	20.48	0	21.5
		25	0	22.22	21.77	22.01	2	23	20.78	20.26	20.49	0	21.5
	16QAM	1	0	22.38	22.14	22.42	2	23	21.20	20.64	20.66	0	21.5
		1	12	22.54	22.23	22.42	2	23	21.27	20.39	20.76	0	21.5
		1	24	22.44	22.07	22.49	2	23	21.11	20.62	20.66	0	21.5
		12	0	21.21	20.82	21.02	3	22	20.80	20.29	20.50	0	21.5
		12	7	21.24	20.76	21.02	3	22	20.75	20.24	20.44	0	21.5
		12	13	21.25	20.77	21.03	3	22	20.78	20.23	20.45	0	21.5
		25	0	21.15	20.74	21.02	3	22	20.77	20.25	20.41	0	21.5
	64QAM	1	0	21.72	20.78	21.34	3	22	21.21	20.47	20.75	0	21.5
		1	12	21.70	20.84	21.18	3	22	20.79	20.66	20.56	0	21.5
		1	24	21.66	20.84	21.44	3	22	21.13	20.46	20.79	0	21.5
		12	0	20.28	19.82	20.11	4	21	19.77	19.50	19.50	0	21.5
		12	7	20.19	19.74	20.13	4	21	19.77	19.50	19.52	0	21.5
		12	13	20.22	19.78	20.13	4	21	19.77	19.50	19.50	0	21.5
		25	0	20.19	19.77	20.04	4	21	19.69	19.50	19.50	0	21.5

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	23095	[redacted]		
				[redacted]	707.5 MHz	[redacted]		
10 MHz	QPSK	1	0	[redacted]	23.80	[redacted]	0	25
		1	25	[redacted]	23.63	[redacted]	0	25
		1	49	[redacted]	23.68	[redacted]	0	25
		25	0	[redacted]	22.77	[redacted]	2	23
		25	12	[redacted]	22.74	[redacted]	2	23
		25	25	[redacted]	22.72	[redacted]	2	23
		50	0	[redacted]	22.76	[redacted]	2	23
	16QAM	1	0	[redacted]	23.20	[redacted]	1.5	23.5
		1	25	[redacted]	22.84	[redacted]	1.5	23.5
		1	49	[redacted]	23.06	[redacted]	1.5	23.5
		25	0	[redacted]	21.76	[redacted]	2.5	22.5
		25	12	[redacted]	21.74	[redacted]	2.5	22.5
		25	25	[redacted]	21.69	[redacted]	2.5	22.5
		50	0	[redacted]	21.74	[redacted]	2.5	22.5
	64QAM	1	0	[redacted]	22.02	[redacted]	2.5	22.5
		1	25	[redacted]	21.82	[redacted]	2.5	22.5
		1	49	[redacted]	22.00	[redacted]	2.5	22.5
		25	0	[redacted]	20.84	[redacted]	3.5	21.5
		25	12	[redacted]	20.82	[redacted]	3.5	21.5
		25	25	[redacted]	20.77	[redacted]	3.5	21.5
		50	0	[redacted]	20.75	[redacted]	3.5	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				23035	23095	23155		
				701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	23.86	23.67	23.75	0	25
		1	12	24.07	23.62	23.79	0	25
		1	24	23.91	23.71	23.74	0	25
		12	0	22.87	22.75	22.75	2	23
		12	7	22.85	22.72	22.72	2	23
		12	13	22.86	22.73	22.74	2	23
		25	0	22.84	22.74	22.73	2	23
	16QAM	1	0	23.27	23.19	23.07	1.5	23.5
		1	12	23.05	23.19	23.16	1.5	23.5
		1	24	23.31	23.09	23.10	1.5	23.5
		12	0	21.89	21.75	21.80	2.5	22.5
		12	7	21.86	21.73	21.80	2.5	22.5
		12	13	21.87	21.76	21.81	2.5	22.5
		25	0	21.85	21.73	21.71	2.5	22.5
	64QAM	1	0	22.24	22.15	21.73	2.5	22.5
		1	12	21.94	21.91	21.89	2.5	22.5
		1	24	22.12	22.18	21.82	2.5	22.5
		12	0	20.81	20.69	20.79	3.5	21.5
		12	7	20.92	20.75	20.74	3.5	21.5
		12	13	20.92	20.72	20.76	3.5	21.5
		25	0	20.84	20.72	20.71	3.5	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				23025	23095	23165		
				700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	23.86	23.77	23.78	0	25
		1	8	24.10	23.53	24.00	0	25
		1	14	23.87	23.65	23.72	0	25
		8	0	22.86	22.75	22.74	2	23
		8	4	22.85	22.77	22.73	2	23
		8	7	22.86	22.72	22.71	2	23
		15	0	22.85	22.74	22.74	2	23
	16QAM	1	0	23.02	23.05	23.06	1.5	23.5
		1	8	23.07	23.07	23.46	1.5	23.5
		1	14	22.95	22.95	23.13	1.5	23.5
		8	0	21.88	21.78	21.75	2.5	22.5
		8	4	21.89	21.81	21.74	2.5	22.5
		8	7	21.87	21.80	21.76	2.5	22.5
		15	0	21.83	21.74	21.78	2.5	22.5
	64QAM	1	0	22.07	22.01	22.06	2.5	22.5
		1	8	21.95	22.01	21.86	2.5	22.5
		1	14	22.04	22.07	22.18	2.5	22.5
		8	0	20.88	20.81	20.70	3.5	21.5
		8	4	20.89	20.78	20.71	3.5	21.5
		8	7	20.84	20.79	20.69	3.5	21.5
		15	0	20.88	20.80	20.68	3.5	21.5

Note(s):

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

LTE Band 12 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				23017	23095	23173		
				699.7 MHz	707.5 MHz	715.3 MHz		
1.4 MHz	QPSK	1	0	23.86	23.80	23.80	0	25
		1	3	23.81	23.70	23.68	0	25
		1	5	23.82	23.72	23.70	0	25
		3	0	23.82	23.69	23.66	0	25
		3	1	23.83	23.65	23.74	0	25
		3	3	23.83	23.72	23.70	0	25
		6	0	22.82	22.70	22.68	2	23
	16QAM	1	0	23.02	23.11	23.26	1.5	23.5
		1	3	22.89	23.05	23.06	1.5	23.5
		1	5	22.93	23.00	23.14	1.5	23.5
		3	0	22.86	22.69	22.87	2	23
		3	1	22.77	22.69	22.98	2	23
		3	3	22.86	22.76	22.95	2	23
		6	0	21.81	21.69	21.74	2.5	22.5
	64QAM	1	0	22.07	21.85	22.07	2.5	22.5
		1	3	22.04	21.76	22.23	2.5	22.5
		1	5	21.91	21.99	21.94	2.5	22.5
		3	0	21.84	21.83	21.79	2.5	22.5
		3	1	21.86	21.89	21.76	2.5	22.5
		3	3	21.86	21.88	21.83	2.5	22.5
		6	0	20.79	20.87	20.79	3.5	21.5

LTE Band 13 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				[redacted]	23230 782 MHz	[redacted]	MPR	Tune-up Limit
10 MHz	QPSK	1	0	[redacted]	23.78	[redacted]	0	25
		1	25	[redacted]	23.72	[redacted]	0	25
		1	49	[redacted]	23.75	[redacted]	0	25
		25	0	[redacted]	21.77	[redacted]	2	23
		25	12	[redacted]	21.73	[redacted]	2	23
		25	25	[redacted]	21.74	[redacted]	2	23
		50	0	[redacted]	21.75	[redacted]	2	23
	16QAM	1	0	[redacted]	22.13	[redacted]	2	23
		1	25	[redacted]	21.99	[redacted]	2	23
		1	49	[redacted]	22.06	[redacted]	2	23
		25	0	[redacted]	20.80	[redacted]	3	22
		25	12	[redacted]	20.78	[redacted]	3	22
		25	25	[redacted]	20.79	[redacted]	3	22
		50	0	[redacted]	20.74	[redacted]	3	22
	64QAM	1	0	[redacted]	22.17	[redacted]	2.5	22.5
		1	25	[redacted]	22.01	[redacted]	2.5	22.5
		1	49	[redacted]	22.09	[redacted]	2.5	22.5
		25	0	[redacted]	20.78	[redacted]	3.5	21.5
		25	12	[redacted]	20.75	[redacted]	3.5	21.5
		25	25	[redacted]	20.76	[redacted]	3.5	21.5
		50	0	[redacted]	20.75	[redacted]	3.5	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				[redacted]	23230 782 MHz	[redacted]	MPR	Tune-up Limit
5 MHz	QPSK	1	0	[redacted]	23.77	[redacted]	0	25
		1	12	[redacted]	23.92	[redacted]	0	25
		1	24	[redacted]	23.79	[redacted]	0	25
		12	0	[redacted]	21.75	[redacted]	2	23
		12	7	[redacted]	21.74	[redacted]	2	23
		12	13	[redacted]	21.73	[redacted]	2	23
		25	0	[redacted]	21.72	[redacted]	2	23
	16QAM	1	0	[redacted]	22.18	[redacted]	2	23
		1	12	[redacted]	21.96	[redacted]	2	23
		1	24	[redacted]	22.22	[redacted]	2	23
		12	0	[redacted]	20.73	[redacted]	3	22
		12	7	[redacted]	20.73	[redacted]	3	22
		12	13	[redacted]	20.75	[redacted]	3	22
		25	0	[redacted]	20.78	[redacted]	3	22
	64QAM	1	0	[redacted]	22.15	[redacted]	2.5	22.5
		1	12	[redacted]	21.99	[redacted]	2.5	22.5
		1	24	[redacted]	22.19	[redacted]	2.5	22.5
		12	0	[redacted]	20.77	[redacted]	3.5	21.5
		12	7	[redacted]	20.78	[redacted]	3.5	21.5
		12	13	[redacted]	20.77	[redacted]	3.5	21.5
		25	0	[redacted]	20.73	[redacted]	3.5	21.5

Note(s):

10/5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				26140	26365	26590	MPR	Tune-up Limit	26140	26365	26590	MPR	Tune-up Limit
				1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	23.47	23.66	23.14	0	24	20.40	20.61	20.14	0	21
		1	49	23.29	23.48	22.90	0	24	20.22	20.43	19.93	0	21
		1	99	23.27	23.45	23.02	0	24	20.17	20.41	20.02	0	21
		50	0	22.35	22.53	22.13	1	23	20.29	20.50	20.11	0	21
		50	24	22.31	22.48	22.11	1	23	20.25	20.43	20.10	0	21
		50	50	22.23	22.44	22.08	1	23	20.18	20.40	20.06	0	21
		100	0	22.29	22.48	22.11	1	23	20.23	20.45	20.09	0	21
	16QAM	1	0	22.67	22.90	22.52	1	23	20.62	20.91	20.55	0	21
		1	49	22.35	22.68	22.40	1	23	20.32	20.74	20.40	0	21
		1	99	22.45	22.78	22.39	1	23	20.41	20.80	20.40	0	21
		50	0	21.32	21.47	21.12	2	22	20.26	20.46	20.09	0	21
		50	24	21.25	21.41	21.11	2	22	20.20	20.41	20.10	0	21
		50	50	21.20	21.36	21.08	2	22	20.14	20.35	20.07	0	21
		100	0	21.22	21.36	21.07	2	22	20.20	20.35	20.04	0	21
	64QAM	1	0	21.40	21.67	21.35	2	22	20.55	20.67	20.12	0	21
		1	49	21.09	21.46	21.18	2	22	20.38	20.36	19.86	0	21
		1	99	21.17	21.45	21.26	2	22	20.30	20.46	19.97	0	21
		50	0	20.05	20.23	19.84	3	21	20.07	20.23	19.85	0	21
		50	24	20.01	20.16	19.84	3	21	20.03	20.16	19.84	0	21
		50	50	19.93	20.14	19.81	3	21	19.96	20.12	19.83	0	21
		100	0	19.98	20.17	19.84	3	21	19.99	20.19	19.82	0	21

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				26115	26365	26615	MPR	Tune-up Limit	26115	26365	26615	MPR	Tune-up Limit
				1857.5 MHz	1882.5 MHz	1907.5 MHz			1857.5 MHz	1882.5 MHz	1907.5 MHz		
15 MHz	QPSK	1	0	23.45	23.56	23.10	0	24	20.18	20.33	19.84	0	21
		1	37	23.67	23.52	23.30	0	24	20.39	20.16	19.99	0	21
		1	74	23.31	23.41	22.94	0	24	20.01	20.16	19.70	0	21
		36	0	22.40	22.55	22.11	1	23	20.15	20.32	19.87	0	21
		36	20	22.36	22.51	22.09	1	23	20.10	20.26	19.85	0	21
		36	39	22.33	22.49	22.07	1	23	20.09	20.24	19.82	0	21
		75	0	22.41	22.55	22.14	1	23	20.15	20.32	19.89	0	21
	16QAM	1	0	22.67	22.83	22.35	1	23	20.41	20.58	20.04	0	21
		1	37	22.84	22.83	22.37	1	23	20.60	20.53	20.17	0	21
		1	74	22.51	22.69	22.19	1	23	20.25	20.42	19.93	0	21
		36	0	21.34	21.51	21.08	2	22	20.12	20.30	19.83	0	21
		36	20	21.30	21.46	21.03	2	22	20.07	20.25	19.80	0	21
		36	39	21.28	21.44	21.00	2	22	20.05	20.24	19.76	0	21
		75	0	21.34	21.48	21.05	2	22	20.11	20.28	19.83	0	21
	64QAM	1	0	21.21	21.59	21.00	2	22	20.44	20.44	20.11	0	21
		1	37	21.14	21.57	20.95	2	22	20.38	20.39	20.17	0	21
		1	74	21.02	21.42	20.87	2	22	20.26	20.24	19.99	0	21
		36	0	20.11	20.31	19.87	3	21	20.13	20.31	19.89	0	21
		36	20	20.06	20.26	19.84	3	21	20.09	20.26	19.88	0	21
		36	39	20.04	20.22	19.81	3	21	20.07	20.23	19.84	0	21
		75	0	20.08	20.29	19.84	3	21	20.11	20.29	19.87	0	21

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				26090	26365	26640	MPR	Tune-up Limit	26090	26365	26640	MPR	Tune-up Limit
				1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	23.30	23.57	23.09	0	24	20.06	20.27	19.88	0	21
		1	25	23.20	23.39	23.04	0	24	19.96	20.11	19.82	0	21
		1	49	23.25	23.46	23.00	0	24	20.01	20.17	19.78	0	21
		25	0	22.31	22.50	22.09	1	23	20.02	20.22	19.85	0	21
		25	12	22.29	22.48	22.05	1	23	20.01	20.19	19.81	0	21
		25	25	22.27	22.44	22.02	1	23	20.01	20.19	19.81	0	21
		50	0	22.27	22.47	22.05	1	23	20.02	20.20	19.82	0	21
	16QAM	1	0	22.72	22.80	22.29	1	23	20.50	20.50	19.94	0	21
		1	25	22.62	22.48	22.11	1	23	20.40	20.17	19.72	0	21
		1	49	22.70	22.70	22.19	1	23	20.50	20.36	19.82	0	21
		25	0	21.29	21.49	21.11	2	22	20.05	20.17	19.81	0	21
		25	12	21.29	21.46	21.10	2	22	20.04	20.16	19.78	0	21
		25	25	21.27	21.44	21.04	2	22	20.04	20.13	19.75	0	21
		50	0	21.22	21.41	21.02	2	22	20.01	20.17	19.83	0	21
	64QAM	1	0	21.20	21.47	20.87	2	22	20.31	20.56	20.10	0	21
		1	25	21.09	21.24	20.63	2	22	20.29	20.36	19.90	0	21
		1	49	21.23	21.45	20.67	2	22	20.34	20.52	19.91	0	21
		25	0	20.02	20.24	19.90	3	21	20.02	20.24	19.90	0	21
		25	12	20.04	20.23	19.88	3	21	20.00	20.21	19.88	0	21
		25	25	20.02	20.21	19.84	3	21	20.00	20.20	19.85	0	21
		50	0	20.01	20.21	19.84	3	21	20.01	20.22	19.83	0	21

LTE Band 25 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit	Reduced Average Power (dBm)			MPR	Tune-up Limit
				26065	26365	26665			26065	26365	26665		
				1852.5 MHz	1882.5 MHz	1912.5 MHz			1852.5 MHz	1882.5 MHz	1912.5 MHz		
5 MHz	QPSK	1	0	23.28	23.51	23.07	0	24	19.97	20.20	19.85	0	21
		1	12	23.50	23.52	22.95	0	24	20.15	20.12	19.84	0	21
		1	24	23.32	23.52	23.03	0	24	19.99	20.20	19.83	0	21
		12	0	22.25	22.47	22.05	1	23	19.99	20.19	19.85	0	21
		12	7	22.25	22.45	22.02	1	23	19.98	20.17	19.82	0	21
		12	13	22.25	22.46	22.02	1	23	19.96	20.16	19.79	0	21
		25	0	22.24	22.43	22.02	1	23	19.95	20.15	19.77	0	21
	16QAM	1	0	22.50	22.64	22.55	1	23	20.37	20.51	20.29	0	21
		1	12	22.54	22.72	22.59	1	23	20.46	20.56	20.32	0	21
		1	24	22.56	22.66	22.40	1	23	20.42	20.52	20.14	0	21
		12	0	21.36	21.43	20.99	2	22	19.96	20.19	19.83	0	21
		12	7	21.34	21.51	21.01	2	22	19.91	20.16	19.79	0	21
		12	13	21.32	21.51	20.98	2	22	19.92	20.15	19.80	0	21
		25	0	21.24	21.41	21.02	2	22	19.96	20.11	19.77	0	21
	64QAM	1	0	21.49	21.25	21.16	2	22	20.30	20.81	19.85	0	21
		1	12	21.39	21.31	21.02	2	22	20.29	20.59	19.99	0	21
		1	24	21.39	21.29	21.14	2	22	20.39	20.69	19.84	0	21
		12	0	20.04	20.19	19.92	3	21	20.04	20.22	19.95	0	21
		12	7	20.06	20.16	19.92	3	21	20.07	20.25	19.85	0	21
		12	13	20.07	20.18	19.90	3	21	20.05	20.22	19.87	0	21
		25	0	19.96	20.19	19.85	3	21	19.98	20.17	19.84	0	21

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit	Reduced Average Power (dBm)			MPR	Tune-up Limit
				26055	26365	26675			26055	26365	26675		
				1851.5 MHz	1882.5 MHz	1913.5 MHz			1851.5 MHz	1882.5 MHz	1913.5 MHz		
3 MHz	QPSK	1	0	23.28	23.47	23.11	0	24	20.02	20.25	19.91	0	21
		1	8	23.48	23.32	23.30	0	24	20.29	19.91	20.07	0	21
		1	14	23.28	23.42	23.06	0	24	20.03	20.16	19.81	0	21
		8	0	22.23	22.46	22.06	1	23	19.99	20.22	19.81	0	21
		8	4	22.24	22.43	22.03	1	23	20.00	20.22	19.79	0	21
		8	7	22.22	22.42	22.00	1	23	19.96	20.20	19.78	0	21
		15	0	22.23	22.43	22.01	1	23	19.95	20.21	19.81	0	21
	16QAM	1	0	22.59	22.76	22.35	1	23	20.34	20.55	19.79	0	21
		1	8	22.92	22.76	22.49	1	23	20.66	20.51	19.88	0	21
		1	14	22.61	22.62	22.24	1	23	20.40	20.42	19.95	0	21
		8	0	21.21	21.52	21.07	2	22	19.94	20.26	19.83	0	21
		8	4	21.25	21.48	21.06	2	22	19.95	20.27	19.77	0	21
		8	7	21.23	21.51	21.04	2	22	19.95	20.26	19.81	0	21
		15	0	21.25	21.39	21.01	2	22	19.92	20.17	19.80	0	21
	64QAM	1	0	21.16	21.40	21.06	2	22	19.98	20.43	19.91	0	21
		1	8	21.36	21.45	20.86	2	22	20.19	20.69	19.86	0	21
		1	14	21.17	21.43	20.96	2	22	20.28	20.54	19.93	0	21
		8	0	19.98	20.27	19.85	3	21	19.98	20.26	19.86	0	21
		8	4	20.00	20.29	19.83	3	21	19.98	20.27	19.85	0	21
		8	7	19.96	20.29	19.80	3	21	19.96	20.27	19.85	0	21
		15	0	19.90	20.17	19.76	3	21	19.95	20.17	19.80	0	21

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit	Reduced Average Power (dBm)			MPR	Tune-up Limit
				26047	26365	26683			26047	26365	26683		
				1850.7 MHz	1882.5 MHz	1914.3 MHz			1850.7 MHz	1882.5 MHz	1914.3 MHz		
1.4 MHz	QPSK	1	0	23.33	23.52	23.14	0	24	20.07	20.28	19.88	0	21
		1	3	23.20	23.39	23.04	0	24	19.97	20.17	19.75	0	21
		1	5	23.24	23.46	23.07	0	24	20.00	20.19	19.79	0	21
		3	0	23.17	23.33	22.93	0	24	19.90	20.08	19.69	0	21
		3	1	23.20	23.35	22.82	0	24	19.86	20.12	19.62	0	21
		3	3	23.19	23.36	22.91	0	24	19.89	20.11	19.69	0	21
		6	0	22.21	22.47	22.01	1	23	19.96	20.17	19.78	0	21
	16QAM	1	0	22.51	22.75	22.33	1	23	20.27	20.64	19.92	0	21
		1	3	22.31	22.77	22.23	1	23	20.03	20.57	19.80	0	21
		1	5	22.39	22.70	22.19	1	23	20.19	20.51	19.80	0	21
		3	0	22.24	22.44	21.97	1	23	19.97	20.22	19.67	0	21
		3	1	22.21	22.52	21.87	1	23	19.94	20.32	19.45	0	21
		3	3	22.23	22.52	22.00	1	23	19.85	20.30	19.74	0	21
		6	0	21.25	21.33	21.08	2	22	20.07	20.05	19.91	0	21
	64QAM	1	0	21.01	21.39	21.09	2	22	20.08	20.49	20.11	0	21
		1	3	20.85	21.28	21.05	2	22	19.96	20.32	20.12	0	21
		1	5	21.15	21.23	20.94	2	22	20.20	20.33	19.97	0	21
		3	0	21.02	21.16	20.82	2	22	20.00	20.19	19.92	0	21
		3	1	21.09	21.17	20.85	2	22	20.06	20.19	19.89	0	21
		3	3	21.12	21.19	20.85	2	22	20.04	20.24	19.91	0	21
		6	0	20.04	20.13	19.86	3	21	20.03	20.17	19.83	0	21

LTE Band 26 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	26865	[redacted]		
				[redacted]	831.5 MHz	[redacted]		
15 MHz	QPSK	1	0	[redacted]	23.96	[redacted]	0	25
		1	37	[redacted]	23.83	[redacted]	0	25
		1	74	[redacted]	23.78	[redacted]	0	25
		36	0	[redacted]	22.96	[redacted]	1.5	23.5
		36	20	[redacted]	22.91	[redacted]	1.5	23.5
		36	39	[redacted]	22.87	[redacted]	1.5	23.5
		75	0	[redacted]	22.98	[redacted]	1.5	23.5
	16QAM	1	0	[redacted]	23.27	[redacted]	1.5	23.5
		1	37	[redacted]	23.30	[redacted]	1.5	23.5
		1	74	[redacted]	23.12	[redacted]	1.5	23.5
		36	0	[redacted]	21.98	[redacted]	2.5	22.5
		36	20	[redacted]	21.93	[redacted]	2.5	22.5
		36	39	[redacted]	21.90	[redacted]	2.5	22.5
		75	0	[redacted]	21.96	[redacted]	2.5	22.5
	64QAM	1	0	[redacted]	22.20	[redacted]	2.5	22.5
		1	37	[redacted]	22.24	[redacted]	2.5	22.5
		1	74	[redacted]	22.02	[redacted]	2.5	22.5
		36	0	[redacted]	20.97	[redacted]	3.5	21.5
		36	20	[redacted]	20.91	[redacted]	3.5	21.5
		36	39	[redacted]	20.88	[redacted]	3.5	21.5
		75	0	[redacted]	20.95	[redacted]	3.5	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				26740	26865	26990		
				819 MHz	831.5 MHz	844 MHz		
10 MHz	QPSK	1	0	23.91	23.94	23.67	0	25
		1	25	23.84	23.88	23.48	0	25
		1	49	23.85	23.88	23.52	0	25
		25	0	22.91	22.92	22.65	1.5	23.5
		25	12	22.90	22.89	22.62	1.5	23.5
		25	25	22.87	22.88	22.63	1.5	23.5
		50	0	22.88	22.88	22.64	1.5	23.5
	16QAM	1	0	23.27	23.14	23.08	1.5	23.5
		1	25	23.18	22.92	22.79	1.5	23.5
		1	49	23.24	23.07	22.95	1.5	23.5
		25	0	21.88	21.87	21.64	2.5	22.5
		25	12	21.85	21.84	21.62	2.5	22.5
		25	25	21.84	21.84	21.62	2.5	22.5
		50	0	21.85	21.85	21.60	2.5	22.5
	64QAM	1	0	22.07	22.13	21.86	2.5	22.5
		1	25	21.85	21.94	21.75	2.5	22.5
		1	49	21.94	22.13	21.87	2.5	22.5
		25	0	20.90	20.94	20.61	3.5	21.5
		25	12	20.85	20.90	20.62	3.5	21.5
		25	25	20.86	20.89	20.62	3.5	21.5
		50	0	20.84	20.84	20.62	3.5	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				26715	26865	27015		
				816.5 MHz	831.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	23.88	23.86	23.73	0	25
		1	12	24.03	23.82	23.84	0	25
		1	24	23.90	23.87	23.73	0	25
		12	0	22.92	22.90	22.68	1.5	23.5
		12	7	22.89	22.90	22.66	1.5	23.5
		12	13	22.91	22.91	22.65	1.5	23.5
		25	0	22.90	22.90	22.65	1.5	23.5
	16QAM	1	0	23.20	23.35	23.05	1.5	23.5
		1	12	22.87	23.41	23.16	1.5	23.5
		1	24	23.24	23.27	23.11	1.5	23.5
		12	0	21.87	21.92	21.71	2.5	22.5
		12	7	21.86	21.88	21.63	2.5	22.5
		12	13	21.87	21.87	21.64	2.5	22.5
		25	0	21.86	21.90	21.57	2.5	22.5
	64QAM	1	0	21.90	21.98	22.10	2.5	22.5
		1	12	21.68	22.04	21.70	2.5	22.5
		1	24	21.96	22.01	22.01	2.5	22.5
		12	0	20.86	20.96	20.62	3.5	21.5
		12	7	20.82	20.86	20.64	3.5	21.5
		12	13	20.84	20.88	20.65	3.5	21.5
		25	0	20.85	20.86	20.63	3.5	21.5

Note(s):

15 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

LTE Band 26 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				26705	26865	27025		
				815.5 MHz	831.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	23.88	23.94	23.67	0	25
		1	8	24.10	23.90	23.90	0	25
		1	14	23.91	23.83	23.73	0	25
		8	0	22.85	22.91	22.67	1.5	23.5
		8	4	22.81	22.90	22.67	1.5	23.5
		8	7	22.80	22.87	22.65	1.5	23.5
		15	0	22.82	22.88	22.65	1.5	23.5
	16QAM	1	0	23.03	23.21	23.02	1.5	23.5
		1	8	23.07	23.22	23.27	1.5	23.5
		1	14	22.96	23.10	23.26	1.5	23.5
		8	0	21.86	21.94	21.65	2.5	22.5
		8	4	21.82	21.95	21.63	2.5	22.5
		8	7	21.84	21.95	21.65	2.5	22.5
		15	0	21.81	21.84	21.61	2.5	22.5
	64QAM	1	0	22.02	22.16	21.74	2.5	22.5
		1	8	21.76	22.43	21.97	2.5	22.5
		1	14	21.95	22.32	22.02	2.5	22.5
		8	0	20.87	21.00	20.66	3.5	21.5
		8	4	20.84	20.96	20.64	3.5	21.5
		8	7	20.84	20.95	20.61	3.5	21.5
		15	0	20.83	20.92	20.56	3.5	21.5

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				26697	26865	27033		
				814.7 MHz	831.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	23.96	23.97	23.77	0	25
		1	3	23.87	23.88	23.65	0	25
		1	5	23.90	23.89	23.68	0	25
		3	0	23.80	23.82	23.55	0	25
		3	1	23.78	23.75	23.60	0	25
		3	3	23.79	23.81	23.64	0	25
		6	0	22.86	22.85	22.63	1.5	23.5
	16QAM	1	0	23.11	23.27	23.16	1.5	23.5
		1	3	22.87	23.20	23.01	1.5	23.5
		1	5	23.02	23.15	23.02	1.5	23.5
		3	0	22.88	22.91	22.69	1.5	23.5
		3	1	22.83	22.81	22.83	1.5	23.5
		3	3	22.88	23.00	22.81	1.5	23.5
		6	0	21.94	21.99	21.58	2.5	22.5
	64QAM	1	0	22.11	22.34	21.94	2.5	22.5
		1	3	21.98	22.41	21.82	2.5	22.5
		1	5	22.24	22.16	21.78	2.5	22.5
		3	0	21.84	22.04	21.56	2.5	22.5
		3	1	21.93	22.06	21.64	2.5	22.5
		3	3	21.95	22.11	21.60	2.5	22.5
		6	0	20.95	20.92	20.62	3.5	21.5

LTE Band 41 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)							Reduced Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	24.01	23.59	23.34	23.58	23.56	0	25	21.10	20.62	20.48	20.71	20.71	0	22
		1	49	23.82	23.52	23.19	23.48	23.48	0	25	20.96	20.45	20.20	20.58	20.68	0	22
		1	99	23.70	23.39	23.09	23.27	23.34	0	25	20.80	20.40	20.12	20.42	20.45	0	22
		50	0	21.97	21.52	21.25	21.50	21.57	2	23	21.07	20.66	20.42	20.67	20.74	0	22
		50	24	21.88	21.46	21.19	21.50	21.51	2	23	20.96	20.59	20.35	20.60	20.70	0	22
		50	50	21.80	21.40	21.12	21.50	21.50	2	23	20.88	20.56	20.31	20.54	20.66	0	22
		100	0	21.86	21.44	21.17	21.50	21.50	2	23	20.92	20.58	20.33	20.59	20.68	0	22
	16QAM	1	0	22.02	21.76	21.38	21.44	21.81	2	23	20.98	20.85	20.52	20.98	21.17	0	22
		1	49	21.88	21.68	21.26	21.40	21.74	2	23	21.32	20.71	20.20	20.79	21.03	0	22
		1	99	21.92	21.51	21.24	21.30	21.45	2	23	21.18	20.42	20.35	20.68	20.66	0	22
		50	0	20.96	20.54	20.32	20.48	20.62	3	22	21.07	20.67	20.45	20.67	20.77	0	22
		50	24	20.86	20.51	20.25	20.42	20.58	3	22	21.00	20.61	20.39	20.63	20.79	0	22
		50	50	20.80	20.47	20.16	20.40	20.54	3	22	20.86	20.55	20.33	20.58	20.74	0	22
		100	0	20.85	20.45	20.19	20.40	20.48	3	22	20.88	20.56	20.33	20.59	20.69	0	22
	64QAM	1	0	21.16	20.65	20.36	20.57	20.65	3	22	21.30	20.74	20.47	20.86	20.86	0	22
		1	49	20.46	20.68	19.95	20.10	20.67	3	22	20.88	20.57	20.26	20.71	20.71	0	22
		1	99	21.38	20.44	20.10	20.27	20.47	3	22	20.75	20.49	20.35	20.63	20.63	0	22
		50	0	20.02	19.53	19.34	19.54	19.59	4	21	20.02	19.69	19.50	19.69	19.69	0	22
		50	24	19.91	19.48	19.29	19.48	19.56	4	21	19.97	19.65	19.50	19.63	19.63	0	22
		50	50	19.83	19.45	19.24	19.41	19.49	4	21	19.92	19.59	19.50	19.59	19.59	0	22
		100	0	19.87	19.47	19.20	19.43	19.53	4	21	19.94	19.58	19.50	19.59	19.59	0	22

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)							Reduced Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
15 MHz	QPSK	1	0	24.05	23.68	23.25	23.54	23.52	0	25	20.98	20.62	20.37	20.65	20.73	0	22
		1	37	23.67	23.54	23.11	23.26	23.42	0	25	20.82	20.30	20.21	20.51	20.43	0	22
		1	74	23.77	23.37	23.07	23.26	23.30	0	25	20.84	20.46	20.18	20.45	20.57	0	22
		36	0	21.98	21.52	21.23	21.48	21.54	2	23	20.98	20.63	20.38	20.64	20.68	0	22
		36	20	21.92	21.45	21.18	21.42	21.50	2	23	20.94	20.58	20.33	20.59	20.63	0	22
		36	39	21.88	21.42	21.14	21.38	21.50	2	23	20.90	20.52	20.29	20.53	20.59	0	22
		75	0	21.97	21.51	21.24	21.49	21.53	2	23	21.00	20.63	20.37	20.64	20.72	0	22
	16QAM	1	0	21.99	21.44	21.24	21.54	21.58	2	23	20.94	20.40	20.43	20.74	20.74	0	22
		1	37	22.02	21.20	20.96	21.33	21.38	2	23	20.66	20.32	20.18	20.24	20.62	0	22
		1	74	21.99	21.10	21.16	21.32	21.32	2	23	20.85	20.35	20.10	20.55	20.43	0	22
		36	0	20.99	20.50	20.22	20.46	20.57	3	22	20.95	20.64	20.39	20.63	20.75	0	22
		36	20	20.92	20.44	20.15	20.48	20.53	3	22	20.90	20.63	20.33	20.58	20.72	0	22
		36	39	20.88	20.41	20.14	20.42	20.51	3	22	20.89	20.60	20.34	20.53	20.70	0	22
		75	0	20.94	20.50	20.22	20.49	20.59	3	22	21.00	20.65	20.40	20.65	20.77	0	22
	64QAM	1	0	20.61	20.73	20.38	20.13	20.92	3	22	21.30	20.52	20.64	20.81	20.82	0	22
		1	37	20.48	20.29	20.40	19.91	20.20	3	22	20.92	20.15	20.32	20.51	20.18	0	22
		1	74	21.05	20.63	20.30	20.17	20.44	3	22	21.14	20.73	20.26	20.60	20.54	0	22
		36	0	19.91	19.46	19.21	19.44	19.45	4	21	19.92	19.59	19.50	19.56	19.65	0	22
		36	20	19.84	19.36	19.16	19.40	19.37	4	21	19.84	19.56	19.50	19.51	19.61	0	22
		36	39	19.82	19.32	19.15	19.37	19.36	4	21	19.85	19.50	19.50	19.50	19.60	0	22
		75	0	19.92	19.49	19.23	19.44	19.50	4	21	19.97	19.63	19.50	19.60	19.69	0	22

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)							Reduced Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	23.98	23.49	23.26	23.46	23.49	0	25	20.99	20.55	20.33	20.63	20.70	0	22
		1	25	23.74	23.47	23.24	23.26	23.50	0	25	20.97	20.35	20.33	20.57	20.67	0	22
		1	49	23.80	23.39	23.10	23.30	23.40	0	25	20.85	20.39	20.21	20.45	20.54	0	22
		25	0	21.93	21.48	21.19	21.45	21.51	2	23	20.97	20.61	20.37	20.60	20.70	0	22
		25	12	21.89	21.45	21.18	21.42	21.45	2	23	20.94	20.56	20.32	20.57	20.67	0	22
		25	25	21.85	21.41	21.14	21.37	21.44	2	23	20.89	20.55	20.30	20.52	20.64	0	22
		50	0	21.88	21.44	21.18	21.41	21.49	2	23	20.94	20.57	20.34	20.58	20.68	0	22
	16QAM	1	0	22.23	21.37	21.10	21.63	21.47	2	23	20.91	20.71	20.29	20.56	20.60	0	22
		1	25	22.12	21.22	21.00	21.55	21.32	2	23	20.84	20.58	20.10	20.38	20.54	0	22
		1	49	22.11	21.22	21.01	21.58	21.31	2	23	20.83	20.66	20.15	20.41	20.52	0	22
		25	0	20.93	20.51	20.27	20.46	20.54	3	22	21.00	20.64	20.41	20.62	20.76	0	22
		25	12	20.90	20.48	20.25	20.44	20.52	3	22	20.97	20.60	20.39	20.59	20.72	0	22
		25	25	20.85	20.44	20.23	20.43	20.49	3	22	20.94	20.60	20.36	20.57	20.70	0	22
		50	0	20.87	20.50	20.21	20.41	20.54	3	22	20.94	20.59	20.39	20.63	20.72	0	22
	64QAM	1	0	20.86	20.80	20.13	20.36	20.84	3	22	20.78	20.43	20.34	20.49	20.56	0	22
		1	25	20.70	20.71	20.09	20.20	20.76	3	22	20.62	20.40	20.23	20.31	20.50	0	22
		1	49	20.79	20.66	19.95	20.29	20.71	3	22	20.74	20.31	20.19	20.44	20.41	0	22
		25	0	19.99	19.54	19.28	19.53	19.61	4	21	20.01	19.66	19.50	19.72	19.78	0	22
		25	12	19.94	19.51	19.24	19.49	19.57	4	21	19.97	19.60	19.50	19.66	19.73	0	22
		25	25	19.90	19.48	19.21	19.46	19.56	4	21	19.93	19.60	19.50	19.65	19.73	0	22
		50	0	19.91	19.52	19.23	19.46	19.58	4	21	19.94	19.61	19.50	19.62	19.77	0	22

