



SAR EVALUATION REPORT

**FCC 47 CFR § 2.1093
IEEE Std 1528-2013**

For
SMARTPHONE

**FCC ID: BCG-E3172A
Model Name: A1905**

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Revision History

Rev.	Date	Revisions	Revised By
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V4	9/1/2017	Report revised based on Reviewer's comments: 1. Sec. 6.3: Updated note. 2. Sec. 7: Added Antenna diagram. 3. Sec. 9: Updated note. 4. Sec. 9.4: Updated note and table. 5. Sec. 10: Added descriptive notes.	Devin Chang
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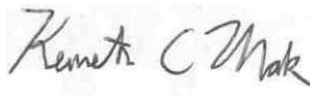
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1. Attestation of Test Results

Applicant Name	APPLE, INC.			
FCC ID	BCG-E3172A			
Model Name	A1905			
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
Exposure Category	SAR Limits (W/Kg)			
	Peak spatial-average(1g of tissue)			
General population / Uncontrolled exposure	1.6			
RF Exposure Conditions	Equipment Class - Highest Reported SAR (W/kg)			
	PCE	DTS	NII	DSS
Head	1.09	1.07	1.19	0.43
Body-worn	1.09	1.17	1.12	0.45
Hotspot	1.09	1.17	1.12	N/A
Simultaneous TX	Head	1.45	1.42	1.45
	Body-worn	1.59	1.49	1.59
	Hotspot	1.59	1.49	1.59
Date Tested	6/29/2017 to 7/27/2017			
Test Results	Pass			

UL Verification Services Inc. 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 Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

Approved & Released By:	Prepared By:
	
Devin Chang Senior Engineer UL Verification Services Inc.	Kenneth C. Mak Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528-2013, the following FCC Published RF exposure [KDB](#) procedures & manufacturer KDB inquiries:

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

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

- [TCB workshop](#) October, 2014; Page 36, RF Exposure Procedures Update (Overlapping LTE Bands)
- [TCB workshop](#) October, 2014; Page 37, LTE Considerations (LTE Band 41 Test Channels)

Additional Guidance: Operational Description and Manufacturer KDB inquiry

- Carrier Aggregation – KDB guidance to identify test cases with uplink carrier aggregation enabled in conjunction with FCC PAG Guidance for the test cases mentioned in Sec. 10.
- Detect Mode – KDB guidance related to SAR testing for proprietary detection mode used to determine proximity to head or body and set power accordingly for Wi-Fi and Cellular Transmitters.
- Cellular State Dependent Wi-Fi Power control – KDB guidance related to power control mechanism for Wi-Fi and Bluetooth transmitters based on the operational state of the Wi-Fi and Cellular Transmitters. The Wi-Fi and Bluetooth power configuration are listed as follows:
 - For Wi-Fi
 - $P_{\text{Cell_ON}}$: This will be used when both Cellular and Wi-Fi radios are ON.
 - $P_{\text{Cell_OFF}}$: This will be used when only Wi-Fi radio is ON
 - $P_{\text{Cell_MAX}}$: This will be used when the device is placed on the proprietary wireless charger and is therefore considered to be a mobile device. Refer to separate MPE report.
 - For Bluetooth
 - Bluetooth P_{high} is used when Wi-Fi antenna is active and Cellular antenna is inactive.
 - Bluetooth P_{low} is used with Wi-Fi and Cellular antenna is active or Wi-Fi antenna inactive and Cellular antenna is active.
 - Bluetooth $P_{\text{standalone}}$ is used with Wi-Fi and Cellular antennas are inactive.
 - Bluetooth P_{max} is used when the device is placed on a proprietary wireless charger and is therefore considered to be a mobile device. Refer to separate MPE report.

The above power configurations for Wi-Fi and Bluetooth are triggered by all of the Cellular Bands with respect to the different Antennas and Exposure Conditions – Head, Body, and Hotspot has been verified and validated by the Manufacturer. Also, all of the UL CA conditions operate correctly with the intended maximum output power levels in simulated normal operating conditions using the Base Station Simulator and has been verified and validated by the Manufacturer.

3. Facilities and Accreditation

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

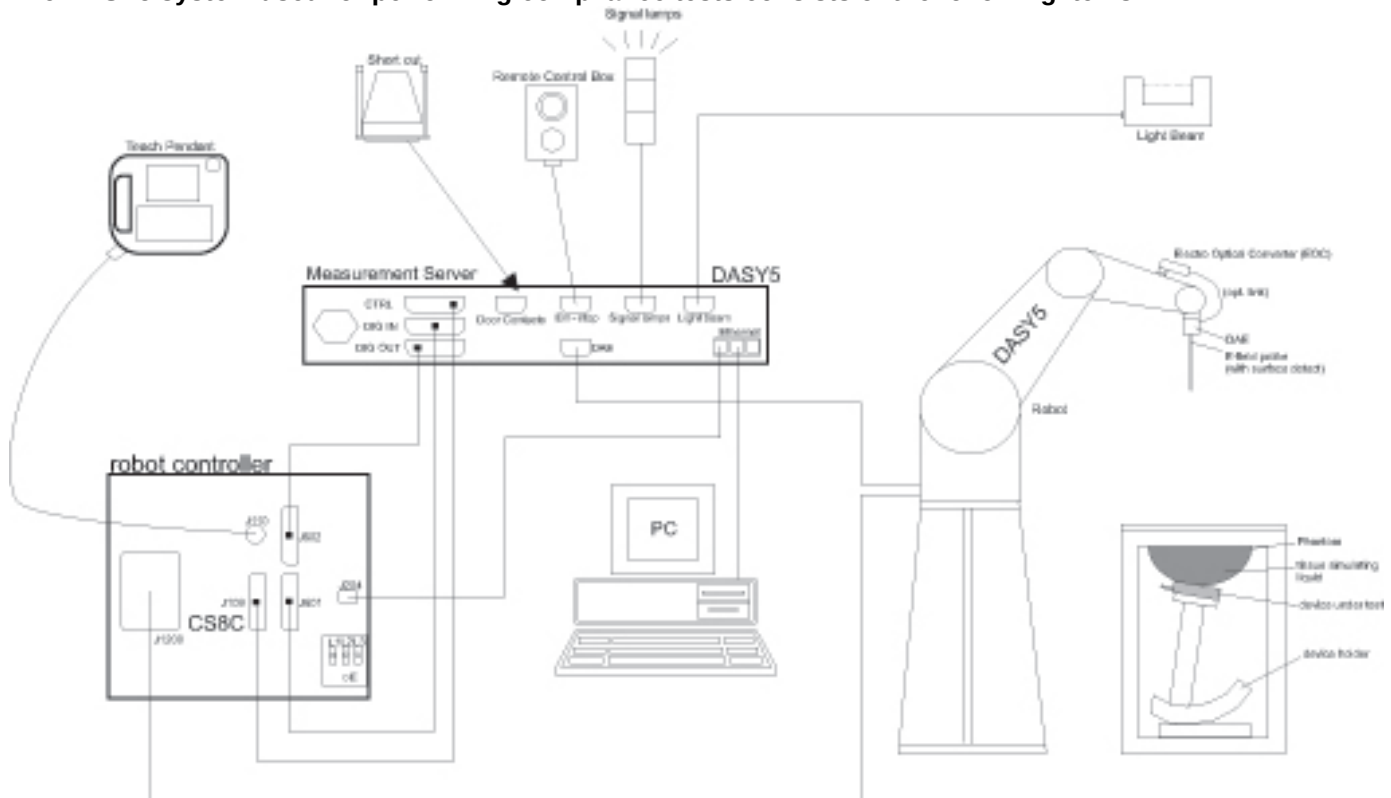
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 4
SAR Lab D	
SAR Lab E	
SAR Lab F	
SAR Lab G	
SAR Lab H	

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

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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



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

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 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 $\leq$ 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: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 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: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
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 <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

Step 4: Power drift measurement

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

4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	8753ES	MY40001647	8/23/2017
Dielectric Probe kit	SPEAG	DAK-3.5	1087	11/8/2017
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	11/8/2017
Thermometer	Traceable Calibration Control Co.	4242	140493798	8/9/2017

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	Agilent	N5181A	MY50140630	5/16/2018
Power Meter	Keysight	N1912A	MY50001018	10/11/2017
Power Sensor	Agilent	N1921A	MY53260001	10/17/2017
Power Sensor	Agilent	N1921A	MY53070007	3/1/2018
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2141	N/A
DC Power Supply	HP	1611	215-02292	N/A
Synthesized Signal Generator	HP	8665B	3546A00784	9/2/2017
Power Meter	HP	437B	3125U11347	8/30/2017
Power Meter	HP	437B	3125U09516	9/27/2017
Power Sensor	HP	8481A	1926A16917	10/7/2017
Power Sensor	HP	8481A	2702A76223	9/14/2017
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1808938	N/A
Directional coupler	Werlatone	C8060-102	2710	N/A
DC Power Supply	HP	6296A	2841A-05955	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3929	3/15/2018
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	7335	3/15/2018
E-Field Probe (SAR Lab C)	SPEAG	EX3DV4	3885	9/20/2017
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	7356	4/21/2018
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3772	2/16/2018
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3773	4/21/2018
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3749	1/23/2018
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	3989	2/16/2018
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1434	4/19/2018
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1257	9/15/2017
Data Acquisition Electronics (SAR Lab C)	SPEAG	DAE4	1377	9/14/2017
Data Acquisition Electronics (SAR Lab D)	SPEAG	DAE4	1359	2/10/2018
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1357	2/13/2018
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1239	4/19/2018
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1259	1/20/2018
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1352	11/11/2017
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1472	3/10/2018
System Validation Dipole	SPEAG	D750V3	1019	3/13/2018
System Validation Dipole	SPEAG	D835V2	4d002	11/8/2017
System Validation Dipole	SPEAG	D835V2	4d117	5/22/2018
System Validation Dipole	SPEAG	D1750V2	1050	4/18/2018
System Validation Dipole	SPEAG	D1750V2	1077	9/14/2017
System Validation Dipole	SPEAG	D1900V2	5d140	4/19/2018
System Validation Dipole	SPEAG	D2300V2	1002	3/10/2018
System Validation Dipole	SPEAG	D2300V2	1058	8/18/2017
System Validation Dipole	SPEAG	D2450V2	748	2/8/2018
System Validation Dipole	SPEAG	D2600V2	1006	9/13/2017
System Validation Dipole	SPEAG	D5GHzV2	1003	2/13/2018
System Validation Dipole	SPEAG	D5GHzV2	1168	11/14/2017

Other

Name of Equipment	Manufacturer	Type/Model	T Number	Serial No.	Cal. Due Date
Power Meter	Agilent	N1911A	T1244	MY55196008	6/15/2018
Power Sensor	Agilent	N1921A	T309	MY52270022	12/17/2017
Power Sensor	Agilent	N1921A	T734	MY52200012	10/17/2017
Base Station Simulator	R & S	CMU200	T261	106301	11/28/2017
Base Station Simulator	R & S	CMW500	T957	134852	6/6/2018
Base Station Simulator	R & S	CMW500	T948	135393	5/15/2018
Base Station Simulator	R & S	CMW500	T232	104245	2/3/2018
Base Station Simulator	R & S	CMW500	T1526	147543	5/2/2018
Base Station Simulator	R & S	CMW500	N/A	145793	6/5/2018
Base Station Simulator	R & S	CMW500	N/A	112269	6/5/2018
Base Station Simulator	R & S	CMW500	N/A	157972	4/1/2018

Notes:

1. Equipment was not used after calibration due date.

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, 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.

6. Device Under Test (DUT) Information

6.1. DUT Description

Model A1905 is a smartphone with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/HSUPA, LTE FDD/TDD & Carrier Aggregation / TDSCDMA, VoLTE radio, IEEE 802.11a/b/g/n/ac radio 2x2 MIMO, Bluetooth radio, GPS and NFC. The rechargeable battery is not user accessible.

This device has two cellular antennas (UAT 1 and LAT 1) as well as multiple Wi-Fi/Bluetooth antennas (UAT 1 for Wi-Fi-BT 2.4GHz, UAT 2 for Wi-Fi 5GHz, and LAT 3 for Wi-Fi-BT 2.4/5GHz).

The device is capable of switching between the LAT and UAT based on signal strength.

The antenna switching is implemented with a physical, "break-before-make" switch such that only one antenna can be used for cellular transmission at a time.

In Airplay mode, the device uses the same 802.11 modes, modulation, MIMO, Channel Bandwidth, power and power control mechanism, etc. as Wi-Fi does. Therefore, Airplay usage is categorized by the Wi-Fi SAR testing contained in Section 10.

There are two vendors of the Wi-Fi/Bluetooth radio modules: Variant 1 and Variant 2 and they have the same mechanical outline, same on board antenna, matching circuit, antenna structure and same specification. Complete SAR evaluation is performed on Variant 1. The worst case configurations for each operation mode and frequency band are repeated for Variant 2. It is confirmed that Variant 1 represents the worst case.

Device Dimension	Overall (Length x Width): 138.4 mm x 67.3 mm Overall Diagonal: 147 mm Display Diagonal: 119.38 mm
Back Cover	☒ The rechargeable battery is not user accessible.
Battery Options	☒ The rechargeable battery is not user accessible.
Accessory	Headset
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☐ Mobile Hotspot (Wi-Fi 5 GHz)
AirPlay	AirPlay mode enabled devices transfer data directly between each other ☒ AirPlay (Wi-Fi 2.4 GHz) ☒ AirPlay (Wi-Fi 5 GHz)

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%
	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 (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 FDD Band 30 TDD Band 41 FDD Band 66	QPSK 16QAM 64QAM ☒ Rel. 11 Carrier Aggregation (2 Uplinks and 4 Downlinks), UE Category 10		100% (FDD) 63.3% (TDD) This device supports uplink-downlink configuration 0-6. The configuration with the highest duty cycle was used (config. 0 at 63.3%).
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)		100%
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)		100%
	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		77.5% (DH5) ¹

Notes:

- The Bluetooth protocol is considered source-based averaging. Bluetooth EDR, GFSK (DH5) was verified to have the highest duty cycle of 77.5% and was considered and used for SAR Testing.

6.3. Maximum Output Power from Tune-up Procedure

The device utilizes three power modes; Mode A, Mode B and Mode C. Power selection is determined by the device's positioning and use case as described in Sec. 10. Mode A power is used when the device is used against the user's head, or away from the body. Mode B is used when the device is used in a body-worn configuration by the user. Mode C is used when the device is placed on a proprietary Apple wireless charger, as described in Sec. 6.3.5. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

This device has two cellular antennas (UAT 1 and LAT 1) as well as multiple Wi-Fi/Bluetooth antennas (UAT 1 for Wi-Fi-BT 2.4GHz, UAT 2 for Wi-Fi 5GHz, and LAT 3 for Wi-Fi-BT 2.4/5GHz). The selection between antennas UAT and LAT in application is based on RSSI based antenna selection. The full details of power selections are described in the operational description.

