FCC 47 CFR § 2.1093
IEEE Std 1528-2013

SAR EVALUATION REPORT

FOR

GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, UWB, WPT and NFC

MODEL NUMBER: SM-N986B1/DS, SM-N986B1

FCC ID: A3LSMN986B1

REPORT NUMBER: 4790136523-S1V4

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Prepared for
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IAS ACCREDITED

Testing Laboratory

TL-637

Revision History

Rev.	Date	Revisions	Revised By
V1	11/5/2021	Initial Issue	--
V2	11/15/2021	Revised Sec 4.3, Sec 9.5, Sec 10.10 and Sec 12 Added Sec 9.3 Added note in Sec 6.3	Jeongyeon Won
V3	11/18/2021	Revised Sec 6.3, Sec 9.5	Jeongyeon Won
V4	11/21/2021	Revised Sec 1, Sec 6.3, Sec. 6.4, Sec 8, Sec 9.3, Sec 10, Sec 11, Sec 12.8, Sec 12.11 Revised Appendix B, Appendix G	Jeongyeon Won

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1. Attestation of Test Results

Applicant Name		SAMSUNG ELECTRONICS CO.,LTD.			
FCC ID		A3LSMN986B1			
Model Number		SM-N986B1/DS, SM-N986B1			
Applicable Standards		FCC 47 CFR § 2.1093 IEEE Std 1528-2013 Published RF exposure KDB procedures			
Exposure Category		SAR Limits (W/Kg)			
		Peak spatial-average (1g of tissue)		Product Specific 10g (10g of tissue)	
General population / Uncontrolled exposure		1.6		4.0	
RF Exposure Conditions		Equipment Class - The Highest Reported SAR (W/kg)			
		PCE	DTS	NII	DSS
Head		0.22	0.59	0.17	0.74
Body-worn		0.91	0.14	1.05	0.09
Hotspot		1.30	0.37	1.14	0.25
Product Specific 10g		2.19	N/A	0.80	N/A
Simultaneous TX	Head	1.17	1.03	1.17	1.17
	Body-worn	1.56	1.40	1.56	1.53
	Hotspot	1.60	1.59	1.60	1.54
	Product Specific 10g	3.23	N/A	3.23	N/A
Date Tested		10/12/2021 to 11/19/2021			
Test Results		Pass			

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. 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 IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released By:	Prepared By:
	
Justin Park Operations Leader UL Korea, Ltd. Suwon Laboratory	Jeongyeon Won Senior Laboratory Technician UL Korea, Ltd. Suwon Laboratory

1.1. The Highest Reported SAR for RF exposure conditions for each bands

Equipment Class	Band	The Highest Reported SAR (W/kg)			
		1g of tissue			10g of tissue
		Head Exposure condition	Body-worn Exposure condition	Hotspot Exposure condition	Product Specific Exposure condition
PCE	GSM 850	**0.224**	0.477	0.897	N/A
	GSM 1900	0.052	0.353	0.804	1.278
	WCDMA Band II	0.058	0.508	1.017	1.784
	WCDMA Band IV	0.111	**0.914**	1.143	1.738
	WCDMA Band V	0.144	0.356	0.728	N/A
	LTE Band 2	N/A	N/A	N/A	N/A
	LTE Band 4	N/A	N/A	N/A	N/A
	LTE Band 5	N/A	N/A	N/A	N/A
	LTE Band 12	0.094	0.181	0.439	N/A
	LTE Band 13	0.151	0.353	0.792	N/A
	LTE Band 17	N/A	N/A	N/A	N/A
	LTE Band 25	0.087	0.492	1.221	1.990
	LTE Band 26	0.110	0.296	0.581	N/A
	LTE Band 66	0.112	0.732	**1.298**	**2.191**
	LTE Band 41	0.051	0.313	0.567	N/A
DTS	2.4GHz WLAN	**0.590**	**0.135**	**0.372**	N/A
UNII	5GHz WLAN	**0.173**	**1.050**	**1.140**	**0.804**
DSS	Bluetooth	**0.739**	**0.092**	**0.248**	N/A

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, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 648474 D04 Handset SAR v01r03
- 690783 D01 SAR Listings on Grants 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
- 941225 D07 UMPC Mini Tablet v01r02
- 971168 D01 Power Meas License Digital System v03r01

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

- TCB workshop October, 2014; RF Exposure Procedures Update (Overlapping LTE Bands)
- TCB workshop October, 2014; RF Exposure Procedures Update (Other LTE Considerations)
- 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 (LTE Test Conditions)
- 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 Update)
- TCB workshop April, 2019; RF Exposure Procedures (Tissue Simulating Liquids (TSL))
- TCB workshop November, 2019 Page 5, RF Exposure Procedures (SPLSR Hotspot Combination)

3. Facilities and Accreditation

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

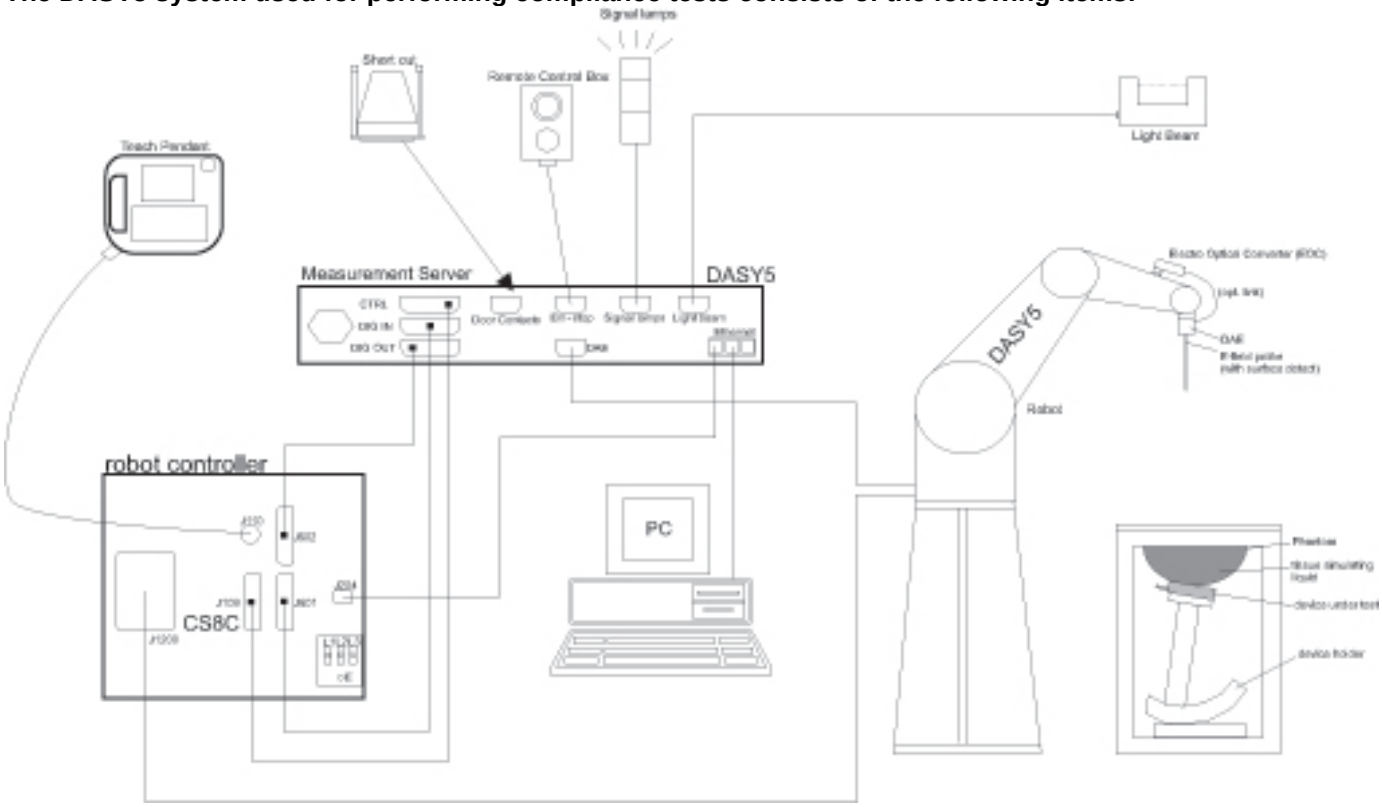
Suwon
SAR 3 Room
SAR 4 Room
SAR 5 Room
SAR 6 Room
SAR 7 Room

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637.
The full scope of accreditation can be viewed at https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf.

4. SAR Measurement System & Test Equipment

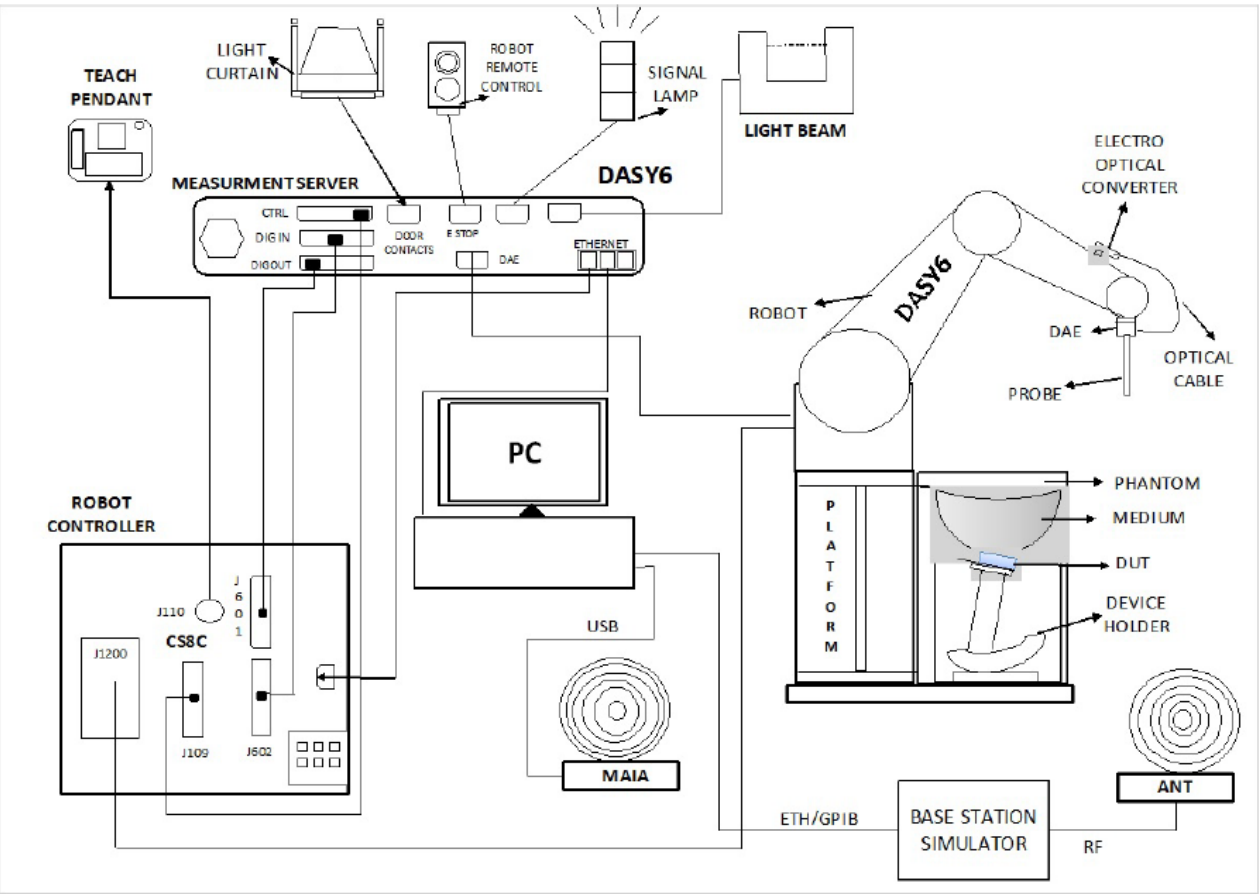
4.1. SAR Measurement System

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.

The DASY6 & 8 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 Win10 and the DASY6 or 8 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.

Step 5: Z-Scan (FCC only)

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

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	E5071C	MY46522054	8/6/2022
Dielectric Assessment Kit	SPEAG	DAK-3.5	1196	7/21/2022
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	LKM	DTM3000	3851	8/4/2022

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
MXG Analog Signal Generator	Agilent	N5181A	MY50145882	8/4/2022
Power Sensor	Agilent	U2000A	MY54260007	8/4/2022
Power Sensor	Agilent	U2000A	MY54260010	8/4/2022
Power Amplifier	EXODUS	1410025-AMP2027-10003	10003	8/4/2022
Directional Coupler	Agilent	772D	MY52180193	8/3/2022
Directional Coupler	H.P	778D	16133	8/3/2022
Low Pass Filter	FILTRON	L14012FL	1410003S	8/3/2022
Low Pass Filter	MICROLAB	LA-60N	3942	8/3/2022
Low Pass Filter	MINI-CIRCUITS	NLP-1200	VUU19301915	8/4/2022
Attenuator	KEYSIGHT	8491B/003	VE2017A0283	8/4/2022
Attenuator	KEYSIGHT	8491B/010	MY39272011	8/4/2022
Attenuator	KEYSIGHT	8491B/020	MY39271973	8/4/2022
E-Field Probe (SAR3)	SPEAG	EX3DV4	7645	4/15/2022
E-Field Probe (SAR4)	SPEAG	EX3DV4	7330	9/29/2022
E-Field Probe (SAR5)	SPEAG	EX3DV4	7313	2/23/2022
E-Field Probe (SAR6)	SPEAG	EX3DV4	7376	7/30/2022
E-Field Probe (SAR6)	SPEAG	EX3DV4	7545	8/26/2022
E-Field Probe (SAR7)	SPEAG	EX3DV4	7646	4/23/2022
Data Acquisition Electronics (SAR3)	SPEAG	DAE4	1468	9/27/2022
Data Acquisition Electronics (SAR4)	SPEAG	DAE4	1591	3/26/2022
Data Acquisition Electronics (SAR5)	SPEAG	DAE4	1494	7/27/2022
Data Acquisition Electronics (SAR6)	SPEAG	DAE4	1668	6/16/2022
Data Acquisition Electronics (SAR7)	SPEAG	DAE4	1670	5/6/2022
System Validation Dipole	SPEAG	D750V3	1122	2/24/2022
System Validation Dipole	SPEAG	D835V2	4d194	3/20/2022
System Validation Dipole	SPEAG	D1750V2	1125	2/21/2022
System Validation Dipole	SPEAG	D1900V2	5d190	11/24/2022
System Validation Dipole	SPEAG	D1900V2	5d199	3/19/2022
System Validation Dipole	SPEAG	D2450V2	960	3/20/2022
System Validation Dipole	SPEAG	D2600V2	1097	9/19/2021
System Validation Dipole	SPEAG	D2600V2	1178	4/23/2023
System Validation Dipole	SPEAG	D5GHzV2	1209	2/27/2022
Thermometer (SAR3)	Lutron	MHB-382SD	AH.50213	8/4/2022
Thermometer (SAR4, 5)	Lutron	MHB-382SD	AH.45903	8/3/2022
Thermometer (SAR6, 7)	Lutron	MHB-382SD	AK.18789	8/4/2022
Thermometer (SAR8, 9)	Lutron	MHB-382SD	AK.12102	8/3/2022

Note(s):

1. For System Validation Dipole, Calibration interval applied every 2 years according to referencing KDB 865664 guidance.
2. Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations. (for blue box items)
3. All equipments were used until Cal.Due data.

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.

5.1. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedures 1, Clause 4.4.2 in IEC Guide 115:2007.

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	Refer to Appendix A.		
Back Cover	☒ The Back Cover is not removable.		
Battery Options	☒ The rechargeable battery is not user accessible		
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 : Ch.1 – Ch.11) ☒ Mobile Hotspot (Wi-Fi 5.8 GHz_UNII-3 (Ch.149(20MHz)/Ch.151(40MHz)/Ch.155(80MHz)))		
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other ☒ Wi-Fi Direct (Wi-Fi 2.4 GHz : Ch.1 – Ch.11) ☒ Wi-Fi Direct (Wi-Fi 5.8 GHz_UNII-3 (Ch.149(20MHz)/Ch.151(40MHz)/Ch.155(80MHz)))		
Test Sample Information	**No.**	**S/N**	**Notes**
	1	R3CR90Y68CH	Main Conducted
	2	R3CR90Y677T	Main Conducted
	3	R3CR90Y67CY	Wi-Fi & BT Conducted
	4	R3CR90Y66YJ	SAR
	5	R3CR90Y66PT	SAR
	6	R3CR90Y673R	SAR

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☐ Class 10 - 2 Up, 4 Down ☐ Class 12 - 4 Up, 4 Down ☒ 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 (Category 24) HSUPA (Category 6) DC-HSDPA (Category 24) HSPA+ (DL only)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 TDD Band 41 Power Class 3 TDD Band 41 Power Class 2 FDD Band 66	QPSK 16QAM 64QAM 256QAM Rel. 15 Carrier Aggregation (1 Uplink and 4 Downlinks)		100% (FDD) 63.3% (TDD) Power Class 3 43.3% (TDD) Power Class 2
	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)		SISO mode 99.5% (802.11b) MIMO mode 96.5% (802.11g)
	5 GHz	802.11a 802.11n (HT20) & (HT40) 802.11ac (VHT20) & (VHT40) & (VHT80) 802.11ax (HE20) & (HE40) & (HE80)		SISO mode 96.6% (802.11a) 96.5% (802.11ac (VHT80)) MIMO mode 96.6% (802.11a) 95.5% (802.11ac (VHT80))
	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		76.9% (DH5)
NFC	13.56 MHz	Type A/B/F		N/A[4]
UWB	6.24 – 8.24 GHz	BPM-BPSK		N/A[4]

Notes:

1. The Bluetooth protocol is considered source-based averaging. Bluetooth GFSK (DH5) was verified to have the highest duty cycle of 76.9% and was considered and used for SAR Testing.
2. Duty cycle for Wi-Fi is referenced from the DTS and UNII report.
3. This device supports Power Class 2(HPUE) and Power Class 3 for LTE Band 41.
4. Measured Duty Cycle is not required due to SAR test exemption.
5. In the case of UWB, the output power is less than 0.001W, so it is excluded from the SAR test.

6.3. Nominal and Maximum Output Power

KDB 447498 sec.4.1. at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit

RF Air interface	Antenna	Mode	Time Slots	Max. RF Output Power (dBm)		Reduced. RF Output Power (Hotspot & Proximity sensor &	
				Tune-up Limit	Frame Pwr	Tune-up Limit	Frame Pwr
GSM850	Main 1 Ant.	Voice	1	**33.5**	**24.5**		
		GPRS	1	**33.5**	**24.5**		
		GPRS	2	**31.5**	**25.5**		
		GPRS	3	**30.5**	**26.2**		
		GPRS	4	**29.0**	**26.0**		
		EGPRS	1	**27.0**	**18.0**		
		EGPRS	2	**25.0**	**19.0**		
		EGPRS	3	**24.0**	**19.7**		
		EGPRS	4	**23.0**	**20.0**		
GSM1900	Main 1 Ant.	Voice	1	**30.5**	**21.5**	**28.0**	**19.0**
		GPRS	1	**30.5**	**21.5**	**28.0**	**19.0**
		GPRS	2	**27.0**	**21.0**	**24.5**	**18.5**
		GPRS	3	**25.5**	**21.2**	**22.5**	**18.2**
		GPRS	4	**23.5**	**20.5**	**21.0**	**18.0**
		EGPRS	1	**25.5**	**16.5**		
		EGPRS	2	**23.5**	**17.5**		
		EGPRS	3	**22.5**	**18.2**		
		EGPRS	4	**19.5**	**16.5**		

RF Air interface	Antenna	Mode	Max. RF Output Power (dBm)	Reduced. RF Output Power (Hotspot & Proximity sensor & Earjack back-off) (dBm)
W-CDMA Band II	Main 1 Ant.	R99	**23.0**	**19.5**
		HSDPA	**22.5**	**19.5**
		HSUPA	**22.0**	**19.5**
		DC-HSDPA	**22.5**	**19.5**
W-CDMA Band IV	Main 1 Ant.	R99	**23.5**	**19.5**
		HSDPA	**22.5**	**19.0**
		HSUPA	**21.5**	**19.0**
		DC-HSDPA	**21.5**	**19.0**
W-CDMA Band V	Main 1 Ant.	R99	**25.0**	
		HSDPA	**23.0**	
		HSUPA	**23.0**	
		DC-HSDPA	**23.0**	

RF Air interface	Antenna	Mode	Max. RF Output Power (dBm)	Reduced. RF Output Power (dBm)	
				(Hotspot & Earjack back-off)	(Proximity sensor back-off)
LTE Band 2	Main 1 Ant.	QPSK	**23.0**	**19.5**	
LTE Band 4	Main 1 Ant.	QPSK	**23.0**	**20.0**	
LTE Band 5	Main 1 Ant.	QPSK	**25.0**		
LTE Band 12	Main 1 Ant.	QPSK	**25.0**		
LTE Bans 13	Main 1 Ant.	QPSK	**25.0**		
LTE Band 17	Main 1 Ant.	QPSK	**25.0**		
LTE Band 25	Main 1 Ant.	QPSK	**23.0**	**19.5**	
LTE Band 26	Main 1 Ant.	QPSK	**25.0**		
LTE Band 66	Main 1 Ant.	QPSK	**23.0**	**20.0**	
LTE Band 41 Power Class 3	Main 2 Ant.	QPSK	**24.0**	**21.0**	
LTE Band 41 Power Class 2	Main 2 Ant.	QPSK	**25.5**		

a. Maximum Power

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO				
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	g	n	ac	ax(SU)
2.4GHz	2.45GHz		21 Ch12:10 Ch13:5	18 Ch1,11:16 Ch12:10 Ch13:5	18 Ch1:15 Ch11:16 Ch12:10 Ch13:5		16 Ch1: 15 Ch12:10 Ch13:5		21 Ch12:10 Ch13:5	18 Ch1,11:16 Ch12:10 Ch13:5	18 Ch1:15 Ch11:16 Ch12:10 Ch13:5		16 Ch1: 15 Ch12:10 Ch13:5		19 Ch1: 18 Ch12:13 Ch13:8	19 Ch1,11: 18 Ch12:13 Ch13:8		16 Ch1: 15 Ch12:13 Ch13:8
5GHZ (20MHz)	5200MHz	16.5			16.5	16.5	16	16.5			16.5	16.5	16	19.5		19.5	19.5	16
	5300MHz	16.5			16.5	16.5	16	16.5			16.5	16.5	16	19.5		19.5	19.5	16
	5500MHz	17			17	17	16	17			17	17	16	20		20 Ch140: 19	20 Ch140: 19	16
	5800MHz	18			18	18	16	18			18	18	16	21		21	21	16
5GHZ (40MHz)	5200MHz				16 38ch:15	16 38ch:15	14				16 38ch:15	16 38ch:15	14			19 38ch:18	19 38ch:18	14
	5300MHz				16	16	14				16	16	14			19	19	14
	5500MHz				16	16	14				16	16	14			19 102ch:18	19 102ch:18	14
	5800MHz				16	16	14				16	16	14			19	19	14
5GHZ (80MHz)	5200MHz					15	13					15	13				18	13
	5300MHz					15	13					15	13				18	13
	5500MHz					15	13					15	13				18	13
	5800MHz					15	13					15	13				18	13

b. Reduced Power

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO				
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	g	n	ac	ax(SU)
2.4GHz	2.45GHz		17 Ch12:10 Ch13:5	17 Ch1,11:16 Ch12:10 Ch13:5	17 Ch1:15 Ch11:16 Ch12:10 Ch13:5		16 Ch1: 15 Ch12:10 Ch13:5		17 Ch12:10 Ch13:5	17 Ch1,11:16 Ch12:10 Ch13:5	17 Ch1:15 Ch11:16 Ch12:10 Ch13:5		16 Ch1: 15 Ch12:10 Ch13:5		19 Ch1: 18 Ch12:13 Ch13:8	19 Ch1,11: 18 Ch12:13 Ch13:8		16 Ch1: 15 Ch12:13 Ch13:8
5GHZ (20MHz)	5200MHz	14			14	14	14	14			14	14	14	17		17	17	16
	5300MHz	14			14	14	14	14			14	14	14	17		17	17	16
	5500MHz	14			14	14	14	14			14	14	14	17		17	17	16
	5800MHz	14			14	14	14	14			14	14	14	17		17	17	16
5GHZ (40MHz)	5200MHz				14	14	14				14	14	14			17	17	14
	5300MHz				14	14	14				14	14	14			17	17	14
	5500MHz				14	14	14				14	14	14			17	17	14
	5800MHz				14	14	14				14	14	14			17	17	14
5GHZ (80MHz)	5200MHz					14	13					14	13				17	13
	5300MHz					14	13					14	13				17	13
	5500MHz					14	13					14	13				17	13
	5800MHz					14	13					14	13				17	13

c. Power – RSDB

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO				
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	g	n	ac	ax(SU)
2.4GHz	2.45GHz		17 Ch12:10 Ch13:5	17 Ch1,11:16 Ch12:10 Ch13:5	17 Ch1:15 Ch11:16 Ch12:10 Ch13:5		16 Ch1: 15 Ch12:10 Ch13:5		17 Ch12:10 Ch13:5	17 Ch1,11:16 Ch12:10 Ch13:5	17 Ch1:15 Ch11:16 Ch12:10 Ch13:5		16 Ch1: 15 Ch12:10 Ch13:5		19 Ch1: 18 Ch12:13 Ch13:8	19 Ch1,11: 18 Ch12:13 Ch13:8		16 Ch1: 15 Ch12:13 Ch13:8
5GHZ (20MHz)	5200MHz	14			14	14	14	14			14	14	14	17		17	17	16
	5300MHz	14			14	14	14	14			14	14	14	17		17	17	16
	5500MHz	14			14	14	14	14			14	14	14	17		17	17	16
	5800MHz	14			14	14	14	14			14	14	14	17		17	17	16
5GHZ (40MHz)	5200MHz				14	14	14				14	14	14			17	17	14
	5300MHz				14	14	14				14	14	14			17	17	14
	5500MHz				14	14	14				14	14	14			17	17	14
	5800MHz				14	14	14				14	14	14			17	17	14
5GHZ (80MHz)	5200MHz					14	13					14	13				17	13
	5300MHz					14	13					14	13				17	13
	5500MHz					14	13					14	13				17	13
	5800MHz					14	13					14	13				17	13

Bluetooth-Maximum power

Band	Mode	Maximum output power (dBm)
		SISO Ant.1
2.4GHz	Bluetooth_GFSK	18
2.4GHz	Bluetooth_EDR	11.5
2.4GHz	Bluetooth_LE 1Mbps	8
2.4GHz	Bluetooth_LE 2Mbps	9

Note(s):.

1. This device uses an independent fixed level power reduction mechanism for WLAN mode operations during RCV operation. Detailed descriptions of the power reduction mechanism are included in the operational description.
2. WLAN mode supports RSDB operation. Detail of RSDB operation scenario is mentioned in Sec.12.
3. WLAN Single Transmission Chain Maximum Conducted Output Power in Conducted Mode
4. The target power in each antenna of MIMO mode is 3dB lower than the MIMO mode target described.

6.4. Power Back-off Operation

This device supports multiple power back-off modes: WWAN (Ear-jack), WWAN (Hotspot), WWAN (Proximity sensor), and WLAN (RCV). Each of the power back-off operates within specific exposure conditions for certain technologies. For full details on how each power back-off mode operates, refer to the Operational Description.

Power Back-off mode	Technologies Supported	Exposure Conditions Active			
		Head	Body-worn	Hotspot	Product Specific 10-g
WWAN (Ear-jack)	GSM 1900 W-CDMA B2/4 LTE B2/4/25/41[4]/66	N/A	✓	N/A	✓
WWAN (Hotspot)[1]	GSM 1900 W-CDMA B2/4 LTE B2/4/25/41[4]/66	N/A	N/A	✓	N/A
WWAN (Proximity sensor)[1]	GSM 1900 W-CDMA B2/4 LTE B2/4/25/41[4]/66	N/A	N/A	N/A	✓
WLAN (RCV)	Wi-Fi 2.4GHz Wi-Fi 5GHz	✓	N/A	N/A	N/A

Note(s):
1. Tune-up Limits for WWAN (Hotspot) and WWAN (Proximity Sensor) are all Reduced Average Powers. Please refer to Sec.9 for all conducted power measurements.
2. WWAN Back-off priority: Ear-jack → Proximity Sensor → Hotspot
3. Body-worn SAR with ear-jack connected at reduced power is not required due to Body-worn measured at max power is not over 1.2 W/kg.
4. LTE Band 41 Power Class 3.
5. Ear-jack and Proximity sensor back-off mode have the same reduced power level or proximity sensor back-off level is higher than ear-jack in Product Specific 10g, therefore we tested using Proximity sensor back-off mode in Product Specific 10g.

Product Specific 10g Adjusted SAR Calculation

Wireless technologies	Max Tune-up Limit (dBm)	Reduced Tune-Up Limit (dBm)	Power Factor	Reported SAR Limit (W/kg)
GSM 1900	21.5	19.0	1.78	0.675
W-CDMA B2	23.0	19.5	2.24	0.536
W-CDMA B4	23.5	19.5	2.51	0.478
LTE B25	23.0	19.5	2.24	0.536
LTE B66	23.0	20.0	2.00	0.601
LTE B41	24.0	21.0	2.00	0.601

Note(s):
1. Tune-up limit powers for GSM 1900 are frame power(dBm).
2. 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, Extremity SAR testing is not required for this band in accordance with KDB 648474 §2.5 b. Refer to §10 for Reported SAR results. If the Reported SAR 1g value in §10 is less than the Reported SAR Limit listed above, then Extremity SAR is not required.
3. LTE 50% RB is scaled up to the Max Tune-Up Limit with MPR included.
4. For Reported SAR limit in above table, it was calculated using Max tune-up Limit & Reduced Tune-up limit & Reported SAR 1.2 W/kg. (Reported SAR Limit = 1.2 W/kg / Power factor, Power factor = 10^((Max tune-up limit – Reduced tune-up limit)/10)

6.5. General LTE SAR Test and Reporting Considerations

Item	Description						
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 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					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
	Mid	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			20450/ 829	20425/ 826.5	20415/ 825.5	20407/ 824.7
	Mid			20525/ 836.5	20525/ 836.5	20525/ 836.5	20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5	20643/ 848.3
	Band 12	Frequency range: 699 – 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
	Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5
	High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23205/ 779.5		
	Mid			23230/ 782	23230/ 782		
	High				23255/ 784.5		
	Band 17	Frequency range: 704 - 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			23780/ 709	23755/ 706.5		
	Mid			23790/ 710	23790/ 710		
	High			23800/ 711	23825/ 713.5		

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies

Band 25	Frequency range: 1850 - 1915 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					
	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 41	Frequency range: 2496 - 2690 MHz					
	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					
	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

LTE transmitter and antenna implementation	Refer to Appendix A.

Maximum power reduction (MPR)

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

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

Power reduction	Yes
Spectrum plots for RB configurations	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.

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).

6.6. 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	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Calculated Duty Cycle

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

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

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:
Calculated Duty Cycle = 5120 x [1/(15000 x 2048)] x 2 + 6 ms = 63.33%
where
T_s = 1/(15000 x 2048) seconds

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. Only LTE Band 41 Power Class 2 was used configuration 1 at 43.3% duty cycle for SAR testing.

6.7. LTE Carrier Aggregation

DL Inter-Band

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_2A-4A (0)(1)(2)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 2			Yes	Yes			20 MHz
	Band 4			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 4			Yes	Yes	Yes	Yes	
CA_2A-5A(0)(1)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 5			Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 5			Yes	Yes			
CA_2A-12A (0)(1)(2)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 12		Yes	Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 12			Yes	Yes			
CA_2A-13A(0)(1)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 13				Yes			
	Band 2			Yes	Yes			20 MHz
	Band 13				Yes			
CA_2A-17A(0)	Band 2			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA_2A-66A (0)(1)(2)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 2			Yes	Yes			20 MHz
	Band 66			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_4A-12A (0)(1)(2)(3)(4)(5)	Band 4	Yes	Yes	Yes	Yes			20 MHz
	Band 12			Yes	Yes			
	Band 4	Yes	Yes	Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes			20 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes		20 MHz
	Band 12			Yes				
CA_4A-5A(0)(1)	Band 4			Yes	Yes			20 MHz
	Band 5			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 5			Yes	Yes			
CA_4A-13A(0)(1)	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 13				Yes			
	Band 4			Yes	Yes			20 MHz
	Band 13				Yes			

DL Inter-Band (Continued)

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_4A-17A(0)	Band 4			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA_5A-66A(0)	Band 5			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_5A-41A(0)	Band 5			Yes	Yes			30 MHz
	Band 41						Yes	
CA_12A-66A (0)(1)(2)(3)(4)(5)	Band 12			Yes	Yes			20 MHz
	Band 66	Yes	Yes	Yes	Yes			
	Band 12			Yes	Yes			30 MHz
	Band 66	Yes	Yes	Yes	Yes	Yes	Yes	
	Band 12		Yes	Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			20 MHz
	Band 66			Yes	Yes			
	Band 12			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 12			Yes				20 MHz
	Band 66			Yes	Yes	Yes		
CA_26A-41A(0)	Band 26			Yes	Yes	Yes		35 MHz
	Band 41			Yes	Yes	Yes	Yes	
CA_2A-4A-5A(0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 5			Yes	Yes			
CA_2A-4A-13A(0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 13				Yes			
CA_4A-4A-12A(0)	Band 4	4A-4A BCS 0						50 MHz
	Band 12			Yes	Yes			
CA_4A-4A-17A(0)	Band 4	4A-4A BCS 0						50 MHz
	Band 17				Yes			
CA_5A-66A-66A(0)	Band 5			Yes	Yes			50 MHz
	Band 66	66A-66A BCS 0						
CA_12A-66A-66A(0)	Band 12			Yes	Yes			50 MHz
	Band 66	66A-66A BCS 0						
CA_26A-41C(0)	Band 26			Yes	Yes	Yes		55 MHz
	Band 41	41C BCS 1						

DL Inter-Band (Non-Contiguous)

E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)				Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	4th Carrier	
CA_2A-2A (0)	Band 2	5, 10, 15. 20	5, 10, 15. 20			40 MHz
CA_4A-4A (0)(1)	Band 4	5, 10, 15, 20	5, 10, 15, 20			40 MHz
		5, 10	5, 10			20 MHz
CA_41A-41A (0)(1)	Band 41	10, 15, 20	10, 15, 20			40 MHz
		5, 10, 15. 20	5, 10, 15. 20			
CA_66A-66A (0)	Band 66	5, 10, 15, 20	5, 10, 15, 20			40 MHz
CA_41A-41C(0)	Band 41	5, 10, 15. 20	41C BCS 1			60 MHz
		41C BCS 1		5, 10, 15. 20		
CA_41A-41D (0)	Band 41	5, 10, 15, 20	41D BCS 0			80 MHz
		41D BCS 0			5, 10, 15, 20	
CA_41C-41C (0)	Band 41	41C BCS 0		41C BCS 0		80 MHz

DL Intra-Band (Contiguous)

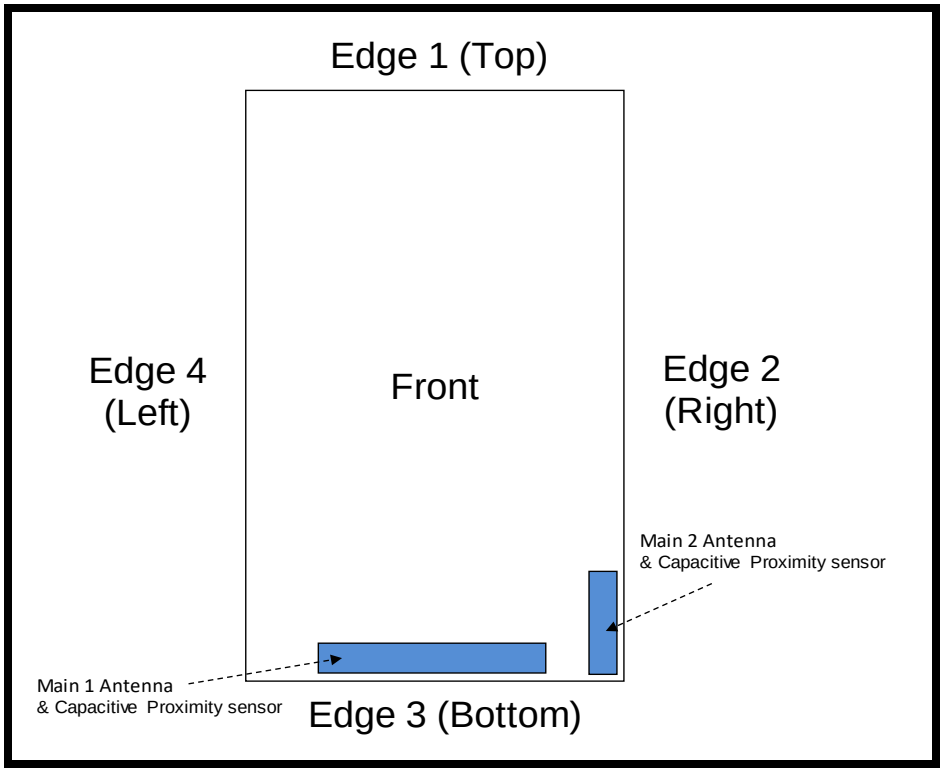
E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)				Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	4th Carrier	
CA_41C (0)(1)(2)(3)	Band 41	10	20			40 MHz
		15	15,20			
		20	10,15,20			
	Band 41	5,10	20			40 MHz
		15	15,20			
		20	5,10,15,20			
	Band 41	10	15,20			40 MHz
		15	10,15,20			
		20	10,15,20			
	Band 41	10	20			40 MHz
		20	20			
CA_66B (0)	Band 66	5	5, 10, 15			20 MHz
		10	5, 10			
		15	5			
CA_66C (0)	Band 66	5	20			40 MHz
		10	15, 20			
		15	10, 15, 20			
		20	5, 10, 15, 20			
CA_41E (0)	Band 41	15,20	15,20	15,20	20	80 MHz

Note(s):

1. For supported channels, please refer to §6.5.
2. This device supports DL 4X4 MIMO for LTE Band 4, 66. Please refer to Sec.9.3.1 for detailed LTE CA combination with 4X4 DL MIMO.

6.8. Proximity Sensor feature

The DUT has two proximity sensors to reduce the output power. The position of the sensors and antennas are as shown in the graphic.