LTE Band 41 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)							Reduced Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
5 MHz	QPSK	1	0	23.91	23.50	23.24	23.45	23.52	0	25	20.99	20.62	20.33	20.60	20.25	0	22
		1	12	23.75	23.29	23.09	23.28	23.37	0	25	20.80	20.49	20.15	20.43	20.09	0	22
		1	24	23.81	23.38	23.15	23.35	23.39	0	25	20.89	20.53	20.21	20.50	20.16	0	22
		12	0	21.85	21.42	21.16	21.41	21.46	2	23	20.93	20.55	20.30	20.56	20.21	0	22
		12	7	21.82	21.39	21.14	21.38	21.42	2	23	20.90	20.53	20.28	20.52	20.17	0	22
		12	13	21.81	21.37	21.13	21.36	21.42	2	23	20.88	20.51	20.27	20.50	20.24	0	22
		25	0	21.82	21.41	21.14	21.39	21.46	2	23	20.90	20.56	20.29	20.52	20.61	0	22
	16QAM	1	0	21.73	21.57	21.28	21.30	21.51	2	23	20.71	20.63	20.43	20.35	20.68	0	22
		1	12	21.57	21.45	21.15	21.14	21.36	2	23	20.56	20.54	20.22	20.21	20.54	0	22
		1	24	21.73	21.55	21.22	21.31	21.51	2	23	20.72	20.56	20.43	20.37	20.60	0	22
		12	0	20.88	20.47	20.13	20.42	20.50	3	22	20.91	20.47	20.31	20.59	20.55	0	22
		12	7	20.84	20.42	20.10	20.40	20.47	3	22	20.89	20.46	20.28	20.57	20.53	0	22
		12	13	20.83	20.41	20.10	20.38	20.46	3	22	20.86	20.45	20.27	20.54	20.55	0	22
		25	0	20.84	20.42	20.14	20.43	20.47	3	22	20.92	20.53	20.29	20.55	20.61	0	22
	64QAM	1	0	20.86	20.50	20.14	20.48	20.51	3	22	20.93	20.40	20.46	20.61	20.61	0	22
		1	12	20.59	20.32	20.08	20.26	20.33	3	22	20.75	20.05	20.41	20.44	20.34	0	22
		1	24	20.70	20.35	20.15	20.33	20.39	3	22	20.80	20.25	20.47	20.46	20.48	0	22
		12	0	19.86	19.49	19.18	19.38	19.55	4	21	19.97	19.51	19.50	19.61	19.60	0	22
		12	7	19.83	19.46	19.14	19.36	19.54	4	21	19.93	19.50	19.50	19.59	19.58	0	22
		12	13	19.82	19.45	19.16	19.36	19.53	4	21	19.92	19.50	19.50	19.57	19.57	0	22
		25	0	19.82	19.48	19.15	19.38	19.52	4	21	19.95	19.52	19.50	19.59	19.63	0	22

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				132072	132322	132572	MPR	Tune-up Limit	132072	132322	132572	MPR	Tune-up Limit
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	23.05	23.26	23.04	0	24	20.08	20.20	20.09	0	20.9
		1	49	22.92	23.15	22.78	0	24	19.93	20.10	19.82	0	20.9
		1	99	22.94	23.12	22.98	0	24	19.96	20.07	20.00	0	20.9
		50	0	21.98	22.16	22.04	1	23	20.03	20.18	20.12	0	20.9
		50	24	21.97	22.11	22.03	1	23	20.00	20.13	20.06	0	20.9
		50	50	21.93	22.08	22.01	1	23	19.97	20.10	20.05	0	20.9
		100	0	21.96	22.10	22.04	1	23	20.00	20.14	20.06	0	20.9
	16QAM	1	0	22.42	22.67	22.42	1	23	20.36	20.53	20.38	0	20.9
		1	49	22.02	22.46	22.31	1	23	20.03	20.31	20.23	0	20.9
		1	99	22.35	22.51	22.39	1	23	20.29	20.41	20.36	0	20.9
		50	0	20.94	21.15	21.04	2	22	20.01	20.19	20.07	0	20.9
		50	24	20.93	21.09	21.01	2	22	19.98	20.14	20.08	0	20.9
		50	50	20.90	21.06	21.01	2	22	19.96	20.09	20.09	0	20.9
		100	0	20.92	21.05	20.97	2	22	19.95	20.06	20.03	0	20.9
	64QAM	1	0	21.28	21.24	21.30	2	22	20.25	20.45	20.25	0	20.9
		1	49	21.06	21.04	21.19	2	22	20.12	20.22	19.95	0	20.9
		1	99	21.21	21.19	21.21	2	22	20.15	20.31	20.21	0	20.9
		50	0	19.95	20.14	20.03	3	21	19.92	20.06	19.96	0	20.9
		50	24	19.93	20.11	20.04	3	21	19.89	20.03	19.97	0	20.9
		50	50	19.90	20.07	20.01	3	21	19.88	19.99	19.96	0	20.9
		100	0	19.93	20.07	19.99	3	21	19.89	20.01	19.95	0	20.9

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				132047	132322	132597	MPR	Tune-up Limit	132047	132322	132597	MPR	Tune-up Limit
				1717.5 MHz	1745 MHz	1772.5 MHz			1717.5 MHz	1745 MHz	1772.5 MHz		
15 MHz	QPSK	1	0	22.96	23.15	23.01	0	24	20.03	20.16	20.08	0	20.9
		1	37	23.19	23.14	23.23	0	24	20.29	20.05	20.20	0	20.9
		1	74	22.88	23.07	22.90	0	24	19.94	20.09	19.98	0	20.9
		36	0	21.96	22.16	22.04	1	23	20.02	20.18	20.08	0	20.9
		36	20	21.95	22.13	22.00	1	23	20.00	20.13	20.05	0	20.9
		36	39	21.93	22.13	21.99	1	23	19.99	20.12	20.04	0	20.9
		75	0	21.98	22.19	22.06	1	23	20.04	20.19	20.11	0	20.9
	16QAM	1	0	22.25	22.56	22.24	1	23	20.42	20.44	20.27	0	20.9
		1	37	22.45	22.60	22.42	1	23	20.59	20.41	20.34	0	20.9
		1	74	22.17	22.44	22.15	1	23	20.31	20.30	20.18	0	20.9
		36	0	20.89	21.10	20.97	2	22	20.00	20.17	20.02	0	20.9
		36	20	20.86	21.07	20.95	2	22	19.98	20.13	19.98	0	20.9
		36	39	20.86	21.06	20.93	2	22	19.99	20.12	19.97	0	20.9
		75	0	20.92	21.12	20.97	2	22	19.99	20.14	20.05	0	20.9
	64QAM	1	0	21.19	21.47	21.17	2	22	20.31	20.37	20.36	0	20.9
		1	37	21.16	21.52	21.18	2	22	20.32	20.36	20.41	0	20.9
		1	74	21.08	21.31	21.11	2	22	20.19	20.20	20.31	0	20.9
		36	0	19.95	20.14	20.03	3	21	19.90	20.07	19.99	0	20.9
		36	20	19.92	20.09	20.02	3	21	19.88	20.03	19.97	0	20.9
		36	39	19.91	20.08	20.00	3	21	19.87	20.01	19.96	0	20.9
		75	0	19.93	20.12	20.00	3	21	19.90	20.09	20.00	0	20.9

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					Reduced Average Power (dBm)				
				132022	132322	132622	MPR	Tune-up Limit	132022	132322	132622	MPR	Tune-up Limit
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	22.86	23.14	22.94	0	24	19.89	20.15	20.02	0	20.9
		1	25	22.81	22.96	22.89	0	24	19.85	20.00	19.97	0	20.9
		1	49	22.88	23.06	22.92	0	24	19.90	20.05	20.00	0	20.9
		25	0	21.85	22.10	21.94	1	23	19.89	20.12	20.02	0	20.9
		25	12	21.83	22.08	21.90	1	23	19.89	20.11	20.00	0	20.9
		25	25	21.85	22.07	21.90	1	23	19.89	20.10	19.99	0	20.9
		50	0	21.84	22.08	21.90	1	23	19.89	20.11	20.00	0	20.9
	16QAM	1	0	22.27	22.41	22.08	1	23	20.23	20.48	20.25	0	20.9
		1	25	22.16	22.07	21.84	1	23	20.15	20.18	20.06	0	20.9
		1	49	22.27	22.28	22.02	1	23	20.25	20.35	20.21	0	20.9
		25	0	20.90	21.17	20.98	2	22	19.92	20.17	20.04	0	20.9
		25	12	20.90	21.14	20.95	2	22	19.92	20.14	20.03	0	20.9
		25	25	20.91	21.14	20.93	2	22	19.91	20.15	20.00	0	20.9
		50	0	20.83	21.05	20.89	2	22	19.87	20.08	19.96	0	20.9
	64QAM	1	0	21.01	21.33	21.23	2	22	20.02	20.34	20.13	0	20.9
		1	25	20.96	21.21	21.00	2	22	19.89	20.11	19.97	0	20.9
		1	49	21.07	21.32	21.09	2	22	20.07	20.33	20.01	0	20.9
		25	0	19.84	20.17	19.90	3	21	19.82	20.07	19.89	0	20.9
		25	12	19.82	20.15	19.88	3	21	19.81	20.06	19.89	0	20.9
		25	25	19.83	20.12	19.89	3	21	19.81	20.05	19.88	0	20.9
		50	0	19.80	20.10	19.89	3	21	19.80	20.04	19.89	0	20.9

LTE Band 66 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit	Reduced Average Power (dBm)			MPR	Tune-up Limit
				131997	132322	132647			131997	132322	132647		
				1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz		
5 MHz	QPSK	1	0	22.78	23.10	22.88	0	24	19.87	20.05	19.95	0	20.9
		1	12	23.00	23.23	22.82	0	24	20.00	19.95	20.04	0	20.9
		1	24	22.83	23.13	22.91	0	24	19.92	20.09	19.97	0	20.9
		12	0	21.77	22.06	21.90	1	23	19.84	20.10	19.97	0	20.9
		12	7	21.77	22.05	21.89	1	23	19.84	20.10	19.96	0	20.9
		12	13	21.77	22.06	21.91	1	23	19.85	20.12	19.95	0	20.9
		25	0	21.76	22.06	21.89	1	23	19.85	20.10	19.95	0	20.9
	16QAM	1	0	22.23	22.22	22.23	1	23	20.16	20.51	20.32	0	20.9
		1	12	22.15	22.21	22.19	1	23	20.14	20.55	20.12	0	20.9
		1	24	22.30	22.26	22.16	1	23	20.23	20.42	20.33	0	20.9
		12	0	20.86	21.16	20.90	2	22	19.94	20.19	19.99	0	20.9
		12	7	20.90	21.15	20.89	2	22	19.92	20.16	20.01	0	20.9
		12	13	20.88	21.13	20.90	2	22	19.94	20.14	20.04	0	20.9
		25	0	20.74	21.06	20.86	2	22	19.85	20.13	19.94	0	20.9
	64QAM	1	0	21.05	21.35	21.20	2	22	20.10	20.51	20.06	0	20.9
		1	12	21.05	21.06	20.87	2	22	19.97	20.22	20.21	0	20.9
		1	24	21.10	21.38	21.11	2	22	20.18	20.37	20.09	0	20.9
		12	0	19.83	20.22	19.87	3	21	19.70	20.03	19.92	0	20.9
		12	7	19.82	20.18	19.89	3	21	19.78	19.98	19.86	0	20.9
		12	13	19.83	20.16	19.87	3	21	19.80	19.98	19.85	0	20.9
		25	0	19.80	20.05	19.86	3	21	19.78	19.97	19.84	0	20.9

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit	Reduced Average Power (dBm)			MPR	Tune-up Limit
				131987	132322	132657			131987	132322	132657		
				1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	22.83	23.12	22.92	0	24	19.89	20.12	19.98	0	20.9
		1	8	23.00	22.93	23.20	0	24	20.18	20.02	20.21	0	20.9
		1	14	22.90	23.07	22.95	0	24	19.91	20.04	20.00	0	20.9
		8	0	21.77	22.08	21.93	1	23	19.83	20.09	19.95	0	20.9
		8	4	21.78	22.08	21.87	1	23	19.83	20.09	19.92	0	20.9
		8	7	21.77	22.07	21.88	1	23	19.83	20.06	19.91	0	20.9
		15	0	21.74	22.06	21.88	1	23	19.82	20.07	19.92	0	20.9
	16QAM	1	0	21.93	22.33	22.01	1	23	20.21	20.37	20.15	0	20.9
		1	8	22.29	22.38	22.30	1	23	20.57	20.35	20.10	0	20.9
		1	14	22.09	22.23	22.25	1	23	20.27	20.39	20.12	0	20.9
		8	0	20.77	21.10	20.90	2	22	19.87	20.15	19.94	0	20.9
		8	4	20.72	21.12	20.87	2	22	19.86	20.18	19.91	0	20.9
		8	7	20.76	21.10	20.86	2	22	19.87	20.16	19.92	0	20.9
		15	0	20.70	21.04	20.89	2	22	19.81	20.09	19.97	0	20.9
	64QAM	1	0	21.03	21.19	21.21	2	22	19.82	20.17	20.09	0	20.9
		1	8	20.91	21.34	20.96	2	22	20.01	20.35	20.04	0	20.9
		1	14	21.02	21.19	20.97	2	22	20.03	20.31	20.11	0	20.9
		8	0	19.78	20.20	19.84	3	21	19.80	20.11	19.85	0	20.9
		8	4	19.78	20.17	19.82	3	21	19.80	20.06	19.84	0	20.9
		8	7	19.80	20.17	19.80	3	21	19.80	20.08	19.83	0	20.9
		15	0	19.73	20.06	19.79	3	21	19.74	20.06	19.86	0	20.9

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit	Reduced Average Power (dBm)			MPR	Tune-up Limit
				131979	132322	132665			131979	132322	132665		
				1710.7 MHz	1745 MHz	1779.3 MHz			1710.7 MHz	1745 MHz	1779.3 MHz		
1.4 MHz	QPSK	1	0	22.87	23.20	23.12	0	24	19.89	20.18	20.18	0	20.9
		1	3	22.76	23.11	23.02	0	24	19.81	20.08	20.09	0	20.9
		1	5	22.81	23.13	23.07	0	24	19.84	20.11	20.11	0	20.9
		3	0	22.68	22.94	22.94	0	24	19.71	20.05	19.95	0	20.9
		3	1	22.68	23.01	22.98	0	24	19.70	20.08	20.02	0	20.9
		3	3	22.74	23.01	22.88	0	24	19.71	20.03	20.00	0	20.9
		6	0	21.73	22.08	22.09	1	23	19.78	20.07	20.05	0	20.9
	16QAM	1	0	21.97	22.43	22.19	1	23	20.04	20.37	20.57	0	20.9
		1	3	21.78	22.35	22.24	1	23	19.97	20.15	20.42	0	20.9
		1	5	21.97	22.34	22.13	1	23	19.97	20.36	20.30	0	20.9
		3	0	21.75	21.98	21.89	1	23	19.80	20.13	20.03	0	20.9
		3	1	21.65	22.07	21.94	1	23	19.73	20.09	20.09	0	20.9
		3	3	21.70	22.10	21.99	1	23	19.83	20.07	20.06	0	20.9
		6	0	20.83	21.06	21.09	2	22	19.86	20.12	20.12	0	20.9
	64QAM	1	0	21.13	21.46	20.77	2	22	19.84	20.26	20.24	0	20.9
		1	3	21.21	21.53	20.93	2	22	19.76	20.30	20.18	0	20.9
		1	5	21.04	21.28	20.94	2	22	19.97	20.10	20.08	0	20.9
		3	0	20.98	21.10	20.83	2	22	19.74	20.04	20.01	0	20.9
		3	1	21.07	21.13	20.83	2	22	19.82	20.11	20.06	0	20.9
		3	3	21.01	21.10	20.88	2	22	19.84	20.15	20.04	0	20.9
		6	0	19.97	20.15	19.82	3	21	19.75	19.98	20.03	0	20.9

9.4. LTE Carrier Aggregation

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

For inter-band carrier aggregation with uplink assigned to one E-UTRA band (Table 5.6A-1), the requirements in subclause 6.2.3 apply.

For inter-band carrier aggregation with one component carrier per operating band and the uplink active in two E-UTRA bands, the requirements in subclause 6.2.3 apply for each uplink component carrier.

For intra-band contiguous carrier aggregation the allowed Maximum Power Reduction (MPR) for the maximum output power applicable to the DUT in table below. In case the modulation format is different on different component carriers then the MPR is determined by the rules applied to higher order of those modulations.

Modulation	CA bandwidth Class B and C / Smallest Component Carrier Transmission Bandwidth Configuration				MPR (dB)
	25 RB	50 RB	75 RB	100 RB	
QPSK	> 8 and ≤ 25	> 12 and ≤ 50	> 16 and ≤ 75	> 18 and ≤ 100	≤ 1
QPSK	> 25	> 50	> 75	> 100	≤ 2
16 QAM	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 8 and ≤ 25	> 12 and ≤ 50	> 16 and ≤ 75	> 18 and ≤ 100	≤ 2
16 QAM	> 25	> 50	> 75	> 100	≤ 3
64 QAM	≤ 8 and allocation wholly contained within a single CC	≤ 12 and allocation wholly contained within a single CC	≤ 16 and allocation wholly contained within a single CC	≤ 18 and allocation wholly contained within a single CC	≤ 2
64 QAM	> 8 or allocation extends across two CC's	> 12 or allocation extends across two CC's	> 16 or allocation extends across two CC's	> 18 or allocation extends across two CC's	≤ 3

For PUCCH and SRS transmissions, the allowed MPR is according to that specified for PUSCH WPDK modulation for the corresponding transmission bandwidth.

For intra-band contiguous carrier aggregation bandwidth class C with non-contiguous resource allocation, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2A-1 is specified as follows

$$MPR = CEIL \{\min(M_A, M_{IM5}), 0.5\}$$

Where M_A is defined as follows

$$M_A = \begin{cases} 8.2 & ;0 \le A < 0.025 \\ 9.2 - 40A & ;0.025 \le A < 0.05 \\ 8 - 16A & ;0.05 \le A < 0.25 \\ 4.83 - 3.33A & ;0.25 \le A \le 0.4 \end{cases}$$

$$3.83 - 0.83A \quad ;0.4 \le A \le 1$$

and M_{IM5} is defined as follows

$$M_{IM5} = \begin{cases} 4.5 & ; \Delta_{IM5} < 1.5 * BW_{Channel\_CA} \\ 6.0 & ; 1.5 * BW_{Channel\_CA} \le \Delta_{IM5} < BW_{Channel\_CA}/2 + \Delta f_{ooB} \\ M_A & ; \Delta_{IM5} \ge BW_{Channel\_CA}/2 + \Delta f_{ooB} \end{cases}$$

Where

$A = N_{RB\_alloc} / N_{RB\_agg}$

$\Delta_{IM5} = \max(\left| F_{C\_agg} - (3*F_{agg\_alloc\_low} - 2*F_{agg\_alloc\_high}) \right|, \left| F_{C\_agg} - (3*F_{agg\_alloc\_high} - 2*F_{agg\_alloc\_low}) \right|)$

CEIL{M_A, 0.5} means rounding upwards to closest 0.5dB, i.e. MPR ∈ [3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5]

For intra-band carrier aggregation, the MPR is evaluated per slot and given by the maximum value taken over the transmission(s) on all component carriers within the slot; the maximum MPR over the two slots is then applied for the entire subframe.

For intra-band non-contiguous carrier aggregation with one uplink carrier on the PCC, the requirements in the subclause 6.2.3 apply. For intra-band non-contiguous aggregation with two uplink carriers the MPR is defined tfor those E-UTRA bands where maximum possible $W_{GAP} \le 42.2$ MHz as follows

$$MPR = CEIL\{M_A, 0.5\}$$

Where M_N is defined as follows

$$M_N = \begin{cases} -0.125N + 18.25 & ; 2 \le N \le 50 \\ -0.0333\ N + 13.67 & ; 50 < N \le 200 \end{cases}$$

Where $N = N_{RB\_alloc}$ is the number of allocated resource blocks.

For the UE maximum output power modified by MPR, the power limits specified in subclause 6.2.5A apply.

LTE Up-Link Carrier Aggregation

UL CA shall be tested based on the worst-case SAR configuration determined from non-CA SAR testing result. The channel BW, channel number, RB allocation, etc. would be selected to allow contiguous CA of PCC and SCC. Uplink output power for UL CA is the total power measured across the PCC and SCC.

The UL CA mode power measurements represent the total power across both carriers. Measurements were made for all supported PCC bandwidths using the channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions (highest maximum power with MPR of 0 dB).

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power). In all cases the UL CA power is less than or equal to the standalone power, which is in accordance with the tune-up limits in table below.

According to November 2017 TCB workshop, Uplink CA SAR Test Guidance as follows:

a) When the maximum output for UL CA is ≤ standalone LTE mode (without CA)
   - PCC is configured according to the highest standalone SAR configuration tested
   - SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC

b) When the Reported SAR for UL CA configuration, described above, is > 1.2 W/kg, UL CA SAR is also required for all required test channels(PCC based)

c) UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level

SAR measurement is not required for the 16QAM and 64QAM. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode.

LTE CA_7C Measured Results

RF Exposure Conditions	E-UTRA CA configuration (BCS)	Modulation	Bands		UL											
			PCC	SCC	PCC				SCC				Standalone (dBm)	PCC+SCC		
			1st	2nd	BW	RB	Offset	Freq	BW	RB	Offset	Freq		Tune-Up Limit	CA Power (Total PCC+SCC)	Delta
Head & Body-worn	CA_7C	QPSK	7C	7C	20	1	99	2510	20	1	0	2529.8	23.6	24.0	22.90	-0.7
	CA_7C	QPSK	7C	7C	20	1	99	2525.1	20	1	0	2544.9	23.2	24.0	22.77	-0.4
	CA_7C	QPSK	7C	7C	20	1	99	2540.2	20	1	0	2560	23.3	24.0	22.71	-0.6
Hotspot	CA_7C	QPSK	7C	7C	20	1	99	2510	20	1	0	2529.8	20.1	21.0	19.54	-0.6
	CA_7C	QPSK	7C	7C	20	1	99	2525.1	20	1	0	2544.9	19.7	21.0	19.26	-0.5
	CA_7C	QPSK	7C	7C	20	1	99	2540.2	20	1	0	2560	19.6	21.0	19.27	-0.4

LTE CA_38C Measured Results

RF Exposure Conditions	E-UTRA CA configuration (BCS)	Modulation	Bands		UL											
			PCC	SCC	PCC				SCC				Standalone (dBm)	PCC+SCC		
			1st	2nd	BW	RB	Offset	Freq	BW	RB	Offset	Freq		Tune-Up Limit	CA Power (Total PCC+SCC)	Delta
Head & Body-worn	CA_38C	QPSK	38C	38C	20	1	99	2580	20	1	0	2599.8	23.3	24.0	22.44	-0.9
	CA_38C	QPSK	38C	38C	20	1	99	2585.1	20	1	0	2604.9	23.5	24.0	22.38	-1.1
	CA_38C	QPSK	38C	38C	20	1	99	2590.2	20	1	0	2610	23.3	24.0	22.43	-0.8
Hotspot	CA_38C	QPSK	38C	38C	20	1	99	2580	20	1	0	2599.8	20.3	21.0	19.60	-0.7
	CA_38C	QPSK	38C	38C	20	1	99	2585.1	20	1	0	2604.9	20.3	21.0	19.46	-0.8
	CA_38C	QPSK	38C	38C	20	1	99	2590.2	20	1	0	2610	20.3	21.0	19.32	-0.9

LTE Down-Link Carrier Aggregation

The tables below show the supported frequency bands of the device for DL Inter-band and DL Intra-band combinations.

Power measurements were performed on the channel with the highest maximum output power from Tune-up Procedure.

When carrier aggregation is limited to downlink only, uplink maximum output power (single carrier) is measured for the supported combinations of downlink carrier aggregation listed in the table below. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs (far right most configuration highlighted in the table below).

Index	2CC	Restriction	Completely Covered by Measurement Superset
Intra-Band Contiguous			
2CC # 1	CA_2C	N/A	No
2CC # 2	CA_7C	N/A	4CC #1
2CC # 3	CA_38C	N/A	No
2CC # 4	CA_41C	N/A	4CC #2
2CC # 5	CA_66B	N/A	No
2CC # 6	CA_66C	N/A	No
Intra-Band Non-Contiguous			
2CC # 7	CA_2A-2A	N/A	No
2CC # 8	CA_4A-4A	N/A	3CC #6
2CC # 9	CA_7A-7A	N/A	No
2CC # 10	CA_25A-25A	N/A	No
2CC # 11	CA_41A-41A	N/A	4CC #3
2CC # 12	CA_66A-66A	N/A	No
Inter-Band			
2CC # 13	CA_2A-4A	N/A	3CC #1
2CC # 14	CA_2A-5A	N/A	3CC #1
2CC # 15	CA_2A-7A	N/A	3CC #2
2CC # 16	CA_2A-12A	N/A	No
2CC # 17	CA_2A-13A	N/A	3CC #3
2CC # 18	CA_2A-17A	N/A	No
2CC # 19	CA_2A-66A	N/A	No
2CC # 20	CA_4A-5A	N/A	No
2CC # 21	CA_4A-7A	N/A	3CC #8
2CC # 22	CA_4A-12A	N/A	3CC #6
2CC # 23	CA_4A-13A	N/A	No
2CC # 24	CA_4A-17A	N/A	3CC #7
2CC # 25	CA_5A-7A	N/A	3CC #9
2CC # 26	CA_5A-25A	N/A	No
2CC # 27	CA_5A-41A	N/A	No
2CC # 28	CA_12A-66A	N/A	3CC #12

Index	3CC	Restriction	Completely Covered by Measurement Superset
Inter-Band			
3CC # 1	CA_2A-4A-5A	N/A	No
3CC # 2	CA_2A-4A-7A	N/A	No
3CC # 3	CA_2A-4A-13A	N/A	No
3CC # 4	CA_2A-7A-7A	N/A	No
3CC # 5	CA_2A-7C	N/A	No
3CC # 6	CA_4A-4A-12A	N/A	No
3CC # 7	CA_4A-4A-17A	N/A	No
3CC # 8	CA_4A-7C	N/A	No
3CC # 9	CA_5A-7A-7A	N/A	No
3CC # 10	CA_5A-7C	N/A	No
3CC # 11	CA_7A-66A-66A	N/A	No
3CC # 12	CA_12A-66A-66A	N/A	No
3CC # 13	CA_41A-41C	N/A	No
3CC # 14	CA_41C-41A	N/A	No
3CC # 15	CA_41D	N/A	4CC #1

Index	4CC	Restriction	Completely Covered by Measurement Superset
Inter-Band			
4CC # 1	CA_7C-66A-66A	N/A	No
4CC # 2	CA_41C-41C	N/A	No
4CC # 3	CA_41A-41D	N/A	No

In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the CA configuration with the largest aggregated DL CA BW in each frequency band, independently for contiguous and non-contiguous CA; however, if the same frequency band is used for both contiguous and non-contiguous CA, power measurement was performed using the configuration with the largest aggregated BW and maximum output power among contiguous and non-contiguous CA.

DL Intra-Band Contiguous Measured Results

E-UTRA CA configuration (BCS)	3GPP Rel. #	CC1 (UL)					CC2 (DL)			CC3 (DL)			CC4 (DL)			CC5 (DL)			Aggregated BW	MPR	CA Inactive (dBm)	CA Active (dBm)	Delta
		Mode	BW (MHz)	Channel	Freq (MHz)	RB,Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_2C	12	QPSK	20	18801	1870.1	1,49	20	999	1969.9										40	0	24.10	24.10	0.00
CA_7C	13	QPSK	20	21001	2525.1	1,49	20	3199	2664.9										40	0	24.40	24.40	0.00
CA_38C	11	QPSK	20	37901	2585.1	1,49	20	38099	2604.9										40	0	22.40	22.40	0.00
CA_41C	13	QPSK	20	40521	2583.1	1,49	20	40719	2602.9										40	0	22.30	22.30	0.00
CA_66B	13	QPSK	15	132597	1772.5	1,49	5	67154	2181.8										60	0	23.10	23.20	0.10
CA_66C	13	QPSK	20	132072	1720	1,49	20	66734	2139.8										60	0	23.10	23.10	0.00

DL Intra-Band Non-Contiguous Measured Results

E-UTRA CA configuration	3GPP Rel. #	CC1 (UL)					CC2 (DL)			CC3 (DL)			CC4 (DL)			CC5 (DL)			Aggregated BW	MPR	CA Inactive (dBm)	CA Active (dBm)	Delta
		Mode	BW (MHz)	Channel	Freq (MHz)	RB,Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_2A-2A	12	QPSK	20	18700	1860	1,49	20	1100	1980										40	0	24.00	24.00	0.00
CA_4A-4A	12	QPSK	20	20050	1720	1,49	20	2300	2145										40	0	24.46	24.45	-0.01
CA_7A-7A	14	QPSK	20	20850	2510	1,49	20	3350	2680										40	0	24.40	24.40	0.00
CA_25A-25A	12	QPSK	20	26140	1860	1,49	20	8590	1985										40	0	23.10	23.10	0.00
CA_41A-41A	12	QPSK	20	39750	2506	1,49	20	41490	2680										40	0	22.90	22.90	0.00
CA_66A-66A	13	QPSK	20	132072	1720	1,49	20	67236	2190										40	0	23.20	23.20	0.00

DL Inter-Band (2 Bands) Measured Results

E-UTRA CA configuration	3GPP Rel. #	CC1 (UL)					CC2 (DL)			CC3 (DL)			CC4 (DL)			CC5 (DL)			Aggregated BW	MPR	CA Inactive (dBm)	CA Active (dBm)	Delta
		Mode	BW (MHz)	Channel	Freq (MHz)	RB,Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_2A-4A	12	QPSK	20	18900	1880	1,0	20	2300	2145										40	0	24.30	24.30	0.00
CA_2A-5A	12	QPSK	20	18900	1880	1,0	10	2600	889										30	0	24.30	24.30	0.00
CA_2A-7A	13	QPSK	20	18900	1880	1,0	20	3350	2680										40	0	24.30	24.30	0.00
CA_2A-12A	12	QPSK	20	18900	1880	1,0	10	5095	737.5										30	0	24.30	24.30	0.00
CA_2A-13A	12	QPSK	20	18900	1880	1,0	10	5230	751										30	0	24.30	24.30	0.00
CA_2A-17A	11	QPSK	20	18900	1880	1,0	10	5790	740										30	0	24.30	24.30	0.00
CA_2A-66A	14	QPSK	20	18900	1880	1,0	20	66886	2155										40	0	24.30	24.30	0.00
CA_4A-5A	12	QPSK	20	20175	1732.5	1,0	10	2525	881.5										30	0	24.98	24.98	0.00
CA_4A-7A	13	QPSK	20	20175	1732.5	1,0	20	3100	2655										40	0	24.98	24.93	-0.05
CA_4A-12A	13	QPSK	20	20175	1732.5	1,0	10	5095	737.5										30	0	24.98	24.98	0.00
CA_4A-13A	11	QPSK	20	20175	1732.5	1,0	10	5230	751										30	0	24.98	24.94	-0.04
CA_4A-17A	11	QPSK	20	20175	1732.5	1,0	10	5790	740										30	0	24.98	24.98	0.00
CA_5A-7A	13	QPSK	10	20525	836.5	50,0	20	3100	2655										30	0	24.74	24.60	-0.14
CA_5A-25A	12	QPSK	10	20525	836.5	50,0	20	8365	1962.5										30	0	24.74	24.60	-0.14
CA_5A-41A	14	QPSK	10	20525	836.5	1,0	20	40620	2593										30	0	24.74	24.54	-0.20
CA_12A-66A	14	QPSK	10	23095	707.5	50,0	20	66886	2155										30	0	23.10	23.10	0.00

DL Inter-Band (3 Bands) Measured Results

E-UTRA CA configuration	3GPP Rel. #	CC1 (UL)					CC2 (DL)			CC3 (DL)			CC4 (DL)			CC5 (DL)			Aggregated BW	MPR	CA Inactive (dBm)	CA Active (dBm)	Delta (dBm)
		Mode	BW (MHz)	Channel	Freq (MHz)	RB,Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_2A-4A-5A	12	QPSK	20	18900	1880	1,0	20	2300	2145	10	2525	881.5							50	0	24.30	24.20	-0.10
CA_2A-4A-7A	13	QPSK	20	18900	1880	1,0	20	2300	2145	20	3350	2680							60	0	24.30	24.30	0.00
CA_2A-4A-13A	12	QPSK	20	18900	1880	1,0	20	2300	2145	10	5230	751							50	0	24.30	24.30	0.00
CA_2A-7A-7A	14	QPSK	20	18900	1880	1,0	20	2850	2630	20	3350	2680							60	0	24.30	24.30	0.00
CA_2A-7C	14	QPSK	20	18900	1880	1,0	20	3001	2645.1	20	3199	2664.9							60	0	24.30	24.30	0.00
CA_4A-4A-12A	12	QPSK	20	20050	1720	1,0	20	2300	2145	10	5095	737.5							50	0	23.80	23.80	0.00
CA_4A-4A-17A	12	QPSK	20	20050	1720	1,0	20	2300	2145	10	5790	740							50	0	23.80	23.80	0.00
CA_4A-7C	14	QPSK	20	20050	1720	1,0	20	3001	2645.1	20	3199	2664.9							60	0	24.45	24.46	0.01
CA_5A-7A-7A	14	QPSK	10	20525	836.5	1,0	20	2850	2630	20	3350	2680							50	0	24.50	24.60	0.10
CA_5A-7C	14	QPSK	10	20525	836.5	1,0	20	3001	2645.1	20	3199	2664.9							50	0	24.50	24.50	0.00
CA_7A-66A-66A	15	QPSK	20	20850	2510	1,0	20	66536	2120	20	67236	2190							60	0	24.50	24.34	-0.16
CA_12A-66A-66A	14	QPSK	10	23095	707.5	1,0	20	66536	2120	20	67236	2190							50	0	23.10	23.10	0.00
CA_41A-41C	13	QPSK	20	39750	2506	1,0	20	41292	2660.2	20	41490	2680							60	0	22.80	22.80	0.00
CA_41C-41A	14	QPSK	20	39750	2506	1,0	20	39948	2525.8	20	41490	2680							60	0	22.80	22.80	0.00
CA_41D	12	QPSK	20	40422	2573.2	1,0	20	40620	2593	20	40818	2612.8							60	0	22.40	22.40	0.00

DL Inter-Band (4 Bands) Measured Results

E-UTRA CA configuration	3GPP Rel. #	CC1 (UL)					CC2 (DL)			CC3 (DL)			CC4 (DL)			CC5 (DL)			Aggregated BW	MPR	CA Inactive (dBm)	CA Active (dBm)	Delta
		Mode	BW (MHz)	Channel	Freq (MHz)	RB,Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_7C-66A-66A	15	QPSK	20	21001	2525.1	1,0	20	3199	2664.9	20	66536	2120	20	67236	2190				80	0	24.33	24.23	-0.10
CA_41C-41C	13	QPSK	20	39750	2506	1,0	20	39948	2525.8	20	41292	2660.2	20	41490	2680				80	0	22.95	23.00	0.05
CA_41A-41D	13	QPSK	20	39750	2506	1,0	20	41094	2640.4	20	41292	2660.2	20	41490	2680				80	0	22.90	23.00	0.10

9.5. Wi-Fi 2.4GHz (DTS Band)

When the proximity sensor is active in a held-to-ear user scenario, the output power level is reduced. The maximum allowed output powers in all conditions are included in the maximum power document.

Refer to Operational Description for WLAN explanation.

Wi-Fi 2.4GHz Measured Results

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11b/g/n/ax mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

SAR testing is not required for OFDM mode(s) 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.

Typical Conducted Power

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
DSSS 2.4 GHz	802.11b	1 Mbps	1	2412	18.17	19.00	Yes	16.75	17.00	Yes	18.30	19.00	Yes	16.51	17.00	Yes
			6	2437	18.24	19.00		16.86	17.00		18.23	19.00		16.70	17.00	
			11	2462	18.24	19.00		17.00	17.00		18.50	19.00		16.70	17.00	
OFDM 2.4 GHz	802.11g	54 Mbps	1	2412	Not Required	17.00	No	Not Required	17.00	No	Not Required	17.00	No	Not Required	17.00	No
			6	2437		17.00			17.00			17.00			17.00	
			11	2462		16.00			16.00			16.00			16.00	
	802.11n (HT20)	6.5 Mbps	1	2412	Not Required	15.50	No	Not Required	15.50	No	Not Required	15.50	No	Not Required	15.50	No
			6	2437		17.00			17.00			17.00			17.00	
			11	2462		15.00			15.00			15.00			15.00	
OFDMA 2.4 GHz	802.11ax (HE20)	4 Mbps	1	2412	Not Required	15.00	No	Not Required	15.00	No	Not Required	15.00	No	Not Required	15.00	No
			6	2437		17.00			17.00			17.00			17.00	
			11	2462		15.00			15.00			15.00			15.00	

Note(s):

1. These conducted measurements are used during the Simultaneous condition WWAN + 2.4GHz MIMO.
2. Additionally, SAR is not required for Channels 12 and 13 because the tune-up limit and the measured output power for these two channels are no greater than those for the default test channels.