The maximum calibration level already includes component tolerance of $\pm 0.75\text{dB}$ for modulations other than 8PSK, where a $\pm 1\text{dB}$ tolerance is included. KDB 447498 sec.4.1.(d) 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	Mode	Target Avg. RF Output Power (dBm)											
		MODE A						MODE B					
		UAT 1			LAT 1			UAT 1			LAT 1		
		MAX	Tolerance	Frame	MAX	Tolerance	Frame	MAX	Tolerance	Frame	MAX	Tolerance	Frame
GSM850	Voice/GPRS (1 slot)	30.8	± 0.75	21.8	33.3	± 0.75	24.3	30.8	± 0.75	21.8	32.5	± 0.75	23.5
	GPRS 2 slots	29.3	± 0.75	23.3	32.3	± 0.75	26.2	29.8	± 0.75	23.7	29.5	± 0.75	23.5
	EGPRS 1 slot	25.5	± 1.0	16.5	28.0	± 1.0	19.0	25.5	± 1.0	16.5	28.0	± 1.0	19.0
	EGPRS 2 slots	25.5	± 1.0	19.5	28.0	± 1.0	22.0	25.5	± 1.0	19.5	28.0	± 1.0	22.0
GSM1900	Voice/GPRS (1 slot)	27.0	± 0.75	18.0	31.3	± 0.75	22.3	26.8	± 0.75	17.8	30.0	± 0.75	21.0
	GPRS 2 slots	24.0	± 0.75	18.0	30.3	± 0.75	24.2	23.8	± 0.75	17.8	27.0	± 0.75	21.0
	EGPRS 1 slot	23.5	± 1.0	14.5	27.0	± 1.0	18.0	23.5	± 1.0	14.5	27.0	± 1.0	18.0
	EGPRS 2 slots	23.5	± 1.0	17.5	27.0	± 1.0	21.0	23.5	± 1.0	17.5	27.0	± 1.0	21.0

RF Air interface	Mode	Target Avg. RF Output Power (dBm)											
		MODE A						MODE B					
		UAT 1			LAT 1			UAT 1			LAT 1		
		MAX		Tolerance	MAX		Tolerance	MAX		Tolerance	MAX		Tolerance
W-CDMA Band V	R99	23.8	±	0.75	24.8	±	0.75	23.8	±	0.75	24.8	±	0.75
	HSDPA	23.8	±	0.75	24.8	±	0.75	23.8	±	0.75	24.8	±	0.75
	HSUPA	23.8	±	0.75	24.8	±	0.75	23.8	±	0.75	24.8	±	0.75
	DC-HSDPA	23.8	±	0.75	24.8	±	0.75	23.8	±	0.75	24.8	±	0.75
	HSPA+	23.8	±	0.75	24.8	±	0.75	23.8	±	0.75	24.8	±	0.75
W-CDMA Band IV	R99	18.5	±	0.75	25.3	±	0.75	19.5	±	0.75	21.0	±	0.75
	HSDPA	18.5	±	0.75	25.3	±	0.75	19.5	±	0.75	21.0	±	0.75
	HSUPA	18.5	±	0.75	25.3	±	0.75	19.5	±	0.75	21.0	±	0.75
	DC-HSDPA	18.5	±	0.75	25.3	±	0.75	19.5	±	0.75	21.0	±	0.75
	HSPA+	18.5	±	0.75	25.3	±	0.75	19.5	±	0.75	21.0	±	0.75
W-CDMA Band II	R99	18.0	±	0.75	25.0	±	0.75	19.5	±	0.75	20.5	±	0.75
	HSDPA	18.0	±	0.75	25.0	±	0.75	19.5	±	0.75	20.5	±	0.75
	HSUPA	18.0	±	0.75	25.0	±	0.75	19.5	±	0.75	20.5	±	0.75
	DC-HSDPA	18.0	±	0.75	25.0	±	0.75	19.5	±	0.75	20.5	±	0.75
	HSPA+	18.0	±	0.75	25.0	±	0.75	19.5	±	0.75	20.5	±	0.75
LTE Band 2	QPSK	18.0	±	0.75	24.8	±	0.75	19.5	±	0.75	20.5	±	0.75
LTE Band 4	QPSK	18.5	±	0.75	24.8	±	0.75	19.5	±	0.75	21.0	±	0.75
LTE Band 5	QPSK	23.3	±	0.75	24.8	±	0.75	23.3	±	0.75	24.8	±	0.75
LTE Band 7	QPSK	15.3	±	0.75	24.5	±	0.75	18.3	±	0.75	18.0	±	0.75
LTE Band 12	QPSK	23.3	±	0.75	24.8	±	0.75	23.3	±	0.75	24.8	±	0.75
LTE Band 13	QPSK	23.3	±	0.75	24.8	±	0.75	23.3	±	0.75	24.8	±	0.75
LTE Band 17	QPSK	23.3	±	0.75	24.8	±	0.75	23.3	±	0.75	24.8	±	0.75
LTE Band 25	QPSK	18.0	±	0.75	24.8	±	0.75	19.5	±	0.75	20.5	±	0.75
LTE Band 26	QPSK	23.3	±	0.75	24.8	±	0.75	23.3	±	0.75	24.8	±	0.75
LTE Band 30	QPSK	16.5	±	0.75	23.8	±	0.75	18.0	±	0.75	21.5	±	0.75
LTE Band 41	QPSK	17.0	±	0.75	24.5	±	0.75	19.8	±	0.75	20.5	±	0.75
LTE Band 66	QPSK	18.5	±	0.75	24.8	±	0.75	19.5	±	0.75	21.0	±	0.75
LTE-uplink 2CA Band 7	QPSK	15.3	±	0.75	23.8	±	0.75	18.3	±	0.75	18.0	±	0.75
LTE-uplink 2CA Band 41	QPSK	17.0	±	0.75	23.8	±	0.75	19.3	±	0.75	20.5	±	0.75
RF Air interface	Mode	Max. Avg. RF Output Power (dBm)											
		MODE A			MODE B								
		UAT 1		LAT 3		UAT 1							
Bluetooth P _{low}	GFSK	10.0		10.0		10.0		10.0		10.0			
Bluetooth P _{high}	GFSK	12.0		16.5		13.5		13.5		13.5			
Bluetooth P _{standalone}	GFSK	14.5		19.5		16.5		16.5		16.5			

Notes:

1. LTE QPSK configuration has the highest maximum average output power per 3GPP standard.
2. LTE-uplink 2CA are the total combined power of the UL CA.
3. Bluetooth P_{high} is used when Wi-Fi antenna is active and Cellular antenna is inactive.
4. Bluetooth P_{low} is used with Wi-Fi and Cellular antennas are active or with Wi-Fi inactive and Cellular antenna is active.
5. Bluetooth P_{standalone} is used with Wi-Fi and Cellular antennas are inactive.

6.3.1. WLAN SISO (P_{Cell_ON})

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Channel State Dependent Power Control									
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 DSSS	802.11b	1 Tx	1	2412	9.5	18.0	15.0	13.5	Yes
			6	2437	9.5	18.0	15.0	13.5	
			11	2462	9.5	18.0	15.0	13.5	
			12	2467	9.5	18.0	15.0	13.5	
			13	2472	9.5	17.0	15.0	13.5	
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	1 Tx	1	2412	9.5	16.5	15.0	13.5	No
			6	2437	9.5	18.0	15.0	13.5	
			11	2462	9.5	16.5	15.0	13.5	
			12	2467	9.5	14.0	14.0	13.5	
			13	2472	6.0	6.0	6.0	6.0	
	802.11n	1 Tx HT20	1	2412	9.5	16.5	15.0	13.5	No
			6	2437	9.5	18.0	15.0	13.5	
			11	2462	9.5	16.5	15.0	13.5	
			12	2467	9.5	14.0	14.0	13.5	
			13	2472	6.0	6.0	6.0	6.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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. Sec. 5.2.2. of KDB 248227 D01 states: 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	1 Tx	36	5180	7.3	17.5	14.0	9.0	No
			40	5200	7.3	19.5	14.0	9.0	
			44	5220	7.3	19.8	14.0	9.0	
			48	5240	7.3	19.8	14.0	9.0	
	802.11n	1 Tx HT20	36	5180	7.3	17.5	14.0	9.0	No
			40	5200	7.3	19.5	14.0	9.0	
			44	5220	7.3	19.8	14.0	9.0	
			48	5240	7.3	19.8	14.0	9.0	
		1 Tx HT40	38	5190	7.3	16.5	14.0	9.0	No
			46	5230	7.3	19.5	14.0	9.0	
	802.11ac	1 Tx VHT20	36	5180	7.3	17.5	14.0	9.0	No
			40	5200	7.3	19.5	14.0	9.0	
			44	5220	7.3	19.8	14.0	9.0	
			48	5240	7.3	19.8	14.0	9.0	
		1 Tx VHT40	38	5190	7.3	16.5	14.0	9.0	No
			46	5230	7.3	19.5	14.0	9.0	
		1 Tx VHT80	42	5210	7.3	15.5	14.0	9.0	Yes
5.3	802.11a	1 Tx	52	5260	5.8	19.8	13.0	9.5	Yes
			56	5280	5.8	19.8	13.0	9.5	
			60	5300	5.8	19.5	13.0	9.5	
			64	5320	5.8	16.5	13.0	9.5	
	802.11n	1 Tx HT20	52	5260	5.8	19.8	13.0	9.5	No
			56	5280	5.8	19.8	13.0	9.5	
			60	5300	5.8	19.5	13.0	9.5	
			64	5320	5.8	16.5	13.0	9.5	
		1 Tx HT40	54	5270	5.8	19.5	13.0	9.5	No
			62	5310	5.8	15.5	13.0	9.5	
	802.11ac	1 Tx VHT20	52	5260	5.8	19.8	13.0	9.5	No
			56	5280	5.8	19.8	13.0	9.5	
			60	5300	5.8	19.5	13.0	9.5	
			64	5320	5.8	16.5	13.0	9.5	
		1 Tx VHT40	54	5270	5.8	19.5	13.0	9.5	No
			62	5310	5.8	15.5	13.0	9.5	
		1 Tx VHT80	58	5290	5.8	15.0	13.0	9.5	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	1 Tx	100	5500	4.5	16.5	11.5	10.0	Yes
			104	5520	4.5	19.5	11.5	10.0	
			108	5540	4.5	19.8	11.5	10.0	
			112	5560	4.5	19.8	11.5	10.0	
			116	5580	4.5	19.8	11.5	10.0	
			120	5600	4.5	19.8	11.5	10.0	
			124	5620	4.5	19.8	11.5	10.0	
			128	5640	4.5	19.8	11.5	10.0	
			132	5660	4.5	19.8	11.5	10.0	
			136	5680	4.5	19.5	11.5	10.0	
			140	5700	4.5	17.0	11.5	10.0	
			144	5720	4.5	19.8	11.5	10.0	
	802.11n	1 Tx HT20	100	5500	4.5	16.5	11.5	10.0	No
			104	5520	4.5	19.5	11.5	10.0	
			108	5540	4.5	19.8	11.5	10.0	
			112	5560	4.5	19.8	11.5	10.0	
			116	5580	4.5	19.8	11.5	10.0	
			120	5600	4.5	19.8	11.5	10.0	
			124	5620	4.5	19.8	11.5	10.0	
			128	5640	4.5	19.8	11.5	10.0	
			132	5660	4.5	19.8	11.5	10.0	
			136	5680	4.5	19.5	11.5	10.0	
			140	5700	4.5	17.0	11.5	10.0	
			144	5720	4.5	19.8	11.5	10.0	
		1 Tx HT40	102	5510	4.5	15.5	11.5	10.0	No
			110	5550	4.5	19.5	11.5	10.0	
			118	5590	4.5	19.5	11.5	10.0	
			126	5630	4.5	19.5	11.5	10.0	
			134	5670	4.5	18.0	11.5	10.0	
			142	5710	4.5	19.5	11.5	10.0	
	802.11ac	1 Tx VHT20	100	5500	4.5	16.5	11.5	10.0	No
			104	5520	4.5	19.5	11.5	10.0	
			108	5540	4.5	19.8	11.5	10.0	
			112	5560	4.5	19.8	11.5	10.0	
			116	5580	4.5	19.8	11.5	10.0	
			120	5600	4.5	19.8	11.5	10.0	
			124	5620	4.5	19.8	11.5	10.0	
			128	5640	4.5	19.8	11.5	10.0	
			132	5660	4.5	19.8	11.5	10.0	
			136	5680	4.5	19.5	11.5	10.0	
			140	5700	4.5	17.0	11.5	10.0	
			144	5720	4.5	19.8	11.5	10.0	
		1 Tx VHT40	102	5510	4.5	15.5	11.5	10.0	No
			110	5550	4.5	19.5	11.5	10.0	
			118	5590	4.5	19.5	11.5	10.0	
			126	5630	4.5	19.5	11.5	10.0	
			134	5670	4.5	18.0	11.5	10.0	
			142	5710	4.5	19.5	11.5	10.0	
1 Tx VHT80		106	5530	4.5	15.0	11.5	10.0	Yes	
		122	5610	4.5	19.0	11.5	10.0		
		138	5690	4.5	19.0	11.5	10.0		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	1 Tx	149	5745	5.3	19.8	11.5	10.3	Yes
			153	5765	5.3	19.8	11.5	10.3	
			157	5785	5.3	19.8	11.5	10.3	
			161	5805	5.3	19.8	11.5	10.3	
			165	5825	5.3	19.8	11.5	10.3	
	802.11n	1 Tx HT20	149	5745	5.3	19.8	11.5	10.3	No
			153	5765	5.3	19.8	11.5	10.3	
			157	5785	5.3	19.8	11.5	10.3	
			161	5805	5.3	19.8	11.5	10.3	
			165	5825	5.3	19.8	11.5	10.3	
		1 Tx HT40	151	5755	5.3	19.5	11.5	10.3	No
			159	5795	5.3	19.5	11.5	10.3	
	802.11ac	1 Tx VHT20	149	5745	5.3	19.8	11.5	10.3	No
			153	5765	5.3	19.8	11.5	10.3	
			157	5785	5.3	19.8	11.5	10.3	
			161	5805	5.3	19.8	11.5	10.3	
			165	5825	5.3	19.8	11.5	10.3	
		1 Tx VHT40	151	5755	5.3	19.5	11.5	10.3	No
			159	5795	5.3	19.5	11.5	10.3	
		1 Tx VHT80	155	5775	5.3	19.0	11.5	10.3	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.2. WLAN MIMO (P_{Cell_ON})