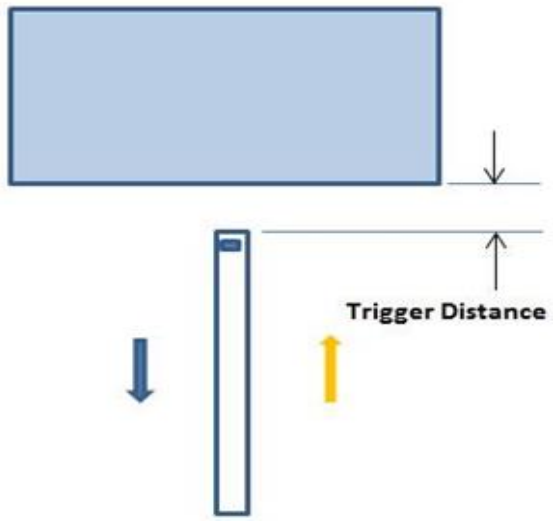


6.8.1. Proximity Sensor Triggering Distance (KDB 616217 §6.2)

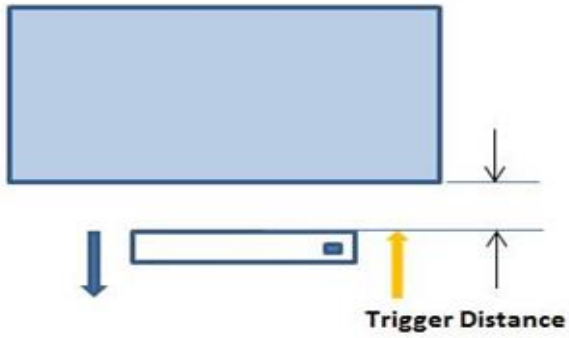
Rear, Front and Edge 3 of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.

The DUT featured a visual indicator on its display that showed the status of the proximity sensor (Triggered or not triggered). This was used to determine the status of the sensor during the proximity sensor assessment as monitoring the output power directly was not practical without affecting the measurement.

It was confirmed separately that the output power was altered according to the proximity sensor status indication. This was achieved by observing the proximity sensor status at the same time as monitoring the conducted power. Section 9 contains both the full and reduced conducted power measurements.



Proximity Sensor Trigger Distance Assessment
KDB 616217 §6.2, Edge 3



Proximity Sensor Trigger Distance Assessment
KDB 616217 §6.2, Rear, Front

LEGEND

Direction of DUT travel for determination of power reduction triggering point

Direction of DUT travel for determination of full power resumption triggering point

Summary of Trigger Distances

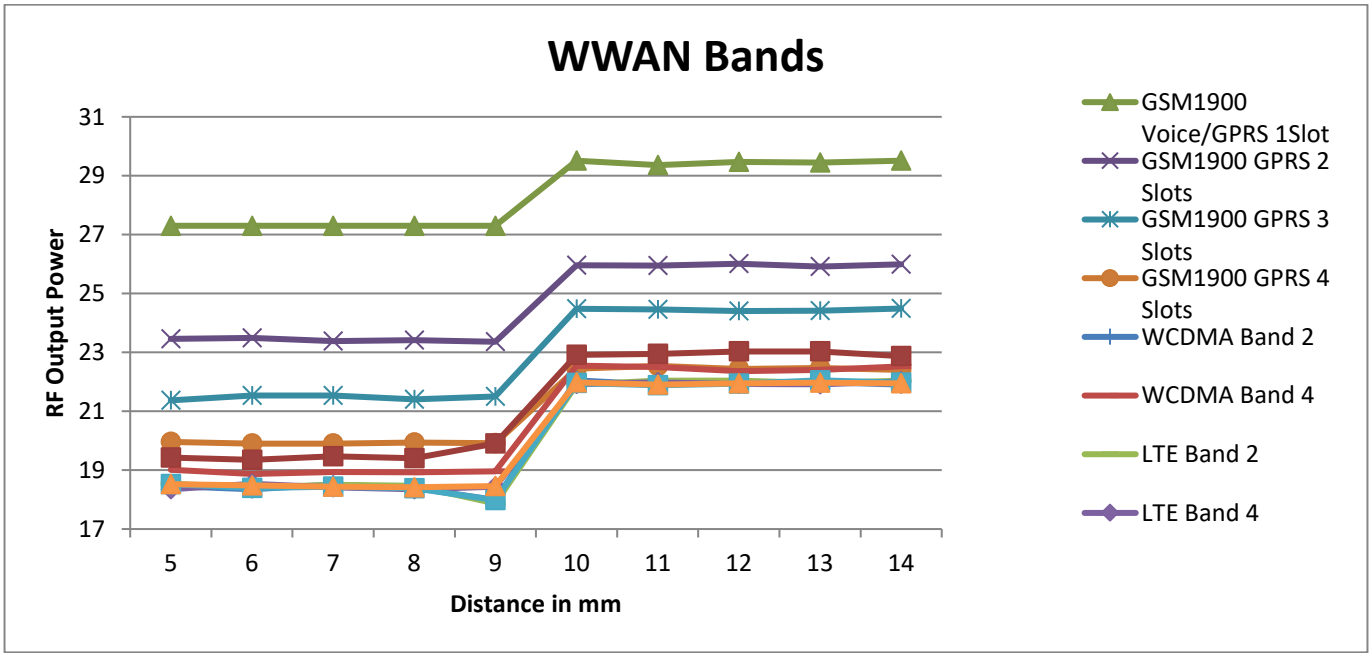
Tissue simulating liquid	Antenna	Trigger distance – Rear		Trigger distance - Front		Trigger distance – Edge 3	
		Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
1750 Head	Main 1 Ant.	9 mm	9 mm	8 mm	8 mm	12 mm	12 mm
1900 Head	Main 1 Ant.	9 mm	9 mm	8 mm	8 mm	12 mm	12 mm
2600 Head	Main 2 Ant.	9 mm	9 mm	8 mm	8 mm	12 mm	12 mm

Proximity Sensor Triggering Distance Measurement Results

WWAN Bands

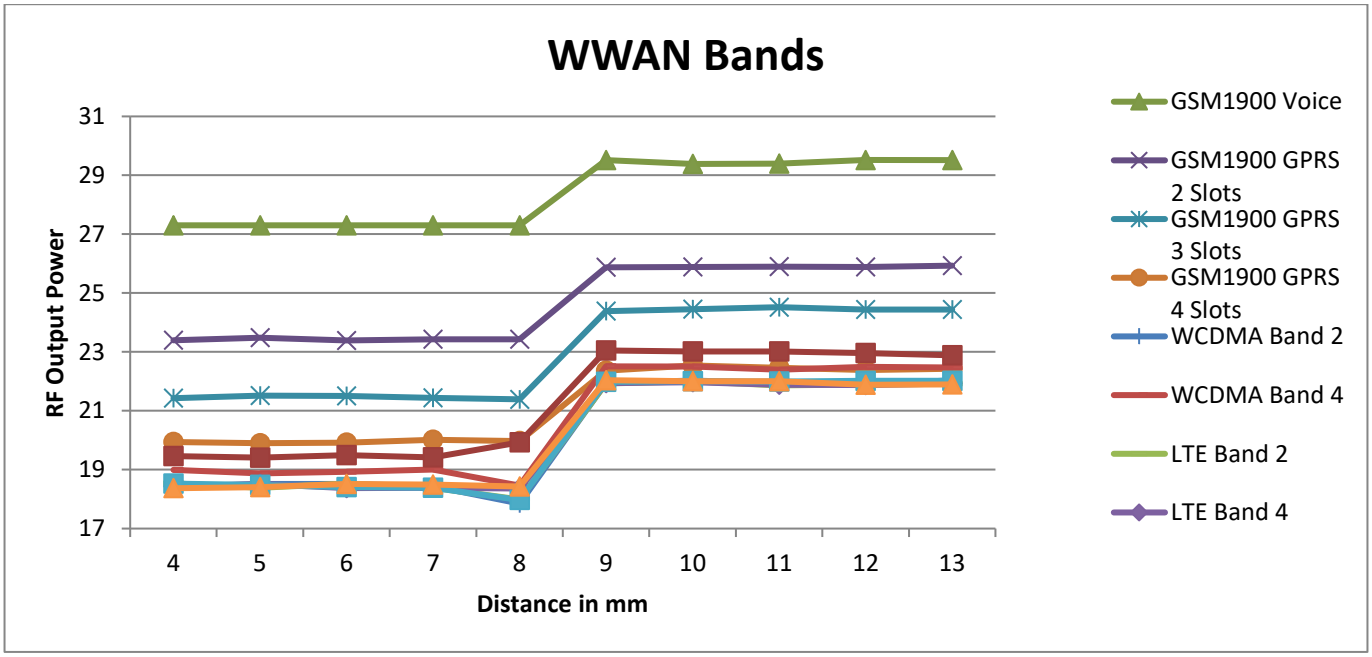
Rear, DUT Moving Toward (Trigger) and Away (Release) from the Phantom

Distance to DUT vs. Output Power in dBm										
Distance (mm)	5	6	7	8	9	10	11	12	13	14
GSM1900 Voice/GPRS 1Slot	27.3	27.3	27.3	27.3	27.3	29.5	29.4	29.5	29.5	29.5
GSM1900 GPRS 2 Slots	23.5	23.5	23.4	23.4	23.4	26.0	26.0	26.0	25.9	26.0
GSM1900 GPRS 3 Slots	21.4	21.5	21.5	21.4	21.5	24.5	24.5	24.4	24.4	24.5
GSM1900 GPRS 4 Slots	20.0	19.9	19.9	19.9	19.9	22.5	22.5	22.4	22.5	22.4
WCDMA Band 2	18.5	18.4	18.5	18.4	18.0	22.1	21.9	22.0	22.0	21.9
WCDMA Band 4	19.0	18.9	18.9	18.9	19.0	22.6	22.5	22.4	22.4	22.5
LTE Band 2	18.5	18.4	18.5	18.5	17.9	21.9	22.0	22.0	22.0	22.0
LTE Band 4	18.4	18.5	18.4	18.4	18.4	21.9	22.0	21.9	21.9	22.0
LTE Band 25	18.5	18.4	18.4	18.4	18.0	22.0	21.9	21.9	22.1	22.0
LTE Band 66	18.5	18.5	18.4	18.4	18.5	22.0	21.9	22.0	22.0	22.0
LTE Band 41	19.4	19.4	19.5	19.4	19.9	22.9	23.0	23.0	23.0	22.9



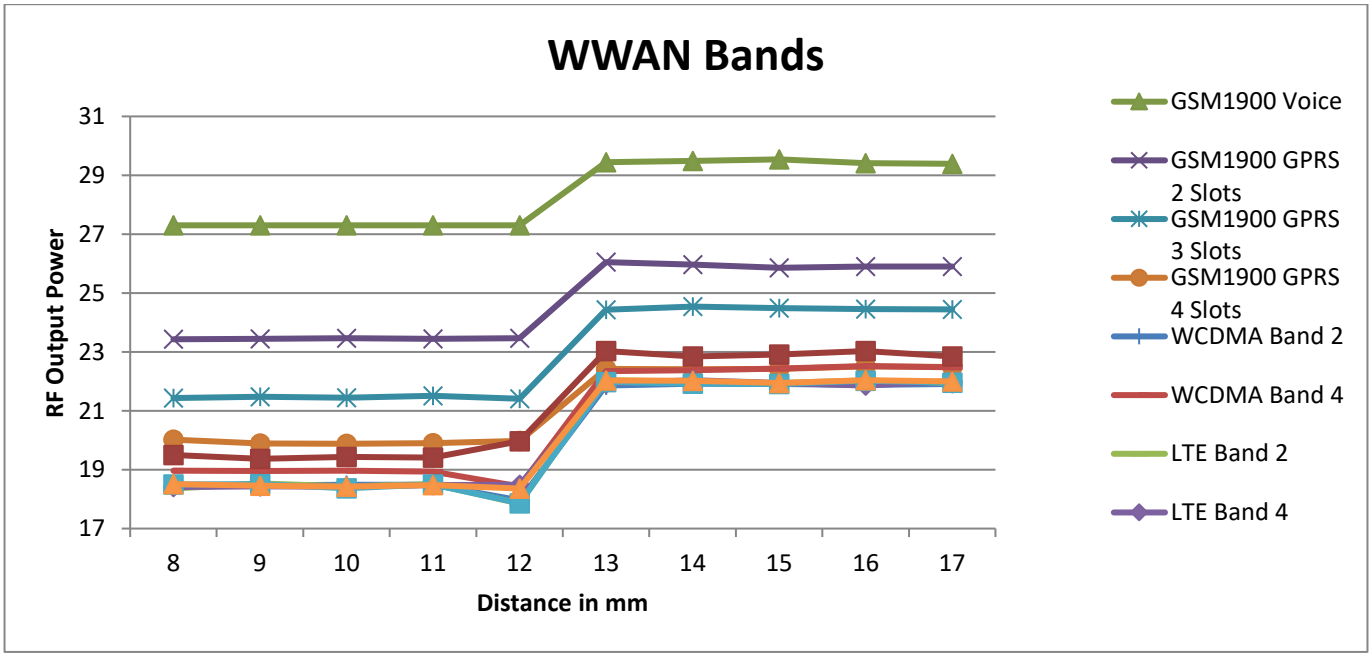
Front, DUT Moving Toward (Trigger) and Away (Release) from the Phantom

Distance to DUT vs. Output Power in dBm										
Distance (mm)	4	5	6	7	8	9	10	11	12	13
GSM1900 Voice	27.3	27.3	27.3	27.3	27.3	29.5	29.4	29.4	29.5	29.5
GSM1900 GPRS 2 Slots	23.4	23.5	23.4	23.4	23.4	25.9	25.9	25.9	25.9	25.9
GSM1900 GPRS 3 Slots	21.4	21.5	21.5	21.4	21.4	24.4	24.5	24.5	24.4	24.4
GSM1900 GPRS 4 Slots	19.9	19.9	19.9	20.0	20.0	22.4	22.5	22.5	22.4	22.4
WCDMA Band 2	18.4	18.5	18.5	18.4	17.9	22.0	22.0	22.0	21.9	22.0
WCDMA Band 4	19.0	18.9	18.9	19.0	18.5	22.5	22.5	22.4	22.5	22.5
LTE Band 2	18.5	18.4	18.5	18.4	18.0	21.9	22.0	21.9	21.9	21.9
LTE Band 4	18.4	18.5	18.4	18.4	18.4	21.9	22.0	21.9	21.9	21.9
LTE Band 25	18.5	18.5	18.4	18.4	18.0	22.0	22.0	22.0	22.0	22.0
LTE Band 66	18.4	18.4	18.5	18.5	18.4	22.0	22.0	22.0	21.9	21.9
LTE Band 41	19.5	19.4	19.5	19.4	19.9	23.1	23.0	23.0	23.0	22.9



Edge 3, DUT Moving Toward (Trigger) and Away (Release) from the Phantom

Distance (mm)	8	9	10	11	12	13	14	15	16	17
GSM1900 Voice	27.3	27.3	27.3	27.3	27.3	29.4	29.5	29.5	29.4	29.4
GSM1900 GPRS 2 Slots	23.4	23.5	23.5	23.4	23.5	26.1	26.0	25.9	25.9	25.9
GSM1900 GPRS 3 Slots	21.4	21.5	21.5	21.5	21.4	24.4	24.5	24.5	24.5	24.4
GSM1900 GPRS 4 Slots	20.0	19.9	19.9	19.9	20.0	22.4	22.4	22.4	22.5	22.5
WCDMA Band 2	18.5	18.5	18.5	18.5	18.0	21.9	21.9	21.9	21.9	21.9
WCDMA Band 4	19.0	19.0	19.0	18.9	18.4	22.4	22.4	22.4	22.5	22.5
LTE Band 2	18.4	18.5	18.4	18.5	17.9	22.0	22.0	22.0	22.0	22.0
LTE Band 4	18.4	18.4	18.4	18.5	18.5	21.9	22.0	21.9	21.9	22.0
LTE Band 25	18.5	18.5	18.4	18.5	17.9	22.0	21.9	21.9	22.0	22.0
LTE Band 66	18.5	18.5	18.4	18.5	18.4	22.0	22.0	22.0	22.0	22.0
LTE Band 41	19.5	19.4	19.4	19.4	20.0	23.0	22.9	22.9	23.0	22.9



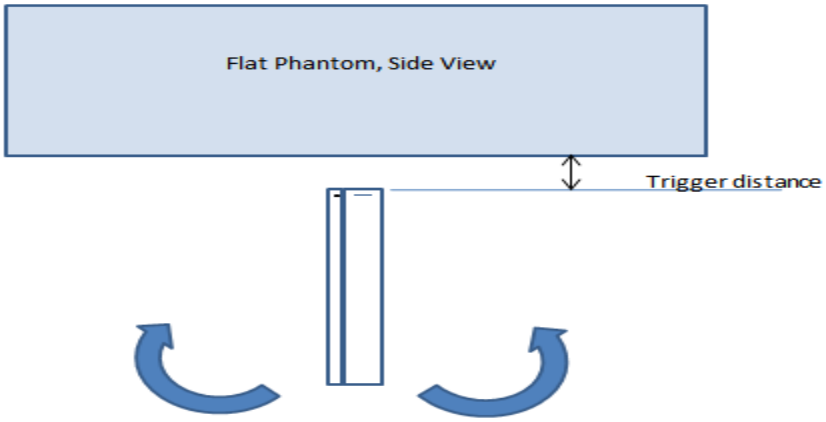
6.8.2. Proximity Sensor Coverage (KDB 616217 §6.3)

As there is no spatial offset between the antenna and the proximity sensor element, proximity sensor coverage did not need to be assessed.

6.8.3. Proximity Sensor Tilt Angle Assessment (KDB 616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Edge 3 parallel to the base of the flat phantom for each band.

The EUT was rotated about Edge 3 for angles up to +/- 45°. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to +/- 45°.



Proximity sensor tilt angle assessment (Edge 3) KDB 616217 §6.4

Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering (Edge 3)

Band (MHz)	Minimum trigger distance measured according to KDB 616217 §6.2	Minimum distance at which power reduction was maintained over +/-45°	Power reduction status										
			-45°	-40°	-30°	-20°	-10°	0°	10°	20°	30°	40°	45°
1750	12 mm	12 mm	On	On	On	On	On	On	On	On	On	On	On
1900	12 mm	12 mm	On	On	On	On	On	On	On	On	On	On	On
2600	12 mm	12 mm	On	On	On	On	On	On	On	On	On	On	On

6.8.4. Resulting test positions for SAR measurements

Wireless technologies	DUT Position	§6.2 Triggering Distance	§6.3 Coverage	§6.4 Tilt Angle	Worst case distance for SAR
WWAN (Main 1 Ant & Main 2 Ant)	Rear	9 mm	N/A	N/A	8 mm
	Front	8 mm	N/A	N/A	7 mm
	Edge 3	12 mm	N/A	12 mm	11 mm

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	Antenaa	DUT-to-User Separation	Test Position	Antenna-to-edge/surface		SAR Required	Note
WWAN	Head	Main 1 Ant. & Main 2 Ant.	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	Main 1 Ant. & Main 2 Ant.	15 mm	Rear		N/A	Yes	
				Front		N/A	Yes	
	Hotspot	Main 1 Ant.	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	
	Hotspot	Main 2 Ant.	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	No	1
	Product Specific 10-g	Main 1 Ant. & Main 2 Ant.	0 mm	Rear	Refer to notes 2 & 3			
				Front				
				Edge 1 (Top)				
				Edge 2 (Right)				
				Edge 3 (Bottom)				
				Edge 4 (Left)				
2.4GHz WLAN & 5GHz WLAN	Head	WiFi/BT Ant.1 & WiFi Ant.2	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 Specific 10-g		0 mm	Rear	Refer to notes 2 & 4			
				Front				
				Edge 1 (Top)				
				Edge 2 (Right)				
				Edge 3 (Bottom)				
				Edge 4 (Left)				

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 and adjusted SAR to maximum power that is > 1.2 W/kg.
4. 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 ≤ 25mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.

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.

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

SAR test were performed in All RF exposure conditions using Head tissue according to TCB workshop note of April. 2019.

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:
SAR 3 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/12/2021	Head 1750	e'	40.1900	Relative Permittivity (ϵ_r):	40.19	40.07	0.30	5
		e"	14.2500	Conductivity (σ):	1.39	1.37	1.11	5
	Head 1710	e'	40.2700	Relative Permittivity (ϵ_r):	40.27	40.13	0.35	5
		e"	14.3500	Conductivity (σ):	1.36	1.35	1.18	5
	Head 1755	e'	40.1800	Relative Permittivity (ϵ_r):	40.18	40.06	0.29	5
		e"	14.2200	Conductivity (σ):	1.39	1.37	0.97	5
10/13/2021	Head 1900	e'	39.3600	Relative Permittivity (ϵ_r):	39.36	40.00	-1.60	5
		e"	13.6100	Conductivity (σ):	1.44	1.40	2.70	5
	Head 1850	e'	39.4800	Relative Permittivity (ϵ_r):	39.48	40.00	-1.30	5
		e"	13.6300	Conductivity (σ):	1.40	1.40	0.15	5
	Head 1910	e'	39.3300	Relative Permittivity (ϵ_r):	39.33	40.00	-1.68	5
		e"	13.6100	Conductivity (σ):	1.45	1.40	3.24	5
10/15/2021	Head 1750	e'	40.4100	Relative Permittivity (ϵ_r):	40.41	40.08	0.81	5
		e"	13.8800	Conductivity (σ):	1.35	1.37	-1.34	5
	Head 1710	e'	40.3200	Relative Permittivity (ϵ_r):	40.32	40.15	0.43	5
		e"	14.1500	Conductivity (σ):	1.35	1.35	-0.07	5
	Head 1755	e'	40.4000	Relative Permittivity (ϵ_r):	40.40	40.08	0.81	5
		e"	13.8400	Conductivity (σ):	1.35	1.37	-1.55	5
10/18/2021	Head 750	e'	40.2500	Relative Permittivity (ϵ_r):	40.25	41.96	-4.08	5
		e"	21.6100	Conductivity (σ):	0.90	0.89	0.91	5
	Head 700	e'	40.8300	Relative Permittivity (ϵ_r):	40.83	42.22	-3.29	5
		e"	23.5200	Conductivity (σ):	0.92	0.89	2.95	5
	Head 790	e'	40.3000	Relative Permittivity (ϵ_r):	40.30	41.76	-3.49	5
		e"	21.2800	Conductivity (σ):	0.93	0.90	4.31	5
10/18/2021	Head 835	e'	40.9400	Relative Permittivity (ϵ_r):	40.94	41.50	-1.35	5
		e"	19.4600	Conductivity (σ):	0.90	0.90	0.39	5
	Head 820	e'	40.9900	Relative Permittivity (ϵ_r):	40.99	41.60	-1.47	5
		e"	19.9100	Conductivity (σ):	0.91	0.90	1.04	5
	Head 850	e'	40.8300	Relative Permittivity (ϵ_r):	40.83	41.50	-1.61	5
		e"	18.9100	Conductivity (σ):	0.89	0.92	-2.32	5
10/18/2021	Head 1750	e'	38.6200	Relative Permittivity (ϵ_r):	38.62	40.08	-3.65	5
		e"	13.5400	Conductivity (σ):	1.32	1.37	-3.76	5
	Head 1710	e'	38.7400	Relative Permittivity (ϵ_r):	38.74	40.15	-3.50	5
		e"	13.5300	Conductivity (σ):	1.29	1.35	-4.45	5
	Head 1755	e'	38.6100	Relative Permittivity (ϵ_r):	38.61	40.08	-3.66	5
		e"	13.5400	Conductivity (σ):	1.32	1.37	-3.68	5
10/18/2021	Head 1900	e'	38.3600	Relative Permittivity (ϵ_r):	38.36	40.00	-4.10	5
		e"	13.0100	Conductivity (σ):	1.37	1.40	-1.82	5
	Head 1850	e'	38.4400	Relative Permittivity (ϵ_r):	38.44	40.00	-3.90	5
		e"	13.0200	Conductivity (σ):	1.34	1.40	-4.33	5
	Head 1910	e'	38.3500	Relative Permittivity (ϵ_r):	38.35	40.00	-4.13	5
		e"	12.9800	Conductivity (σ):	1.38	1.40	-1.54	5
10/19/2021	Head 2450	e'	38.6600	Relative Permittivity (ϵ_r):	38.66	39.20	-1.38	5
		e"	13.1300	Conductivity (σ):	1.79	1.80	-0.63	5
	Head 2400	e'	38.7700	Relative Permittivity (ϵ_r):	38.77	39.30	-1.34	5
		e"	13.1400	Conductivity (σ):	1.75	1.75	0.11	5
	Head 2480	e'	38.6000	Relative Permittivity (ϵ_r):	38.60	39.16	-1.44	5
		e"	13.1200	Conductivity (σ):	1.81	1.83	-1.27	5

SAR 3 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
2021-10-19	Head 2600	e'	38.5200	Relative Permittivity (ε_r):	38.52	39.01	-1.26	5
		e"	13.2000	Conductivity (σ):	1.91	1.96	-2.75	5
	Head 2500	e'	38.5800	Relative Permittivity (ε_r):	38.58	39.14	-1.42	5
		e"	13.1300	Conductivity (σ):	1.83	1.85	-1.56	5
	Head 2700	e'	38.3700	Relative Permittivity (ε_r):	38.37	38.88	-1.32	5
		e"	13.2900	Conductivity (σ):	2.00	2.07	-3.63	5
2021-10-20	Head 5250	e'	35.2500	Relative Permittivity (ε_r):	35.25	35.93	-1.90	5
		e"	16.2000	Conductivity (σ):	4.73	4.70	0.57	5
	Head 5260	e'	35.2400	Relative Permittivity (ε_r):	35.24	35.92	-1.90	5
		e"	16.2000	Conductivity (σ):	4.74	4.71	0.54	5
	Head 5600	e'	34.5600	Relative Permittivity (ε_r):	34.56	35.53	-2.74	5
		e"	16.4800	Conductivity (σ):	5.13	5.06	1.41	5
	Head 5750	e'	34.2200	Relative Permittivity (ε_r):	34.22	35.36	-3.23	5
		e"	16.6400	Conductivity (σ):	5.32	5.21	2.04	5
	Head 5825	e'	34.0600	Relative Permittivity (ε_r):	34.06	35.30	-3.51	5
		e"	16.6900	Conductivity (σ):	5.41	5.27	2.57	5
2021-10-25	Head 5250	e'	35.0700	Relative Permittivity (ε_r):	35.07	35.93	-2.40	5
		e"	15.9500	Conductivity (σ):	4.66	4.70	-0.98	5
	Head 5260	e'	35.0500	Relative Permittivity (ε_r):	35.05	35.92	-2.43	5
		e"	15.9500	Conductivity (σ):	4.66	4.71	-1.01	5
	Head 5600	e'	34.4300	Relative Permittivity (ε_r):	34.43	35.53	-3.11	5
		e"	16.1700	Conductivity (σ):	5.03	5.06	-0.50	5
	Head 5750	e'	34.1600	Relative Permittivity (ε_r):	34.16	35.36	-3.40	5
		e"	16.2800	Conductivity (σ):	5.21	5.21	-0.17	5
	Head 5825	e'	34.0200	Relative Permittivity (ε_r):	34.02	35.30	-3.63	5
		e"	16.3300	Conductivity (σ):	5.29	5.27	0.36	5
2021-10-31	Head 2450	e'	38.0400	Relative Permittivity (ε_r):	38.04	39.20	-2.96	5
		e"	13.3800	Conductivity (σ):	1.82	1.80	1.26	5
	Head 2400	e'	38.1300	Relative Permittivity (ε_r):	38.13	39.30	-2.97	5
		e"	13.4100	Conductivity (σ):	1.79	1.75	2.16	5
	Head 2480	e'	37.9900	Relative Permittivity (ε_r):	37.99	39.16	-2.99	5
		e"	13.3800	Conductivity (σ):	1.85	1.83	0.69	5
2021-10-31	Head 5250	e'	36.9500	Relative Permittivity (ε_r):	36.95	35.93	2.83	5
		e"	15.8100	Conductivity (σ):	4.62	4.70	-1.85	5
	Head 5260	e'	36.9300	Relative Permittivity (ε_r):	36.93	35.92	2.81	5
		e"	15.8200	Conductivity (σ):	4.63	4.71	-1.81	5
	Head 5600	e'	36.3500	Relative Permittivity (ε_r):	36.35	35.53	2.30	5
		e"	16.0500	Conductivity (σ):	5.00	5.06	-1.24	5
	Head 5750	e'	36.1000	Relative Permittivity (ε_r):	36.10	35.36	2.08	5
		e"	16.1600	Conductivity (σ):	5.17	5.21	-0.90	5
	Head 5825	e'	35.9700	Relative Permittivity (ε_r):	35.97	35.30	1.90	5
		e"	16.2100	Conductivity (σ):	5.25	5.27	-0.38	5

SAR 4 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
2021-10-27	Head 2450	e'	40.3600	Relative Permittivity (ε_r):	40.36	39.20	2.96	5
		e"	13.1500	Conductivity (σ):	1.79	1.80	-0.48	5
	Head 2400	e'	40.3900	Relative Permittivity (ε_r):	40.39	39.30	2.78	5
		e"	13.1600	Conductivity (σ):	1.76	1.75	0.26	5
	Head 2480	e'	40.3300	Relative Permittivity (ε_r):	40.33	39.16	2.98	5
		e"	13.1700	Conductivity (σ):	1.82	1.83	-0.89	5
2021-10-30	Head 2450	e'	38.4400	Relative Permittivity (ε_r):	38.44	39.20	-1.94	5
		e"	13.4900	Conductivity (σ):	1.84	1.80	2.10	5
	Head 2400	e'	38.4800	Relative Permittivity (ε_r):	38.48	39.30	-2.08	5
		e"	13.5800	Conductivity (σ):	1.81	1.75	3.46	5
	Head 2480	e'	38.3800	Relative Permittivity (ε_r):	38.38	39.16	-2.00	5
		e"	13.4200	Conductivity (σ):	1.85	1.83	0.99	5
2021-11-18	Head 1750	e'	39.9700	Relative Permittivity (ε_r):	39.97	40.08	-0.29	5
		e"	14.0800	Conductivity (σ):	1.37	1.37	0.08	5
	Head 1710	e'	40.0800	Relative Permittivity (ε_r):	40.08	40.15	-0.16	5
		e"	14.1200	Conductivity (σ):	1.34	1.35	-0.29	5
	Head 1755	e'	39.9500	Relative Permittivity (ε_r):	39.95	40.08	-0.32	5
		e"	14.0700	Conductivity (σ):	1.37	1.37	0.09	5

SAR 5 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
2021-10-14	Head 835	e'	41.4900	Relative Permittivity (ε_r):	41.49	41.50	-0.02	5
		e"	19.7200	Conductivity (σ):	0.92	0.90	1.73	5
	Head 820	e'	41.5400	Relative Permittivity (ε_r):	41.54	41.57	-0.07	5
		e"	19.9700	Conductivity (σ):	0.91	0.90	1.37	5
	Head 850	e'	41.4900	Relative Permittivity (ε_r):	41.49	41.50	-0.02	5
		e"	19.5000	Conductivity (σ):	0.92	0.92	0.60	5
2021-10-27	Head 5250	e'	34.8300	Relative Permittivity (ε_r):	34.83	35.93	-3.07	5
		e"	16.0800	Conductivity (σ):	4.69	4.70	-0.17	5
	Head 5260	e'	34.8200	Relative Permittivity (ε_r):	34.82	35.92	-3.07	5
		e"	16.1100	Conductivity (σ):	4.71	4.71	-0.01	5
	Head 5600	e'	34.6100	Relative Permittivity (ε_r):	34.61	35.53	-2.60	5
		e"	16.0800	Conductivity (σ):	5.01	5.06	-1.05	5
	Head 5750	e'	34.3300	Relative Permittivity (ε_r):	34.33	35.36	-2.92	5
		e"	16.1000	Conductivity (σ):	5.15	5.21	-1.27	5
	Head 5825	e'	34.0500	Relative Permittivity (ε_r):	34.05	35.30	-3.54	5
		e"	16.1500	Conductivity (σ):	5.23	5.27	-0.74	5

SAR 6 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/12/2021	Head 1750	e'	39.6100	Relative Permittivity (ϵ_r):	39.61	40.08	-1.18	5
		e''	13.7800	Conductivity (σ):	1.34	1.37	-2.05	5
	Head 1710	e'	39.7600	Relative Permittivity (ϵ_r):	39.76	40.15	-0.96	5
		e''	13.9400	Conductivity (σ):	1.33	1.35	-1.56	5
	Head 1755	e'	39.6000	Relative Permittivity (ϵ_r):	39.60	40.08	-1.19	5
		e''	13.7600	Conductivity (σ):	1.34	1.37	-2.12	5
10/12/2021	Head 1900	e'	39.5600	Relative Permittivity (ϵ_r):	39.56	40.00	-1.10	5
		e''	13.4400	Conductivity (σ):	1.42	1.40	1.42	5
	Head 1850	e'	39.5800	Relative Permittivity (ϵ_r):	39.58	40.00	-1.05	5
		e''	13.5700	Conductivity (σ):	1.40	1.40	-0.29	5
	Head 1910	e'	39.5700	Relative Permittivity (ϵ_r):	39.57	40.00	-1.08	5
		e''	13.4300	Conductivity (σ):	1.43	1.40	1.88	5
10/28/2021	Head 1900	e'	40.0700	Relative Permittivity (ϵ_r):	40.07	40.00	0.18	5
		e''	13.7400	Conductivity (σ):	1.45	1.40	3.68	5
	Head 1850	e'	40.1000	Relative Permittivity (ϵ_r):	40.10	40.00	0.25	5
		e''	13.8500	Conductivity (σ):	1.42	1.40	1.76	5
	Head 1910	e'	40.0700	Relative Permittivity (ϵ_r):	40.07	40.00	0.18	5
		e''	13.7400	Conductivity (σ):	1.46	1.40	4.23	5
10/28/2021	Head 2600	e'	39.1100	Relative Permittivity (ϵ_r):	39.11	39.01	0.25	5
		e''	13.5700	Conductivity (σ):	1.96	1.96	-0.02	5
	Head 2500	e'	39.2500	Relative Permittivity (ϵ_r):	39.25	39.14	0.29	5
		e''	13.5200	Conductivity (σ):	1.88	1.85	1.37	5
	Head 2700	e'	38.9000	Relative Permittivity (ϵ_r):	38.90	38.88	0.04	5
		e''	13.6000	Conductivity (σ):	2.04	2.07	-1.38	5

SAR 7 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/14/2021	Head 750	e'	41.5200	Relative Permittivity (ε_r):	41.52	41.96	-1.05	5
		e''	21.8200	Conductivity (σ):	0.91	0.89	1.89	5
	Head 700	e'	41.6800	Relative Permittivity (ε_r):	41.68	42.22	-1.27	5
		e''	22.9900	Conductivity (σ):	0.89	0.89	0.63	5
	Head 790	e'	41.3900	Relative Permittivity (ε_r):	41.39	41.76	-0.88	5
		e''	20.9900	Conductivity (σ):	0.92	0.90	2.89	5
10/15/2021	Head 835	e'	41.8300	Relative Permittivity (ε_r):	41.83	41.50	0.80	5
		e''	19.8100	Conductivity (σ):	0.92	0.90	2.19	5
	Head 820	e'	41.8900	Relative Permittivity (ε_r):	41.89	41.60	0.69	5
		e''	20.0600	Conductivity (σ):	0.91	0.90	1.80	5
	Head 850	e'	41.8000	Relative Permittivity (ε_r):	41.80	41.50	0.72	5
		e''	19.5900	Conductivity (σ):	0.93	0.92	1.19	5
10/18/2021	Head 750	e'	40.1400	Relative Permittivity (ε_r):	40.14	41.96	-4.34	5
		e''	21.0000	Conductivity (σ):	0.88	0.89	-1.94	5
	Head 700	e'	40.2500	Relative Permittivity (ε_r):	40.25	42.22	-4.66	5
		e''	22.0800	Conductivity (σ):	0.86	0.89	-3.35	5
	Head 790	e'	40.0400	Relative Permittivity (ε_r):	40.04	41.76	-4.11	5
		e''	20.2500	Conductivity (σ):	0.89	0.90	-0.74	5
10/18/2021	Head 835	e'	39.8900	Relative Permittivity (ε_r):	39.89	41.50	-3.88	5
		e''	19.5400	Conductivity (σ):	0.91	0.90	0.80	5
	Head 820	e'	39.9300	Relative Permittivity (ε_r):	39.93	41.60	-4.02	5
		e''	19.7700	Conductivity (σ):	0.90	0.90	0.33	5
	Head 850	e'	39.8700	Relative Permittivity (ε_r):	39.87	41.50	-3.93	5
		e''	19.3000	Conductivity (σ):	0.91	0.92	-0.31	5
10/18/2021	Head 1750	e'	38.3000	Relative Permittivity (ε_r):	38.30	40.08	-4.45	5
		e''	13.8000	Conductivity (σ):	1.34	1.37	-1.91	5
	Head 1710	e'	38.4300	Relative Permittivity (ε_r):	38.43	40.15	-4.27	5
		e''	13.9300	Conductivity (σ):	1.32	1.35	-1.63	5
	Head 1755	e'	38.2900	Relative Permittivity (ε_r):	38.29	40.08	-4.46	5
		e''	13.7900	Conductivity (σ):	1.35	1.37	-1.90	5
10/18/2021	Head 1900	e'	38.1400	Relative Permittivity (ε_r):	38.14	40.00	-4.65	5
		e''	13.6000	Conductivity (σ):	1.44	1.40	2.63	5
	Head 1850	e'	38.2300	Relative Permittivity (ε_r):	38.23	40.00	-4.43	5
		e''	13.6300	Conductivity (σ):	1.40	1.40	0.15	5
	Head 1910	e'	38.1200	Relative Permittivity (ε_r):	38.12	40.00	-4.70	5
		e''	13.5900	Conductivity (σ):	1.44	1.40	3.09	5
10/18/2021	Head 2600	e'	37.2200	Relative Permittivity (ε_r):	37.22	39.01	-4.59	5
		e''	13.3800	Conductivity (σ):	1.93	1.96	-1.42	5
	Head 2500	e'	37.3300	Relative Permittivity (ε_r):	37.33	39.14	-4.62	5
		e''	13.3200	Conductivity (σ):	1.85	1.85	-0.13	5
	Head 2700	e'	37.0300	Relative Permittivity (ε_r):	37.03	38.88	-4.77	5
		e''	13.4700	Conductivity (σ):	2.02	2.07	-2.32	5
10/20/2021	Head 2450	e'	38.8700	Relative Permittivity (ε_r):	38.87	39.20	-0.84	5
		e''	13.5200	Conductivity (σ):	1.84	1.80	2.32	5
	Head 2400	e'	38.9600	Relative Permittivity (ε_r):	38.96	39.30	-0.86	5
		e''	13.5200	Conductivity (σ):	1.80	1.75	3.00	5
	Head 2480	e'	38.8300	Relative Permittivity (ε_r):	38.83	39.16	-0.85	5
		e''	13.5400	Conductivity (σ):	1.87	1.83	1.89	5

SAR 7 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/20/2021	Head 5250	e'	35.4900	Relative Permittivity (ϵ_r):	35.49	35.93	-1.23	5
		e"	16.2900	Conductivity (σ):	4.76	4.70	1.13	5
	Head 5260	e'	35.4700	Relative Permittivity (ϵ_r):	35.47	35.92	-1.26	5
		e"	16.2900	Conductivity (σ):	4.76	4.71	1.10	5
	Head 5600	e'	34.8900	Relative Permittivity (ϵ_r):	34.89	35.53	-1.81	5
		e"	16.4000	Conductivity (σ):	5.11	5.06	0.92	5
	Head 5750	e'	34.5700	Relative Permittivity (ϵ_r):	34.57	35.36	-2.24	5
		e"	16.5000	Conductivity (σ):	5.28	5.21	1.18	5
	Head 5825	e'	34.4800	Relative Permittivity (ϵ_r):	34.48	35.30	-2.32	5
		e"	16.6000	Conductivity (σ):	5.38	5.27	2.02	5
10/25/2021	Head 5250	e'	35.6700	Relative Permittivity (ϵ_r):	35.67	35.93	-0.73	5
		e"	16.3600	Conductivity (σ):	4.78	4.70	1.57	5
	Head 5260	e'	35.6500	Relative Permittivity (ϵ_r):	35.65	35.92	-0.76	5
		e"	16.3700	Conductivity (σ):	4.79	4.71	1.60	5
	Head 5600	e'	35.0500	Relative Permittivity (ϵ_r):	35.05	35.53	-1.36	5
		e"	16.5100	Conductivity (σ):	5.14	5.06	1.59	5
	Head 5750	e'	34.7600	Relative Permittivity (ϵ_r):	34.76	35.36	-1.70	5
		e"	16.6000	Conductivity (σ):	5.31	5.21	1.80	5
	Head 5825	e'	34.6300	Relative Permittivity (ϵ_r):	34.63	35.30	-1.90	5
		e"	16.6900	Conductivity (σ):	5.41	5.27	2.57	5
10/27/2021	Head 2450	e'	38.6400	Relative Permittivity (ϵ_r):	38.64	39.20	-1.43	5
		e"	13.6600	Conductivity (σ):	1.86	1.80	3.38	5
	Head 2400	e'	38.7400	Relative Permittivity (ϵ_r):	38.74	39.30	-1.42	5
		e"	13.6900	Conductivity (σ):	1.83	1.75	4.30	5
	Head 2480	e'	38.5800	Relative Permittivity (ϵ_r):	38.58	39.16	-1.49	5
		e"	13.6400	Conductivity (σ):	1.88	1.83	2.64	5

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 2.5 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 1.4 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

Reference Target SAR Values

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

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (W/kg)	
				1g/10g	Head
D750V3	1122	2/24/2020	750	1g	8.54
				10g	5.59
D835V2	4d194	3/20/2020	835	1g	9.76
				10g	6.42
D1750V2	1125	2/21/2020	1750	1g	36.50
				10g	19.20
D1900V2	5d190	3/19/2020	1900	1g	40.50
				10g	21.00
D1900V2	5d199	3/19/2020	1900	1g	40.50
				10g	21.00
D2450V2	960	3/20/2020	2450	1g	53.20
				10g	24.80
D2600V2	1097	9/29/2021	2600	1g	57.10
				10g	25.50
D2600V2	1178	4/21/2021	2600	1g	56.60
				10g	25.40
D5GHzV2	1209	2/27/2020	5250	1g	79.90
				10g	22.60
			5600	1g	83.60
				10g	23.60
			5750	1g	80.20
				10g	22.60

Note(s):

Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations.