RSDB (Real Simultaneous Dual Band) Conducted Power

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
DSSS 2.4 GHz	802.11b	1 Mbps	1	2412	16.75	17.00	Yes	13.93	14.00	Yes	16.51	17.00	Yes	13.71	14.00	Yes
			6	2437	16.86	17.00		13.87	14.00		16.70	17.00		13.91	14.00	
			11	2462	17.00	17.00		13.87	14.00		16.70	17.00		13.83	14.00	
OFDM 2.4 GHz	802.11g	6 Mbps	1	2412	Not Required	17.00	No	Not Required	14.00	No	Not Required	17.00	No	Not Required	14.00	No
			6	2437		17.00			14.00			17.00			14.00	
			11	2462		16.00			14.00			16.00			14.00	
	802.11n (HT20)	6.5 Mbps	1	2412	Not Required	15.50	No	Not Required	14.00	No	Not Required	15.50	No	Not Required	14.00	No
			6	2437		17.00			14.00			17.00			14.00	
			11	2462		15.00			14.00			15.00			14.00	
OFDMA 2.4 GHz	802.11ax (HE20)	4 Mbps	1	2412	Not Required	15.00	No	Not Required	14.00	No	Not Required	15.00	No	Not Required	14.00	No
			6	2437		17.00			14.00			17.00			14.00	
			11	2462		15.00			14.00			15.00			14.00	

Note(s):

1. These conducted measurements are used during the Simultaneous condition WWAN + 2.4GHz + 5GHz and WWAN + 2.4GHz MIMO + 5GHz MIMO.
2. Additionally, SAR is not required for Channels 12 and 13 because the tune-up limit and the measured output power for these two channels are no greater than those for the default test channels.

Duty Factor Measured Results

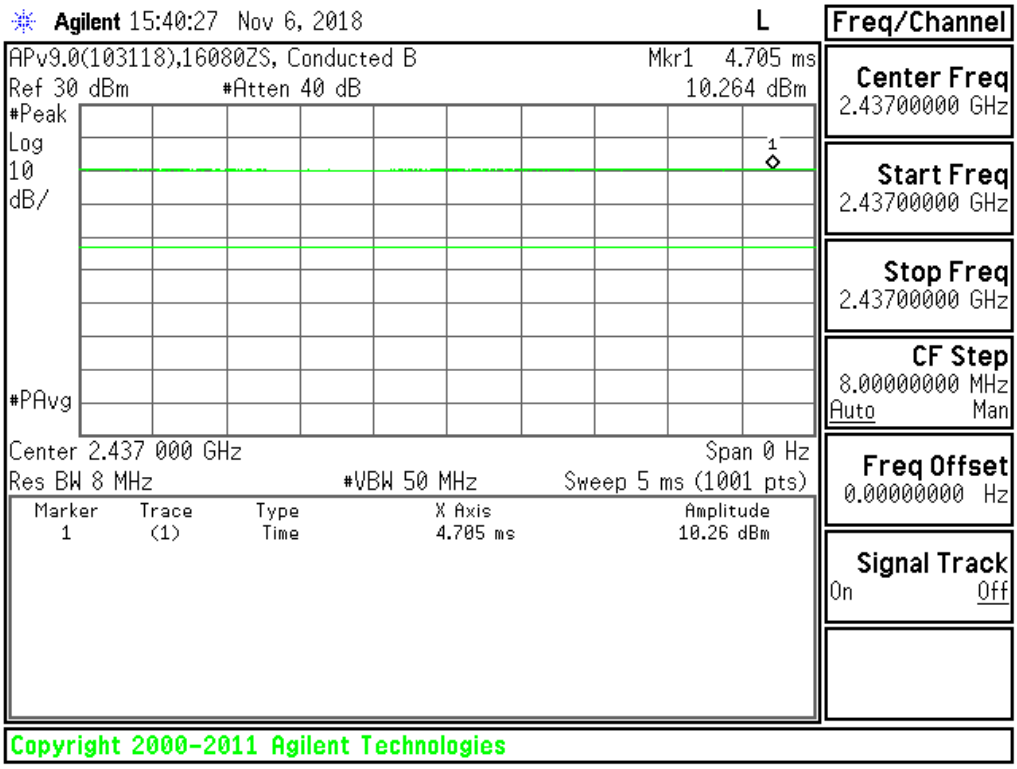
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
802.11b	1 Mbps	4.705	4.705	100.00%	1.00

Note(s):

Duty Cycle = (T on / period) * 100%

Duty Cycle plots

802.11b



9.6. Wi-Fi 5GHz (U-NII Bands)

When the proximity sensor is active in a held-to-ear user scenario, the output power level is reduced. The maximum allowed output powers in all conditions are included in the maximum power document.

Refer to Operational Description for WLAN explanation.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, n, ac then ax) is selected.

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

Wi-Fi 5 GHz Measured Results

For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/n/ac/ax mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

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.

Wi-Fi Direct is supported in U-NII Band 1. Therefore, Wi-Fi Direct was tested separately for SAR for U-NII Band 1.

Typical Conducted Power

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-1 5.2 GHz	802.11a	6 Mbps	36	5180	17.90	18.00	Yes	Not Required	15.00	No	17.98	18.00	Yes	Not Required	15.00	No
			40	5200	17.65	18.00			15.00		18.00	18.00			15.00	
			44	5220	17.65	18.00			15.00		18.00	18.00			15.00	
			48	5240	17.80	18.00			15.00		17.75	18.00			15.00	
	802.11n (HT20)	6.5 Mbps	36	5180	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			40	5200		18.00			15.00			18.00			15.00	
			44	5220		18.00			15.00			18.00			15.00	
			48	5240		18.00			15.00			18.00			15.00	
	802.11ac (VHT20)	6.5 Mbps	36	5180	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			40	5200		18.00			15.00			18.00			15.00	
			44	5220		18.00			15.00			18.00			15.00	
			48	5240		18.00			15.00			18.00			15.00	
	802.11ax (HE20)	7.3 Mbps	36	5180	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			40	5200		18.00			15.00			18.00			15.00	
			44	5220		18.00			15.00			18.00			15.00	
			48	5240		18.00			15.00			18.00			15.00	
	802.11n (HT40)	13.5 Mbps	38	5190	Not Required	15.50	No	Not Required	15.00	No	Not Required	15.50	No	Not Required	15.00	No
			46	5230		17.00			15.00			17.00			15.00	
	802.11ac (VHT40)	13.5 Mbps	38	5190	Not Required	15.50	No	Not Required	15.00	No	Not Required	15.50	No	Not Required	15.00	No
			46	5230		17.00			15.00			17.00			15.00	
	802.11ax (HE40)	14.6 Mbps	38	5190	Not Required	14.00	No	Not Required	15.00	No	Not Required	14.00	No	Not Required	15.00	No
			46	5230		17.00			15.00			17.00			15.00	
	802.11ac (VHT80)	29.3 Mbps	42	5210	Not Required	15.00	No	14.83	15.00	Yes	Not Required	15.00	No	15.00	15.00	Yes
	802.11ax (HE80)	30.6 Mbps	42	5210	Not Required	14.50	No	14.71	15.00	No	Not Required	14.50	No	15.00	15.00	No

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-2A 5.3 GHz	802.11a	6 Mbps	52	5260	17.75	18.00	Yes	Not Required	15.00	No	17.90	18.00	Yes	Not Required	15.00	No
			56	5280	17.72	18.00			15.00		18.00	18.00			15.00	
			60	5300		16.00			15.00			16.00			15.00	
			64	5320		16.50			15.00			16.50			15.00	
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			56	5280		18.00			15.00			18.00			15.00	
			60	5300		15.50			15.00			15.50			15.00	
			64	5320		15.50			15.00			15.50			15.00	
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			56	5280		18.00			15.00			18.00			15.00	
			60	5300		15.50			15.00			15.50			15.00	
			64	5320		15.50			15.00			15.50			15.00	
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			56	5280		18.00			15.00			18.00			15.00	
			60	5300		18.00			15.00			18.00			15.00	
			64	5320		18.00			15.00			18.00			15.00	
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			62	5310		17.00			15.00			17.00			15.00	
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			62	5310		17.00			15.00			17.00			15.00	
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	16.50	No	Not Required	15.00	No	Not Required	16.50	No	Not Required	15.00	No
			62	5310		16.50			15.00			16.50			15.00	
	802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	16.00	No	14.91	15.00	Yes	Not Required	16.00	No	14.87	15.00	Yes
	802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	15.00	No	14.55	15.00	No	Not Required	15.00	No	14.87	15.00	No

Note(s):

These conducted measurements are used during the Simultaneous condition WWAN + 5GHz MIMO and WWAN + 5GHz MIMO + BT.

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-2C 5.5 GHz	802.11a	6 Mbps	100	5500	17.51	18.00	Yes	Not Required	15.00	No	17.73	18.00	Yes	Not Required	15.00	No
			116	5580	17.91	18.00			15.00		17.96	18.00			15.00	
			124	5620	18.00	18.00			15.00		17.71	18.00			15.00	
			144	5720	17.58	18.00			15.00		17.99	18.00			15.00	
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			116	5580		18.00			15.00			18.00			15.00	
			124	5620		18.00			15.00			18.00			15.00	
			144	5720		18.00			15.00			18.00			15.00	
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			116	5580		18.00			15.00			18.00			15.00	
			124	5620		18.00			15.00			18.00			15.00	
			144	5720		18.00			15.00			18.00			15.00	
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			116	5580		18.00			15.00			18.00			15.00	
			124	5620		18.00			15.00			18.00			15.00	
			144	5720		18.00			15.00			18.00			15.00	
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			118	5590		17.00			15.00			17.00			15.00	
			126	5630		17.00			15.00			17.00			15.00	
			134	5670		17.00			15.00			17.00			15.00	
			142	5710		17.00			15.00			17.00			15.00	
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			118	5590		17.00			15.00			17.00			15.00	
			126	5630		17.00			15.00			17.00			15.00	
			134	5670		17.00			15.00			17.00			15.00	
			142	5710		17.00			15.00			17.00			15.00	
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			118	5590		17.00			15.00			17.00			15.00	
			126	5630		17.00			15.00			17.00			15.00	
			134	5670		17.00			15.00			17.00			15.00	
			142	5710		17.00			15.00			17.00			15.00	
	802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	16.00	No	14.71	15.00	Yes	Not Required	16.00	No	14.63	15.00	Yes
			122	5610		16.00		14.54	15.00			16.00		14.79	15.00	
			138	5690		16.00		14.84	15.00			16.00		14.96	15.00	
	802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	16.00	No	14.84	15.00	No	Not Required	16.00	No	14.96	15.00	No
			122	5610		16.00		14.71	15.00			16.00		14.77	15.00	
			138	5690		16.00		14.84	15.00			16.00		14.93	15.00	

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-3 5.8 GHz	802.11a	6 Mbps	149	5745	17.90	18.00	Yes	Not Required	15.00	No	17.72	18.00	Yes	Not Required	15.00	No
			157	5785	17.91	18.00			15.00		17.73	18.00			15.00	
			165	5825	17.95	18.00			15.00		17.51	18.00			15.00	
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			157	5785		18.00			15.00			18.00			15.00	
			165	5825		18.00			15.00			18.00			15.00	
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			157	5785		18.00			15.00			18.00			15.00	
			165	5825		18.00			15.00			18.00			15.00	
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	18.00	No	Not Required	15.00	No	Not Required	18.00	No	Not Required	15.00	No
			157	5785		18.00			15.00			18.00			15.00	
			165	5825		18.00			15.00			18.00			15.00	
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			159	5795		17.00			15.00			17.00			15.00	
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			159	5795		17.00			15.00			17.00			15.00	
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	17.00	No	Not Required	15.00	No	Not Required	17.00	No	Not Required	15.00	No
			159	5795		17.00			15.00			17.00			15.00	
	802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	16.00	No	14.70	15.00	Yes	Not Required	16.00	No	14.89	15.00	Yes
	802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	16.00	No	14.70	15.00	No	Not Required	16.00	No	14.65	15.00	No

Note(s):

These conducted measurements are used during the Simultaneous condition WWAN + 5GHz MIMO and WWAN + 5GHz MIMO + BT.

RSDB (Real Simultaneous Dual Band) Conducted Power

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-1 5.2 GHz	802.11a	6 Mbps	36	5180	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			40	5200		14.00			14.00			14.00			14.00	
			44	5220		14.00			14.00			14.00			14.00	
			48	5240		14.00			14.00			14.00			14.00	
	802.11n (HT20)	6.5 Mbps	36	5180	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			40	5200		14.00			14.00			14.00			14.00	
			44	5220		14.00			14.00			14.00			14.00	
			48	5240		14.00			14.00			14.00			14.00	
	802.11ac (VHT20)	6.5 Mbps	36	5180	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			40	5200		14.00			14.00			14.00			14.00	
			44	5220		14.00			14.00			14.00			14.00	
			48	5240		14.00			14.00			14.00			14.00	
	802.11ax (HE20)	7.3 Mbps	36	5180	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			40	5200		14.00			14.00			14.00			14.00	
			44	5220		14.00			14.00			14.00			14.00	
			48	5240		14.00			14.00			14.00			14.00	
	802.11n (HT40)	13.5 Mbps	38	5190	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			46	5230		14.00			14.00			14.00			14.00	
	802.11ac (VHT40)	13.5 Mbps	38	5190	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			46	5230		14.00			14.00			14.00			14.00	
	802.11ax (HE40)	14.6 Mbps	38	5190	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			46	5230		14.00			14.00			14.00			14.00	
	802.11ac (VHT80)	29.3 Mbps	42	5210	13.90	14.00	Yes	13.90	14.00	Yes	13.81	14.00	Yes	13.81	14.00	Yes
	802.11ax (HE80)	30.6 Mbps	42	5210	13.72	14.00	No	13.72	14.00	No	13.53	14.00	No	13.53	14.00	No

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-2A 5.3 GHz	802.11a	6 Mbps	52	5260	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			56	5280		14.00			14.00			14.00			14.00	
			60	5300		14.00			14.00			14.00			14.00	
			64	5320		14.00			14.00			14.00			14.00	
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			56	5280		14.00			14.00			14.00			14.00	
			60	5300		14.00			14.00			14.00			14.00	
			64	5320		14.00			14.00			14.00			14.00	
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			56	5280		14.00			14.00			14.00			14.00	
			60	5300		14.00			14.00			14.00			14.00	
			64	5320		14.00			14.00			14.00			14.00	
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			56	5280		14.00			14.00			14.00			14.00	
			60	5300		14.00			14.00			14.00			14.00	
			64	5320		14.00			14.00			14.00			14.00	
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			62	5310		14.00			14.00			14.00			14.00	
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			62	5310		14.00			14.00			14.00			14.00	
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			62	5310		14.00			14.00			14.00			14.00	
	802.11ac (VHT80)	29.3 Mbps	58	5290	13.80	14.00	Yes	13.80	14.00	Yes	13.68	14.00	Yes	13.68	14.00	Yes
	802.11ax (HE80)	30.6 Mbps	58	5290	13.80	14.00	No	13.80	14.00	No	13.50	14.00	No	13.50	14.00	No

Note(s):

These conducted measurements are used during the Simultaneous condition WWAN + 2.4GHz + 5GHz and WWAN + 2.4GHz MIMO + 5GHz MIMO.

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-2C 5.5 GHz	802.11a	6 Mbps	100	5500	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			116	5580		14.00			14.00			14.00			14.00	
			124	5620		14.00			14.00			14.00			14.00	
			140	5700		14.00			14.00			14.00			14.00	
			144	5720		14.00			14.00			14.00			14.00	
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			116	5580		14.00			14.00			14.00			14.00	
			124	5620		14.00			14.00			14.00			14.00	
			140	5700		14.00			14.00			14.00			14.00	
			144	5720		14.00			14.00			14.00			14.00	
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			116	5580		14.00			14.00			14.00			14.00	
			124	5620		14.00			14.00			14.00			14.00	
			140	5700		14.00			14.00			14.00			14.00	
			144	5720		14.00			14.00			14.00			14.00	
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			116	5580		14.00			14.00			14.00			14.00	
			124	5620		14.00			14.00			14.00			14.00	
			140	5700		14.00			14.00			14.00			14.00	
			144	5720		14.00			14.00			14.00			14.00	
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			118	5590		14.00			14.00			14.00			14.00	
			126	5630		14.00			14.00			14.00			14.00	
			134	5670		14.00			14.00			14.00			14.00	
			142	5710		14.00			14.00			14.00			14.00	
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			118	5590		14.00			14.00			14.00			14.00	
			126	5630		14.00			14.00			14.00			14.00	
			134	5670		14.00			14.00			14.00			14.00	
			142	5710		14.00			14.00			14.00			14.00	
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			118	5590		14.00			14.00			14.00			14.00	
			126	5630		14.00			14.00			14.00			14.00	
			134	5670		14.00			14.00			14.00			14.00	
			142	5710		14.00			14.00			14.00			14.00	
	802.11ac (VHT80)	29.3 Mbps	106	5530	13.92	14.00	Yes	13.92	14.00	Yes	13.65	14.00	Yes	13.65	14.00	Yes
			122	5610	13.92	14.00		13.92	14.00		14.00	14.00		14.00	14.00	
			138	5690	13.95	14.00		13.95	14.00		13.90	14.00		13.90	14.00	
	802.11ax (HE80)	30.6 Mbps	106	5530	13.87	14.00	No	13.87	14.00	No	13.99	14.00	No	13.99	14.00	No
			122	5610	13.91	14.00		13.91	14.00		13.80	14.00		13.80	14.00	
			138	5690	13.95	14.00		13.95	14.00		13.74	14.00		13.74	14.00	

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 Average Power (dBm)						Wi-Fi Antenna #2 Average Power (dBm)					
					Maximum Average Power			Reduced Average Power			Maximum Average Power			Reduced Average Power		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-3 5.8 GHz	802.11a	6 Mbps	149	5745	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			157	5785		14.00			14.00			14.00			14.00	
			165	5825		14.00			14.00			14.00			14.00	
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			157	5785		14.00			14.00			14.00			14.00	
			165	5825		14.00			14.00			14.00			14.00	
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			157	5785		14.00			14.00			14.00			14.00	
			165	5825		14.00			14.00			14.00			14.00	
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			157	5785		14.00			14.00			14.00			14.00	
			165	5825		14.00			14.00			14.00			14.00	
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			159	5795		14.00			14.00			14.00			14.00	
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			159	5795		14.00			14.00			14.00			14.00	
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No	Not Required	14.00	No
			159	5795		14.00			14.00			14.00			14.00	
	802.11ac (VHT80)	29.3 Mbps	155	5775	14.00	14.00	Yes	14.00	14.00	Yes	13.85	14.00	Yes	13.85	14.00	Yes
	802.11ax (HE80)	30.6 Mbps	155	5775	13.65	14.00	No	13.65	14.00	No	13.70	14.00	No	13.70	14.00	No

Note(s):

These conducted measurements are used during the Simultaneous condition WWAN + 2.4GHz + 5GHz and WWAN + 2.4GHz MIMO + 5GHz MIMO.

Duty Factor Measured Results

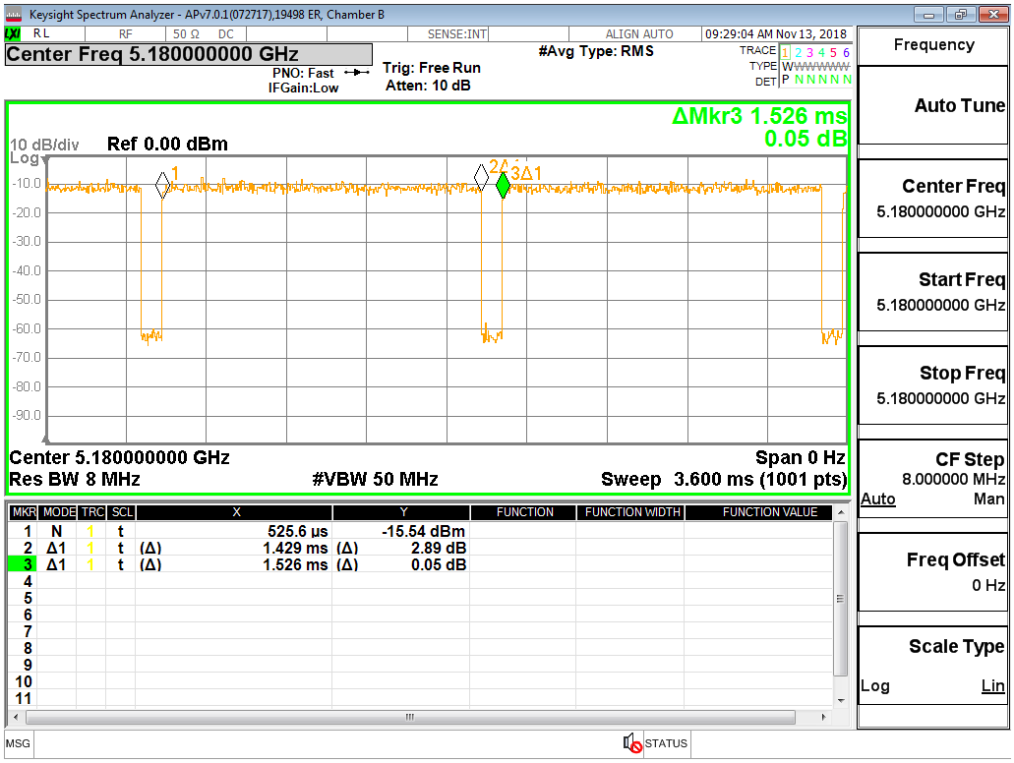
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
802.11a	6 Mbps	1.429	1.526	93.64%	1.07
802.11ac VHT80	29.3 Mbps	0.192	0.302	63.65%	1.57

Note(s):

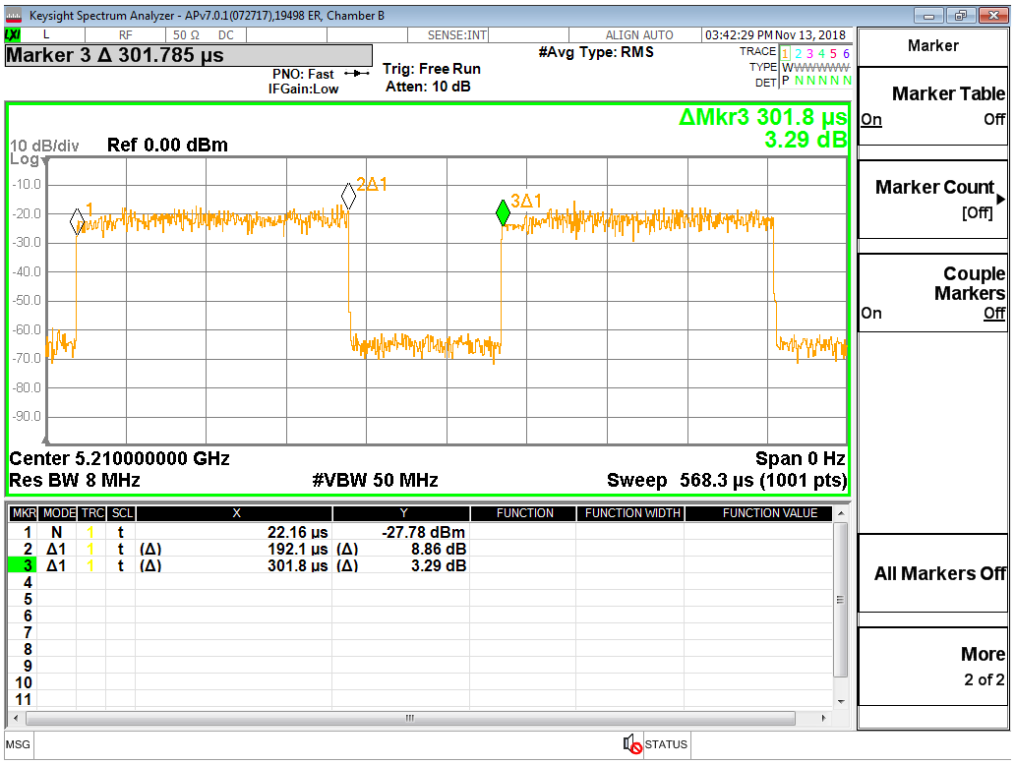
Duty Cycle = (T on / period) * 100%

Duty Cycle plots

802.11a



802.11ac VHT80



9.7. Bluetooth

Bluetooth Measured Results

SAR measurement is not required for the QPSK, 8PSK, and BLE. When the secondary mode is ≤ ¼ dB higher than the primary mode.

Band	Mode	Ch #	Freq. (MHz)	Wi-Fi Antenna #1 (dBm) Average Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
2.4	GFSK	0	2402	17.87	19.00	Yes
		39	2441	18.76	19.00	
		78	2480	17.90	19.00	
	EDR, π/4 DQPSK	0	2402	10.86	13.00	No
		39	2441	12.85	13.00	
		78	2480	11.56	13.00	
	EDR, 8-DPSK	0	2402	11.12	13.00	No
		39	2441	12.97	13.00	
		78	2480	11.65	13.00	
	LE 125 kbps, GFSK	0	2402	7.35	8.50	No
		19	2440	8.05	8.50	
		39	2480	6.08	8.50	
	LE 500 kbps, GFSK	0	2402	7.38	8.50	No
		19	2440	8.05	8.50	
		39	2480	6.10	8.50	
	LE 1 Mbps, GFSK	0	2402	7.70	8.50	No
		19	2440	8.33	8.50	
		39	2480	6.23	8.50	
	LE 2 Mbps, GFSK	0	2402	8.26	9.50	No
		19	2440	8.95	9.50	
		39	2480	7.08	9.50	

Duty Factor Measured Results

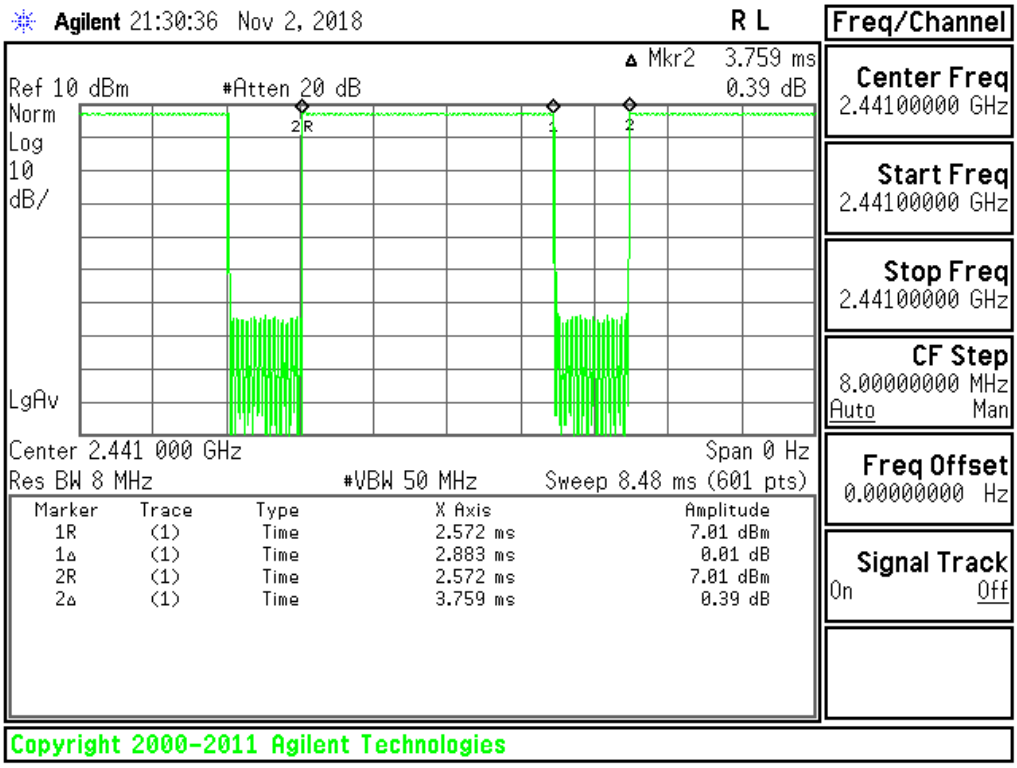
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.883	3.759	76.70%	1.30

Note(s):

Duty Cycle = (T on / period) * 100%

Duty Cycle plots

GFSK



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for WWAN = Measured SAR *Tune-up Scaling Factor
- Reported SAR(W/kg) for Wi-Fi = Measured SAR * Tune-up scaling factor * Duty Cycle scaling factor
- Duty Cycle scaling factor = 1 / Duty cycle (%)

KDB 447498 D01 General RF Exposure Guidance:

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

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 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
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 648474 D04 Handset SAR:

With headset attached, when the reported SAR for body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

KDB 648474 D04 Handset SAR (Phablet Only):

When hotspot mode does not apply, 10-g Product Specific 10g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions. When hotspot mode applies, 10-g Product Specific 10g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg .

KDB 941225 D01 SAR test for 3G devices:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
- Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
- For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

KDB 248227 D01 SAR meas for 802.11:

SAR test reduction for 802.11 Wi-Fi 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). Initial Test Position SAR Test Reduction Procedure is outlined in KDB 248227 D01 §5.1.1. 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.

10.1. GSM850

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	GSM Voice	OFF	0	Left Touch	190	836.6	34.0	33.5	0.152	0.171	
				Left Tilt	190	836.6	34.0	33.5	0.094	0.105	
				Right Touch	190	836.6	34.0	33.5	0.195	**0.219**	1
				Right Tilt	190	836.6	34.0	33.5	0.094	0.106	
Body-worn	GSM Voice	OFF	15	Rear	190	836.6	34.0	33.5	0.220	**0.247**	2
				Front	190	836.6	34.0	33.5	0.191	0.214	
Hotspot	GPRS 3 Slots	OFF	10	Rear	190	836.6	30.8	30.0	0.589	**0.708**	3
				Front	190	836.6	30.8	30.0	0.471	0.566	
				Edge 2	190	836.6	30.8	30.0	0.263	0.316	
				Edge 3	190	836.6	30.8	30.0	0.404	0.486	
				Edge 4	190	836.6	30.8	30.0	0.075	0.090	

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	GSM Voice	OFF	0	Left Touch	190	836.6	34.0	33.5	0.164	0.184	
				Left Tilt	190	836.6	34.0	33.5	0.106	0.119	
				Right Touch	190	836.6	34.0	33.5	0.219	**0.246**	4
				Right Tilt	190	836.6	34.0	33.5	0.105	0.118	
Body-worn	GSM Voice	OFF	15	Rear	190	836.6	34.0	33.5	0.269	**0.302**	5
				Front	190	836.6	34.0	33.5	0.220	0.247	
Hotspot	GPRS 3 Slots	OFF	10	Rear	128	826.4	30.8	30.0	0.503	0.605	
					190	836.6	30.8	30.0	0.666	0.801	
					251	846.6	30.8	30.0	0.746	**0.897**	6
				Front	190	836.6	30.8	30.0	0.567	0.682	
				Edge 2	190	836.6	30.8	30.0	0.253	0.304	
				Edge 3	190	836.6	30.8	30.0	0.468	0.563	
				Edge 4	190	836.6	30.8	30.0	0.098	0.118	

10.2. GSM1900

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	GSM Voice	OFF	0	Left Touch	661	1880.0	31.0	30.7	0.068	**0.073**	7
				Left Tilt	661	1880.0	31.0	30.7	0.030	0.032	
				Right Touch	661	1880.0	31.0	30.7	0.048	0.051	
				Right Tilt	661	1880.0	31.0	30.7	0.029	0.031	
Body-worn	GSM Voice	OFF	15	Rear	661	1880.0	31.0	30.7	0.318	**0.341**	8
				Front	661	1880.0	31.0	30.7	0.260	0.279	
Hotspot	GPRS 1 Slot	ON	10	Rear	661	1880.0	31.0	30.7	0.259	0.278	
				Front	661	1880.0	31.0	30.7	0.202	0.216	
				Edge 2	661	1880.0	31.0	30.7	0.032	0.034	
				Edge 3	661	1880.0	31.0	30.7	0.395	**0.423**	9
				Edge 4	661	1880.0	31.0	30.7	0.050	0.054	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is < 1.2 W/kg. Therefore, Product Specific 10g SAR testing is not required for this band in accordance with KDB 648474 §2.5 b.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	GSM Voice	OFF	0	Left Touch	661	1880.0	31.0	30.6	0.019	**0.021**	10
				Left Tilt	661	1880.0	31.0	30.6	0.010	0.011	
				Right Touch	661	1880.0	31.0	30.6	0.012	0.013	
				Right Tilt	661	1880.0	31.0	30.6	0.008	0.009	
Body-worn	GSM Voice	OFF	15	Rear	661	1880.0	31.0	30.6	0.034	**0.037**	11
				Front	661	1880.0	31.0	30.6	0.025	0.027	
Hotspot	GPRS 1 Slot	ON	10	Rear	661	1880.0	31.0	30.7	0.284	0.304	
				Front	661	1880.0	31.0	30.7	0.207	0.222	
				Edge 2	661	1880.0	31.0	30.7	0.035	0.038	
				Edge 3	661	1880.0	31.0	30.7	0.494	**0.529**	12
				Edge 4	661	1880.0	31.0	30.7	0.061	0.065	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is < 1.2 W/kg. Therefore, Product Specific 10g SAR testing is not required for this band in accordance with KDB 648474 §2.5 b.