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

P_{Cell_ON} : This will be used when both Cellular and Wi-Fi radios are ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max.Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	2 Tx CDD	1	2412	9.5	15.5	15.0	13.5	Yes
			2	2417	9.5	18.0	15.0	13.5	
			6	2437	9.5	18.0	15.0	13.5	
			9	2452	9.5	18.0	15.0	13.5	
			10	2457	9.5	18.0	15.0	13.5	
			11	2462	9.5	15.5	15.0	13.5	
			12	2467	9.5	13.0	13.0	13.0	
			13	2472	5.0	5.0	5.0	5.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	1	2412	9.5	15.5	15.0	13.5	No
			2	2417	9.5	18.0	15.0	13.5	
			6	2437	9.5	18.0	15.0	13.5	
			9	2452	9.5	18.0	15.0	13.5	
			10	2457	9.5	18.0	15.0	13.5	
			11	2462	9.5	15.5	15.0	13.5	
			12	2467	9.5	13.0	13.0	13.0	
			13	2472	5.0	5.0	5.0	5.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	2 Tx CDD	36	5180	7.3	17.0	14.0	9.0	No
			40	5200	7.3	18.0	14.0	9.0	
			44	5220	7.3	18.0	14.0	9.0	
			48	5240	7.3	18.0	14.0	9.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	36	5180	7.3	17.0	14.0	9.0	No
			40	5200	7.3	18.0	14.0	9.0	
			44	5220	7.3	18.0	14.0	9.0	
			48	5240	7.3	18.0	14.0	9.0	
		2 Tx HT40 CDD/STBC/SDM	38	5190	7.3	15.0	14.0	9.0	Yes
			46	5230	7.3	19.5	14.0	9.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	36	5180	7.3	17.0	14.0	9.0	No
			40	5200	7.3	18.0	14.0	9.0	
			44	5220	7.3	18.0	14.0	9.0	
			48	5240	7.3	18.0	14.0	9.0	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	7.3	15.0	14.0	9.0	No
			46	5230	7.3	19.5	14.0	9.0	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	7.3	15.0	14.0	9.0	Yes
5.3	802.11a	2 Tx CDD	52	5260	5.8	18.0	13.0	9.5	No
			56	5280	5.8	18.0	13.0	9.5	
			60	5300	5.8	18.0	13.0	9.5	
			64	5320	5.8	16.0	13.0	9.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	52	5260	5.8	18.0	13.0	9.5	No
			56	5280	5.8	18.0	13.0	9.5	
			60	5300	5.8	18.0	13.0	9.5	
			64	5320	5.8	16.0	13.0	9.5	
		2 Tx HT40 CDD/STBC/SDM	54	5270	5.8	19.5	13.0	9.5	No
			62	5310	5.8	15.0	13.0	9.5	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	52	5260	5.8	18.0	13.0	9.5	No
			56	5280	5.8	18.0	13.0	9.5	
			60	5300	5.8	18.0	13.0	9.5	
			64	5320	5.8	16.0	13.0	9.5	
		2 Tx VHT40 CDD/STBC/SDM	54	5270	5.8	19.5	13.0	9.5	No
			62	5310	5.8	15.0	13.0	9.5	
		2 Tx VHT80 CDD/STBC/SDM	58	5290	5.8	14.5	13.0	9.5	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	2 Tx CDD	100	5500	4.5	16.0	11.5	10.0	No
			104	5520	4.5	18.0	11.5	10.0	
			108	5540	4.5	18.0	11.5	10.0	
			112	5560	4.5	18.0	11.5	10.0	
			116	5580	4.5	18.0	11.5	10.0	
			120	5600	4.5	18.0	11.5	10.0	
			124	5620	4.5	18.0	11.5	10.0	
			128	5640	4.5	18.0	11.5	10.0	
			132	5660	4.5	18.0	11.5	10.0	
			136	5680	4.5	18.0	11.5	10.0	
			140	5700	4.5	16.5	11.5	10.0	
			144	5720	4.5	18.0	11.5	10.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	100	5500	4.5	16.0	11.5	10.0	No
			104	5520	4.5	18.0	11.5	10.0	
			108	5540	4.5	18.0	11.5	10.0	
			112	5560	4.5	18.0	11.5	10.0	
			116	5580	4.5	18.0	11.5	10.0	
			120	5600	4.5	18.0	11.5	10.0	
			124	5620	4.5	18.0	11.5	10.0	
			128	5640	4.5	18.0	11.5	10.0	
			132	5660	4.5	18.0	11.5	10.0	
			136	5680	4.5	18.0	11.5	10.0	
			140	5700	4.5	16.5	11.5	10.0	
			144	5720	4.5	18.0	11.5	10.0	
		2 Tx HT40 CDD/STBC/ SDM	102	5510	4.5	15.0	11.5	10.0	yes
			110	5550	4.5	19.5	11.5	10.0	
			118	5590	4.5	19.5	11.5	10.0	
			126	5630	4.5	19.5	11.5	10.0	
			134	5670	4.5	17.5	11.5	10.0	
			142	5710	4.5	19.5	11.5	10.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	100	5500	4.5	16.0	11.5	10.0	No
			104	5520	4.5	18.0	11.5	10.0	
			108	5540	4.5	18.0	11.5	10.0	
			112	5560	4.5	18.0	11.5	10.0	
			116	5580	4.5	18.0	11.5	10.0	
			120	5600	4.5	18.0	11.5	10.0	
			124	5620	4.5	18.0	11.5	10.0	
			128	5640	4.5	18.0	11.5	10.0	
			132	5660	4.5	18.0	11.5	10.0	
			136	5680	4.5	18.0	11.5	10.0	
			140	5700	4.5	16.5	11.5	10.0	
			144	5720	4.5	18.0	11.5	10.0	
		2 Tx VHT40 CDD/STBC/ SDM	102	5510	4.5	15.0	11.5	10.0	No
			110	5550	4.5	19.5	11.5	10.0	
			118	5590	4.5	19.5	11.5	10.0	
			126	5630	4.5	19.5	11.5	10.0	
			134	5670	4.5	17.5	11.5	10.0	
			142	5710	4.5	19.5	11.5	10.0	
2 Tx VHT80 CDD/STBC/ SDM		106	5530	4.5	14.5	11.5	10.0	Yes	
		122	5610	4.5	19.0	11.5	10.0		
		138	5690	4.5	19.0	11.5	10.0		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	2 Tx CDD	149	5745	5.3	19.8	11.5	10.3	Yes
			153	5765	5.3	19.8	11.5	10.3	
			157	5785	5.3	19.8	11.5	10.3	
			161	5805	5.3	19.8	11.5	10.3	
			165	5825	5.3	19.8	11.5	10.3	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	5.3	19.8	11.5	10.3	No
			153	5765	5.3	19.8	11.5	10.3	
			157	5785	5.3	19.8	11.5	10.3	
			161	5805	5.3	19.8	11.5	10.3	
			165	5825	5.3	19.8	11.5	10.3	
		2 Tx HT40 CDD/STBC/SDM	151	5755	5.3	19.5	11.5	10.3	No
			159	5795	5.3	19.5	11.5	10.3	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	5.3	19.8	11.5	10.3	No
			153	5765	5.3	19.8	11.5	10.3	
			157	5785	5.3	19.8	11.5	10.3	
			161	5805	5.3	19.8	11.5	10.3	
			165	5825	5.3	19.8	11.5	10.3	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	5.3	19.5	11.5	10.3	No
			159	5795	5.3	19.5	11.5	10.3	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	5.3	19.0	11.5	10.3	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.3. WLAN SISO ($P_{\text{Cell_OFF}}$)

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

$P_{\text{Cell_OFF}}$: This will be used when only Wi-Fi radios is ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 DSSS	802.11b	1 Tx	1	2412	14.8	19.0	18.3	18.8	Yes
			2	2417	14.8	20.0	18.3	18.8	
			3	2422	14.8	20.0	18.3	18.8	
			4	2427	14.8	21.5	18.3	18.8	
			5	2432	14.8	21.5	18.3	18.8	
			6	2437	14.8	21.5	18.3	18.8	
			7	2442	14.8	20.0	18.3	18.8	
			8	2447	14.8	19.5	18.3	18.8	
			10	2457	14.8	19.5	18.3	18.8	
			11	2462	14.8	19.0	18.3	18.8	
			12	2467	14.8	18.5	18.3	18.5	
			13	2472	14.8	17.0	17.0	17.0	
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	1 Tx	1	2412	14.8	16.5	16.5	16.5	No
			2	2417	14.8	19.0	18.3	18.8	
			3	2422	14.8	21.0	18.3	18.8	
			4	2427	14.8	21.0	18.3	18.8	
			5	2432	14.8	21.0	18.3	18.8	
			6	2437	14.8	21.0	18.3	18.8	
			7	2442	14.8	21.0	18.3	18.8	
			8	2447	14.8	21.0	18.3	18.8	
			9	2452	14.8	21.0	18.3	18.8	
			10	2457	14.8	19.0	18.3	18.8	
			11	2462	14.8	16.5	16.5	16.5	
			12	2467	14.0	14.0	14.0	14.0	
			13	2472	6.0	6.0	6.0	6.0	
	802.11n	1 Tx HT20	1	2412	14.8	16.5	16.5	16.5	No
			2	2417	14.8	19.0	18.3	18.8	
			3	2422	14.8	21.0	18.3	18.8	
			4	2427	14.8	21.0	18.3	18.8	
			5	2432	14.8	21.0	18.3	18.8	
			6	2437	14.8	21.0	18.3	18.8	
			7	2442	14.8	21.0	18.3	18.8	
			8	2447	14.8	21.0	18.3	18.8	
			9	2452	14.8	21.0	18.3	18.8	
			10	2457	14.8	19.0	18.3	18.8	
			11	2462	14.8	16.5	16.5	16.5	
			12	2467	14.0	14.0	14.0	14.0	
			13	2472	6.0	6.0	6.0	6.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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. Sec. 5.2.2. of KDB 248227 D01 states: 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 $\leq 1.2 \text{ W/kg}$.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	1 Tx	36	5180	15.0	17.5	17.5	15.8	No
			40	5200	15.0	19.5	18.3	15.8	
			44	5220	15.0	21.0	18.3	15.8	
			48	5240	15.0	21.0	18.3	15.8	
	802.11n	1 Tx HT20	36	5180	15.0	17.5	17.5	15.8	No
			40	5200	15.0	19.5	18.3	15.8	
			44	5220	15.0	21.0	18.3	15.8	
			48	5240	15.0	21.0	18.3	15.8	
		1 Tx HT40	38	5190	15.0	16.5	16.5	15.8	Yes
			46	5230	15.0	19.5	18.3	15.8	
	802.11ac	1 Tx VHT20	36	5180	15.0	17.5	17.5	15.8	No
			40	5200	15.0	19.5	18.3	15.8	
			44	5220	15.0	21.0	18.3	15.8	
			48	5240	15.0	21.0	18.3	15.8	
		1 Tx VHT40	38	5190	15.0	16.5	16.5	15.8	No
			46	5230	15.0	19.5	18.3	15.8	
		1 Tx VHT80	42	5210	15.0	15.5	15.5	15.5	Yes
5.3	802.11a	1 Tx	52	5260	13.5	21.0	17.3	16.3	Yes
			56	5280	13.5	21.0	17.3	16.3	
			60	5300	13.5	19.5	17.3	16.3	
			64	5320	13.5	16.5	16.5	16.3	
	802.11n	1 Tx HT20	52	5260	13.5	21.0	17.3	16.3	No
			56	5280	13.5	21.0	17.3	16.3	
			60	5300	13.5	19.5	17.3	16.3	
			64	5320	13.5	16.5	16.5	16.3	
		1 Tx HT40	54	5270	13.5	19.5	17.3	16.3	Yes
			62	5310	13.5	15.5	15.5	15.5	
	802.11ac	1 Tx VHT20	52	5260	13.5	21.0	17.3	16.3	No
			56	5280	13.5	21.0	17.3	16.3	
			60	5300	13.5	19.5	17.3	16.3	
			64	5320	13.5	16.5	16.5	16.3	
		1 Tx VHT40	54	5270	13.5	19.5	17.3	16.3	No
			62	5310	13.5	15.5	15.5	15.5	
		1 Tx VHT80	58	5290	13.5	15.0	15.0	15.0	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	1 Tx	100	5500	12.3	16.5	15.8	16.5	Yes
			104	5520	12.3	19.5	15.8	16.8	
			108	5540	12.3	21.0	15.8	16.8	
			112	5560	12.3	21.0	15.8	16.8	
			116	5580	12.3	21.0	15.8	16.8	
			120	5600	12.3	21.0	15.8	16.8	
			124	5620	12.3	21.0	15.8	16.8	
			128	5640	12.3	21.0	15.8	16.8	
			132	5660	12.3	21.0	15.8	16.8	
			136	5680	12.3	19.5	15.8	16.8	
			140	5700	12.3	17.0	15.8	16.8	
			144	5720	12.3	21.0	15.8	16.8	
	802.11n	1 Tx HT20	100	5500	12.3	16.5	15.8	16.5	No
			104	5520	12.3	19.5	15.8	16.8	
			108	5540	12.3	21.0	15.8	16.8	
			112	5560	12.3	21.0	15.8	16.8	
			116	5580	12.3	21.0	15.8	16.8	
			120	5600	12.3	21.0	15.8	16.8	
			124	5620	12.3	21.0	15.8	16.8	
			128	5640	12.3	21.0	15.8	16.8	
			132	5660	12.3	21.0	15.8	16.8	
			136	5680	12.3	19.5	15.8	16.8	
			140	5700	12.3	17.0	15.8	16.8	
			144	5720	12.3	21.0	15.8	16.8	
		1 Tx HT40	102	5510	12.3	15.5	15.5	15.5	No
			110	5550	12.3	19.5	15.8	16.8	
			118	5590	12.3	19.5	15.8	16.8	
			126	5630	12.3	19.5	15.8	16.8	
			134	5670	12.3	18.0	15.8	16.8	
			142	5710	12.3	19.5	15.8	16.8	
	802.11ac	1 Tx VHT20	100	5500	12.3	16.5	15.8	16.5	No
			104	5520	12.3	19.5	15.8	16.8	
			108	5540	12.3	21.0	15.8	16.8	
			112	5560	12.3	21.0	15.8	16.8	
			116	5580	12.3	21.0	15.8	16.8	
			120	5600	12.3	21.0	15.8	16.8	
			124	5620	12.3	21.0	15.8	16.8	
			128	5640	12.3	21.0	15.8	16.8	
			132	5660	12.3	21.0	15.8	16.8	
			136	5680	12.3	19.5	15.8	16.8	
			140	5700	12.3	17.0	15.8	16.8	
			144	5720	12.3	21.0	15.8	16.8	
		1 Tx VHT40	102	5510	12.3	15.5	15.5	15.5	No
			110	5550	12.3	19.5	15.8	16.8	
			118	5590	12.3	19.5	15.8	16.8	
			126	5630	12.3	19.5	15.8	16.8	
			134	5670	12.3	18.0	15.8	16.8	
			142	5710	12.3	19.5	15.8	16.8	
		1 Tx VHT80	106	5530	12.3	15.0	15.0	15.0	Yes
122			5610	12.3	19.0	15.8	16.8		
138			5690	12.3	19.0	15.8	16.8		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	1 Tx	149	5745	13.0	21.0	15.8	17.0	Yes
			153	5765	13.0	21.0	15.8	17.0	
			157	5785	13.0	21.0	15.8	17.0	
			161	5805	13.0	21.0	15.8	17.0	
			165	5825	13.0	21.0	15.8	17.0	
	802.11n	1 Tx HT20	149	5745	13.0	21.0	15.8	17.0	No
			153	5765	13.0	21.0	15.8	17.0	
			157	5785	13.0	21.0	15.8	17.0	
			161	5805	13.0	21.0	15.8	17.0	
			165	5825	13.0	21.0	15.8	17.0	
		1 Tx HT40	151	5755	13.0	19.5	15.8	17.0	No
			159	5795	13.0	19.5	15.8	17.0	
	802.11ac	1 Tx VHT20	149	5745	13.0	21.0	15.8	17.0	No
			153	5765	13.0	21.0	15.8	17.0	
			157	5785	13.0	21.0	15.8	17.0	
			161	5805	13.0	21.0	15.8	17.0	
			165	5825	13.0	21.0	15.8	17.0	
		1 Tx VHT40	151	5755	13.0	19.5	15.8	17.0	No
			159	5795	13.0	19.5	15.8	17.0	
		1 Tx VHT80	155	5775	13.0	19.0	15.8	17.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.4. WLAN MIMO (P_{Cell_OFF})

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

P_{Cell_OFF} : This will be used when only Wi-Fi radios is ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