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.

SAR 3 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/12/2021	D1750V2	1125	Head	1g	3.76	37.6	36.50	3.01	
				10g	2.03	20.3	19.20	5.73	
10/13/2021	D1900V2	5d199	Head	1g	4.34	43.4	40.50	7.16	1, 2
				10g	2.27	22.7	21.00	8.10	
10/15/2021	D1750V2	1125	Head	1g	3.41	34.1	36.50	-6.58	3, 4
				10g	1.84	18.4	19.20	-4.17	
10/18/2021	D1750V2	1125	Head	1g	3.49	34.9	36.50	-4.38	
				10g	1.88	18.8	19.20	-2.08	
10/18/2021	D750V3	1122	Head	1g	0.90	9.0	8.54	5.27	5, 6
				10g	0.60	6.0	5.59	6.80	
10/18/2021	D835V2	4d194	Head	1g	1.04	10.4	9.76	6.56	7, 8
				10g	0.70	7.0	6.42	8.72	
10/18/2021	D1900V2	5d199	Head	1g	3.90	39.0	40.50	-3.70	
				10g	2.05	20.5	21.00	-2.38	
10/19/2021	D2450V2	960	Head	1g	4.88	48.8	53.20	-8.27	9, 10
				10g	2.30	23.0	24.80	-7.26	
10/19/2021	D2600V2	1178	Head	1g	5.19	51.9	56.60	-8.30	11, 12
				10g	2.36	23.6	25.40	-7.09	
10/20/2021	D5GHzV2 (5250)	1209	Head	1g	7.92	79.2	79.90	-0.88	
				10g	2.26	22.6	22.60	0.00	
10/20/2021	D5GHzV2 (5600)	1209	Head	1g	8.19	81.9	83.60	-2.03	
				10g	2.32	23.2	23.60	-1.69	
10/20/2021	D5GHzV2 (5750)	1209	Head	1g	7.64	76.4	80.20	-4.74	
				10g	2.17	21.7	22.60	-3.98	
10/31/2021	D5GHzV2 (5750)	1209	Head	1g	8.03	80.3	80.20	0.12	
				10g	2.29	22.9	22.60	1.33	
10/31/2021	D2450V2	960	Head	1g	5.25	52.5	53.20	-1.32	
				10g	2.47	24.7	24.80	-0.40	

SAR 4 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10-27-2021	D2450V2	960	Head	1g	4.89	48.9	53.20	-8.08	13, 14
				10g	2.26	22.6	24.80	-8.87	
10-30-2021	D2450V2	960	Head	1g	5.22	52.2	53.20	-1.88	
				10g	2.41	24.1	24.80	-2.82	
11-18-2021	D1750V2	1125	Head	1g	3.62	36.2	36.50	-0.82	
				10g	1.91	19.1	19.20	-0.52	

SAR 5 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/14/2021	D835V2	4d194	Head	1g	1.00	10.0	9.76	2.46	
				10g	0.65	6.5	6.42	1.40	
10/27/2021	D5GHzV2 (5250)	1209	Head	1g	8.51	85.1	79.90	6.51	
				10g	2.44	24.4	22.60	7.96	
10/27/2021	D5GHzV2 (5600)	1209	Head	1g	8.95	89.5	83.60	7.06	
				10g	2.53	25.3	23.60	7.20	
10/27/2021	D5GHzV2 (5750)	1209	Head	1g	8.61	86.1	80.20	7.36	15, 16
				10g	2.42	24.2	22.60	7.08	

SAR 6 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/12/2021	D1750V2	1125	Head	1g	3.69	36.9	36.50	1.10	
				10g	1.95	19.5	19.20	1.56	
10/12/2021	D1900V2	5d190	Head	1g	4.05	40.5	40.10	1.00	
				10g	2.08	20.8	20.70	0.48	
10/28/2021	D1900V2	5d190	Head	1g	4.11	41.1	40.10	2.49	
				10g	2.11	21.1	20.70	1.93	
10/28/2021	D2600V2	1097	Head	1g	5.43	54.3	57.10	-4.90	17, 18
				10g	2.44	24.4	25.50	-4.31	

SAR 7 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10/14/2021	D750V3	1122	Head	1g	0.86	8.6	8.54	0.59	
				10g	0.57	5.7	5.59	1.25	
10/15/2021	D835V2	4d194	Head	1g	0.99	9.9	9.76	0.92	
				10g	0.64	6.4	6.42	-0.78	
10/18/2021	D750V3	1122	Head	1g	0.83	8.3	8.54	-3.28	
				10g	0.54	5.4	5.59	-2.68	
10/18/2021	D835V2	4d194	Head	1g	0.96	9.6	9.76	-1.23	
				10g	0.63	6.3	6.42	-2.02	
10/18/2021	D1750V2	1125	Head	1g	3.55	35.5	36.50	-2.74	
				10g	1.89	18.9	19.20	-1.56	
10/18/2021	D1900V2	5d190	Head	1g	3.83	38.3	40.10	-4.49	19, 20
				10g	1.97	19.7	20.70	-4.83	
10/18/2021	D2600V2	1097	Head	1g	5.53	55.3	57.10	-3.15	
				10g	2.48	24.8	25.50	-2.75	
10/20/2021	D2450V2	960	Head	1g	5.19	51.9	53.20	-2.44	
				10g	2.39	23.9	24.80	-3.63	
10/20/2021	D5GHzV2 (5250)	1209	Head	1g	7.92	79.2	79.90	-0.88	
				10g	2.28	22.8	22.60	0.88	
10/20/2021	D5GHzV2 (5600)	1209	Head	1g	8.40	84.0	83.60	0.48	
				10g	2.39	23.9	23.60	1.27	
10/20/2021	D5GHzV2 (5750)	1209	Head	1g	7.97	79.7	80.20	-0.62	
				10g	2.28	22.8	22.60	0.88	
10/25/2021	D5GHzV2 (5250)	1209	Head	1g	8.00	80.0	79.90	0.13	
				10g	2.30	23.0	22.60	1.77	
10/25/2021	D5GHzV2 (5600)	1209	Head	1g	8.31	83.1	83.60	-0.60	
				10g	2.37	23.7	23.60	0.42	
10/25/2021	D5GHzV2 (5750)	1209	Head	1g	8.37	83.7	80.20	4.36	
				10g	2.40	24.0	22.60	6.19	
10/27/2021	D2450V2	960	Head	1g	5.45	54.5	53.20	2.44	
				10g	2.54	25.4	24.80	2.42	

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.

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
GSM (Voice)	CS1	1	128	824.2	33.0	23.9	33.5	24.5
			190	836.6	33.2	24.2		
			251	848.8	33.3	24.2		
GPRS (GMSK)	CS1	1	128	824.2	33.1	24.0	33.5	24.5
			190	836.6	33.3	24.3		
			251	848.8	33.2	24.2		
		2	128	824.2	30.7	24.7	31.5	25.5
			190	836.6	31.0	25.0		
			251	848.8	31.0	25.0		
		3	128	824.2	29.1	24.8	30.5	**26.2**
			190	836.6	29.3	25.1		
			251	848.8	29.2	24.9		
		4	128	824.2	28.2	25.2	29.0	26.0
			190	836.6	28.4	25.4		
			251	848.8	28.6	25.6		
EGPRS (8PSK)	MCS5	1	128	824.2	26.5	17.5	27.0	18.0
			190	836.6	26.7	17.6		
			251	848.8	27.0	18.0		
		2	128	824.2	24.9	18.9	25.0	19.0
			190	836.6	25.0	19.0		
			251	848.8	25.0	19.0		
		3	128	824.2	23.1	18.9	24.0	19.7
			190	836.6	23.3	19.1		
			251	848.8	24.0	19.7		
		4	128	824.2	21.9	18.9	23.0	20.0
			190	836.6	22.1	19.1		
			251	848.8	22.1	19.1		

Notes:

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

- GMSK (GPRS) mode with 3 time slots for Max power, based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is ≤ 1.2W/kg.

GSM1900 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
GSM (Voice)	CS1	1	512	1850.2	29.7	20.7	30.5	**21.5**
			661	1880.0	29.6	20.6		
			810	1909.8	29.7	20.7		
GPRS (GMSK)	CS1	1	512	1850.2	29.8	20.8	30.5	**21.5**
			661	1880.0	29.5	20.5		
			810	1909.8	29.6	20.5		
		2	512	1850.2	26.1	20.1	27.0	21.0
			661	1880.0	26.1	20.1		
			810	1909.8	26.2	20.2		
		3	512	1850.2	24.3	20.1	25.5	21.2
			661	1880.0	24.2	20.0		
			810	1909.8	24.4	20.2		
		4	512	1850.2	22.9	19.9	23.5	20.5
			661	1880.0	22.8	19.8		
			810	1909.8	23.0	20.0		
EGPRS (8PSK)	MCS5	1	512	1850.2	24.6	15.5	25.5	16.5
			661	1880.0	24.5	15.4		
			810	1909.8	24.5	15.5		
		2	512	1850.2	22.4	16.3	23.5	17.5
			661	1880.0	22.2	16.2		
			810	1909.8	22.3	16.3		
		3	512	1850.2	21.0	16.8	22.5	18.2
			661	1880.0	20.6	16.4		
			810	1909.8	20.9	16.6		
		4	512	1850.2	19.4	16.4	19.5	16.5
			661	1880.0	19.2	16.2		
			810	1909.8	19.3	16.3		

Notes:

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

- GMSK (GPRS) mode with 1 time slot for Max power based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is ≤ 1.2W/kg.

GSM1900 Measured Results (Continued)

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Reduced Average Power (dBm) Hotspot back-off				Reduced Average Power (dBm) Proximity sensor back-off			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	512	1850.2	27.6	18.6	28.0	**19.0**	27.7	18.7	28.0	**19.0**
			661	1880.0	27.3	18.3			27.5	18.4		
			810	1909.8	27.4	18.4			27.6	18.6		
GPRS (GMSK)	CS1	1	512	1850.2	27.7	18.6	28.0	**19.0**	27.6	18.5	28.0	**19.0**
			661	1880.0	27.5	18.4			27.4	18.4		
			810	1909.8	27.5	18.5			27.5	18.4		
		2	512	1850.2	24.4	18.3	24.5	18.5	24.3	18.3	24.5	18.5
			661	1880.0	24.3	18.3			24.3	18.3		
			810	1909.8	24.4	18.4			24.4	18.4		
		3	512	1850.2	22.4	18.2	22.5	18.2	22.4	18.1	22.5	18.2
			661	1880.0	22.3	18.1			22.4	18.1		
			810	1909.8	22.5	18.2			22.5	18.2		
		4	512	1850.2	21.0	18.0	21.0	18.0	20.9	17.9	21.0	18.0
			661	1880.0	20.9	17.9			20.9	17.9		
			810	1909.8	21.0	18.0			21.0	18.0		
EGPRS (8PSK)	MCS5	1	512	1850.2								
			661	1880.0								
			810	1909.8								
		2	512	1850.2								
			661	1880.0								
			810	1909.8								
		3	512	1850.2								
			661	1880.0								
			810	1909.8								
		4	512	1850.2								
			661	1880.0								
			810	1909.8								

Notes:

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

- GMSK (GPRS) mode with 1 time slot for Reduced power, based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is ≤ 1.2W/kg.

9.2. W-CDMA

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 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 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 Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	11/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	11/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs=βhs/βc	30/15			

HSPA (HSDPA & HSUPA) Setup Procedures used to establish the test signals

The following 5 Sub-tests were completed according to Release 6 procedures in table C,11.1.3 of 3GPP TS 34.121-1 v13.
A summary of these settings are illustrated below:

	Mode	HSPA				
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2 kbps RMC				
	HSDPA FRC	H-Set 1				
	HSUPA Test	HSPA				
	Power Control Algorithm	Algorithm 2				Algorithm 1
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/βd	11/15	6/15	15/9	2/15	-
	βhs	22/15	12/15	30/15	4/15	5/15
	βed	1309/225	94/75	47/15	56/75	47/15
	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	E-DPDCH	6	8	8	5	0
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	12
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	67
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	5	5	2	5	1
	Reference E-TFCI	11	11	11	11	67
	Reference E-TFCI PO	4	4	4	4	18
	Reference E-TFCI	67	67	92	67	67
	Reference E-TFCI PO	18	18	18	18	18
	Reference E-TFCI	71	71	71	71	71
	Reference E-TFCI PO	23	23	23	23	23
	Reference E-TFCI	75	75	75	75	75
	Reference E-TFCI PO	26	26	26	26	26
	Reference E-TFCI	81	81	81	81	81
	Reference E-TFCI PO	27	27	27	27	27
	Maximum Channelization Codes	2xSF2				SF4

DC-HSDPA Setup Procedures used to establish the test signals

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH _Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

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	Processes	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.		

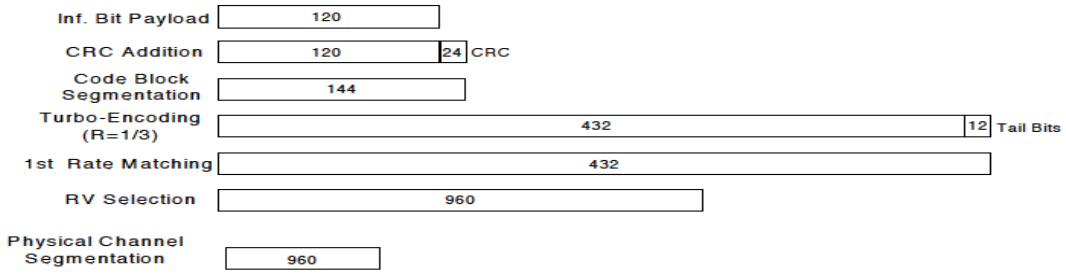


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 12			
	Power Control Algorithm	Algorithm2			
	βc	2/15	11/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/βd	2/15	11/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack Repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs = βhs/ βc	30/15			

HSPA+

HSPA+ is only supported to down link. Therefore, the RF conducted power is not measured.

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			Reduced Average Power (dBm) Hotspot back-off			Reduced Average Power (dBm) Proximity sensor back-off		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.5	N/A	23.0	18.9	N/A	19.5	19.0	0	19.5
		9400	1880.0	22.8			19.0			19.1		
		9538	1907.6	22.9			19.2			19.2		
HSDPA	Subtest 1	9262	1852.4	21.6	0	22.5	18.9	0	19.5	19.0	0	19.5
		9400	1880.0	21.8			19.1			19.1		
		9538	1907.6	22.0			19.2			19.2		
	Subtest 2	9262	1852.4	21.1	0	22.5	18.9	0	19.5	19.0	0	19.5
		9400	1880.0	21.2			19.0			19.1		
		9538	1907.6	21.4			19.2			19.2		
	Subtest 3	9262	1852.4	21.6	0.5	22.0	18.9	0	19.5	18.9	0	19.5
		9400	1880.0	21.7			19.0			19.0		
		9538	1907.6	21.9			19.1			19.2		
	Subtest 4	9262	1852.4	20.5	0.5	22.0	18.9	0	19.5	18.9	0	19.5
		9400	1880.0	20.6			19.0			19.1		
		9538	1907.6	20.9			19.1			19.3		
HSUPA	Subtest 1	9262	1852.4	19.4	1	21.0	17.9	0	19.5	18.0	0	19.5
		9400	1880.0	19.6			18.2			18.3		
		9538	1907.6	19.7			18.3			18.4		
	Subtest 2	9262	1852.4	18.0	2	20.0	17.9	0	19.5	18.0	0	19.5
		9400	1880.0	18.1			18.2			18.3		
		9538	1907.6	18.3			18.4			18.4		
	Subtest 3	9262	1852.4	21.5	0	22.0	17.9	0	19.5	18.0	0	19.5
		9400	1880.0	21.6			18.2			18.3		
		9538	1907.6	21.8			18.4			18.4		
	Subtest 4	9262	1852.4	18.0	2	20.0	18.0	0	19.5	18.0	0	19.5
		9400	1880.0	18.2			18.1			18.3		
		9538	1907.6	18.4			18.3			18.4		
	Subtest 5	9262	1852.4	21.0	0	22.0	19.1	0	19.5	19.1	0	19.5
		9400	1880.0	21.2			19.2			19.2		
		9538	1907.6	21.3			19.3			19.3		
DC-HSDPA	Subtest 1	9262	1852.4	21.5	0	22.5	18.9	0	19.5	19.0	0	19.5
		9400	1880.0	21.6			19.1			19.1		
		9538	1907.6	21.8			19.3			19.3		
	Subtest 2	9262	1852.4	21.0	0	22.5	18.9	0	19.5	19.0	0	19.5
		9400	1880.0	21.2			19.1			19.1		
		9538	1907.6	21.3			19.3			19.3		
	Subtest 3	9262	1852.4	20.0	0.5	22.0	18.9	0	19.5	19.0	0	19.5
		9400	1880.0	20.1			19.1			19.1		
		9538	1907.6	20.3			19.3			19.3		
	Subtest 4	9262	1852.4	20.4	0.5	22.0	19.0	0	19.5	19.1	0	19.5
		9400	1880.0	20.6			19.1			19.1		
		9538	1907.6	20.8			19.2			19.3		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			Reduced Average Power (dBm) Hotspot back-off			Reduced Average Power (dBm) Proximity sensor back-off		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.1	N/A	23.5	18.5	N/A	19.5	18.6	N/A	19.5
		1413	1732.6	22.2			18.6			18.8		
		1513	1752.6	22.2			18.5			18.7		
HSDPA	Subtest 1	1312	1712.4	20.9	0	22.5	18.4	0	19.0	18.6	0	19.0
		1413	1732.6	21.2			18.6			18.7		
		1513	1752.6	21.1			18.6			18.6		
	Subtest 2	1312	1712.4	20.6	0	22.5	18.5	0	19.0	18.6	0	19.0
		1413	1732.6	20.7			18.7			18.7		
		1513	1752.6	20.6			18.6			18.6		
	Subtest 3	1312	1712.4	20.9	0.5	22.0	18.5	0	19.0	18.6	0	19.0
		1413	1732.6	21.1			18.5			18.7		
		1513	1752.6	21.0			18.5			18.6		
	Subtest 4	1312	1712.4	20.5	0.5	22.0	18.5	0	19.0	18.5	0	19.0
		1413	1732.6	20.6			18.7			18.7		
		1513	1752.6	20.5			18.5			18.6		
HSUPA	Subtest 1	1312	1712.4	19.5	0	21.5	18.1	0	19.0	18.0	0	19.0
		1413	1732.6	19.6			18.0			17.8		
		1513	1752.6	19.4			18.7			18.5		
	Subtest 2	1312	1712.4	18.6	2	19.5	18.1	0	19.0	17.9	0	19.0
		1413	1732.6	18.7			18.0			17.8		
		1513	1752.6	18.5			18.6			18.4		
	Subtest 3	1312	1712.4	21.0	0	21.5	18.1	0	19.0	18.0	0	19.0
		1413	1732.6	21.1			18.3			17.6		
		1513	1752.6	21.0			18.3			18.1		
	Subtest 4	1312	1712.4	18.7	2	19.5	17.6	0	19.0	17.6	0	19.0
		1413	1732.6	18.8			17.7			17.7		
		1513	1752.6	18.7			18.1			18.1		
	Subtest 5	1312	1712.4	21.0	0	21.5	18.6	0	19.0	18.6	0	19.0
		1413	1732.6	21.1			18.7			18.7		
		1513	1752.6	21.1			18.6			18.6		
DC-HSDPA	Subtest 1	1312	1712.4	20.9	0	21.5	18.5	0	19.0	18.5	0	19.0
		1413	1732.6	21.1			18.6			18.6		
		1513	1752.6	21.2			18.7			18.8		
	Subtest 2	1312	1712.4	20.6	0	21.5	18.5	0	19.0	18.5	0	19.0
		1413	1732.6	20.6			18.7			18.7		
		1513	1752.6	20.7			18.7			18.8		
	Subtest 3	1312	1712.4	19.6	0.5	21.0	18.6	0	19.0	18.6	0	19.0
		1413	1732.6	19.6			18.6			18.6		
		1513	1752.6	19.7			18.7			18.8		
	Subtest 4	1312	1712.4	20.6	0.5	21.0	18.5	0	19.0	18.5	0	19.0
		1413	1732.6	20.6			18.7			18.7		
		1513	1752.6	20.6			18.7			18.6		

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	24.4	N/A	25.0
		4183	836.6	24.5		
		4233	846.6	24.3		
HSDPA	Subtest 1	4132	826.4	22.7	0	23.0
		4183	836.6	22.9		
		4233	846.6	22.6		
	Subtest 2	4132	826.4	22.2	0	23.0
		4183	836.6	22.3		
		4233	846.6	22.1		
	Subtest 3	4132	826.4	21.6	0.5	22.5
		4183	836.6	21.7		
		4233	846.6	21.5		
	Subtest 4	4132	826.4	21.1	0.5	22.5
		4183	836.6	21.3		
		4233	846.6	21.0		
HSUPA	Subtest 1	4132	826.4	21.6	0	23.0
		4183	836.6	21.7		
		4233	846.6	21.5		
	Subtest 2	4132	826.4	19.7	2	21.0
		4183	836.6	19.8		
		4233	846.6	19.6		
	Subtest 3	4132	826.4	20.6	1	22.0
		4183	836.6	20.7		
		4233	846.6	20.5		
	Subtest 4	4132	826.4	19.7	2	21.0
		4183	836.6	19.8		
		4233	846.6	19.6		
	Subtest 5	4132	826.4	22.8	0	23.0
		4183	836.6	22.9		
		4233	846.6	22.6		
DC-HSDPA	Subtest 1	4132	826.4	22.7	0	23.0
		4183	836.6	22.8		
		4233	846.6	22.7		
	Subtest 2	4132	826.4	22.2	0	23.0
		4183	836.6	22.3		
		4233	846.6	22.2		
	Subtest 3	4132	826.4	20.6	0.5	22.5
		4183	836.6	20.8		
		4233	846.6	20.6		
	Subtest 4	4132	826.4	21.2	0.5	22.5
		4183	836.6	21.3		
		4233	846.6	21.2		

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

Maximum Output Power (Tune-up Limit) for LTE

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 5 (824 – 849 MHz) is covered by LTE Band 26 (814 – 849 MHz)
- LTE Band 17 (704 – 716 MHz) is covered by LTE Band 12 (699 – 716 MHz)

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.

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

SAR measurement is not required for Higher order modulations. When the highest maximum output power for Higher order modulations are ≤ 0.5 dB higher than the QPSK or when the reported SAR for QPSK configuration is ≤ 1.45 W/kg.

1. Max power

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				Measured Pwr (dBm)				
				23060	23095	23130		
				704 MHz	707.5 MHz	711 MHz		
10 MHz	QPSK	1	0		24.8		0.0	25.0
		1	25		24.6		0.0	25.0
		1	49		24.6		0.0	25.0
		25	0		23.7		1.0	24.0
		25	12		23.7		1.0	24.0
		25	25		23.7		1.0	24.0
		50	0		23.7		1.0	24.0
	16QAM	1	0		24.0		1.0	24.0
		1	25		23.7		1.0	24.0
		1	49		23.9		1.0	24.0
		25	0		22.8		2.0	23.0
		25	12		22.7		2.0	23.0
		25	25		22.7		2.0	23.0
		50	0		22.7		2.0	23.0
	64QAM	1	0		22.9		2.0	23.0
		1	25		22.7		2.0	23.0
		1	49		23.0		2.0	23.0
		25	0		21.7		3.0	22.0
		25	12		21.7		3.0	22.0
		25	25		21.7		3.0	22.0
		50	0		21.7		3.0	22.0
	256QAM	1	0		20.0		5.0	20.0
		1	25		19.8		5.0	20.0
		1	49		19.9		5.0	20.0
		25	0		19.7		5.0	20.0
		25	12		19.7		5.0	20.0
		25	25		19.7		5.0	20.0
		50	0		19.7		5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23035	23095	23155		
				701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	24.7	24.6	24.5	0.0	25.0
		1	12	24.6	24.7	24.7	0.0	25.0
		1	24	24.7	24.7	24.6	0.0	25.0
		12	0	23.7	23.7	23.5	1.0	24.0
		12	7	23.7	23.6	23.5	1.0	24.0
		12	13	23.7	23.7	23.5	1.0	24.0
		25	0	23.7	23.7	23.5	1.0	24.0
	16QAM	1	0	24.0	24.0	23.8	1.0	24.0
		1	12	24.0	24.0	23.7	1.0	24.0
		1	24	24.0	24.0	23.9	1.0	24.0
		12	0	22.7	22.7	22.6	2.0	23.0
		12	7	22.7	22.7	22.6	2.0	23.0
		12	13	22.6	22.7	22.6	2.0	23.0
		25	0	22.6	22.6	22.5	2.0	23.0
	64QAM	1	0	23.0	22.8	22.5	2.0	23.0
		1	12	22.7	22.8	22.7	2.0	23.0
		1	24	23.0	22.9	22.7	2.0	23.0
		12	0	21.7	21.8	21.4	3.0	22.0
		12	7	21.7	21.7	21.4	3.0	22.0
		12	13	21.7	21.7	21.4	3.0	22.0
		25	0	21.7	21.7	21.5	3.0	22.0
	256QAM	1	0	20.0	19.7	19.6	5.0	20.0
		1	12	20.0	19.7	19.7	5.0	20.0
		1	24	20.0	19.8	19.6	5.0	20.0
		12	0	19.7	19.7	19.5	5.0	20.0
		12	7	19.7	19.7	19.5	5.0	20.0
		12	13	19.7	19.7	19.5	5.0	20.0
		25	0	19.6	19.7	19.4	5.0	20.0

LTE Band 12 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23025	23095	23165		
				700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	24.7	24.7	24.6	0.0	25.0
		1	8	25.0	24.5	24.9	0.0	25.0
		1	14	24.8	24.6	24.6	0.0	25.0
		8	0	23.7	23.6	23.5	1.0	24.0
		8	4	23.8	23.6	23.5	1.0	24.0
		8	7	23.8	23.6	23.5	1.0	24.0
		15	0	23.7	23.6	23.5	1.0	24.0
	16QAM	1	0	24.0	24.0	24.0	1.0	24.0
		1	8	24.0	24.0	24.0	1.0	24.0
		1	14	24.0	24.0	24.0	1.0	24.0
		8	0	22.7	22.7	22.6	2.0	23.0
		8	4	22.7	22.7	22.6	2.0	23.0
		8	7	22.7	22.7	22.5	2.0	23.0
		15	0	22.8	22.8	22.6	2.0	23.0
	64QAM	1	0	23.0	23.0	22.4	2.0	23.0
		1	8	22.9	23.0	22.7	2.0	23.0
		1	14	22.9	23.0	22.6	2.0	23.0
		8	0	21.7	21.6	21.5	3.0	22.0
		8	4	21.7	21.6	21.5	3.0	22.0
		8	7	21.7	21.6	21.5	3.0	22.0
		15	0	21.7	21.7	21.5	3.0	22.0
	256QAM	1	0	19.6	20.0	19.5	5.0	20.0
		1	8	19.8	20.0	19.4	5.0	20.0
		1	14	19.6	20.0	19.5	5.0	20.0
		8	0	19.7	19.7	19.5	5.0	20.0
		8	4	19.7	19.7	19.4	5.0	20.0
		8	7	19.7	19.7	19.5	5.0	20.0
		15	0	19.8	19.7	19.5	5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23017	23095	23173		
				699.7 MHz	707.5 MHz	715.3 MHz		
1.4 MHz	QPSK	1	0	24.5	24.5	24.4	0.0	25.0
		1	3	24.4	24.5	24.3	0.0	25.0
		1	5	24.5	24.5	24.4	0.0	25.0
		3	0	24.5	24.5	24.3	0.0	25.0
		3	1	24.4	24.5	24.3	0.0	25.0
		3	3	24.5	24.5	24.4	0.0	25.0
		6	0	23.5	23.5	23.4	1.0	24.0
	16QAM	1	0	23.7	24.0	23.6	1.0	24.0
		1	3	23.6	23.9	23.4	1.0	24.0
		1	5	23.7	24.0	23.6	1.0	24.0
		3	0	23.6	23.7	23.4	1.0	24.0
		3	1	23.6	23.8	23.4	1.0	24.0
		3	3	23.5	23.7	23.4	1.0	24.0
		6	0	22.6	22.5	22.5	2.0	23.0
	64QAM	1	0	22.9	22.7	22.5	2.0	23.0
		1	3	22.9	22.6	22.4	2.0	23.0
		1	5	22.9	22.6	22.6	2.0	23.0
		3	0	22.7	22.5	22.4	2.0	23.0
		3	1	22.8	22.7	22.4	2.0	23.0
		3	3	22.8	22.6	22.4	2.0	23.0
		6	0	21.7	21.7	21.4	3.0	22.0
	256QAM	1	0	19.6	19.6	19.3	5.0	20.0
		1	3	19.6	19.5	19.3	5.0	20.0
		1	5	19.6	19.6	19.3	5.0	20.0
		3	0	19.6	19.5	19.4	5.0	20.0
		3	1	19.6	19.5	19.4	5.0	20.0
		3	3	19.5	19.5	19.4	5.0	20.0
		6	0	19.5	19.5	19.4	5.0	20.0

LTE Band 13 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				Measured Pwr (dBm)				
					23230			
					782 MHz			
10 MHz	QPSK	1	0		24.2		0.0	25.0
		1	25		24.3		0.0	25.0
		1	49		24.3		0.0	25.0
		25	0		23.3		1.0	24.0
		25	12		23.3		1.0	24.0
		25	25		23.3		1.0	24.0
		50	0		23.3		1.0	24.0
	16QAM	1	0		23.2		1.0	24.0
		1	25		23.2		1.0	24.0
		1	49		23.3		1.0	24.0
		25	0		22.3		2.0	23.0
		25	12		22.4		2.0	23.0
		25	25		22.3		2.0	23.0
		50	0		22.3		2.0	23.0
	64QAM	1	0		22.2		2.0	23.0
		1	25		22.1		2.0	23.0
		1	49		22.2		2.0	23.0
		25	0		21.2		3.0	22.0
		25	12		21.3		3.0	22.0
		25	25		21.3		3.0	22.0
		50	0		21.2		3.0	22.0
	256QAM	1	0		19.2		5.0	20.0
		1	25		19.3		5.0	20.0
		1	49		19.3		5.0	20.0
		25	0		19.3		5.0	20.0
		25	12		19.3		5.0	20.0
		25	25		19.3		5.0	20.0
		50	0		19.2		5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23205	23230	23255		
				779.5 MHz	782 MHz	784.5 MHz		
5 MHz	QPSK	1	0		24.3		0.0	25.0
		1	12		24.4		0.0	25.0
		1	24		24.4		0.0	25.0
		12	0		23.3		1.0	24.0
		12	7		23.3		1.0	24.0
		12	13		23.3		1.0	24.0
		25	0		23.3		1.0	24.0
	16QAM	1	0		23.5		1.0	24.0
		1	12		23.6		1.0	24.0
		1	24		23.6		1.0	24.0
		12	0		22.3		2.0	23.0
		12	7		22.3		2.0	23.0
		12	13		22.4		2.0	23.0
		25	0		22.3		2.0	23.0
	64QAM	1	0		22.5		2.0	23.0
		1	12		22.3		2.0	23.0
		1	24		22.4		2.0	23.0
		12	0		21.2		3.0	22.0
		12	7		21.2		3.0	22.0
		12	13		21.2		3.0	22.0
		25	0		21.2		3.0	22.0
	256QAM	1	0		19.5		5.0	20.0
		1	12		19.7		5.0	20.0
		1	24		19.6		5.0	20.0
		12	0		19.2		5.0	20.0
		12	7		19.2		5.0	20.0
		12	13		19.2		5.0	20.0
		25	0		19.1		5.0	20.0