10.3. W-CDMA Band II

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	OFF	0	Left Touch	9400	1880.0	23.5	23.2	0.160	**0.171**	13
				Left Tilt	9400	1880.0	23.5	23.2	0.064	0.068	
				Right Touch	9400	1880.0	23.5	23.2	0.104	0.111	
				Right Tilt	9400	1880.0	23.5	23.2	0.061	0.065	
Body-worn	Rel 99 RMC	OFF	15	Rear	9400	1880.0	23.5	23.2	0.706	**0.753**	14
				Front	9400	1880.0	23.5	23.2	0.586	0.625	
Hotspot	Rel 99 RMC	ON	10	Rear	9400	1880.0	20.5	20.0	0.554	0.622	
				Front	9400	1880.0	20.5	20.0	0.462	0.518	
				Edge 2	9400	1880.0	20.5	20.0	0.081	0.091	
				Edge 3	9262	1852.4	20.5	19.0	0.722	1.020	
					9400	1880.0	20.5	20.0	0.947	1.063	
					9538	1907.6	20.5	19.7	0.934	**1.123**	15
				Edge 4	9400	1880.0	20.5	20.0	0.128	0.144	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	Rel 99 RMC	OFF	7	Rear	9400	1880.0	23.5	23.2	1.050	1.120	
			9	Edge 3	9400	1880.0	23.5	23.2	1.160	1.237	
		ON	0	Rear	9262	1852.4	20.5	19.0	1.450	2.048	
					9400	1880.0	20.5	20.0	1.830	2.053	
					9538	1907.6	20.5	19.7	1.620	1.948	
				Edge 3	9262	1852.4	20.5	19.0	1.760	**2.486**	16
					9400	1880.0	20.5	20.0	2.110	2.367	
					9538	1907.6	20.5	19.7	1.840	2.212	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	OFF	0	Left Touch	9400	1880.0	23.5	23.2	0.145	**0.155**	17
				Left Tilt	9400	1880.0	23.5	23.2	0.058	0.062	
				Right Touch	9400	1880.0	23.5	23.2	0.084	0.089	
				Right Tilt	9400	1880.0	23.5	23.2	0.052	0.055	
Body-worn	Rel 99 RMC	OFF	15	Rear	9400	1880.0	23.5	23.2	0.591	**0.630**	18
				Front	9400	1880.0	23.5	23.2	0.419	0.447	
Hotspot	Rel 99 RMC	ON	10	Rear	9400	1880.0	20.5	20.0	0.608	0.682	
				Front	9400	1880.0	20.5	20.0	0.385	0.432	
				Edge 2	9400	1880.0	20.5	20.0	0.060	0.067	
				Edge 3	9262	1852.4	20.5	19.0	0.726	**1.026**	19
					9400	1880.0	20.5	20.0	0.844	0.947	
					9538	1907.6	20.5	19.7	0.839	1.009	
				Edge 4	9400	1880.0	20.5	20.0	0.103	0.116	
RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	Rel 99 RMC	OFF	7	Rear	9400	1880.0	23.5	23.2	1.060	1.131	
			9	Edge 3	9400	1880.0	23.5	23.2	0.491	0.524	
		ON	0	Rear	9400	1880.0	20.5	20.0	1.650	**1.851**	20
				Edge 3	9400	1880.0	20.5	20.0	1.510	1.694	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

10.4. W-CDMA Band IV

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	OFF	0	Left Touch	1413	1732.6	23.3	22.9	0.147	**0.162**	21
				Left Tilt	1413	1732.6	23.3	22.9	0.046	0.051	
				Right Touch	1413	1732.6	23.3	22.9	0.101	0.111	
				Right Tilt	1413	1732.6	23.3	22.9	0.046	0.051	
Body-worn	Rel 99 RMC	OFF	15	Rear	1413	1732.6	23.3	22.9	0.545	**0.599**	22
				Front	1413	1732.6	23.3	22.9	0.442	0.486	
Hotspot	Rel 99 RMC	ON	10	Rear	1413	1732.6	20.5	20.3	0.311	0.326	
				Front	1413	1732.6	20.5	20.3	0.262	0.274	
				Edge 2	1413	1732.6	20.5	20.3	0.030	0.031	
				Edge 3	1413	1732.6	20.5	20.3	0.588	**0.616**	23
				Edge 4	1413	1732.6	20.5	20.3	0.072	0.076	
RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	Rel 99 RMC	OFF	9	Edge 3	1413	1732.6	23.3	22.8	0.689	0.773	
	Rel 99 RMC	ON	0	Edge 3	1312	1712.4	20.5	19.1	1.590	**2.190**	24
					1413	1732.6	20.5	20.3	1.640	1.717	
					1513	1752.6	20.5	19.7	1.610	1.945	
	DC-HSDPA Subtest 1				1312	1712.4	20.7	20.1	1.530	1.741	
					1413	1732.6	20.7	20.5	1.690	1.770	
					1513	1752.6	20.7	19.9	1.610	1.945	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	OFF	0	Left Touch	1413	1732.6	23.3	22.8	0.158	**0.177**	25
				Left Tilt	1413	1732.6	23.3	22.8	0.048	0.054	
				Right Touch	1413	1732.6	23.3	22.8	0.089	0.100	
				Right Tilt	1413	1732.6	23.3	22.8	0.052	0.058	
Body-worn	Rel 99 RMC	OFF	15	Rear	1413	1732.6	23.3	22.8	0.504	**0.565**	26
				Front	1413	1732.6	23.3	22.8	0.378	0.424	
Hotspot	Rel 99 RMC	ON	10	Rear	1413	1732.6	20.5	20.3	0.413	0.432	
				Front	1413	1732.6	20.5	20.3	0.308	0.323	
				Edge 2	1413	1732.6	20.5	20.3	0.040	0.042	
				Edge 3	1413	1732.6	20.5	20.3	0.735	**0.770**	27
				Edge 4	1413	1732.6	20.5	20.3	0.104	0.109	
RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	Rel 99 RMC	OFF	9	Edge 3	1413	1732.6	23.3	22.8	1.080	1.212	
		ON	0	Edge 3	1312	1712.4	20.5	19.1	2.130	**2.933**	28
					1413	1732.6	20.5	20.3	2.310	2.419	
					1513	1752.6	20.5	19.7	2.200	2.657	
	DC-HSDPA Subtest 1	ON	0	Edge 3	1413	1732.6	20.7	20.5	1.770	1.853	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

10.5. W-CDMA Band V

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	OFF	0	Left Touch	4183	836.6	25.0	24.3	0.169	0.199	
				Left Tilt	4183	836.6	25.0	24.3	0.079	0.093	
				Right Touch	4183	836.6	25.0	24.3	0.228	**0.268**	29
				Right Tilt	4183	836.6	25.0	24.3	0.082	0.096	
Body-worn	Rel 99 RMC	OFF	15	Rear	4183	836.6	25.0	24.3	0.262	**0.308**	30
				Front	4183	836.6	25.0	24.3	0.208	0.244	
Hotspot	Rel 99 RMC	OFF	10	Rear	4183	836.6	25.0	24.3	0.510	**0.599**	31
				Front	4183	836.6	25.0	24.3	0.361	0.424	
				Edge 2	4183	836.6	25.0	24.3	0.157	0.184	
				Edge 3	4183	836.6	25.0	24.3	0.351	0.412	
				Edge 4	4183	836.6	25.0	24.3	0.057	0.067	

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	OFF	0	Left Touch	4183	836.6	25.0	24.3	0.204	0.240	
				Left Tilt	4183	836.6	25.0	24.3	0.125	0.147	
				Right Touch	4183	836.6	25.0	24.3	0.272	**0.320**	32
				Right Tilt	4183	836.6	25.0	24.3	0.128	0.150	
Body-worn	Rel 99 RMC	OFF	15	Rear	4183	836.6	25.0	24.3	0.297	**0.349**	33
				Front	4183	836.6	25.0	24.3	0.246	0.289	
Hotspot	Rel 99 RMC	OFF	10	Rear	4183	836.6	25.0	24.3	0.605	**0.711**	34
				Front	4183	836.6	25.0	24.3	0.485	0.570	
				Edge 2	4183	836.6	25.0	24.3	0.242	0.284	
				Edge 3	4183	836.6	25.0	24.3	0.373	0.438	
				Edge 4	4183	836.6	25.0	24.3	0.072	0.084	

10.6. LTE Band 5 (10MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	DAT Tuner State	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	Default	0	Left Touch	20525	836.5	1	0	25.0	24.7	0.158	0.168	
								25	0	23.0	22.2	0.085	0.103	
					Left Tilt	20525	836.5	1	0	25.0	24.7	0.115	0.122	
								25	0	23.0	22.2	0.060	0.073	
					Right Touch	20525	836.5	1	0	25.0	24.7	0.226	**0.240**	35
								25	0	23.0	22.2	0.121	0.146	
					Right Tilt	20525	836.5	1	0	25.0	24.7	0.111	0.118	
								25	0	23.0	22.2	0.060	0.073	
Body-worn	QPSK	OFF	Default	15	Rear	20525	836.5	1	0	25.0	24.7	0.263	**0.279**	36
								25	0	23.0	22.2	0.150	0.181	
					Front	20525	836.5	1	0	25.0	24.7	0.192	0.204	
								25	0	23.0	22.2	0.107	0.129	
Hotspot	QPSK	OFF	Default	10	Rear	20525	836.5	1	0	25.0	24.7	0.484	**0.514**	37
								25	0	23.0	22.2	0.276	0.334	
					Front	20525	836.5	1	0	25.0	24.7	0.410	0.435	
								25	0	23.0	22.2	0.234	0.283	
					Edge 2	20525	836.5	1	0	25.0	24.7	0.194	0.206	
								25	0	23.0	22.2	0.105	0.127	
					Edge 3	20525	836.5	1	0	25.0	24.7	0.340	0.361	
								25	0	23.0	22.2	0.191	0.231	
					Edge 4	20525	836.5	1	0	25.0	24.7	0.073	0.077	
								25	0	23.0	22.2	0.039	0.047	

Note(s):

Default Tuner State, using Index 2, was used for all SAR RF Exposure Conditions, based off the results obtained using the single point measurements in §6.5.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	DAT Tuner State	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	Default	0	Left Touch	20525	836.5	1	0	25.0	24.7	0.158	**0.168**	38
								25	0	23.0	22.2	0.089	0.108	
					Left Tilt	20525	836.5	1	0	25.0	24.7	0.103	0.109	
								25	0	23.0	22.2	0.058	0.070	
					Right Touch	20525	836.5	1	0	25.0	24.7	0.144	0.153	
								25	0	23.0	22.2	0.076	0.092	
					Right Tilt	20525	836.5	1	0	25.0	24.7	0.129	0.137	
								25	0	23.0	22.2	0.075	0.091	
Body-worn	QPSK	OFF	Default	15	Rear	20525	836.5	1	0	25.0	24.7	0.271	**0.288**	39
								25	0	23.0	22.2	0.165	0.200	
					Front	20525	836.5	1	0	25.0	24.7	0.183	0.194	
								25	0	23.0	22.2	0.111	0.134	
Hotspot	QPSK	OFF	Default	10	Rear	20525	836.5	1	0	25.0	24.7	0.599	**0.636**	40
								25	0	23.0	22.2	0.359	0.434	
					Front	20525	836.5	1	0	25.0	24.7	0.399	0.424	
								25	0	23.0	22.2	0.240	0.290	
					Edge 2	20525	836.5	1	0	25.0	24.7	0.104	0.110	
								25	0	23.0	22.2	0.057	0.069	
					Edge 3	20525	836.5	1	0	25.0	24.7	0.327	0.347	
								25	0	23.0	22.2	0.194	0.235	
					Edge 4	20525	836.5	1	0	25.0	24.7	0.056	0.059	
								25	0	23.0	22.2	0.031	0.037	

Note(s):

Default Tuner State, using Index 2, was used for all SAR RF Exposure Conditions, based off the results obtained using the single point measurements in §6.5.

10.7. LTE Band 7 (20MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	21100	2535.0	1	0	25.0	24.5	0.156	**0.177**	41
							50	0	23.0	21.9	0.083	0.107	
				Left Tilt	21100	2535.0	1	0	25.0	24.5	0.059	0.067	
							50	0	23.0	21.9	0.031	0.040	
				Right Touch	21100	2535.0	1	0	25.0	24.5	0.104	0.118	
							50	0	23.0	21.9	0.050	0.064	
				Right Tilt	21100	2535.0	1	0	25.0	24.5	0.107	0.121	
							50	0	23.0	21.9	0.059	0.076	
Body-worn	QPSK	OFF	15	Rear	21100	2535.0	1	0	25.0	24.5	0.530	**0.601**	42
							50	0	23.0	21.9	0.316	0.408	
				Front	21100	2535.0	1	0	25.0	24.5	0.229	0.260	
							50	0	23.0	21.9	0.132	0.170	
Hotspot	QPSK	ON	10	Rear	21100	2535.0	1	0	21.5	20.5	0.417	0.525	
							50	0	21.5	20.4	0.407	0.523	
				Front	21100	2535.0	1	0	21.5	20.5	0.095	0.120	
							50	0	21.5	20.4	0.096	0.123	
				Edge 3	20850	2510.0	1	0	21.5	20.9	0.502	0.574	
							50	0	21.5	20.8	0.552	0.650	
							100	0	21.5	20.7	0.619	0.748	
					21100	2535.0	1	0	21.5	20.5	0.597	0.752	
							50	0	21.5	20.4	0.609	0.782	
					21350	2560.0	1	0	21.5	20.6	0.688	**0.850**	43
							50	50	21.5	20.5	0.671	0.844	
				Edge 4	21100	2535.0	1	0	21.5	20.5	0.188	0.237	
							50	0	21.5	20.4	0.181	0.232	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	QPSK	OFF	9	Edge 3	21100	2535.0	1	0	25.0	24.5	0.722	0.819	
							50	0	23.0	21.9	0.415	0.535	
		ON	0	Edge 3	20850	2510.0	1	0	21.5	20.9	1.970	2.251	
							50	0	21.5	20.8	1.950	**2.296**	44
							100	0	21.5	20.7	1.830	2.210	
					21100	2535.0	1	0	21.5	20.5	1.730	2.178	
							50	0	21.5	20.4	1.740	2.235	
					21350	2560.0	1	0	21.5	20.6	1.740	2.151	
							50	50	21.5	20.5	1.770	2.226	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	21100	2535.0	1	0	25.0	24.5	0.098	**0.111**	45
							50	0	23.0	21.9	0.069	0.089	
				Left Tilt	21100	2535.0	1	0	25.0	24.5	0.041	0.047	
							50	0	23.0	21.9	0.029	0.037	
				Right Touch	21100	2535.0	1	0	25.0	24.5	0.064	0.073	
							50	0	23.0	21.9	0.045	0.058	
				Right Tilt	21100	2535.0	1	0	25.0	24.5	0.071	0.081	
							50	0	23.0	21.9	0.052	0.067	
Body-worn	QPSK	OFF	15	Rear	21100	2535.0	1	0	25.0	24.5	0.646	**0.733**	46
							50	0	23.0	21.9	0.456	0.588	
				Front	21100	2535.0	1	0	25.0	24.5	0.340	0.386	
							50	0	23.0	21.9	0.236	0.304	
Hotspot	QPSK	ON	10	Rear	20850	2510.0	1	0	21.5	20.9	0.701	0.801	
					21100	2535.0	1	0	21.5	20.5	0.640	**0.808**	47
							50	0	21.5	20.4	0.619	0.795	
					21350	2560.0	1	0	21.5	20.6	0.614	0.759	
				Front	21100	2535.0	1	0	21.5	20.5	0.311	0.392	
							50	0	21.5	20.4	0.310	0.398	
				Edge 3	20850	2510.0	1	0	21.5	20.5	0.253	0.319	
							50	0	21.5	20.4	0.253	0.325	
				Edge 4	21100	2535.0	1	0	21.5	20.5	0.184	0.232	
							50	0	21.5	20.4	0.180	0.231	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	QPSK	OFF	7	Rear	21100	2535.0	1	0	25.0	24.5	0.862	0.978	
		ON	0	Rear	20850	2510.0	1	0	21.5	20.9	1.730	1.977	
					21100	2535.0	1	0	21.5	20.5	1.570	**1.981**	48
					21350	2560.0	1	0	21.5	20.6	1.540	1.903	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

10.8. LTE Band 12 (10MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	23095	707.5	1	0	25.0	23.8	0.119	0.157	
							25	0	23.0	22.8	0.095	0.100	
				Left Tilt	23095	707.5	1	0	25.0	23.8	0.079	0.104	
							25	0	23.0	22.8	0.064	0.067	
				Right Touch	23095	707.5	1	0	25.0	23.8	0.131	**0.173**	49
							25	0	23.0	22.8	0.106	0.112	
				Right Tilt	23095	707.5	1	0	25.0	23.8	0.079	0.104	
							25	0	23.0	22.8	0.064	0.067	
Body-worn	QPSK	OFF	15	Rear	23095	707.5	1	0	25.0	23.8	0.254	**0.335**	50
							25	0	23.0	22.8	0.204	0.215	
				Front	23095	707.5	1	0	25.0	23.8	0.237	0.313	
							25	0	23.0	22.8	0.191	0.201	
Hotspot	QPSK	OFF	10	Rear	23095	707.5	1	0	25.0	23.8	0.302	0.398	
							25	0	23.0	22.8	0.246	0.259	
				Front	23095	707.5	1	0	25.0	23.8	0.252	0.332	
							25	0	23.0	22.8	0.193	0.203	
				Edge 2	23095	707.5	1	0	25.0	23.8	0.325	**0.429**	51
							25	0	23.0	22.8	0.265	0.279	
				Edge 3	23095	707.5	1	0	25.0	23.8	0.118	0.156	
							25	0	23.0	22.8	0.098	0.103	
				Edge 4	23095	707.5	1	0	25.0	23.8	0.267	0.352	
							25	0	23.0	22.8	0.215	0.226	

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	23095	707.5	1	0	25.0	23.8	0.120	0.158	
							25	0	23.0	22.8	0.079	0.083	
				Left Tilt	23095	707.5	1	0	25.0	23.8	0.077	0.102	
							25	0	23.0	22.8	0.051	0.054	
				Right Touch	23095	707.5	1	0	25.0	23.8	0.148	**0.195**	52
							25	0	23.0	22.8	0.097	0.102	
				Right Tilt	23095	707.5	1	0	25.0	23.8	0.079	0.104	
							25	0	23.0	22.8	0.051	0.054	
Body-worn	QPSK	OFF	15	Rear	23095	707.5	1	0	25.0	23.8	0.245	**0.323**	53
							25	0	23.0	22.8	0.158	0.166	
				Front	23095	707.5	1	0	25.0	23.8	0.224	0.295	
							25	0	23.0	22.8	0.145	0.153	
Hotspot	QPSK	OFF	10	Rear	23095	707.5	1	0	25.0	23.8	0.267	0.352	
							25	0	23.0	22.8	0.174	0.183	
				Front	23095	707.5	1	0	25.0	23.8	0.236	0.311	
							25	0	23.0	22.8	0.156	0.164	
				Edge 2	23095	707.5	1	0	25.0	23.8	0.363	**0.479**	54
							25	0	23.0	22.8	0.235	0.248	
				Edge 3	23095	707.5	1	0	25.0	23.8	0.123	0.162	
							25	0	23.0	22.8	0.081	0.085	
				Edge 4	23095	707.5	1	0	25.0	23.8	0.240	0.316	
							25	0	23.0	22.8	0.150	0.158	

10.9. LTE Band 13 (10MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	23230	782.0	1	0	25.0	23.8	0.133	0.176	
							25	0	23.0	21.8	0.083	0.110	
				Left Tilt	23230	782.0	1	0	25.0	23.8	0.087	0.115	
							25	0	23.0	21.8	0.055	0.073	
				Right Touch	23230	782.0	1	0	25.0	23.8	0.159	**0.210**	55
							25	0	23.0	21.8	0.100	0.133	
				Right Tilt	23230	782.0	1	0	25.0	23.8	0.093	0.123	
							25	0	23.0	21.8	0.057	0.076	
Body-worn	QPSK	OFF	15	Rear	23230	782.0	1	0	25.0	23.8	0.215	0.285	
							25	0	23.0	21.8	0.133	0.177	
				Front	23230	782.0	1	0	25.0	23.8	0.224	**0.296**	56
							25	0	23.0	21.8	0.139	0.185	
Hotspot	QPSK	OFF	10	Rear	23230	782.0	1	0	25.0	23.8	0.281	**0.372**	57
							25	0	23.0	21.8	0.227	0.302	
				Front	23230	782.0	1	0	25.0	23.8	0.213	0.282	
							25	0	23.0	21.8	0.169	0.224	
				Edge 2	23230	782.0	1	0	25.0	23.8	0.234	0.310	
							25	0	23.0	21.8	0.179	0.238	
				Edge 3	23230	782.0	1	0	25.0	23.8	0.182	0.241	
							25	0	23.0	21.8	0.146	0.194	
				Edge 4	23230	782.0	1	0	25.0	23.8	0.121	0.160	
							25	0	23.0	21.8	0.089	0.118	

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	23230	782.0	1	0	25.0	23.8	0.060	0.079	
							25	0	23.0	21.8	0.040	0.053	
				Left Tilt	23230	782.0	1	0	25.0	23.8	0.068	0.090	
							25	0	23.0	21.8	0.029	0.039	
				Right Touch	23230	782.0	1	0	25.0	23.8	0.086	**0.113**	58
							25	0	23.0	21.8	0.057	0.075	
				Right Tilt	23230	782.0	1	0	25.0	23.8	0.070	0.093	
							25	0	23.0	21.8	0.041	0.054	
Body-worn	QPSK	OFF	15	Rear	23230	782.0	1	0	25.0	23.8	0.203	**0.269**	59
							25	0	23.0	21.8	0.133	0.177	
				Front	23230	782.0	1	0	25.0	23.8	0.178	0.236	
							25	0	23.0	21.8	0.118	0.157	
Hotspot	QPSK	OFF	10	Rear	23230	782.0	1	0	25.0	23.8	0.360	**0.476**	60
							25	0	23.0	21.8	0.241	0.320	
				Front	23230	782.0	1	0	25.0	23.8	0.255	0.337	
							25	0	23.0	21.8	0.171	0.227	
				Edge 2	23230	782.0	1	0	25.0	23.8	0.200	0.265	
							25	0	23.0	21.8	0.130	0.173	
				Edge 3	23230	782.0	1	0	25.0	23.8	0.233	0.308	
							25	0	23.0	21.8	0.156	0.207	
				Edge 4	23230	782.0	1	0	25.0	23.8	0.086	0.114	
							25	0	23.0	21.8	0.055	0.073	

10.10. LTE Band 25 (20MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	26365	1882.5	1	0	24.0	23.7	0.124	**0.134**	61
							50	0	23.0	22.5	0.095	0.106	
				Left Tilt	26365	1882.5	1	0	24.0	23.7	0.081	0.088	
							50	0	23.0	22.5	0.060	0.067	
				Right Touch	26365	1882.5	1	0	24.0	23.7	0.085	0.092	
							50	0	23.0	22.5	0.069	0.077	
				Right Tilt	26365	1882.5	1	0	24.0	23.7	0.049	0.053	
							50	0	23.0	22.5	0.038	0.042	
Body-worn	QPSK	OFF	15	Rear	26365	1882.5	1	0	24.0	23.7	0.621	**0.672**	62
							50	0	23.0	22.5	0.483	0.538	
				Front	26365	1882.5	1	0	24.0	23.7	0.513	0.555	
							50	0	23.0	22.5	0.395	0.440	
Hotspot	QPSK	ON	10	Rear	26365	1882.5	1	0	21.0	20.6	0.645	0.706	
							50	0	21.0	20.5	0.626	0.702	
				Front	26365	1882.5	1	0	21.0	20.6	0.531	0.581	
							50	0	21.0	20.5	0.512	0.574	
				Edge 2	26365	1882.5	1	0	21.0	20.6	0.085	0.093	
							50	0	21.0	20.5	0.081	0.091	
				Edge 3	26140	1860.0	1	0	21.0	20.4	0.960	1.102	
							50	0	21.0	20.3	0.998	1.175	
					26365	1882.5	1	0	21.0	20.6	1.110	1.214	
							50	0	21.0	20.5	1.080	1.212	
							100	0	21.0	20.5	1.090	1.237	
					26590	1905.0	1	0	21.0	20.1	1.100	1.341	
							50	0	21.0	20.1	1.100	**1.350**	63
				Edge 4	26365	1882.5	1	0	21.0	20.6	0.125	0.137	
							50	0	21.0	20.5	0.118	0.132	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	QPSK	OFF	7	Rear	26365	1882.5	1	0	24.0	23.7	0.940	1.017	
							50	0	23.0	22.5	0.736	0.820	
			9	Edge 3	26365	1882.5	1	0	24.0	23.7	1.290	1.395	
							50	0	23.0	22.5	1.000	1.114	
		ON	0	Rear	26365	1882.5	1	0	21.0	20.6	1.810	1.980	
							50	0	21.0	20.5	1.750	1.964	
				Edge 3	26140	1860.0	1	0	21.0	20.4	2.200	2.526	
							50	0	21.0	20.3	2.150	2.532	
					26365	1882.5	1	0	21.0	20.6	2.340	**2.560**	64
							50	0	21.0	20.5	2.140	2.401	
							100	0	21.0	20.5	2.090	2.372	
					26590	1905.0	1	0	21.0	20.1	1.970	2.401	
							50	0	21.0	20.1	1.950	2.394	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	26365	1882.5	1	0	24.0	23.7	0.150	**0.162**	65
							50	0	23.0	22.5	0.133	0.148	
				Left Tilt	26365	1882.5	1	0	24.0	23.7	0.083	0.090	
							50	0	23.0	22.5	0.068	0.076	
				Right Touch	26365	1882.5	1	0	24.0	23.7	0.087	0.094	
							50	0	23.0	22.5	0.074	0.082	
				Right Tilt	26365	1882.5	1	0	24.0	23.7	0.077	0.083	
							50	0	23.0	22.5	0.062	0.069	
Body-worn	QPSK	OFF	15	Rear	26365	1882.5	1	0	24.0	23.7	0.592	**0.640**	66
							50	0	23.0	22.5	0.511	0.569	
				Front	26365	1882.5	1	0	24.0	23.7	0.443	0.479	
							50	0	23.0	22.5	0.378	0.421	
Hotspot	QPSK	ON	10	Rear	26365	1882.5	1	0	21.0	20.6	0.655	0.717	
							50	0	21.0	20.5	0.629	0.706	
				Front	26365	1882.5	1	0	21.0	20.6	0.471	0.515	
							50	0	21.0	20.5	0.420	0.471	
				Edge 2	26365	1882.5	1	0	21.0	20.6	0.084	0.092	
							50	0	21.0	20.5	0.079	0.089	
				Edge 3	26140	1860.0	1	0	21.0	20.4	0.792	0.909	
							50	0	21.0	20.3	0.788	0.928	
					26365	1882.5	1	0	21.0	20.6	0.876	0.958	
							50	0	21.0	20.5	0.862	0.967	
							100	0	21.0	20.5	0.951	1.079	
					26590	1905.0	1	0	21.0	20.1	0.884	1.078	
							50	0	21.0	20.1	0.884	**1.085**	67
				Edge 4	26365	1882.5	1	0	21.0	20.6	0.117	0.128	
							50	0	21.0	20.5	0.110	0.123	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	QPSK	OFF	7	Rear	26365	1882.5	1	0	24.0	23.7	0.796	0.861	
			9	Edge 3	26365	1882.5	1	0	24.0	23.7	1.220	1.319	
							50	0	23.0	22.5	1.060	1.181	
		ON	0	Rear	26365	1882.5	1	0	21.0	20.6	1.720	1.882	
				Edge 3	26140	1860.0	1	0	21.0	20.4	2.150	2.469	
							50	0	21.0	20.3	2.140	**2.520**	68
					26365	1882.5	1	0	21.0	20.6	2.210	2.418	
							50	0	21.0	20.5	2.170	2.435	
							100	0	21.0	20.5	2.130	2.418	
					26590	1905.0	1	0	21.0	20.1	2.060	2.511	
							50	0	21.0	20.1	2.040	2.504	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

10.11. LTE Band 26 (15MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	26865	831.5	1	0	25.0	24.0	0.138	0.175	
							36	0	23.5	23.0	0.109	0.123	
				Left Tilt	26865	831.5	1	0	25.0	24.0	0.097	0.123	
							36	0	23.5	23.0	0.077	0.087	
				Right Touch	26865	831.5	1	0	25.0	24.0	0.205	**0.260**	69
							36	0	23.5	23.0	0.162	0.183	
				Right Tilt	26865	831.5	1	0	25.0	24.0	0.096	0.122	
							36	0	23.5	23.0	0.075	0.085	
Body-worn	QPSK	OFF	15	Rear	26865	831.5	1	0	25.0	24.0	0.221	**0.281**	70
							36	0	23.5	23.0	0.181	0.205	
				Front	26865	831.5	1	0	25.0	24.0	0.184	0.234	
							36	0	23.5	23.0	0.148	0.167	
Hotspot	QPSK	OFF	10	Rear	26865	831.5	1	0	25.0	24.0	0.494	**0.627**	71
							36	0	23.5	23.0	0.401	0.454	
				Front	26865	831.5	1	0	25.0	24.0	0.363	0.461	
							36	0	23.5	23.0	0.296	0.335	
				Edge 2	26865	831.5	1	0	25.0	24.0	0.079	0.100	
							36	0	23.5	23.0	0.061	0.069	
				Edge 3	26865	831.5	1	0	25.0	24.0	0.303	0.385	
							36	0	23.5	23.0	0.246	0.278	
				Edge 4	26865	831.5	1	0	25.0	24.0	0.177	0.225	
							36	0	23.5	23.0	0.136	0.154	

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	26865	831.5	1	0	25.0	24.0	0.132	0.168	
							36	0	23.5	23.0	0.086	0.097	
				Left Tilt	26865	831.5	1	0	25.0	24.0	0.082	0.104	
							36	0	23.5	23.0	0.054	0.061	
				Right Touch	26865	831.5	1	0	25.0	24.0	0.172	**0.218**	72
							36	0	23.5	23.0	0.115	0.130	
				Right Tilt	26865	831.5	1	0	25.0	24.0	0.077	0.098	
							36	0	23.5	23.0	0.051	0.058	
Body-worn	QPSK	OFF	15	Rear	26865	831.5	1	0	25.0	24.0	0.172	**0.218**	73
							36	0	23.5	23.0	0.119	0.135	
				Front	26865	831.5	1	0	25.0	24.0	0.168	0.213	
							36	0	23.5	23.0	0.102	0.115	
Hotspot	QPSK	OFF	10	Rear	26865	831.5	1	0	25.0	24.0	0.463	**0.588**	74
							36	0	23.5	23.0	0.276	0.312	
				Front	26865	831.5	1	0	25.0	24.0	0.342	0.434	
							36	0	23.5	23.0	0.212	0.240	
				Edge 2	26865	831.5	1	0	25.0	24.0	0.144	0.183	
							36	0	23.5	23.0	0.083	0.094	
				Edge 3	26865	831.5	1	0	25.0	24.0	0.280	0.355	
							36	0	23.5	23.0	0.171	0.194	
				Edge 4	26865	831.5	1	0	25.0	24.0	0.054	0.068	
							36	0	23.5	23.0	0.031	0.035	

10.12. LTE Band 41 (20MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	39750	2506.0	1	0	25.0	24.0	0.079	**0.100**	75
							50	0	23.0	22.0	0.062	0.078	
				Left Tilt	39750	2506.0	1	0	25.0	24.0	0.028	0.035	
							50	0	23.0	22.0	0.023	0.029	
				Right Touch	39750	2506.0	1	0	25.0	24.0	0.056	0.070	
							50	0	23.0	22.0	0.045	0.057	
				Right Tilt	39750	2506.0	1	0	25.0	24.0	0.044	0.055	
							50	0	23.0	22.0	0.035	0.044	
Body-worn	QPSK	OFF	15	Rear	39750	2506.0	1	0	25.0	24.0	0.331	**0.416**	76
							50	0	23.0	22.0	0.214	0.271	
				Front	39750	2506.0	1	0	25.0	24.0	0.164	0.206	
							50	0	23.0	22.0	0.105	0.133	
Hotspot	QPSK	ON	10	Rear	39750	2506.0	1	0	22.0	21.1	0.258	0.317	
							50	0	22.0	21.1	0.262	0.325	
				Front	39750	2506.0	1	0	22.0	21.1	0.126	0.155	
							50	0	22.0	21.1	0.168	0.208	
				Edge 3	39750	2506.0	1	0	22.0	21.1	0.341	0.420	
							50	0	22.0	21.1	0.356	**0.441**	77
				Edge 4	39750	2506.0	1	0	22.0	21.1	0.133	0.164	
							50	0	22.0	21.1	0.135	0.167	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is < 1.2 W/kg. Therefore, Product Specific 10g SAR testing is not required for this band in accordance with KDB 648474 §2.5 b.
Channel 39750 (2506 MHz) was selected for SAR testing in accordance with KDB 447498 §4.4.1 Subclause 38 .

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	39750	2506.0	1	0	25.0	24.0	0.019	0.024	
							50	0	23.0	22.0	0.018	0.023	
				Left Tilt	39750	2506.0	1	0	25.0	24.0	0.014	0.018	
							50	0	23.0	22.0	0.004	0.005	
				Right Touch	39750	2506.0	1	0	25.0	24.0	0.041	0.051	
							50	0	23.0	22.0	0.026	0.033	
				Right Tilt	39750	2506.0	1	0	25.0	24.0	0.054	**0.068**	78
							50	0	23.0	22.0	0.027	0.034	
Body-worn	QPSK	OFF	15	Rear	39750	2506.0	1	0	25.0	24.0	0.370	**0.465**	79
							50	0	23.0	22.0	0.235	0.298	
				Front	39750	2506.0	1	0	25.0	24.0	0.197	0.247	
							50	0	23.0	22.0	0.122	0.155	
Hotspot	QPSK	ON	10	Rear	39750	2506.0	1	0	22.0	21.1	0.477	0.587	
							50	0	22.0	21.1	0.476	**0.590**	80
				Front	39750	2506.0	1	0	22.0	21.1	0.292	0.359	
							50	0	22.0	21.1	0.297	0.368	
				Edge 3	39750	2506.0	1	0	22.0	21.1	0.230	0.283	
							50	0	22.0	21.1	0.216	0.268	
				Edge 4	39750	2506.0	1	0	22.0	21.1	0.110	0.135	
							50	0	22.0	21.1	0.173	0.214	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is < 1.2 W/kg. Therefore, Product Specific 10g SAR testing is not required for this band in accordance with KDB 648474 §2.5 b.
Channel 39750 (2506 MHz) was selected for SAR testing in accordance with KDB 447498 §4.4.1 Subclause 38 .

10.13. LTE Band 66 (20MHz Bandwidth)

Glass Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	132322	1745.0	1	0	24.0	23.3	0.114	**0.135**	81
							50	0	23.0	22.2	0.088	0.107	
				Left Tilt	132322	1745.0	1	0	24.0	23.3	0.044	0.052	
							50	0	23.0	22.2	0.035	0.042	
				Right Touch	132322	1745.0	1	0	24.0	23.3	0.100	0.119	
							50	0	23.0	22.2	0.076	0.092	
				Right Tilt	132322	1745.0	1	0	24.0	23.3	0.041	0.049	
							50	0	23.0	22.2	0.032	0.039	
Body-worn	QPSK	OFF	15	Rear	132322	1745.0	1	0	24.0	23.3	0.534	**0.633**	82
							50	0	23.0	22.2	0.418	0.507	
				Front	132322	1745.0	1	0	24.0	23.3	0.461	0.547	
							50	0	23.0	22.2	0.359	0.436	
Hotspot	QPSK	ON	10	Rear	132322	1745.0	1	0	20.9	20.2	0.616	0.724	
							50	0	20.9	20.2	0.601	0.709	
				Front	132322	1745.0	1	0	20.9	20.2	0.510	0.599	
							50	0	20.9	20.2	0.518	0.611	
				Edge 2	132322	1745.0	1	0	20.9	20.2	0.084	0.099	
							50	0	20.9	20.2	0.083	0.097	
				Edge 3	132072	1720.0	1	0	20.9	20.1	0.846	1.022	
							50	0	20.9	20.0	0.843	1.030	
					132322	1745.0	1	0	20.9	20.2	0.983	1.155	
							50	0	20.9	20.2	0.993	1.172	
							100	0	20.9	20.1	1.070	1.275	
					132572	1770.0	1	0	20.9	20.1	1.080	1.301	
							50	0	20.9	20.1	1.100	**1.316**	83
				Edge 4	132322	1745.0	1	0	20.9	20.2	0.072	0.084	
							50	0	20.9	20.2	0.068	0.080	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Product Specific 10g	QPSK	OFF	7	Rear	132322	1745.0	1	0	24.0	23.3	0.453	0.537	
			5	Front	132322	1745.0	1	0	24.0	23.3	0.599	0.710	
			9	Edge 3	132322	1745.0	1	0	24.0	23.3	1.170	1.387	
							50	0	23.0	22.2	0.933	1.132	
		ON	0	Rear	132322	1745.0	1	0	20.9	20.2	1.600	1.880	
				Front	132322	1745.0	1	0	20.9	20.2	1.600	1.880	
				Edge 3	132072	1720.0	1	0	20.9	20.1	2.350	2.838	
							50	0	20.9	20.0	2.270	2.773	
					132322	1745.0	1	0	20.9	20.2	2.510	2.949	
							50	0	20.9	20.2	2.550	3.010	
							100	0	20.9	20.1	2.550	3.038	
					132572	1770.0	1	0	20.9	20.1	2.690	3.242	
							50	0	20.9	20.1	2.710	**3.243**	84

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

Ceramic Cover:

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Head	QPSK	OFF	0	Left Touch	132322	1745.0	1	0	24.0	23.3	0.121	0.143	
							50	0	23.0	22.2	0.091	0.110	
				Left Tilt	132322	1745.0	1	0	24.0	23.3	0.046	0.055	
							50	0	23.0	22.2	0.037	0.045	
				Right Touch	132322	1745.0	1	0	24.0	23.3	0.151	**0.179**	85
							50	0	23.0	22.2	0.120	0.146	
				Right Tilt	132322	1745.0	1	0	24.0	23.3	0.051	0.060	
							50	0	23.0	22.2	0.043	0.052	
Body-worn	QPSK	OFF	15	Rear	132322	1745.0	1	0	24.0	23.3	0.652	**0.773**	86
							50	0	23.0	22.2	0.512	0.621	
				Front	132322	1745.0	1	0	24.0	23.3	0.505	0.599	
							50	0	23.0	22.2	0.393	0.477	
Hotspot	QPSK	ON	10	Rear	132322	1745.0	1	0	20.9	20.2	0.653	0.767	
							50	0	20.9	20.2	0.600	0.708	
				Front	132322	1745.0	1	0	20.9	20.2	0.586	0.688	
							50	0	20.9	20.2	0.581	0.686	
				Edge 2	132322	1745.0	1	0	20.9	20.2	0.207	0.243	
							50	0	20.9	20.2	0.169	0.199	
				Edge 3	132072	1720.0	1	0	20.9	20.1	0.998	1.205	
							50	0	20.9	20.0	0.965	1.179	
					132322	1745.0	1	0	20.9	20.2	1.090	1.281	
							50	0	20.9	20.2	1.030	1.216	
							100	0	20.9	20.1	1.010	1.203	
					132572	1770.0	1	0	20.9	20.1	1.050	1.265	
							50	0	20.9	20.1	1.160	**1.388**	87
				Edge 4	132322	1745.0	1	0	20.9	20.2	0.148	0.174	
							50	0	20.9	20.2	0.115	0.136	

RF Exposure Conditions	Mode	Power Back-Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		10-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
Product Specific	QPSK	OFF	7	Rear	132322	1745.0	1	0	24.0	23.3	1.130	1.340	
			5	Front	132322	1745.0	1	0	24.0	23.3	1.120	1.328	
			9	Edge 3	132322	1745.0	1	0	24.0	23.3	1.230	1.458	
							50	0	23.0	22.2	0.977	1.185	
Product Specific	QPSK	ON	0	Rear	132072	1720.0	1	0	20.9	20.1	1.850	2.234	
							50	0	20.9	20.0	1.890	2.309	
					132322	1745.0	1	0	20.9	20.2	2.100	2.467	
							50	0	20.9	20.2	2.120	2.502	
							100	0	20.9	20.1	2.130	2.537	
					132572	1770.0	1	0	20.9	20.1	2.060	2.482	
							50	0	20.9	20.1	2.040	2.441	
				Front	132072	1720.0	1	0	20.9	20.1	1.670	2.017	
					132322	1745.0	1	0	20.9	20.2	1.870	2.197	
					132572	1770.0	1	0	20.9	20.1	2.000	2.410	
				Edge 3	132072	1720.0	1	0	20.9	20.1	2.270	2.742	
							50	0	20.9	20.0	2.260	**2.761**	88
					132322	1745.0	1	0	20.9	20.2	2.320	2.726	
							50	0	20.9	20.2	2.290	2.703	
							100	0	20.9	20.1	2.230	2.656	
					132572	1770.0	1	0	20.9	20.1	2.130	2.567	
							50	0	20.9	20.1	2.090	2.501	

Note(s):

Hotspot mode supports power reduction. When the measured SAR is scaled to the maximum tune-up limit, the adjusted SAR is > 1.2 W/kg. Therefore, Product Specific 10g SAR testing is required for this band in accordance with KDB 648474 §2.5 b. Additionally, Product Specific 10g SAR was performed at the trigger distance minus 1mm at Max Power in accordance with KDB 648474.