Dependent WPA-Power Control									
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	2 Tx CDD	1	2412	14.8	15.5	15.5	15.5	Yes
			2	2417	14.8	18.0	18.0	18.0	
			3	2422	14.8	19.5	18.3	18.8	
			4	2427	14.8	21.0	18.3	18.8	
			5	2432	14.8	21.0	18.3	18.8	
			6	2437	14.8	21.0	18.3	18.8	
			7	2442	14.8	21.0	18.3	18.8	
			8	2447	14.8	21.0	18.3	18.8	
			9	2452	14.8	19.5	18.3	18.8	
			10	2457	14.8	18.0	18.0	18.0	
			11	2462	14.8	15.5	15.5	15.5	
			12	2467	13.0	13.0	13.0	13.0	
			13	2472	5.0	5.0	5.0	5.0	
	802.11g	2 Tx HT20 CDD/STBC/ SDM	1	2412	14.8	15.5	15.5	15.5	No
			2	2417	14.8	18.0	18.0	18.0	
			3	2422	14.8	19.5	18.3	18.8	
			4	2427	14.8	21.0	18.3	18.8	
			5	2432	14.8	21.0	18.3	18.8	
			6	2437	14.8	21.0	18.3	18.8	
			7	2442	14.8	21.0	18.3	18.8	
			8	2447	14.8	21.0	18.3	18.8	
			9	2452	14.8	19.5	18.3	18.8	
			10	2457	14.8	18.0	18.0	18.0	
			11	2462	14.8	15.5	15.5	15.5	
			12	2467	13.0	13.0	13.0	13.0	
			13	2472	5.0	5.0	5.0	5.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	2 Tx CDD	36	5180	15.0	17.0	17.0	15.8	No
			40	5200	15.0	18.0	18.0	15.8	
			44	5220	15.0	18.0	18.0	15.8	
			48	5240	15.0	18.0	18.0	15.8	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	36	5180	15.0	17.0	17.0	15.8	No
			40	5200	15.0	18.0	18.0	15.8	
			44	5220	15.0	18.0	18.0	15.8	
			48	5240	15.0	18.0	18.0	15.8	
		2 Tx HT40 CDD/STBC/SDM	38	5190	15.0	15.0	15.0	15.0	Yes
			46	5230	15.0	19.5	18.3	15.8	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	36	5180	15.0	17.0	17.0	15.8	No
			40	5200	15.0	18.0	18.0	15.8	
			44	5220	15.0	18.0	18.0	15.8	
			48	5240	15.0	18.0	18.0	15.8	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	15.0	15.0	15.0	15.0	No
			46	5230	15.0	19.5	18.3	15.8	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	15.0	15.0	15.0	15.0	No
5.3			802.11a	2 Tx CDD	52	5260	13.5	18.0	17.3
	56	5280			13.5	18.0	17.3	16.3	
	60	5300			13.5	18.0	17.3	16.3	
	64	5320			13.5	16.0	16.0	16.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	52	5260	13.5	18.0	17.3	16.3	No
			56	5280	13.5	18.0	17.3	16.3	
			60	5300	13.5	18.0	17.3	16.3	
			64	5320	13.5	16.0	16.0	16.0	
		2 Tx HT40 CDD/STBC/SDM	54	5270	13.5	19.5	17.3	16.3	No
			62	5310	13.5	15.0	15.0	15.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	52	5260	13.5	18.0	17.3	16.3	No
			56	5280	13.5	18.0	17.3	16.3	
60			5300	13.5	18.0	17.3	16.3		
64			5320	13.5	16.0	16.0	16.0		
2 Tx VHT40 CDD/STBC/SDM		54	5270	13.5	19.5	17.3	16.3	No	
		62	5310	13.5	15.0	15.0	15.0		
2 Tx VHT80 CDD/STBC/SDM		58	5290	13.5	14.5	14.5	14.5	No	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)	
					MODE A		MODE B			
					UAT 2	LAT 3	UAT 2	LAT 3		
5.5	802.11a	2 Tx CDD	100	5500	12.3	16.0	15.8	16.0	No	
			104	5520	12.3	18.0	15.8	16.8		
			108	5540	12.3	18.0	15.8	16.8		
			112	5560	12.3	18.0	15.8	16.8		
			116	5580	12.3	18.0	15.8	16.8		
			120	5600	12.3	18.0	15.8	16.8		
			124	5620	12.3	18.0	15.8	16.8		
			128	5640	12.3	18.0	15.8	16.8		
			132	5660	12.3	18.0	15.8	16.8		
			136	5680	12.3	18.0	15.8	16.8		
			140	5700	12.3	16.5	15.8	16.5		
			144	5720	12.3	18.0	15.8	16.8		
	802.11n	2 Tx HT20 CDD/STBC/ SDM	100	5500	12.3	16.0	15.8	16.0	No	
			104	5520	12.3	18.0	15.8	16.8		
			108	5540	12.3	18.0	15.8	16.8		
			112	5560	12.3	18.0	15.8	16.8		
			116	5580	12.3	18.0	15.8	16.8		
			120	5600	12.3	18.0	15.8	16.8		
			124	5620	12.3	18.0	15.8	16.8		
			128	5640	12.3	18.0	15.8	16.8		
			132	5660	12.3	18.0	15.8	16.8		
			136	5680	12.3	18.0	15.8	16.8		
			140	5700	12.3	16.5	15.8	16.5		
			144	5720	12.3	18.0	15.8	16.8		
		2 Tx HT40 CDD/STBC/ SDM	102	5510	12.3	15.0	15.0	15.0	Yes	
			110	5550	12.3	19.5	15.8	16.8		
			118	5590	12.3	19.5	15.8	16.8		
			126	5630	12.3	19.5	15.8	16.8		
			134	5670	12.3	17.5	15.8	16.8		
			142	5710	12.3	19.5	15.8	16.8		
		802.11ac	2 Tx VHT20 CDD/STBC/ SDM	100	5500	12.3	16.0	15.8	16.0	No
				104	5520	12.3	18.0	15.8	16.8	
	108			5540	12.3	18.0	15.8	16.8		
	112			5560	12.3	18.0	15.8	16.8		
	116			5580	12.3	18.0	15.8	16.8		
	120			5600	12.3	18.0	15.8	16.8		
	124			5620	12.3	18.0	15.8	16.8		
	128			5640	12.3	18.0	15.8	16.8		
	132			5660	12.3	18.0	15.8	16.8		
	136			5680	12.3	18.0	15.8	16.8		
	140			5700	12.3	16.5	15.8	16.5		
	144			5720	12.3	18.0	15.8	16.8		
	2 Tx VHT40 CDD/STBC/ SDM		102	5510	12.3	15.0	15.0	15.0	No	
			110	5550	12.3	19.5	15.8	16.8		
			118	5590	12.3	19.5	15.8	16.8		
			126	5630	12.3	19.5	15.8	16.8		
			134	5670	12.3	17.5	15.8	16.8		
			142	5710	12.3	19.5	15.8	16.8		
	2 Tx VHT80 CDD/STBC/ SDM		106	5530	12.3	14.5	14.5	14.5	Yes	
			122	5610	12.3	19.0	15.8	16.8		
			138	5690	12.3	19.0	15.8	16.8		

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	2 Tx CDD	149	5745	13.0	21.0	15.8	17.0	Yes
			153	5765	13.0	21.0	15.8	17.0	
			157	5785	13.0	21.0	15.8	17.0	
			161	5805	13.0	21.0	15.8	17.0	
			165	5825	13.0	21.0	15.8	17.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	13.0	21.0	15.8	17.0	No
			153	5765	13.0	21.0	15.8	17.0	
			157	5785	13.0	21.0	15.8	17.0	
			161	5805	13.0	21.0	15.8	17.0	
			165	5825	13.0	21.0	15.8	17.0	
		2 Tx HT40 CDD/STBC/SDM	151	5755	13.0	19.5	15.8	17.0	No
			159	5795	13.0	19.5	15.8	17.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	13.0	21.0	15.8	17.0	No
			153	5765	13.0	21.0	15.8	17.0	
			157	5785	13.0	21.0	15.8	17.0	
			161	5805	13.0	21.0	15.8	17.0	
			165	5825	13.0	21.0	15.8	17.0	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	13.0	19.5	15.8	17.0	No
			159	5795	13.0	19.5	15.8	17.0	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	13.0	19.0	15.8	17.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = 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.

6.3.5. WLAN ($P_{\text{Cell_MAX}}$) and Bluetooth (P_{max})

The maximum output power listed within this Section is only applicable when the device is placed on a proprietary wireless charger. The wireless charger is a desktop device. When the DUT is placed on top of the wireless charger during charging, the DUT shall be kept at least 20cm away from the user in this configuration and is considered to be a mobile device. Refer to the separate MPE Report for evaluation in this use case.

UAT 1 and LAT 3

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
			802.11b (1Tx)	802.11g (1Tx)	HT20 (1Tx)	HT20 (2Tx)
2.4	1	2412	19.0	16.5	16.5	15.5
	2	2417	20.0	19.0	19.0	18.0
	3	2422	20.0	21.0	21.0	19.5
	4	2427	21.5	21.0	21.0	21.0
	5	2432	21.5	21.0	21.0	21.0
	6	2437	21.5	21.0	21.0	21.0
	7	2442	20.0	21.0	21.0	21.0
	8	2447	19.5	21.0	21.0	21.0
	9	2452	19.5	21.0	21.0	19.5
	10	2457	19.5	19.0	19.0	18.0
	11	2462	19.0	16.5	16.5	15.5
	12	2467	18.5	14.0	14.0	13.0
	13	2472	17.0	6.0	6.0	5.0

UAT 2 and LAT 3

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)		
			802.11a (1Tx)	HT20 (1Tx)	HT20 (2Tx)
5GHz	36	5180	17.5	17.5	17.0
	40	5200	19.5	19.5	18.0
	44	5220	21.0	21.0	18.0
	48	5240	21.0	21.0	18.0
	52	5260	21.0	21.0	18.0
	56	5280	21.0	21.0	18.0
	60	5300	19.5	19.5	18.0
	64	5320	16.5	16.5	16.0
	100	5500	16.5	16.5	16.0
	104	5520	19.5	19.5	18.0
	108	5540	21.0	21.0	18.0
	112	5560	21.0	21.0	18.0
	116	5580	21.0	21.0	18.0
	120	5600	21.0	21.0	18.0
	124	5620	21.0	21.0	18.0
	128	5640	21.0	21.0	18.0
	132	5660	21.0	21.0	18.0
	136	5680	19.5	19.5	18.0
	140	5700	17.0	17.0	16.5
	144	5720	21.0	21.0	18.0
	149	5745	21.0	21.0	21.0
	153	5765	21.0	21.0	21.0
	157	5785	21.0	21.0	21.0
	161	5805	21.0	21.0	21.0
	165	5825	21.0	21.0	21.0

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
			HT40 (1Tx)	HT40 (2Tx)
5GHz	38	5190	16.5	15.0
	46	5230	19.5	19.5
	54	5270	19.5	19.5
	62	5310	15.5	15.0
	102	5510	15.5	15.0
	110	5550	19.5	19.5
	118	5590	19.5	19.5
	126	5630	19.5	19.5
	134	5670	18.0	17.5
	142	5710	19.5	19.5
	151	5755	19.5	19.5
	159	5795	19.5	19.5

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
			VHT80 (1Tx)	VHT80 (2Tx)
5GHz	42	5210	15.5	15.0
	58	5290	15.0	14.5
	106	5530	15.0	14.5
	122	5610	19.0	19.0
	138	5690	19.0	19.0
	155	5775	19.0	19.0

UAT 1 and LAT 3

RF Air interface	Mode	Max. Avg. RF Output Power (dBm)	
		UAT 1	LAT 3
Bluetooth P _{max}	GFSK	20.0	20.0

6.4. 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
	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
	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
	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
	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
	Low			20450/ 829	20425/ 826.5	20415/ 825.5
						20407/ 824.7
	Mid			20525/ 836.5	20525/ 836.5	20525/ 836.5
						20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5
						20643/ 848.3
	Band 7	Frequency range: 2500 - 2570 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low	20850 2510	20825 2507.5	20800 2505	20775 2502.5	
	Mid	21100 2535	21100 2535	21100 2535	21100 2535	
	High	21350 2560	21375 2562.5	21400 2565	21425 2567.5	
	Band 12	Frequency range: 699 – 716 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low				23035/ 701.5	23025/ 700.5
						23017/ 699.7
	Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5
						23095/ 707.5
	High				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
	Low					
	Mid			23230/ 782	23230/ 782	
	High					

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 17	Frequency range: 704 - 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23755/ 706.5		
	Mid			23790/ 710	23790/ 710		
	High				23825/ 713.5		
	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			26740/ 819	26715/ 816.5	26705/ 815.5	26697/ 814.7
	Mid			26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5
	High			26990/ 844	27015/ 846.5	27025/ 847.5	27033/ 848.3
	Band 30	Frequency range: 2305 - 2315 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low						
	Mid			27710/ 2310	27710/ 2310		
	High						
	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		
	Mid	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745		
	High	132572/ 1770	132597/ 1772.5	132622/ 1775	132647/ 1777.5		
LTE transmitter and antenna implementation	LTE can transmit from either UAT 1 or LAT 1. The antenna switching is implemented with a physical, "break-before-make" switch such that only one antenna can be used for LTE transmission at a time.						

Maximum power reduction (MPR)	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table> MPR Built-in by design. The manufacturer Target 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.	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
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																																																																
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. SAR Testing for LTE was performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

6.5. 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.

SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.

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	$26336 \cdot T_s$			$7680 \cdot T_s$		
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
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 $\times (T_s) \times \#$ of S + $\#$ of U

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle = $5120 \times [1/(15000 \times 2048)] \times 2 + 6 \text{ ms} = 63.33\%$

where

$T_s = 1/(15000 \times 2048)$ seconds

Note(s):

This device supports uplink-downlink configurations 0-6. The configuration with highest duty cycle was used-configuration 0 at 63.3% duty cycle.

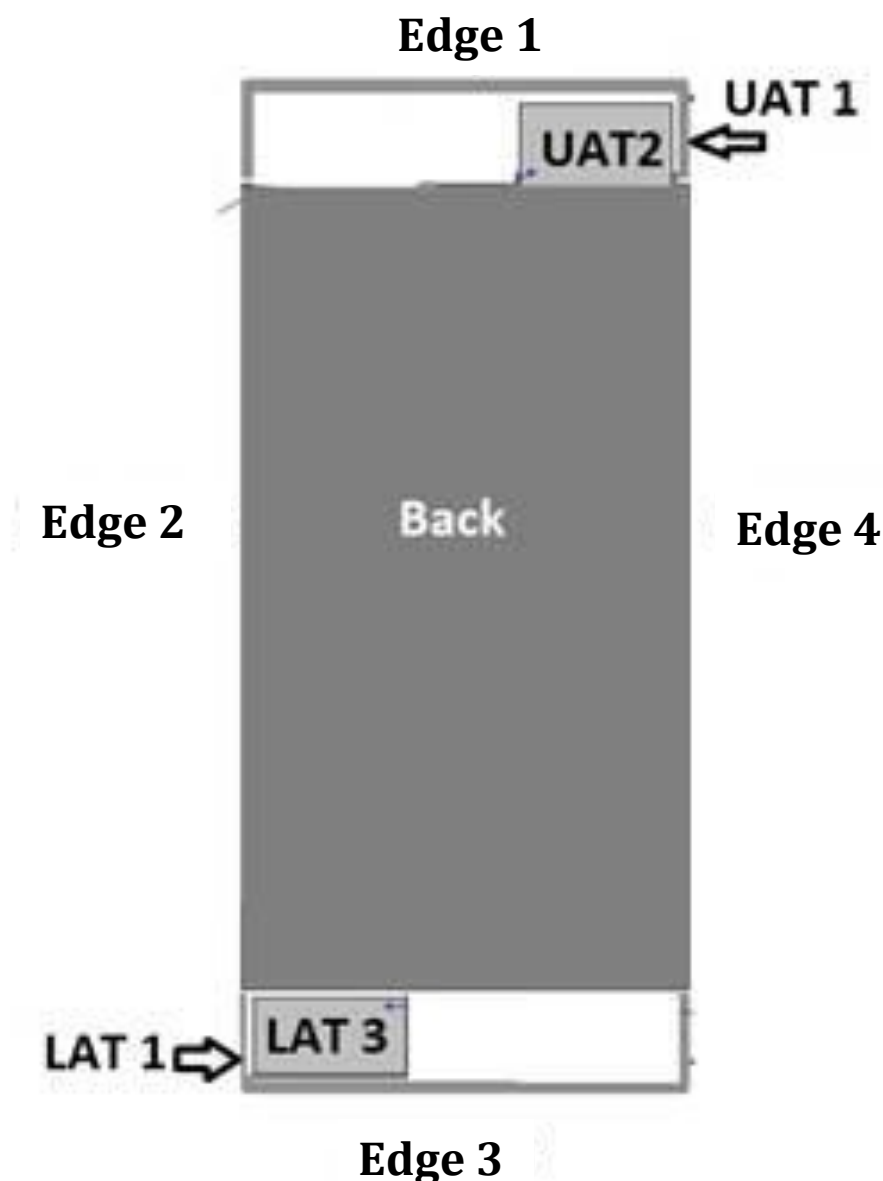
7. RF Exposure Conditions (Test Configurations)

WWAN antennas are located near the upper and lower edge of the device. The upper antenna for 2.4 GHz WLAN and Bluetooth (UAT 1) is shared and is located near the upper right corner of the device, while the upper antenna for 5 GHz WLAN (UAT 2) is located near the upper left corner of the device. All WLAN bands and Bluetooth share the same lower antenna (LAT3), and this is located near the lower right corner of the device. Refer to Antenna Diagram below:

Refer to separate filing submission document for the proprietary design details of the antenna-to-antenna and antenna-to-edge(s) distances.

The Body-worn accessory test configurations were tested using a conservative minimum test separation distance of 5 mm.

Antenna Diagram



Upper Antenna

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN (UAT 1)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	< 25 mm	Yes	
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	
WLAN 2.4 GHz and Bluetooth (UAT 1)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	< 25 mm	Yes	
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	
WLAN 5 GHz (UAT 2)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	< 25 mm	Yes	
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
2. The Body-worn minimum separation distance is 5 mm. To cover both body-worn and hotspot RF exposure conditions testing was performed at a separation distance of 5 mm.