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				26140	26365	26590		
				1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	21.4	21.6	21.9	0.0	23.0
		1	49	21.1	21.6	21.8	0.0	23.0
		1	99	21.4	21.6	21.8	0.0	23.0
		50	0	20.4	20.6	20.8	1.0	22.0
		50	24	20.4	20.6	20.8	1.0	22.0
		50	50	20.4	20.6	20.8	1.0	22.0
		100	0	20.4	20.6	20.8	1.0	22.0
	16QAM	1	0	20.8	21.1	21.1	1.0	22.0
		1	49	20.6	20.9	20.8	1.0	22.0
		1	99	20.8	21.0	21.0	1.0	22.0
		50	0	19.4	19.6	19.8	2.0	21.0
		50	24	19.4	19.6	19.8	2.0	21.0
		50	50	19.4	19.6	19.8	2.0	21.0
		100	0	19.4	19.6	19.8	2.0	21.0
	64QAM	1	0	19.7	20.0	20.2	2.0	21.0
		1	49	19.6	19.7	20.0	2.0	21.0
		1	99	19.6	19.8	20.2	2.0	21.0
		50	0	18.5	18.7	18.9	3.0	20.0
		50	24	18.5	18.6	18.9	3.0	20.0
		50	50	18.5	18.7	18.9	3.0	20.0
		100	0	18.4	18.7	18.9	3.0	20.0
	256QAM	1	0	16.8	16.7	17.2	5.0	18.0
		1	49	16.7	16.6	17.1	5.0	18.0
		1	99	16.7	16.7	17.1	5.0	18.0
		50	0	16.6	16.7	16.9	5.0	18.0
		50	24	16.5	16.7	16.9	5.0	18.0
		50	50	16.5	16.7	16.9	5.0	18.0
		100	0	16.5	16.7	16.9	5.0	18.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26115	26365	26615		
				1857.5 MHz	1882.5 MHz	1907.5 MHz		
15 MHz	QPSK	1	0	21.5	21.6	22.0	0.0	23.0
		1	37	21.6	21.5	22.2	0.0	23.0
		1	74	21.4	21.6	21.9	0.0	23.0
		36	0	20.4	20.6	20.8	1.0	22.0
		36	20	20.4	20.6	20.8	1.0	22.0
		36	39	20.4	20.6	20.8	1.0	22.0
		75	0	20.4	20.6	20.8	1.0	22.0
	16QAM	1	0	20.7	20.9	21.3	1.0	22.0
		1	37	20.8	20.9	21.4	1.0	22.0
		1	74	20.7	20.9	21.1	1.0	22.0
		36	0	19.4	19.6	19.9	2.0	21.0
		36	20	19.4	19.6	19.8	2.0	21.0
		36	39	19.4	19.6	19.8	2.0	21.0
		75	0	19.4	19.5	19.8	2.0	21.0
	64QAM	1	0	19.7	20.0	20.2	2.0	21.0
		1	37	19.7	20.0	20.3	2.0	21.0
		1	74	19.8	19.9	20.0	2.0	21.0
		36	0	18.5	18.7	19.0	3.0	20.0
		36	20	18.5	18.7	18.9	3.0	20.0
		36	39	18.5	18.7	19.0	3.0	20.0
		75	0	18.5	18.6	18.9	3.0	20.0
	256QAM	1	0	16.6	17.0	16.9	5.0	18.0
		1	37	16.7	17.0	16.8	5.0	18.0
		1	74	16.6	17.0	16.9	5.0	18.0
		36	0	16.5	16.7	16.9	5.0	18.0
		36	20	16.5	16.7	16.9	5.0	18.0
		36	39	16.5	16.7	16.9	5.0	18.0
		75	0	16.5	16.7	16.9	5.0	18.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26090	26365	26640		
				1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	21.5	21.6	21.8	0.0	23.0
		1	25	21.5	21.4	21.7	0.0	23.0
		1	49	21.5	21.5	21.8	0.0	23.0
		25	0	20.5	20.5	20.7	1.0	22.0
		25	12	20.4	20.5	20.7	1.0	22.0
		25	25	20.4	20.5	20.7	1.0	22.0
		50	0	20.4	20.5	20.7	1.0	22.0
	16QAM	1	0	20.6	20.8	21.0	1.0	22.0
		1	25	20.4	20.4	21.0	1.0	22.0
		1	49	20.6	20.7	21.1	1.0	22.0
		25	0	19.5	19.5	19.7	2.0	21.0
		25	12	19.4	19.4	19.7	2.0	21.0
		25	25	19.4	19.5	19.7	2.0	21.0
		50	0	19.4	19.5	19.6	2.0	21.0
	64QAM	1	0	19.7	20.0	19.9	2.0	21.0
		1	25	19.5	19.9	19.8	2.0	21.0
		1	49	19.5	20.0	19.9	2.0	21.0
		25	0	18.6	18.6	18.8	3.0	20.0
		25	12	18.6	18.6	18.8	3.0	20.0
		25	25	18.6	18.6	18.8	3.0	20.0
		50	0	18.5	18.6	18.8	3.0	20.0
	256QAM	1	0	16.6	16.9	16.8	5.0	18.0
		1	25	16.6	16.8	16.7	5.0	18.0
		1	49	16.7	16.9	16.7	5.0	18.0
		25	0	16.7	16.7	16.9	5.0	18.0
		25	12	16.7	16.7	16.8	5.0	18.0
		25	25	16.7	16.7	16.8	5.0	18.0
		50	0	16.6	16.7	16.8	5.0	18.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26065	26365	26665		
				1852.5 MHz	1882.5 MHz	1912.5 MHz		
5 MHz	QPSK	1	0	21.7	21.5	21.6	0.0	23.0
		1	12	21.8	21.7	21.5	0.0	23.0
		1	24	21.7	21.6	21.7	0.0	23.0
		12	0	20.6	20.5	20.6	1.0	22.0
		12	7	20.6	20.5	20.6	1.0	22.0
		12	13	20.6	20.5	20.6	1.0	22.0
		25	0	20.5	20.5	20.5	1.0	22.0
	16QAM	1	0	20.7	20.8	21.0	1.0	22.0
		1	12	20.8	20.8	20.9	1.0	22.0
		1	24	20.8	20.9	20.9	1.0	22.0
		12	0	19.6	19.6	19.6	2.0	21.0
		12	7	19.6	19.6	19.5	2.0	21.0
		12	13	19.6	19.6	19.5	2.0	21.0
		25	0	19.5	19.5	19.5	2.0	21.0
	64QAM	1	0	20.1	19.8	19.7	2.0	21.0
		1	12	19.8	19.7	19.9	2.0	21.0
		1	24	19.9	19.9	19.8	2.0	21.0
		12	0	18.6	18.6	18.7	3.0	20.0
		12	7	18.6	18.6	18.6	3.0	20.0
		12	13	18.6	18.6	18.6	3.0	20.0
		25	0	18.6	18.6	18.7	3.0	20.0
	256QAM	1	0	16.9	16.9	16.8	5.0	18.0
		1	12	17.0	16.6	16.8	5.0	18.0
		1	24	17.0	16.8	16.7	5.0	18.0
		12	0	16.7	16.6	16.7	5.0	18.0
		12	7	16.7	16.7	16.7	5.0	18.0
		12	13	16.7	16.6	16.7	5.0	18.0
		25	0	16.6	16.7	16.7	5.0	18.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26055 1851.5 MHz	26365 1882.5 MHz	26675 1913.5 MHz		
3 MHz	QPSK	1	0	21.7	21.6	21.7	0.0	23.0
		1	8	22.0	21.4	22.0	0.0	23.0
		1	14	21.7	21.5	21.8	0.0	23.0
		8	0	20.6	20.5	20.6	1.0	22.0
		8	4	20.6	20.5	20.6	1.0	22.0
		8	7	20.6	20.5	20.6	1.0	22.0
		15	0	20.6	20.5	20.6	1.0	22.0
	16QAM	1	0	20.7	21.0	21.0	1.0	22.0
		1	8	20.8	20.9	21.2	1.0	22.0
		1	14	20.8	20.8	21.1	1.0	22.0
		8	0	19.6	19.6	19.6	2.0	21.0
		8	4	19.6	19.6	19.7	2.0	21.0
		8	7	19.6	19.6	19.6	2.0	21.0
		15	0	19.6	19.5	19.6	2.0	21.0
	64QAM	1	0	19.9	19.9	19.8	2.0	21.0
		1	8	19.4	20.0	20.0	2.0	21.0
		1	14	19.8	20.0	20.0	2.0	21.0
		8	0	18.6	18.7	18.8	3.0	20.0
		8	4	18.7	18.6	18.7	3.0	20.0
		8	7	18.6	18.6	18.8	3.0	20.0
		15	0	18.6	18.6	18.8	3.0	20.0
	256QAM	1	0	16.5	16.9	16.8	5.0	18.0
		1	8	16.7	17.0	16.6	5.0	18.0
		1	14	16.6	16.9	16.8	5.0	18.0
		8	0	16.7	16.6	16.8	5.0	18.0
		8	4	16.6	16.7	16.7	5.0	18.0
		8	7	16.7	16.7	16.8	5.0	18.0
		15	0	16.8	16.7	16.8	5.0	18.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26047 1850.7 MHz	26365 1882.5 MHz	26683 1914.3 MHz		
1.4 MHz	QPSK	1	0	21.4	21.4	21.5	0.0	23.0
		1	3	21.3	21.4	21.4	0.0	23.0
		1	5	21.4	21.5	21.5	0.0	23.0
		3	0	21.4	21.4	21.5	0.0	23.0
		3	1	21.4	21.4	21.5	0.0	23.0
		3	3	21.4	21.4	21.5	0.0	23.0
		6	0	20.5	20.4	20.5	1.0	22.0
	16QAM	1	0	20.7	20.9	20.6	1.0	22.0
		1	3	20.6	20.8	20.4	1.0	22.0
		1	5	20.7	20.9	20.6	1.0	22.0
		3	0	20.6	20.5	20.7	1.0	22.0
		3	1	20.5	20.6	20.6	1.0	22.0
		3	3	20.5	20.4	20.7	1.0	22.0
		6	0	19.6	19.4	19.6	2.0	21.0
	64QAM	1	0	19.8	19.6	19.7	2.0	21.0
		1	3	19.8	19.6	19.6	2.0	21.0
		1	5	19.8	19.6	19.7	2.0	21.0
		3	0	19.6	19.4	19.5	2.0	21.0
		3	1	19.6	19.6	19.5	2.0	21.0
		3	3	19.6	19.5	19.6	2.0	21.0
		6	0	18.5	18.6	18.6	3.0	20.0
	256QAM	1	0	16.5	16.5	16.6	5.0	18.0
		1	3	16.5	16.5	16.5	5.0	18.0
		1	5	16.5	16.6	16.6	5.0	18.0
		3	0	16.5	16.4	16.6	5.0	18.0
		3	1	16.6	16.4	16.6	5.0	18.0
		3	3	16.5	16.4	16.5	5.0	18.0
		6	0	16.5	16.5	16.6	5.0	18.0

LTE Band 26 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				MPR	Tune-up Limit
				Measured Pwr (dBm)					
				26765	26790	26865	26965		
				821.5 MHz	824 MHz	831.5 MHz	841.5 MHz		
15 MHz	QPSK	1	0	24.2	24.2	24.4	24.1	0.0	25.0
		1	37	24.2	23.9	24.1	24.2	0.0	25.0
		1	74	24.0	23.9	24.3	24.1	0.0	25.0
		36	0	23.1	23.1	23.3	23.1	1.0	24.0
		36	20	23.1	23.0	23.3	23.1	1.0	24.0
		36	39	23.0	23.0	23.3	23.2	1.0	24.0
		75	0	23.1	23.0	23.3	23.5	1.0	24.0
	16QAM	1	0	23.4	23.3	23.7	23.9	1.0	24.0
		1	37	23.5	23.2	23.6	24.0	1.0	24.0
		1	74	23.3	23.2	23.6	23.8	1.0	24.0
		36	0	22.1	22.1	22.3	22.5	2.0	23.0
		36	20	22.0	22.1	22.3	22.5	2.0	23.0
		36	39	22.0	22.1	22.3	22.5	2.0	23.0
		75	0	22.1	22.0	22.3	22.5	2.0	23.0
	64QAM	1	0	22.2	22.1	22.6	22.6	2.0	23.0
		1	37	22.3	22.1	22.5	22.6	2.0	23.0
		1	74	22.1	21.9	22.6	22.6	2.0	23.0
		36	0	21.1	21.1	21.2	21.4	3.0	22.0
		36	20	21.1	21.1	21.2	21.4	3.0	22.0
		36	39	21.1	21.1	21.1	21.4	3.0	22.0
		75	0	21.0	20.9	21.2	21.4	3.0	22.0
	256QAM	1	0	19.1	19.3	19.5	19.7	5.0	20.0
		1	37	18.9	19.3	19.3	19.7	5.0	20.0
		1	74	19.0	19.3	19.4	19.8	5.0	20.0
		36	0	19.0	19.1	19.2	19.4	5.0	20.0
		36	20	19.0	19.0	19.2	19.4	5.0	20.0
		36	39	19.0	19.0	19.2	19.4	5.0	20.0
		75	0	19.0	19.0	19.2	19.4	5.0	20.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit
				26740	26790	26865	26990		
				819 MHz	824 MHz	831.5 MHz	844 MHz		
10 MHz	QPSK	1	0	24.1	24.1	24.3	24.4	0.0	25.0
		1	25	24.1	23.9	24.2	24.4	0.0	25.0
		1	49	24.1	24.0	24.2	24.5	0.0	25.0
		25	0	23.1	23.0	23.3	23.4	1.0	24.0
		25	12	23.0	23.0	23.2	23.4	1.0	24.0
		25	25	23.0	22.9	23.3	23.5	1.0	24.0
		50	0	23.1	23.0	23.2	23.4	1.0	24.0
	16QAM	1	0	23.1	23.3	23.8	23.8	1.0	24.0
		1	25	22.9	23.4	23.3	23.8	1.0	24.0
		1	49	23.1	23.3	23.6	23.9	1.0	24.0
		25	0	22.1	22.0	22.3	22.4	2.0	23.0
		25	12	22.1	22.0	22.3	22.4	2.0	23.0
		25	25	22.1	22.0	22.3	22.5	2.0	23.0
		50	0	22.1	22.0	22.3	22.4	2.0	23.0
	64QAM	1	0	22.2	22.0	22.4	22.4	2.0	23.0
		1	25	22.0	22.0	22.3	22.4	2.0	23.0
		1	49	22.1	22.0	22.5	22.6	2.0	23.0
		25	0	21.1	21.0	21.3	21.4	3.0	22.0
		25	12	21.1	21.0	21.2	21.4	3.0	22.0
		25	25	21.1	21.0	21.2	21.4	3.0	22.0
		50	0	21.0	21.0	21.2	21.4	3.0	22.0
	256QAM	1	0	19.0	19.4	19.4	19.3	5.0	20.0
		1	25	18.9	19.2	19.2	19.3	5.0	20.0
		1	49	19.0	19.3	19.3	19.4	5.0	20.0
		25	0	19.1	19.1	19.3	19.4	5.0	20.0
		25	12	19.1	19.1	19.3	19.4	5.0	20.0
		25	25	19.1	19.1	19.2	19.4	5.0	20.0
		50	0	19.0	19.0	19.2	19.3	5.0	20.0

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit
				26715	26790	26865	27015		
				816.5 MHz	824 MHz	831.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	23.0	24.1	23.1	22.7	0.0	25.0
		1	12	23.1	24.0	23.2	22.8	0.0	25.0
		1	24	23.0	24.1	23.1	22.7	0.0	25.0
		12	0	21.1	23.0	21.1	20.9	2.0	23.0
		12	7	21.1	23.0	21.1	20.9	2.0	23.0
		12	13	21.1	23.0	21.1	20.8	2.0	23.0
		25	0	21.1	23.0	21.1	20.8	2.0	23.0
	16QAM	1	0	21.3	22.8	21.4	21.3	2.0	23.0
		1	12	21.4	22.7	21.4	21.3	2.0	23.0
		1	24	21.3	22.8	21.3	21.3	2.0	23.0
		12	0	20.1	22.0	20.1	19.9	3.0	22.0
		12	7	20.0	22.0	20.1	19.9	3.0	22.0
		12	13	20.0	22.0	20.1	19.9	3.0	22.0
		25	0	20.0	22.0	20.0	19.8	3.0	22.0
	64QAM	1	0	20.2	22.4	20.0	19.5	3.0	22.0
		1	12	20.1	22.5	20.1	19.7	3.0	22.0
		1	24	20.1	22.5	20.0	19.5	3.0	22.0
		12	0	19.0	20.9	19.0	18.7	4.0	21.0
		12	7	19.0	21.0	19.0	18.7	4.0	21.0
		12	13	19.0	21.0	19.0	18.7	4.0	21.0
		25	0	19.0	21.0	19.0	18.7	4.0	21.0
	256QAM	1	0	19.2	19.2	19.1	18.7	4.0	21.0
		1	12	19.1	19.4	19.2	18.5	4.0	21.0
		1	24	19.2	19.1	19.1	18.6	4.0	21.0
		12	0	18.0	19.0	18.0	17.7	5.0	20.0
		12	7	18.0	19.0	18.0	17.7	5.0	20.0
		12	13	18.0	19.0	18.0	17.7	5.0	20.0
		25	0	18.0	19.0	18.0	17.8	5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit
				26705	26790	26865	27025		
				815.5 MHz	824 MHz	831.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	23.1	24.0	23.0	22.8	0.0	25.0
		1	8	23.0	23.8	23.1	22.9	0.0	25.0
		1	14	23.2	23.8	23.0	22.8	0.0	25.0
		8	0	21.1	23.0	21.1	20.9	2.0	23.0
		8	4	21.1	22.9	21.1	20.8	2.0	23.0
		8	7	21.1	22.9	21.1	20.8	2.0	23.0
		15	0	21.0	22.9	21.1	20.8	2.0	23.0
	16QAM	1	0	21.1	23.1	21.3	21.1	2.0	23.0
		1	8	21.2	23.3	21.4	21.3	2.0	23.0
		1	14	21.0	23.0	21.4	21.1	2.0	23.0
		8	0	20.1	22.1	20.1	19.9	3.0	22.0
		8	4	20.1	22.0	20.1	19.8	3.0	22.0
		8	7	20.1	21.9	20.1	19.8	3.0	22.0
		15	0	20.0	22.0	20.0	19.8	3.0	22.0
	64QAM	1	0	20.0	21.7	20.1	19.9	3.0	22.0
		1	8	20.1	21.9	20.0	20.0	3.0	22.0
		1	14	20.1	21.8	20.0	20.0	3.0	22.0
		8	0	19.0	20.9	19.1	18.9	4.0	21.0
		8	4	19.0	20.9	19.1	18.8	4.0	21.0
		8	7	19.0	20.9	19.1	18.8	4.0	21.0
		15	0	19.0	21.0	19.0	18.7	4.0	21.0
	256QAM	1	0	19.0	19.1	19.0	19.1	4.0	21.0
		1	8	18.9	19.1	19.1	18.9	4.0	21.0
		1	14	19.0	19.1	19.0	19.0	4.0	21.0
		8	0	18.1	19.0	18.1	17.8	5.0	20.0
		8	4	18.1	18.9	18.1	17.8	5.0	20.0
		8	7	18.1	19.0	18.1	17.8	5.0	20.0
		15	0	18.1	18.9	18.1	17.8	5.0	20.0

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit
				26697	26790	26865	27033		
				814.7 MHz	824 MHz	831.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	23.0	23.9	23.1	22.8	0.0	25.0
		1	3	22.9	24.0	22.9	22.6	0.0	25.0
		1	5	23.0	23.9	23.0	22.8	0.0	25.0
		3	0	23.0	23.9	23.2	23.0	0.0	25.0
		3	1	23.0	23.8	23.1	22.9	0.0	25.0
		3	3	23.1	23.9	23.0	22.8	0.0	25.0
		6	0	21.0	22.8	21.1	20.8	2.0	23.0
	16QAM	1	0	21.0	22.7	21.1	21.1	2.0	23.0
		1	3	21.2	23.0	21.3	21.2	2.0	23.0
		1	5	21.1	22.7	21.2	21.1	2.0	23.0
		3	0	21.2	22.8	21.1	20.9	2.0	23.0
		3	1	21.1	22.8	21.0	20.8	2.0	23.0
		3	3	21.1	22.8	21.1	20.8	2.0	23.0
		6	0	20.1	22.0	20.1	19.7	3.0	22.0
	64QAM	1	0	20.2	21.7	19.9	20.1	3.0	22.0
		1	3	20.0	21.7	20.3	20.1	3.0	22.0
		1	5	20.1	21.7	20.0	20.0	3.0	22.0
		3	0	20.1	21.7	20.1	20.0	3.0	22.0
		3	1	20.0	22.1	20.1	19.9	3.0	22.0
		3	3	20.0	21.9	20.0	19.9	3.0	22.0
		6	0	19.1	20.9	19.1	18.8	4.0	21.0
	256QAM	1	0	19.0	19.5	19.0	18.8	4.0	21.0
		1	3	19.2	19.7	19.1	19.0	4.0	21.0
		1	5	19.0	19.4	19.0	18.8	4.0	21.0
		3	0	19.2	19.1	19.1	18.9	5.0	20.0
		3	1	19.1	19.0	19.1	18.8	5.0	20.0
		3	3	19.1	18.9	19.1	18.8	5.0	20.0
		6	0	18.1	18.8	18.1	17.7	5.0	20.0

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				Measured Pwr (dBm)				
				132072	132322	132572		
				1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	22.0	22.2	22.0	0.0	23
		1	49	21.7	22.1	21.9	0.0	23
		1	99	22.0	22.1	22.0	0.0	23
		50	0	21.0	21.1	20.9	1.0	22
		50	24	21.0	21.1	20.9	1.0	22
		50	50	21.0	21.1	20.9	1.0	22
		100	0	21.0	21.1	20.9	1.0	22
	16QAM	1	0	21.3	21.5	21.3	1.0	22
		1	49	21.1	21.3	20.9	1.0	22
		1	99	21.3	21.4	21.2	1.0	22
		50	0	20.0	20.1	19.9	2.0	21
		50	24	20.0	20.1	19.9	2.0	21
		50	50	20.0	20.1	19.9	2.0	21
		100	0	20.0	20.1	19.9	2.0	21
	64QAM	1	0	20.3	20.4	20.3	2.0	21
		1	49	20.0	20.2	20.1	2.0	21
		1	99	20.2	20.4	20.2	2.0	21
		50	0	19.0	19.1	19.0	3.0	20
		50	24	19.0	19.1	18.9	3.0	20
		50	50	19.0	19.1	18.9	3.0	20
		100	0	19.0	19.1	18.9	3.0	20
	256QAM	1	0	17.0	17.3	17.1	5.0	18
		1	49	16.8	17.1	17.0	5.0	18
		1	99	17.0	17.2	17.1	5.0	18
		50	0	17.0	17.1	17.0	5.0	18
		50	24	17.0	17.1	17.0	5.0	18
		50	50	17.0	17.1	16.9	5.0	18
		100	0	17.0	17.1	17.0	5.0	18
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				132047	132322	132597		
				1717.5 MHz	1745 MHz	1772.5 MHz		
15 MHz	QPSK	1	0	22.2	22.1	22.0	0.0	23
		1	37	22.4	21.9	22.2	0.0	23
		1	74	22.1	22.1	21.9	0.0	23
		36	0	21.1	21.1	20.9	1.0	22
		36	20	21.1	21.1	20.9	1.0	22
		36	39	21.1	21.1	20.9	1.0	22
		75	0	21.1	21.1	20.9	1.0	22
	16QAM	1	0	21.3	21.4	21.4	1.0	22
		1	37	21.4	21.3	21.4	1.0	22
		1	74	21.3	21.4	21.3	1.0	22
		36	0	20.1	20.1	19.9	2.0	21
		36	20	20.0	20.0	19.9	2.0	21
		36	39	20.0	20.1	19.9	2.0	21
		75	0	20.0	20.0	19.9	2.0	21
	64QAM	1	0	20.2	20.4	20.2	2.0	21
		1	37	20.0	20.4	20.2	2.0	21
		1	74	20.2	20.2	20.0	2.0	21
		36	0	19.1	19.1	19.0	3.0	20
		36	20	19.0	19.1	19.0	3.0	20
		36	39	19.0	19.1	18.9	3.0	20
		75	0	19.1	19.0	18.9	3.0	20
	256QAM	1	0	17.2	17.3	16.9	5.0	18
		1	37	17.2	17.2	16.7	5.0	18
		1	74	17.2	17.3	16.8	5.0	18
		36	0	17.1	17.1	16.9	5.0	18
		36	20	17.0	17.1	16.9	5.0	18
		36	39	17.0	17.1	16.9	5.0	18
		75	0	17.0	17.1	16.9	5.0	18

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				132022	132322	132622		
				1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	22.1	22.2	22.0	0.0	23
		1	25	22.0	22.0	21.9	0.0	23
		1	49	22.1	22.1	22.0	0.0	23
		25	0	21.0	21.0	21.0	1.0	22
		25	12	21.0	21.0	21.0	1.0	22
		25	25	21.0	21.0	20.9	1.0	22
		50	0	21.0	21.0	20.9	1.0	22
	16QAM	1	0	21.1	21.4	21.4	1.0	22
		1	25	21.0	21.1	21.3	1.0	22
		1	49	21.2	21.3	21.4	1.0	22
		25	0	20.1	20.1	20.0	2.0	21
		25	12	20.0	20.1	20.0	2.0	21
		25	25	20.0	20.1	19.9	2.0	21
		50	0	20.0	20.0	19.9	2.0	21
	64QAM	1	0	20.3	20.2	20.1	2.0	21
		1	25	20.0	20.0	20.1	2.0	21
		1	49	20.1	20.2	20.2	2.0	21
		25	0	19.1	19.0	19.0	3.0	20
		25	12	19.0	19.0	19.0	3.0	20
		25	25	19.0	19.0	19.0	3.0	20
		50	0	19.0	19.0	19.0	3.0	20
	256QAM	1	0	17.0	17.1	17.0	5.0	18
		1	25	16.9	17.0	16.9	5.0	18
		1	49	16.9	17.1	17.0	5.0	18
		25	0	17.1	17.1	17.0	5.0	18
		25	12	17.1	17.1	17.0	5.0	18
		25	25	17.1	17.1	17.0	5.0	18
		50	0	17.0	17.1	17.0	5.0	18

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131997	132322	132647		
				1712.5 MHz	1745 MHz	1777.5 MHz		
5 MHz	QPSK	1	0	22.0	22.0	22.0	0.0	23
		1	12	22.2	22.0	22.3	0.0	23
		1	24	22.1	22.1	22.1	0.0	23
		12	0	21.0	21.0	21.0	1.0	22
		12	7	21.0	21.0	21.0	1.0	22
		12	13	21.0	21.0	21.0	1.0	22
		25	0	21.0	21.0	21.0	1.0	22
	16QAM	1	0	21.5	21.4	21.3	1.0	22
		1	12	21.4	21.5	21.3	1.0	22
		1	24	21.5	21.3	21.4	1.0	22
		12	0	20.1	20.0	20.0	2.0	21
		12	7	20.1	20.0	20.0	2.0	21
		12	13	20.1	20.0	20.0	2.0	21
		25	0	20.0	20.0	19.9	2.0	21
	64QAM	1	0	20.1	20.4	20.2	2.0	21
		1	12	20.2	20.3	20.0	2.0	21
		1	24	20.2	20.3	20.3	2.0	21
		12	0	18.9	19.0	19.0	3.0	20
		12	7	18.9	19.0	19.0	3.0	20
		12	13	18.9	19.0	19.0	3.0	20
		25	0	18.9	19.0	18.9	3.0	20
	256QAM	1	0	17.1	17.4	17.2	5.0	18
		1	12	17.3	17.6	17.2	5.0	18
		1	24	17.0	17.4	17.2	5.0	18
		12	0	17.0	17.0	17.1	5.0	18
		12	7	17.0	17.0	17.1	5.0	18
		12	13	17.0	17.0	17.1	5.0	18
		25	0	17.0	17.0	17.0	5.0	18

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131987	132322	132657		
				1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	22.0	22.1	22.1	0.0	23
		1	8	22.3	21.9	22.4	0.0	23
		1	14	22.1	22.0	22.1	0.0	23
		8	0	21.0	21.0	21.0	1.0	22
		8	4	21.0	21.0	21.0	1.0	22
		8	7	21.0	21.0	21.0	1.0	22
		15	0	21.0	21.0	20.9	1.0	22
	16QAM	1	0	21.3	21.3	21.3	1.0	22
		1	8	21.5	21.3	21.6	1.0	22
		1	14	21.4	21.2	21.4	1.0	22
		8	0	20.0	20.1	20.0	2.0	21
		8	4	20.1	20.1	20.1	2.0	21
		8	7	20.1	20.1	20.0	2.0	21
		15	0	20.0	20.1	20.0	2.0	21
	64QAM	1	0	20.3	20.2	20.1	2.0	21
		1	8	20.1	20.4	20.2	2.0	21
		1	14	20.1	20.3	20.3	2.0	21
		8	0	19.0	19.0	19.1	3.0	20
		8	4	19.0	19.0	19.1	3.0	20
		8	7	19.0	19.0	19.1	3.0	20
		15	0	19.0	19.0	19.0	3.0	20
	256QAM	1	0	17.0	17.1	17.1	5.0	18
		1	8	17.3	17.1	16.9	5.0	18
		1	14	17.0	17.2	17.1	5.0	18
		8	0	17.0	17.1	17.1	5.0	18
		8	4	17.0	17.1	17.0	5.0	18
		8	7	17.0	17.1	17.1	5.0	18
		15	0	17.1	17.0	17.1	5.0	18

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131979	132322	132665		
				1710.7 MHz	1745 MHz	1779.3 MHz		
1.4 MHz	QPSK	1	0	21.8	21.9	21.9	0.0	23
		1	3	21.8	21.9	21.8	0.0	23
		1	5	21.9	22.0	21.9	0.0	23
		3	0	21.8	21.9	21.8	0.0	23
		3	1	21.9	21.8	21.8	0.0	23
		3	3	21.8	21.9	21.9	0.0	23
		6	0	20.9	20.9	20.9	1.0	22
	16QAM	1	0	21.1	21.3	21.0	1.0	22
		1	3	21.0	21.2	20.8	1.0	22
		1	5	21.1	21.3	21.1	1.0	22
		3	0	21.0	21.0	20.8	1.0	22
		3	1	21.0	21.1	20.8	1.0	22
		3	3	20.9	21.0	20.9	1.0	22
		6	0	20.0	19.9	19.9	2.0	21
	64QAM	1	0	20.1	20.1	20.2	2.0	21
		1	3	20.0	20.0	20.1	2.0	21
		1	5	20.2	20.0	20.2	2.0	21
		3	0	20.0	20.1	19.9	2.0	21
		3	1	20.0	20.1	20.1	2.0	21
		3	3	20.1	20.1	20.0	2.0	21
		6	0	18.9	18.9	19.0	3.0	20
	256QAM	1	0	17.1	16.9	16.9	5.0	18
		1	3	17.0	16.9	16.9	5.0	18
		1	5	17.0	16.9	17.0	5.0	18
		3	0	17.0	16.9	16.8	5.0	18
		3	1	17.0	17.0	16.9	5.0	18
		3	3	16.9	16.9	16.8	5.0	18
		6	0	17.0	16.9	16.9	5.0	18

LTE Band 41-Power Class 3 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)						
				Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	23.4	23.1	22.7	23.4	23.2	0.0	24.0
		1	49	23.3	23.0	22.6	23.4	23.2	0.0	24.0
		1	99	23.3	23.0	22.9	23.4	23.2	0.0	24.0
		50	0	22.4	22.1	21.8	22.5	22.3	1.0	23.0
		50	24	22.4	22.1	21.8	22.4	22.3	1.0	23.0
		50	50	22.3	22.1	21.8	22.4	22.2	1.0	23.0
		100	0	22.4	22.1	21.8	22.4	22.2	1.0	23.0
	16QAM	1	0	22.3	22.2	21.8	22.3	22.4	1.0	23.0
		1	49	22.2	22.2	21.7	22.3	21.8	1.0	23.0
		1	99	22.1	21.8	21.7	22.4	22.3	1.0	23.0
		50	0	21.4	21.2	20.8	21.5	21.3	2.0	22.0
		50	24	21.3	21.2	20.8	21.5	21.3	2.0	22.0
		50	50	21.3	21.1	20.8	21.5	21.2	2.0	22.0
		100	0	21.3	21.1	20.8	21.5	21.3	2.0	22.0
	64QAM	1	0	21.8	21.5	21.1	21.2	21.3	2.0	22.0
		1	49	21.4	21.8	20.6	20.9	21.5	2.0	22.0
		1	99	21.6	21.4	20.5	21.3	21.4	2.0	22.0
		50	0	20.5	20.4	19.9	20.6	20.4	3.0	21.0
		50	24	20.5	20.4	20.0	20.6	20.4	3.0	21.0
		50	50	20.5	20.3	20.0	20.6	20.4	3.0	21.0
		100	0	20.5	20.4	19.9	20.6	20.4	3.0	21.0
	256QAM	1	0	18.4	18.8	17.8	18.9	18.6	5.0	19.0
		1	49	18.4	18.7	18.0	18.4	18.5	5.0	19.0
		1	99	18.5	18.5	18.2	18.9	18.3	5.0	19.0
		50	0	18.6	18.4	18.0	18.7	18.4	5.0	19.0
		50	24	18.5	18.4	18.0	18.6	18.4	5.0	19.0
		50	50	18.5	18.4	18.0	18.7	18.4	5.0	19.0
		100	0	18.5	18.3	18.0	18.7	18.4	5.0	19.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
15 MHz	QPSK	1	0	23.3	23.1	22.9	23.4	23.3	0.0	24.0
		1	37	23.4	22.9	22.7	23.6	22.9	0.0	24.0
		1	74	23.2	23.2	22.8	23.4	23.1	0.0	24.0
		36	0	22.3	22.1	21.8	22.5	22.3	1.0	23.0
		36	20	22.3	22.2	21.9	22.5	22.2	1.0	23.0
		36	39	22.3	22.1	21.9	22.4	22.2	1.0	23.0
		75	0	22.4	22.1	21.9	22.4	22.3	1.0	23.0
	16QAM	1	0	22.1	22.1	21.8	22.4	22.2	1.0	23.0
		1	37	22.4	21.9	21.7	22.4	22.2	1.0	23.0
		1	74	22.2	21.8	21.7	22.6	21.9	1.0	23.0
		36	0	21.5	21.2	20.9	21.6	21.3	2.0	22.0
		36	20	21.4	21.2	20.8	21.5	21.4	2.0	22.0
		36	39	21.5	21.1	20.9	21.6	21.4	2.0	22.0
		75	0	21.4	21.2	20.9	21.5	21.4	2.0	22.0
	64QAM	1	0	21.4	21.2	21.0	21.3	21.5	2.0	22.0
		1	37	20.9	20.6	21.3	21.0	20.8	2.0	22.0
		1	74	21.4	21.0	21.0	21.3	21.2	2.0	22.0
		36	0	20.5	20.2	19.9	20.6	20.3	3.0	21.0
		36	20	20.4	20.2	19.9	20.6	20.3	3.0	21.0
		36	39	20.5	20.2	19.9	20.6	20.3	3.0	21.0
		75	0	20.4	20.3	19.9	20.5	20.4	3.0	21.0
	256QAM	1	0	18.0	18.4	17.6	18.4	18.6	5.0	19.0
		1	37	17.6	18.1	17.4	18.1	18.1	5.0	19.0
		1	74	17.9	18.5	17.4	18.6	18.2	5.0	19.0
		36	0	18.5	18.3	18.0	18.6	18.4	5.0	19.0
		36	20	18.5	18.2	17.9	18.6	18.3	5.0	19.0
		36	39	18.5	18.2	17.9	18.6	18.3	5.0	19.0
		75	0	18.5	18.3	17.9	18.6	18.4	5.0	19.0

LTE Band 41-Power Class 3 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	23.4	23.2	23.0	23.5	23.3	0.0	24.0
		1	25	23.2	23.2	23.0	23.4	23.1	0.0	24.0
		1	49	23.3	23.2	22.9	23.4	23.1	0.0	24.0
		25	0	22.4	22.2	21.9	22.5	22.2	1.0	23.0
		25	12	22.4	22.2	21.9	22.5	22.2	1.0	23.0
		25	25	22.4	22.1	21.9	22.5	22.2	1.0	23.0
		50	0	22.3	22.2	21.9	22.5	22.2	1.0	23.0
	16QAM	1	0	22.6	22.1	21.8	22.6	22.4	1.0	23.0
		1	25	22.5	22.0	21.7	22.5	22.3	1.0	23.0
		1	49	22.6	22.1	21.8	22.6	22.4	1.0	23.0
		25	0	21.4	21.2	20.9	21.6	21.2	2.0	22.0
		25	12	21.4	21.3	20.9	21.5	21.3	2.0	22.0
		25	25	21.4	21.3	20.9	21.5	21.2	2.0	22.0
		50	0	21.4	21.2	20.9	21.5	21.2	2.0	22.0
	64QAM	1	0	21.4	21.5	20.8	21.4	21.3	2.0	22.0
		1	25	21.2	21.3	20.8	21.2	21.1	2.0	22.0
		1	49	21.4	21.4	20.7	21.5	21.2	2.0	22.0
		25	0	20.4	20.3	19.9	20.5	20.2	3.0	21.0
		25	12	20.4	20.2	20.0	20.6	20.2	3.0	21.0
		25	25	20.4	20.3	20.0	20.5	20.2	3.0	21.0
		50	0	20.4	20.3	19.9	20.5	20.3	3.0	21.0
	256QAM	1	0	18.5	18.0	17.9	18.5	18.2	5.0	19.0
		1	25	18.4	18.0	17.9	18.4	18.2	5.0	19.0
		1	49	18.4	18.1	17.9	18.4	18.2	5.0	19.0
		25	0	18.5	18.4	18.0	18.6	18.3	5.0	19.0
		25	12	18.5	18.3	18.0	18.6	18.3	5.0	19.0
		25	25	18.4	18.3	18.0	18.6	18.3	5.0	19.0
		50	0	18.4	18.3	18.0	18.6	18.3	5.0	19.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
5 MHz	QPSK	1	0	23.4	23.2	22.9	23.5	23.3	0.0	24.0
		1	12	23.1	22.8	22.8	23.4	22.9	0.0	24.0
		1	24	23.3	23.1	22.8	23.4	23.1	0.0	24.0
		12	0	22.4	22.1	21.9	22.5	22.2	1.0	23.0
		12	7	22.3	22.1	21.9	22.4	22.2	1.0	23.0
		12	13	22.3	22.1	21.9	22.5	22.2	1.0	23.0
		25	0	22.4	22.1	21.9	22.5	22.2	1.0	23.0
	16QAM	1	0	22.0	22.3	22.0	22.3	22.3	1.0	23.0
		1	12	22.0	21.9	22.0	22.2	22.0	1.0	23.0
		1	24	22.0	22.3	22.0	22.3	22.3	1.0	23.0
		12	0	21.3	21.2	20.9	21.5	21.2	2.0	22.0
		12	7	21.3	21.1	20.9	21.4	21.2	2.0	22.0
		12	13	21.3	21.1	20.9	21.5	21.2	2.0	22.0
		25	0	21.3	21.2	20.9	21.5	21.2	2.0	22.0
	64QAM	1	0	21.5	21.1	20.9	21.6	21.3	2.0	22.0
		1	12	21.4	20.9	20.5	21.6	21.0	2.0	22.0
		1	24	21.5	21.0	20.8	21.6	21.2	2.0	22.0
		12	0	20.4	20.2	19.8	20.4	20.2	3.0	21.0
		12	7	20.3	20.2	19.8	20.5	20.2	3.0	21.0
		12	13	20.3	20.2	19.8	20.4	20.2	3.0	21.0
		25	0	20.4	20.3	19.7	20.5	20.2	3.0	21.0
	256QAM	1	0	18.4	18.1	18.0	18.4	18.2	5.0	19.0
		1	12	18.3	17.8	17.7	18.5	18.3	5.0	19.0
		1	24	18.4	18.1	18.0	18.5	18.2	5.0	19.0
		12	0	18.4	18.3	17.9	18.5	18.2	5.0	19.0
		12	7	18.4	18.3	17.9	18.5	18.2	5.0	19.0
		12	13	18.4	18.2	17.9	18.5	18.2	5.0	19.0
		25	0	18.4	18.2	17.8	18.5	18.2	5.0	19.0