10.14. LTE-uplink 2CA Band 7 (20MHz + 20MHz)

Glass Cover:

RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	OFF	0	LHS Touch	20580	2510.0	1	99	21048	2529.8	1	0	24.00	22.90	0.101	0.130			
Body-worn	QPSK	OFF	15	Rear	20850	2510.0	1	99	21048	2529.8	1	0	24.00	22.90	0.347	0.447			
Hotspot	QPSK	ON	10	Edge 3	20850	2510.0	1	99	21048	2529.8	1	0	21.00	19.54	0.454	**0.635**			89
Product Specfic	QPSK	ON	0	Edge 3	20850	2510.0	1	99	21048	2529.8	1	0	21.00	19.54			1.760	**2.463**	90

Ceramic Cover:

RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	OFF	0	LHS Touch	20850	2510.0	1	99	21048	2529.8	1	0	24.00	22.90	0.075	0.097			
Body-worn	QPSK	OFF	15	Rear	20850	2510.0	1	99	21048	2529.8	1	0	24.00	22.90	0.438	0.564			
Hotspot	QPSK	ON	10	Rear	20850	2510.0	1	99	21048	2529.8	1	0	21.00	19.54	0.612	**0.857**			91
Product Specfic	QPSK	ON	0	Rear	20850	2510.0	1	99	21048	2529.8	1	0	21.00	19.54			1.870	**2.617**	92

10.15. LTE-uplink 2CA Band 38 (20MHz + 20MHz)

Glass Cover:

RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	OFF	0	LHS Touch	37850	2580.0	1	99	38048	2599.8	1	0	24.00	22.44	0.081	0.116	0.041	0.059	
Body-worn	QPSK	OFF	15	Rear	37850	2580.0	1	99	38048	2599.8	1	0	24.00	22.44	0.224	0.321	0.109	0.156	
Hotspot	QPSK	ON	10	Edge 3	37850	2580.0	1	99	38048	2599.8	1	0	21.00	19.60	0.343	0.473	0.173	**0.239**	93

Ceramic Cover:

RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
					Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	OFF	0	RHS Tilt	37850	2580.0	1	99	38048	2599.8	1	0	24.00	22.44	0.025	0.036	0.012	0.017	
Body-worn	QPSK	OFF	15	Rear	37850	2580.0	1	99	38048	2599.8	1	0	24.00	22.44	0.232	0.332	0.116	0.166	
Hotspot	QPSK	ON	10	Rear	37850	2580.0	1	99	38048	2599.8	1	0	21.00	19.60	0.264	0.364	0.125	**0.173**	94

10.16. Wi-Fi (DTS Band)

When the 802.11b reported SAR of the highest measured maximum output power channel is ≤ 0.8 W/kg, no further SAR testing is required. If SAR is > 0.8 W/kg and ≤ 1.2 W/kg, SAR is required for the next highest measured output power channel. Finally, if SAR is > 1.2 W/kg, SAR is required for the third channel.

SAR testing is not required for OFDM mode(s) 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.

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
2.4 GHz	Wi-Fi Antenna #1	802.11b 1 Mbps	Head	0	Left Touch	11	2462.0	100.00%	0.487	17.0	17.0			
					Left Tilt	11	2462.0	100.00%	0.328	17.0	17.0			
					Right Touch	6	2437.0	100.00%	1.290	17.0	16.9	0.870	0.899	
						11	2462.0	100.00%	**1.540**	17.0	17.0	1.060	**1.060**	95
					Right Tilt	11	2462.0	100.00%	1.190	17.0	17.0	0.734	0.734	
			Body-worn	15	Rear	11	2462.0	100.00%	**0.150**	19.0	18.2	0.123	**0.147**	90
					Front	11	2462.0	100.00%	0.145	19.0	18.2			
			Hotspot	10	Rear	11	2462.0	100.00%	0.368	19.0	18.2			
					Front	11	2462.0	100.00%	0.302	19.0	18.2			
					Edge 1	11	2462.0	100.00%	0.164	19.0	18.2			
					Edge 4	11	2462.0	100.00%	**0.461**	19.0	18.2	0.308	**0.367**	97
2.4 GHz	Wi-Fi Antenna #2	802.11b 1 Mbps	Head	0	Left Touch	11	2462.0	100.00%	0.114	17.0	16.7			
					Left Tilt	11	2462.0	100.00%	0.215	17.0	16.7			
					Right Touch	11	2462.0	100.00%	**0.287**	17.0	16.7	0.180	**0.193**	98
					Right Tilt	11	2462.0	100.00%	0.285	17.0	16.7			
			Body-worn	15	Rear	11	2462.0	100.00%	**0.124**	19.0	18.5	0.085	**0.095**	99
					Front	11	2462.0	100.00%	0.029	19.0	18.5			
			Hotspot	10	Rear	11	2462.0	100.00%	**0.324**	19.0	18.5	0.218	**0.245**	100
					Front	11	2462.0	100.00%	0.078	19.0	18.5			
					Edge 1	11	2462.0	100.00%	0.168	19.0	18.5			
					Edge 4	11	2462.0	100.00%	0.019	19.0	18.5			

Antenna	802.11b Max. Power		802.11g Max. Power		Highest Reported SAR for 802.11b (W/kg)	Adjusted SAR for 802.11g (W/kg)
	dBm	mW	dBm	mW		
Ant #1 Max	19.0	79.4	17.0	50.1	0.367	0.232
Ant #1 Red.	17.0	50.1	17.0	50.1	1.060	1.060
Ant #2 Max	19.0	79.4	17.0	50.1	0.245	0.155
Ant #2 Red.	17.0	50.1	17.0	50.1	0.193	0.193

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
2.4 GHz	Wi-Fi Antenna #1	802.11b 1 Mbps	Head	0	Left Touch	11	2462.0	100.00%	0.250	17.0	17.0			
					Left Tilt	11	2462.0	100.00%	0.186	17.0	17.0			
					Right Touch	11	2462.0	100.00%	0.968	17.0	17.0	0.584	0.584	
					Right Tilt	11	2462.0	100.00%	**1.280**	17.0	17.0	0.730	**0.730**	101
			Body-worn	15	Rear	11	2462.0	100.00%	**0.126**	19.0	18.2	0.079	**0.094**	102
					Front	11	2462.0	100.00%	0.103	19.0	18.2			
			Hotspot	10	Rear	11	2462.0	100.00%	**0.336**	19.0	18.2	0.163	**0.194**	103
					Front	11	2462.0	100.00%	0.221	19.0	18.2			
					Edge 1	11	2462.0	100.00%	0.150	19.0	18.2			
					Edge 4	11	2462.0	100.00%	0.281	19.0	18.2			
2.4 GHz	Wi-Fi Antenna #2	802.11b 1 Mbps	Head	0	Left Touch	11	2462.0	100.00%	0.097	17.0	16.7			
					Left Tilt	11	2462.0	100.00%	0.138	17.0	16.7			
					Right Touch	11	2462.0	100.00%	0.163	17.0	16.7			
					Right Tilt	11	2462.0	100.00%	**0.191**	17.0	16.7	0.112	**0.120**	104
			Body-worn	15	Rear	11	2462.0	100.00%	**0.076**	19.0	18.5	0.048	**0.054**	105
					Front	11	2462.0	100.00%	0.020	19.0	18.5			
			Hotspot	10	Rear	11	2462.0	100.00%	**0.192**	19.0	18.5	0.139	**0.156**	106
					Front	11	2462.0	100.00%	0.039	19.0	18.5			
					Edge 1	11	2462.0	100.00%	0.109	19.0	18.5			
					Edge 4	11	2462.0	100.00%	0.014	19.0	18.5			

Antenna	802.11b Max. Power		802.11g Max. Power		Highest Reported SAR for 802.11b (W/kg)	Adjusted SAR for 802.11g (W/kg)
	dBm	mW	dBm	mW		
Ant #1 Max	19.0	79.4	17.0	50.1	0.194	0.122
Ant #1 Red.	17.0	50.1	17.0	50.1	0.730	0.730
Ant #2 Max	19.0	79.4	17.0	50.1	0.156	0.098
Ant #2 Red.	17.0	50.1	17.0	50.1	0.120	0.120

10.17. Wi-Fi (DTS Band) RSDB (Real Simultaneous Dual Band)

When the 802.11b reported SAR of the highest measured maximum output power channel is ≤ 0.8 W/kg, no further SAR testing is required. If SAR is > 0.8 W/kg and ≤ 1.2 W/kg, SAR is required for the next highest measured output power channel. Finally, if SAR is > 1.2 W/kg, SAR is required for the third channel.

SAR testing is not required for OFDM mode(s) 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.

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
2.4 GHz	Wi-Fi Antenna #1	802.11b 1 Mbps	Head	0	Right Touch	1	2412	100.00%	**0.590**	14.0	13.93	0.391	**0.397**	107
			Body-worn	15	Rear	11	2462	100.00%	**0.112**	17.0	17.00	0.069	**0.069**	108
			Hotspot	10	Rear	11	2462	100.00%	0.211	17.0	17.00	0.152	0.152	
					Edge 4	11	2462	100.00%	**0.227**	17.0	17.00	0.171	**0.171**	109
2.4 GHz	Wi-Fi Antenna #2	802.11b 1 Mbps	Head	0	Right Touch	6	2437	100.00%	**0.149**	14.0	13.91	0.079	**0.081**	110
			Body-worn	15	Rear	11	2462	100.00%	**0.085**	17.0	16.70	0.060	**0.064**	111
			Hotspot	10	Rear	11	2462	100.00%	**0.184**	17.0	16.70	0.150	**0.161**	112

Antenna	802.11b Max. Power		802.11g Max. Power		Highest Reported SAR for 802.11b (W/kg)	Adjusted SAR for 802.11g (W/kg)
	dBm	mW	dBm	mW		
Ant #1 Max	17.0	50	17.0	50	0.171	0.171
Ant #1 Red.	14.0	25.1	14.0	25.1	0.397	0.397
Ant #2 Max	17.0	50	17.0	50	0.161	0.161
Ant #2 Red.	14.0	25	14.0	25	0.081	0.081

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
2.4 GHz	Wi-Fi Antenna #1	802.11b 1 Mbps	Head	0	Right Tilt	1	2412	100.00%	0.402	14.0	13.93	0.253	**0.257**	113
			Body-worn	15	Rear	11	2462	100.00%	0.093	17.0	17.00	0.058	**0.058**	114
			Hotspot	10	Rear	11	2462	100.00%	0.203	17.0	17.00	0.127	**0.127**	115
2.4 GHz	Wi-Fi Antenna #2	802.11b 1 Mbps	Head	0	Right Tilt	6	2437	100.00%	0.054	14.0	13.91	0.035	**0.036**	116
			Body-worn	15	Rear	11	2462	100.00%	0.042	17.0	16.70	0.031	**0.033**	117
			Hotspot	10	Rear	11	2462	100.00%	0.145	17.0	16.70	0.081	**0.087**	118

Antenna	802.11b Max. Power		802.11g Max. Power		Highest Reported SAR for 802.11b (W/kg)	Adjusted SAR for 802.11g (W/kg)
	dBm	mW	dBm	mW		
Ant #1 Max	17.0	50	17.0	50	0.127	0.127
Ant #1 Red.	14.0	25.1	14.0	25.1	0.257	0.257
Ant #2 Max	17.0	50	17.0	50	0.087	0.087
Ant #2 Red.	14.0	25	14.0	25	0.036	0.036

10.18. Wi-Fi (U-NII Band)

When the proximity sensor is active in a held-to-ear user scenario, the output power level is reduced. The maximum allowed output powers in all conditions are included in the maximum power document.

Refer to Operational Description for WLAN explanation.

UNII-1 &2A

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.

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Left Touch	58	5290.0	63.65%	0.285	15.0	14.9			
					Left Tilt	58	5290.0	63.65%	0.339	15.0	14.9			
					Right Touch	58	5290.0	63.65%	0.475	15.0	14.9	0.249	0.399	
					Right Tilt	58	5290.0	63.65%	**0.518**	15.0	14.9	0.272	**0.436**	119
		802.11a 6 Mbps	Body-worn	15	Rear	52	5260.0	93.64%	**0.289**	18.0	17.8	0.133	**0.150**	120
					Front	52	5260.0	93.64%	0.122	18.0	17.8			
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	58	5290.0	63.65%	0.018	15.0	14.9			
					Left Tilt	58	5290.0	63.65%	**0.083**	15.0	14.9	0.003	**0.005**	121
					Right Touch	58	5290.0	63.65%	0.019	15.0	14.9			
					Right Tilt	58	5290.0	63.65%	0.023	15.0	14.9			
		802.11a 6 Mbps	Body-worn	15	Rear	56	5280.0	93.64%	**0.685**	18.0	18.0	0.359	**0.383**	122
					Front	56	5280.0	93.64%	0.012	18.0	18.0	0.007	0.008	

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11a 6 Mbps	Product Specific 10g	0	Rear	52	5260.0	93.64%	**5.760**	18.0	17.8	0.482	**0.545**	123
					Front	52	5260.0	93.64%	2.980	18.0	17.8			
					Edge 1	52	5260.0	93.64%	4.600	18.0	17.8			
					Edge 4	52	5260.0	93.64%	5.670	18.0	17.8			
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11a 6 Mbps	Product Specific 10g	0	Rear	56	5280.0	93.64%	**16.400**	18.0	18.0	2.100	**2.243**	124
					Front	56	5280.0	93.64%	0.058	18.0	18.0			
					Edge 1	56	5280.0	93.64%	0.223	18.0	18.0			
					Edge 4	56	5280.0	93.64%	2.620	18.0	18.0	0.292	0.312	

Note(s):

1. Highest Reported 1-g SAR for U-NII 2A mode is < 1.2 W/kg, therefore SAR testing is not required for U-NII 1 mode.
2. Highest Reported 10-g SAR for U-NII 2A mode is < 3.0 W/kg, therefor SAR testing is not required for U-NII 1 mode.

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Left Touch	58	5290.0	63.65%	0.270	15.0	14.9			
					Left Tilt	58	5290.0	63.65%	0.308	15.0	14.9			
					Right Touch	58	5290.0	63.65%	0.417	15.0	14.9	0.160	0.257	
					Right Tilt	58	5290.0	63.65%	**0.604**	15.0	14.9	0.277	**0.444**	125
		802.11a 6 Mbps	Body-worn	15	Rear	52	5260.0	93.64%	**0.680**	18.0	17.8	0.320	**0.362**	126
					Front	52	5260.0	93.64%	0.079	18.0	17.8			
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	58	5290.0	63.65%	0.075	15.0	14.9			
					Left Tilt	58	5290.0	63.65%	0.078	15.0	14.9			
					Right Touch	58	5290.0	63.65%	0.058	15.0	14.9			
					Right Tilt	58	5290.0	63.65%	**0.079**	15.0	14.9	0.027	**0.044**	127
		802.11a 6 Mbps	Body-worn	15	Rear	56	5280.0	93.64%	**1.510**	18.0	18.0	0.671	**0.717**	128
					Front	56	5280.0	93.64%	0.019	18.0	18.0	<0.01	<0.01	

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11a 6 Mbps	Product Specific 10g	0	Rear	52	5260.0	93.64%	7.020	18.0	17.8	0.832	0.941	
					Front	52	5260.0	93.64%	2.760	18.0	17.8			
					Edge 1	52	5260.0	93.64%	3.350	18.0	17.8			
					Edge 4	52	5260.0	93.64%	**11.60**	18.0	17.8	0.942	**1.066**	129
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11a 6 Mbps	Product Specific 10g	0	Rear	52	5260.0	93.64%	27.80	18.0	17.9	2.020	2.207	
						56	5280.0	93.64%	**13.40**	18.0	18.0	2.090	**2.232**	130
					Front	56	5280.0	93.64%	0.269	18.0	18.0			
					Edge 1	56	5280.0	93.64%	0.312	18.0	18.0			
					Edge 4	56	5280.0	93.64%	2.970	18.0	18.0	0.476	0.508	

Note(s):

1. Highest Reported 1-g SAR for U-NII 2A mode is < 1.2 W/kg, therefore SAR testing is not required for U-NII 1 mode.
2. Highest Reported 10-g SAR for U-NII 2A mode is < 3.0 W/kg, therefor SAR testing is not required for U-NII 1 mode.

UNII-2C

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Left Touch	138	5690.0	63.65%	0.238	15.0	14.8			
					Left Tilt	138	5690.0	63.65%	0.264	15.0	14.8			
					Right Touch	138	5690.0	63.65%	0.386	15.0	14.8			
					Right Tilt	138	5690.0	63.65%	**0.462**	15.0	14.8	0.167	**0.272**	131
		802.11a 6 Mbps	Body-worn	15	Rear	124	5620.0	93.64%	**0.304**	18.0	18.0	0.134	**0.143**	132
					Front	124	5620.0	93.64%	0.127	18.0	18.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	138	5690.0	63.65%	0.039	15.0	15.0			
					Left Tilt	138	5690.0	63.65%	0.046	15.0	15.0			
					Right Touch	138	5690.0	63.65%	0.041	15.0	15.0			
					Right Tilt	138	5690.0	63.65%	**0.057**	15.0	15.0	0.014	**0.022**	133
		802.11a 6 Mbps	Body-worn	15	Rear	116	5580.0	93.64%	0.752	18.0	18.0	0.404	0.435	
						144	5720.0	93.64%	**1.490**	18.0	18.0	0.774	**0.828**	134
					Front	144	5720.0	93.64%	0.019	18.0	18.0	0.010	0.011	

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11a 6 Mbps	Product Specific 10g	0	Rear	124	5620.0	93.64%	**11.000**	18.0	18.0	0.668	**0.713**	135
					Front	124	5620.0	93.64%	2.440	18.0	18.0			
					Edge 1	124	5620.0	93.64%	4.230	18.0	18.0			
					Edge 4	124	5620.0	93.64%	4.510	18.0	18.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11a 6 Mbps	Product Specific 10g	0	Rear	116	5580.0	93.64%	**59.500**	18.0	18.0	2.690	**2.899**	136
						144	5720.0	93.64%	37.400	18.0	18.0	2.570	2.751	
					Front	144	5720.0	93.64%	0.186	18.0	18.0			
					Edge 1	144	5720.0	93.64%	0.650	18.0	18.0			
					Edge 4	144	5720.0	93.64%	4.280	18.0	18.0	0.365	0.391	

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Left Touch	138	5690.0	63.65%	0.161	15.0	14.8			
					Left Tilt	138	5690.0	63.65%	0.184	15.0	14.8			
					Right Touch	138	5690.0	63.65%	0.394	15.0	14.8			
					Right Tilt	138	5690.0	63.65%	**0.408**	15.0	14.8	0.170	**0.277**	137
		802.11a 6 Mbps	Body-worn	15	Rear	124	5620.0	93.64%	**0.438**	18.0	18.0	0.184	**0.196**	138
					Front	124	5620.0	93.64%	0.066	18.0	18.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	138	5690.0	63.65%	0.082	15.0	15.0			
					Left Tilt	138	5690.0	63.65%	0.122	15.0	15.0			
					Right Touch	138	5690.0	63.65%	0.111	15.0	15.0			
					Right Tilt	138	5690.0	63.65%	**0.140**	15.0	15.0	0.055	**0.087**	139
		802.11a 6 Mbps	Body-worn	15	Rear	144	5720.0	93.64%	**0.735**	18.0	18.0	0.359	**0.384**	140
					Front	144	5720.0	93.64%	0.024	18.0	18.0			

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11a 6 Mbps	Product Specific 10g	0	Rear	124	5620.0	93.64%	5.590	18.0	18.0			
					Front	124	5620.0	93.64%	1.890	18.0	18.0			
					Edge 1	124	5620.0	93.64%	2.910	18.0	18.0			
					Edge 4	124	5620.0	93.64%	**8.130**	18.0	18.0	0.855	**0.913**	141
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11a 6 Mbps	Product Specific 10g	0	Rear	144	5720.0	93.64%	**15.100**	18.0	18.0	1.660	**1.777**	142
					Front	144	5720.0	93.64%	0.207	18.0	18.0			
					Edge 1	144	5720.0	93.64%	1.050	18.0	18.0			
					Edge 4	144	5720.0	93.64%	2.070	18.0	18.0	0.203	0.217	

UNII-3

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.8 GHz U-NII 3	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Left Touch	155	5775.0	63.65%	0.223	15.0	14.7			
					Left Tilt	155	5775.0	63.65%	0.250	15.0	14.7			
					Right Touch	155	5775.0	63.65%	0.407	15.0	14.7			
					Right Tilt	155	5775.0	63.65%	**0.531**	15.0	14.7	0.221	**0.372**	143
		802.11a 6 Mbps	Body-worn	15	Rear	165	5825.0	93.64%	**0.326**	18.0	18.0	0.146	**0.158**	144
					Front	165	5825.0	93.64%	0.070	18.0	18.0			
		802.11a 6 Mbps	Hotspot	10	Rear	165	5825.0	93.64%	**0.520**	18.0	18.0	0.224	**0.242**	145
					Front	165	5825.0	93.64%	0.125	18.0	18.0			
					Edge 1	165	5825.0	93.64%	0.131	18.0	18.0			
					Edge 4	165	5825.0	93.64%	0.254	18.0	18.0			
5.8 GHz U-NII 3	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	155	5775.0	63.65%	0.040	15.0	14.9			
					Left Tilt	155	5775.0	63.65%	0.040	15.0	14.9			
					Right Touch	155	5775.0	63.65%	0.032	15.0	14.9			
					Right Tilt	155	5775.0	63.65%	**0.045**	15.0	14.9	0.013	**0.021**	146
		802.11a 6 Mbps	Body-worn	15	Rear	157	5785.0	93.64%	**1.240**	18.0	17.7	0.570	**0.648**	147
					Front	157	5785.0	93.64%	0.023	18.0	17.7	<0.01	<0.01	
		802.11a 6 Mbps	Hotspot	10	Rear	149	5745.0	93.64%	1.990	18.0	17.7	0.923	1.051	
						157	5785.0	93.64%	**2.140**	18.0	17.7	1.030	**1.171**	148
					Front	157	5785.0	93.64%	0.026	18.0	17.7			
					Edge 1	157	5785.0	93.64%	0.170	18.0	17.7			
					Edge 4	157	5785.0	93.64%	0.471	18.0	17.7	0.227	0.258	

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.8 GHz U-NII 3	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Left Touch	155	5775.0	63.65%	0.226	15.0	14.7			
					Left Tilt	155	5775.0	63.65%	0.266	15.0	14.7			
					Right Touch	155	5775.0	63.65%	0.292	15.0	14.7			
					Right Tilt	155	5775.0	63.65%	**0.338**	15.0	14.7	0.155	**0.261**	149
		802.11a 6 Mbps	Body-worn	15	Rear	165	5825.0	93.64%	**0.440**	18.0	18.0	0.183	**0.198**	150
					Front	165	5825.0	93.64%	0.065	18.0	18.0			
		802.11a 6 Mbps	Hotspot	10	Rear	165	5825.0	93.64%	**0.936**	18.0	18.0	0.404	**0.436**	151
					Front	165	5825.0	93.64%	0.085	18.0	18.0			
					Edge 1	165	5825.0	93.64%	0.225	18.0	18.0			
					Edge 4	165	5825.0	93.64%	0.496	18.0	18.0	0.223	0.241	
5.8 GHz U-NII 3	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	155	5775.0	63.65%	0.038	15.0	14.9			
					Left Tilt	155	5775.0	63.65%	0.062	15.0	14.9			
					Right Touch	155	5775.0	63.65%	0.047	15.0	14.9			
					Right Tilt	155	5775.0	63.65%	**0.064**	15.0	14.9	0.025	**0.040**	152
		802.11a 6 Mbps	Body-worn	15	Rear	157	5785.0	93.64%	**0.878**	18.0	17.7	0.352	**0.400**	153
					Front	157	5785.0	93.64%	0.024	18.0	17.7	0.002	0.002	
		802.11a 6 Mbps	Hotspot	10	Rear	157	5785.0	93.64%	**1.600**	18.0	17.7	0.614	**0.698**	154
					Front	157	5785.0	93.64%	0.030	18.0	17.7			
					Edge 1	157	5785.0	93.64%	0.103	18.0	17.7			
					Edge 4	157	5785.0	93.64%	0.339	18.0	17.7	0.131	0.149	

10.19. Wi-Fi (U-NII Band) RSDB (Real Simultaneous Dual Band)

When the proximity sensor is active in a held-to-ear user scenario, the output power level is reduced. The maximum allowed output powers in all conditions are included in the maximum power document.

Refer to Operational Description for WLAN explanation.

UNII-1 &2A

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.

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Right Touch	58	5290.0	63.65%	0.386	14.0	13.8	0.171	0.281	
					Right Tilt	58	5290.0	63.65%	**0.622**	14.0	13.8	0.249	**0.410**	155
		802.11ac VHT80	Body-worn	15	Rear	58	5290.0	63.65%	**0.111**	14.0	13.8	0.046	**0.076**	156
					Front	58	5290.0	63.65%	0.095	14.0	13.8			
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Tilt	58	5290.0	63.65%	**0.277**	14.0	13.7	0.124	**0.210**	157
		802.11ac VHT80	Body-worn	15	Rear	58	5290.0	63.65%	**0.379**	14.0	13.7	0.165	**0.279**	158
					Front	58	5290.0	63.65%	0.030	14.0	13.7			

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11ac VHT80	Product Specific 10g	0	Rear	58	5290.0	63.65%	2.210	14.0	13.8			
					Front	58	5290.0	63.65%	1.010	14.0	13.8			
					Edge 1	58	5290.0	63.65%	1.210	14.0	13.8			
					Edge 4	58	5290.0	63.65%	**2.580**	14.0	13.8	0.266	**0.438**	159
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11ac VHT80	Product Specific 10g	0	Rear	58	5290.0	63.65%	**13.000**	14.0	13.7	1.270	**2.148**	160
					Front	58	5290.0	63.65%	0.022	14.0	13.7			
					Edge 1	58	5290.0	63.65%	0.087	14.0	13.7			
					Edge 4	58	5290.0	63.65%	0.828	14.0	13.7	0.123	0.208	

Note(s):

1. Highest Reported 1-g SAR for U-NII 2A mode is < 1.2 W/kg, therefore SAR testing is not required for U-NII 1 mode.
2. Highest Reported 10-g SAR for U-NII 2A mode is < 3.0 W/kg, therefor SAR testing is not required for U-NII 1 mode.

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Right Tilt	58	5290.0	63.65%	**0.489**	14.0	13.8	0.213	**0.350**	161
		802.11ac VHT80	Body-worn	15	Rear	58	5290.0	63.65%	**0.315**	14.0	13.8	0.125	**0.206**	162
					Front	58	5290.0	63.65%	0.036	14.0	13.8			
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Right Tilt	58	5290.0	63.65%	**0.067**	14.0	13.7	0.023	**0.039**	163
		802.11ac VHT80	Body-worn	15	Rear	58	5290.0	63.65%	**0.553**	14.0	13.7	0.235	**0.397**	164
					Front	58	5290.0	63.65%	0.010	14.0	13.7			

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.3 GHz U-NII 2A	Wi-Fi Antenna #1	802.11ac VHT80	Product Specific 10g	0	Rear	58	5290.0	63.65%	4.950	14.0	13.8			
					Front	58	5290.0	63.65%	1.150	14.0	13.8			
					Edge 1	58	5290.0	63.65%	1.390	14.0	13.8			
					Edge 4	58	5290.0	63.65%	**5.870**	14.0	13.8	0.435	**0.716**	165
5.3 GHz U-NII 2A	Wi-Fi Antenna #2	802.11ac VHT80	Product Specific 10g	0	Rear	58	5290.0	63.65%	**21.600**	14.0	13.7	0.872	**1.475**	166
					Front	58	5290.0	63.65%	0.063	14.0	13.7			
					Edge 1	58	5290.0	63.65%	0.124	14.0	13.7			
					Edge 4	58	5290.0	63.65%	1.120	14.0	13.7	0.165	0.279	

Note(s):

1. Highest Reported 1-g SAR for U-NII 2A mode is < 1.2 W/kg, therefore SAR testing is not required for U-NII 1 mode.
2. Highest Reported 10-g SAR for U-NII 2A mode is < 3.0 W/kg, therefor SAR testing is not required for U-NII 1 mode.

UNII-2C

Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Right Tilt	138	5690.0	63.65%	**0.600**	14.0	14.0	0.220	**0.350**	167
		802.11ac VHT80	Body-worn	15	Rear	138	5690.0	63.65%	**0.121**	14.0	14.0	0.057	**0.091**	168
					Front	138	5690.0	63.65%	0.047	14.0	14.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Left Touch	122	5610.0	63.65%	**0.035**	14.0	14.0	0.012	**0.019**	169
		802.11ac VHT80	Body-worn	15	Rear	122	5610.0	63.65%	**0.566**	14.0	14.0	0.231	**0.364**	170
					Front	122	5610.0	63.65%	0.022	14.0	14.0			

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11ac VHT80	Product Specific 10g	0	Rear	138	5690.0	63.65%	**2.890**	14.0	14.0	0.267	**0.424**	171
					Front	138	5690.0	63.65%	0.802	14.0	14.0			
					Edge 1	138	5690.0	63.65%	1.940	14.0	14.0			
					Edge 4	138	5690.0	63.65%	1.610	14.0	14.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11ac VHT80	Product Specific 10g	0	Rear	122	5610.0	63.65%	**18.400**	14.0	14.0	1.110	**1.748**	172
					Front	122	5610.0	63.65%	0.054	14.0	14.0			
					Edge 1	122	5610.0	63.65%	0.166	14.0	14.0			
					Edge 4	122	5610.0	63.65%	1.410	14.0	14.0	0.115	0.181	

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Right Tilt	138	5690.0	63.65%	**0.285**	14.0	14.0	0.103	**0.164**	173
		802.11ac VHT80	Body-worn	15	Rear	138	5690.0	63.65%	**0.154**	14.0	14.0	0.059	**0.094**	174
					Front	138	5690.0	63.65%	0.028	14.0	14.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Right Tilt	122	5610.0	63.65%	**0.111**	14.0	14.0	0.039	**0.061**	175
		802.11ac VHT80	Body-worn	15	Rear	122	5610.0	63.65%	**1.040**	14.0	14.0	0.515	0.811	
						138	5690.0	63.65%	1.330	14.0	13.9	0.640	**1.029**	176
					Front	122	5610.0	63.65%	0.020	14.0	14.0	<0.01	<0.01	

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.5 GHz U-NII 2C	Wi-Fi Antenna #1	802.11ac VHT80	Product Specific 10g	0	Rear	138	5690.0	63.65%	**4.900**	14.0	14.0	0.365	**0.580**	177
					Front	138	5690.0	63.65%	1.130	14.0	14.0			
					Edge 1	138	5690.0	63.65%	0.089	14.0	14.0			
					Edge 4	138	5690.0	63.65%	1.680	14.0	14.0			
5.5 GHz U-NII 2C	Wi-Fi Antenna #2	802.11ac VHT80	Product Specific 10g	0	Rear	122	5610.0	63.65%	7.490	14.0	14.0	1.450	2.278	
						138	5690.0	63.65%	**7.950**	14.0	13.9	1.520	**2.444**	178
					Front	122	5610.0	63.65%	0.120	14.0	14.0			
					Edge 1	122	5610.0	63.65%	0.516	14.0	14.0			
					Edge 4	122	5610.0	63.65%	1.790	14.0	14.0	0.271	0.426	

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Glass Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.8 GHz U-NII 3	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Right Tilt	155	5775.0	63.65%	**0.527**	14.0	14.0	0.193	**0.303**	179
		802.11ac VHT80	Body-worn	15	Rear	155	5775.0	63.65%	**0.148**	14.0	14.0	0.059	**0.093**	180
					Front	155	5775.0	63.65%	0.034	14.0	14.0			
		802.11ac VHT80	Hotspot	10	Rear	155	5775.0	63.65%	**0.256**	14.0	14.0	0.096	**0.151**	181
					Front	155	5775.0	63.65%	0.055	14.0	14.0			
					Edge 1	155	5775.0	63.65%	0.153	14.0	14.0			
					Edge 4	155	5775.0	63.65%	0.198	14.0	14.0			
5.8 GHz U-NII 3	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Right Tilt	155	5775.0	63.65%	**0.034**	14.0	13.9	0.013	**0.021**	182
		802.11ac VHT80	Body-worn	15	Rear	155	5775.0	63.65%	**0.587**	14.0	13.9	0.264	**0.429**	183
					Front	155	5775.0	63.65%	0.015	14.0	13.9	<0.01	<0.01	
		802.11ac VHT80	Hotspot	10	Rear	155	5775.0	63.65%	**1.030**	14.0	13.9	0.464	**0.755**	184
					Front	155	5775.0	63.65%	0.014	14.0	13.9			
					Edge 1	155	5775.0	63.65%	0.085	14.0	13.9			
					Edge 4	155	5775.0	63.65%	0.198	14.0	13.9	0.082	0.134	

Ceramic Cover:

Frequency Band	Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Area Scan Max. SAR (W/kg)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
5.8 GHz U-NII 3	Wi-Fi Antenna #1	802.11ac VHT80	Head	0	Right Tilt	155	5775.0	63.65%	**0.301**	14.0	14.0	0.124	**0.195**	185
		802.11ac VHT80	Body-worn	15	Rear	155	5775.0	63.65%	**0.119**	14.0	14.0	0.038	**0.060**	186
					Front	155	5775.0	63.65%	0.021	14.0	14.0			
		802.11ac VHT80	Hotspot	10	Rear	155	5775.0	63.65%	**0.311**	14.0	14.0	0.114	**0.179**	187
					Front	155	5775.0	63.65%	0.037	14.0	14.0			
					Edge 1	155	5775.0	63.65%	0.085	14.0	14.0			
					Edge 4	155	5775.0	63.65%	0.159	14.0	14.0			
5.8 GHz U-NII 3	Wi-Fi Antenna #2	802.11ac VHT80	Head	0	Right Tilt	155	5775.0	63.65%	**0.054**	14.0	13.9	0.021	**0.034**	188
		802.11ac VHT80	Body-worn	15	Rear	155	5775.0	63.65%	**0.315**	14.0	13.9	0.128	**0.208**	189
					Front	155	5775.0	63.65%	0.011	14.0	13.9			
		802.11ac VHT80	Hotspot	10	Rear	155	5775.0	63.65%	**0.637**	14.0	13.9	0.244	**0.397**	190
					Front	155	5775.0	63.65%	0.012	14.0	13.9			
					Edge 1	155	5775.0	63.65%	0.041	14.0	13.9			
					Edge 4	155	5775.0	63.65%	0.122	14.0	13.9			

10.20. Bluetooth

Glass Cover:

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	19.0	18.76	0.323	0.341	
				Left Tilt	39	2441.0	19.0	18.76	0.238	0.252	
				Right Touch	0	2402.0	19.0	17.87	0.461	0.598	
					39	2441.0	19.0	18.76	0.870	**0.919**	191
					78	2480.0	19.0	17.90	0.521	0.671	
				Right Tilt	39	2441.0	19.0	18.76	0.653	0.690	
	Body-worn	GFSK	15	Rear	39	2441.0	19.0	18.76	0.076	0.080	
				Front	39	2441.0	19.0	18.76	0.079	**0.083**	192
	Hotspot	GFSK	10	Rear	39	2441.0	19.0	18.76	0.157	0.166	
				Front	39	2441.0	19.0	18.76	0.137	0.145	
				Edge 1	39	2441.0	19.0	18.76	0.074	0.078	
				Edge 4	39	2441.0	19.0	18.76	0.184	**0.194**	193

Ceramic Cover:

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	19.0	18.76	0.147	0.155	
				Left Tilt	39	2441.0	19.0	18.76	0.110	0.116	
				Right Touch	39	2441.0	19.0	18.76	0.573	**0.606**	194
				Right Tilt	39	2441.0	19.0	18.76	0.472	0.499	
	Body-worn	GFSK	15	Rear	39	2441.0	19.0	18.76	0.054	**0.057**	195
				Front	39	2441.0	19.0	18.76	0.045	0.048	
	Hotspot	GFSK	10	Rear	39	2441.0	19.0	18.76	0.105	0.111	
				Front	39	2441.0	19.0	18.76	0.084	0.089	
				Edge 1	39	2441.0	19.0	18.76	0.088	0.093	
				Edge 4	39	2441.0	19.0	18.76	0.130	**0.137**	196

11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. 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 <0.8 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.8 or 2 W/kg (1-g or 10-g respectively), 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 or 3.6 W/kg (~ 10% from the 1-g or 10-g respective SAR limit).
4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Glass Cover:

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
700	LTE Band 12	Hotspot	Edge 2	No	0.325	N/A	N/A	N/A	N/A	N/A
	LTE Band 13	Hotspot	Rear	No	0.281	N/A	N/A	N/A	N/A	N/A
850	GSM 850	Hotspot	Rear	No	0.589	N/A	N/A	N/A	N/A	N/A
	WCDMA Band V	Hotspot	Rear	No	0.510	N/A	N/A	N/A	N/A	N/A
	LTE Band 5	Hotspot	Rear	No	0.484	N/A	N/A	N/A	N/A	N/A
	LTE Band 26	Hotspot	Rear	No	0.494	N/A	N/A	N/A	N/A	N/A
1700	WCDMA Band IV	Hotspot	Edge 3	No	0.588	N/A	N/A	N/A	N/A	N/A
	LTE Band 66	Hotspot	Edge 3	Yes	1.100	1.090	1.01	N/A	N/A	N/A
1900	GSM 1900	Hotspot	Edge 3	No	0.395	N/A	N/A	N/A	N/A	N/A
	WCDMA Band II	Hotspot	Edge 3	No	0.947	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Hotspot	Edge 3	Yes	1.110	1.070	1.04	N/A	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Head	Right Touch	Yes	1.060	1.040	1.02	N/A	N/A	N/A
	BT	Head	Right Touch	No	0.870	N/A	N/A	N/A	N/A	N/A
2500	LTE Band 7	Hotspot	Edge 3	No	0.688	N/A	N/A	N/A	N/A	N/A
2600	LTE Band 41	Hotspot	Edge 3	No	0.356	N/A	N/A	N/A	N/A	N/A
5300	Wi-Fi 802.11a/n/ac	Body	Rear	No	0.359	N/A	N/A	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Body	Rear	No	0.774	N/A	N/A	N/A	N/A	N/A
5800	Wi-Fi 802.11a/n/ac	Hotspot	Rear	Yes	1.030	0.98	1.05	N/A	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 < 1.20.

Product Specific 10g SAR

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
1700	WCDMA Band IV	Product Specific 10g	Edge 3	Yes	2.870	2.700	1.06	N/A	N/A	N/A
	LTE Band 66	Product Specific 10g	Edge 3	No	2.710	N/A	N/A	N/A	N/A	N/A
1900	WCDMA Band II	Product Specific 10g	Edge 3	No	2.110	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Product Specific 10g	Edge 3	Yes	2.340	2.260	1.04	N/A	N/A	N/A
2500	LTE Band 7	Product Specific 10g	Edge 3	No	1.970	N/A	N/A	N/A	N/A	N/A
5300	Wi-Fi 802.11a/n/ac	Product Specific 10g	Rear	Yes	2.100	2.100	1.00	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Product Specific 10g	Rear	Yes	2.690	2.580	1.04	N/A	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 < 1.20.