Lower Antenna

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN (LAT 1)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 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	
WLAN and Bluetooth (LAT 3)	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 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	

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
2. The Body-worn minimum separation distance is 5 mm. To cover both body-worn and hotspot RF exposure conditions testing was performed at a separation distance of 5 mm.

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 $\pm 2^\circ\text{C}$ of the temperature when the tissue parameters are characterized.

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

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

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

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
A	6/30/2017	835	Body	835	54.10	55.20	-1.99	1.01	0.97	4.33
				805	54.43	55.33	-1.63	0.98	0.97	1.47
				905	53.42	55.00	-2.87	1.09	1.05	3.09
A	7/5/2017	835	Body	835	53.39	55.20	-3.28	1.01	0.97	4.43
				805	53.68	55.33	-2.99	0.97	0.97	-0.22
				905	52.66	55.00	-4.25	1.07	1.05	1.19
A	7/7/2017	2300	Head	2300	39.00	39.47	-1.20	1.72	1.66	3.56
				2350	38.81	39.38	-1.46	1.78	1.71	4.12
				2400	39.30	39.30	-1.77	1.83	1.75	4.59
A	7/9/2017	835	Body	835	54.09	55.20	-2.01	0.98	0.97	1.47
				805	54.32	55.33	-1.83	0.96	0.97	-1.04
				905	53.43	55.00	-2.85	1.06	1.05	0.24
A	7/9/2017	2300	Body	2300	51.84	52.90	-2.01	1.85	1.80	2.58
				2350	51.69	52.84	-2.17	1.91	1.85	3.20
				2400	51.56	52.77	-2.30	1.97	1.90	3.63
A	7/9/2017	2300	Head	2300	38.41	39.47	-2.69	1.71	1.66	2.54
				2350	38.21	39.38	-2.98	1.76	1.71	2.95
				2400	38.03	39.30	-3.22	1.81	1.75	3.33
A	7/12/2017	2600	Body	2600	50.17	52.51	-4.46	2.23	2.16	3.02
				2495	50.42	52.64	-4.22	2.09	2.01	3.86
				2690	49.91	52.40	-4.75	2.33	2.29	1.91
A	7/14/2017	2600	Head	2600	37.69	39.01	-3.39	2.01	1.96	2.44
				2495	38.11	39.14	-2.64	1.89	1.85	2.40
				2690	37.29	38.90	-4.13	2.11	2.06	2.26
A	7/17/2017	2300	Head	2300	39.90	39.47	1.08	1.70	1.66	1.94
				2350	39.70	39.38	0.80	1.75	1.71	2.24
				2400	39.55	39.30	0.64	1.80	1.75	2.59
A	7/17/2017	2300	Body	2300	52.46	52.90	-0.84	1.82	1.80	1.14
				2350	52.31	52.84	-1.00	1.88	1.85	1.42
				2400	52.18	52.77	-1.12	1.93	1.90	1.47
A	7/18/2017	835	Body	835	55.18	55.20	-0.04	1.00	0.97	2.98
				805	55.48	55.33	0.26	0.97	0.97	0.09
				905	54.58	55.00	-0.76	1.07	1.05	1.38
A	7/18/2017	2600	Head	2600	39.67	39.01	1.69	2.04	1.96	3.71
				2495	40.03	39.14	2.27	1.91	1.85	3.48
				2690	39.37	38.90	1.22	2.14	2.06	3.86
A	7/18/2017	2600	Body	2600	50.76	52.51	-3.33	2.20	2.16	1.67
				2495	51.17	52.64	-2.80	2.08	2.01	3.12
				2690	50.49	52.40	-3.64	2.30	2.29	0.73
A	7/21/2017	2600	Head	2600	37.79	39.01	-3.13	2.02	1.96	3.10
				2495	38.14	39.14	-2.56	1.90	1.85	2.94
				2690	37.50	38.90	-3.59	2.13	2.06	3.18
A	7/21/2017	2600	Body	2600	51.99	52.51	-0.99	2.22	2.16	2.83
				2495	52.33	52.64	-0.60	2.09	2.01	4.01
				2690	51.86	52.40	-1.03	2.33	2.29	1.95

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
B	6/30/2017	750	Body	750	53.62	55.55	-3.47	0.96	0.96	0.13
				695	54.15	55.76	-2.88	0.91	0.96	-4.65
				790	53.24	55.39	-3.89	1.01	0.97	4.02
B	7/1/2017	750	Head	750	41.87	41.96	-0.22	0.93	0.89	4.08
				695	42.69	42.24	1.06	0.88	0.89	-1.56
				790	41.31	41.76	-1.07	0.97	0.90	8.21
B	7/7/2017	1750	Body	1750	51.21	53.44	-4.17	1.49	1.49	0.12
				1710	51.36	53.54	-4.08	1.45	1.46	-0.93
				1755	51.19	53.43	-4.19	1.49	1.49	0.32
B	7/9/2017	1750	Head	1750	38.23	40.08	-4.63	1.35	1.37	-1.75
				1710	38.40	40.15	-4.35	1.31	1.35	-3.08
				1755	38.19	40.08	-4.71	1.35	1.37	-1.52
B	7/10/2017	1750	Body	1750	51.11	53.44	-4.36	1.51	1.49	1.60
				1710	51.15	53.54	-4.47	1.47	1.46	0.72
				1755	51.07	53.43	-4.41	1.52	1.49	1.86
B	7/13/2017	1750	Head	1750	38.68	40.08	-3.50	1.36	1.37	-0.51
				1710	38.86	40.15	-3.20	1.32	1.35	-2.04
				1755	38.65	40.08	-3.56	1.37	1.37	-0.35
B	7/13/2017	1750	Body	1750	51.38	53.44	-3.86	1.43	1.49	-4.11
				1710	51.40	53.54	-4.00	1.39	1.46	-4.89
				1755	51.37	53.43	-3.85	1.43	1.49	-3.84
B	7/16/2017	2450	Body	2450	50.26	52.70	-4.63	2.05	1.95	4.92
				2400	50.54	52.77	-4.23	1.98	1.90	4.16
				2480	50.12	52.66	-4.83	2.09	1.99	4.91
B	7/17/2017	2450	Head	2450	39.60	39.20	1.02	1.81	1.80	0.72
				2400	39.75	39.30	1.15	1.75	1.75	0.13
				2480	39.48	39.16	0.81	1.85	1.83	0.69
B	7/20/2017	2450	Body	2450	51.48	52.70	-2.31	2.01	1.95	2.82
				2400	51.68	52.77	-2.07	1.94	1.90	2.21
				2480	51.37	52.66	-2.45	2.04	1.99	2.55
B	7/21/2017	2450	Head	2450	39.51	39.20	0.79	1.86	1.80	3.11
				2400	39.73	39.30	1.10	1.79	1.75	2.02
				2480	39.41	39.16	0.63	1.89	1.83	3.09

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
C	7/1/2017	1900	Body	1900	51.96	53.30	-2.51	1.57	1.52	3.29
				1850	52.10	53.30	-2.25	1.52	1.52	0.26
				1920	51.94	53.30	-2.55	1.59	1.52	4.54
C	7/1/2017	1900	Head	1900	40.20	40.00	0.50	1.45	1.40	3.50
				1850	40.39	40.00	0.98	1.40	1.40	0.00
				1920	40.15	40.00	0.37	1.47	1.40	4.86
C	7/5/2017	1900	Body	1900	51.93	53.30	-2.57	1.54	1.52	1.45
				1850	51.94	53.30	-2.55	1.51	1.52	-0.72
				1920	51.98	53.30	-2.48	1.56	1.52	2.43
C	7/5/2017	1900	Head	1900	38.68	40.00	-3.30	1.38	1.40	-1.21
				1850	38.73	40.00	-3.18	1.35	1.40	-3.64
				1920	38.68	40.00	-3.30	1.39	1.40	-0.50
C	7/9/2017	1900	Head	1900	38.91	40.00	-2.73	1.45	1.40	3.71
				1850	39.13	40.00	-2.17	1.41	1.40	0.36
				1920	38.84	40.00	-2.90	1.47	1.40	4.93
C	7/9/2017	1900	Body	1900	50.83	53.30	-4.63	1.57	1.52	3.09
				1850	50.99	53.30	-4.33	1.52	1.52	0.13
				1920	50.78	53.30	-4.73	1.58	1.52	4.21
C	7/16/2017	1900	Head	1900	38.51	40.00	-3.73	1.42	1.40	1.14
				1850	38.72	40.00	-3.20	1.37	1.40	-2.14
				1920	38.39	40.00	-4.03	1.43	1.40	2.29
C	7/16/2017	1900	Body	1900	53.85	53.30	1.03	1.57	1.52	3.49
				1850	53.97	53.30	1.26	1.52	1.52	-0.07
				1920	53.75	53.30	0.84	1.59	1.52	4.54
C	7/19/2017	1900	Head	1900	39.99	40.00	-0.02	1.43	1.40	1.93
				1850	40.13	40.00	0.33	1.39	1.40	-1.00
				1920	39.91	40.00	-0.23	1.45	1.40	3.29
C	7/19/2017	1900	Body	1900	53.84	53.30	1.01	1.56	1.52	2.76
				1850	53.95	53.30	1.22	1.52	1.52	-0.07
				1920	53.78	53.30	0.90	1.58	1.52	3.95
C	7/23/2017	1900	Head	1900	38.76	40.00	-3.10	1.43	1.40	2.07
				1850	38.97	40.00	-2.58	1.39	1.40	-1.07
				1920	38.69	40.00	-3.28	1.44	1.40	3.14
C	7/23/2017	1900	Body	1900	52.60	53.30	-1.31	1.58	1.52	3.62
				1850	52.71	53.30	-1.11	1.53	1.52	0.46
				1920	52.56	53.30	-1.39	1.59	1.52	4.41

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
D	6/29/2017	835	Head	835	42.14	41.50	1.54	0.92	0.90	2.02
				805	42.55	41.68	2.09	0.89	0.90	-0.96
				905	41.33	41.50	-0.41	0.98	0.97	0.72
D	6/29/2017	835	Body	835	54.58	55.20	-1.12	1.01	0.97	3.81
				805	54.88	55.33	-0.82	0.98	0.97	0.90
				905	53.89	55.00	-2.02	1.07	1.05	1.85
D	7/2/2017	835	Head	835	41.89	41.50	0.94	0.91	0.90	1.52
				805	42.26	41.68	1.39	0.89	0.90	-1.32
				905	41.05	41.50	-1.08	0.98	0.97	0.80
D	7/5/2017	835	Head	835	42.84	41.50	3.23	0.92	0.90	2.64
				805	43.15	41.68	3.53	0.88	0.90	-2.34
				905	42.02	41.50	1.25	0.97	0.97	-0.58
D	7/6/2017	2600	Head	2600	37.88	39.01	-2.90	1.95	1.96	-0.87
				2495	38.24	39.14	-2.31	1.83	1.85	-0.85
				2690	37.59	38.90	-3.36	2.04	2.06	-1.09
D	7/8/2017	835	Head	835	43.10	41.50	3.86	0.93	0.90	2.98
				805	43.41	41.68	4.15	0.90	0.90	-0.20
				905	42.28	41.50	1.88	0.99	0.97	1.93
D	7/9/2017	835	Body	835	53.68	55.20	-2.75	0.99	0.97	1.67
				805	53.90	55.33	-2.59	0.96	0.97	-0.75
				905	52.98	55.00	-3.67	1.05	1.05	0.14
D	7/9/2017	2600	Head	2600	39.62	39.01	1.56	2.02	1.96	2.69
				2495	39.97	39.14	2.11	1.89	1.85	2.18
				2690	39.29	38.90	1.01	2.11	2.06	2.60
D	7/10/2017	2600	Body	2600	50.15	52.51	-4.50	2.25	2.16	3.94
				2495	50.44	52.64	-4.19	2.11	2.01	4.91
				2690	49.90	52.40	-4.77	2.37	2.29	3.62
D	7/13/2017	2600	Body	2600	50.48	52.51	-3.87	2.19	2.16	1.35
				2495	50.64	52.64	-3.81	2.07	2.01	2.67
				2690	50.31	52.40	-3.98	2.30	2.29	0.34
D	7/15/2017	2600	Head	2600	38.22	39.01	-2.03	2.03	1.96	3.46
				2495	38.59	39.14	-1.41	1.91	1.85	3.32
				2690	37.88	38.90	-2.62	2.13	2.06	3.38
D	7/17/2017	2600	Body	2600	51.27	52.51	-2.36	2.23	2.16	3.06
				2495	51.61	52.64	-1.96	2.10	2.01	4.26
				2690	50.89	52.40	-2.88	2.33	2.29	2.00
D	7/20/2017	2600	Body	2600	50.21	52.51	-4.38	2.19	2.16	1.21
				2495	50.53	52.64	-4.01	2.06	2.01	2.37
				2690	49.96	52.40	-4.65	2.29	2.29	0.16
D	7/21/2017	2600	Head	2600	39.23	39.01	0.56	2.06	1.96	4.83
				2495	39.59	39.14	1.14	1.94	1.85	4.73
				2690	38.91	38.90	0.03	2.16	2.06	4.64
D	7/22/2017	2450	Body	2450	54.63	52.70	3.66	2.01	1.95	3.08
				2400	54.79	52.77	3.82	1.95	1.90	2.79
				2480	54.57	52.66	3.62	2.04	1.99	2.55

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
E	7/5/2017	5600	Body	5600	47.12	48.48	-2.80	5.84	5.76	1.28
				5500	47.05	48.61	-3.22	5.85	5.64	3.68
				5725	47.11	48.31	-2.48	6.04	5.91	2.27
E	7/5/2017	5600	Head	5600	37.01	35.53	4.15	5.01	5.06	-1.07
				5500	37.07	35.65	3.99	5.00	4.96	0.79
				5725	36.87	35.39	4.18	5.16	5.19	-0.48
E	7/8/2017	5600	Body	5600	47.39	48.48	-2.24	5.93	5.76	2.85
				5500	47.55	48.61	-2.19	5.81	5.64	2.90
				5725	47.18	48.31	-2.34	6.10	5.91	3.25
E	7/8/2017	5600	Head	5600	36.83	35.53	3.65	5.00	5.06	-1.17
				5500	36.98	35.65	3.74	4.91	4.96	-1.05
				5725	36.68	35.39	3.64	5.13	5.19	-1.04
E	7/12/2017	5600	Body	5600	46.71	48.48	-3.65	5.93	5.76	2.93
				5500	46.87	48.61	-3.59	5.80	5.64	2.77
				5725	46.57	48.31	-3.60	6.11	5.91	3.36
E	7/12/2017	5600	Head	5600	36.45	35.53	2.58	4.94	5.06	-2.36
				5500	36.57	35.65	2.59	4.79	4.96	-3.37
				5725	36.30	35.39	2.57	5.09	5.19	-1.95
E	7/16/2017	5600	Head	5600	35.31	35.53	-0.63	4.89	5.06	-3.40
				5500	35.45	35.65	-0.56	4.78	4.96	-3.65
				5725	35.10	35.39	-0.82	5.03	5.19	-3.07
E	7/16/2017	5600	Body	5600	47.11	48.48	-2.82	5.97	5.76	3.70
				5500	47.62	48.61	-2.04	5.88	5.64	4.16
				5725	46.15	48.31	-4.47	6.05	5.91	2.41
E	7/20/2017	5600	Head	5600	35.69	35.53	0.44	4.91	5.06	-3.05
				5500	35.87	35.65	0.62	4.80	4.96	-3.27
				5725	35.56	35.39	0.48	5.06	5.19	-2.57
E	7/20/2017	5600	Body	5600	46.95	48.48	-3.15	5.96	5.76	3.40
				5500	47.13	48.61	-3.05	5.83	5.64	3.22
				5725	46.80	48.31	-3.12	6.16	5.91	4.24
E	7/24/2017	5600	Head	5600	36.53	35.53	2.80	5.11	5.06	0.92
				5500	36.68	35.65	2.90	5.01	4.96	1.09
				5725	36.68	35.39	3.64	5.26	5.19	1.33
E	7/24/2017	5600	Body	5600	47.28	48.48	-2.47	5.95	5.76	3.30
				5500	47.48	48.61	-2.33	5.84	5.64	3.41
				5725	47.19	48.31	-2.32	6.15	5.91	4.03