LTE Band 41-Power Class 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)						
				Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	24.8	24.6	24.3	25.0	24.9	0.0	25.5
		1	49	24.6	24.4	24.1	24.8	24.6	0.0	25.5
		1	99	24.7	24.6	24.3	25.0	24.8	0.0	25.5
		50	0	23.8	23.7	23.3	24.0	23.7	1.0	24.5
		50	24	23.8	23.6	23.3	23.9	23.7	1.0	24.5
		50	50	23.8	23.6	23.3	23.9	23.7	1.0	24.5
		100	0	23.8	23.6	23.3	23.9	23.7	1.0	24.5
	16QAM	1	0	24.2	24.0	23.8	24.3	23.9	1.0	24.5
		1	49	24.0	23.9	23.6	24.2	23.8	1.0	24.5
		1	99	24.1	23.9	23.7	24.2	24.0	1.0	24.5
		50	0	22.9	22.8	22.4	23.0	22.8	2.0	23.5
		50	24	22.9	22.7	22.4	23.0	22.7	2.0	23.5
		50	50	22.9	22.7	22.4	23.0	22.7	2.0	23.5
		100	0	22.9	22.7	22.3	23.0	22.7	2.0	23.5
	64QAM	1	0	23.3	23.1	22.5	23.4	22.9	2.0	23.5
		1	49	23.1	22.9	22.4	23.1	22.7	2.0	23.5
		1	99	23.2	23.0	22.4	23.2	22.8	2.0	23.5
		50	0	21.9	21.8	21.5	22.1	21.9	3.0	22.5
		50	24	21.8	21.8	21.5	22.0	21.8	3.0	22.5
		50	50	21.8	21.8	21.4	22.0	21.8	3.0	22.5
		100	0	21.9	21.8	21.5	22.0	21.9	3.0	22.5
	256QAM	1	0	20.3	20.1	20.0	20.3	20.2	5.0	20.5
		1	49	20.2	19.8	19.8	20.3	19.9	5.0	20.5
		1	99	20.2	20.0	19.9	20.3	20.1	5.0	20.5
		50	0	19.9	19.9	19.5	20.2	19.9	5.0	20.5
		50	24	19.9	19.9	19.6	20.0	19.9	5.0	20.5
		50	50	19.9	19.8	19.5	20.1	19.9	5.0	20.5
		100	0	19.9	19.8	19.5	20.1	19.9	5.0	20.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
15 MHz	QPSK	1	0	24.9	24.6	24.4	25.0	25.0	0.0	25.5
		1	37	24.7	24.3	24.3	24.8	24.4	0.0	25.5
		1	74	24.8	24.5	24.3	25.0	24.8	0.0	25.5
		36	0	23.9	23.7	23.4	24.0	23.8	1.0	24.5
		36	20	23.9	23.7	23.3	24.0	23.8	1.0	24.5
		36	39	23.9	23.6	23.3	24.0	23.8	1.0	24.5
		75	0	24.0	23.7	23.4	24.0	23.8	1.0	24.5
	16QAM	1	0	24.1	24.1	23.7	24.1	23.9	1.0	24.5
		1	37	24.1	23.9	23.8	24.0	23.8	1.0	24.5
		1	74	23.9	23.9	23.7	23.9	23.8	1.0	24.5
		36	0	23.0	22.7	22.4	23.0	22.8	2.0	23.5
		36	20	22.9	22.7	22.3	23.0	22.8	2.0	23.5
		36	39	22.9	22.6	22.4	23.0	22.7	2.0	23.5
		75	0	22.9	22.7	22.4	23.0	22.8	2.0	23.5
	64QAM	1	0	23.1	23.2	23.0	23.3	23.0	2.0	23.5
		1	37	23.3	22.6	23.2	23.2	22.9	2.0	23.5
		1	74	22.9	23.0	22.9	23.3	22.9	2.0	23.5
		36	0	21.9	21.7	21.5	22.0	21.8	3.0	22.5
		36	20	21.8	21.7	21.4	22.1	21.8	3.0	22.5
		36	39	21.9	21.7	21.5	22.0	21.8	3.0	22.5
		75	0	21.8	21.7	21.4	21.9	21.8	3.0	22.5
	256QAM	1	0	20.0	20.3	19.5	20.0	20.3	5.0	20.5
		1	37	20.1	19.9	19.5	20.0	19.8	5.0	20.5
		1	74	19.9	20.1	19.5	20.0	20.2	5.0	20.5
		36	0	19.9	19.8	19.5	20.0	19.8	5.0	20.5
		36	20	19.9	19.8	19.4	20.1	19.8	5.0	20.5
		36	39	19.9	19.7	19.4	20.0	19.8	5.0	20.5
		75	0	19.9	19.7	19.5	20.0	19.9	5.0	20.5

LTE Band 41-Power Class 2 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	24.9	24.6	24.3	25.0	24.8	0.0	25.5
		1	25	24.7	24.5	24.1	24.9	24.7	0.0	25.5
		1	49	24.8	24.6	24.2	24.8	24.8	0.0	25.5
		25	0	23.8	23.7	23.4	24.0	23.6	1.0	24.5
		25	12	23.9	23.7	23.3	24.0	23.7	1.0	24.5
		25	25	23.9	23.7	23.3	24.0	23.7	1.0	24.5
		50	0	23.8	23.7	23.4	24.0	23.7	1.0	24.5
	16QAM	1	0	24.3	23.9	23.9	24.5	23.8	1.0	24.5
		1	25	24.3	23.8	23.7	24.5	23.8	1.0	24.5
		1	49	24.3	23.9	23.8	24.4	23.8	1.0	24.5
		25	0	22.9	22.7	22.4	23.0	22.8	2.0	23.5
		25	12	22.8	22.7	22.4	23.0	22.7	2.0	23.5
		25	25	22.8	22.7	22.4	23.0	22.7	2.0	23.5
		50	0	22.9	22.7	22.4	23.0	22.7	2.0	23.5
	64QAM	1	0	23.3	23.0	22.8	23.5	22.8	2.0	23.5
		1	25	23.1	22.9	22.6	23.4	22.8	2.0	23.5
		1	49	23.2	23.0	22.7	23.4	22.8	2.0	23.5
		25	0	21.9	21.7	21.4	22.0	21.8	3.0	22.5
		25	12	21.9	21.7	21.4	22.1	21.8	3.0	22.5
		25	25	21.9	21.8	21.5	22.0	21.8	3.0	22.5
		50	0	21.8	21.8	21.5	22.0	21.9	3.0	22.5
	256QAM	1	0	20.1	20.1	19.5	20.1	20.1	5.0	20.5
		1	25	19.9	19.9	19.3	19.8	20.1	5.0	20.5
		1	49	20.0	19.9	19.4	20.0	20.1	5.0	20.5
		25	0	19.9	19.8	19.5	20.0	19.9	5.0	20.5
		25	12	19.9	19.8	19.5	20.1	19.8	5.0	20.5
		25	25	19.9	19.8	19.5	20.0	19.9	5.0	20.5
		50	0	19.9	19.8	19.5	20.1	19.9	5.0	20.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
5 MHz	QPSK	1	0	24.8	24.7	24.4	24.9	24.8	0.0	25.5
		1	12	25.1	24.8	24.4	25.2	25.0	0.0	25.5
		1	24	24.7	24.7	24.3	24.9	24.7	0.0	25.5
		12	0	23.9	23.7	23.4	24.0	23.7	1.0	24.5
		12	7	23.9	23.7	23.4	23.9	23.6	1.0	24.5
		12	13	23.9	23.7	23.4	24.0	23.7	1.0	24.5
		25	0	23.8	23.6	23.4	24.0	23.6	1.0	24.5
	16QAM	1	0	23.8	24.2	23.6	24.2	24.1	1.0	24.5
		1	12	23.8	24.2	23.6	24.3	24.1	1.0	24.5
		1	24	23.7	24.1	23.7	24.2	24.0	1.0	24.5
		12	0	22.9	22.7	22.5	23.1	22.7	2.0	23.5
		12	7	22.9	22.7	22.5	23.1	22.7	2.0	23.5
		12	13	22.9	22.7	22.5	23.1	22.7	2.0	23.5
		25	0	22.8	22.7	22.4	23.0	22.7	2.0	23.5
	64QAM	1	0	23.3	23.0	22.7	23.4	23.3	2.0	23.5
		1	12	23.5	22.8	23.0	23.5	23.0	2.0	23.5
		1	24	23.3	22.9	22.6	23.4	23.1	2.0	23.5
		12	0	21.9	21.7	21.5	22.1	21.7	3.0	22.5
		12	7	21.9	21.7	21.5	22.0	21.7	3.0	22.5
		12	13	21.9	21.7	21.5	22.1	21.8	3.0	22.5
		25	0	21.9	21.7	21.4	21.9	21.8	3.0	22.5
	256QAM	1	0	20.2	20.0	20.0	20.3	20.2	5.0	20.5
		1	12	20.4	20.1	19.8	20.4	20.4	5.0	20.5
		1	24	20.2	20.0	19.9	20.3	20.2	5.0	20.5
		12	0	19.9	19.8	19.4	20.1	19.8	5.0	20.5
		12	7	19.9	19.7	19.4	20.0	19.8	5.0	20.5
		12	13	19.9	19.7	19.4	20.0	19.9	5.0	20.5
		25	0	19.8	19.7	19.4	19.9	19.8	5.0	20.5

2. Reduced power

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off					Reduced Average Power (dBm) Proximity sensor back-off				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26140	26365	26590			26140	26365	26590		
				1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	18.1	18.1	18.4	0.0	19.5	18.1	18.2	18.4	0.0	19.5
		1	49	17.9	17.8	18.4	0.0	19.5	18.0	17.9	18.3	0.0	19.5
		1	99	18.0	18.1	18.4	0.0	19.5	18.0	18.1	18.3	0.0	19.5
		50	0	18.0	18.2	18.4	0.0	19.5	18.1	18.2	18.4	0.0	19.5
		50	24	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
		50	50	18.0	18.1	18.3	0.0	19.5	18.0	18.1	18.4	0.0	19.5
		100	0	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
	16QAM	1	0	18.3	18.7	18.7	0.0	19.5	18.4	18.6	18.8	0.0	19.5
		1	49	18.0	18.5	18.5	0.0	19.5	18.0	18.4	18.6	0.0	19.5
		1	99	18.3	18.6	18.6	0.0	19.5	18.4	18.6	18.7	0.0	19.5
		50	0	18.0	18.1	18.4	0.0	19.5	18.1	18.2	18.4	0.0	19.5
		50	24	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
		50	50	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
		100	0	18.0	18.2	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
	64QAM	1	0	18.4	18.3	18.8	0.0	19.5	18.3	18.6	18.7	0.0	19.5
		1	49	18.2	18.1	18.6	0.0	19.5	18.1	18.5	18.6	0.0	19.5
		1	99	18.3	18.2	18.7	0.0	19.5	18.2	18.6	18.7	0.0	19.5
		50	0	18.0	18.2	18.4	0.0	19.5	18.1	18.3	18.5	0.0	19.5
		50	24	18.0	18.2	18.5	0.0	19.5	18.1	18.2	18.5	0.0	19.5
		50	50	18.0	18.2	18.4	0.0	19.5	18.0	18.3	18.5	0.0	19.5
		100	0	18.0	18.2	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
	256QAM	1	0	16.7	16.7	17.1	1.0	18.5	16.6	17.0	17.4	1.0	18.5
		1	49	16.6	16.5	17.0	1.0	18.5	16.4	16.8	17.3	1.0	18.5
		1	99	16.7	16.7	17.0	1.0	18.5	16.5	17.0	17.3	1.0	18.5
		50	0	16.6	16.8	16.9	1.0	18.5	16.6	16.7	17.0	1.0	18.5
		50	24	16.6	16.7	16.9	1.0	18.5	16.6	16.7	17.0	1.0	18.5
		50	50	16.5	16.7	16.9	1.0	18.5	16.6	16.7	17.0	1.0	18.5
		100	0	16.6	16.7	16.9	1.0	18.5	16.6	16.8	17.0	1.0	18.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26115	26365	26615			26115	26365	26615		
				1857.5 MHz	1882.5 MHz	1907.5 MHz			1857.5 MHz	1882.5 MHz	1907.5 MHz		
15 MHz	QPSK	1	0	18.1	18.2	18.5	0.0	19.5	18.1	18.2	18.5	0.0	19.5
		1	37	18.2	18.1	18.6	0.0	19.5	18.3	18.1	18.8	0.0	19.5
		1	74	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
		36	0	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
		36	20	18.0	18.1	18.4	0.0	19.5	18.0	18.1	18.4	0.0	19.5
		36	39	18.0	18.1	18.4	0.0	19.5	18.0	18.1	18.4	0.0	19.5
		75	0	18.0	18.1	18.4	0.0	19.5	18.0	18.2	18.4	0.0	19.5
	16QAM	1	0	18.3	18.4	18.8	0.0	19.5	18.3	18.5	18.9	0.0	19.5
		1	37	18.5	18.4	18.8	0.0	19.5	18.4	18.6	18.8	0.0	19.5
		1	74	18.3	18.5	18.8	0.0	19.5	18.3	18.6	18.8	0.0	19.5
		36	0	18.0	18.1	18.5	0.0	19.5	18.0	18.1	18.5	0.0	19.5
		36	20	17.9	18.1	18.4	0.0	19.5	18.0	18.1	18.4	0.0	19.5
		36	39	18.0	18.1	18.4	0.0	19.5	18.0	18.1	18.4	0.0	19.5
		75	0	18.0	18.1	18.4	0.0	19.5	18.0	18.1	18.4	0.0	19.5
	64QAM	1	0	18.3	18.4	18.7	0.0	19.5	18.3	18.6	18.7	0.0	19.5
		1	37	18.2	18.4	18.7	0.0	19.5	18.3	18.6	18.8	0.0	19.5
		1	74	18.3	18.3	18.6	0.0	19.5	18.4	18.4	18.6	0.0	19.5
		36	0	18.0	18.3	18.5	0.0	19.5	18.0	18.3	18.6	0.0	19.5
		36	20	18.0	18.2	18.5	0.0	19.5	18.0	18.3	18.6	0.0	19.5
		36	39	17.9	18.2	18.5	0.0	19.5	18.0	18.2	18.5	0.0	19.5
		75	0	18.0	18.2	18.4	0.0	19.5	18.1	18.2	18.5	0.0	19.5
	256QAM	1	0	16.8	16.9	17.0	1.0	18.5	16.7	17.0	17.1	1.0	18.5
		1	37	16.7	16.9	16.9	1.0	18.5	16.6	16.9	16.9	1.0	18.5
		1	74	16.7	16.9	17.0	1.0	18.5	16.7	16.9	17.0	1.0	18.5
		36	0	16.5	16.7	17.0	1.0	18.5	16.6	16.8	17.0	1.0	18.5
		36	20	16.5	16.7	16.9	1.0	18.5	16.6	16.8	17.0	1.0	18.5
		36	39	16.5	16.7	16.9	1.0	18.5	16.6	16.8	17.0	1.0	18.5
		75	0	16.5	16.7	16.9	1.0	18.5	16.6	16.8	17.0	1.0	18.5

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26090	26365	26640			26090	26365	26640		
				1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	18.1	18.2	18.3	0.0	19.5	18.1	18.2	18.3	0.0	19.5
		1	25	18.0	18.1	18.2	0.0	19.5	18.1	18.0	18.3	0.0	19.5
		1	49	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		25	0	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		25	12	18.1	18.1	18.3	0.0	19.5	18.0	18.1	18.3	0.0	19.5
		25	25	18.1	18.1	18.3	0.0	19.5	18.0	18.1	18.2	0.0	19.5
		50	0	18.1	18.1	18.3	0.0	19.5	18.0	18.1	18.3	0.0	19.5
	16QAM	1	0	18.1	18.5	18.6	0.0	19.5	18.2	18.4	18.6	0.0	19.5
		1	25	18.0	18.1	18.6	0.0	19.5	18.1	18.1	18.6	0.0	19.5
		1	49	18.2	18.3	18.6	0.0	19.5	18.2	18.2	18.7	0.0	19.5
		25	0	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		25	12	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		25	25	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		50	0	18.1	18.1	18.3	0.0	19.5	18.0	18.1	18.3	0.0	19.5
	64QAM	1	0	18.3	18.4	18.4	0.0	19.5	18.4	18.4	18.5	0.0	19.5
		1	25	18.1	18.2	18.3	0.0	19.5	18.1	18.2	18.5	0.0	19.5
		1	49	18.1	18.4	18.5	0.0	19.5	18.2	18.4	18.5	0.0	19.5
		25	0	18.1	18.2	18.4	0.0	19.5	18.2	18.1	18.4	0.0	19.5
		25	12	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.4	0.0	19.5
		25	25	18.1	18.2	18.3	0.0	19.5	18.1	18.1	18.4	0.0	19.5
		50	0	18.1	18.1	18.3	0.0	19.5	18.1	18.1	18.4	0.0	19.5
	256QAM	1	0	16.7	17.0	16.9	1.0	18.5	16.5	17.0	16.9	1.0	18.5
		1	25	16.6	16.9	16.8	1.0	18.5	16.4	17.0	16.8	1.0	18.5
		1	49	16.7	17.0	16.8	1.0	18.5	16.5	17.0	16.9	1.0	18.5
		25	0	16.7	16.7	16.9	1.0	18.5	16.7	16.8	16.9	1.0	18.5
		25	12	16.7	16.7	16.9	1.0	18.5	16.7	16.7	16.9	1.0	18.5
		25	25	16.7	16.7	16.9	1.0	18.5	16.7	16.7	16.9	1.0	18.5
		50	0	16.7	16.7	16.9	1.0	18.5	16.7	16.7	16.9	1.0	18.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.1	0.0	19.5
		1	12	18.4	18.1	18.3	0.0	19.5	18.2	18.1	18.4	0.0	19.5
		1	24	18.3	18.1	18.2	0.0	19.5	18.2	18.2	18.2	0.0	19.5
		12	0	18.2	18.1	18.2	0.0	19.5	18.2	18.1	18.2	0.0	19.5
		12	7	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.2	0.0	19.5
		12	13	18.2	18.1	18.2	0.0	19.5	18.2	18.1	18.2	0.0	19.5
		25	0	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.2	0.0	19.5
	16QAM	1	0	18.5	18.6	18.4	0.0	19.5	18.6	18.3	18.7	0.0	19.5
		1	12	18.4	18.7	18.4	0.0	19.5	18.6	18.4	18.6	0.0	19.5
		1	24	18.6	18.5	18.4	0.0	19.5	18.5	18.4	18.7	0.0	19.5
		12	0	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		12	7	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.3	0.0	19.5
		12	13	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.2	0.0	19.5
		25	0	18.1	18.1	18.1	0.0	19.5	18.1	18.1	18.2	0.0	19.5
	64QAM	1	0	18.5	18.3	18.4	0.0	19.5	18.6	18.4	18.3	0.0	19.5
		1	12	18.3	18.2	18.5	0.0	19.5	18.4	18.3	18.5	0.0	19.5
		1	24	18.3	18.4	18.5	0.0	19.5	18.5	18.4	18.4	0.0	19.5
		12	0	18.2	18.2	18.2	0.0	19.5	18.2	18.2	18.3	0.0	19.5
		12	7	18.2	18.1	18.2	0.0	19.5	18.1	18.2	18.3	0.0	19.5
		12	13	18.2	18.1	18.2	0.0	19.5	18.2	18.3	18.3	0.0	19.5
		25	0	18.1	18.1	18.2	0.0	19.5	18.2	18.2	18.3	0.0	19.5
	256QAM	1	0	16.9	16.8	16.8	1.0	18.5	17.0	16.8	16.8	1.0	18.5
		1	12	17.0	16.8	17.0	1.0	18.5	17.0	16.6	17.0	1.0	18.5
		1	24	17.0	16.8	16.8	1.0	18.5	17.0	16.8	16.8	1.0	18.5
		12	0	16.8	16.7	16.8	1.0	18.5	16.8	16.8	16.8	1.0	18.5
		12	7	16.8	16.7	16.8	1.0	18.5	16.8	16.8	16.8	1.0	18.5
		12	13	16.8	16.7	16.8	1.0	18.5	16.8	16.8	16.8	1.0	18.5
		25	0	16.7	16.7	16.7	1.0	18.5	16.7	16.8	16.8	1.0	18.5

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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	18.3	18.2	18.3	0.0	19.5	18.2	18.2	18.3	0.0	19.5
		1	8	18.6	18.1	18.6	0.0	19.5	18.5	18.0	18.5	0.0	19.5
		1	14	18.3	18.1	18.3	0.0	19.5	18.3	18.1	18.3	0.0	19.5
		8	0	18.2	18.1	18.2	0.0	19.5	18.2	18.1	18.2	0.0	19.5
		8	4	18.2	18.1	18.2	0.0	19.5	18.1	18.0	18.2	0.0	19.5
		8	7	18.2	18.1	18.2	0.0	19.5	18.1	18.1	18.2	0.0	19.5
		15	0	18.2	18.1	18.2	0.0	19.5	18.2	18.1	18.2	0.0	19.5
	16QAM	1	0	18.3	18.6	18.6	0.0	19.5	18.2	18.4	18.6	0.0	19.5
		1	8	18.3	18.5	18.9	0.0	19.5	18.3	18.3	18.9	0.0	19.5
		1	14	18.4	18.4	18.7	0.0	19.5	18.3	18.2	18.7	0.0	19.5
		8	0	18.1	18.1	18.3	0.0	19.5	18.1	18.2	18.2	0.0	19.5
		8	4	18.2	18.1	18.3	0.0	19.5	18.2	18.2	18.3	0.0	19.5
		8	7	18.1	18.1	18.2	0.0	19.5	18.2	18.2	18.2	0.0	19.5
		15	0	18.2	18.1	18.2	0.0	19.5	18.2	18.2	18.2	0.0	19.5
	64QAM	1	0	18.4	18.0	18.3	0.0	19.5	18.5	18.3	18.5	0.0	19.5
		1	8	18.0	18.2	18.6	0.0	19.5	18.4	18.5	18.7	0.0	19.5
		1	14	18.3	18.2	18.4	0.0	19.5	18.4	18.4	18.6	0.0	19.5
		8	0	18.2	18.2	18.3	0.0	19.5	18.2	18.1	18.3	0.0	19.5
		8	4	18.2	18.2	18.3	0.0	19.5	18.2	18.1	18.3	0.0	19.5
		8	7	18.2	18.2	18.2	0.0	19.5	18.2	18.1	18.3	0.0	19.5
		15	0	18.1	18.1	18.3	0.0	19.5	18.2	18.1	18.3	0.0	19.5
	256QAM	1	0	16.8	16.9	16.7	1.0	18.5	16.7	16.6	17.2	1.0	18.5
		1	8	17.0	16.9	16.6	1.0	18.5	16.8	16.8	17.2	1.0	18.5
		1	14	16.8	16.9	16.7	1.0	18.5	16.8	16.8	17.2	1.0	18.5
		8	0	16.7	16.7	16.8	1.0	18.5	16.8	16.8	16.8	1.0	18.5
		8	4	16.6	16.7	16.8	1.0	18.5	16.7	16.6	16.8	1.0	18.5
		8	7	16.7	16.7	16.8	1.0	18.5	16.8	16.8	16.8	1.0	18.5
		15	0	16.8	16.7	16.9	1.0	18.5	16.8	16.8	16.8	1.0	18.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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	18.0	18.0	18.2	0.0	19.5	18.0	18.0	18.1	0.0	19.5
		1	3	17.9	18.0	18.1	0.0	19.5	17.9	18.0	18.0	0.0	19.5
		1	5	18.0	18.0	18.2	0.0	19.5	18.0	18.0	18.1	0.0	19.5
		3	0	18.0	18.0	18.0	0.0	19.5	18.0	18.0	18.1	0.0	19.5
		3	1	18.0	18.0	18.1	0.0	19.5	17.9	18.0	18.0	0.0	19.5
		3	3	18.0	17.9	18.0	0.0	19.5	18.0	18.0	18.1	0.0	19.5
		6	0	18.1	18.0	18.1	0.0	19.5	18.1	18.0	18.1	0.0	19.5
	16QAM	1	0	18.2	18.5	18.2	0.0	19.5	18.3	18.1	18.3	0.0	19.5
		1	3	18.2	18.4	18.0	0.0	19.5	18.3	17.9	18.1	0.0	19.5
		1	5	18.2	18.5	18.2	0.0	19.5	18.3	18.1	18.3	0.0	19.5
		3	0	18.1	18.1	18.2	0.0	19.5	18.1	18.0	18.1	0.0	19.5
		3	1	18.0	18.3	18.2	0.0	19.5	18.2	18.0	18.0	0.0	19.5
		3	3	18.1	18.1	18.2	0.0	19.5	18.1	18.0	18.1	0.0	19.5
		6	0	18.1	18.1	18.2	0.0	19.5	18.0	18.1	18.2	0.0	19.5
	64QAM	1	0	18.3	18.2	18.4	0.0	19.5	18.1	18.3	18.4	0.0	19.5
		1	3	18.3	18.2	18.3	0.0	19.5	17.9	18.3	18.3	0.0	19.5
		1	5	18.3	18.2	18.4	0.0	19.5	18.1	18.3	18.3	0.0	19.5
		3	0	18.1	18.0	18.2	0.0	19.5	17.9	18.2	18.2	0.0	19.5
		3	1	18.2	18.2	18.2	0.0	19.5	18.0	18.3	18.4	0.0	19.5
		3	3	18.1	18.0	18.2	0.0	19.5	18.0	18.2	18.3	0.0	19.5
		6	0	18.1	18.2	18.1	0.0	19.5	18.1	18.1	18.4	0.0	19.5
	256QAM	1	0	16.7	16.6	16.6	1.0	18.5	16.5	16.6	16.9	1.0	18.5
		1	3	16.7	16.5	16.5	1.0	18.5	16.4	16.6	16.8	1.0	18.5
		1	5	16.7	16.6	16.5	1.0	18.5	16.5	16.6	16.9	1.0	18.5
		3	0	16.6	16.5	16.6	1.0	18.5	16.7	16.6	16.7	1.0	18.5
		3	1	16.6	16.6	16.6	1.0	18.5	16.7	16.6	16.7	1.0	18.5
		3	3	16.6	16.5	16.6	1.0	18.5	16.6	16.5	16.7	1.0	18.5
		6	0	16.5	16.6	16.7	1.0	18.5	16.7	16.6	16.7	1.0	18.5

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off					Reduced Average Power (dBm) Proximity sensor back-off				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132072	132322	132572			132072	132322	132572		
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	18.5	18.6	18.5	0.0	20.0	18.5	18.6	18.5	0.0	20.0
		1	49	18.2	18.5	18.4	0.0	20.0	18.2	18.4	18.3	0.0	20.0
		1	99	18.5	18.5	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		50	0	18.5	18.6	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		50	24	18.5	18.6	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		50	50	18.5	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		100	0	18.5	18.6	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
	16QAM	1	0	18.8	19.0	18.8	0.0	20.0	18.8	19.0	18.8	0.0	20.0
		1	49	18.6	18.8	18.4	0.0	20.0	18.6	18.9	18.4	0.0	20.0
		1	99	18.8	18.9	18.8	0.0	20.0	18.7	19.0	18.7	0.0	20.0
		50	0	18.5	18.6	18.4	0.0	20.0	18.4	18.6	18.4	0.0	20.0
		50	24	18.5	18.6	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		50	50	18.4	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		100	0	18.5	18.6	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
	64QAM	1	0	18.8	19.0	18.7	0.0	20.0	18.6	18.9	18.8	0.0	20.0
		1	49	18.6	18.8	18.6	0.0	20.0	18.3	18.7	18.7	0.0	20.0
		1	99	18.7	18.9	18.6	0.0	20.0	18.5	18.9	18.7	0.0	20.0
		50	0	18.5	18.7	18.5	0.0	20.0	18.5	18.6	18.4	0.0	20.0
		50	24	18.5	18.6	18.5	0.0	20.0	18.4	18.6	18.4	0.0	20.0
		50	50	18.5	18.6	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		100	0	18.5	18.6	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
	256QAM	1	0	17.2	17.4	17.3	1.0	19.0	17.2	17.3	17.2	1.0	19.0
		1	49	17.0	17.3	17.2	1.0	19.0	16.9	17.2	17.1	1.0	19.0
		1	99	17.1	17.4	17.3	1.0	19.0	17.1	17.3	17.2	1.0	19.0
		50	0	17.0	17.1	17.0	1.0	19.0	17.0	17.1	17.0	1.0	19.0
		50	24	17.0	17.1	17.0	1.0	19.0	17.0	17.0	16.9	1.0	19.0
		50	50	17.0	17.1	17.0	1.0	19.0	17.0	17.0	16.9	1.0	19.0
		100	0	17.0	17.1	17.0	1.0	19.0	17.0	17.0	16.9	1.0	19.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132047	132322	132597			132047	132322	132597		
				1717.5 MHz	1745 MHz	1772.5 MHz			1717.5 MHz	1745 MHz	1772.5 MHz		
15 MHz	QPSK	1	0	18.6	18.6	18.5	0.0	20.0	18.6	18.5	18.5	0.0	20.0
		1	37	18.8	18.5	18.8	0.0	20.0	18.7	18.4	18.6	0.0	20.0
		1	74	18.5	18.6	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		36	0	18.6	18.6	18.4	0.0	20.0	18.6	18.5	18.4	0.0	20.0
		36	20	18.5	18.5	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		36	39	18.5	18.5	18.3	0.0	20.0	18.5	18.5	18.3	0.0	20.0
		75	0	18.6	18.5	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
	16QAM	1	0	18.9	18.9	18.8	0.0	20.0	18.8	18.8	18.9	0.0	20.0
		1	37	18.9	18.9	18.9	0.0	20.0	19.0	18.8	18.9	0.0	20.0
		1	74	18.9	18.9	18.7	0.0	20.0	18.8	18.8	18.8	0.0	20.0
		36	0	18.5	18.5	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		36	20	18.5	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		36	39	18.5	18.5	18.4	0.0	20.0	18.5	18.5	18.3	0.0	20.0
		75	0	18.5	18.5	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
	64QAM	1	0	18.8	19.0	18.6	0.0	20.0	18.8	18.8	18.5	0.0	20.0
		1	37	18.7	19.0	18.7	0.0	20.0	18.7	18.8	18.7	0.0	20.0
		1	74	18.8	18.9	18.5	0.0	20.0	18.8	18.6	18.4	0.0	20.0
		36	0	18.6	18.6	18.5	0.0	20.0	18.5	18.5	18.5	0.0	20.0
		36	20	18.5	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		36	39	18.5	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		75	0	18.6	18.6	18.4	0.0	20.0	18.5	18.5	18.4	0.0	20.0
	256QAM	1	0	17.1	17.3	17.0	1.0	19.0	17.3	17.2	16.9	1.0	19.0
		1	37	17.1	17.2	16.7	1.0	19.0	17.2	17.1	16.6	1.0	19.0
		1	74	17.1	17.3	16.9	1.0	19.0	17.2	17.1	16.9	1.0	19.0
		36	0	17.1	17.1	16.9	1.0	19.0	17.0	17.1	16.9	1.0	19.0
		36	20	17.0	17.1	16.9	1.0	19.0	17.0	17.0	16.9	1.0	19.0
		36	39	17.0	17.1	16.9	1.0	19.0	17.0	17.0	16.9	1.0	19.0
		75	0	17.0	17.1	16.9	1.0	19.0	17.0	17.0	16.8	1.0	19.0

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132022	132322	132622			132022	132322	132622		
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	18.5	18.6	18.5	0.0	20.0	18.5	18.6	18.4	0.0	20.0
		1	25	18.5	18.4	18.4	0.0	20.0	18.4	18.4	18.4	0.0	20.0
		1	49	18.5	18.5	18.5	0.0	20.0	18.4	18.5	18.5	0.0	20.0
		25	0	18.5	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		25	12	18.4	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		25	25	18.4	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		50	0	18.5	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
	16QAM	1	0	18.6	18.9	18.8	0.0	20.0	18.7	18.9	18.6	0.0	20.0
		1	25	18.4	18.6	18.7	0.0	20.0	18.6	18.6	18.6	0.0	20.0
		1	49	18.6	18.7	18.9	0.0	20.0	18.7	18.8	18.7	0.0	20.0
		25	0	18.5	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		25	12	18.5	18.5	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		25	25	18.5	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		50	0	18.5	18.5	18.4	0.0	20.0	18.4	18.5	18.4	0.0	20.0
	64QAM	1	0	18.7	18.8	18.7	0.0	20.0	18.5	18.7	18.5	0.0	20.0
		1	25	18.5	18.6	18.5	0.0	20.0	18.2	18.6	18.4	0.0	20.0
		1	49	18.5	18.9	18.7	0.0	20.0	18.4	18.8	18.5	0.0	20.0
		25	0	18.5	18.6	18.6	0.0	20.0	18.5	18.5	18.5	0.0	20.0
		25	12	18.5	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		25	25	18.5	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		50	0	18.5	18.6	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
	256QAM	1	0	17.0	17.3	17.1	1.0	19.0	17.0	17.2	17.0	1.0	19.0
		1	25	16.9	17.2	16.9	1.0	19.0	17.0	17.0	16.9	1.0	19.0
		1	49	17.0	17.2	17.1	1.0	19.0	17.0	17.1	17.0	1.0	19.0
		25	0	17.1	17.1	17.1	1.0	19.0	17.0	17.1	17.0	1.0	19.0
		25	12	17.1	17.1	17.0	1.0	19.0	17.0	17.0	16.9	1.0	19.0
		25	25	17.1	17.1	17.0	1.0	19.0	17.0	17.0	17.0	1.0	19.0
		50	0	17.0	17.1	17.0	1.0	19.0	17.0	17.0	16.9	1.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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	18.5	18.5	18.5	0.0	20.0	18.5	18.4	18.5	0.0	20.0
		1	12	18.6	18.7	18.5	0.0	20.0	18.6	18.4	18.7	0.0	20.0
		1	24	18.6	18.6	18.6	0.0	20.0	18.5	18.5	18.6	0.0	20.0
		12	0	18.4	18.5	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		12	7	18.4	18.5	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		12	13	18.4	18.5	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		25	0	18.4	18.5	18.4	0.0	20.0	18.4	18.4	18.4	0.0	20.0
	16QAM	1	0	18.7	19.0	19.0	0.0	20.0	18.7	19.0	18.7	0.0	20.0
		1	12	18.7	19.0	18.9	0.0	20.0	18.8	19.0	18.7	0.0	20.0
		1	24	18.8	19.1	18.9	0.0	20.0	18.8	18.9	18.8	0.0	20.0
		12	0	18.5	18.6	18.4	0.0	20.0	18.5	18.5	18.5	0.0	20.0
		12	7	18.5	18.6	18.4	0.0	20.0	18.5	18.4	18.5	0.0	20.0
		12	13	18.5	18.6	18.4	0.0	20.0	18.5	18.4	18.5	0.0	20.0
		25	0	18.5	18.5	18.4	0.0	20.0	18.5	18.4	18.4	0.0	20.0
	64QAM	1	0	19.1	18.8	18.6	0.0	20.0	18.5	18.7	18.9	0.0	20.0
		1	12	18.8	18.7	18.8	0.0	20.0	18.5	18.8	18.4	0.0	20.0
		1	24	18.9	18.9	18.7	0.0	20.0	18.7	18.8	18.7	0.0	20.0
		12	0	18.5	18.6	18.5	0.0	20.0	18.4	18.5	18.5	0.0	20.0
		12	7	18.5	18.6	18.5	0.0	20.0	18.4	18.5	18.4	0.0	20.0
		12	13	18.5	18.6	18.5	0.0	20.0	18.4	18.5	18.5	0.0	20.0
		25	0	18.5	18.5	18.5	0.0	20.0	18.4	18.5	18.5	0.0	20.0
	256QAM	1	0	17.3	17.2	17.1	1.0	19.0	17.0	17.1	17.4	1.0	19.0
		1	12	17.4	17.3	17.3	1.0	19.0	17.1	17.1	17.6	1.0	19.0
		1	24	17.2	17.2	17.1	1.0	19.0	17.0	17.1	17.3	1.0	19.0
		12	0	17.0	17.1	17.0	1.0	19.0	17.0	17.0	17.0	1.0	19.0
		12	7	17.0	17.1	17.0	1.0	19.0	17.0	17.0	17.0	1.0	19.0
		12	13	17.0	17.1	17.1	1.0	19.0	16.9	17.0	17.0	1.0	19.0
		25	0	16.9	17.1	17.0	1.0	19.0	17.0	17.0	16.9	1.0	19.0

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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	18.6	18.6	18.6	0.0	20.0	18.6	18.6	18.5	0.0	20.0
		1	8	18.7	18.4	18.9	0.0	20.0	18.4	18.9	18.7	0.0	20.0
		1	14	18.6	18.5	18.6	0.0	20.0	18.5	18.6	18.6	0.0	20.0
		8	0	18.5	18.5	18.5	0.0	20.0	18.5	18.4	18.4	0.0	20.0
		8	4	18.5	18.5	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		8	7	18.5	18.5	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		15	0	18.5	18.5	18.4	0.0	20.0	18.5	18.4	18.4	0.0	20.0
	16QAM	1	0	18.6	18.9	18.8	0.0	20.0	18.9	19.0	18.5	0.0	20.0
		1	8	18.9	18.8	19.1	0.0	20.0	18.9	18.9	18.8	0.0	20.0
		1	14	18.7	18.7	18.9	0.0	20.0	18.7	18.9	18.6	0.0	20.0
		8	0	18.6	18.6	18.6	0.0	20.0	18.6	18.5	18.5	0.0	20.0
		8	4	18.6	18.6	18.6	0.0	20.0	18.6	18.5	18.5	0.0	20.0
		8	7	18.5	18.6	18.5	0.0	20.0	18.6	18.5	18.5	0.0	20.0
		15	0	18.6	18.5	18.5	0.0	20.0	18.6	18.5	18.5	0.0	20.0
	64QAM	1	0	18.7	18.7	18.8	0.0	20.0	18.8	18.5	18.5	0.0	20.0
		1	8	18.8	18.9	18.5	0.0	20.0	18.4	18.7	18.7	0.0	20.0
		1	14	18.8	18.9	18.6	0.0	20.0	18.6	18.7	18.6	0.0	20.0
		8	0	18.6	18.6	18.5	0.0	20.0	18.5	18.6	18.5	0.0	20.0
		8	4	18.6	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		8	7	18.6	18.6	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
		15	0	18.5	18.6	18.5	0.0	20.0	18.5	18.4	18.5	0.0	20.0
	256QAM	1	0	17.3	17.2	17.0	1.0	19.0	16.9	17.1	17.1	1.0	19.0
		1	8	17.3	17.0	17.3	1.0	19.0	17.0	17.1	16.9	1.0	19.0
		1	14	17.2	17.2	17.1	1.0	19.0	16.9	17.1	17.0	1.0	19.0
		8	0	17.0	17.2	17.1	1.0	19.0	17.0	17.0	17.0	1.0	19.0
		8	4	17.0	17.1	17.0	1.0	19.0	16.9	17.0	17.0	1.0	19.0
		8	7	17.1	17.2	17.0	1.0	19.0	17.0	17.0	17.0	1.0	19.0
		15	0	17.0	17.1	17.1	1.0	19.0	17.0	17.0	17.1	1.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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	18.4	18.4	18.4	0.0	20.0	18.4	18.4	18.3	0.0	20.0
		1	3	18.4	18.4	18.3	0.0	20.0	18.4	18.4	18.2	0.0	20.0
		1	5	18.5	18.4	18.4	0.0	20.0	18.5	18.5	18.3	0.0	20.0
		3	0	18.4	18.4	18.3	0.0	20.0	18.3	18.4	18.3	0.0	20.0
		3	1	18.4	18.4	18.3	0.0	20.0	18.4	18.4	18.3	0.0	20.0
		3	3	18.4	18.4	18.4	0.0	20.0	18.4	18.4	18.3	0.0	20.0
		6	0	18.4	18.4	18.4	0.0	20.0	18.5	18.4	18.3	0.0	20.0
	16QAM	1	0	18.9	18.7	18.5	0.0	20.0	18.8	18.6	18.5	0.0	20.0
		1	3	18.8	18.5	18.4	0.0	20.0	18.7	18.3	18.4	0.0	20.0
		1	5	18.9	18.7	18.5	0.0	20.0	18.8	18.6	18.5	0.0	20.0
		3	0	18.6	18.4	18.4	0.0	20.0	18.5	18.5	18.3	0.0	20.0
		3	1	18.7	18.4	18.3	0.0	20.0	18.6	18.4	18.3	0.0	20.0
		3	3	18.6	18.4	18.3	0.0	20.0	18.5	18.6	18.3	0.0	20.0
		6	0	18.5	18.5	18.5	0.0	20.0	18.5	18.5	18.4	0.0	20.0
	64QAM	1	0	18.5	18.8	18.5	0.0	20.0	18.6	18.4	18.4	0.0	20.0
		1	3	18.5	18.8	18.4	0.0	20.0	18.6	18.4	18.2	0.0	20.0
		1	5	18.6	18.7	18.4	0.0	20.0	18.6	18.4	18.4	0.0	20.0
		3	0	18.5	18.6	18.5	0.0	20.0	18.6	18.4	18.3	0.0	20.0
		3	1	18.6	18.6	18.6	0.0	20.0	18.6	18.5	18.4	0.0	20.0
		3	3	18.6	18.6	18.5	0.0	20.0	18.6	18.5	18.3	0.0	20.0
		6	0	18.4	18.5	18.5	0.0	20.0	18.5	18.6	18.3	0.0	20.0
	256QAM	1	0	17.1	16.9	17.0	1.0	19.0	17.0	16.9	16.8	1.0	19.0
		1	3	17.0	16.9	16.9	1.0	19.0	16.9	16.8	16.6	1.0	19.0
		1	5	17.1	16.9	17.1	1.0	19.0	17.0	16.9	16.8	1.0	19.0
		3	0	17.0	16.9	16.8	1.0	19.0	16.8	16.9	16.9	1.0	19.0
		3	1	17.1	16.9	16.9	1.0	19.0	16.9	16.9	16.9	1.0	19.0
		3	3	16.9	16.9	16.9	1.0	19.0	16.8	16.9	16.8	1.0	19.0
		6	0	17.0	16.9	16.9	1.0	19.0	16.9	16.9	16.9	1.0	19.0