Ceramic Cover:

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
700	LTE Band 12	Hotspot	Edge 2	No	0.363	N/A	N/A	N/A	N/A	N/A
	LTE Band 13	Hotspot	Rear	No	0.360	N/A	N/A	N/A	N/A	N/A
850	GSM 850	Hotspot	Rear	No	0.746	N/A	N/A	N/A	N/A	N/A
	WCDMA Band V	Hotspot	Rear	No	0.605	N/A	N/A	N/A	N/A	N/A
	LTE Band 5	Hotspot	Rear	No	0.599	N/A	N/A	N/A	N/A	N/A
	LTE Band 26	Hotspot	Rear	No	0.463	N/A	N/A	N/A	N/A	N/A
1700	WCDMA Band IV	Hotspot	Edge 3	No	0.735	N/A	N/A	N/A	N/A	N/A
	LTE Band 66	Hotspot	Edge 3	Yes	1.160	1.010	1.15	N/A	N/A	N/A
1900	GSM 1900	Hotspot	Edge 3	No	0.494	N/A	N/A	N/A	N/A	N/A
	WCDMA Band II	Hotspot	Edge 3	No	0.844	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Hotspot	Edge 3	Yes	0.951	0.929	1.02	N/A	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Head	Right Tilt	No	0.730	N/A	N/A	N/A	N/A	N/A
	BT	Head	Right Touch	No	0.573	N/A	N/A	N/A	N/A	N/A
2500	LTE Band 7	Hotspot	Rear	No	0.701	N/A	N/A	N/A	N/A	N/A
2600	LTE Band 41	Hotspot	Rear	No	0.477	N/A	N/A	N/A	N/A	N/A
5300	Wi-Fi 802.11a/n/ac	Body	Rear	No	0.671	N/A	N/A	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Body	Rear	No	0.640	N/A	N/A	N/A	N/A	N/A
5800	Wi-Fi 802.11a/n/ac	Hotspot	Rear	No	0.614	N/A	N/A	N/A	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 < 1.20.

Product Specific 10g SAR

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
1700	WCDMA Band IV	Product Specific 10g	Edge 3	No	2.310	N/A	N/A	N/A	N/A	N/A
	LTE Band 66	Product Specific 10g	Edge 3	Yes	2.320	2.270	1.02	N/A	N/A	N/A
1900	WCDMA Band II	Product Specific 10g	Rear	No	1.650	N/A	N/A	N/A	N/A	N/A
	LTE Band 25	Product Specific 10g	Edge 3	Yes	2.210	2.210	1.00	N/A	N/A	N/A
2500	LTE Band 7	Product Specific 10g	Rear	No	1.730	N/A	N/A	N/A	N/A	N/A
5300	Wi-Fi 802.11a/n/ac	Product Specific 10g	Rear	Yes	2.090	2.090	1.00	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Product Specific 10g	Rear	No	1.520	N/A	N/A	N/A	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 < 1.20.

12. Simultaneous Transmission Conditions

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	GSM voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
2	GSM voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
3	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
4	GSM voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
5	GSM voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
6	GSM voice + 5 GHz Wi-Fi + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
7	GSM voice + 5 GHz Wi-Fi MIMO + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
8	GSM voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	Wi-Fi RSDB Combination
9	GSM voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	Wi-Fi RSDB Combination
10	UMTS + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
11	UMTS + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
12	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
13	UMTS + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
14	UMTS + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
15	UMTS + 5 GHz Wi-Fi + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
16	UMTS + 5 GHz Wi-Fi MIMO + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
17	UMTS + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	Wi-Fi RSDB Combination
18	UMTS + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	Wi-Fi RSDB Combination
19	LTE + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
20	LTE + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
21	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
22	LTE + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
23	LTE + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
24	LTE + 5 GHz Wi-Fi + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
25	LTE + 5 GHz Wi-Fi MIMO + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
26	LTE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	Wi-Fi RSDB Combination
27	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	Wi-Fi RSDB Combination
28	GPRS/EDGE + 2.4 GHz Wi-Fi	N/A	N/A	Yes	Yes	
29	GPRS/EDGE + 5 GHz Wi-Fi	N/A	N/A	Yes	Yes	
30	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^Bluetooth Tethering is considered
31	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
32	GPRS/EDGE + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
33	GPRS/EDGE + 5 GHz Wi-Fi + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^Bluetooth Tethering is considered
34	GPRS/EDGE + 5 GHz Wi-Fi MIMO + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^Bluetooth Tethering is considered
35	GPRS/EDGE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	N/A	N/A	Yes	Yes	Wi-Fi RSDB Combination
36	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	Wi-Fi RSDB Combination

12.1. Simultaneous transmission SAR test exclusion considerations

KDB 447498 D01 General RF Exposure Guidance provides two procedures for determining simultaneous transmission SAR test exclusion: Sum of SAR and SAR to Peak Location Ratio (SPLSR)

12.1.1. Sum of SAR

To qualify for simultaneous transmission SAR test exclusion based upon Sum of SAR the sum of the reported standalone SARs for all simultaneously transmitting antennas shall be below the applicable standalone SAR limit. If the sum of the SARs is above the applicable limit then simultaneous transmission SAR test exclusion may still apply if the requirements of the SAR to Peak Location Ratio (SPLSR) evaluation are met.

12.1.2. SAR to Peak Location Ratio (SPLSR)

KDB 447498 D01 General RF Exposure Guidance explains how to calculate the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$$

Where:

SAR_1 is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR_2 is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of

$$[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / Ri \leq 0.04$$

When an individual antenna transmits at on two bands simultaneously, the sum of the highest *reported* SAR for the frequency bands should be used to determine SAR_1.or SAR_2. When SPLSR is necessary, the smallest distance between the peak SAR locations for the antenna pair with respect to the peaks from each antenna should be used.

The antennas in all antenna pairs that do not qualify for simultaneous transmission SAR test exclusion must be tested for SAR compliance, according to the enlarged zoom scan and volume scan post-processing procedures in KDB Publication 865664 D01

The antennas for the unlicensed transmitters are closely situated. As a result, the associated SAR hotspots are also closely situated. Some of the sum of SAR calculations yielded results over 1.6 W/kg. The SPSLR calculations for these situations were performed by treating the unlicensed SAR values as a single transmitter. The most conservative distance between all the unlicensed hotspots to the licensed hotspot was used for the value of *d* in the SPSLR calculation.

12.1.3. Simultaneous transmission SAR measurement

When simultaneous transmission SAR measurements are required in different frequency bands not covered by a single probe calibration point then separate tests for each frequency band are performed. The tests are performed using enlarged zoom scans which are processed, by means of superposition, using the DASY5 volume scan post-processing procedures to determine the 1-g SAR for the aggregate SAR distribution.

The spatial resolution used for all enlarged zoom scans is the same as used for the most stringent zoom scans. I.E. the scan parameters required for the highest frequency assessed are used for all enlarged zoom scans. The scans cover the complete area of the device to ensure all transmitting antennas and radiating structures are assessed.

DASY5 provides the ability to perform Multiband Evaluations according to the latest standards using the Volume Scan job as well as appropriate routines for the Post-processing.

In order to extract and process measurements within different frequency bands, the SEMCAD X Post-processor performs the combination and subsequent superposition of these measurement data via DASY5= Combined MultiBand Averaged SAR.

Combined Multi Band Averaged SAR allows - in addition to the data extraction - an evaluation of the 1 g, 10 g and/or arbitrary averaged mass SAR.
Power Scaling Factor is used to allow the volume scans to be scaled by a value other than "1", this is important when the results need to be scaled to different maximum power levels. The Power Scaling Factor is applied to each individual point of the scan. When power scaling is used in multi-band combinations the scaling factor is applied to each individual point of the first scan, the second factor is then applied to each individual point of the second scan and so on. The scans are then combined.

12.2. Sum of the SAR for GSM850 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.171	0.734	0.193	0.399	0.005	0.341	0.512	1.098	0.575	0.517	0.916
	Left Tilt	0.105	0.734	0.193	0.399	0.005	0.252	0.357	1.032	0.509	0.362	0.761
	Right Touch	0.219	1.060	0.193	0.399	0.005	0.919	1.138	1.472	0.623	1.143	1.542
	Right Tilt	0.106	0.734	0.193	0.436	0.022	0.690	0.796	1.033	0.564	0.818	1.254
Body-worn	Rear	0.247	0.147	0.095	0.158	0.828	0.080	0.327	0.489	1.233	1.155	1.313
	Front	0.214	0.147	0.095	0.158	0.011	0.083	0.297	0.456	0.383	0.308	0.466
Hotspot	Rear	0.708	0.367	0.245	0.242	1.171	0.166	0.874	1.320	2.121	2.045	2.287
	Front	0.566	0.367	0.245	0.242	0.258	0.145	0.711	1.178	1.066	0.969	1.211
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.316										
	Edge 3	0.486										
	Edge 4	0.090	0.367	0.245	0.242	0.258	0.194	0.284	0.702	0.590	0.542	0.784

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.184	0.584	0.120	0.257	0.087	0.196	0.380	0.888	0.528	0.467	0.724
	Left Tilt	0.119	0.584	0.120	0.257	0.087	0.146	0.265	0.823	0.463	0.352	0.609
	Right Touch	0.246	0.584	0.120	0.257	0.087	0.762	1.008	0.950	0.590	1.095	1.352
	Right Tilt	0.118	0.730	0.120	0.444	0.087	0.628	0.746	0.968	0.649	0.833	1.277
Body-worn	Rear	0.302	0.094	0.054	0.362	0.717	0.072	0.374	0.450	1.381	1.091	1.453
	Front	0.247	0.094	0.054	0.362	0.002	0.060	0.307	0.395	0.611	0.309	0.671
Hotspot	Rear	0.897	0.194	0.156	0.436	0.698	0.140	1.037	1.247	2.031	1.735	2.171
	Front	0.682	0.194	0.156	0.241	0.149	0.112	0.794	1.032	1.072	0.943	1.184
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.304										
	Edge 3	0.563										
	Edge 4	0.118	0.194	0.156	0.241	0.149	0.173	0.291	0.468	0.508	0.440	0.681

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.3. Sum of the SAR for GSM850 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.171	0.397	0.081	0.281	0.021	0.341	0.533	0.589	0.849	0.273	0.554	0.870	0.930	0.670	0.951
	Left Tilt	0.105	0.397	0.081	0.281	0.210	0.252	0.467	0.712	0.783	0.396	0.677	0.993	0.864	0.793	1.074
	Right Touch	0.219	0.397	0.081	0.281	0.021	0.919	0.581	0.637	0.897	0.321	0.602	0.918	0.978	0.718	0.999
	Right Tilt	0.106	0.397	0.081	0.410	0.021	0.690	0.597	0.524	0.913	0.208	0.618	0.934	0.994	0.605	1.015
Body-worn	Rear	0.247	0.069	0.064	0.093	0.429	0.080	0.404	0.745	0.409	0.740	0.833	0.838	0.473	0.809	0.902
	Front	0.214	0.069	0.064	0.093	0.429	0.083	0.371	0.712	0.376	0.707	0.800	0.805	0.440	0.776	0.869
Hotspot	Rear	0.708	0.152	0.161	0.151	0.755	0.166	1.020	1.615	1.011	1.624	1.775	1.766	1.172	1.776	1.927
	Front	0.566	0.171	0.161	0.151	0.134	0.145	0.878	0.871	0.888	0.861	1.012	1.022	1.049	1.032	1.183
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.316														
	Edge 3	0.486														
	Edge 4	0.090	0.171	0.161	0.151	0.134	0.194	0.402	0.395	0.412	0.385	0.536	0.546	0.573	0.556	0.707

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.184	0.257	0.036	0.350	0.061	0.196	0.570	0.502	0.791	0.281	0.631	0.852	0.827	0.538	0.888
	Left Tilt	0.119	0.257	0.036	0.350	0.061	0.146	0.505	0.437	0.726	0.216	0.566	0.787	0.762	0.473	0.823
	Right Touch	0.246	0.257	0.036	0.350	0.061	0.762	0.632	0.564	0.853	0.343	0.693	0.914	0.889	0.600	0.950
	Right Tilt	0.118	0.257	0.036	0.350	0.061	0.628	0.504	0.436	0.725	0.215	0.565	0.786	0.761	0.472	0.822
Body-worn	Rear	0.302	0.058	0.033	0.206	1.029	0.072	0.541	1.389	0.566	1.364	1.570	1.595	0.599	1.422	1.628
	Front	0.247	0.058	0.033	0.206	0.000	0.060	0.486	0.305	0.511	0.280	0.486	0.511	0.544	0.338	0.544
Hotspot	Rear	0.897	0.127	0.087	0.179	0.397	0.140	1.163	1.421	1.203	1.381	1.560	1.600	1.290	1.508	1.687
	Front	0.682	0.127	0.087	0.179	0.068	0.112	0.948	0.877	0.988	0.837	1.016	1.056	1.075	0.964	1.143
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.304														
	Edge 3	0.563														
	Edge 4	0.118	0.127	0.087	0.179	0.068	0.173	0.384	0.313	0.424	0.273	0.452	0.492	0.511	0.400	0.579

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.4. Sum of the SAR for GSM1900 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.073	0.734	0.193	0.399	0.005	0.341	0.414	1.000	0.477	0.419	0.818
	Left Tilt	0.032	0.734	0.193	0.399	0.005	0.252	0.284	0.959	0.436	0.289	0.688
	Right Touch	0.051	1.060	0.193	0.399	0.005	0.919	0.970	1.304	0.455	0.975	1.374
	Right Tilt	0.031	0.734	0.193	0.436	0.022	0.690	0.721	0.958	0.489	0.743	1.179
Body-worn	Rear	0.341	0.147	0.095	0.158	0.828	0.080	0.421	0.583	1.327	1.249	1.407
	Front	0.279	0.147	0.095	0.158	0.011	0.083	0.362	0.521	0.448	0.373	0.531
Hotspot	Rear	0.278	0.367	0.245	0.242	1.171	0.166	0.444	0.890	1.691	1.615	1.857
	Front	0.216	0.367	0.245	0.242	0.258	0.145	0.361	0.828	0.716	0.619	0.861
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.034										
	Edge 3	0.423										
	Edge 4	0.054	0.367	0.245	0.242	0.258	0.194	0.248	0.666	0.554	0.506	0.748

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.021	0.584	0.120	0.257	0.087	0.196	0.216	0.725	0.365	0.303	0.560
	Left Tilt	0.011	0.584	0.120	0.257	0.087	0.146	0.157	0.715	0.355	0.244	0.501
	Right Touch	0.013	0.584	0.120	0.257	0.087	0.762	0.775	0.717	0.357	0.862	1.119
	Right Tilt	0.009	0.730	0.120	0.444	0.087	0.628	0.637	0.859	0.540	0.724	1.168
Body-worn	Rear	0.037	0.094	0.054	0.362	0.717	0.072	0.109	0.185	1.116	0.826	1.188
	Front	0.027	0.094	0.054	0.362	0.002	0.060	0.087	0.175	0.391	0.089	0.451
Hotspot	Rear	0.304	0.194	0.156	0.436	0.698	0.140	0.444	0.654	1.438	1.142	**1.578**
	Front	0.222	0.194	0.156	0.241	0.149	0.112	0.334	0.572	0.612	0.483	0.724
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.038										
	Edge 3	0.529										
	Edge 4	0.065	0.194	0.156	0.241	0.149	0.173	0.238	0.415	0.455	0.387	0.628

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

12.5. Sum of the SAR for GSM1900 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.073	0.397	0.081	0.281	0.021	0.341	0.435	0.491	0.751	0.175	0.456	0.772	0.832	0.572	0.853
	Left Tilt	0.032	0.397	0.081	0.281	0.210	0.252	0.394	0.639	0.710	0.323	0.604	0.920	0.791	0.720	1.001
	Right Touch	0.051	0.397	0.081	0.281	0.021	0.919	0.413	0.469	0.729	0.153	0.434	0.750	0.810	0.550	0.831
	Right Tilt	0.031	0.397	0.081	0.410	0.021	0.690	0.522	0.449	0.838	0.133	0.543	0.859	0.919	0.530	0.940
Body-worn	Rear	0.341	0.069	0.064	0.093	0.429	0.080	0.498	0.839	0.503	0.834	0.927	0.932	0.567	0.903	0.996
	Front	0.279	0.069	0.064	0.093	0.429	0.083	0.436	0.777	0.441	0.772	0.865	0.870	0.505	0.841	0.934
Hotspot	Rear	0.278	0.152	0.161	0.151	0.755	0.166	0.590	1.185	0.581	1.194	1.345	1.336	0.742	1.346	1.497
	Front	0.216	0.171	0.161	0.151	0.134	0.145	0.528	0.521	0.538	0.511	0.662	0.672	0.699	0.682	0.833
	Edge 1	0.000	0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.034														
	Edge 3	0.423														
	Edge 4	0.054	0.171	0.161	0.151	0.134	0.194	0.366	0.359	0.376	0.349	0.500	0.510	0.537	0.520	0.671

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.021	0.257	0.036	0.350	0.061	0.196	0.407	0.339	0.628	0.118	0.468	0.689	0.664	0.375	0.725
	Left Tilt	0.011	0.257	0.036	0.350	0.061	0.146	0.397	0.329	0.618	0.108	0.458	0.679	0.654	0.365	0.715
	Right Touch	0.013	0.257	0.036	0.350	0.061	0.762	0.399	0.331	0.620	0.110	0.460	0.681	0.656	0.367	0.717
	Right Tilt	0.009	0.257	0.036	0.350	0.061	0.628	0.395	0.327	0.616	0.106	0.456	0.677	0.652	0.363	0.713
Body-worn	Rear	0.037	0.058	0.033	0.206	1.029	0.072	0.276	1.124	0.301	1.099	1.305	1.330	0.334	1.157	1.363
	Front	0.027	0.058	0.033	0.206	0.000	0.060	0.266	0.085	0.291	0.060	0.266	0.291	0.324	0.118	0.324
Hotspot	Rear	0.304	0.127	0.087	0.179	0.397	0.140	0.570	0.828	0.610	0.788	0.967	1.007	0.697	0.915	1.094
	Front	0.222	0.127	0.087	0.179	0.068	0.112	0.488	0.417	0.528	0.377	0.556	0.596	0.615	0.504	0.683
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.038														
	Edge 3	0.529														
	Edge 4	0.065	0.127	0.087	0.179	0.068	0.173	0.331	0.260	0.371	0.220	0.399	0.439	0.458	0.347	0.526

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

12.6. Sum of the SAR for WCDMA Band II & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.171	0.734	0.193	0.399	0.005	0.341	0.512	1.098	0.575	0.517	0.916
	Left Tilt	0.068	0.734	0.193	0.399	0.005	0.252	0.320	0.995	0.472	0.325	0.724
	Right Touch	0.111	1.060	0.193	0.399	0.005	0.919	1.030	1.364	0.515	1.035	1.434
	Right Tilt	0.065	0.734	0.193	0.436	0.022	0.690	0.755	0.992	0.523	0.777	1.213
Body-worn	Rear	0.753	0.147	0.095	0.158	0.828	0.080	0.833	0.995	1.739	1.661	1.819
	Front	0.625	0.147	0.095	0.158	0.011	0.083	0.708	0.867	0.794	0.719	0.877
Hotspot	Rear	0.622	0.367	0.245	0.242	1.171	0.166	0.788	1.234	2.035	1.959	2.201
	Front	0.518	0.367	0.245	0.242	0.258	0.145	0.663	1.130	1.018	0.921	1.163
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.091										
	Edge 3	1.123										
	Edge 4	0.144	0.367	0.245	0.242	0.258	0.194	0.338	0.756	0.644	0.596	0.838

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.155	0.584	0.120	0.257	0.087	0.196	0.350	0.859	0.499	0.437	0.694
	Left Tilt	0.062	0.584	0.120	0.257	0.087	0.146	0.208	0.766	0.406	0.295	0.552
	Right Touch	0.089	0.584	0.120	0.257	0.087	0.762	0.852	0.793	0.433	0.939	1.196
	Right Tilt	0.055	0.730	0.120	0.444	0.087	0.628	0.683	0.905	0.586	0.770	1.214
Body-worn	Rear	0.630	0.094	0.054	0.362	0.717	0.072	0.702	0.778	1.709	1.419	1.781
	Front	0.447	0.094	0.054	0.362	0.002	0.060	0.507	0.595	0.811	0.509	0.871
Hotspot	Rear	0.682	0.194	0.156	0.436	0.698	0.140	0.822	1.032	1.816	1.520	1.956
	Front	0.432	0.194	0.156	0.241	0.149	0.112	0.544	0.782	0.822	0.693	0.934
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.067										
	Edge 3	1.026										
	Edge 4	0.116	0.194	0.156	0.241	0.149	0.173	0.289	0.466	0.506	0.438	0.679

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.7. Sum of the SAR for WCDMA Band II & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.171	0.397	0.081	0.281	0.021	0.341	0.533	0.589	0.849	0.273	0.554	0.870	0.930	0.670	0.951
	Left Tilt	0.068	0.397	0.081	0.281	0.210	0.252	0.430	0.675	0.746	0.359	0.640	0.956	0.827	0.756	1.037
	Right Touch	0.111	0.397	0.081	0.281	0.021	0.919	0.473	0.529	0.789	0.213	0.494	0.810	0.870	0.610	0.891
	Right Tilt	0.065	0.397	0.081	0.410	0.021	0.690	0.556	0.483	0.872	0.167	0.577	0.893	0.953	0.564	0.974
Body-worn	Rear	0.753	0.069	0.064	0.093	0.429	0.080	0.910	1.251	0.915	1.246	1.339	1.344	0.979	1.315	1.408
	Front	0.625	0.069	0.064	0.093	0.429	0.083	0.782	1.123	0.787	1.118	1.211	1.216	0.851	1.187	1.280
Hotspot	Rear	0.622	0.152	0.161	0.151	0.755	0.166	0.934	1.529	0.925	1.538	1.689	1.680	1.086	1.690	1.841
	Front	0.518	0.171	0.161	0.151	0.134	0.145	0.830	0.823	0.840	0.813	0.964	0.974	1.001	0.984	1.135
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.091														
	Edge 3	1.123														
	Edge 4	0.144	0.171	0.161	0.151	0.134	0.194	0.456	0.449	0.466	0.439	0.590	0.600	0.627	0.610	0.761

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.155	0.257	0.036	0.350	0.061	0.196	0.541	0.473	0.762	0.252	0.602	0.823	0.798	0.509	0.859
	Left Tilt	0.062	0.257	0.036	0.350	0.061	0.146	0.448	0.380	0.669	0.159	0.509	0.730	0.705	0.416	0.766
	Right Touch	0.089	0.257	0.036	0.350	0.061	0.762	0.475	0.408	0.697	0.186	0.536	0.758	0.733	0.444	0.794
	Right Tilt	0.055	0.257	0.036	0.350	0.061	0.628	0.441	0.374	0.663	0.152	0.502	0.724	0.699	0.410	0.760
Body-worn	Rear	0.630	0.058	0.033	0.206	1.029	0.072	0.869	1.717	0.894	1.692	1.898	1.923	0.927	1.750	1.956
	Front	0.447	0.058	0.033	0.206	0.000	0.060	0.686	0.505	0.711	0.480	0.686	0.711	0.744	0.538	0.744
Hotspot	Rear	0.682	0.127	0.087	0.179	0.397	0.140	0.948	1.206	0.988	1.166	1.345	1.385	1.075	1.293	1.472
	Front	0.432	0.127	0.087	0.179	0.068	0.112	0.698	0.627	0.738	0.587	0.766	0.806	0.825	0.714	0.893
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.067														
	Edge 3	1.026														
	Edge 4	0.116	0.127	0.087	0.179	0.068	0.173	0.382	0.311	0.422	0.271	0.450	0.490	0.509	0.398	0.577

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.8. Sum of the SAR for WCDMA Band IV & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.162	0.734	0.193	0.399	0.005	0.341	0.503	1.089	0.566	0.508	0.907
	Left Tilt	0.051	0.734	0.193	0.399	0.005	0.252	0.303	0.978	0.455	0.308	0.707
	Right Touch	0.111	1.060	0.193	0.399	0.005	0.919	1.030	1.364	0.515	1.035	1.434
	Right Tilt	0.051	0.734	0.193	0.436	0.022	0.690	0.741	0.978	0.509	0.763	1.199
Body-worn	Rear	0.599	0.147	0.095	0.158	0.828	0.080	0.679	0.841	1.585	1.507	1.665
	Front	0.486	0.147	0.095	0.158	0.011	0.083	0.569	0.728	0.655	0.580	0.738
Hotspot	Rear	0.326	0.367	0.245	0.242	1.171	0.166	0.492	0.938	1.739	1.663	1.905
	Front	0.274	0.367	0.245	0.242	0.258	0.145	0.419	0.886	0.774	0.677	0.919
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.031										
	Edge 3	0.616										
	Edge 4	0.076	0.367	0.245	0.242	0.258	0.194	0.270	0.688	0.576	0.528	0.770

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.177	0.584	0.120	0.257	0.087	0.196	0.373	0.881	0.521	0.460	0.717
	Left Tilt	0.054	0.584	0.120	0.257	0.087	0.146	0.200	0.758	0.398	0.287	0.544
	Right Touch	0.100	0.584	0.120	0.257	0.087	0.762	0.862	0.804	0.444	0.949	1.206
	Right Tilt	0.058	0.730	0.120	0.444	0.087	0.628	0.686	0.908	0.589	0.773	1.217
Body-worn	Rear	0.565	0.094	0.054	0.362	0.717	0.072	0.637	0.713	1.644	1.354	1.716
	Front	0.424	0.094	0.054	0.362	0.002	0.060	0.484	0.572	0.788	0.486	0.848
Hotspot	Rear	0.432	0.194	0.156	0.436	0.698	0.140	0.572	0.782	1.566	1.270	1.706
	Front	0.323	0.194	0.156	0.241	0.149	0.112	0.434	0.673	0.713	0.583	0.824
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.042										
	Edge 3	0.770										
	Edge 4	0.109	0.194	0.156	0.241	0.149	0.173	0.282	0.459	0.499	0.431	0.672

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.9. Sum of the SAR for WCDMA Band IV & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.162	0.397	0.081	0.281	0.021	0.341	0.524	0.580	0.840	0.264	0.545	0.861	0.921	0.661	0.942
	Left Tilt	0.051	0.397	0.081	0.281	0.210	0.252	0.413	0.658	0.729	0.342	0.623	0.939	0.810	0.739	1.020
	Right Touch	0.111	0.397	0.081	0.281	0.021	0.919	0.473	0.529	0.789	0.213	0.494	0.810	0.870	0.610	0.891
	Right Tilt	0.051	0.397	0.081	0.410	0.021	0.690	0.542	0.469	0.858	0.153	0.563	0.879	0.939	0.550	0.960
Body-worn	Rear	0.599	0.069	0.064	0.093	0.429	0.080	0.756	1.097	0.761	1.092	1.185	1.190	0.825	1.161	1.254
	Front	0.486	0.069	0.064	0.093	0.429	0.083	0.643	0.984	0.648	0.979	1.072	1.077	0.712	1.048	1.141
Hotspot	Rear	0.326	0.152	0.161	0.151	0.755	0.166	0.638	1.233	0.629	1.242	1.393	1.384	0.790	1.394	1.545
	Front	0.274	0.171	0.161	0.151	0.134	0.145	0.586	0.579	0.596	0.569	0.720	0.730	0.757	0.740	0.891
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.031														
	Edge 3	0.616														
	Edge 4	0.076	0.171	0.161	0.151	0.134	0.194	0.388	0.381	0.398	0.371	0.522	0.532	0.559	0.542	0.693

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.177	0.257	0.036	0.350	0.061	0.196	0.563	0.495	0.784	0.274	0.624	0.845	0.820	0.531	0.881
	Left Tilt	0.054	0.257	0.036	0.350	0.061	0.146	0.440	0.372	0.661	0.151	0.501	0.722	0.697	0.408	0.758
	Right Touch	0.100	0.257	0.036	0.350	0.061	0.762	0.486	0.418	0.707	0.197	0.547	0.768	0.743	0.454	0.804
	Right Tilt	0.058	0.257	0.036	0.350	0.061	0.628	0.444	0.376	0.665	0.155	0.505	0.726	0.701	0.412	0.762
Body-worn	Rear	0.565	0.058	0.033	0.206	1.029	0.072	0.804	1.652	0.829	1.627	1.833	1.858	0.862	1.685	1.891
	Front	0.424	0.058	0.033	0.206	0.000	0.060	0.663	0.482	0.688	0.457	0.663	0.688	0.721	0.515	0.721
Hotspot	Rear	0.432	0.127	0.087	0.179	0.397	0.140	0.698	0.956	0.738	0.916	1.095	1.135	0.825	1.043	1.222
	Front	0.323	0.127	0.087	0.179	0.068	0.112	0.589	0.518	0.629	0.478	0.657	0.697	0.716	0.605	0.784
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.042														
	Edge 3	0.770														
	Edge 4	0.109	0.127	0.087	0.179	0.068	0.173	0.375	0.304	0.415	0.264	0.443	0.483	0.502	0.391	0.570

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.10. Sum of the SAR for WCDMA Band V & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.199	0.734	0.193	0.399	0.005	0.341	0.540	1.126	0.603	0.545	0.944
	Left Tilt	0.093	0.734	0.193	0.399	0.005	0.252	0.345	1.020	0.497	0.350	0.749
	Right Touch	0.027	1.060	0.193	0.399	0.005	0.919	0.946	1.280	0.431	0.951	1.350
	Right Tilt	0.096	0.734	0.193	0.436	0.022	0.690	0.786	1.023	0.554	0.808	1.244
Body-worn	Rear	0.308	0.147	0.095	0.158	0.828	0.080	0.388	0.550	1.294	1.216	1.374
	Front	0.244	0.147	0.095	0.158	0.011	0.083	0.327	0.486	0.413	0.338	0.496
Hotspot	Rear	0.599	0.367	0.245	0.242	1.171	0.166	0.765	1.211	2.012	1.936	2.178
	Front	0.424	0.367	0.245	0.242	0.258	0.145	0.569	1.036	0.924	0.827	1.069
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.184										
	Edge 3	0.412										
	Edge 4	0.067	0.367	0.245	0.242	0.258	0.194	0.261	0.679	0.567	0.519	0.761

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.240	0.584	0.120	0.257	0.087	0.196	0.435	0.944	0.584	0.522	0.779
	Left Tilt	0.147	0.584	0.120	0.257	0.087	0.146	0.293	0.851	0.491	0.380	0.637
	Right Touch	0.320	0.584	0.120	0.257	0.087	0.762	1.082	1.024	0.664	1.169	1.426
	Right Tilt	0.150	0.730	0.120	0.444	0.087	0.628	0.778	1.000	0.681	0.865	1.309
Body-worn	Rear	0.349	0.094	0.054	0.362	0.717	0.072	0.421	0.497	1.428	1.138	**1.500**
	Front	0.289	0.094	0.054	0.362	0.002	0.060	0.349	0.437	0.653	0.351	0.713
Hotspot	Rear	0.711	0.194	0.156	0.436	0.698	0.140	0.851	1.061	1.845	1.549	1.985
	Front	0.570	0.194	0.156	0.241	0.149	0.112	0.682	0.920	0.960	0.831	1.072
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.284										
	Edge 3	0.438										
	Edge 4	0.084	0.194	0.156	0.241	0.149	0.173	0.257	0.434	0.474	0.406	0.647

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.11. Sum of the SAR for WCDMA Band V & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.199	0.397	0.081	0.281	0.021	0.341	0.561	0.617	0.877	0.301	0.582	0.898	0.958	0.698	0.979
	Left Tilt	0.093	0.397	0.081	0.281	0.210	0.252	0.455	0.700	0.771	0.384	0.665	0.981	0.852	0.781	1.062
	Right Touch	0.027	0.397	0.081	0.281	0.021	0.919	0.389	0.445	0.705	0.129	0.410	0.726	0.786	0.526	0.807
	Right Tilt	0.096	0.397	0.081	0.410	0.021	0.690	0.587	0.514	0.903	0.198	0.608	0.924	0.984	0.595	1.005
Body-worn	Rear	0.308	0.069	0.064	0.093	0.429	0.080	0.465	0.806	0.470	0.801	0.894	0.899	0.534	0.870	0.963
	Front	0.244	0.069	0.064	0.093	0.429	0.083	0.401	0.742	0.406	0.737	0.830	0.835	0.470	0.806	0.899
Hotspot	Rear	0.599	0.152	0.161	0.151	0.755	0.166	0.911	1.506	0.902	1.515	1.666	1.657	1.063	1.667	1.818
	Front	0.424	0.171	0.161	0.151	0.134	0.145	0.736	0.729	0.746	0.719	0.870	0.880	0.907	0.890	1.041
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.184														
	Edge 3	0.412														
	Edge 4	0.067	0.171	0.161	0.151	0.134	0.194	0.379	0.372	0.389	0.362	0.513	0.523	0.550	0.533	0.684

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.240	0.257	0.036	0.350	0.061	0.196	0.626	0.558	0.847	0.337	0.687	0.908	0.883	0.594	0.944
	Left Tilt	0.147	0.257	0.036	0.350	0.061	0.146	0.533	0.465	0.754	0.244	0.594	0.815	0.790	0.501	0.851
	Right Touch	0.320	0.257	0.036	0.350	0.061	0.762	0.706	0.638	0.927	0.417	0.767	0.988	0.963	0.674	1.024
	Right Tilt	0.150	0.257	0.036	0.350	0.061	0.628	0.536	0.468	0.757	0.247	0.597	0.818	0.793	0.504	0.854
Body-worn	Rear	0.349	0.058	0.033	0.206	1.029	0.072	0.588	1.436	0.613	1.411	1.617	1.642	0.646	1.469	1.675
	Front	0.289	0.058	0.033	0.206	0.000	0.060	0.528	0.347	0.553	0.322	0.528	0.553	0.586	0.380	0.586
Hotspot	Rear	0.711	0.127	0.087	0.179	0.397	0.140	0.977	1.235	1.017	1.195	1.374	1.414	1.104	1.322	1.501
	Front	0.570	0.127	0.087	0.179	0.068	0.112	0.836	0.765	0.876	0.725	0.904	0.944	0.963	0.852	1.031
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.284														
	Edge 3	0.438														
	Edge 4	0.084	0.127	0.087	0.179	0.068	0.173	0.350	0.279	0.390	0.239	0.418	0.458	0.477	0.366	0.545

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.12. Sum of the SAR for LTE Band 5 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.168	0.734	0.193	0.399	0.005	0.341	0.509	1.095	0.572	0.514	0.913
	Left Tilt	0.122	0.734	0.193	0.399	0.005	0.252	0.374	1.049	0.526	0.379	0.778
	Right Touch	0.240	1.060	0.193	0.399	0.005	0.919	1.159	1.493	0.644	1.164	1.563
	Right Tilt	0.118	0.734	0.193	0.436	0.022	0.690	0.808	1.045	0.576	0.830	1.266
Body-worn	Rear	0.279	0.147	0.095	0.158	0.828	0.080	0.359	0.521	1.265	1.187	1.345
	Front	0.204	0.147	0.095	0.158	0.011	0.083	0.287	0.446	0.373	0.298	0.456
Hotspot	Rear	0.514	0.367	0.245	0.242	1.171	0.166	0.680	1.126	1.927	1.851	2.093
	Front	0.435	0.367	0.245	0.242	0.258	0.145	0.580	1.047	0.935	0.838	1.080
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.206										
	Edge 3	0.361										
	Edge 4	0.077	0.367	0.245	0.242	0.258	0.194	0.271	0.689	0.577	0.529	0.771

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.168	0.584	0.120	0.257	0.087	0.196	0.363	0.872	0.512	0.450	0.707
	Left Tilt	0.109	0.584	0.120	0.257	0.087	0.146	0.256	0.813	0.453	0.343	0.600
	Right Touch	0.153	0.584	0.120	0.257	0.087	0.762	0.915	0.857	0.497	1.002	1.259
	Right Tilt	0.137	0.730	0.120	0.444	0.087	0.628	0.765	0.987	0.668	0.852	1.296
Body-worn	Rear	0.288	0.094	0.054	0.362	0.717	0.072	0.359	0.436	1.367	1.076	1.438
	Front	0.194	0.094	0.054	0.362	0.002	0.060	0.254	0.342	0.558	0.256	0.618
Hotspot	Rear	0.636	0.194	0.156	0.436	0.698	0.140	0.776	0.986	1.770	1.474	1.910
	Front	0.424	0.194	0.156	0.241	0.149	0.112	0.535	0.774	0.814	0.684	0.925
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.110										
	Edge 3	0.347										
	Edge 4	0.059	0.194	0.156	0.241	0.149	0.173	0.232	0.409	0.449	0.381	0.622

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.13. Sum of the SAR for LTE Band 5 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.168	0.397	0.081	0.281	0.021	0.341	0.530	0.586	0.846	0.270	0.551	0.867	0.927	0.667	0.948
	Left Tilt	0.122	0.397	0.081	0.281	0.210	0.252	0.484	0.729	0.800	0.413	0.694	1.010	0.881	0.810	1.091
	Right Touch	0.240	0.397	0.081	0.281	0.021	0.919	0.602	0.658	0.918	0.342	0.623	0.939	0.999	0.739	1.020
	Right Tilt	0.118	0.397	0.081	0.410	0.021	0.690	0.609	0.536	0.925	0.220	0.630	0.946	1.006	0.617	1.027
Body-worn	Rear	0.279	0.069	0.064	0.093	0.429	0.080	0.436	0.777	0.441	0.772	0.865	0.870	0.505	0.841	0.934
	Front	0.204	0.069	0.064	0.093	0.429	0.083	0.361	0.702	0.366	0.697	0.790	0.795	0.430	0.766	0.859
Hotspot	Rear	0.514	0.152	0.161	0.151	0.755	0.166	0.826	1.421	0.817	1.430	1.581	1.572	0.978	1.582	1.733
	Front	0.435	0.171	0.161	0.151	0.134	0.145	0.747	0.740	0.757	0.730	0.881	0.891	0.918	0.901	1.052
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.206														
	Edge 3	0.361														
	Edge 4	0.077	0.171	0.161	0.151	0.134	0.194	0.389	0.382	0.399	0.372	0.523	0.533	0.560	0.543	0.694