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
F	7/5/2017	2450	Body	2450	51.97	52.70	-1.39	2.01	1.95	2.97
				2400	52.17	52.77	-1.14	1.94	1.90	2.21
				2480	51.84	52.66	-1.56	2.05	1.99	2.90
F	7/5/2017	2450	Head	2450	41.00	39.20	4.59	1.74	1.80	-3.17
				2400	41.17	39.30	4.77	1.69	1.75	-3.41
				2480	40.91	39.16	4.46	1.78	1.83	-2.92
F	7/8/2017	2450	Body	2450	52.43	52.70	-0.51	1.99	1.95	2.15
				2400	52.53	52.77	-0.46	1.92	1.90	1.11
				2480	52.29	52.66	-0.71	2.02	1.99	1.50
F	7/8/2017	2450	Head	2450	39.04	39.20	-0.41	1.86	1.80	3.28
				2400	39.19	39.30	-0.27	1.80	1.75	2.65
				2480	38.93	39.16	-0.59	1.89	1.83	3.03
F	7/8/2017	2600	Head	2600	38.45	39.01	-1.44	2.03	1.96	3.46
				2495	38.85	39.14	-0.75	1.91	1.85	3.05
				2690	38.10	38.90	-2.05	2.14	2.06	3.86
F	7/8/2017	2600	Body	2600	51.86	52.51	-1.24	2.19	2.16	1.40
				2495	52.21	52.64	-0.82	2.04	2.01	1.38
				2690	51.51	52.40	-1.69	2.32	2.29	1.56
F	7/12/2017	2450	Head	2450	39.18	39.20	-0.05	1.88	1.80	4.61
				2400	39.36	39.30	0.16	1.82	1.75	4.13
				2480	39.08	39.16	-0.21	1.92	1.83	4.62
F	7/12/2017	2450	Body	2450	52.59	52.70	-0.21	2.02	1.95	3.49
				2400	52.76	52.77	-0.02	1.95	1.90	2.79
				2480	52.50	52.66	-0.31	2.06	1.99	3.46
F	7/12/2017	2600	Head	2600	37.85	39.01	-2.98	2.05	1.96	4.68
				2495	38.26	39.14	-2.26	1.93	1.85	4.24
				2690	37.47	38.90	-3.67	2.15	2.06	4.59
F	7/12/2017	2600	Body	2600	51.64	52.51	-1.66	2.26	2.16	4.73
				2495	52.03	52.64	-1.16	2.11	2.01	4.61
				2690	51.30	52.40	-2.09	2.39	2.29	4.36
F	7/16/2017	2450	Head	2450	38.18	39.20	-2.60	1.89	1.80	4.78
				2400	38.37	39.30	-2.36	1.82	1.75	4.13
				2480	38.05	39.16	-2.84	1.92	1.83	4.94
F	7/16/2017	2450	Body	2450	53.82	52.70	2.13	1.96	1.95	0.36
				2400	53.98	52.77	2.29	1.88	1.90	-0.90
				2480	53.73	52.66	2.03	2.00	1.99	0.34
F	7/20/2017	2450	Head	2450	37.75	39.20	-3.70	1.88	1.80	4.56
				2400	37.95	39.30	-3.43	1.82	1.75	3.96
				2480	37.64	39.16	-3.89	1.92	1.83	4.56
F	7/20/2017	2450	Body	2450	51.14	52.70	-2.96	1.98	1.95	1.28
				2400	51.27	52.77	-2.85	1.91	1.90	0.47
				2480	51.03	52.66	-3.10	2.01	1.99	0.85
F	7/24/2017	2450	Head	2450	40.11	39.20	2.32	1.83	1.80	1.61
				2400	40.25	39.30	2.43	1.77	1.75	0.82
				2480	39.99	39.16	2.11	1.86	1.83	1.45
F	7/24/2017	2450	Body	2450	52.77	52.70	0.13	1.91	1.95	-2.21
				2400	52.86	52.77	0.17	1.84	1.90	-3.32
				2480	52.66	52.66	0.00	1.94	1.99	-2.62

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
G	7/8/2017	5800	Body	5800	47.70	48.20	-1.04	6.18	6.00	3.00
				5700	47.86	48.34	-1.00	6.05	5.88	2.97
				5850	47.60	48.20	-1.24	6.26	6.00	4.30
G	7/8/2017	5800	Head	5800	36.95	35.30	4.67	5.14	5.27	-2.50
				5700	37.08	35.42	4.69	5.03	5.16	-2.61
				5850	36.83	35.30	4.33	5.20	5.27	-1.27
G	7/12/2017	5800	Head	5800	35.14	35.30	-0.45	5.15	5.27	-2.22
				5700	35.24	35.42	-0.51	5.06	5.16	-2.04
				5850	35.09	35.30	-0.59	5.21	5.27	-1.12
G	7/12/2017	5800	Body	5800	45.92	48.20	-4.73	6.10	6.00	1.63
				5700	46.01	48.34	-4.82	5.98	5.88	1.79
				5850	45.82	48.20	-4.94	6.18	6.00	2.93
G	7/16/2017	5800	Head	5800	34.62	35.30	-1.93	5.05	5.27	-4.16
				5700	34.76	35.42	-1.86	4.94	5.16	-4.23
				5850	34.64	35.30	-1.87	5.10	5.27	-3.17
G	7/16/2017	5800	Body	5800	46.68	48.20	-3.15	6.09	6.00	1.43
				5700	46.91	48.34	-2.96	5.95	5.88	1.15
				5850	46.75	48.20	-3.01	6.18	6.00	3.03
G	7/20/2017	5800	Body	5800	48.14	48.20	-0.12	5.79	6.00	-3.43
				5700	48.22	48.34	-0.25	5.68	5.88	-3.45
				5850	48.03	48.20	-0.35	5.85	6.00	-2.45
G	7/20/2017	5800	Head	5800	35.39	35.30	0.25	5.11	5.27	-3.04
				5700	35.55	35.42	0.37	5.01	5.16	-2.97
				5850	35.37	35.30	0.20	5.17	5.27	-1.86
G	7/24/2017	5800	Head	5800	36.11	35.30	2.29	5.14	5.27	-2.41
				5700	36.20	35.42	2.20	5.05	5.16	-2.26
				5850	36.01	35.30	2.01	5.20	5.27	-1.33
G	7/24/2017	5800	Body	5800	47.10	48.20	-2.28	6.22	6.00	3.72
				5700	47.20	48.34	-2.36	6.10	5.88	3.80
				5850	46.96	48.20	-2.57	6.30	6.00	4.92

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
H	7/12/2017	5200	Head	5200	37.24	35.99	3.47	4.47	4.65	-3.96
				5150	37.29	36.05	3.45	4.42	4.60	-3.97
				5350	37.08	35.82	3.52	4.62	4.80	-3.82
H	7/12/2017	5200	Body	5200	48.44	49.02	-1.18	5.44	5.29	2.76
				5150	48.53	49.09	-1.14	5.37	5.24	2.46
				5350	48.21	48.82	-1.24	5.65	5.47	3.26
H	7/16/2017	5200	Head	5200	37.40	35.99	3.92	4.58	4.65	-1.48
				5150	37.47	36.05	3.95	4.52	4.60	-1.65
				5350	37.21	35.82	3.88	4.72	4.80	-1.76
H	7/17/2017	5200	Body	5200	48.37	49.02	-1.33	5.41	5.29	2.22
				5150	48.42	49.09	-1.36	5.36	5.24	2.28
				5350	48.14	48.82	-1.39	5.58	5.47	2.00
H	7/20/2017	5200	Head	5200	34.54	35.99	-4.03	4.51	4.65	-2.97
				5150	34.61	36.05	-3.99	4.46	4.60	-3.10
				5350	34.36	35.82	-4.07	4.65	4.80	-3.32
H	7/21/2017	5200	Body	5200	48.75	49.02	-0.55	5.45	5.29	2.93
				5150	48.87	49.09	-0.44	5.38	5.24	2.72
				5350	48.51	48.82	-0.63	5.64	5.47	3.08
H	7/24/2017	5200	Head	5200	37.17	35.99	3.28	4.70	4.65	0.95
				5150	37.24	36.05	3.31	4.64	4.60	0.87
				5350	36.97	35.82	3.21	4.85	4.80	0.97
H	7/25/2017	5200	Body	5200	48.57	49.02	-0.92	5.44	5.29	2.80
				5150	48.65	49.09	-0.89	5.38	5.24	2.78
				5350	48.27	48.82	-1.12	5.65	5.47	3.23

8.2. System Check

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

System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ± 0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

System Check Results

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

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Date	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
A	6/30/2017	Body	D835V2 SN:4d002	11/8/2017	0.948	9.48	9.55	-0.73	0.626	6.26	6.33	-1.11	
A	7/5/2017	Body	D835V2 SN:4d117	5/22/2018	1.050	10.50	10.39	1.06	0.685	6.85	6.76	1.33	1,2
A	7/7/2017	Head	D2300V2 SN:1002	3/10/2018	5.000	50.00	49.50	1.01	2.340	23.40	23.60	-0.85	
A	7/9/2017	Body	D835V2 SN:4d117	5/22/2018	1.050	10.50	10.39	1.06	0.684	6.84	6.76	1.18	
A	7/9/2017	Body	D2300V2 SN:1002	3/10/2018	4.610	46.10	47.90	-3.76	2.200	22.00	23.10	-4.76	3,4
A	7/9/2017	Head	D2300V2 SN:1002	3/10/2018	5.010	50.10	49.50	1.21	2.350	23.50	23.60	-0.42	
A	7/12/2017	Body	D2600V2 SN:1006	9/13/2017	5.340	53.40	54.20	-1.48	2.360	23.60	24.30	-2.88	
A	7/14/2017	Head	D2600V2 SN:1006	9/13/2017	5.930	59.30	55.50	6.85	2.600	26.00	25.00	4.00	
A	7/17/2017	Head	D2300V2 SN:1058	8/18/2017	4.870	48.70	50.50	-3.56	2.270	22.70	24.20	-6.20	5,6
A	7/17/2017	Body	D2300V2 SN:1058	8/18/2017	4.810	48.10	48.50	-0.82	2.290	22.90	23.50	-2.55	
A	7/18/2017	Body	D835V2 SN:4d002	11/8/2017	1.020	10.20	9.55	6.81	0.669	6.69	6.33	5.69	7,8
A	7/18/2017	Body	D2600V2 SN:1006	9/13/2017	5.380	53.80	54.20	-0.74	2.360	23.60	24.30	-2.88	
A	7/18/2017	Head	D2600V2 SN:1006	9/13/2017	6.000	60.00	55.50	8.11	2.600	26.00	25.00	4.00	
A	7/21/2017	Body	D2600V2 SN:1006	9/13/2017	5.440	54.40	54.20	0.37	2.380	23.80	24.30	-2.06	
A	7/21/2017	Head	D2600V2 SN:1006	9/13/2017	6.090	60.90	55.50	9.73	2.650	26.50	25.00	6.00	9,10
B	6/30/2017	Body	D750V3 SN:1019	3/13/2018	0.854	8.54	8.76	-2.51	0.573	5.73	5.80	-1.21	
B	7/1/2017	Head	D750V3 SN:1019	3/13/2018	0.891	8.91	8.22	8.39	0.587	5.87	5.39	8.91	11,12
B	7/7/2017	Body	D1750V2 SN:1050	4/18/2018	3.460	34.60	37.68	-8.17	1.830	18.30	19.92	-8.13	
B	7/9/2017	Head	D1750V2 SN:1077	9/14/2017	3.730	37.30	36.00	3.61	1.970	19.70	19.10	3.14	13,14
B	7/10/2017	Body	D1750V2 SN:1077	9/14/2017	3.660	36.60	36.20	1.10	1.930	19.30	19.30	0.00	
B	7/13/2017	Head	D1750V2 SN:1050	4/18/2018	3.670	36.70	36.76	-0.16	1.940	19.40	19.60	-1.02	
B	7/13/2017	Body	D1750V2 SN:1050	4/18/2018	3.460	34.60	37.68	-8.17	1.820	18.20	19.92	-8.63	15,16
B	7/16/2017	Body	D2450V2 SN:748	2/8/2018	5.160	51.60	51.30	0.58	2.370	23.70	23.90	-0.84	
B	7/17/2017	Head	D2450V2 SN:748	2/8/2018	5.230	52.30	52.10	0.38	2.380	23.80	24.20	-1.65	
B	7/20/2017	Body	D2450V2 SN:748	2/8/2018	5.070	50.70	51.30	-1.17	2.300	23.00	23.90	-3.77	17,18
B	7/21/2017	Head	D2450V2 SN:748	2/8/2018	5.210	52.10	52.10	0.00	2.340	23.40	24.20	-3.31	
C	7/1/2017	Body	D1900V2 SN:5d140	4/19/2018	3.960	39.60	41.20	-3.88	2.040	20.40	21.52	-5.20	
C	7/1/2017	Head	D1900V2 SN:5d140	4/19/2018	4.100	41.00	40.80	0.49	2.090	20.90	21.16	-1.23	
C	7/5/2017	Body	D1900V2 SN:5d140	4/19/2018	3.910	39.10	41.20	-5.10	2.010	20.10	21.52	-6.60	
C	7/5/2017	Head	D1900V2 SN:5d140	4/19/2018	3.840	38.40	40.80	-5.88	1.950	19.50	21.16	-7.84	19,20
C	7/9/2017	Head	D1900V2 SN:5d140	4/19/2018	4.090	40.90	40.80	0.25	2.080	20.80	21.16	-1.70	
C	7/9/2017	Body	D1900V2 SN:5d140	4/19/2018	4.050	40.50	41.20	-1.70	2.080	20.80	21.52	-3.35	
C	7/16/2017	Head	D1900V2 SN:5d140	4/19/2018	3.880	38.80	40.80	-4.90	1.970	19.70	21.16	-6.90	
C	7/16/2017	Body	D1900V2 SN:5d140	4/19/2018	4.040	40.40	41.20	-1.94	2.080	20.80	21.52	-3.35	
C	7/19/2017	Head	D1900V2 SN:5d140	4/19/2018	4.040	40.40	40.80	-0.98	2.060	20.60	21.16	-2.65	
C	7/19/2017	Body	D1900V2 SN:5d140	4/19/2018	4.030	40.30	41.20	-2.18	2.070	20.70	21.52	-3.81	
C	7/23/2017	Head	D1900V2 SN:5d140	4/19/2018	3.930	39.30	40.80	-3.68	2.000	20.00	21.16	-5.48	
C	7/23/2017	Body	D1900V2 SN:5d140	4/19/2018	4.140	41.40	41.20	0.49	2.110	21.10	21.52	-1.95	