LTE Band 41-Power Class 3 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off							Reduced Average Power (dBm) Proximity sensor back-off						
				Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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	20.4	20.1	19.9	20.4	20.3	0.0	21.0	20.5	20.2	19.8	20.5	20.3	0.0	21.0
		1	49	20.4	20.0	19.7	20.4	20.2	0.0	21.0	20.4	20.1	19.8	20.4	20.3	0.0	21.0
		1	99	20.4	20.1	19.8	20.5	20.1	0.0	21.0	20.4	20.1	19.9	20.6	20.2	0.0	21.0
		50	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.5	20.2	19.9	20.5	20.3	0.0	21.0
		50	24	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
		50	50	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.8	20.5	20.3	0.0	21.0
		100	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.8	20.5	20.3	0.0	21.0
	16QAM	1	0	20.6	20.4	20.0	20.6	20.1	0.0	21.0	20.3	20.4	20.2	20.8	20.4	0.0	21.0
		1	49	20.3	20.5	19.6	20.6	20.3	0.0	21.0	20.3	20.2	19.9	20.5	20.4	0.0	21.0
		1	99	20.5	20.3	20.1	20.4	20.5	0.0	21.0	20.4	20.4	20.1	20.3	20.5	0.0	21.0
		50	0	20.4	20.3	19.9	20.5	20.4	0.0	21.0	20.5	20.3	19.9	20.5	20.3	0.0	21.0
		50	24	20.4	20.2	20.0	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.2	0.0	21.0
		50	50	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.6	20.3	0.0	21.0
		100	0	20.4	20.2	19.8	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
	64QAM	1	0	20.5	20.4	20.3	20.7	20.5	0.0	21.0	20.3	20.3	19.6	20.6	20.4	0.0	21.0
		1	49	20.7	20.2	19.4	20.5	20.0	0.0	21.0	20.0	20.2	19.3	20.1	20.4	0.0	21.0
		1	99	20.2	20.4	19.8	21.0	20.8	0.0	21.0	20.6	20.3	19.6	20.6	20.5	0.0	21.0
		50	0	20.5	20.3	20.0	20.6	20.4	0.0	21.0	20.5	20.3	19.9	20.6	20.4	0.0	21.0
		50	24	20.4	20.3	20.0	20.6	20.3	0.0	21.0	20.4	20.3	19.9	20.5	20.3	0.0	21.0
		50	50	20.4	20.3	20.0	20.5	20.3	0.0	21.0	20.4	20.3	19.9	20.5	20.4	0.0	21.0
		100	0	20.4	20.3	20.0	20.6	20.3	0.0	21.0	20.4	20.3	19.9	20.5	20.4	0.0	21.0
	256QAM	1	0	18.6	18.4	18.1	19.0	18.0	2.0	19.0	18.5	18.4	17.6	18.4	18.5	2.0	19.0
		1	49	18.0	18.3	18.0	18.5	18.4	2.0	19.0	18.2	18.5	17.7	18.6	18.2	2.0	19.0
		1	99	18.8	18.2	18.0	18.9	18.7	2.0	19.0	18.6	18.4	17.8	18.6	18.5	2.0	19.0
		50	0	18.5	18.4	18.1	18.6	18.4	2.0	19.0	18.5	18.4	18.0	18.6	18.4	2.0	19.0
		50	24	18.4	18.3	18.1	18.5	18.4	2.0	19.0	18.4	18.3	18.0	18.6	18.3	2.0	19.0
		50	50	18.4	18.3	18.0	18.6	18.3	2.0	19.0	18.5	18.3	18.0	18.6	18.4	2.0	19.0
		100	0	18.4	18.3	18.0	18.6	18.4	2.0	19.0	18.4	18.3	17.9	18.5	18.4	2.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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	20.5	20.2	19.8	20.4	20.4	0.0	21.0	20.4	20.2	19.8	20.6	20.3	0.0	21.0
		1	37	20.5	19.8	19.7	20.5	20.1	0.0	21.0	20.5	19.8	19.7	20.5	19.9	0.0	21.0
		1	74	20.3	20.1	19.9	20.5	20.2	0.0	21.0	20.3	20.1	19.9	20.4	20.3	0.0	21.0
		36	0	20.4	20.1	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
		36	20	20.4	20.2	19.8	20.5	20.3	0.0	21.0	20.4	20.2	19.8	20.5	20.3	0.0	21.0
		36	39	20.4	20.1	19.8	20.5	20.3	0.0	21.0	20.3	20.2	19.9	20.4	20.3	0.0	21.0
		75	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
	16QAM	1	0	20.2	20.4	19.4	20.3	20.4	0.0	21.0	20.4	20.0	19.6	20.3	20.2	0.0	21.0
		1	37	20.4	19.9	19.5	20.7	20.0	0.0	21.0	20.4	20.0	19.3	20.2	20.1	0.0	21.0
		1	74	20.3	20.3	19.8	20.3	20.3	0.0	21.0	20.4	20.1	19.8	20.2	20.1	0.0	21.0
		36	0	20.5	20.2	19.8	20.5	20.3	0.0	21.0	20.5	20.1	19.9	20.6	20.3	0.0	21.0
		36	20	20.3	20.2	19.8	20.5	20.3	0.0	21.0	20.4	20.2	19.8	20.5	20.3	0.0	21.0
		36	39	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.2	0.0	21.0
		75	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.1	19.9	20.4	20.2	0.0	21.0
	64QAM	1	0	20.9	19.9	20.2	20.5	20.2	0.0	21.0	20.4	20.2	20.1	20.3	20.5	0.0	21.0
		1	37	19.9	19.4	20.0	20.5	19.9	0.0	21.0	20.2	19.6	19.8	20.4	20.1	0.0	21.0
		1	74	20.8	19.9	19.8	20.8	20.1	0.0	21.0	19.9	20.1	20.1	20.2	20.2	0.0	21.0
		36	0	20.3	20.3	20.0	20.5	20.4	0.0	21.0	20.5	20.1	19.9	20.6	20.3	0.0	21.0
		36	20	20.3	20.3	19.9	20.5	20.4	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
		36	39	20.3	20.3	19.9	20.4	20.4	0.0	21.0	20.4	20.1	19.9	20.6	20.3	0.0	21.0
		75	0	20.4	20.3	20.0	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
	256QAM	1	0	18.8	18.1	17.7	18.5	18.0	2.0	19.0	18.4	18.4	17.6	18.5	18.5	2.0	19.0
		1	37	18.5	17.7	17.8	18.6	17.7	2.0	19.0	18.2	18.0	17.7	18.4	17.9	2.0	19.0
		1	74	18.4	17.6	17.8	18.9	18.2	2.0	19.0	18.3	18.1	17.8	18.4	18.5	2.0	19.0
		36	0	18.4	18.3	18.0	18.5	18.4	2.0	19.0	18.5	18.2	17.8	18.6	18.4	2.0	19.0
		36	20	18.3	18.3	17.9	18.5	18.4	2.0	19.0	18.4	18.2	17.8	18.5	18.4	2.0	19.0
		36	39	18.3	18.3	18.0	18.5	18.3	2.0	19.0	18.4	18.1	17.9	18.5	18.3	2.0	19.0
		75	0	18.4	18.3	18.0	18.5	18.3	2.0	19.0	18.4	18.2	17.9	18.6	18.3	2.0	19.0

LTE Band 41-Power Class 3 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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	20.5	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.1	19.9	20.5	20.3	0.0	21.0
		1	25	20.5	20.0	19.9	20.5	20.1	0.0	21.0	20.3	20.1	19.9	20.4	20.3	0.0	21.0
		1	49	20.4	20.1	19.9	20.5	20.2	0.0	21.0	20.3	20.1	19.9	20.5	20.3	0.0	21.0
		25	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
		25	12	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.1	19.8	20.6	20.3	0.0	21.0
		25	25	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
		50	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.1	19.9	20.5	20.3	0.0	21.0
	16QAM	1	0	20.3	20.5	19.8	20.4	20.5	0.0	21.0	20.6	20.1	19.8	20.8	20.3	0.0	21.0
		1	25	20.2	20.4	19.7	20.3	20.4	0.0	21.0	20.5	20.0	19.8	20.7	20.2	0.0	21.0
		1	49	20.2	20.5	19.8	20.3	20.5	0.0	21.0	20.6	20.1	19.9	20.8	20.2	0.0	21.0
		25	0	20.4	20.2	19.9	20.6	20.3	0.0	21.0	20.4	20.2	19.9	20.6	20.3	0.0	21.0
		25	12	20.4	20.2	19.9	20.6	20.3	0.0	21.0	20.4	20.2	19.8	20.6	20.3	0.0	21.0
		25	25	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.8	20.6	20.3	0.0	21.0
		50	0	20.3	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
	64QAM	1	0	20.3	20.1	20.1	20.5	20.2	0.0	21.0	20.3	20.4	19.9	20.4	20.1	0.0	21.0
		1	25	20.1	20.0	20.0	20.3	20.2	0.0	21.0	20.2	20.3	19.9	20.3	20.0	0.0	21.0
		1	49	20.3	20.0	20.1	20.4	20.1	0.0	21.0	20.3	20.4	19.9	20.4	20.1	0.0	21.0
		25	0	20.4	20.3	20.0	20.5	20.3	0.0	21.0	20.4	20.3	19.9	20.5	20.3	0.0	21.0
		25	12	20.4	20.3	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
		25	25	20.3	20.3	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.2	0.0	21.0
		50	0	20.3	20.3	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.3	0.0	21.0
	256QAM	1	0	18.5	18.2	17.8	18.5	18.1	2.0	19.0	18.3	18.0	17.8	18.5	18.3	2.0	19.0
		1	25	18.5	18.0	17.9	18.5	18.0	2.0	19.0	18.3	17.9	17.7	18.4	18.3	2.0	19.0
		1	49	18.4	18.1	17.8	18.5	18.0	2.0	19.0	18.3	18.0	17.8	18.4	18.3	2.0	19.0
		25	0	18.4	18.4	18.1	18.6	18.3	2.0	19.0	18.4	18.3	18.0	18.6	18.4	2.0	19.0
		25	12	18.4	18.3	18.0	18.6	18.4	2.0	19.0	18.4	18.3	18.0	18.6	18.3	2.0	19.0
		25	25	18.3	18.3	18.0	18.5	18.3	2.0	19.0	18.4	18.3	18.0	18.6	18.3	2.0	19.0
		50	0	18.3	18.3	18.0	18.5	18.3	2.0	19.0	18.4	18.2	18.0	18.5	18.3	2.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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	20.4	20.1	19.9	20.5	20.3	0.0	21.0	20.5	20.2	19.9	20.5	20.3	0.0	21.0
		1	12	20.4	19.8	19.9	20.4	20.1	0.0	21.0	20.2	19.8	19.7	20.6	20.1	0.0	21.0
		1	24	20.3	20.1	19.9	20.4	20.2	0.0	21.0	20.3	20.1	19.8	20.5	20.2	0.0	21.0
		12	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.1	19.8	20.5	20.2	0.0	21.0
		12	7	20.4	20.2	19.9	20.4	20.3	0.0	21.0	20.3	20.1	19.9	20.4	20.2	0.0	21.0
		12	13	20.3	20.1	19.9	20.5	20.3	0.0	21.0	20.3	20.1	19.9	20.5	20.2	0.0	21.0
		25	0	20.4	20.1	19.9	20.5	20.2	0.0	21.0	20.4	20.1	19.9	20.5	20.3	0.0	21.0
	16QAM	1	0	20.2	20.2	19.9	20.3	20.4	0.0	21.0	20.5	20.3	19.7	20.6	20.4	0.0	21.0
		1	12	20.3	19.9	19.9	20.2	20.0	0.0	21.0	20.5	20.0	19.6	20.6	20.3	0.0	21.0
		1	24	20.2	20.2	20.0	20.3	20.3	0.0	21.0	20.5	20.2	19.7	20.6	20.3	0.0	21.0
		12	0	20.4	20.3	19.9	20.5	20.3	0.0	21.0	20.3	20.2	19.8	20.5	20.3	0.0	21.0
		12	7	20.3	20.2	19.9	20.5	20.3	0.0	21.0	20.3	20.1	19.9	20.5	20.2	0.0	21.0
		12	13	20.3	20.2	19.9	20.5	20.3	0.0	21.0	20.3	20.2	19.9	20.5	20.2	0.0	21.0
		25	0	20.3	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.5	20.2	0.0	21.0
	64QAM	1	0	20.3	20.4	20.0	20.5	20.4	0.0	21.0	20.5	20.3	20.1	20.6	20.3	0.0	21.0
		1	12	20.1	20.1	20.1	20.2	20.1	0.0	21.0	20.6	20.0	20.1	20.5	20.2	0.0	21.0
		1	24	20.2	20.5	19.9	20.3	20.4	0.0	21.0	20.5	20.2	20.0	20.7	20.3	0.0	21.0
		12	0	20.4	20.3	20.0	20.5	20.3	0.0	21.0	20.4	20.2	19.9	20.6	20.3	0.0	21.0
		12	7	20.3	20.3	20.0	20.4	20.3	0.0	21.0	20.4	20.2	20.0	20.5	20.3	0.0	21.0
		12	13	20.3	20.3	20.0	20.5	20.3	0.0	21.0	20.4	20.2	20.0	20.5	20.3	0.0	21.0
		25	0	20.4	20.2	19.9	20.5	20.3	0.0	21.0	20.4	20.3	19.9	20.5	20.4	0.0	21.0
	256QAM	1	0	18.4	18.4	18.0	18.5	18.5	2.0	19.0	18.5	18.2	18.0	18.6	18.3	2.0	19.0
		1	12	18.3	18.0	18.1	18.4	18.1	2.0	19.0	18.4	17.8	18.2	18.5	18.1	2.0	19.0
		1	24	18.3	18.3	18.0	18.5	18.5	2.0	19.0	18.5	18.2	18.1	18.6	18.3	2.0	19.0
		12	0	18.4	18.3	17.9	18.6	18.4	2.0	19.0	18.4	18.3	17.9	18.6	18.3	2.0	19.0
		12	7	18.3	18.3	18.0	18.5	18.4	2.0	19.0	18.4	18.2	17.9	18.6	18.3	2.0	19.0
		12	13	18.3	18.3	18.0	18.5	18.3	2.0	19.0	18.4	18.3	17.9	18.5	18.3	2.0	19.0
		25	0	18.3	18.2	18.0	18.5	18.3	2.0	19.0	18.4	18.2	17.9	18.5	18.3	2.0	19.0

9.3.1. LTE Rel. 10 Carrier Aggregation

LTE Carrier Aggregation Down Link Combinations;

The DL CA power measurement conditions for various CC's combinations were determined according LTE DL CA SAR Test Exclusion guidance in TCB workshop note (April 2018). Only yellow highlighted cells need power measurement. The following power measurements were performed with a single carrier uplink; CA for this particular project only supports one (1) uplink and up to four (4) downlinks.

LTE Release 10 Carrier Aggregation

Index	2CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
2CC #1	2A-2A			
2CC #2	2C			
2CC #3	2A-4A		3CC #1	O
2CC #4	2A-5A		3CC #1	O
2CC #5	2A-12A			O
2CC #6	2A-13A		3CC #2	O
2CC #7	2A-17A	B17 SCC only		X
2CC #8	2A-66A			O
2CC #9	4A-4A		3CC #3	
2CC #10	4A-5A		3CC #1	O
2CC #11	4A-12A		3CC #3	O
2CC #12	4A-13A		3CC #2	O
2CC #13	4A-17A	B17 SCC only	3CC #4	X
2CC #14	5A-41A			O
2CC #15	5A-66A		3CC #5	O
2CC #16	12A-66A		3CC #6	O
2CC #17	26A-41A			O
2CC #18	41A-41A			
2CC #19	41C		3CC #8	
2CC #20	66A-66A		3CC #5	
2CC #21	66B			
2CC #22	66C			

Index	3CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
3CC #1	2A-4A-5A			O
3CC #2	2A-4A-13A			O
3CC #3	4A-4A-12A			O
3CC #4	4A-4A-17A	B17 SCC only		X
3CC #5	5A-66A-66A			O
3CC #6	12A-66A-66A			O
3CC #7	26A-41C			O
3CC #8	41A-41C			O
3CC #9	41D		4CC #2	
3CC #10				
3CC #11				
3CC #12				

Index	4CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
4CC #1	41C-41C			
4CC #2	41A-41D			O
4CC #3	41E			

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO

Index	2CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
2CC #1	[66B]			
2CC #2	[66C]			

Index	3CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
3CC #1	[4A]-[4A]-12A			O
3CC #2	[4A]-[4A]-17A	B17 SCC only		X

[*] is 4X4 MIMO configuration.

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

1. Single Carrier 4x4 Downlink MIMO

LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	Modulation	RB/Offset	LTE Rel 8 Tx. Power [dBm]	4x4 DL MIMO LTE Rel 8 Tx. Power	Delta
Band 4	20	20175	1732.5	QPSK	1/0	22.3	22.3	-0.03
Band 66	20	132322	1745	QPSK	1/0	22.2	22.1	-0.06

Note:

1. According to LTE Test Conditions in TCB workshop (May, 2017), SAR is excluded for LTE downlink 4x4 MIMO operation when uplink output with DL MIMO does not exceed highest uplink output power configuration without DL MIMO by more than a 1/4 dB. And for DL MIMO with carrier aggregation, the same SAR test exclusion procedure is considered.

2. DL CA output power results

E-UTRA CA configuration (BCS)	Bands				UL					DL												LTE Rel 8 Tx. Power [dBm]	LTE Rel 10 Tx. Power [dBm]	Delta
	PCC	SCC1	SCC2	SCC3	PCC					PCC			SCC1			SCC2			SCC3					
	1st	2nd	3rd	4th	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)			
2A-12A	2A	12A			QPSK	20	19100	1900	1/0	20	1100	1980	10	5095	737.5							22.0	22.0	-0.05
	12A	2A			QPSK	10	23095	707.5	1/0	10	5095	737.5	20	900	1960							24.8	24.7	-0.05
2A-17A	2A	17A			QPSK	20	19100	1900	1/0	20	1100	1980	10	5790	740							22.0	21.9	-0.12
2A-66A	2A	66A			QPSK	20	19100	1900	1/0	20	1100	1980	20	66786	2145							22.0	22.0	-0.03
	66A	2A			QPSK	20	132322	1745	1/0	20	66786	2145	20	900	1960							22.2	22.2	-0.02
5A-41A	5A	41A			QPSK	10	20525	836.5	1/0	10	2525	881.5	20	40620	2593							24.8	24.8	-0.03
	41A	5A			QPSK	20	41055	2636.5	1/99	20	41055	2636.5	10	2525	881.5							23.4	23.3	-0.12
26A-41A	26A	41A			QPSK	15	26865	831.5	1/0	15	8865	876.5	20	40620	2593							24.4	24.3	-0.10
	41A	26A			QPSK	20	41055	2636.5	1/99	20	41055	2636.5	15	8865	876.5							23.4	23.3	-0.06
2A-4A-5A	2A	4A	5A		QPSK	20	19100	1900	1/0	20	1100	1980	20	2175	2132.5	10	2525	881.5				22.0	21.9	-0.11
	4A	2A	5A		QPSK	20	20175	1732.5	1/0	20	2175	2132.5	20	900	1960	10	2525	881.5				22.3	22.2	-0.08
	5A	2A	4A		QPSK	10	20525	836.5	1/0	10	2525	881.5	20	900	1960	20	2175	2132.5				24.8	24.9	0.04
2A-4A-13A	2A	4A	13A		QPSK	20	19100	1900	1/0	20	1100	1980	20	2175	2132.5	10	5230	751				22.0	21.9	-0.10
	4A	2A	13A		QPSK	20	20175	1732.5	1/0	20	2175	2132.5	20	900	1960	10	5230	751				22.3	22.2	-0.08
	13A	2A	4A		QPSK	10	23230	782	1/49	10	5230	751	20	900	1960	20	2175	2132.5				24.3	24.3	0.07
4A-4A-12A	4A	4A	12A		QPSK	20	20050	1720	1/99	20	2050	2120	20	2300	2145	10	5095	737.5				22.3	22.2	-0.08
	12A	4A	4A		QPSK	10	23095	707.5	1/0	10	5095	737.5	20	2050	2120	20	2300	2145				24.8	24.8	-0.01
4A-4A-17A	4A	4A	17A		QPSK	20	20050	1720	1/99	20	2050	2120	20	2300	2145	10	5790	740				22.3	22.3	0.01
5A-66A-66A	5A	66A	66A		QPSK	10	20525	836.5	1/0	10	2525	881.5	20	66536	2120	20	67036	2170				24.8	24.9	0.07
	66A	5A	66A		QPSK	20	132322	1745	1/0	20	66786	2145	10	2525	881.5	20	67036	2170				22.2	22.1	-0.09
12A-66A-66A	12A	66A	66A		QPSK	10	23095	707.5	1/0	10	5095	737.5	20	66536	2120	20	67036	2170				24.8	24.8	0.00
	66A	66A	12A		QPSK	20	132322	1745	1/0	20	66786	2145	20	67036	2170	10	5095	737.5				22.2	22.2	0.03
26A-41C	26A	41C	41C		QPSK	15	26865	831.5	1/0	15	8865	876.5	20	40620	2593	20	40818	2612.8				24.4	23.7	-0.62
	41C	41C	26A		QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	41253	2656.3	15	8865	876.5				23.4	23.3	-0.09
2A-2A	2A	2A			QPSK	20	19100	1900	1/0	20	1100	1980	20	700	1940							22.0	21.9	-0.11
41A-41A	41A	41A			QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	2680	41490							23.4	23.4	-0.03
41A-41C	41A	41C	41C		QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	2680	41490	20	41292	2660.2				23.4	23.3	-0.07
	41C	41C	41A		QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	41253	2656.3	20	40620	2593				23.4	23.4	-0.03
41C-41C	41C	41C	41C	41C	QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	41253	2656.3	20	40620	2593	20	40818	2612.8	23.4	23.4	0.03
41A-41D	41A	41D	41D	41D	QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	2506	39750	20	39948	2525.8	20	40146	2545.6	23.4	23.3	-0.04
	41D	41D	41D	41A	QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	2616.7	40857	20	40659	2596.9	20	41490	2680	23.4	23.3	-0.05
66B	66B	66B			QPSK	15	132047	1717.5	1/37	15	66511	2117.5	5	66604	2126.8							22.4	22.3	-0.03
66C	66C	66C			QPSK	20	132322	1745	1/0	20	66786	2145	20	66984	2164.8							22.2	22.2	0.00
41E	41E	41E	41E	41E	QPSK	20	41055	2636.5	1/99	20	41055	2636.5	20	2616.7	40857	20	40659	2596.9	20	40461	2577.1	23.4	23.4	0.03

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations

3. DL CA with downlink 4x4 MIMO output power results

E-UTRA CA configuration (BCS)	Bands			UL					DL									LTE Rel 8 Tx. Power [dBm]	LTE Rel 10 Tx. Power [dBm]	Delta
	PCC	SCC1	SCC2	PCC					PCC			SCC1			SCC2					
	1st	2nd	3rd	Mode	BW (MHz)	Channel	Freq. (MHz)	RB/Offset	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)			
[4A]-[4A]-12A	[4A]	[4A]	12A	QPSK	20	20050	1720	1/99	20	2050	2120	20	2300	2145	10	5095	737.5	22.3	22.3	0.03
	12A	[4A]	[4A]	QPSK	10	23095	707.5	1/0	10	5095	737.5	20	2050	2120	20	2300	2145	24.8	24.8	0.05
[4A]-[4A]-17A	[4A]	[4A]	17A	QPSK	20	20050	1720	1/99	20	2050	2120	20	2300	2145	10	5790	740	22.3	22.3	0.05
[66B]	[66B]	[66B]		QPSK	15	132047	1717.5	1/37	15	66511	2117.5	5	66604	2126.8				22.4	22.4	0.03
[66C]	[66C]	[66C]		QPSK	20	132322	1745	1/0	20	66786	2145	20	66984	2164.8				22.2	22.1	-0.12

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations

9.4. Wi-Fi 2.4 GHz (DTS Band)

When the RCV 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.

Measured Results

Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Normal WLAN mode					
					Max.Average Power			Reduced Average Power		
					Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi SISO Ant.1	802.11b	1 Mbps	1	2412.0	19.4	21.0	Yes	16.7	17.0	Yes
			6	2437.0	20.2			16.3		
			11	2462.0	20.1			16.0		
			12	2467.0	10.0	10.0	No			
			13	2472.0	3.7	5.0				
	802.11g	6 Mbps	1	2412.0	Not Required	16.0	No	Not Required	17.0	No
			2	2417.0		18.0				
			6	2437.0						
			10	2457.0						
			11	2462.0		16.0			16.0	
			12	2467.0		10.0				
			13	2472.0		5.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No	Not Required	15.0	No
			2	2417.0		18.0			17.0	
			6	2437.0						
			10	2457.0						
			11	2462.0		16.0			16.0	
			12	2467.0		10.0				
			13	2472.0		5.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	15.0	No	Not Required	15.0	No
			6	2437.0		16.0			16.0	
			11	2462.0						
			12	2467.0		10.0				
			13	2472.0		5.0				
WiFi SISO Ant.2	802.11b	1 Mbps	1	2412.0	20.5	21.0	Yes	16.1	17.0	Yes
			6	2437.0	19.9			16.7		
			11	2462.0	20.7			16.2		
			12	2467.0	10.0	10.0	No			
			13	2472.0	4.1	5.0				
	802.11g	6 Mbps	1	2412.0	Not Required	16.0	No	Not Required	17.0	No
			2	2417.0		18.0				
			6	2437.0						
			10	2457.0						
			11	2462.0		16.0			16.0	
			12	2467.0		10.0				
			13	2472.0		5.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No	Not Required	15.0	No
			2	2417.0		18.0			17.0	
			6	2437.0						
			10	2457.0						
			11	2462.0		16.0			16.0	
			12	2467.0		10.0				
			13	2472.0		5.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	15.0	No	Not Required	15.0	No
			6	2437.0		16.0			16.0	
			11	2462.0						
			12	2467.0		10.0				
			13	2472.0		5.0				
WiFi MIMO Ant.1	802.11g	6 Mbps	1	2412.0	Not Required	15.0	Yes			
			6	2437.0	14.7	16.0				
			11	2462.0	14.5					
			12	2467.0	8.4	10.0				
			13	2472.0	3.4	5.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No			
			6	2437.0						
			11	2462.0		15.0				
			12	2467.0		10.0				
			13	2472.0		5.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	12.0	No			
			6	2437.0		13.0				
			11	2462.0						
			12	2467.0		10.0				
			13	2472.0		5.0				
WiFi MIMO Ant.2	802.11g	6 Mbps	1	2412.0	Not Required	15.0	Yes			
			6	2437.0	15.0	16.0				
			11	2462.0	15.7					
			12	2467.0	9.4	10.0				
			13	2472.0	5.0	5.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No			
			6	2437.0						
			11	2462.0		15.0				
			12	2467.0		10.0				
			13	2472.0		5.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	12.0	No			
			6	2437.0		13.0				
			11	2462.0						
			12	2467.0		10.0				
			13	2472.0		5.0				

Measured Results of RSDB operation

Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	RSDB WLAN mode		
					Max. Averge Pow er		
					Meas. Avg Pw r (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi SISO Ant.1	802.11b	1 Mbps	1	2412.0	16.7	17.0	Yes
			6	2437.0	16.7		
			11	2462.0	16.0		
			12	2467.0	10.0	10.0	No
			13	2472.0	3.7	5.0	
	802.11g	6 Mbps	1	2412.0	Not Required	16.0	No
			6	2437.0		17.0	
			11	2462.0		16.0	
			12	2467.0		10.0	
			13	2472.0		5.0	
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0		17.0	
			11	2462.0		16.0	
			12	2467.0		10.0	
			13	2472.0		5.0	
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0		16.0	
			11	2462.0			
			12	2467.0		10.0	
			13	2472.0		5.0	
WiFi SISO Ant.2	802.11b	1 Mbps	1	2412.0	16.1	17.0	Yes
			6	2437.0	16.7		
			11	2462.0	16.2		
			12	2467.0	10.0	10.0	No
			13	2472.0	4.1	5.0	
	802.11g	6 Mbps	1	2412.0	Not Required	16.0	No
			6	2437.0		17.0	
			11	2462.0		16.0	
			12	2467.0		10.0	
			13	2472.0		5.0	
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0		17.0	
			11	2462.0		16.0	
			12	2467.0		10.0	
			13	2472.0		5.0	
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0		16.0	
			11	2462.0			
			12	2467.0		10.0	
			13	2472.0		5.0	
WiFi MIMO Ant.1	802.11g	6 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0	14.7	16.0	Yes
			11	2462.0	14.5		
			12	2467.0	10.0	10.0	No
			13	2472.0	3.7	5.0	
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0		16.0	
			11	2462.0		15.0	
			12	2467.0		10.0	
			13	2472.0		5.0	
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	12.0	No
			6	2437.0		13.0	
			11	2462.0			
			12	2467.0		10.0	
			13	2472.0		5.0	
WiFi MIMO Ant.2	802.11g	6 Mbps	1	2412.0	Not Required	15.0	Yes
			6	2437.0	15.0	16.0	
			11	2462.0	15.7		
			12	2467.0	10.0	10.0	No
			13	2472.0	4.1	5.0	
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	15.0	No
			6	2437.0		16.0	
			11	2462.0		15.0	
			12	2467.0		10.0	
			13	2472.0		5.0	
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	12.0	No
			6	2437.0		13.0	
			11	2462.0			
			12	2467.0		10.0	
			13	2472.0		5.0	

Note(s):

1. SAR is not required for 802.11g/n modes when the adjusted SAR for 802.11b is < 1.2 W/kg.
2. 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 802.11n/g/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.
3. 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. Refer to §6.3.
4. MIMO DTS SAR test were additionally evaluated at Body-worn and Hotspot exposure conditions for determining simultaneous transmission SAR test exclusion.

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

When the RCV 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.

Measured Results of WiFi SISO Ant.1

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Max. Average Power			Reduced Average Power		
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Reduced Tune-up Limit (dBm)	SAR Test (Yes/No)
SISO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	15.4	16.5	Yes	Not Required	14.0	No
				56	5280	15.3					
				60	5300	15.3					
				64	5320	15.1					
		802.11n (HT20)	6.5 Mbps	52	5260	Not Required	16.5	No	Not Required	14.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11n (HT40)	13.5 Mbps	54	5270	Not Required	16.0	No	Not Required	14.0	No
				62	5310						
		802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	16.5	No	Not Required	14.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	16.0	No	Not Required	14.0	No
				62	5310						
		802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	15.0	No	13.2	14.0	Yes
		802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	16.0	No	Not Required	14.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
				62	5310						
		802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	13.0	No	Not Required	13.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	15.5	17.0	Yes	Not Required	14.0	No
				120	5600	15.6					
				124	5620	15.6					
				144	5720	15.5					
		802.11n (HT20)	6.5 Mbps	100	5500	Not Required	17.0	No	Not Required	14.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11n (HT40)	13.5 Mbps	102	5510	Not Required	16.0	No	Not Required	14.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	17.0	No	Not Required	14.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	16.0	No	Not Required	14.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	15.0	No	12.7	14.0	Yes
				122	5610				12.7		
				138	5690				12.6		
		802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	16.0	No	Not Required	14.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	13.0	No	Not Required	13.0	No
				122	5610						
				138	5690						
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	16.9	18.0	Yes	Not Required	14.0	No
				157	5785	17.0					
				165	5825	17.1					
		802.11n (HT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	14.0	No
				157	5785						
				165	5825						
		802.11n (HT40)	13.5 Mbps	151	5755	Not Required	16.0	No	Not Required	14.0	No
				159	5795						
		802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	14.0	No
				157	5785						
				165	5825						
		802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	16.0	No	Not Required	14.0	No
				159	5795						
		802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	15.0	No	13.1	14.0	Yes
		802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	16.0	No	Not Required	14.0	No
				157	5785						
				165	5825						
		802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
				159	5795						
		802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	13.0	No	Not Required	13.0	No

Measured Results of WiFi SISO Ant.2

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Max. Average Power			Reduced Average Power		
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Reduced Tune-up Limit (dBm)	SAR Test (Yes/No)
SISO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	14.8	16.5	Yes	Not Required	14.0	No
				56	5280	14.8					
				60	5300	14.8					
				64	5320	14.9					
		802.11n (HT20)	6.5 Mbps	52	5260	Not Required	16.5	No	Not Required	14.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11n (HT40)	13.5 Mbps	54	5270	Not Required	16.0	No	Not Required	14.0	No
				62	5310						
		802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	16.5	No	Not Required	14.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	16.0	No	Not Required	14.0	No
				62	5310						
		802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	15.0	No	13.1	14.0	Yes
		802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	16.0	No	Not Required	14.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
				62	5310						
		802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	13.0	No	Not Required	13.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	16.1	17.0	Yes	Not Required	14.0	No
				120	5600	16.2					
				124	5620	16.1					
				144	5720	15.9					
		802.11n (HT20)	6.5 Mbps	100	5500	Not Required	17.0	No	Not Required	14.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11n (HT40)	13.5 Mbps	102	5510	Not Required	16.0	No	Not Required	14.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	17.0	No	Not Required	14.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	16.0	No	Not Required	14.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	15.0	No	13.3	14.0	Yes
				122	5610				13.2		
				138	5690				13.2		
		802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	16.0	No	Not Required	14.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	13.0	No	Not Required	13.0	No
				122	5610						
				138	5690						
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	17.0	18.0	Yes	Not Required	14.0	No
				157	5785	16.8					
				165	5825	16.6					
		802.11n (HT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	14.0	No
				157	5785						
				165	5825						
		802.11n (HT40)	13.5 Mbps	151	5755	Not Required	16.0	No	Not Required	14.0	No
				159	5795						
		802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	14.0	No
				157	5785						
				165	5825						
		802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	16.0	No	Not Required	14.0	No
				159	5795						
		802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	15.0	No	14.0	14.0	Yes
		802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	16.0	No	Not Required	14.0	No
				157	5785						
				165	5825						
		802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
				159	5795						
		802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	13.0	No	Not Required	13.0	No

Measured Results of WiFi MIMO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	MIMO Ant.1			MIMO Ant.2		
					Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	15.3	16.5	Yes	14.7	16.5	Yes
			56	5280	15.3			14.7		
			60	5300	15.3			14.7		
			64	5320	15.1			14.7		
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	16.5	No	Not Required	16.5	No
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	16.0	No	Not Required	16.0	No
			62	5310						
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	16.5	No	Not Required	16.5	No
			56	5280						
			60	5300						
			64	5320						
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	16.0	No	Not Required	16.0	No
			62	5310						
	802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	15.0	No	Not Required	15.0	No
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	13.0	No	Not Required	13.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	11.0	No	Not Required	11.0	No
			62	5310						
	802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	10.0	No	Not Required	10.0	No
5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	15.5	17.0	Yes	16.2	17.0	Yes
			120	5600	15.6			16.0		
			124	5620	15.6			16.0		
			144	5720	15.5			15.9		
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	17.0	No	Not Required	17.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	16.0	No	Not Required	16.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	17.0	No	Not Required	17.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	16.0	No	Not Required	16.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	15.0	No	Not Required	15.0	No
			122	5610						
			138	5690						
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	13.0	No	Not Required	13.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	11.0	No	Not Required	11.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	10.0	No	Not Required	10.0	No
			122	5610						
			138	5690						
5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	16.8	18.0	Yes	18.0	18.0	Yes
			157	5785	17.0			17.8		
			165	5825	17.1			17.6		
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	18.0	No
			157	5785						
			165	5825						
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	16.0	No	Not Required	16.0	No
			159	5795						
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	18.0	No
			157	5785						
			165	5825						
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	16.0	No	Not Required	16.0	No
			159	5795						
	802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	15.0	No	Not Required	15.0	No
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	13.0	No	Not Required	13.0	No
			157	5785						
			165	5825						
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	11.0	No	Not Required	11.0	No
			159	5795						
	802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	10.0	No	Not Required	10.0	No

Note(s):

1. 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/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
3. 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
   - ≤ 1.2 W/kg, SAR is not required for UNII band I
   - > 1.2 W/kg, both bands should be tested independently for SAR.
4. MIMO U-NII SAR test were additionally evaluated at Body-worn exposure conditions for determining simultaneous transmission SAR test exclusion.