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.168	0.257	0.036	0.350	0.061	0.196	0.554	0.486	0.775	0.265	0.615	0.836	0.811	0.522	0.872
	Left Tilt	0.109	0.257	0.036	0.350	0.061	0.146	0.495	0.427	0.716	0.206	0.556	0.777	0.752	0.463	0.813
	Right Touch	0.153	0.257	0.036	0.350	0.061	0.762	0.539	0.471	0.760	0.250	0.600	0.821	0.796	0.507	0.857
	Right Tilt	0.137	0.257	0.036	0.350	0.061	0.628	0.523	0.455	0.744	0.234	0.584	0.805	0.780	0.491	0.841
Body-worn	Rear	0.288	0.058	0.033	0.206	1.029	0.072	0.527	1.375	0.552	1.350	1.556	1.581	0.585	1.408	1.614
	Front	0.194	0.058	0.033	0.206	0.000	0.060	0.433	0.252	0.458	0.227	0.433	0.458	0.491	0.285	0.491
Hotspot	Rear	0.636	0.127	0.087	0.179	0.397	0.140	0.902	1.160	0.942	1.120	1.299	1.339	1.029	1.247	1.426
	Front	0.424	0.127	0.087	0.179	0.068	0.112	0.690	0.619	0.730	0.579	0.758	0.798	0.817	0.706	0.885
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.110														
	Edge 3	0.347														
	Edge 4	0.059	0.127	0.087	0.179	0.068	0.173	0.325	0.254	0.365	0.214	0.393	0.433	0.452	0.341	0.520

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.14. Sum of the SAR for LTE Band 7 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.177	0.734	0.193	0.399	0.005	0.341	0.518	1.104	0.581	0.523	0.922
	Left Tilt	0.067	0.734	0.193	0.399	0.005	0.252	0.319	0.994	0.471	0.324	0.723
	Right Touch	0.118	1.060	0.193	0.399	0.005	0.919	1.037	1.371	0.522	1.042	1.441
	Right Tilt	0.121	0.734	0.193	0.436	0.022	0.690	0.811	1.048	0.579	0.833	1.269
Body-worn	Rear	0.601	0.147	0.095	0.158	0.828	0.080	0.681	0.843	1.587	1.509	1.667
	Front	0.260	0.147	0.095	0.158	0.011	0.083	0.343	0.502	0.429	0.354	0.512
Hotspot	Rear	0.525	0.367	0.245	0.242	1.171	0.166	0.691	1.137	1.938	1.862	2.104
	Front	0.123	0.367	0.245	0.242	0.258	0.145	0.268	0.735	0.623	0.526	0.768
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 3	0.850										
	Edge 4	0.237	0.367	0.245	0.242	0.258	0.194	0.431	0.849	0.737	0.689	0.931

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.111	0.584	0.120	0.257	0.087	0.196	0.307	0.815	0.455	0.394	0.651
	Left Tilt	0.047	0.584	0.120	0.257	0.087	0.146	0.193	0.751	0.391	0.280	0.537
	Right Touch	0.073	0.584	0.120	0.257	0.087	0.762	0.835	0.777	0.417	0.922	1.179
	Right Tilt	0.081	0.730	0.120	0.444	0.087	0.628	0.709	0.931	0.612	0.796	1.240
Body-worn	Rear	0.733	0.094	0.054	0.362	0.717	0.072	0.805	0.881	1.812	1.522	1.884
	Front	0.386	0.094	0.054	0.362	0.002	0.060	0.446	0.534	0.750	0.448	0.810
Hotspot	Rear	0.808	0.194	0.156	0.436	0.698	0.140	0.948	1.158	1.942	1.646	2.082
	Front	0.398	0.194	0.156	0.241	0.149	0.112	0.510	0.748	0.788	0.659	0.900
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 3	0.325										
	Edge 4	0.232	0.194	0.156	0.241	0.149	0.173	0.405	0.582	0.622	0.554	0.795

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.15. Sum of the SAR for LTE Band 7 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.177	0.397	0.081	0.281	0.021	0.341	0.539	0.595	0.855	0.279	0.560	0.876	0.936	0.676	0.957
	Left Tilt	0.067	0.397	0.081	0.281	0.210	0.252	0.429	0.674	0.745	0.358	0.639	0.955	0.826	0.755	1.036
	Right Touch	0.118	0.397	0.081	0.281	0.021	0.919	0.480	0.536	0.796	0.220	0.501	0.817	0.877	0.617	0.898
	Right Tilt	0.121	0.397	0.081	0.410	0.021	0.690	0.612	0.539	0.928	0.223	0.633	0.949	1.009	0.620	1.030
Body-worn	Rear	0.601	0.069	0.064	0.093	0.429	0.080	0.758	1.099	0.763	1.094	1.187	1.192	0.827	1.163	1.256
	Front	0.260	0.069	0.064	0.093	0.429	0.083	0.417	0.758	0.422	0.753	0.846	0.851	0.486	0.822	0.915
Hotspot	Rear	0.525	0.152	0.161	0.151	0.755	0.166	0.837	1.432	0.828	1.441	1.592	1.583	0.989	1.593	1.744
	Front	0.123	0.171	0.161	0.151	0.134	0.145	0.435	0.428	0.445	0.418	0.569	0.579	0.606	0.589	0.740
	Edge 1		0.171	0.161	0.151	0.134	0.078									
	Edge 3	0.850														
	Edge 4	0.237	0.171	0.161	0.151	0.134	0.194	0.549	0.542	0.559	0.532	0.683	0.693	0.720	0.703	0.854

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.111	0.257	0.036	0.350	0.061	0.196	0.497	0.429	0.718	0.208	0.558	0.779	0.754	0.465	0.815
	Left Tilt	0.047	0.257	0.036	0.350	0.061	0.146	0.433	0.365	0.654	0.144	0.494	0.715	0.690	0.401	0.751
	Right Touch	0.073	0.257	0.036	0.350	0.061	0.762	0.459	0.391	0.680	0.170	0.520	0.741	0.716	0.427	0.777
	Right Tilt	0.081	0.257	0.036	0.350	0.061	0.628	0.467	0.399	0.688	0.178	0.528	0.749	0.724	0.435	0.785
Body-worn	Rear	0.733	0.058	0.033	0.206	1.029	0.072	0.972	1.820	0.997	1.795	2.001	2.026	1.030	1.853	2.059
	Front	0.386	0.058	0.033	0.206	0.000	0.060	0.625	0.444	0.650	0.419	0.625	0.650	0.683	0.477	0.683
Hotspot	Rear	0.808	0.127	0.087	0.179	0.397	0.140	1.074	1.332	1.114	1.292	1.471	1.511	1.201	1.419	1.598
	Front	0.398	0.127	0.087	0.179	0.068	0.112	0.664	0.593	0.704	0.553	0.732	0.772	0.791	0.680	0.859
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 3	0.325														
	Edge 4	0.232	0.127	0.087	0.179	0.068	0.173	0.498	0.427	0.538	0.387	0.566	0.606	0.625	0.514	0.693

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.16. Sum of the SAR for LTE Band 12 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.157	0.734	0.193	0.399	0.005	0.341	0.498	1.084	0.561	0.503	0.902
	Left Tilt	0.104	0.734	0.193	0.399	0.005	0.252	0.356	1.031	0.508	0.361	0.760
	Right Touch	0.173	1.060	0.193	0.399	0.005	0.919	1.092	1.426	0.577	1.097	1.496
	Right Tilt	0.104	0.734	0.193	0.436	0.022	0.690	0.794	1.031	0.562	0.816	1.252
Body-worn	Rear	0.335	0.147	0.095	0.158	0.828	0.080	0.415	0.577	1.321	1.243	1.401
	Front	0.313	0.147	0.095	0.158	0.011	0.083	0.396	0.555	0.482	0.407	0.565
Hotspot	Rear	0.398	0.367	0.245	0.242	1.171	0.166	0.564	1.010	1.811	1.735	1.977
	Front	0.332	0.367	0.245	0.242	0.258	0.145	0.477	0.944	0.832	0.735	0.977
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.429										
	Edge 3	0.156										
	Edge 4	0.352	0.367	0.245	0.242	0.258	0.194	0.546	0.964	0.852	0.804	1.046

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.158	0.584	0.120	0.257	0.087	0.196	0.354	0.862	0.502	0.441	0.698
	Left Tilt	0.102	0.584	0.120	0.257	0.087	0.146	0.248	0.806	0.446	0.335	0.592
	Right Touch	0.195	0.584	0.120	0.257	0.087	0.762	0.958	0.899	0.539	1.045	1.302
	Right Tilt	0.104	0.730	0.120	0.444	0.087	0.628	0.732	0.954	0.635	0.819	1.263
Body-worn	Rear	0.323	0.094	0.054	0.362	0.717	0.072	0.395	0.471	1.402	1.112	1.474
	Front	0.295	0.094	0.054	0.362	0.002	0.060	0.355	0.443	0.659	0.357	0.719
Hotspot	Rear	0.352	0.194	0.156	0.436	0.698	0.140	0.492	0.702	1.486	1.190	1.626
	Front	0.311	0.194	0.156	0.241	0.149	0.112	0.423	0.661	0.701	0.572	0.813
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.479										
	Edge 3	0.162										
	Edge 4	0.316	0.194	0.156	0.241	0.149	0.173	0.489	0.666	0.706	0.638	0.879

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.17. Sum of the SAR for LTE Band 12 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.157	0.397	0.081	0.281	0.021	0.341	0.519	0.575	0.835	0.259	0.540	0.856	0.916	0.656	0.937
	Left Tilt	0.104	0.397	0.081	0.281	0.210	0.252	0.466	0.711	0.782	0.395	0.676	0.992	0.863	0.792	1.073
	Right Touch	0.173	0.397	0.081	0.281	0.021	0.919	0.535	0.591	0.851	0.275	0.556	0.872	0.932	0.672	0.953
	Right Tilt	0.104	0.397	0.081	0.410	0.021	0.690	0.595	0.522	0.911	0.206	0.616	0.932	0.992	0.603	1.013
Body-worn	Rear	0.335	0.069	0.064	0.093	0.429	0.080	0.492	0.833	0.497	0.828	0.921	0.926	0.561	0.897	0.990
	Front	0.313	0.069	0.064	0.093	0.429	0.083	0.470	0.811	0.475	0.806	0.899	0.904	0.539	0.875	0.968
Hotspot	Rear	0.398	0.152	0.161	0.151	0.755	0.166	0.710	1.305	0.701	1.314	1.465	1.456	0.862	1.466	1.617
	Front	0.332	0.171	0.161	0.151	0.134	0.145	0.644	0.637	0.654	0.627	0.778	0.788	0.815	0.798	0.949
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.429														
	Edge 3	0.156														
	Edge 4	0.352	0.171	0.161	0.151	0.134	0.194	0.664	0.657	0.674	0.647	0.798	0.808	0.835	0.818	0.969

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.158	0.257	0.036	0.350	0.061	0.196	0.544	0.476	0.765	0.255	0.605	0.826	0.801	0.512	0.862
	Left Tilt	0.102	0.257	0.036	0.350	0.061	0.146	0.488	0.420	0.709	0.199	0.549	0.770	0.745	0.456	0.806
	Right Touch	0.195	0.257	0.036	0.350	0.061	0.762	0.581	0.513	0.802	0.292	0.642	0.863	0.838	0.549	0.899
	Right Tilt	0.104	0.257	0.036	0.350	0.061	0.628	0.490	0.422	0.711	0.201	0.551	0.772	0.747	0.458	0.808
Body-worn	Rear	0.323	0.058	0.033	0.206	1.029	0.072	0.562	1.410	0.587	1.385	1.591	1.616	0.620	1.443	1.649
	Front	0.295	0.058	0.033	0.206	0.000	0.060	0.534	0.353	0.559	0.328	0.534	0.559	0.592	0.386	0.592
Hotspot	Rear	0.352	0.127	0.087	0.179	0.397	0.140	0.618	0.876	0.658	0.836	1.015	1.055	0.745	0.963	1.142
	Front	0.311	0.127	0.087	0.179	0.068	0.112	0.577	0.506	0.617	0.466	0.645	0.685	0.704	0.593	0.772
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.479														
	Edge 3	0.162														
	Edge 4	0.316	0.127	0.087	0.179	0.068	0.173	0.582	0.511	0.622	0.471	0.650	0.690	0.709	0.598	0.777

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.18. Sum of the SAR for LTE Band 13 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.176	0.734	0.193	0.399	0.005	0.341	0.517	1.103	0.580	0.522	0.921
	Left Tilt	0.115	0.734	0.193	0.399	0.005	0.252	0.367	1.042	0.519	0.372	0.771
	Right Touch	0.210	1.060	0.193	0.399	0.005	0.919	1.129	1.463	0.614	1.134	1.533
	Right Tilt	0.123	0.734	0.193	0.436	0.022	0.690	0.813	1.050	0.581	0.835	1.271
Body-worn	Rear	0.285	0.147	0.095	0.158	0.828	0.080	0.365	0.527	1.271	1.193	1.351
	Front	0.296	0.147	0.095	0.158	0.011	0.083	0.379	0.538	0.465	0.390	0.548
Hotspot	Rear	0.372	0.367	0.245	0.242	1.171	0.166	0.538	0.984	1.785	1.709	1.951
	Front	0.282	0.367	0.245	0.242	0.258	0.145	0.427	0.894	0.782	0.685	0.927
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.310										
	Edge 3	0.241										
	Edge 4	0.160	0.367	0.245	0.242	0.258	0.194	0.354	0.772	0.660	0.612	0.854

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.079	0.584	0.120	0.257	0.087	0.196	0.275	0.783	0.423	0.362	0.619
	Left Tilt	0.090	0.584	0.120	0.257	0.087	0.146	0.236	0.794	0.434	0.323	0.580
	Right Touch	0.113	0.584	0.120	0.257	0.087	0.762	0.876	0.817	0.457	0.963	1.220
	Right Tilt	0.093	0.730	0.120	0.444	0.087	0.628	0.721	0.943	0.624	0.808	1.252
Body-worn	Rear	0.269	0.094	0.054	0.362	0.717	0.072	0.340	0.417	1.348	1.057	1.419
	Front	0.236	0.094	0.054	0.362	0.002	0.060	0.295	0.384	0.600	0.297	0.659
Hotspot	Rear	0.476	0.194	0.156	0.436	0.698	0.140	0.616	0.826	1.610	1.314	1.750
	Front	0.337	0.194	0.156	0.241	0.149	0.112	0.449	0.687	0.727	0.598	0.839
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.265										
	Edge 3	0.308										
	Edge 4	0.114	0.194	0.156	0.241	0.149	0.173	0.287	0.464	0.504	0.436	0.677

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.19. Sum of the SAR for LTE Band 13 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.176	0.397	0.081	0.281	0.021	0.341	0.538	0.594	0.854	0.278	0.559	0.875	0.935	0.675	0.956
	Left Tilt	0.115	0.397	0.081	0.281	0.210	0.252	0.477	0.722	0.793	0.406	0.687	1.003	0.874	0.803	1.084
	Right Touch	0.210	0.397	0.081	0.281	0.021	0.919	0.572	0.628	0.888	0.312	0.593	0.909	0.969	0.709	0.990
	Right Tilt	0.123	0.397	0.081	0.410	0.021	0.690	0.614	0.541	0.930	0.225	0.635	0.951	1.011	0.622	1.032
Body-worn	Rear	0.285	0.069	0.064	0.093	0.429	0.080	0.442	0.783	0.447	0.778	0.871	0.876	0.511	0.847	0.940
	Front	0.296	0.069	0.064	0.093	0.429	0.083	0.453	0.794	0.458	0.789	0.882	0.887	0.522	0.858	0.951
Hotspot	Rear	0.372	0.152	0.161	0.151	0.755	0.166	0.684	1.279	0.675	1.288	1.439	1.430	0.836	1.440	1.591
	Front	0.282	0.171	0.161	0.151	0.134	0.145	0.594	0.587	0.604	0.577	0.728	0.738	0.765	0.748	0.899
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.310														
	Edge 3	0.241														
	Edge 4	0.160	0.171	0.161	0.151	0.134	0.194	0.472	0.465	0.482	0.455	0.606	0.616	0.643	0.626	0.777

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.079	0.257	0.036	0.350	0.061	0.196	0.465	0.398	0.687	0.176	0.526	0.748	0.723	0.434	0.784
	Left Tilt	0.090	0.257	0.036	0.350	0.061	0.146	0.476	0.408	0.697	0.187	0.537	0.758	0.733	0.444	0.794
	Right Touch	0.113	0.257	0.036	0.350	0.061	0.762	0.499	0.431	0.720	0.210	0.560	0.781	0.756	0.467	0.817
	Right Tilt	0.093	0.257	0.036	0.350	0.061	0.628	0.479	0.411	0.700	0.190	0.540	0.761	0.736	0.447	0.797
Body-worn	Rear	0.269	0.058	0.033	0.206	1.029	0.072	0.508	1.356	0.533	1.331	1.537	1.562	0.566	1.389	**1.594**
	Front	0.236	0.058	0.033	0.206	0.000	0.060	0.475	0.294	0.500	0.269	0.475	0.500	0.533	0.327	0.533
Hotspot	Rear	0.476	0.127	0.087	0.179	0.397	0.140	0.742	1.000	0.782	0.960	1.139	1.179	0.869	1.087	1.266
	Front	0.337	0.127	0.087	0.179	0.068	0.112	0.603	0.532	0.643	0.492	0.671	0.711	0.730	0.619	0.798
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.265														
	Edge 3	0.308														
	Edge 4	0.114	0.127	0.087	0.179	0.068	0.173	0.380	0.309	0.420	0.269	0.448	0.488	0.507	0.396	0.575

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

12.20. Sum of the SAR for LTE Band 25 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.134	0.734	0.193	0.399	0.005	0.341	0.475	1.061	0.538	0.480	0.879
	Left Tilt	0.088	0.734	0.193	0.399	0.005	0.252	0.340	1.015	0.492	0.345	0.744
	Right Touch	0.092	1.060	0.193	0.399	0.005	0.919	1.011	1.345	0.496	1.016	1.415
	Right Tilt	0.053	0.734	0.193	0.436	0.022	0.690	0.743	0.980	0.511	0.765	1.201
Body-worn	Rear	0.672	0.147	0.095	0.158	0.828	0.080	0.752	0.914	1.658	1.580	1.738
	Front	0.555	0.147	0.095	0.158	0.011	0.083	0.638	0.797	0.724	0.649	0.807
Hotspot	Rear	0.706	0.367	0.245	0.242	1.171	0.166	0.872	1.318	2.119	2.043	2.285
	Front	0.581	0.367	0.245	0.242	0.258	0.145	0.726	1.193	1.081	0.984	1.226
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.093										
	Edge 3	1.350										
	Edge 4	0.137	0.367	0.245	0.242	0.258	0.194	0.331	0.749	0.637	0.589	0.831

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.162	0.584	0.120	0.257	0.087	0.196	0.358	0.866	0.506	0.445	0.702
	Left Tilt	0.090	0.584	0.120	0.257	0.087	0.146	0.236	0.794	0.434	0.323	0.580
	Right Touch	0.094	0.584	0.120	0.257	0.087	0.762	0.856	0.798	0.438	0.943	1.200
	Right Tilt	0.083	0.730	0.120	0.444	0.087	0.628	0.711	0.933	0.614	0.798	1.242
Body-worn	Rear	0.640	0.094	0.054	0.362	0.717	0.072	0.712	0.788	1.719	1.429	1.791
	Front	0.479	0.094	0.054	0.362	0.002	0.060	0.539	0.627	0.843	0.541	0.903
Hotspot	Rear	0.717	0.194	0.156	0.436	0.698	0.140	0.857	1.067	1.851	1.555	1.991
	Front	0.515	0.194	0.156	0.241	0.149	0.112	0.627	0.865	0.905	0.776	1.017
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.092										
	Edge 3	1.085										
	Edge 4	0.128	0.194	0.156	0.241	0.149	0.173	0.301	0.478	0.518	0.450	0.691

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.21. Sum of the SAR for LTE Band 25 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.134	0.397	0.081	0.281	0.021	0.341	0.496	0.552	0.812	0.236	0.517	0.833	0.893	0.633	0.914
	Left Tilt	0.088	0.397	0.081	0.281	0.210	0.252	0.450	0.695	0.766	0.379	0.660	0.976	0.847	0.776	1.057
	Right Touch	0.092	0.397	0.081	0.281	0.021	0.919	0.454	0.510	0.770	0.194	0.475	0.791	0.851	0.591	0.872
	Right Tilt	0.053	0.397	0.081	0.410	0.021	0.690	0.544	0.471	0.860	0.155	0.565	0.881	0.941	0.552	0.962
Body-worn	Rear	0.672	0.069	0.064	0.093	0.429	0.080	0.829	1.170	0.834	1.165	1.258	1.263	0.898	1.234	1.327
	Front	0.555	0.069	0.064	0.093	0.429	0.083	0.712	1.053	0.717	1.048	1.141	1.146	0.781	1.117	1.210
Hotspot	Rear	0.706	0.152	0.161	0.151	0.755	0.166	1.018	1.613	1.009	1.622	1.773	1.764	1.170	1.774	1.925
	Front	0.581	0.171	0.161	0.151	0.134	0.145	0.893	0.886	0.903	0.876	1.027	1.037	1.064	1.047	1.198
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.093														
	Edge 3	1.350														
	Edge 4	0.137	0.171	0.161	0.151	0.134	0.194	0.449	0.442	0.459	0.432	0.583	0.593	0.620	0.603	0.754

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.162	0.257	0.036	0.350	0.061	0.196	0.548	0.480	0.769	0.259	0.609	0.830	0.805	0.516	0.866
	Left Tilt	0.090	0.257	0.036	0.350	0.061	0.146	0.476	0.408	0.697	0.187	0.537	0.758	0.733	0.444	0.794
	Right Touch	0.094	0.257	0.036	0.350	0.061	0.762	0.480	0.412	0.701	0.191	0.541	0.762	0.737	0.448	0.798
	Right Tilt	0.083	0.257	0.036	0.350	0.061	0.628	0.469	0.401	0.690	0.180	0.530	0.751	0.726	0.437	0.787
Body-worn	Rear	0.640	0.058	0.033	0.206	1.029	0.072	0.879	1.727	0.904	1.702	1.908	1.933	0.937	1.760	1.966
	Front	0.479	0.058	0.033	0.206	0.000	0.060	0.718	0.537	0.743	0.512	0.718	0.743	0.776	0.570	0.776
Hotspot	Rear	0.717	0.127	0.087	0.179	0.397	0.140	0.983	1.241	1.023	1.201	1.380	1.420	1.110	1.328	1.507
	Front	0.515	0.127	0.087	0.179	0.068	0.112	0.781	0.710	0.821	0.670	0.849	0.889	0.908	0.797	0.976
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.092														
	Edge 3	1.085														
	Edge 4	0.128	0.127	0.087	0.179	0.068	0.173	0.394	0.323	0.434	0.283	0.462	0.502	0.521	0.410	0.589

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.22. Sum of the SAR for LTE Band 26 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.175	0.734	0.193	0.399	0.005	0.341	0.516	1.102	0.579	0.521	0.920
	Left Tilt	0.123	0.734	0.193	0.399	0.005	0.252	0.375	1.050	0.527	0.380	0.779
	Right Touch	0.260	1.060	0.193	0.399	0.005	0.919	1.179	**1.513**	0.664	1.184	**1.583**
	Right Tilt	0.122	0.734	0.193	0.436	0.022	0.690	0.812	1.049	0.580	0.834	1.270
Body-worn	Rear	0.281	0.147	0.095	0.158	0.828	0.080	0.361	0.523	1.267	1.189	1.347
	Front	0.234	0.147	0.095	0.158	0.011	0.083	0.317	0.476	0.403	0.328	0.486
Hotspot	Rear	0.627	0.367	0.245	0.242	1.171	0.166	0.793	1.239	2.040	1.964	2.206
	Front	0.461	0.367	0.245	0.242	0.258	0.145	0.606	1.073	0.961	0.864	1.106
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.100										
	Edge 3	0.385										
	Edge 4	0.225	0.367	0.245	0.242	0.258	0.194	0.419	0.837	0.725	0.677	0.919

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.168	0.584	0.120	0.257	0.087	0.196	0.363	0.872	0.512	0.450	0.707
	Left Tilt	0.104	0.584	0.120	0.257	0.087	0.146	0.250	0.808	0.448	0.337	0.594
	Right Touch	0.218	0.584	0.120	0.257	0.087	0.762	0.981	0.922	0.562	1.068	1.325
	Right Tilt	0.098	0.730	0.120	0.444	0.087	0.628	0.726	0.948	0.629	0.813	1.257
Body-worn	Rear	0.218	0.094	0.054	0.362	0.717	0.072	0.290	0.366	1.297	1.007	1.369
	Front	0.213	0.094	0.054	0.362	0.002	0.060	0.273	0.361	0.577	0.275	0.637
Hotspot	Rear	0.588	0.194	0.156	0.436	0.698	0.140	0.728	0.938	1.722	1.426	1.862
	Front	0.434	0.194	0.156	0.241	0.149	0.112	0.546	0.784	0.824	0.695	0.936
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.183										
	Edge 3	0.355										
	Edge 4	0.068	0.194	0.156	0.241	0.149	0.173	0.241	0.418	0.458	0.390	0.631

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.23. Sum of the SAR for LTE Band 26 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.175	0.397	0.081	0.281	0.021	0.341	0.537	0.593	0.853	0.277	0.558	0.874	0.934	0.674	0.955
	Left Tilt	0.123	0.397	0.081	0.281	0.210	0.252	0.485	0.730	0.801	0.414	0.695	1.011	0.882	0.811	1.092
	Right Touch	0.260	0.397	0.081	0.281	0.021	0.919	0.622	0.678	0.938	0.362	0.643	0.959	1.019	0.759	1.040
	Right Tilt	0.122	0.397	0.081	0.410	0.021	0.690	0.613	0.540	0.929	0.224	0.634	0.950	1.010	0.621	1.031
Body-worn	Rear	0.281	0.069	0.064	0.093	0.429	0.080	0.438	0.779	0.443	0.774	0.867	0.872	0.507	0.843	0.936
	Front	0.234	0.069	0.064	0.093	0.429	0.083	0.391	0.732	0.396	0.727	0.820	0.825	0.460	0.796	0.889
Hotspot	Rear	0.627	0.152	0.161	0.151	0.755	0.166	0.939	1.534	0.930	1.543	1.694	1.685	1.091	1.695	1.846
	Front	0.461	0.171	0.161	0.151	0.134	0.145	0.773	0.766	0.783	0.756	0.907	0.917	0.944	0.927	1.078
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.100														
	Edge 3	0.385														
	Edge 4	0.225	0.171	0.161	0.151	0.134	0.194	0.537	0.530	0.547	0.520	0.671	0.681	0.708	0.691	0.842

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.168	0.257	0.036	0.350	0.061	0.196	0.554	0.486	0.775	0.265	0.615	0.836	0.811	0.522	0.872
	Left Tilt	0.104	0.257	0.036	0.350	0.061	0.146	0.490	0.422	0.711	0.201	0.551	0.772	0.747	0.458	0.808
	Right Touch	0.218	0.257	0.036	0.350	0.061	0.762	0.604	0.536	0.825	0.315	0.665	0.886	0.861	0.572	0.922
	Right Tilt	0.098	0.257	0.036	0.350	0.061	0.628	0.484	0.416	0.705	0.195	0.545	0.766	0.741	0.452	0.802
Body-worn	Rear	0.218	0.058	0.033	0.206	1.029	0.072	0.457	1.305	0.482	1.280	1.486	1.511	0.515	1.338	1.544
	Front	0.213	0.058	0.033	0.206	0.000	0.060	0.452	0.271	0.477	0.246	0.452	0.477	0.510	0.304	0.510
Hotspot	Rear	0.588	0.127	0.087	0.179	0.397	0.140	0.854	1.112	0.894	1.072	1.251	1.291	0.981	1.199	1.378
	Front	0.434	0.127	0.087	0.179	0.068	0.112	0.700	0.629	0.740	0.589	0.768	0.808	0.827	0.716	0.895
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.183														
	Edge 3	0.355														
	Edge 4	0.068	0.127	0.087	0.179	0.068	0.173	0.334	0.263	0.374	0.223	0.402	0.442	0.461	0.350	0.529

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

12.24. Sum of the SAR for LTE Band 41 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.100	0.734	0.193	0.399	0.005	0.341	0.441	1.027	0.504	0.446	0.845
	Left Tilt	0.035	0.734	0.193	0.399	0.005	0.252	0.287	0.962	0.439	0.292	0.691
	Right Touch	0.070	1.060	0.193	0.399	0.005	0.919	0.989	1.323	0.474	0.994	1.393
	Right Tilt	0.055	0.734	0.193	0.436	0.022	0.690	0.745	0.982	0.513	0.767	1.203
Body-worn	Rear	0.416	0.147	0.095	0.158	0.828	0.080	0.496	0.658	1.402	1.324	1.482
	Front	0.206	0.147	0.095	0.158	0.011	0.083	0.289	0.448	0.375	0.300	0.458
Hotspot	Rear	0.325	0.367	0.245	0.242	1.171	0.166	0.491	0.937	1.738	1.662	1.904
	Front	0.208	0.367	0.245	0.242	0.258	0.145	0.353	0.820	0.708	0.611	0.853
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 3	0.441										
	Edge 4	0.167	0.367	0.245	0.242	0.258	0.194	0.361	0.779	0.667	0.619	0.861

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.024	0.584	0.120	0.257	0.087	0.196	0.219	0.728	0.368	0.306	0.563
	Left Tilt	0.018	0.584	0.120	0.257	0.087	0.146	0.164	0.722	0.362	0.251	0.508
	Right Touch	0.051	0.584	0.120	0.257	0.087	0.762	0.814	0.755	0.395	0.901	1.158
	Right Tilt	0.068	0.730	0.120	0.444	0.087	0.628	0.696	0.918	0.599	0.783	1.227
Body-worn	Rear	0.465	0.094	0.054	0.362	0.717	0.072	0.537	0.613	1.544	1.254	1.616
	Front	0.247	0.094	0.054	0.362	0.002	0.060	0.307	0.395	0.611	0.309	0.671
Hotspot	Rear	0.590	0.194	0.156	0.436	0.698	0.140	0.730	0.940	1.724	1.428	1.864
	Front	0.368	0.194	0.156	0.241	0.149	0.112	0.480	0.718	0.758	0.629	0.870
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 3	0.283										
	Edge 4	0.214	0.194	0.156	0.241	0.149	0.173	0.387	0.564	0.604	0.536	0.777

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.25. Sum of the SAR for LTE Band 41 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.100	0.397	0.081	0.281	0.021	0.341	0.462	0.518	0.778	0.202	0.483	0.799	0.859	0.599	0.880
	Left Tilt	0.035	0.397	0.081	0.281	0.210	0.252	0.397	0.642	0.713	0.326	0.607	0.923	0.794	0.723	1.004
	Right Touch	0.070	0.397	0.081	0.281	0.021	0.919	0.432	0.488	0.748	0.172	0.453	0.769	0.829	0.569	0.850
	Right Tilt	0.055	0.397	0.081	0.410	0.021	0.690	0.546	0.473	0.862	0.157	0.567	0.883	0.943	0.554	0.964
Body-worn	Rear	0.416	0.069	0.064	0.093	0.429	0.080	0.573	0.914	0.578	0.909	1.002	1.007	0.642	0.978	1.071
	Front	0.206	0.069	0.064	0.093	0.429	0.083	0.363	0.704	0.368	0.699	0.792	0.797	0.432	0.768	0.861
Hotspot	Rear	0.325	0.152	0.161	0.151	0.755	0.166	0.637	1.232	0.628	1.241	1.392	1.383	0.789	1.393	1.544
	Front	0.208	0.171	0.161	0.151	0.134	0.145	0.520	0.513	0.530	0.503	0.654	0.664	0.691	0.674	0.825
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 3	0.441														
	Edge 4	0.167	0.171	0.161	0.151	0.134	0.194	0.479	0.472	0.489	0.462	0.613	0.623	0.650	0.633	0.784

Conclusion:

SPLSR analysis is not required because the Sum of the SAR is < 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.024	0.257	0.036	0.350	0.061	0.196	0.410	0.342	0.631	0.121	0.471	0.692	0.667	0.378	0.728
	Left Tilt	0.018	0.257	0.036	0.350	0.061	0.146	0.404	0.336	0.625	0.115	0.465	0.686	0.661	0.372	0.722
	Right Touch	0.051	0.257	0.036	0.350	0.061	0.762	0.437	0.370	0.659	0.148	0.498	0.720	0.695	0.406	0.756
	Right Tilt	0.068	0.257	0.036	0.350	0.061	0.628	0.454	0.386	0.675	0.165	0.515	0.736	0.711	0.422	0.772
Body-worn	Rear	0.465	0.058	0.033	0.206	1.029	0.072	0.704	1.552	0.729	1.527	1.733	1.758	0.762	1.585	1.791
	Front	0.247	0.058	0.033	0.206	0.000	0.060	0.486	0.305	0.511	0.280	0.486	0.511	0.544	0.338	0.544
Hotspot	Rear	0.590	0.127	0.087	0.179	0.397	0.140	0.856	1.114	0.896	1.074	1.253	1.293	0.983	1.201	1.380
	Front	0.368	0.127	0.087	0.179	0.068	0.112	0.634	0.563	0.674	0.523	0.702	0.742	0.761	0.650	0.829
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 3	0.283														
	Edge 4	0.214	0.127	0.087	0.179	0.068	0.173	0.480	0.409	0.520	0.369	0.548	0.588	0.607	0.496	0.675

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.26. Sum of the SAR for LTE Band 66 & Wi-Fi & BT

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.135	0.734	0.193	0.399	0.005	0.341	0.476	1.062	0.539	0.481	0.880
	Left Tilt	0.052	0.734	0.193	0.399	0.005	0.252	0.304	0.979	0.456	0.309	0.708
	Right Touch	0.119	1.060	0.193	0.399	0.005	0.919	1.038	1.372	0.523	1.043	1.442
	Right Tilt	0.049	0.734	0.193	0.436	0.022	0.690	0.739	0.976	0.507	0.761	1.197
Body-worn	Rear	0.633	0.147	0.095	0.158	0.828	0.080	0.713	0.875	1.619	1.541	1.699
	Front	0.547	0.147	0.095	0.158	0.011	0.083	0.630	0.789	0.716	0.641	0.799
Hotspot	Rear	0.724	0.367	0.245	0.242	1.171	0.166	0.890	1.336	2.137	2.061	2.303
	Front	0.611	0.367	0.245	0.242	0.258	0.145	0.756	1.223	1.111	1.014	1.256
	Edge 1		0.367	0.245	0.242	0.258	0.078	0.078	0.612	0.500	0.336	0.578
	Edge 2	0.099										
	Edge 3	1.316										
	Edge 4	0.084	0.367	0.245	0.242	0.258	0.194	0.278	0.696	0.584	0.536	0.778

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)				
		WWAN	DTS		U-NII		BT	WWAN + BT	WWAN + DTS	WWAN + U-NII	WWAN + U-NII + BT	WWAN + U-NII + BT
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	① + ⑥	① + ② + ③	① + ④ + ⑤	① + ⑤ + ⑥	① + ④ + ⑤ + ⑥
Head	Left Touch	0.143	0.584	0.120	0.257	0.087	0.196	0.339	0.847	0.487	0.426	0.683
	Left Tilt	0.055	0.584	0.120	0.257	0.087	0.146	0.201	0.759	0.399	0.288	0.545
	Right Touch	0.179	0.584	0.120	0.257	0.087	0.762	0.941	0.883	0.523	1.028	1.285
	Right Tilt	0.060	0.730	0.120	0.444	0.087	0.628	0.688	0.910	0.591	0.775	1.219
Body-worn	Rear	0.773	0.094	0.054	0.362	0.717	0.072	0.845	0.921	1.852	1.562	1.924
	Front	0.599	0.094	0.054	0.362	0.002	0.060	0.659	0.747	0.963	0.661	1.023
Hotspot	Rear	0.767	0.194	0.156	0.436	0.698	0.140	0.907	1.117	1.901	1.605	2.041
	Front	0.688	0.194	0.156	0.241	0.149	0.112	0.800	1.038	1.078	0.949	1.190
	Edge 1		0.194	0.156	0.241	0.149	0.117	0.117	0.350	0.390	0.266	0.507
	Edge 2	0.243										
	Edge 3	1.388										
	Edge 4	0.174	0.194	0.156	0.241	0.149	0.173	0.347	0.524	0.564	0.496	0.737

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.27. Sum of the SAR for LTE Band 66 & Wi-Fi RSDB

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.135	0.397	0.081	0.281	0.021	0.341	0.497	0.553	0.813	0.237	0.518	0.834	0.894	0.634	0.915
	Left Tilt	0.052	0.397	0.081	0.281	0.210	0.252	0.414	0.659	0.730	0.343	0.624	0.940	0.811	0.740	1.021
	Right Touch	0.119	0.397	0.081	0.281	0.021	0.919	0.481	0.537	0.797	0.221	0.502	0.818	0.878	0.618	0.899
	Right Tilt	0.049	0.397	0.081	0.410	0.021	0.690	0.540	0.467	0.856	0.151	0.561	0.877	0.937	0.548	0.958
Body-worn	Rear	0.633	0.069	0.064	0.093	0.429	0.080	0.790	1.131	0.795	1.126	1.219	1.224	0.859	1.195	1.288
	Front	0.547	0.069	0.064	0.093	0.429	0.083	0.704	1.045	0.709	1.040	1.133	1.138	0.773	1.109	1.202
Hotspot	Rear	0.724	0.152	0.161	0.151	0.755	0.166	1.036	1.631	1.027	1.640	1.791	1.782	1.188	1.792	1.943
	Front	0.611	0.171	0.161	0.151	0.134	0.145	0.923	0.916	0.933	0.906	1.057	1.067	1.094	1.077	1.228
	Edge 1		0.171	0.161	0.151	0.134	0.078	0.312	0.305	0.322	0.295	0.446	0.456	0.483	0.466	0.617
	Edge 2	0.099														
	Edge 3	1.316														
	Edge 4	0.084	0.171	0.161	0.151	0.134	0.194	0.396	0.389	0.406	0.379	0.530	0.540	0.567	0.550	0.701

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)								
		WWAN	DTS		U-NII		BT	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII	WWAN+DTS+U-NII
		①	Ant #1 ②	Ant #2 ③	Ant #1 ④	Ant #2 ⑤	Ant #1 ⑥	①+③+④	①+②+⑤	①+②+④	①+③+⑤	①+③+④+⑤	①+②+④+⑤	①+②+③+④	①+②+③+⑤	①+②+③+④+⑤
Head	Left Touch	0.143	0.257	0.036	0.350	0.061	0.196	0.529	0.461	0.750	0.240	0.590	0.811	0.786	0.497	0.847
	Left Tilt	0.055	0.257	0.036	0.350	0.061	0.146	0.441	0.373	0.662	0.152	0.502	0.723	0.698	0.409	0.759
	Right Touch	0.179	0.257	0.036	0.350	0.061	0.762	0.565	0.497	0.786	0.276	0.626	0.847	0.822	0.533	0.883
	Right Tilt	0.060	0.257	0.036	0.350	0.061	0.628	0.446	0.378	0.667	0.157	0.507	0.728	0.703	0.414	0.764
Body-worn	Rear	0.773	0.058	0.033	0.206	1.029	0.072	1.012	1.860	1.037	1.835	2.041	2.066	1.070	1.893	2.099
	Front	0.599	0.058	0.033	0.206	0.000	0.060	0.838	0.657	0.863	0.632	0.838	0.863	0.896	0.690	0.896
Hotspot	Rear	0.767	0.127	0.087	0.179	0.397	0.140	1.033	1.291	1.073	1.251	1.430	1.470	1.160	1.378	1.557
	Front	0.688	0.127	0.087	0.179	0.068	0.112	0.954	0.883	0.994	0.843	1.022	1.062	1.081	0.970	1.149
	Edge 1		0.127	0.087	0.179	0.068	0.117	0.266	0.195	0.306	0.155	0.334	0.374	0.393	0.282	0.461
	Edge 2	0.243														
	Edge 3	1.388														
	Edge 4	0.174	0.127	0.087	0.179	0.068	0.173	0.440	0.369	0.480	0.329	0.508	0.548	0.567	0.456	0.635

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 1.6 W/kg.