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Date	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
D	6/29/2017	Head	D835V2 SN:4d002	11/8/2017	0.989	9.89	9.46	4.55	0.651	6.51	6.15	5.85	21,22
D	6/29/2017	Body	D835V2 SN:4d002	11/8/2017	0.982	9.82	9.55	2.83	0.647	6.47	6.33	2.21	
D	7/2/2017	Head	D835V2 SN:4d117	5/22/2018	0.895	8.95	9.43	-5.09	0.590	5.90	6.09	-3.12	23,24
D	7/5/2017	Head	D835V2 SN:4d117	5/22/2018	0.952	9.52	9.43	0.95	0.628	6.28	6.09	3.12	
D	7/6/2017	Head	D2600V2 SN:1006	9/13/2017	5.380	53.80	55.50	-3.06	2.370	23.70	25.00	-5.20	
D	7/8/2017	Head	D835V2 SN:4d002	11/8/2017	0.941	9.41	9.46	-0.53	0.621	6.21	6.15	0.98	
D	7/9/2017	Body	D835V2 SN:4d002	11/8/2017	0.968	9.68	9.55	1.36	0.639	6.39	6.33	0.95	
D	7/9/2017	Head	D2600V2 SN:1006	9/13/2017	5.260	52.60	55.50	-5.23	2.290	22.90	25.00	-8.40	
D	7/10/2017	Body	D2600V2 SN:1006	9/13/2017	5.510	55.10	54.20	1.66	2.420	24.20	24.30	-0.41	
D	7/13/2017	Body	D2600V2 SN:1006	9/13/2017	5.040	50.40	54.20	-7.01	2.230	22.30	24.30	-8.23	25,26
D	7/15/2017	Head	D2600V2 SN:1006	9/13/2017	5.600	56.00	55.50	0.90	2.450	24.50	25.00	-2.00	
D	7/17/2017	Body	D2600V2 SN:1006	9/13/2017	5.520	55.20	54.20	1.85	2.410	24.10	24.30	-0.82	
D	7/20/2017	Body	D2600V2 SN:1006	9/13/2017	5.250	52.50	54.20	-3.14	2.290	22.90	24.30	-5.76	
D	7/21/2017	Head	D2600V2 SN:1006	9/13/2017	5.570	55.70	55.50	0.36	2.440	24.40	25.00	-2.40	
D	7/22/2017	Body	D2450V2 SN:748	2/8/2018	5.320	53.20	51.30	3.70	2.420	24.20	23.90	1.26	27,28
E	7/5/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.720	77.20	83.30	-7.32	2.170	21.70	23.80	-8.82	
E	7/5/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.750	77.50	78.30	-1.02	2.150	21.50	22.00	-2.27	
E	7/8/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.410	84.10	78.30	7.41	2.340	23.40	22.00	6.36	
E	7/8/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.790	77.90	83.30	-6.48	2.200	22.00	23.80	-7.56	
E	7/12/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.250	82.50	78.30	5.36	2.280	22.80	22.00	3.64	
E	7/12/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.850	78.50	83.30	-5.76	2.210	22.10	23.80	-7.14	
E	7/16/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.690	76.90	83.30	-7.68	2.160	21.60	23.80	-9.24	
E	7/16/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.480	84.80	78.30	8.30	2.340	23.40	22.00	6.36	29,30
E	7/20/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.940	79.40	83.30	-4.68	2.240	22.40	23.80	-5.88	
E	7/20/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.750	77.50	78.30	-1.02	2.150	21.50	22.00	-2.27	
E	7/24/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.690	86.90	83.30	4.32	2.450	24.50	23.80	2.94	
E	7/24/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.100	81.00	78.30	3.45	2.240	22.40	22.00	1.82	
F	7/5/2017	Body	D2450V2 SN:748	2/8/2018	5.420	54.20	51.30	5.65	2.470	24.70	23.90	3.35	
F	7/5/2017	Head	D2450V2 SN:748	2/8/2018	5.700	57.00	52.10	9.40	2.560	25.60	24.20	5.79	31,32
F	7/8/2017	Body	D2450V2 SN:748	2/8/2018	4.930	49.30	51.30	-3.90	2.280	22.80	23.90	-4.60	
F	7/8/2017	Head	D2450V2 SN:748	2/8/2018	5.590	55.90	52.10	7.29	2.520	25.20	24.20	4.13	
F	7/8/2017	Head	D2600V2 SN:1006	9/13/2017	6.030	60.30	55.50	8.65	2.620	26.20	25.00	4.80	33,34
F	7/8/2017	Body	D2600V2 SN:1006	9/13/2017	5.290	52.90	54.20	-2.40	2.320	23.20	24.30	-4.53	
F	7/12/2017	Head	D2450V2 SN:748	2/8/2018	5.340	53.40	52.10	2.50	2.430	24.30	24.20	0.41	
F	7/12/2017	Body	D2450V2 SN:748	2/8/2018	5.150	51.50	51.30	0.39	2.370	23.70	23.90	-0.84	
F	7/12/2017	Head	D2600V2 SN:1006	9/13/2017	5.810	58.10	55.50	4.68	2.530	25.30	25.00	1.20	
F	7/12/2017	Body	D2600V2 SN:1006	9/13/2017	5.280	52.80	54.20	-2.58	2.310	23.10	24.30	-4.94	
F	7/16/2017	Head	D2450V2 SN:748	2/8/2018	5.340	53.40	52.10	2.50	2.430	24.30	24.20	0.41	
F	7/16/2017	Body	D2450V2 SN:748	2/8/2018	5.080	50.80	51.30	-0.97	2.340	23.40	23.90	-2.09	
F	7/20/2017	Head	D2450V2 SN:748	2/8/2018	5.570	55.70	52.10	6.91	2.520	25.20	24.20	4.13	
F	7/20/2017	Body	D2450V2 SN:748	2/8/2018	5.330	53.30	51.30	3.90	2.460	24.60	23.90	2.93	
F	7/24/2017	Head	D2450V2 SN:748	2/8/2018	5.320	53.20	52.10	2.11	2.390	23.90	24.20	-1.24	
F	7/24/2017	Body	D2450V2 SN:748	2/8/2018	4.930	49.30	51.30	-3.90	2.250	22.50	23.90	-5.86	

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
G	7/8/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.620	76.20	73.50	3.67	2.100	21.00	20.50	2.44	
G	7/8/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.370	73.70	78.10	-5.63	2.100	21.00	22.10	-4.98	
G	7/12/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.320	73.20	78.10	-6.27	2.070	20.70	22.10	-6.33	
G	7/12/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.170	71.70	73.50	-2.45	1.970	19.70	20.50	-3.90	
G	7/16/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.290	72.90	78.10	-6.66	2.060	20.60	22.10	-6.79	
G	7/16/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.500	75.00	73.50	2.04	2.050	20.50	20.50	0.00	
G	7/20/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.810	78.10	73.50	6.26	2.150	21.50	20.50	4.88	
G	7/20/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.770	77.70	78.10	-0.51	2.210	22.10	22.10	0.00	
G	7/24/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	8.370	83.70	78.10	7.17	2.380	23.80	22.10	7.69	
G	7/24/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.980	79.80	73.50	8.57	2.220	22.20	20.50	8.29	35,36
H	7/12/2017	Head	D5GHzV2 SN:1003 (5.2 GHz)	2/13/2018	7.210	72.10	76.50	-5.75	2.080	20.80	21.80	-4.59	37,38
H	7/12/2017	Body	D5GHzV2 SN:1003 (5.2 GHz)	2/13/2018	7.390	73.90	70.50	4.82	2.070	20.70	19.80	4.55	
H	7/16/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.930	79.30	76.80	3.26	2.250	22.50	22.00	2.27	
H	7/17/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.150	71.50	73.60	-2.85	2.020	20.20	20.50	-1.46	
H	7/20/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	8.080	80.80	76.80	5.21	2.330	23.30	22.00	5.91	
H	7/21/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.340	73.40	73.60	-0.27	2.090	20.90	20.50	1.95	
H	7/24/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.220	72.20	76.80	-5.99	2.090	20.90	22.00	-5.00	39,40
H	7/25/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.300	73.00	73.60	-0.82	2.070	20.70	20.50	0.98	

9. Conducted Output Power Measurements

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Refer to Sec. 6.3.5 for more information. The selection between antennas UAT and LAT in application is based on RSSI based antenna selection. The full details of power selections are described in the operational description. Refer to Sec. 10 for details of the testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted in detail for each technology in their respective Sections.

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

GPRS (GMSK) - Coding Scheme: CS1

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	Max Power (dBm)		30.8	29.3	33.3	32.3	30.8	29.8	32.5	29.5
	128	824.2	30.4	29.3	33.3	32.3	30.4	29.5	32.4	29.5
	190	836.6	30.5	29.3	33.3	32.3	30.5	29.5	32.4	29.5
	251	848.8	30.5	29.3	33.3	32.3	30.5	29.5	32.4	29.5
Frame Power (dBm)										
850	Max Power (dBm)		21.8	23.3	24.3	26.3	21.8	23.8	23.5	23.5
	128	824.2	21.4	23.3	24.3	26.3	21.4	23.5	23.4	23.5
	190	836.6	21.5	23.3	24.3	26.3	21.5	23.5	23.4	23.5
	251	848.8	21.5	23.3	24.3	26.3	21.5	23.5	23.4	23.5

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	Max Power (dBm)		25.5	25.5	28.0	28.0	25.5	25.5	28.0	28.0
	128.0	824.2	25.4	25.4	28.0	28.0	25.4	25.4	28.0	28.0
	190.0	836.6	25.5	25.5	28.0	28.0	25.5	25.5	28.0	28.0
	251.0	848.8	25.5	25.5	28.0	28.0	25.5	25.5	28.0	28.0
Frame Power (dBm)										
850	Max Power (dBm)		16.5	19.5	19.0	22.0	16.5	19.5	19.0	22.0
	128.0	824.2	16.4	19.4	19.0	22.0	16.4	19.4	19.0	22.0
	190.0	836.6	16.5	19.5	19.0	22.0	16.5	19.5	19.0	22.0
	251.0	848.8	16.5	19.5	19.0	22.0	16.5	19.5	19.0	22.0

Notes:

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

- GMSK (GPRS) mode with 2 time slots based on the maximum output power from Tune-up Procedure.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

GSM1900 Measured Results**GPRS (GMSK) - Coding Scheme: CS1**

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
1900	Max Power (dBm)		27.0	24.0	31.3	30.3	26.8	23.8	30.0	27.0
	512.0	1850.2	26.0	23.9	30.7	30.3	26.8	23.8	28.9	27.0
	661.0	1880.0	26.0	23.9	30.6	30.3	26.8	23.8	29.0	27.0
	810.0	1909.8	26.0	23.9	30.5	30.2	26.8	23.8	29.0	27.0
Frame Power (dBm)										
1900	Max Power (dBm)		18.0	18.0	22.3	24.3	17.8	17.8	21.0	21.0
	512.0	1850.2	17.0	17.9	21.7	24.3	17.8	17.8	19.9	21.0
	661.0	1880.0	17.0	17.9	21.6	24.3	17.8	17.8	20.0	21.0
	810.0	1909.8	17.0	17.9	21.5	24.2	17.8	17.8	20.0	21.0

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
1900	Max Power (dBm)		23.5	23.5	27.0	27.0	23.5	23.5	27.0	27.0
	512.0	1850.2	23.4	23.4	26.9	26.9	23.4	23.4	26.8	26.8
	661.0	1880.0	23.4	23.4	27.0	27.0	23.4	23.4	26.9	26.9
	810.0	1909.8	23.4	23.4	27.0	27.0	23.4	23.4	27.0	27.0
Frame Power (dBm)										
1900	Max Power (dBm)		14.5	17.5	18.0	21.0	14.5	17.5	18.0	21.0
	512.0	1850.2	14.4	17.4	17.9	20.9	14.4	17.4	17.8	20.8
	661.0	1880.0	14.4	17.4	18.0	21.0	14.4	17.4	17.9	20.9
	810.0	1909.8	14.4	17.4	18.0	21.0	14.4	17.4	18.0	21.0

Notes:

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

- GMSK (GPRS) mode with 2 time slots based on the maximum output power from Tune-up Procedure.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

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
	β_c/β_d	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			
	β_c	2/15	11/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	11/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
HSDPA Specific Settings	MPR (dB)	0	0	0.5	0.5
	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			
	$A_{hs}=\beta_{hs}/\beta_c$	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 section 5.2 of 3GPP TS34.121. 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
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	15/1
	β_{hs}	22/15	12/15	30/15	4/15	5/15
	β_{ed}	1309/225	94/75	47/15	56/75	47/15
HSDPA Specific Settings	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
HSUPA Specific Settings	CQI Repetition Factor (Table 5.2B.4)	2				
	$A_{hs} = \beta_{hs}/\beta_c$	30/15				
	E-DPDCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	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

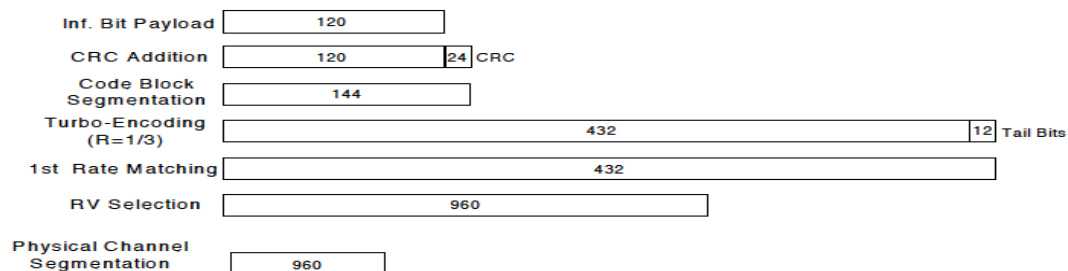
Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

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

**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 1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	11/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d (SF)	64			
	β_c/β_d	2/15	11/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
HSDPA Specific Settings	MPR (dB)	0	0	0.5	0.5
	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack Repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	$A_{hs} = \beta_{hs}/\beta_c$	30/15			

HSPA+

The following 1 Sub-test was completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0). Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default. Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value. Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.											

W-CDMA Band V Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)				
						MODE A		MODE B		
						UAT 1	LAT 1	UAT 1	LAT 1	
W-CDMA Band V	Rel 99	Max Power (dBm)				23.8	24.8	23.8	24.8	
		RMC, 12.2 kbps	4132	826.4	N/A	23.8	24.8	23.8	24.8	
			4183	836.6	N/A	23.8	24.8	23.8	24.8	
			4233	846.6	N/A	23.8	24.8	23.8	24.8	
	HSDPA	Max Power (dBm)				23.8	24.8	23.8	24.8	
		Subtest 1	4132	826.4	0	23.7	24.8	23.7	24.8	
			4183	836.6	0	23.8	24.8	23.8	24.8	
			4233	846.6	0	23.8	24.7	23.8	24.7	
		Subtest 2	4132	826.4	0	23.8	24.8	23.8	24.8	
			4183	836.6	0	23.8	24.8	23.8	24.8	
			4233	846.6	0	23.7	24.8	23.7	24.8	
		Subtest 3	4132	826.4	0.5	23.2	24.3	23.2	24.3	
			4183	836.6	0.5	23.3	24.3	23.3	24.3	
			4233	846.6	0.5	23.3	24.3	23.3	24.3	
		Subtest 4	4132	826.4	0.5	23.3	24.2	23.3	24.2	
			4183	836.6	0.5	23.3	24.1	23.3	24.1	
			4233	846.6	0.5	23.3	24.1	23.3	24.1	
		HSUPA	Max Power (dBm)				23.8	24.8	23.8	24.8
			Subtest 1	4132	826.4	0	23.8	24.7	23.8	24.7
				4183	836.6	0	23.7	24.8	23.7	24.8
	4233			846.6	0	23.8	24.7	23.8	24.7	
	Subtest 2		4132	826.4	2	21.8	22.8	21.8	22.8	
			4183	836.6	2	21.6	22.8	21.6	22.8	
			4233	846.6	2	21.6	22.8	21.6	22.8	
	Subtest 3		4132	826.4	1	22.8	23.7	22.8	23.7	
			4183	836.6	1	22.7	23.8	22.7	23.8	
			4233	846.6	1	22.8	23.7	22.8	23.7	
	Subtest 4		4132	826.4	2	21.7	22.7	21.7	22.7	
			4183	836.6	2	21.7	22.7	21.7	22.7	
			4233	846.6	2	21.8	22.7	21.8	22.7	
	Subtest 5		4132	826.4	0	23.8	24.8	23.8	24.8	
			4183	836.6	0	23.8	24.7	23.8	24.7	
			4233	846.6	0	23.8	24.7	23.8	24.7	
	DC-HSDPA	Max Power (dBm)				23.8	24.8	23.8	24.8	
		Subtest 1	4132	826.4	0	23.8	24.7	23.8	24.7	
			4183	836.6	0	23.8	24.8	23.8	24.8	
			4233	846.6	0	23.8	24.8	23.8	24.8	
		Subtest 2	4132	826.4	0	23.7	24.7	23.7	24.7	
			4183	836.6	0	23.7	24.8	23.7	24.8	
			4233	846.6	0	23.8	24.7	23.8	24.7	
		Subtest 3	4132	826.4	0.5	23.3	24.3	23.3	24.3	
			4183	836.6	0.5	23.3	24.2	23.3	24.2	
			4233	846.6	0.5	23.2	24.2	23.2	24.2	
		Subtest 4	4132	826.4	0.5	23.3	24.1	23.3	24.1	
			4183	836.6	0.5	23.3	24.1	23.3	24.1	
			4233	846.6	0.5	23.3	24.2	23.3	24.2	
	HSPA+	Max Power (dBm)				23.8	24.8	23.8	24.8	
		Subtest 1	4132	826.4	2.5	21.3	22.3	21.3	22.3	
			4183	836.6	2.5	21.2	22.3	21.2	22.3	
			4233	846.6	2.5	21.2	22.3	21.2	22.3	