Measured Results of WiFi RSDB SISO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	SISO Ant.1			SISO Ant.2		
					Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	Not Required	14.0	Yes	Not Required	14.0	Yes
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ac (VHT80)	29.3 Mbps	58	5290	13.2	14.0	No	13.1	14.0	No
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	13.0	No	Not Required	13.0	No
5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	Not Required	14.0	Yes	Not Required	14.0	Yes
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT80)	29.3 Mbps	106	5530	12.7	14.0	No	13.3	14.0	No
			122	5610	12.7			13.2		
			138	5690	12.6			13.2		
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	13.0	No	Not Required	13.0	No
			122	5610						
			138	5690						
5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	Not Required	14.0	Yes	Not Required	14.0	Yes
			157	5785						
			165	5825						
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ac (VHT80)	29.3 Mbps	155	5775	13.1	14.0	No	14.0	14.0	No
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	13.0	No	Not Required	13.0	No

Note(s):

1. 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/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
3. 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
   - ≤ 1.2 W/kg, SAR is not required for UNII band I
   - > 1.2 W/kg, both bands should be tested independently for SAR.
4. MIMO U-NII SAR test were additionally evaluated at Body-worn and Hotspot exposure conditions for determining simultaneous transmission SAR test exclusion.

Measured Results of WiFi RSDB MIMO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	MIMO Ant.1			MIMO Ant.2		
					Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	Not Required	14.0	Yes	Not Required	14.0	Yes
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ac (VHT80)	29.3 Mbps	58	5290	13.2	14.0	No	13.0	14.0	No
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	13.0	No	Not Required	13.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	11.0	No	Not Required	11.0	No
			62	5310						
	802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	10.0	No	Not Required	10.0	No
5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	Not Required	14.0	Yes	Not Required	14.0	Yes
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT80)	29.3 Mbps	106	5530	12.5	14.0	No	13.2	14.0	No
			122	5610	12.5			13.2		
			138	5690	12.6			13.0		
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	13.0	No	Not Required	13.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	11.0	No	Not Required	11.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	10.0	No	Not Required	10.0	No
			122	5610						
			138	5690						
5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	Not Required	14.0	Yes	Not Required	14.0	Yes
			157	5785						
			165	5825						
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ac (VHT80)	29.3 Mbps	155	5775	13.1	14.0	No	13.7	14.0	No
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	13.0	No	Not Required	13.0	No
			157	5785						
			165	5825						
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	11.0	No	Not Required	11.0	No
			159	5795						
	802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	10.0	No	Not Required	10.0	No

Note(s):

1. 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/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
3. 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
   - ≤ 1.2 W/kg, SAR is not required for UNII band I
   - > 1.2 W/kg, both bands should be tested independently for SAR.
4. MIMO U-NII SAR test were additionally evaluated at Body-worn and Hotspot exposure conditions for determining simultaneous transmission SAR test exclusion.

9.6. Bluetooth

Bluetooth SISO Measured Results

Band (GHz)	Antenna	Mode	Ch #	Freq. (MHz)	Maximum Average Power (dBm)	
					Meas Pwr	Tune-up Limit
2.4	BT SISO Ant.1	GFSK	0	2402	15.7	18.0
			39	2441	17.7	
			78	2480	14.8	
		EDR	0	2402	9.8	11.5
			39	2441	11.3	
			78	2480	8.0	
		LE 1Mbps	0	2402	4.8	8.0
			19	2440	6.7	
			39	2480	5.6	
		LE 2Mbps	0	2402	5.9	9.0
			19	2440	7.7	
			39	2480	6.1	

Note(s):

For All exposure conditions, SAR test is evaluated at GFSK mode in Bluetooth using maximum power condition.

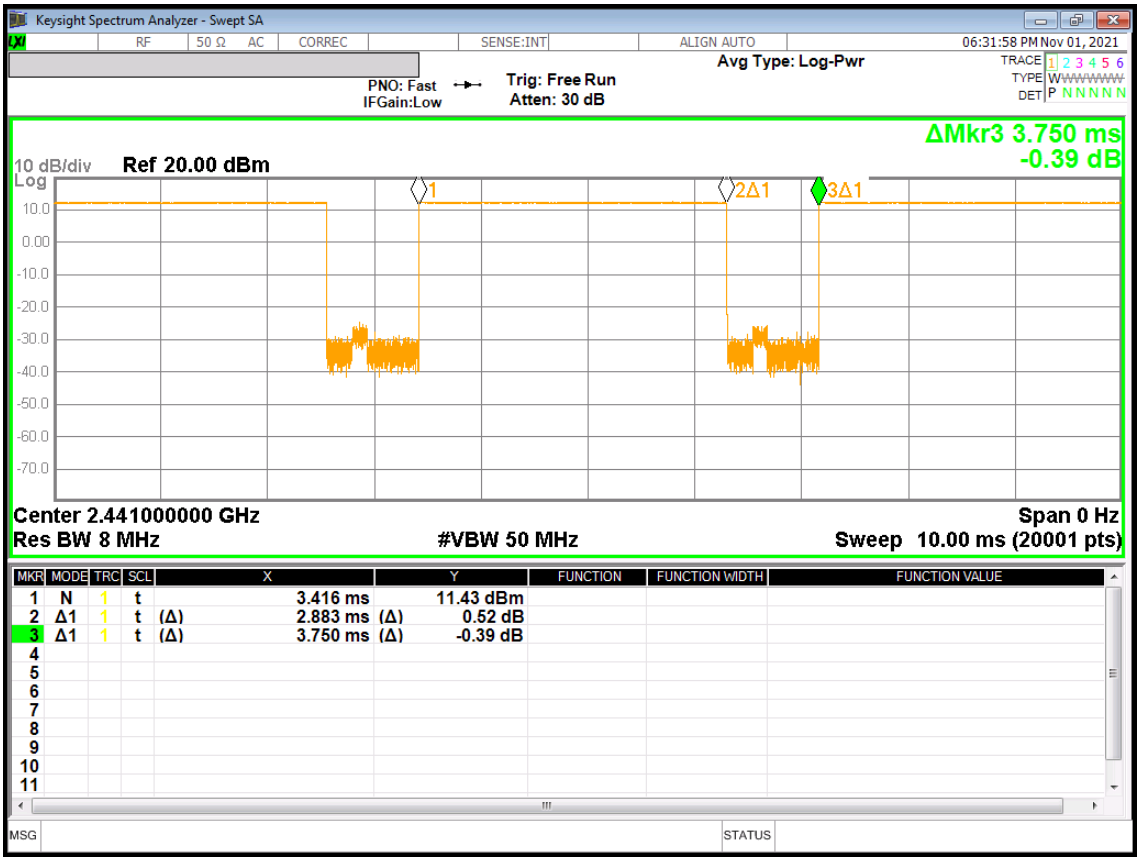
Bluetooth_(Continued)

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.883	3.750	76.9%	1.30

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 and Bluetooth= 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):

For smart phones, with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm.
When hotspot mode does not apply, 10-g extremity SAR is required for all surfaces and edges with an antenna located at ≤ 25mm 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 extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, Including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 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). When the *reported* SAR for the *initial test position* is:

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

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

10.1. GSM 850

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	GPRS 3 Slots	N/A	0	Left Touch	190	836.6	30.5	29.3	0.172	0.224	1
					Left Tilt	190	836.6	30.5	29.3	0.071	0.093	
					Right Touch	190	836.6	30.5	29.3	0.113	0.147	
					Right Tilt	190	836.6	30.5	29.3	0.054	0.070	
	Body-worn	GPRS 3 Slots	N/A	15	Rear	190	836.6	30.5	29.3	0.366	0.477	2
					Front	190	836.6	30.5	29.3	0.319	0.416	
	Hotspot	GPRS 3 Slots	N/A	10	Rear	128	824.4	30.5	29.1	0.629	0.877	
						190	836.6	30.5	29.3	0.682	0.889	
						251	848.8	30.5	29.2	0.664	0.897	3
					Front	190	836.6	30.5	29.3	0.454	0.592	
					Edge 2	190	836.6	30.5	29.3	0.060	0.078	
					Edge 3	190	836.6	30.5	29.3	0.424	0.553	
					Edge 4	190	836.6	30.5	29.3	0.261	0.340	

10.2. GSM 1900

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	GPRS 1 Slots	Off	0	Left Touch	661	1880.0	30.5	29.5	0.027	0.034	
					Left Tilt	661	1880.0	30.5	29.5	0.032	0.040	
					Right Touch	661	1880.0	30.5	29.5	0.042	0.052	4
					Right Tilt	661	1880.0	30.5	29.5	0.020	0.025	
	Body-worn	GPRS 1 Slots	Off	15	Rear	661	1880.0	30.5	29.5	0.283	0.353	5
					Front	661	1880.0	30.5	29.5	0.203	0.253	
	Hotspot	GPRS 1 Slots	On	10	Rear	512	1850.2	28.0	27.5	0.373	0.422	
					Front	512	1850.2	28.0	27.5	0.243	0.275	
					Edge 2	512	1850.2	28.0	27.5	0.041	0.046	
					Edge 3	512	1850.2	28.0	27.7	0.708	0.765	
						661	1880.0	28.0	27.5	0.710	0.804	6
						810	1909.8	28.0	27.5	0.692	0.770	
					Edge 4	512	1850.2	28.0	27.5	0.030	0.034	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	GPRS 1	Off	11	Edge 3	661	1880.0	30.5	29.5	0.562	0.700	
		GPRS 1	On	0	Edge 3	661	1880.0	28.0	27.4	1.110	1.278	7

10.3. WCDMA Band II

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	Rel 99 RMC	Off	0	Left Touch	9400	1880.0	23.0	22.8	0.041	0.043	
					Left Tilt	9400	1880.0	23.0	22.8	0.049	0.052	
					Right Touch	9400	1880.0	23.0	22.8	0.055	0.058	8
					Rightt Tilt	9400	1880.0	23.0	22.8	0.053	0.056	
	Body-worn	Rel 99 RMC	Off	15	Rear	9400	1880.0	23.0	22.8	0.480	0.508	9
					Front	9400	1880.0	23.0	22.8	0.358	0.379	
	Hotspot	Rel 99 RMC	On	10	Rear	9400	1880.0	19.5	19.0	0.411	0.457	
					Front	9400	1880.0	19.5	19.0	0.332	0.369	
					Edge 2	9400	1880.0	19.5	19.0	0.047	0.052	
					Edge 3	9262	1852.4	19.5	18.9	0.893	1.017	10
						9400	1880.0	19.5	19.0	0.881	0.980	
						9538	1907.6	19.5	19.2	0.919	0.990	
					Edge 4	9400	1880.0	19.5	19.0	0.037	0.041	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	Rel 99 RMC	Off	8	Rear	9400	1880.0	23.0	22.8	0.732	0.774	
				11	Edge 3	9400	1880.0	23.0	22.8	1.010	1.068	
			On	0	Rear	9400	1880.0	19.5	19.1	1.150	1.266	
					Edge 3	9262	1852.4	19.5	19.0	1.560	1.755	
						9400	1880.0	19.5	19.1	1.520	1.673	
						9538	1907.6	19.5	19.2	1.670	1.784	11

10.4. WCDMA Band IV

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	Rel 99 RMC	Off	0	Left Touch	1413	1732.6	23.5	22.2	0.077	0.103	
					Left Tilt	1413	1732.6	23.5	22.2	0.065	0.087	
					Right Touch	1413	1732.6	23.5	22.2	0.083	0.111	12
					Rightt Tilt	1413	1732.6	23.5	22.2	0.046	0.061	
	Body-worn	Rel 99 RMC	Off	15	Rear	1312	1712.4	23.5	22.1	0.637	0.870	
						1413	1732.6	23.5	22.2	0.673	0.899	
						1513	1752.6	23.5	22.2	0.671	0.914	13
					Front	1413	1732.6	23.5	22.2	0.541	0.723	
	Hotspot	Rel 99 RMC	On	10	Rear	1413	1732.6	19.5	18.6	0.516	0.632	
					Front	1413	1732.6	19.5	18.6	0.434	0.531	
					Edge 2	1413	1732.6	19.5	18.6	0.103	0.126	
					Edge 3	1312	1712.4	19.5	18.5	0.888	1.111	
						1413	1732.6	19.5	18.6	0.934	1.143	14
						1513	1752.6	19.5	18.5	0.909	1.137	
					Edge 4	1413	1732.6	19.5	18.6	0.055	0.068	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	Rel 99 RMC	Off	8	Rear	1413	1732.6	23.5	22.2	0.942	1.258	
				7	Front	1413	1732.6	23.5	22.2	0.932	1.245	
				11	Edge 3	1413	1732.6	23.5	22.2	1.050	1.402	
			On	0	Rear	1413	1732.6	19.5	18.8	1.140	1.348	
					Front	1413	1732.6	19.5	18.8	0.991	1.172	
					Edge 3	1413	1732.6	19.5	18.8	1.470	1.738	15

10.5. WCDMA Band V

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	Rel 99 RMC	N/A	0	Left Touch	4183	836.6	25.0	24.5	0.129	0.144	16
					Left Tilt	4183	836.6	25.0	24.5	0.069	0.077	
					Right Touch	4183	836.6	25.0	24.5	0.094	0.105	
					Rightt Tilt	4183	836.6	25.0	24.5	0.074	0.083	
	Body-worn	Rel 99 RMC	N/A	15	Rear	4183	836.6	25.0	24.5	0.318	0.356	17
					Front	4183	836.6	25.0	24.5	0.223	0.249	
	Hotspot	Rel 99 RMC	N/A	10	Rear	4183	836.6	25.0	24.5	0.651	0.728	18
					Front	4183	836.6	25.0	24.5	0.373	0.417	
					Edge 2	4183	836.6	25.0	24.5	0.092	0.103	
					Edge 3	4183	836.6	25.0	24.5	0.500	0.559	
					Edge 4	4183	836.6	25.0	24.5	0.274	0.306	

10.6. LTE Band 12 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	23095	707.5	1	0	25.0	24.8	0.090	0.094	19
								25	0	24.0	23.7	0.071	0.076	
					Left Tilt	23095	707.5	1	0	25.0	24.8	0.044	0.046	
								25	0	24.0	23.7	0.035	0.037	
					Right Touch	23095	707.5	1	0	25.0	24.8	0.084	0.088	
								25	0	24.0	23.7	0.066	0.070	
					Right Tilt	23095	707.5	1	0	25.0	24.8	0.035	0.037	
								25	0	24.0	23.7	0.066	0.070	
	Body-worn	QPSK	N/A	15	Rear	23095	707.5	1	0	25.0	24.8	0.172	0.181	20
								25	0	24.0	23.7	0.137	0.146	
					Front	23095	707.5	1	0	25.0	24.8	0.170	0.178	
								25	0	24.0	23.7	0.135	0.144	
	Hotspot	QPSK	N/A	10	Rear	23095	707.5	1	0	25.0	24.8	0.418	0.439	21
								25	0	24.0	23.7	0.336	0.357	
					Front	23095	707.5	1	0	25.0	24.8	0.203	0.213	
								25	0	24.0	23.7	0.161	0.171	
					Edge 2	23095	707.5	1	0	25.0	24.8	0.140	0.147	
								25	0	24.0	23.7	0.113	0.120	
					Edge 3	23095	707.5	1	0	25.0	24.8	0.131	0.138	
								25	0	24.0	23.7	0.103	0.110	
					Edge 4	23095	707.5	1	0	25.0	24.8	0.219	0.230	
								25	0	24.0	23.7	0.173	0.184	

10.7. LTE Band 13 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	23230	782.0	1	49	25.0	24.3	0.128	0.151	22
								25	12	24.0	23.3	0.096	0.113	
					Left Tilt	23230	782.0	1	49	25.0	24.3	0.060	0.071	
								25	12	24.0	23.3	0.045	0.053	
					Right Touch	23230	782.0	1	49	25.0	24.3	0.097	0.115	
								25	12	24.0	23.3	0.074	0.087	
					Right Tilt	23230	782.0	1	49	25.0	24.3	0.067	0.079	
								25	12	24.0	23.3	0.050	0.059	
	Body-worn	QPSK	N/A	15	Rear	23230	782.0	1	49	25.0	24.3	0.299	0.353	23
								25	12	24.0	23.3	0.222	0.262	
					Front	23230	782.0	1	49	25.0	24.3	0.198	0.234	
								25	12	24.0	23.3	0.151	0.178	
	Hotspot	QPSK	N/A	10	Rear	23230	782.0	1	49	25.0	24.3	0.671	0.792	24
								25	12	24.0	23.3	0.508	0.600	
					Front	23230	782.0	1	49	25.0	24.3	0.400	0.472	
								25	12	24.0	23.3	0.302	0.356	
					Edge 2	23230	782.0	1	49	25.0	24.3	0.075	0.088	
								25	12	24.0	23.3	0.066	0.078	
					Edge 3	23230	782.0	1	49	25.0	24.3	0.303	0.358	
								25	12	24.0	23.3	0.230	0.271	
					Edge 4	23230	782.0	1	49	25.0	24.3	0.238	0.281	
								25	12	24.0	23.3	0.188	0.222	

10.8. LTE Band 25 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	QPSK	Off	0	Left Touch	26590	1905.0	1	0	23.0	21.9	0.049	0.063	
								50	0	22.0	20.8	0.038	0.050	
					Left Tilt	26590	1905.0	1	0	23.0	21.9	0.049	0.063	
								50	0	22.0	20.8	0.036	0.047	
					Right Touch	26590	1905.0	1	0	23.0	21.9	0.068	0.087	25
								50	0	22.0	20.8	0.051	0.067	
					Right Tilt	26590	1905.0	1	0	23.0	21.9	0.036	0.046	
								50	0	22.0	20.8	0.028	0.037	
	Body-worn	QPSK	Off	15	Rear	26590	1905.0	1	0	23.0	21.9	0.384	0.492	26
								50	0	22.0	20.8	0.301	0.396	
					Front	26590	1905.0	1	0	23.0	21.9	0.336	0.431	
								50	0	22.0	20.8	0.260	0.342	
	Hotspot	QPSK	On	10	Rear	26590	1905.0	1	0	19.5	18.4	0.374	0.478	
								50	0	19.5	18.4	0.365	0.474	
					Front	26590	1905.0	1	0	19.5	18.4	0.308	0.394	
								50	0	19.5	18.4	0.307	0.399	
					Edge 2	26590	1905.0	1	0	19.5	18.4	0.064	0.082	
								50	0	19.5	18.4	0.063	0.081	
					Edge 3	26140	1860.0	1	0	19.5	18.1	0.839	1.166	
								50	0	19.5	18.0	0.841	1.178	
						26365	1882.5	1	0	19.5	18.1	0.889	1.221	27
								50	0	19.5	18.2	0.890	1.214	
						26590	1905.0	1	0	19.5	18.4	0.908	1.162	
								50	0	19.5	18.4	0.900	1.169	
								100	0	19.5	18.4	0.887	1.154	
					Edge 4	26590	1905.0	1	0	19.5	18.4	0.040	0.051	
								50	0	19.5	18.4	0.039	0.051	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	QPSK	Off	11	Edge 3	26590	1905.0	1	0	23.0	21.9	1.120	1.436	
								50	0	22.0	20.8	0.887	1.166	
			On	0	Edge 3	26590	1905.0	1	0	19.5	18.4	1.550	1.981	
								50	0	19.5	18.4	1.560	1.990	28

10.9. LTE Band 26 (15MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	26865	831.5	1	0	25.0	24.4	0.095	0.110	29
								36	0	24.0	23.3	0.074	0.086	
					Left Tilt	26865	831.5	1	0	25.0	24.4	0.049	0.057	
								36	0	24.0	23.3	0.040	0.047	
					Right Touch	26865	831.5	1	0	25.0	24.4	0.067	0.078	
								36	0	24.0	23.3	0.055	0.064	
					Right Tilt	26865	831.5	1	0	25.0	24.4	0.051	0.059	
								36	0	24.0	23.3	0.042	0.049	
	Body-worn	QPSK	N/A	15	Rear	26865	831.5	1	0	25.0	24.4	0.255	0.296	30
								36	0	24.0	23.3	0.220	0.257	
					Front	26865	831.5	1	0	25.0	24.4	0.195	0.226	
								36	0	24.0	23.3	0.167	0.195	
	Hotspot	QPSK	N/A	10	Rear	26865	831.5	1	0	25.0	24.4	0.501	0.581	31
								36	0	24.0	23.3	0.424	0.496	
					Front	26865	831.5	1	0	25.0	24.4	0.312	0.362	
								36	0	24.0	23.3	0.266	0.311	
					Edge 2	26865	831.5	1	0	25.0	24.4	0.065	0.076	
								36	0	24.0	23.3	0.057	0.066	
					Edge 3	26865	831.5	1	0	25.0	24.4	0.289	0.335	
								36	0	24.0	23.3	0.244	0.285	
					Edge 4	26865	831.5	1	0	25.0	24.4	0.157	0.182	
								36	0	24.0	23.3	0.128	0.150	

10.10. LTE Band 41 (20MHz Bandwidth)

LTE Band 41 Power Class 3

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 2 Ant.	Head	QPSK	Off	0	Left Touch	41055	2636.5	1	99	24.0	23.4	0.032	0.037	
								50	0	23.0	22.5	0.033	0.037	
					Left Tilt	41055	2636.5	1	99	24.0	23.4	0.044	0.051	32
								50	0	23.0	22.5	0.037	0.042	
					Right Touch	41055	2636.5	1	99	24.0	23.4	0.040	0.046	
								50	0	23.0	22.5	0.029	0.033	
					Right Tilt	41055	2636.5	1	99	24.0	23.4	0.021	0.024	
								50	0	23.0	22.5	0.017	0.019	
	Body-worn	QPSK	Off	15	Rear	41055	2636.5	1	99	24.0	23.4	0.272	0.313	33
								50	0	23.0	22.5	0.221	0.250	
					Front	41055	2636.5	1	99	24.0	23.4	0.214	0.246	
								50	0	23.0	22.5	0.176	0.199	
	Hotspot	QPSK	On	10	Rear	41055	2636.5	1	99	21.0	20.5	0.291	0.328	
								50	0	21.0	20.5	0.295	0.328	
					Front	41055	2636.5	1	99	21.0	20.5	0.237	0.267	
								50	0	21.0	20.5	0.243	0.270	
					Edge 2	41055	2636.5	1	99	21.0	20.5	0.068	0.076	
								50	0	21.0	20.5	0.068	0.076	
					Edge 3	41055	2636.5	1	99	21.0	20.5	0.478	0.539	
								50	0	21.0	20.5	0.510	0.567	34
					Edge 4	41055	2636.5	1	99	21.0	20.5	0.044	0.050	
								50	0	21.0	20.5	0.046	0.051	

LTE Band 41 Power Class 2

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 2 Ant.	Head	QPSK	Off	0	Left Tilt	41055	2636.5	1	99	25.5	25.0	0.033	0.037	
	Body-worn	QPSK	Off	15	Rear	41055	2636.5	1	99	25.5	25.0	0.267	0.300	

Note(s):

For Hotspot exposure condition, Both Power Class 3 and Power Class 2 are same target power.
So additional SAR test are not necessary for Power Class 2 in Hotspot exposure condition.

From May 2017 TCB workshop, SAR tested were performed using Power Class 3. SAR test for Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination. According to the highest time averaged power for UL-DL configurations, configuration # 1 with duty cycle 43.3% is used for Power Class 2 SAR test.

Additional SAR testing for Power Class 2 is not required when:

- The reported SAR vs. output power can be linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 or 3.5 W/kg (1-g or 10-g respectively)

Reported SAR vs. Output power linearly scaled

Antenna	RF Exposure Conditions	Power Class 2				Power Class 3				PC2 linearly scaled Reported SAR (W/kg)	Linearly scaled (<10%)
		Duty Cycle (%)	Tune-up Power (dBm)	Fram Avg. Power (dBm)	Reported SAR (W/kg)	Duty Cycle	Tune-up Power (dBm)	Fram Avg. Power (dBm)	Reported SAR (W/kg)		
Main 2 Ant.	Head	43.3	25.5	153.6	0.037	63.3	24.0	159.0	0.051	0.049	-24.9
	Body-worn	43.3	25.5	153.6	0.300	63.3	24.0	159.0	0.313	0.302	-0.8

Note(s):

SAR test for Power Class 2 is not required base on the reported SAR < 1.4 or 3.5 W/kg (1-g or 10-g respectively) and reported SAR vs. output power linearly scaled < 10%.

10.11. LTE Band 66 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Head	QPSK	Off	0	Left Touch	132322	1745.0	1	0	23.0	22.2	0.059	0.071	
								50	0	22.0	21.1	0.047	0.058	
					Left Tilt	132322	1745.0	1	0	23.0	22.2	0.054	0.065	
								50	0	22.0	21.1	0.067	0.082	
					Right Touch	132322	1745.0	1	0	23.0	22.2	0.093	0.112	35
								50	0	22.0	21.1	0.072	0.089	
					Right Tilt	132322	1745.0	1	0	23.0	22.2	0.066	0.080	
								50	0	22.0	21.1	0.051	0.063	
	Body-worn	QPSK	Off	15	Rear	132322	1745.0	1	0	23.0	22.2	0.607	0.732	36
								50	0	22.0	21.1	0.470	0.578	
					Front	132322	1745.0	1	0	23.0	22.2	0.464	0.559	
								50	0	22.0	21.1	0.356	0.438	
	Hotspot	QPSK	On	10	Rear	132322	1745.0	1	0	20.0	18.6	0.486	0.669	
								50	0	20.0	18.6	0.479	0.664	
					Front	132322	1745.0	1	0	20.0	18.6	0.424	0.584	
								50	0	20.0	18.6	0.418	0.579	
					Edge 2	132322	1745.0	1	0	20.0	18.6	0.113	0.156	
								50	0	20.0	18.6	0.111	0.154	
					Edge 3	132072	1720.0	1	0	20.0	18.5	0.834	1.181	
								50	0	20.0	18.5	0.840	1.189	
						132322	1745.0	1	0	20.0	18.6	0.925	1.274	
								50	0	20.0	18.6	0.926	1.283	
								100	0	20.0	18.6	0.928	1.296	
						132572	1770.0	1	0	20.0	18.5	0.920	1.289	
								50	0	20.0	18.4	0.908	1.298	37
					Edge 4	132322	1745.0	1	0	20.0	18.6	0.058	0.080	
								50	0	20.0	18.6	0.057	0.079	

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	QPSK	Off	8	Rear	132322	1745.0	1	0	23.0	22.2	0.883	1.065	
				11	Edge 3	132322	1745.0	1	0	23.0	22.2	1.100	1.326	
								50	0	22.0	21.1	0.877	1.078	
			On	0	Rear	132322	1745.0	1	0	20.0	18.6	1.190	1.661	
					Edge 3	132072	1720.0	1	0	20.0	18.5	1.260	1.791	
								50	0	20.0	18.5	1.220	1.742	
						132322	1745.0	1	0	20.0	18.6	1.570	2.191	38
								50	0	20.0	18.5	1.560	2.185	
								100	0	20.0	18.5	1.210	1.708	
						132572	1770.0	1	0	20.0	18.5	1.170	1.654	
								50	0	20.0	18.4	1.170	1.688	

10.12. Wi-Fi (DTS Band)

Normal WLAN SISO SAR results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
WLAN SISO Ant.1	2.4GHz	802.11b 1 Mbps	Head	On	0	Left Touch	1	2412.0	0.474	99.5%	17.0	16.7				
						Left Tilt	1	2412.0	0.605	99.5%	17.0	16.7	0.451	0.491	2	
						Right Touch	1	2412.0	0.593	99.5%	17.0	16.7				
						Rightt Tilt	1	2412.0	0.786	99.5%	17.0	16.7	0.541	0.590		39
			Body-worn	Off	15	Rear	6	2437.0	0.152	99.5%	21.0	20.2	0.111	0.135	1	40
						Front	6	2437.0	0.066	99.5%	21.0	20.2				
			Hotspot	Off	10	Rear	6	2437.0	0.308	99.5%	21.0	20.2	0.202	0.245	4	
						Front	6	2437.0	0.155	99.5%	21.0	20.2				
						Edge 1	6	2437.0	0.439	99.5%	21.0	20.2	0.306	0.372	1	41
						Edge 4	6	2437.0	0.058	99.5%	21.0	20.2				
WLAN SISO Ant.2	2.4GHz	802.11b 1 Mbps	Head	On	0	Left Touch	6	2437.0	0.005	99.5%	17.0	16.7				
						Left Tilt	6	2437.0	0.010	99.5%	17.0	16.7				
						Right Touch	6	2437.0	0.018	99.5%	17.0	16.7	0.011	0.012	1	
						Rightt Tilt	6	2437.0	0.009	99.5%	17.0	16.7				
			Body-worn	Off	15	Rear	11	2462.0	0.155	99.5%	21.0	20.7	0.100	0.107	1	
						Front	11	2462.0	0.009	99.5%	21.0	20.7				
			Hotspot	Off	10	Rear	11	2462.0	0.417	99.5%	21.0	20.7	0.262	0.280	1	
						Front	11	2462.0	0.014	99.5%	21.0	20.7				
						Edge 1	11	2462.0	0.048	99.5%	21.0	20.7				
						Edge 4	11	2462.0	0.100	99.5%	21.0	20.7				

Normal WLAN MIMO SAR results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
WLAN MIMO Ant.1	2.4GHz	802.11g 6 Mbps	Body-worn	Off	15	Rear	11	2462.0	0.126	96.5%	16.0	14.5	0.086	0.127	1	
						Front	11	2462.0	0.040	96.5%	16.0	14.5				
			Hotspot	Off	10	Rear	11	2462.0	0.211	96.5%	16.0	14.5	0.141	0.208	4	
						Front	11	2462.0	0.070	96.5%	16.0	14.5				
						Edge 1	11	2462.0	0.222	96.5%	16.0	14.5	0.177	0.261	1	
						Edge 4	11	2462.0	0.046	96.5%	16.0	14.5				
WLAN MIMO Ant.2	2.4GHz	802.11g 6 Mbps	Body-worn	Off	15	Rear	11	2462.0	0.126	96.5%	16.0	15.7				
						Front	11	2462.0	0.040	96.5%	16.0	15.7				
			Hotspot	Off	10	Rear	11	2462.0	0.211	96.5%	16.0	15.7				
						Front	11	2462.0	0.070	96.5%	16.0	15.7				
						Edge 1	11	2462.0	0.222	96.5%	16.0	15.7				
						Edge 4	11	2462.0	0.046	96.5%	16.0	15.7				

RSDB WLAN SISO SAR results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
WLAN SISO Ant.1	2.4GHz	802.11b 1 Mbps	Body-worn	Off	15	Rear	6	2437.0	0.059	99.5%	17.0	16.7	0.041	0.044	1	
						Front	6	2437.0	0.033	99.5%	17.0	16.7				
			Hotspot	Off	10	Rear	6	2437.0	0.119	99.5%	17.0	16.7				
						Front	6	2437.0	0.062	99.5%	17.0	16.7				
						Edge 1	6	2437.0	0.221	99.5%	17.0	16.7	0.158	0.171	1	
						Edge 4	6	2437.0	0.021	99.5%	17.0	16.7				
WLAN SISO Ant.2	2.4GHz	802.11b 1 Mbps	Body-worn	Off	15	Rear	6	2437.0	0.041	99.5%	17.0	16.7	0.022	0.024	1	
						Front	6	2437.0	0.002	99.5%	17.0	16.7				
			Hotspot	Off	10	Rear	6	2437.0	0.148	99.5%	17.0	16.7	0.085	0.092	1	
						Front	6	2437.0	0.003	99.5%	17.0	16.7				
						Edge 1	6	2437.0	0.015	99.5%	17.0	16.7				
						Edge 4	6	2437.0	0.034	99.5%	17.0	16.7				

RSDB WLAN MIMO SAR results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
WLAN MIMO Ant.1	2.4GHz	802.11g 6 Mbps	Body-worn	Off	15	Rear	11	2462.0	0.096	96.5%	16.0	14.5	0.064	0.095	1	
						Front	11	2462.0	0.034	96.5%	16.0	14.5				
			Hotspot	Off	10	Rear	11	2462.0	0.208	96.5%	16.0	14.5	0.127	0.188	4	
						Front	11	2462.0	0.064	96.5%	16.0	14.5				
						Edge 1	11	2462.0	0.212	96.5%	16.0	14.5	0.157	0.232	1	
						Edge 4	11	2462.0	0.052	96.5%	16.0	14.5				
WLAN MIMO Ant.2	2.4GHz	802.11g 6 Mbps	Body-worn	Off	15	Rear	11	2462.0	0.096	96.5%	16.0	15.7				
						Front	11	2462.0	0.034	96.5%	16.0	15.7				
			Hotspot	Off	10	Rear	11	2462.0	0.208	96.5%	16.0	15.7				
						Front	11	2462.0	0.064	96.5%	16.0	15.7				
						Edge 1	11	2462.0	0.212	96.5%	16.0	15.7				
						Edge 4	11	2462.0	0.052	96.5%	16.0	15.7				

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
5. 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.

10.13. Wi-Fi (U-NII Bands)

Normal U-NII 2A Results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled		
SISO (WiFI Ant.1)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	58	5290.0	0.026	96.5%	14.0	13.2						
						Left Tilt	58	5290.0	0.015	96.5%	14.0	13.2						
						Right Touch	58	5290.0	0.035	96.5%	14.0	13.2	0.028	0.035			1	42
						Right Tilt	58	5290.0	0.025	96.5%	14.0	13.2						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	52	5260.0	0.128	96.6%	16.5	15.4	0.042	0.056			1	
						Front	52	5260.0	0.005	96.6%	16.5	15.4						
			Product Specific 10-g	Off	0	Rear	52	5260.0	0.890	96.6%	16.5	15.4						
						Front	52	5260.0	0.528	96.6%	16.5	15.4						
						Edge 1	52	5260.0	0.166	96.6%	16.5	15.4						
						Edge 4	52	5260.0	4.140	96.6%	16.5	15.4			0.268	0.358	1	
SISO (WiFI Ant.2)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	58	5290.0	0.036	96.5%	14.0	13.1						
						Left Tilt	58	5290.0	0.034	96.5%	14.0	13.1						
						Right Touch	58	5290.0	0.034	96.5%	14.0	13.1						
						Right Tilt	58	5290.0	0.037	96.5%	14.0	13.1	0.015	0.019			1	
		802.11a 6 Mbps	Body-worn	Off	15	Rear	64	5320.0	0.570	96.6%	16.5	14.9	0.266	0.402			1	
						Front	64	5320.0	0.007	96.6%	16.5	14.9						
			Product Specific 10-g	Off	0	Rear	64	5320.0	6.998	96.6%	16.5	14.9			0.532	0.804	1	43
						Front	64	5320.0	0.186	96.6%	16.5	14.9						
						Edge 1	64	5320.0	0.272	96.6%	16.5	14.9						
						Edge 4	64	5320.0	1.025	96.6%	16.5	14.9						
MIMO (WiFI Ant.1)	5.3 GHz U-NII 2A	802.11a 6 Mbps	Body-worn	Off	15	Rear	60	5300.0	0.625	96.6%	16.5	15.3						
						Front	60	5300.0	0.017	96.6%	16.5	15.3	0.002	0.003			2	
MIMO (WiFI Ant.2)	5.3 GHz U-NII 2A	802.11a 6 Mbps	Body-worn	Off	15	Rear	60	5300.0	0.625	96.6%	16.5	14.7	0.301	0.472				44
						Front	60	5300.0	0.017	96.6%	16.5	14.7						

Normal U-NII 2C Results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled		
SISO (WiFI Ant.1)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	122	5610.0	0.107	96.5%	14.0	12.7						
						Left Tilt	122	5610.0	0.094	96.5%	14.0	12.7						
						Right Touch	122	5610.0	0.137	96.5%	14.0	12.7	0.107	0.151			1	45
						Right Tilt	122	5610.0	0.110	96.5%	14.0	12.7						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	124	5620.0	0.551	96.6%	17.0	15.6	0.284	0.406			1	
						Front	124	5620.0	0.038	96.6%	17.0	15.6						
			Product Specific 10-g	Off	0	Rear	124	5620.0	2.312	96.6%	17.0	15.6						
						Front	124	5620.0	1.409	96.6%	17.0	15.6						
						Edge 1	124	5620.0	1.053	96.6%	17.0	15.6						
						Edge 4	124	5620.0	4.273	96.6%	17.0	15.6			0.535	0.765	1	46
SISO (WiFI Ant.2)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	106	5530.0	0.042	96.5%	14.0	13.3						
						Left Tilt	106	5530.0	0.035	96.5%	14.0	13.3						
						Right Touch	106	5530.0	0.043	96.5%	14.0	13.3	0.026	0.032			1	
						Right Tilt	106	5530.0	0.036	96.5%	14.0	13.3						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	120	5600.0	0.194	96.6%	17.0	16.2	0.099	0.124			1	
						Front	120	5600.0	0.005	96.6%	17.0	16.2						
			Product Specific 10-g	Off	0	Rear	120	5600.0	3.213	96.6%	17.0	16.2			0.318	0.398	1	
						Front	120	5600.0	0.217	96.6%	17.0	16.2						
						Edge 1	120	5600.0	0.637	96.6%	17.0	16.2						
						Edge 4	120	5600.0	0.829	96.6%	17.0	16.2						
MIMO (WiFI Ant.1)	5.5 GHz U-NII 2C	802.11a 6 Mbps	Body-worn	Off	15	Rear	100	5500.0	0.605	96.6%	17.0	15.5	0.290	0.424			2	47
						Front	100	5500.0	0.033	96.6%	17.0	15.5						
MIMO (WiFI Ant.2)	5.5 GHz U-NII 2C	802.11a 6 Mbps	Body-worn	Off	15	Rear	100	5500.0	0.605	96.6%	17.0	16.2						
						Front	100	5500.0	0.033	96.6%	17.0	16.2	0.012	0.015				

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.