12.28. Worst case SPLSR for WWAN Ant. #1 & Wi-Fi & BT

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN Main #1	U-NII		BT					
			Ant #1	Ant #2	Ant #1					
Body-worn	Rear	0.753	0.158	0.828	0.080	+ + +	1.819	135.7	0.02	No
Hotspot	Rear	0.724	0.242	1.171	0.166	+ + +	2.303	125.4	0.03	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	⑤	0.889	0.000	-0.078	-0.178	① + ⑤	135.7
		Ant #2 U-NII	①	1.870	0.027	0.055	-0.177		
Hotspot	Rear	WWAN	⑤	0.730	0.017	-0.072	-0.180	① + ⑤	125.4
		Ant #2 U-NII		2.810	0.027	0.053	-0.179		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN Main #1	U-NII		BT					
			Ant #1	Ant #2	Ant #1					
Body-worn	Rear	0.777	0.362	0.717	0.072	+ + +	1.928	128.4	0.02	No
Hotspot	Rear	0.897	0.436	0.698	0.140	+ + +	2.171	125.0	0.03	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	⑥	0.841	-0.001	-0.074	-0.179	① + ⑥	128.4
		Ant #1 BT	①	0.082	0.023	0.053	-0.178		
Hotspot	Rear	WWAN	⑤	0.667	0.011	-0.074	-0.178	① + ⑤	125.0
		Ant #2 U-NII		1.700	0.030	0.050	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

12.29. Worst case SPLSR for WWAN Ant. #1 & Wi-Fi RSDB

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	DTS		U-NII						
			Ant #1	Ant #1	Ant #1	Ant #2					
Hotspot	Rear	0.724	0.152	0.161	0.151	0.755	+ + + +	1.943	124.4	0.02	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Hotspot	Rear	UMTS B5	⑤	0.730	0.017	-0.072	-0.180	① + ⑤	124.4
		Ant #2 U-NII		1.270	0.027	0.052	-0.179		

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	DTS		U-NII						
			Ant #1	Ant #1	Ant #1	Ant #2					
Body-worn	Rear	0.777	0.058	0.033	0.206	1.029	+ + + +	2.103	72.1	0.04	No
Hotspot	Rear	0.897	0.127	0.087	0.179	0.397	+ + + +	1.687	115.6	0.02	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	⑤	0.290	0.005	-0.018	-0.178	① + ⑤	72.1
		Ant #2 U-NII	①	1.560	0.027	0.051	-0.180		
Hotspot	Rear	WWAN	⑤	0.251	-0.020	-0.050	-0.181	① + ⑤	115.6
		Ant #2 U-NII		0.719	0.031	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

12.30. Worst case SPLSR for WWAN Ant. #2 & Wi-Fi & BT

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN Main #1	U-NII		BT					
			Ant #1	Ant #2	Ant #1					
Body-worn	Rear	0.601	0.158	0.828	0.080	+ + +	1.667	123.2	0.02	No
Hotspot	Rear	0.532	0.242	1.171	0.166	+ + +	2.111	125.7	0.02	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	⑤	0.802	-0.010	-0.063	-0.177	① + ⑤	123.2
		Ant #2 U-NII	①	1.870	0.027	0.055	-0.177		
Hotspot	Rear	WWAN	⑤	0.648	-0.010	-0.067	-0.178	① + ⑤	125.7
		Ant #2 U-NII		2.810	0.027	0.053	-0.179		

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN Main #1	U-NII		BT					
			Ant #1	Ant #2	Ant #1					
Body-worn	Rear	0.733	0.362	0.717	0.072	+ + +	1.884	115.2	0.02	No
Hotspot	Rear	0.816	0.436	0.698	0.140	+ + +	2.090	115.4	0.03	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	⑥	0.613	0.025	-0.062	-0.177	① + ⑥	115.2
		Ant #1 BT	①	0.082	0.023	0.053	-0.178		
Hotspot	Rear	WWAN	⑤	1.140	0.019	-0.065	-0.177	① + ⑤	115.4
		Ant #2 U-NII		1.700	0.030	0.050	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

12.31. Worst case SPLSR for WWAN Ant. #2 & Wi-Fi RSDB

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	DTS		U-NII						
			Ant #1	Ant #1	Ant #1	Ant #2					
Hotspot	Rear	0.532	0.152	0.161	0.151	0.755	+ + + +	1.751	124.7	0.02	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Hotspot	Rear	WWAN	⑤	0.648	-0.010	-0.067	-0.178	① + ⑤	124.7
		Ant #2 U-NII		1.270	0.027	0.052	-0.179		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	DTS		U-NII						
			Ant #1	Ant #1	Ant #1	Ant #2					
Body-worn	Rear	0.733	0.058	0.033	0.206	1.029	+ + + +	2.059	113.5	0.03	No
Hotspot	Rear	0.816	0.127	0.087	0.179	0.397	+ + + +	1.606	119.4	0.02	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	LTE B41	⑤	0.613	0.025	-0.062	-0.177	① + ⑤	113.5
		Ant #2 U-NII	①	1.560	0.027	0.051	-0.180		
Hotspot	Rear	LTE B7	⑤	1.140	0.019	-0.065	-0.177	① + ⑤	119.4
		Ant #2 U-NII		0.719	0.031	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. The worst case Sum of SAR and the most conservative distance was used to determine the SPLSR value. Since this value is ≤ 0.04, further SPLSR evaluations are not required.
2. Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

12.32. SPLSR for Wi-Fi & BT

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN Main #1	U-NII		BT					
			Ant #1	Ant #2	Ant #1					
Body-worn	Rear	0.753	0.158	0.828	0.080	+ + +	1.819			
		0.753	0.158			+	0.911	156.5	0.01	No
		0.753		0.828		+	1.581	137.5	0.01	No
		0.753			0.080	+	0.833	142.5	0.01	No
			0.158	0.828		+	0.986	37.8	0.03	No
				0.828	0.080	+	0.908	5.9	0.15	Yes
Hotspot	Rear	0.724	0.242	1.171	0.166	+ + +	2.303			
		0.724	0.242			+	0.966	141.2	0.01	No
		0.724		1.171		+	1.895	133.8	0.02	No
		0.724			0.166	+	0.890	143.6	0.01	No
			0.242	1.171		+	1.413	7.6	0.22	Yes
				1.171	0.166	+	1.337	10.2	0.15	Yes

RF Exposure Conditions	Test Position	Mode	①	Peak SAR	X	Y	Z	d: Calculated distance (mm)	
				W/kg	m	m	m		
Body-worn	Rear	WWAN	④	1.010	0.007	-0.081	-0.179	① + ④	156.5
		Ant #1 U-NII	①	0.350	-0.005	0.075	-0.179		
		WWAN	⑤	1.010	0.007	-0.081	-0.179	① + ⑤	137.5
		Ant #2 U-NII	①	1.870	0.027	0.055	-0.177		
		WWAN	⑥	1.010	0.007	-0.081	-0.179	① + ⑥	142.5
		Ant #1 BT	④	0.118	0.029	0.060	-0.180		
		Ant #1 U-NII	⑤	0.350	-0.005	0.075	-0.179	④ + ⑤	37.8
		Ant #2 U-NII	⑤	1.870	0.027	0.055	-0.177		
		Ant #2 U-NII	⑥	1.870	0.027	0.055	-0.177	⑤ + ⑥	5.9
		Ant #1 BT	①	0.118	0.029	0.060	-0.180		
Hotspot	Rear	WWAN	④	0.907	0.000	-0.078	-0.180	① + ④	141.2
		Ant #1 U-NII	①	0.531	0.030	0.060	-0.179		
		WWAN	⑤	0.907	0.000	-0.078	-0.180	① + ⑤	133.8
		Ant #2 U-NII	①	2.810	0.027	0.053	-0.179		
		WWAN	⑥	0.907	0.000	-0.078	-0.180	① + ⑥	143.6
		Ant #1 BT	①	0.238	0.031	0.062	-0.180		
		Ant #1 U-NII	⑤	0.531	0.030	0.060	-0.179	① + ⑤	7.6
		Ant #2 U-NII	①	2.810	0.027	0.053	-0.179		
		Ant #2 U-NII	⑥	2.810	0.027	0.053	-0.179	① + ⑥	10.2
		Ant #1 BT		0.238	0.031	0.062	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi and Bluetooth values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.04.

Volume Scan:

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 1-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Body-worn	Rear	GFSK	1	15	39	2441.0	0.055	0.426	1-3
		802.11a	2	15	144	5720.0	0.339		
Hotspot	Rear	802.11a	1	10	165	5825.0	0.175	1.240	4-6
		802.11a	2	10	157	5785.0	1.100		
Hotspot	Rear	GFSK	1	10	39	2441.0	0.105	1.34	7-9
		802.11a	2	10	157	5785.0	1.100		

Conclusion:

The combined 1g SAR is < 1.6 W/kg and is therefore compliant.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	U-NII		BT					
			Ant #1	Ant #2	Ant #1					
Body-worn	Rear	0.630	0.362	0.717	0.072	+ + +	1.781			
		0.630	0.362			+	0.992	140.6	0.01	No
		0.630		0.717		+	1.347	130.1	0.01	No
		0.630			0.072	+	0.702	128.4	0.00	No
			0.362	0.717		+	1.079	10.4	0.11	Yes
				0.717	0.072	+	0.789	7.5	0.09	Yes
Hotspot	Rear	0.682	0.436	0.698	0.140	+ + +	1.956			
		0.682	0.436			+	1.118	152.9	0.01	No
		0.682		0.698		+	1.380	130.9	0.01	No
		0.682			0.140	+	0.822	163.1	0.00	No
			0.436	0.698		+	1.134	22.1	0.05	Yes
				0.698	0.140	+	0.838	35.2	0.02	No

RF Exposure Conditions	Test Position	Mode	①	Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	④	0.841	-0.001	-0.074	-0.179	① ④ +	140.6
		Ant #1 U-NII	①	0.751	0.033	0.063	-0.180		
		WWAN	⑤	0.841	-0.001	-0.074	-0.179	④ ⑤ +	130.1
		Ant #2 U-NII	①	1.590	0.030	0.053	-0.180		
		WWAN	⑥	0.841	-0.001	-0.074	-0.179	④ ⑥ +	128.4
		Ant #1 BT	④	0.082	0.023	0.053	-0.178		
		Ant #1 U-NII	⑤	0.751	0.033	0.063	-0.180	④ ⑤ +	10.4
		Ant #2 U-NII	⑤	1.590	0.030	0.053	-0.180		
		Ant #2 U-NII	⑥	1.590	0.030	0.053	-0.180	⑤ ⑥ +	7.5
		Ant #1 BT	①	0.082	0.023	0.053	-0.178		
Hotspot	Rear	WWAN	④	0.886	0.003	-0.078	-0.179	① ④ +	152.9
		Ant #1 U-NII	①	1.010	0.032	0.072	-0.180		
		WWAN	⑤	0.886	0.003	-0.078	-0.179	④ ⑤ +	130.9
		Ant #2 U-NII	①	1.700	0.030	0.050	-0.180		
		WWAN	⑥	0.886	0.003	-0.078	-0.179	① ⑥ +	163.1
		Ant #1 BT	④	0.176	0.022	0.084	-0.177		
		Ant #1 U-NII	⑤	1.010	0.032	0.072	-0.180	④ ⑤ +	22.1
		Ant #2 U-NII	⑤	1.700	0.030	0.050	-0.180		
		Ant #2 U-NII	⑥	1.700	0.030	0.050	-0.180	⑤ ⑥ +	35.2
		Ant #1 BT		0.176	0.022	0.084	-0.177		

Conclusion:

1. Wi-Fi and Bluetooth values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.04.

Volume Scan:

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 1-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Body-worn	Rear	802.11a	1	15	52	5260.0	0.351	0.941	10-12
		802.11a	2	15	56	5280.0	0.723		
Body-worn	Rear	GFSK	1	15	39	2441.0	0.047	0.806	13-15
		802.11a	2	15	56	5280.0	0.723		
Hotspot	Rear	802.11a	1	10	165	5825.0	0.496	0.793	16-18
		802.11a	2	10	157	5785.0	0.259		

Conclusion:

The combined 1g SAR is < 1.6 W/kg and is therefore compliant.

12.33. SPLSR for Wi-Fi RSDB

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	DTS		U-NII						
			Ant #1	Ant #2	Ant #1	Ant #2					
Hotspot	Rear	0.724	0.152	0.161	0.151	0.755	+ + + +	1.943			
		0.724	0.152				+	0.876	137.7	0.01	No
		0.724		0.161			+	0.885	150.1	0.01	No
		0.724			0.151		+	0.875	151.2	0.01	No
		0.724				0.755	+	1.479	132.8	0.01	No
			0.152	0.161			+	0.313	25.1	0.01	No
			0.152			0.755	+	0.907	6.4	0.14	Yes
				0.161	0.151		+	0.312	27.5	0.01	No
				0.161		0.755	+	0.916	30.8	0.03	No
					0.151	0.755	+	0.906	18.4	0.05	Yes

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Hotspot	Rear	WWAN	②	0.907	0.000	-0.078	-0.180	① + ②	137.7
		Ant #1 DTS	①	0.234	0.024	0.058	-0.179		
		WWAN	③	0.907	0.000	-0.078	-0.180	① + ③	150.1
		Ant #2 DTS	①	0.266	0.004	0.072	-0.177		
		WWAN	④	0.907	0.000	-0.078	-0.180	① + ④	151.2
		Ant #1 U-NII	①	0.233	0.031	0.070	-0.179		
		WWAN	⑤	0.907	0.000	-0.078	-0.180	① + ⑤	132.8
		Ant #2 U-NII	②	1.270	0.027	0.052	-0.179		
		Ant #1 DTS	③	0.234	0.024	0.058	-0.179	② + ③	25.1
		Ant #2 DTS	②	0.266	0.004	0.072	-0.177		
		Ant #1 DTS	⑤	0.234	0.024	0.058	-0.179	② + ⑤	6.4
		Ant #2 U-NII	③	1.270	0.027	0.052	-0.179		
		Ant #2 DTS	④	0.266	0.004	0.072	-0.177	③ + ④	27.5
		Ant #1 U-NII	③	0.233	0.031	0.070	-0.179		
		Ant #2 DTS	⑤	0.266	0.004	0.072	-0.177	③ + ⑤	30.8
		Ant #2 U-NII	④	1.270	0.027	0.052	-0.179		
		Ant #1 U-NII	⑤	0.233	0.031	0.070	-0.179	④ + ⑤	18.4
		Ant #2 U-NII		1.270	0.027	0.052	-0.179		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.04.

Volume Scan:

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 1-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Hotspot	Rear	802.11b	1	10	11	2462.0	0.165	0.790	19-21
		802.11ac80	2	10	155	5775.0	0.398		
Hotspot	Rear	802.11ac80	1	10	155	5775.0	0.078	0.664	22-24
		802.11ac80	2	10	155	5775.0	0.398		

Conclusion:

The combined 1g SAR is < 1.6 W/kg and is therefore compliant.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	DTS		U-NII						
			Ant#1	Ant#2	Ant#1	Ant#2					
Body-worn	Rear	0.630	0.058	0.033	0.206	1.029	+ + + +	1.956			
		0.630	0.058				+	0.688	129.6	0.00	No
		0.630		0.033			+	0.663	146.7	0.00	No
		0.630			0.206		+	0.836	139.9	0.01	No
		0.630				1.029	+	1.659	127.5	0.02	No
			0.058	0.033			+	0.091	31.5	0.00	No
			0.058			1.029	+	1.087	5.5	0.20	Yes
				0.033	0.206		+	0.239	33.8	0.00	No
				0.033		1.029	+	1.062	36.7	0.03	No
					0.206	1.029	+	1.235	12.4	0.11	Yes
Hotspot	Rear	0.682	0.127	0.087	0.179	0.397	+ + + +	1.472			
		0.682	0.127				+	0.809	138.5	0.01	No
		0.682		0.087			+	0.769	154.8	0.00	No
		0.682			0.179		+	0.861	149.9	0.01	No
		0.682				0.397	+	1.079	135.0	0.01	No
			0.127	0.087			+	0.214	26.0	0.00	No
			0.127			0.397	+	0.524	9.8	0.04	No
				0.087	0.179		+	0.266	29.3	0.00	No
				0.087		0.397	+	0.484	35.5	0.01	No
					0.179	0.397	+	0.576	15.0	0.03	No

RF Exposure Conditions	Test Position	Mode	①	Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Body-worn	Rear	WWAN	②	0.841	-0.001	-0.074	-0.179	① + ②	129.6
		Ant #1 DTS	①	0.091	0.023	0.054	-0.178		
		WWAN	③	0.841	-0.001	-0.074	-0.179	① + ③	146.7
		Ant #2 DTS	①	0.048	-0.002	0.073	-0.178		
		WWAN	④	0.841	-0.001	-0.074	-0.179	① + ④	139.9
		Ant #1 U-NII	①	0.302	0.030	0.063	-0.180		
		WWAN	⑤	0.841	-0.001	-0.074	-0.179	① + ⑤	127.5
		Ant #2 U-NII	②	1.560	0.027	0.051	-0.180		
		Ant #1 DTS	③	0.091	0.023	0.054	-0.178	② + ③	31.5
		Ant #2 DTS	②	0.048	-0.002	0.073	-0.178		
		Ant #1 DTS	⑤	0.091	0.023	0.054	-0.178	② + ⑤	5.5
		Ant #2 U-NII	③	1.560	0.027	0.051	-0.180		
		Ant #2 DTS	④	0.048	-0.002	0.073	-0.178	③ + ④	33.8
		Ant #1 U-NII	③	0.302	0.030	0.063	-0.180		
		Ant #2 DTS	⑤	0.048	-0.002	0.073	-0.178	③ + ⑤	36.7
		Ant #2 U-NII	④	1.560	0.027	0.051	-0.180		
		Ant #1 U-NII	⑤	0.302	0.030	0.063	-0.180	④ + ⑤	12.4
		Ant #2 U-NII	①	1.560	0.027	0.051	-0.180		
Hotspot	Rear	WWAN	②	0.886	0.003	-0.078	-0.179	① + ②	138.5
		Ant #1 DTS	①	0.201	0.023	0.059	-0.178		
		WWAN	③	0.886	0.003	-0.078	-0.179	① + ③	154.8
		Ant #2 DTS	①	0.136	0.004	0.077	-0.178		
		WWAN	④	0.886	0.003	-0.078	-0.179	① + ④	149.9
		Ant #1 U-NII	①	0.319	0.032	0.069	-0.180		
		WWAN	⑤	0.886	0.003	-0.078	-0.179	① + ⑤	135.0
		Ant #2 U-NII	②	0.719	0.031	0.054	-0.180		
		Ant #1 DTS	③	0.201	0.023	0.059	-0.178	② + ③	26.0
		Ant #2 DTS	②	0.136	0.004	0.077	-0.178		
		Ant #1 DTS	⑤	0.201	0.023	0.059	-0.178	② + ⑤	9.8
		Ant #2 U-NII	③	0.719	0.031	0.054	-0.180		
		Ant #2 DTS	④	0.136	0.004	0.077	-0.178	③ + ④	29.3
		Ant #1 U-NII	③	0.319	0.032	0.069	-0.180		
		Ant #2 DTS	⑤	0.136	0.004	0.077	-0.178	③ + ⑤	35.5
		Ant #2 U-NII	④	0.719	0.031	0.054	-0.180		
		Ant #1 U-NII	⑤	0.319	0.032	0.069	-0.180	④ + ⑤	15.0
		Ant #2 U-NII		0.719	0.031	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.04.

Volume Scan:

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 1-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Body-worn	Rear	802.11b	1	15	11	2462.0	0.051	1.110	25-27
		802.11ac80	2	15	138	5690.0	0.673		
Body-worn	Rear	802.11ac80	1	15	58	5290.0	0.107	1.180	28-30
		802.11ac80	2	15	138	5690.0	0.673		

Conclusion:

The combined 1g SAR is < 1.6 W/kg and is therefore compliant.

12.34. Sum of the SAR for W-CDMA Band II & Wi-Fi & BT Product Specific 10g

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	2.053	0.713	2.899	5.665

Conclusion:
SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	2.053	0.713		+	2.766	155.8	0.03	No
		2.053		2.899	+	4.952	136.0	0.08	No
		2.053	0.713	2.899	+ +	5.665	136.0	0.10	No

RF Exposure Conditions	Test Position	Mode		Peak SAR	X	Y	Z	d: Calculated distance (mm)	
		①		W/kg	m	m	m		
Product Specific 10g	Rear	UMTS B2	④	6.530	0.001	-0.078	-0.178	① + ④	155.8
		Ant #1 U-NII	①	10.100	0.030	0.075	-0.179		
		UMTS B2	⑤	6.530	0.001	-0.078	-0.178	① + ⑤	136.0
		Ant #2 U-NII		78.600	0.029	0.055	-0.177		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:
Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.851	0.941	2.232	5.024

Conclusion:
SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.851	0.941		+	2.792	141.7	0.03	No
		1.851		2.232	+	4.083	136.1	0.06	No
		1.851	0.941	2.232	+ +	5.024	136.1	0.08	No

RF Exposure Conditions	Test Position	Mode		Peak SAR	X	Y	Z	d: Calculated distance (mm)	
		①		W/kg	m	m	m		
Product Specific 10g	Rear	UMTS B2	④	5.110	0.010	-0.075	-0.178	① + ④	141.7
		Ant #1 U-NII	①	8.710	0.032	0.065	-0.180		
		UMTS B2	⑤	5.110	0.010	-0.075	-0.178	① + ⑤	136.1
		Ant #2 U-NII		41.400	0.027	0.060	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:
Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.35. Sum of the SAR for W-CDMA Band II & Wi-Fi RSDB Product Specific 10g

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	2.053	0.424	2.148	4.625

Conclusion:
SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	2.053	0.424		+	2.477	153.7	0.03	No
		2.053		2.148	+	4.201	135.1	0.06	No
		2.053	0.424	2.148	+ +	4.625	135.1	0.07	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	UMTS B2	④	6.530	0.001	-0.078	-0.178	① + ④	153.7
		Ant #1 U-NII	①	4.120	0.029	0.073	-0.177		
		UMTS B2	⑤	6.530	0.001	-0.078	-0.178	① + ⑤	135.1
		Ant #2 U-NII		31.400	0.029	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:
Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.851	0.668	2.444	4.963

Conclusion:
SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.851	0.668		+	2.519	146.4	0.03	No
		1.851		2.444	+	4.295	136.7	0.07	No
		1.851	0.668	2.444	+ +	4.963	136.7	0.08	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	UMTS B2	④	5.110	0.010	-0.075	-0.178	① + ④	146.4
		Ant #1 U-NII	①	4.330	0.030	0.070	-0.179		
		UMTS B2	⑤	5.110	0.010	-0.075	-0.178	① + ⑤	136.7
		Ant #2 U-NII		40.800	0.024	0.061	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:
Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.36. Sum of the SAR for LTE Band 7 & Wi-Fi & BT Product Specific 10g

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.981	0.941	2.232	5.154

Conclusion:
SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.981	0.941		+	2.922	133.9	0.04	No
		1.981		2.232	+	4.213	128.6	0.07	No
		1.981	0.941	2.232	+ +	5.154	128.6	0.09	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B7	④	7.940	0.021	-0.068	-0.176	① + ④	133.9
		Ant #1 U-NII	①	8.710	0.032	0.065	-0.180		
		LTE B7	⑤	7.940	0.021	-0.068	-0.176	① + ⑤	128.6
		Ant #2 U-NII		41.400	0.027	0.060	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:
Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.37. Sum of the SAR for LTE Band 7 & Wi-Fi RSDB Product Specific 10g

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.981	0.668	2.444	5.093

Conclusion:
SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.981	0.668		+	2.649	138.7	0.03	No
		1.981		2.444	+	4.425	129.5	0.07	No
		1.981	0.668	2.444	+ +	5.093	129.5	0.09	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B7	④	7.940	0.021	-0.068	-0.176	① + ④	138.7
		Ant #1 U-NII	①	4.330	0.030	0.070	-0.179		
		LTE B7	⑤	7.940	0.021	-0.068	-0.176	① + ⑤	129.5
		Ant #2 U-NII		40.800	0.024	0.061	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:
Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.38. Sum of the SAR for LTE Band 25 & Wi-Fi & BT Product Specific 10g

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.980	0.713	2.899	5.592

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.980	0.713		+	2.693	155.6	0.03	No
		1.980		2.899	+	4.879	135.8	0.08	No
		1.980	0.713	2.899	+ +	5.592	135.8	0.10	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B25	④	6.710	0.002	-0.078	-0.178	① + ④	155.6
		Ant #1 U-NII	①	10.100	0.030	0.075	-0.179		
		LTE B25	⑤	6.710	0.002	-0.078	-0.178	① + ⑤	135.8
		Ant #2 U-NII		78.600	0.029	0.055	-0.177		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.882	0.941	2.232	5.055

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.882	0.941		+	2.823	142.1	0.03	No
		1.882		2.232	+	4.114	136.4	0.06	No
		1.882	0.941	2.232	+ +	5.055	136.4	0.08	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B25	④	5.560	0.008	-0.075	-0.179	① + ④	142.1
		Ant #1 U-NII	①	8.710	0.032	0.065	-0.180		
		LTE B25	⑤	5.560	0.008	-0.075	-0.179	① + ⑤	136.4
		Ant #2 U-NII		41.400	0.027	0.060	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.39. Sum of the SAR for LTE Band 25 & Wi-Fi RSDB Product Specific 10g

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.980	0.424	2.148	4.552

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.980	0.424		+	2.404	153.5	0.02	No
		1.980		2.148	+	4.128	134.8	0.06	No
		1.980	0.424	2.148	+ +	4.552	134.8	0.07	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B25	④	6.710	0.002	-0.078	-0.178	① + ④	153.5
		Ant #1 U-NII	①	4.120	0.029	0.073	-0.177		
		LTE B25	⑤	6.710	0.002	-0.078	-0.178	① + ⑤	134.8
		Ant #2 U-NII		31.400	0.029	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.882	0.668	2.444	4.994

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.882	0.668		+	2.550	146.7	0.03	No
		1.882		2.444	+	4.326	137.0	0.07	No
		1.882	0.668	2.444	+ +	4.994	137.0	0.08	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B25	④	5.560	0.008	-0.075	-0.179	① + ④	146.7
		Ant #1 U-NII	①	4.330	0.030	0.070	-0.179		
		LTE B25	⑤	5.560	0.008	-0.075	-0.179	① + ⑤	137.0
		Ant #2 U-NII		40.800	0.024	0.061	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.40. Sum of the SAR for LTE Band 66 & Wi-Fi & BT Product Specific 10g

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.880	0.713	2.899	5.492

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.880	0.713		+	2.593	158.6	0.03	No
		1.880		2.899	+	4.779	139.0	0.08	No
		1.880	0.713	2.899	+ +	5.492	139.0	0.09	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B66	④	7.430	-0.006	-0.080	-0.179	① + ④	158.6
		Ant #1 U-NII	①	10.100	0.030	0.075	-0.179		
		LTE B66	⑤	7.430	-0.006	-0.080	-0.179	① + ⑤	139.0
		Ant #2 U-NII		78.600	0.029	0.055	-0.177		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	2.537	0.941	2.232	5.710

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	2.537	0.941		+	3.478	145.7	0.04	No
		2.537		2.232	+	4.769	139.6	0.07	No
		2.537	0.941	2.232	+ +	5.710	139.6	0.10	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B66	④	10.700	-0.009	-0.075	-0.180	① + ④	145.7
		Ant #1 U-NII	①	8.710	0.032	0.065	-0.180		
		LTE B66	⑤	10.700	-0.009	-0.075	-0.180	① + ⑤	139.6
		Ant #2 U-NII		41.400	0.027	0.060	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.41. Sum of the SAR for LTE Band 66 & Wi-Fi RSDB Product Specific 10g

Glass Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	1.880	0.424	2.148	4.452

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	1.880	0.424		+	2.304	156.5	0.02	No
		1.880		2.148	+	4.028	138.0	0.06	No
		1.880	0.424	2.148	+ +	4.452	138.0	0.07	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B66	④	7.430	-0.006	-0.080	-0.179	① + ④	156.5
		Ant #1 U-NII	①	4.120	0.029	0.073	-0.177		
		LTE B66	⑤	7.430	-0.006	-0.080	-0.179	① + ⑤	138.0
		Ant #2 U-NII		31.400	0.029	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

Ceramic Cover:

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		WWAN	U-NII		WWAN + U-NII
		①	Ant #1 ④	Ant #2 ⑤	① + ④ + ⑤
Product Specific 10g	Rear	2.537	0.668	2.444	5.649

Conclusion:

SPLSR analysis is required because the Sum of the SAR is > 4.0 W/kg.

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	2.537	0.668		+	3.205	150.0	0.04	No
		2.537		2.444	+	4.981	139.8	0.08	No
		2.537	0.668	2.444	+ +	5.649	139.8	0.10	No

RF Exposure Conditions	Test Position	Mode ①		Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	LTE B66	④	10.700	-0.009	-0.075	-0.180	① + ④	150.0
		Ant #1 U-NII	①	4.330	0.030	0.070	-0.179		
		LTE B66	⑤	10.700	-0.009	-0.075	-0.180	① + ⑤	139.8
		Ant #2 U-NII		40.800	0.024	0.061	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.10.

12.42. SPLSR for Wi-Fi & BT Product Specific 10g

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN Main #1	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	2.053	0.713	2.899	+ +	5.665			
		2.053	0.713		+	2.766	155.8	0.03	No
		2.053		2.899	+	4.952	136.0	0.08	No
			0.713	2.899	+	3.612	20.1	0.34	Yes

RF Exposure Conditions	Test Position	Mode	①	Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific	Rear	WWAN	④	6.530	0.001	-0.078	-0.178	① + ④	155.8
		Ant #1 U-NII	①	10.100	0.030	0.075	-0.179		
		WWAN	⑤	6.530	0.001	-0.078	-0.178	① + ⑤	136.0
		Ant #2 U-NII	④	78.600	0.029	0.055	-0.177		
		Ant #1 U-NII	⑤	10.100	0.030	0.075	-0.179	④ + ⑤	20.1
		Ant #2 U-NII		78.600	0.029	0.055	-0.177		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.10.

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 10-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Product Specific 10g	Rear	802.11a	1	0	124	5620.0	0.518	1.930	31-33
		802.11a	2	0	116	5580.0	1.790		

Conclusion:

The combined 10g SAR is < 4.0 W/kg and is therefore compliant.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific	Rear	1.851	0.941	2.232	+ +	5.024			
		1.851	0.941		+	2.792	141.7	0.03	No
		1.851		2.232	+	4.083	136.1	0.06	No
			0.941	2.232	+	3.173	7.1	0.80	Yes

RF Exposure Conditions	Test Position	Mode		Peak SAR	X	Y	Z	d: Calculated distance (mm)	
			①	W/kg	m	m	m		
Product Specific	Rear	WWAN	④	5.110	0.010	-0.075	-0.178	① ④ +	141.7
		Ant #1 U-NII	①	8.710	0.032	0.065	-0.180		
		WWAN	⑤	5.110	0.010	-0.075	-0.178	② ③ +	136.1
		Ant #2 U-NII	④	41.400	0.027	0.060	-0.180		
		Ant #1 U-NII	⑤	8.710	0.032	0.065	-0.180	④ ⑤ +	7.1
		Ant #2 U-NII		41.400	0.027	0.060	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.10.

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 10-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Product Specific 10g	Rear	802.11a	1	0	52	5260.0	1.020	**3.740**	34-36
		802.11a	2	0	56	5280.0	3.200		

Conclusion:

The combined 10g SAR is < 4.0 W/kg and is therefore compliant.

12.43. SPLSR for Wi-Fi & RSDB Product Specific 10g

Glass Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific 10g	Rear	2.053	0.424	2.148	+ +	4.625			
		2.053	0.424		+	2.477	153.7	0.03	No
		2.053		2.148	+	4.201	135.1	0.06	No
			0.424	2.148	+	2.572	19.2	0.21	Yes

RF Exposure Conditions	Test Position	Mode	①	Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific 10g	Rear	WWAN	④	6.530	0.001	-0.078	-0.178	① + ④	153.7
		Ant #1 U-NII	①	4.120	0.029	0.073	-0.177		
		WWAN	⑤	6.530	0.001	-0.078	-0.178	① + ⑤	135.1
		Ant #2 U-NII	④	31.400	0.029	0.054	-0.180		
		Ant #1 U-NII	⑤	4.120	0.029	0.073	-0.177	④ + ⑤	19.2
		Ant #2 U-NII		31.400	0.029	0.054	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.10.

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 10-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Product Specific 10g	Rear	802.11ac80	1	0	138	5690.0	0.202	2.340	37-39
		802.11ac80	2	0	58	5290.0	1.310		

Conclusion:

The combined 10g SAR is < 4.0 W/kg and is therefore compliant.

Ceramic Cover:

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.10)	Volume Scan (Yes/ No)
		WWAN	U-NII						
			Ant #1	Ant #2					
Product Specific	Rear	1.851	0.668	2.444	+ +	4.963			
		1.851	0.668		+	2.519	146.4	0.03	No
		1.851		2.444	+	4.295	136.7	0.07	No
			0.668	2.444	+	3.112	10.9	0.51	Yes

RF Exposure Conditions	Test Position	Mode	①	Peak SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
Product Specific	Rear	WWAN	④	5.110	0.010	-0.075	-0.178	① ④ +	146.4
		Ant #1 U-NII	①	4.330	0.030	0.070	-0.179		
		WWAN	⑤	5.110	0.010	-0.075	-0.178	② ③ +	136.7
		Ant #2 U-NII	④	40.800	0.024	0.061	-0.180		
		Ant #1 U-NII	⑤	4.330	0.030	0.070	-0.179	④ ⑤ +	10.9
		Ant #2 U-NII		40.800	0.024	0.061	-0.180		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Conclusion:

1. Wi-Fi values used for SPLSR Analysis are the same for all WWAN technologies.
2. Simultaneous transmission SAR measurement (Volume Scan) is required because the SPLSR is > 0.10.

RF Exposure Conditions	Test Position	Mode	Antenna	Dist. (mm)	Ch #.	Freq. (MHz)	Volume Scan 10-g SAR (W/kg)		Plot No.
							Measured	Combined Multi-Band	
Product Specific 10g	Rear	802.11ac80	1	0	58	5290.0	0.348	3.140	40-42
		802.11ac80	2	0	138	5690.0	1.710		

Conclusion:

The combined 10g SAR is < 4.0 W/kg and is therefore compliant.

Appendixes

Refer to separated files for the following appendixes.

Appendix A: SAR Setup Photos Glass

Appendix B: SAR Setup Photos Ceramic

Appendix C: SAR System Check Plots

Appendix D: SAR Highest Test Plots

Appendix E: SAR Tissue Ingredients

Appendix F: SAR Dipole Certificates

Appendix G: SAR Probe Certificates

Appendix H: SAR Volume Scan Plots

END OF REPORT