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Normal U-NII 3 Results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
SISO (WiFI Ant.1)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	155	5775.0	0.113	96.5%	14.0	13.1				
						Left Tilt	155	5775.0	0.088	96.5%	14.0	13.1				
						Right Touch	155	5775.0	0.185	96.5%	14.0	13.1	0.135	0.173	1	48
						Right Tilt	155	5775.0	0.135	96.5%	14.0	13.1				
		802.11a 6 Mbps	Body-worn	Off	15	Rear	165	5825.0	1.201	96.6%	18.0	17.1	0.556	0.708		
						Front	165	5825.0	0.031	96.6%	18.0	17.1	0.012	0.015	2	
			Hotsopt	Off	10	Rear	149	5745.0	1.534	96.6%	18.0	16.9	0.698	0.942		
						Front	149	5745.0	0.051	96.6%	18.0	16.9	0.020	0.027	4	
						Edge 1	149	5745.0	0.195	96.6%	18.0	16.9				
						Edge 4	149	5745.0	0.374	96.6%	18.0	16.9	0.181	0.244	2	
SISO (WiFI Ant.2)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	155	5775.0	0.041	96.5%	14.0	14.0				
						Left Tilt	155	5775.0	0.041	96.5%	14.0	14.0				
						Right Touch	155	5775.0	0.044	96.5%	14.0	14.0	0.020	0.021	1	
						Right Tilt	155	5775.0	0.029	96.5%	14.0	14.0				
		802.11a 6 Mbps	Body-worn	Off	15	Rear	149	5745.0	0.406	96.6%	18.0	17.0	0.215	0.280	1	
						Front	149	5745.0	0.010	96.6%	18.0	17.0				
			Hotsopt	Off	10	Rear	149	5745.0	0.675	96.6%	18.0	17.0	0.348	0.453		
						Front	149	5745.0	0.013	96.6%	18.0	17.0				
						Edge 1	149	5745.0	0.070	96.6%	18.0	17.0	0.031	0.040	2	
						Edge 4	149	5745.0	0.064	96.6%	18.0	17.0				
MIMO (WiFI Ant.1)	5.8 GHz U-NII 3	802.11a 6 Mbps	Body-worn	Off	15	Rear	149	5745.0	1.670	96.6%	18.0	16.8	0.771	1.050	3	49
							157	5785.0	1.587	96.6%	18.0	17.0	0.751	0.979		
						Front	149	5745.0	0.041	96.6%	18.0	16.8	0.014	0.019	2	
			Hotsopt	Off	10	Rear	149	5745.0	1.672	96.6%	18.0	16.8	0.837	1.140		50
						Front	149	5745.0	0.069	96.6%	18.0	16.8	0.024	0.033	4	
						Edge 1	149	5745.0	0.257	96.6%	18.0	16.8				
						Edge 4	149	5745.0	0.410	96.6%	18.0	16.8				
MIMO (WiFI Ant.2)	5.8 GHz U-NII 3	802.11a 6 Mbps	Body-worn	Off	15	Rear	149	5745.0	1.670	96.6%	18.0	18.0				
							157	5785.0	1.587	96.6%	18.0	17.8				
						Front	149	5745.0	0.041	96.6%	18.0	18.0				
			Hotsopt	Off	10	Rear	149	5745.0	1.672	96.6%	18.0	18.0				
						Front	149	5745.0	0.069	96.6%	18.0	18.0				
						Edge 1	149	5745.0	0.257	96.6%	18.0	18.0				
						Edge 4	149	5745.0	0.410	96.6%	18.0	18.0	0.204	0.212	2	

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.

RSDB UNII Bands SAR results

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
SISO (WiFI Ant.1)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	58	5290.0	0.059	96.5%	14.0	13.2	0.019	0.024	1	
						Front	58	5290.0	0.006	96.5%	14.0	13.2				
SISO (WiFI Ant.2)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	58	5290.0	0.434	96.5%	14.0	13.1	0.227	0.292	1	
						Front	58	5290.0	0.006	96.5%	14.0	13.1				
MIMO (WiFI Ant.1)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	58	5290.0	0.439	95.5%	14.0	13.2	0.224	0.281	1	
						Front	58	5290.0	0.005	95.5%	14.0	13.2				
MIMO (WiFI Ant.2)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	58	5290.0	0.439	95.5%	14.0	13.0				
						Front	58	5290.0	0.005	95.5%	14.0	13.0				

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
SISO (WiFI Ant.1)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	122	5610.0	0.279	96.5%	14.0	12.7	0.137	0.193	1	
						Front	122	5610.0	0.013	96.5%	14.0	12.7				
SISO (WiFI Ant.2)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	106	5530.0	0.125	96.5%	14.0	13.3	0.062	0.076	1	
						Front	106	5530.0	0.005	96.5%	14.0	13.3				
MIMO (WiFI Ant.1)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	122	5610.0	0.416	95.5%	14.0	12.5				
						Front	122	5610.0	0.013	95.5%	14.0	12.5				
MIMO (WiFI Ant.2)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	122	5610.0	0.416	95.5%	14.0	13.2	0.192	0.244	1	
						Front	122	5610.0	0.013	95.5%	14.0	13.2				

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
SISO (WiFI Ant.1)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	155	5775.0	0.543	96.5%	14.0	13.1	0.241	0.309	1	
						Front	155	5775.0	0.017	96.5%	14.0	13.1				
			Hotsopt	Off	10	Rear	155	5775.0	0.821	96.5%	14.0	13.1	0.355	0.454		
						Front	155	5775.0	0.031	96.5%	14.0	13.1				
						Edge 1	155	5775.0	0.079	96.5%	14.0	13.1				
						Edge 4	155	5775.0	0.171	96.5%	14.0	13.1	0.090	0.115	2	
SISO (WiFI Ant.2)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	155	5775.0	0.260	96.5%	14.0	14.0	0.141	0.147	1	
						Front	155	5775.0	0.013	96.5%	14.0	14.0				
			Hotsopt	Off	10	Rear	155	5775.0	0.405	96.5%	14.0	14.0	0.220	0.229	1	
						Front	155	5775.0	0.021	96.5%	14.0	14.0				
						Edge 1	155	5775.0	0.049	96.5%	14.0	14.0				
						Edge 4	155	5775.0	0.082	96.5%	14.0	14.0				
MIMO (WiFI Ant.1)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	155	5775.0	0.658	95.5%	14.0	13.1	0.304	0.395	1	
						Front	155	5775.0	0.030	95.5%	14.0	13.1				
			Hotsopt	Off	10	Rear	155	5775.0	0.829	95.5%	14.0	13.1	0.385	0.501		
						Front	155	5775.0	0.048	95.5%	14.0	13.1				
						Edge 1	155	5775.0	0.118	95.5%	14.0	13.1				
						Edge 4	155	5775.0	0.219	95.5%	14.0	13.1				
MIMO (WiFI Ant.2)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	155	5775.0	0.658	95.5%	14.0	13.7				
						Front	155	5775.0	0.030	95.5%	14.0	13.7				
			Hotsopt	Off	10	Rear	155	5775.0	0.829	95.5%	14.0	13.7				
						Front	155	5775.0	0.048	95.5%	14.0	13.7				
						Edge 1	155	5775.0	0.118	95.5%	14.0	13.7				
						Edge 4	155	5775.0	0.219	95.5%	14.0	13.7	0.093	0.105	2	

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.

10.14. Bluetooth

Antenna	Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
BT SISO Ant.1	2.4 GHz	GFSK	Head	Off	0	Left Touch	39	2441.0	76.9%	18.0	17.7	0.304	0.424	
						Left Tilt	39	2441.0	76.9%	18.0	17.7	0.406	0.566	
						Right Touch	39	2441.0	76.9%	18.0	17.7	0.390	0.544	
						Right Tilt	39	2441.0	76.9%	18.0	17.7	0.530	0.739	51
		GFSK	Body-worn	Off	15	Rear	39	2441.0	76.9%	18.0	17.7	0.066	0.092	52
						Front	39	2441.0	76.9%	18.0	17.7	0.036	0.051	
		GFSK	Hotspot	Off	10	Rear	39	2441.0	76.9%	18.0	17.7	0.103	0.144	
						Front	39	2441.0	76.9%	18.0	17.7	0.072	0.100	
						Edge 1	39	2441.0	76.9%	18.0	17.7	0.178	0.248	53
						Edge 4	39	2441.0	76.9%	18.0	17.7	0.020	0.028	

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.

Peak spatial-average (1g of tissue)

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Repeated Measured SAR (W/kg)	Largest to Smallest SAR Ratio
700	LTE Band 12	Hotspot	Rear	No	0.418	N/A	N/A
	LTE Band 13	Hotspot	Rear	No	0.671	N/A	N/A
835	GSM 850	Hotspot	Rear	No	0.682	N/A	N/A
	WCDMA Band V	Hotspot	Rear	No	0.651	N/A	N/A
	LTE Band 26	Hotspot	Rear	No	0.501	N/A	N/A
1750	WCDMA Band IV	Hotspot	Edge 3	Yes	0.934	0.931	1.00
	LTE Band 66	Hotspot	Edge 3	No	0.928	N/A	N/A
1900	GSM 1900	Hotspot	Edge 3	No	0.710	N/A	N/A
	WCDMA Band II	Hotspot	Edge 3	Yes	0.919	0.917	1.00
	LTE Band 25	Hotspot	Edge3	No	0.908	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Head	Right Tilt	No	0.541	N/A	N/A
	Bluetooth	Head	Right Tilt	No	0.530	N/A	N/A
2600	LTE Band 41	Hotspot	Edge 3	No	0.510	N/A	N/A
5300	Wi-Fi 802.11a/n	Body-worn	Rear	No	0.301	N/A	N/A
5500	Wi-Fi 802.11a/n	Body-worn	Rear	No	0.290	N/A	N/A
5800	Wi-Fi 802.11a/n	Hotspot	Rear	No	0.837	0.833	1.00

Peak spatial-average (10g of tissue)

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Repeated Measured SAR (W/kg)	Largest to Smallest SAR Ratio
1750	WCDMA Band IV	Product Specific 10-g	Edge 3	No	1.470	N/A	N/A
	LTE Band 66	Product Specific 10-g	Edge 3	No	1.570	N/A	N/A
1900	GSM 1900	Product Specific 10-g	Edge 3	No	1.110	N/A	N/A
	WCDMA Band II	Product Specific 10-g	Edge 3	No	1.670	N/A	N/A
	LTE Band 25	Product Specific 10-g	Edge 3	No	1.560	N/A	N/A
5300	Wi-Fi 802.11a/n	Product Specific 10-g	Rear	No	0.532	N/A	N/A
5500	Wi-Fi 802.11a/n	Product Specific 10-g	Edge 4	No	0.535	N/A	N/A

Note(s):

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

12. Simultaneous Transmission SAR Analysis

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations				
Head & Body-worn & Phablet-10g	1	GSM(Voice/GPRS)	+	DTS_Ant.1	or	DTS_Ant.2
	2	GSM(Voice/GPRS)	+	DTS_MIMO		
	3	GSM(Voice/GPRS)	+	UNII_Ant.1	or	UNII_Ant.2
	4	GSM(Voice/GPRS)	+	UNII_MIMO		
	5	GSM(Voice/GPRS)	+	BT		
	6	GSM(Voice/GPRS)	+	UNII_Ant.1	+	BT
	7	GSM(Voice/GPRS)	+	UNII_Ant.2	+	BT
	8	GSM(Voice/GPRS)	+	UNII MIMO	+	BT
	9	GSM(Voice/GPRS)	+	***RSDB scenario***		
	10	WCDMA or LTE	+	DTS_Ant.1	or	DTS_Ant.2
	11	WCDMA or LTE	+	DTS_MIMO		
	12	WCDMA or LTE	+	UNII_Ant.1	or	UNII_Ant.2
	13	WCDMA or LTE	+	UNII_MIMO		
	14	WCDMA or LTE	+	BT		
	15	WCDMA or LTE	+	UNII_Ant.1	+	BT
	16	WCDMA or LTE	+	UNII_Ant.2	+	BT
	17	WCDMA or LTE	+	UNII MIMO	+	BT
	18	WCDMA or LTE	+	***RSDB scenario***		
Hotspot	19	GSM(GPRS)	+	DTS_Ant.1	or	DTS_Ant.2
	20	GSM(GPRS)	+	DTS_MIMO		
	21	GSM(GPRS)	+	UNII_Ant.1	or	UNII_Ant.2
	22	GSM(GPRS)	+	UNII_MIMO		
	23	GSM(GPRS)	+	BT		
	24	GSM(GPRS)	+	UNII_Ant.1	+	BT
	25	GSM(GPRS)	+	UNII_Ant.2	+	BT
	26	GSM(GPRS)	+	UNII MIMO	+	BT
	27	GSM(GPRS)	+	***RSDB scenario***		
	28	WCDMA or LTE	+	DTS_Ant.1	or	DTS_Ant.2
	29	WCDMA or LTE	+	DTS_MIMO		
	30	WCDMA or LTE	+	UNII_Ant.1	or	UNII_Ant.2
	31	WCDMA or LTE	+	UNII_MIMO		
	32	WCDMA or LTE	+	BT		
	33	WCDMA or LTE	+	UNII_Ant.1	+	BT
	34	WCDMA or LTE	+	UNII_Ant.2	+	BT
	35	WCDMA or LTE	+	UNII MIMO	+	BT
	36	WCDMA or LTE	+	***RSDB scenario***		

Notes:

1. DTS supports Wi-Fi Direct, Hotspot and VoIP.
2. U-NII supports Wi-Fi Direct, Hotspot and VoIP.
3. GPRS, W-CDMA, LTE supports Hotspot and VoIP.
4. U-NII Radio can transmit simultaneously with Bluetooth Radio.
5. DTS Radio cannot transmit simultaneously with Bluetooth Radio.
6. DTS Radio can only transmit simultaneously with U-NII Radio in RSDB scenarios.
7. DTS and U-NII Radio can operating both SISO and MIMO modes.
8. BT tethering is consider about each RF exposure conditions

RSDB scenarios

Mode	Scenario	# of TX	5GHz		2.4GHz	
			Ant1	Ant2	Ant1	Ant2
2.4GHz + 5GHz RSDB Only	1	2	On	-	On	-
	2	2	On	-	-	On
	3	2	-	On	On	-
	4	2	-	On	-	On
2.4GHz + 5GHz RSDB & MIMO	5	3	On	On	On	-
	6	3	On	On	-	On
	7	3	On	-	On	On
	8	3	-	On	On	On
2.4GHz + 5GHz RSDB MIMO	9	4	On	On	On	On

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)

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.

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.

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 postprocessing 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.

SPLSR Hotspot Combination

Per November 2019 TCB Workshop Notes, SPLSR Hotspot Combination procedure can be applied to evaluate to simultaneous transmission SAR analysis.
Hybrid SPLSR and enlarged zoom scan (Volume scan) can be applied when Simultaneous transmission SAR is over 1.6 or 4.0 W/kg (1-g or 10-g respectively), it does not meet SPLSR criteria, and antenna pair is co-located. Antenna co-location means that SAR distributions overlap because the antennas are not significantly spatially separated.

Test procedure

Step.1 Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR.

Step.2 Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								Σ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.224	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.814	0.236	0.826	0.397	0.256	0.429	0.963	1.136	0.995	1.168
B: Body-worn (1-g SAR)	Rear	0.477	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.612	0.584	0.604	1.185	0.879	1.527	0.569	1.277	0.971	1.619
	Front	0.416	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.551	0.523	0.543	0.445	0.818	0.435	0.467	0.496	0.869	0.486
C: Hotspot (1-g SAR)	Rear	0.897	0.245	0.280	0.208	0.942	0.453	1.140	0.144	1.142	1.177	1.105	1.839	1.350	2.037	1.041	1.983	1.494	2.181
	Front	0.592	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.964	0.872	0.853	0.619	1.045	0.625	0.692	0.719	1.145	0.725
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.078																	
	Edge 3	0.553																	
	Edge 4	0.340	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.712	0.620	0.601	0.584	0.793	0.552	0.368	0.612	0.821	0.580

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Body-worn (1-g SAR)	Rear	0.477				1.050	0.092	1+4+5	1.619				1
		0.477				1.050		1+4	1.527	123.8	0.02	No	
		0.477					0.092	1+5	0.569	128.5	0.00	No	
						1.050	0.092	4+5	1.142	37.4	0.03	No	
Hotspot (1-g SAR)	Rear	0.897	0.942					1+2	1.839	158.0	0.02	No	2
Hotspot (1-g SAR)	Rear	0.897				1.140		1+4	2.037	161.6	0.02	No	3
Hotspot (1-g SAR)	Rear	0.897	0.942				0.144	1+2+5	1.983				4
		0.897	0.942					1+2	1.839	158.0	0.02	No	
		0.897					0.144	1+5	1.041	170.5	0.01	No	
			0.942				0.144	2+5	1.086	17.2	0.07	Yes	
Hybrid SPLSR Note.4		0.897	0.947					1+(2+5)	1.844	157.8	0.02	No	4-a
Hotspot (1-g SAR)	Rear	0.897				1.140	0.144	1+4+5	2.181				5
		0.897				1.140		1+4	2.037	161.6	0.02	No	
		0.897					0.144	1+5	1.041	170.5	0.01	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.897				1.160		1+(4+5)	2.057	157.8	0.02	No	5-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.052	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.642	0.064	0.654	0.225	0.084	0.257	0.791	0.964	0.823	0.996
B: Body-worn (1-g SAR)	Rear	0.353	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.488	0.460	0.480	1.061	0.755	1.403	0.445	1.153	0.847	1.495
	Front	0.253	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.388	0.360	0.380	0.282	0.655	0.272	0.304	0.333	0.706	0.323
C: Hotspot (1-g SAR)	Rear	0.422	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.667	0.702	0.630	1.364	0.875	1.562	0.566	1.508	1.019	1.706
	Front	0.275	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.647	0.555	0.536	0.302	0.728	0.308	0.375	0.402	0.828	0.408
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.046																	
	Edge 3	0.804																	
	Edge 4	0.034	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.406	0.314	0.295	0.278	0.487	0.246	0.062	0.306	0.515	0.274
D: Product Specific (10-g SAR)	Rear					0.765	0.804	1.569											
	Front					0.765	0.804	1.569											
	Edge 1					0.765	0.804	1.569											
	Edge 2																		
	Edge 3	1.278																	
	Edge 4					0.765	0.804	1.569											

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Hotspot (1-g SAR)	Rear	0.422				1.140	0.144	1+4+5	1.706				6
		0.422				1.140		1+4	1.562	158.7	0.01	No	
		0.422					0.144	1+5	0.566	168.4	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.422				1.160		1+(4+5)	1.582	157.0	0.013	No	6-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.058	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.648	0.070	0.660	0.231	0.090	0.263	0.797	0.970	0.829	1.002
B: Body-worn (1-g SAR)	Rear	0.508	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.643	0.615	0.635	1.216	0.910	1.558	0.600	1.308	1.002	1.650
	Front	0.379	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.514	0.486	0.506	0.408	0.781	0.398	0.430	0.459	0.832	0.449
C: Hotspot (1-g SAR)	Rear	0.457	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.702	0.737	0.665	1.399	0.910	1.597	0.601	1.543	1.054	1.741
	Front	0.369	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.741	0.649	0.630	0.396	0.822	0.402	0.469	0.496	0.922	0.502
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.052																	
	Edge 3	1.017																	
	Edge 4	0.041	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.413	0.321	0.302	0.285	0.494	0.253	0.069	0.313	0.522	0.281
D: Product Specific (10-g SAR)	Rear	1.266				0.765	0.804	1.569					2.031	2.070	2.835				
	Front					0.765	0.804	1.569											
	Edge 1					0.765	0.804	1.569											
	Edge 2																		
	Edge 3	1.784																	
	Edge 4					0.765	0.804	1.569											

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Body-worn (1-g SAR)	Rear	0.508				1.050	0.092	1+4+5	1.650				7
		0.508				1.050		1+4	1.558	156.2	0.01	No	
		0.508					0.092	1+5	0.600	160.8	0.00	No	
						1.050	0.092	4+5	1.142	37.4	0.03	No	
Hotspot (1-g SAR)	Rear	0.457				1.140	0.144	1+4+5	1.741				8
		0.457				1.140		1+4	1.597	157.8	0.01	No	
		0.457					0.144	1+5	0.601	167.5	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.457				1.160		1+(4+5)	1.617	156.3	0.013	No	8-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								Σ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.111	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.701	0.123	0.713	0.284	0.143	0.316	0.850	1.023	0.882	1.055
B: Body-worn (1-g SAR)	Rear	0.914	0.135	0.107	0.127	0.708	0.402	1.050	0.092	1.049	1.021	1.041	1.622	1.316	1.964	1.006	1.714	1.408	2.056
	Front	0.723	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.858	0.830	0.850	0.752	1.125	0.742	0.774	0.803	1.176	0.793
C: Hotspot (1-g SAR)	Rear	0.632	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.877	0.912	0.840	1.574	1.085	1.772	0.776	1.718	1.229	1.916
	Front	0.531	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.903	0.811	0.792	0.558	0.984	0.564	0.631	0.658	1.084	0.664
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.126																	
	Edge 3	1.143																	
	Edge 4	0.068	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.440	0.348	0.329	0.312	0.521	0.280	0.096	0.340	0.549	0.308
D: Product Specific (10-g SAR)	Rear	1.348				0.765	0.804	1.569					2.113	2.152	2.917				
	Front	1.245				0.765	0.804	1.569					2.010	2.049	2.814				
	Edge 1					0.765	0.804	1.569											
	Edge 2																		
	Edge 3	1.738																	
	Edge 4					0.765	0.804	1.569											

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						Σ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Body-worn (1-g SAR)	Rear	0.914	0.708					1+2	1.622	153.8	0.01	No	9
Body-worn (1-g SAR)	Rear	0.914				1.050		1+4	1.964	153.6	0.02	No	10
Body-worn (1-g SAR)	Rear	0.914	0.708				0.092	1+2+5	1.714				11
		0.914	0.708					1+2	1.622	153.8	0.01	No	
		0.914					0.092	1+5	1.006	157.8	0.01	No	
			0.708				0.092	2+5	0.800	38.4	0.02	No	
Body-worn (1-g SAR)	Rear	0.914				1.050	0.092	1+4+5	2.056				12
		0.914				1.050		1+4	1.964	153.6	0.02	No	
		0.914					0.092	1+5	1.006	157.8	0.01	No	
						1.050	0.092	4+5	1.142	37.4	0.03	No	
Hotspot (1-g SAR)	Rear	0.632				1.140		1+4	1.772	162.7	0.01	No	13
Hotspot (1-g SAR)	Rear	0.632	0.942				0.144	1+2+5	1.718				14
		0.632	0.942					1+2	1.574	155.2	0.01	No	
		0.632					0.144	1+5	0.776	168.4	0.00	No	
			0.942				0.144	2+5	1.086	17.2	0.07	Yes	
Hybrid SPLSR Note.4		0.632	0.947					1+(2+5)	1.579	157.0	0.013	No	14-a
Hotspot (1-g SAR)	Rear	0.632				1.140	0.144	1+4+5	1.916				15
		0.632				1.140		1+4	1.772	158.7	0.01	No	
		0.632					0.144	1+5	0.776	168.4	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.632				1.160		1+(4+5)	1.792	157.0	0.015	No	15-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.144	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.734	0.156	0.746	0.317	0.176	0.349	0.883	1.056	0.915	1.088
B: Body-worn (1-g SAR)	Rear	0.356	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.491	0.463	0.483	1.064	0.758	1.406	0.448	1.156	0.850	1.498
	Front	0.249	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.384	0.356	0.376	0.278	0.651	0.268	0.300	0.329	0.702	0.319
C: Hotspot (1-g SAR)	Rear	0.728	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.973	1.008	0.936	1.670	1.181	1.868	0.872	1.814	1.325	2.012
	Front	0.417	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.789	0.697	0.678	0.444	0.870	0.450	0.517	0.544	0.970	0.550
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.103																	
	Edge 3	0.559																	
	Edge 4	0.306	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.678	0.586	0.567	0.550	0.759	0.518	0.334	0.578	0.787	0.546

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Hotspot (1-g SAR)	Rear	0.728	0.942					1+2	1.670	159.4	0.01	No	16
Hotspot (1-g SAR)	Rear	0.728				1.140		1+4	1.868	163.0	0.02	No	17
Hotspot (1-g SAR)	Rear	0.728	0.942				0.144	1+2+5	1.814				18
		0.728	0.942					1+2	1.670	159.4	0.01	No	
		0.728					0.144	1+5	0.872	171.7	0.00	No	
			0.942				0.144	2+5	1.086	17.2	0.07	Yes	
Hybrid SPLSR Note.4		0.728	0.947					1+(2+5)	1.675	155.4	0.014	No	18-a
Hotspot (1-g SAR)	Rear	0.728				1.140	0.144	1+4+5	2.012				19
		0.728				1.140		1+4	1.868	163.0	0.02	No	
		0.728					0.144	1+5	0.872	171.7	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.728				1.160		1+(4+5)	1.888	155.4	0.017	No	19-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.094	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.684	0.106	0.696	0.267	0.126	0.299	0.833	1.006	0.865	1.038
B: Body-worn (1-g SAR)	Rear	0.181	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.316	0.288	0.308	0.889	0.583	1.231	0.273	0.981	0.675	1.323
	Front	0.178	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.313	0.285	0.305	0.207	0.580	0.197	0.229	0.258	0.631	0.248
C: Hotspot (1-g SAR)	Rear	0.439	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.684	0.719	0.647	1.381	0.892	1.579	0.583	1.525	1.036	1.723
	Front	0.213	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.585	0.493	0.474	0.240	0.666	0.246	0.313	0.340	0.766	0.346
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.147																	
	Edge 3	0.138																	
	Edge 4	0.230	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.602	0.510	0.491	0.474	0.683	0.442	0.258	0.502	0.711	0.470

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Hotspot (1-g SAR)	Rear	0.439				1.140	0.144	1+4+5	1.723				20
		0.439				1.140		1+4	1.579	159.0	0.01	No	
		0.439					0.144	1+5	0.583	167.7	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.439				1.160		1+(4+5)	1.599	157.3	0.01	No	20-a

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.151	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.741	0.163	0.753	0.324	0.183	0.356	0.890	1.063	0.922	1.095
B: Body-worn (1-g SAR)	Rear	0.353	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.488	0.460	0.480	1.061	0.755	1.403	0.445	1.153	0.847	1.495
	Front	0.234	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.369	0.341	0.361	0.263	0.636	0.253	0.285	0.314	0.687	0.304
C: Hotspot (1-g SAR)	Rear	0.792	0.245	0.280	0.208	0.942	0.453	1.140	0.144	1.037	1.072	1.000	1.734	1.245	1.932	0.936	1.878	1.389	2.076
	Front	0.472	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.844	0.752	0.733	0.499	0.925	0.505	0.572	0.599	1.025	0.605
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.088																	
	Edge 3	0.358																	
	Edge 4	0.281	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.653	0.561	0.542	0.525	0.734	0.493	0.309	0.553	0.762	0.521

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Hotspot (1-g SAR)	Rear	0.792	0.942					1+2	1.734	155.8	0.01	No	21
Hotspot (1-g SAR)	Rear	0.792				1.140		1+4	1.932	159.4	0.02	No	22
Hotspot (1-g SAR)	Rear	0.792	0.942				0.144	1+2+5	1.878				23
		0.792	0.942					1+2	1.734	155.8	0.01	No	
		0.792					0.144	1+5	0.936	168.0	0.01	No	
			0.942				0.144	2+5	1.086	17.2	0.07	Yes	
Hybrid SPLSR Note.4		0.792	0.947					1+(2+5)	1.739	158.3	0.01	No	23-a
Hotspot (1-g SAR)	Rear	0.792				1.140	0.144	1+4+5	2.076				24
		0.792				1.140		1+4	1.932	159.4	0.02	No	
		0.792					0.144	1+5	0.936	168.0	0.01	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.792				1.160		1+(4+5)	1.952	158.3	0.02	No	24-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.087	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.677	0.099	0.689	0.260	0.119	0.292	0.826	0.999	0.858	1.031
B: Body-worn (1-g SAR)	Rear	0.492	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.627	0.599	0.619	1.200	0.894	1.542	0.584	1.292	0.986	1.634
	Front	0.431	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.566	0.538	0.558	0.460	0.833	0.450	0.482	0.511	0.884	0.501
C: Hotspot (1-g SAR)	Rear	0.478	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.723	0.758	0.686	1.420	0.931	1.618	0.622	1.564	1.075	1.762
	Front	0.399	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.771	0.679	0.660	0.426	0.852	0.432	0.499	0.526	0.952	0.532
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.082																	
	Edge 3	1.221																	
	Edge 4	0.051	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.423	0.331	0.312	0.295	0.504	0.263	0.079	0.323	0.532	0.291
D: Product Specific (10-g SAR)	Rear					0.765	0.804	1.569											
	Front					0.765	0.804	1.569											
	Edge 1					0.765	0.804	1.569											
	Edge 2																		
	Edge 3	1.990																	
	Edge 4					0.765	0.804	1.569											

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Body-worn (1-g SAR)	Rear	0.492				1.050	0.092	1+4+5	1.634				25
		0.492				1.050		1+4	1.542	155.8	0.01	No	
		0.492					0.092	1+5	0.584	161.0	0.00	No	
						1.050	0.092	4+5	1.142	37.4	0.03	No	
Hotspot (1-g SAR)	Rear	0.478				1.140	0.144	1+4+5	1.762				26
		0.478				1.140		1+4	1.618	158.3	0.01	No	
		0.478					0.144	1+5	0.622	168.1	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.478				1.160		1+(4+5)	1.638	157.3	0.01	No	26-a

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.110	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.700	0.122	0.712	0.283	0.142	0.315	0.849	1.022	0.881	1.054
B: Body-worn (1-g SAR)	Rear	0.296	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.431	0.403	0.423	1.004	0.698	1.346	0.388	1.096	0.790	1.438
	Front	0.226	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.361	0.333	0.353	0.255	0.628	0.245	0.277	0.306	0.679	0.296
C: Hotspot (1-g SAR)	Rear	0.581	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.826	0.861	0.789	1.523	1.034	1.721	0.725	1.667	1.178	1.865
	Front	0.362	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.734	0.642	0.623	0.389	0.815	0.395	0.462	0.489	0.915	0.495
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.076																	
	Edge 3	0.335																	
	Edge 4	0.182	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.554	0.462	0.443	0.426	0.635	0.394	0.210	0.454	0.663	0.422

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Hotspot (1-g SAR)	Rear	0.581				1.140		1+4	1.721	159.8	0.01	No	27
Hotspot (1-g SAR)	Rear	0.581	0.942				0.144	1+2+5	1.667				28
		0.581	0.942					1+2	1.523	156.3	0.01	No	
		0.581					0.144	1+4	0.725	168.4	0.00	No	
			0.942				0.144	2+5	1.086	17.2	0.07	Yes	
Hybrid SPLSR Note.4		0.581	0.947					1+(2+5)	1.528	157.2	0.01	No	28-a
Hotspot (1-g SAR)	Rear	0.581				1.140	0.144	1+4+5	1.865				29
		0.581				1.140		1+4	1.721	159.8	0.01	No	
		0.581					0.144	1+5	0.725	168.4	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.581				1.160		1+(4+5)	1.741	157.2	0.01	No	29-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.051	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.641	0.063	0.653	0.224	0.083	0.256	0.790	0.963	0.822	0.995
B: Body-worn (1-g SAR)	Rear	0.313	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.448	0.420	0.440	1.021	0.715	1.363	0.405	1.113	0.807	1.455
	Front	0.246	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.381	0.353	0.373	0.275	0.648	0.265	0.297	0.326	0.699	0.316
C: Hotspot (1-g SAR)	Rear	0.328	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.573	0.608	0.536	1.270	0.781	1.468	0.472	1.414	0.925	1.612
	Front	0.270	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.642	0.550	0.531	0.297	0.723	0.303	0.370	0.397	0.823	0.403
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.076																	
	Edge 3	0.567																	
	Edge 4	0.051	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.423	0.331	0.312	0.295	0.504	0.263	0.079	0.323	0.532	0.291

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Hotspot (1-g SAR)	Rear	0.328				1.140	0.144	1+4+5	1.612				30
		0.328				1.140		1+4	1.468	149.7	0.01	No	
		0.328					0.144	1+5	0.472	157.0	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.328				1.160		1+(4+5)	1.488	147.1	0.01	No	30-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

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

RF Exposure	Test Position	Standalone SAR (W/kg)								∑ SAR (W/kg)									
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT	WWAN + DTS Ant.1	WWAN + DTS Ant.2	WWAN + DTS MIMO	WWAN + UNII Ant.1	WWAN + UNII Ant.2	WWAN + UNII MIMO	WWAN + BT	WWAN + BT + UNII Ant.1	WWAN + BT + UNII Ant.2	WWAN + BT + UNII MIMO
		1	2	3	4	5	6	7	8	1+2	1+3	A: 1+2+3 B,C: 1+4	1+5	1+6	A,D: 1+5+6 B,C: 1+7	1+9	1+5+8	1+6+8	A,D: 1+5+6+8 B,C: 1+7+8
A: Head (1-g SAR)	All Position	0.112	0.590	0.012	0.602	0.173	0.032	0.205	0.739	0.702	0.124	0.714	0.285	0.144	0.317	0.851	1.024	0.883	1.056
B: Body-worn (1-g SAR)	Rear	0.732	0.135	0.107	0.127	0.708	0.402	1.050	0.092	0.867	0.839	0.859	1.440	1.134	1.782	0.824	1.532	1.226	1.874
	Front	0.559	0.135	0.107	0.127	0.029	0.402	0.019	0.051	0.694	0.666	0.686	0.588	0.961	0.578	0.610	0.639	1.012	0.629
C: Hotspot (1-g SAR)	Rear	0.669	0.245	0.280	0.208	0.942	0.453	1.140	0.144	0.914	0.949	0.877	1.611	1.122	1.809	0.813	1.755	1.266	1.953
	Front	0.584	0.372	0.280	0.261	0.027	0.453	0.033	0.100	0.956	0.864	0.845	0.611	1.037	0.617	0.684	0.711	1.137	0.717
	Edge 1		0.372	0.280	0.261	0.942	0.040	1.140	0.248										
	Edge 2	0.156																	
	Edge 3	1.298																	
	Edge 4	0.080	0.372	0.280	0.261	0.244	0.453	0.212	0.028	0.452	0.360	0.341	0.324	0.533	0.292	0.108	0.352	0.561	0.320
D: Product Specific (10-g SAR)	Rear	1.661				0.765	0.804	1.569					2.426	2.465	3.230				
	Front					0.765	0.804	1.569											
	Edge 1					0.765	0.804	1.569											
	Edge 2																		
	Edge 3	2.191																	
	Edge 4					0.765	0.804	1.569											

SAR to Peak Location Separation Ratio (SPLSR)

RF Exposure	Test Position	Standalone SAR (W/kg)						∑ SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)	Figure
		WWAN	UNII Ant.1	UNII Ant.2		UNII MIMO	BT						
		1	2	3		4	5						
Body-worn (1-g SAR)	Rear	0.732				1.050		1+4	1.782	157.9	0.02	No	31
Body-worn (1-g SAR)	Rear	0.732				1.050	0.092	1+4+5	1.874				32
		0.732				1.050		1+4	1.782	157.9	0.02	No	
		0.732					0.092	1+5	0.824	162.4	0.00	No	
						1.050	0.092	4+5	1.142	37.4	0.03	No	
Hotspot (1-g SAR)	Rear	0.669				1.140		1+4	1.809	160.1	0.02	No	33
Hotspot (1-g SAR)	Rear	0.669	0.942				0.144	1+2+5	1.755				34
		0.669	0.942					1+2	1.611	156.5	0.01	No	
		0.669					0.144	1+5	0.813	169.8	0.00	No	
			0.942				0.144	2+5	1.086	17.2	0.07	Yes	
Hybrid SPLSR Note.4		0.669	0.947					1+(2+5)	1.616	158.7	0.01	No	34-a
Hotspot (1-g SAR)	Rear	0.669				1.140	0.144	1+4+5	1.953				35
		0.669				1.140		1+4	1.809	160.1	0.02	No	
		0.669					0.144	1+5	0.813	169.8	0.00	No	
						1.140	0.144	4+5	1.284	15.1	0.10	Yes	
Hybrid SPLSR Note.4		0.669				1.160		1+(4+5)	1.829	158.7	0.02	No	35-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.14 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.13. Sum of the SAR for WWAN & Wi-Fi (RSDB)

RF Exposure	Test Position	Standalone SAR (W/kg)							∑ SAR (W/kg)								
		WWAN	DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	WWAN + DTS Ant 1 +UNII Ant 1	WWAB + DTS Ant 1 + UNII Ant 2	WWAN + DTS Ant 1 + UNII MIMO	WWAN + DTS Ant 2 + UNII Ant 1	WWAN + DTS Ant 2 + UNII Ant 2	WWAN + DTS Ant 2 + UNII MIMO	WWAN + DTS MIMO + UNII Ant 1	WWAN + DTS MIMO + UNII Ant 2	WWAN + DTS MIMO + UNII MIMO
		1	2	3	4	5	6	7	1+2+5	1+2+6	1+2+7	1+3+5	1+3+6	1+3+7	1+4+5	1+4+6	1+4+7
A: Head (1-g SAR)	All Position	0.224	0.590	0.012	0.602	0.173	0.032	0.205	0.987	0.846	1.019	0.409	0.268	0.441	0.999	0.858	1.031
B: Body-worn (1-g SAR)	Rear	0.914	0.044	0.029	0.095	0.309	0.292	0.395	1.267	1.250	1.353	1.252	1.235	1.338	1.318	1.301	1.404
	Front	0.723	0.044	0.029	0.095	0.309	0.292	0.395	1.076	1.059	1.162	1.061	1.044	1.147	1.127	1.110	1.213
C: Hotspot (1-g SAR)	Rear	0.897	0.171	0.110	0.188	0.454	0.229	0.501	1.522	1.297	1.569	1.461	1.236	1.508	1.539	1.314	1.586
	Front	0.592	0.171	0.110	0.232	0.454	0.229	0.501	1.217	0.992	1.264	1.156	0.931	1.203	1.278	1.053	1.325
	Edge 1		0.171	0.110	0.232	0.454	0.229	0.501									
	Edge 2	0.156															
	Edge 3	1.298															
	Edge 4	0.340	0.171	0.110	0.232	0.115	0.229	0.105	0.626	0.740	0.616	0.565	0.679	0.555	0.687	0.801	0.677

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS, UNII Ant.1 and DTS, UNII Ant.2

12.14. Volume Scan Results

RF Exposure	Test Position	Configuration	Band	Original Measured SAR (W/kg)	Volume Scan Result	Plot No.	Multi-Band Combined factor	Multi-Band Combined Result	Plot No.
Standalone	Rear 10mm	UNII Ant 1 + Bluetooth	UNII Ant 1	0.698	0.652	1	1.349	0.947	4-5
			Bluetooth	0.103	0.086	2	1.395		
		UNII MIMO + Bluetooth	UNII MIMO	0.837	0.804	3	1.362	1.160	6-7
			Bluetooth	0.103	0.086		1.395		

Note(s):

1. Multi-band Combined factor is the compensation value of power and duty.
2. For Volume Scan plot number in this section, please refer to the Appendix H.

Conclusion:

Simultaneous Transmission SAR analysis results is satisfied the FCC Limit requirement according to follow procedures with "Sum of SAR" or "SPLSR" or "SPLSR Hotspot combination(including Volume Scan)".

Appendixes

Refer to separated files for the following appendixes.

4790136523-S1 FCC Report SAR_App A_Photos & Ant. Locations

4790136523-S1 FCC Report SAR_App B_Highest SAR Test Plots

4790136523-S1 FCC Report SAR_App C_System Check Plots

4790136523-S1 FCC Report SAR_App D_SAR Tissue Ingredients

4790136523-S1 FCC Report SAR_App E_Probe Cal. Certificates

4790136523-S1 FCC Report SAR_App F_Dipole Cal. Certificates

4790136523-S1 FCC Report SAR_App G_SPLSR criteria plots

4790136523-S1 FCC Report SAR_App H_Volume Scan Results

END OF REPORT