W-CDMA Band IV Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)				
						MODE A		MODE B		
						UAT 1	LAT 1	UAT 1	LAT 1	
W-CDMA Band IV	Rel 99	Max Power (dBm)				18.5	25.3	19.5	21.0	
		RMC, 12.2 kbps	1312	1712.4	N/A	18.5	24.7	19.3	20.8	
			1413	1732.6	N/A	18.5	24.7	19.3	20.9	
			1513	1752.6	N/A	18.5	24.6	19.3	20.9	
	HSDPA	Max Power (dBm)				18.5	25.3	19.5	21.0	
		Subtest 1	1312	1712.4	0	18.4	24.8	19.3	20.8	
			1413	1732.6	0	18.4	24.6	19.3	20.8	
			1513	1752.6	0	18.5	24.7	19.3	20.7	
		Subtest 2	1312	1712.4	0	18.5	24.8	19.1	20.7	
			1413	1732.6	0	18.4	24.7	19.0	20.7	
			1513	1752.6	0	18.4	24.7	19.1	20.7	
		Subtest 3	1312	1712.4	0.5	17.9	24.2	18.5	20.2	
			1413	1732.6	0.5	18.0	24.1	18.6	20.3	
			1513	1752.6	0.5	18.0	24.2	18.6	20.3	
		Subtest 4	1312	1712.4	0.5	18.0	24.2	18.6	20.2	
			1413	1732.6	0.5	18.0	24.2	18.6	20.2	
			1513	1752.6	0.5	17.9	24.1	18.5	20.3	
		HSUPA	Max Power (dBm)				18.5	25.3	19.5	21.0
			Subtest 1	1312	1712.4	0	18.4	24.7	19.0	20.8
				1413	1732.6	0	18.5	24.7	19.0	20.8
	1513			1752.6	0	18.5	24.7	19.1	20.7	
	Subtest 2		1312	1712.4	2	16.5	22.7	17.0	18.8	
			1413	1732.6	2	16.5	22.6	17.1	18.7	
			1513	1752.6	2	16.5	22.6	17.1	18.7	
	Subtest 3		1312	1712.4	1	17.4	23.8	18.1	19.7	
			1413	1732.6	1	17.4	23.8	17.8	19.6	
			1513	1752.6	1	17.5	23.8	17.9	19.7	
	Subtest 4		1312	1712.4	2	16.5	22.7	17.1	18.7	
			1413	1732.6	2	16.4	22.8	17.0	18.8	
			1513	1752.6	2	16.4	22.8	17.0	18.8	
	Subtest 5		1312	1712.4	0	18.5	24.6	19.0	20.6	
			1413	1732.6	0	18.5	24.7	19.0	20.8	
			1513	1752.6	0	18.5	24.7	19.0	20.6	
	DC-HSDPA	Max Power (dBm)				18.5	25.3	19.5	21.0	
		Subtest 1	1312	1712.4	0	18.4	24.7	19.1	20.6	
			1413	1732.6	0	18.5	24.7	19.0	20.6	
			1513	1752.6	0	18.5	24.6	19.0	20.7	
		Subtest 2	1312	1712.4	0	18.5	24.7	19.1	20.8	
			1413	1732.6	0	18.4	24.7	19.0	20.6	
			1513	1752.6	0	18.4	24.8	19.1	20.7	
		Subtest 3	1312	1712.4	0.5	18.0	24.2	18.5	20.3	
			1413	1732.6	0.5	18.0	24.3	18.6	20.2	
			1513	1752.6	0.5	18.0	24.1	18.6	20.3	
		Subtest 4	1312	1712.4	0.5	18.0	24.2	18.6	20.3	
			1413	1732.6	0.5	18.0	24.3	18.6	20.1	
			1513	1752.6	0.5	18.0	24.3	18.6	20.1	
	HSPA+	Max Power (dBm)				18.5	25.3	19.5	21.0	
		Subtest 1	1312	1712.4	2.5	16.0	22.8	17.0	18.4	
			1413	1732.6	2.5	16.0	22.8	17.0	18.5	
			1513	1752.6	2.5	15.9	22.7	17.0	18.5	

W-CDMA Band II Measured Results

Band	Mode	UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)				
					MODE A		MODE B		
					UAT 1	LAT 1	UAT 1	LAT 1	
W-CDMA Band II	Rel 99	Max Power (dBm)			18.0	25.0	19.5	20.5	
		RMC, 12.2 kbps	9262	1852.4	N/A	18.0	25.0	19.0	20.3
			9400	1880.0	N/A	18.0	25.0	19.0	20.3
			9538	1907.6	N/A	18.0	25.0	19.0	20.3
	HSDPA	Max Power (dBm)			18.0	25.0	19.5	20.5	
		Subtest 1	9262	1852.4	0	17.8	25.0	19.0	20.3
			9400	1880.0	0	17.7	25.0	19.0	20.3
			9538	1907.6	0	17.6	25.0	19.0	20.3
		Subtest 2	9262	1852.4	0	17.7	25.0	19.1	20.4
			9400	1880.0	0	17.6	25.0	19.1	20.3
			9538	1907.6	0	17.6	25.0	19.1	20.3
		Subtest 3	9262	1852.4	0.5	17.3	24.5	18.6	19.8
			9400	1880.0	0.5	17.3	24.5	18.5	19.8
			9538	1907.6	0.5	17.2	24.5	18.5	19.8
		Subtest 4	9262	1852.4	0.5	17.2	24.5	18.4	19.8
			9400	1880.0	0.5	17.2	24.4	18.6	19.8
			9538	1907.6	0.5	17.3	24.4	18.4	19.9
	HSUPA	Max Power (dBm)			18.0	25.0	19.5	20.5	
		Subtest 1	9262	1852.4	0	17.8	25.0	19.0	20.3
			9400	1880.0	0	17.8	25.0	18.9	20.4
			9538	1907.6	0	17.7	25.0	18.9	20.3
		Subtest 2	9262	1852.4	2	15.8	23.0	17.0	18.4
			9400	1880.0	2	15.8	23.0	16.9	18.3
			9538	1907.6	2	15.6	23.0	16.9	18.3
		Subtest 3	9262	1852.4	1	16.8	24.0	18.0	19.4
			9400	1880.0	1	16.7	23.9	18.0	19.4
			9538	1907.6	1	16.7	23.9	18.0	19.3
		Subtest 4	9262	1852.4	2	15.8	24.0	16.9	18.3
			9400	1880.0	2	15.7	24.0	17.0	18.2
			9538	1907.6	2	15.7	24.0	17.0	18.3
		Subtest 5	9262	1852.4	0	17.7	25.0	19.0	20.3
			9400	1880.0	0	17.7	25.0	19.1	20.3
			9538	1907.6	0	17.7	25.0	19.0	20.3
	DC-HSDPA	Max Power (dBm)			18.0	25.0	19.5	20.5	
		Subtest 1	9262	1852.4	0	17.8	25.0	19.0	20.3
			9400	1880.0	0	17.8	25.0	18.9	20.3
			9538	1907.6	0	17.7	25.0	18.9	20.3
		Subtest 2	9262	1852.4	0	17.6	25.0	18.9	20.2
			9400	1880.0	0	17.7	25.0	19.1	20.3
			9538	1907.6	0	17.8	24.9	19.0	20.4
		Subtest 3	9262	1852.4	0.5	17.3	24.4	18.4	19.9
			9400	1880.0	0.5	17.3	24.5	18.5	19.8
			9538	1907.6	0.5	17.3	24.5	18.5	19.9
		Subtest 4	9262	1852.4	0.5	17.3	24.5	18.5	19.9
			9400	1880.0	0.5	17.2	24.5	18.4	19.9
			9538	1907.6	0.5	17.3	24.5	18.4	19.9
	HSPA+	Max Power (dBm)			18.0	25.0	19.5	20.5	
		Subtest 1	9262	1852.4	2.5	15.5	22.4	16.9	18.0
			9400	1880.0	2.5	15.5	22.5	17.0	18.0
			9538	1907.6	2.5	15.5	22.5	17.0	18.0

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
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36, 66, 70	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2, 6.6.3.3.19	41	5, 10, 15, 20	Table 6.2.4-4, Table 6.2.4-4a	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50 (NOTE 1)	≤ 1 (NOTE 1)
			15, 20	Table 6.2.4-18 (NOTE 2)	
		65 (NOTE 3)	10, 15, 20	≥ 50	≤ 1 (NOTE 1)
			15, 20	Table 6.2.4-18 (NOTE 2)	
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	N/A
NS_07	6.6.2.2.3	13	10	Table 6.2.4-2	
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	
NS_11	6.6.2.2.1, 6.6.3.3.13	23	1.4, 3, 5, 10, 15, 20	Table 6.2.4-5	
NS_12	6.6.3.3.5	26	1.4, 3, 5, 10, 15	Table 6.2.4-6	
NS_13	6.6.3.3.6	26	5	Table 6.2.4-7	
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4-8	
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4-9, Table 6.2.4-10	
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13	
NS_17	6.6.3.3.10	28	5, 10	Table 5.6-1	N/A
NS_18	6.6.3.3.11	28	5	≥ 2	≤ 1
			10, 15, 20	≥ 1	≤ 4
NS_19	6.6.3.3.12	44	10, 15, 20	Table 6.2.4-14	
NS_20	6.2.2, 6.6.2.2.1, 6.6.3.3.14	23	5, 10, 15, 20	Table 6.2.4-15	
	6.6.3.3.15				
NS_21	6.6.2.2.1, 6.6.3.3.16	30	5, 10	Table 6.2.4-16	
NS_22	6.6.3.3.16	42, 43	5, 10, 15, 20	Table 6.2.4-17	
NS_23	6.6.3.3.17	42, 43	5, 10, 15, 20	N/A	
NS_24	6.6.3.3.20	65 (NOTE 4)	5, 10, 15, 20	Table 6.2.4-19	
NS_25	6.6.3.3.21	65 (NOTE 4)	5, 10, 15, 20	Table 6.2.4-20	
NS_26	6.6.3.3.22	68	10, 15	Table 6.2.4-21	
NS_27	6.6.2.2.5, 6.6.3.3.23	48	5, 10, 15, 20	Table 6.2.4-22	
NS_28	6.2.2A, 6.6.3.3.24	46 (NOTE 5)	20	Table 6.2.4-23	
NS_29	6.2.2A, 6.6.2.3.1a, 6.6.3.3.25	46 (NOTE 5)	20	Table 6.2.4-24	
NS_30	6.2.2A, 6.6.3.3.26	46 (NOTE 5)	20	Table 6.2.4-25	
NS_31	6.2.2A, 6.6.3.3.27	46 (NOTE 5)	20	Table 6.2.4-26	
NS_32	-	-	-	-	-
NOTE 1: Applicable when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is larger than or equal to the upper edge of PHS band (1915.7 MHz) + 4 MHz + the channel BW assigned, where channel BW is as defined in subclause 5.6. A-MPR for operations below this frequency is not covered in this version of specifications except for the channel assignments in NOTE 2 as the emissions requirement in 6.6.3.3.1 may not be met. For 10MHz channel bandwidth whose carrier frequency is larger than or equal to 1945 MHz or 15 MHz channel bandwidth whose carrier frequency is larger than or equal to 1947.5 MHz, no A-MPR applies. NOTE 2: Applicable when carrier frequency is 1932.5 MHz for 15MHz channel bandwidth or 1930 MHz for 20MHz channel bandwidth case. NOTE 3: Applicable when the E-UTRA carrier is within 1920-1980 MHz. NOTE 4: Applicable when the upper edge of the channel bandwidth frequency is greater than 1980MHz. NOTE 5: Applicable only for an LAA SCell configured in Band 46.					

LTE Band 2 Average Power (dBm) Measured Results

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

LTE Band 4 Average Power (dBm) Measured Results

SAR for LTE Band 4 (Frequency range: 1710 - 1755 MHz) is covered by LTE Band 66 (Frequency range: 1710 - 1780 MHz) due to overlapping frequency range, same maximum tune-up limit and channel bandwidths from 20MHz to 5MHz. Therefore, LTE Band 4 at 3MHz and 1.4MHz bandwidths have been measured.

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A							MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz
LTE Band 4	Max Power (dBm)				18.5			24.8			19.5			21.0						
	3	QPSK	1	0	0.0	18.4	18.4	18.4	0	24.6	24.6	24.6	0	19.5	19.5	19.5	0	20.4	20.4	20.4
			1	8	0.0	18.5	18.5	18.5	0	24.8	24.8	24.8	0	19.5	19.5	19.5	0	20.5	20.5	20.5
			1	14	0.0	18.4	18.4	18.4	0	24.5	24.5	24.5	0	19.5	19.5	19.5	0	20.4	20.4	20.4
			8	0	0.0	18.4	18.4	18.4	1	23.6	23.6	23.6	0	19.4	19.4	19.4	0	20.4	20.4	20.4
			8	4	0.0	18.5	18.5	18.5	1	23.8	23.8	23.8	0	19.5	19.5	19.5	0	20.4	20.5	20.5
			8	7	0.0	18.5	18.5	18.5	1	23.7	23.7	23.7	0	19.4	19.4	19.4	0	20.5	20.5	20.4
			15	0	0.0	18.4	18.5	18.4	1	23.7	23.8	23.7	0	19.4	19.4	19.4	0	20.5	20.5	20.5
		16QAM	1	0	0.0	18.4	18.4	18.4	1	23.7	23.8	23.6	0	19.4	19.4	19.4	0	20.4	20.4	20.4
			1	8	0.0	18.5	18.5	18.5	1	23.7	23.8	23.6	0	19.5	19.5	19.5	0	20.5	20.5	20.5
			1	14	0.0	18.4	18.4	18.4	1	23.7	23.8	23.7	0	19.4	19.4	19.4	0	20.4	20.4	20.4
			8	0	0.0	18.4	18.4	18.4	2	22.6	22.8	22.8	1	18.7	18.7	18.7	0	20.4	20.5	20.4
			8	4	0.0	18.5	18.5	18.5	2	22.6	22.8	22.8	1	18.7	18.7	18.6	0	20.5	20.5	20.5
			8	7	0.0	18.5	18.5	18.5	2	22.6	22.8	22.8	1	18.7	18.6	18.7	0	20.4	20.5	20.5
			15	0	0.0	18.4	18.5	18.4	2	22.7	22.8	22.7	1	18.7	18.7	18.7	0	20.4	20.5	20.5
			64QAM	1	0	0.0	18.4	18.4	18.4	2	22.7	22.8	22.7	1	18.6	18.7	18.7	0	20.4	20.5
	1	8		0.0	18.4	18.4	18.4	2	22.7	22.8	22.7	1	18.7	18.7	18.6	0	20.4	20.5	20.5	
	1	14		0.0	18.4	18.4	18.4	2	22.7	22.8	22.7	1	18.7	18.7	18.7	0	20.4	20.5	20.5	
	8	0		0.8	17.7	17.7	17.7	3	21.6	21.6	21.6	2	17.6	17.7	17.7	0	20.4	20.5	20.4	
	8	4		0.8	17.7	17.7	17.7	3	21.6	21.6	21.6	2	17.7	17.7	17.6	0	20.5	20.5	20.4	
	8	7		0.8	17.7	17.7	17.7	3	21.6	21.6	21.6	2	17.7	17.6	17.7	0	20.5	20.5	20.4	
	15	0		0.8	17.7	17.7	17.7	3	21.6	21.6	21.6	2	17.7	17.7	17.7	0	20.5	20.5	20.4	
LTE Band 4	1.4	QPSK	1	0	0.0	18.4	18.4	18.4	0	24.6	24.6	24.6	0	19.5	19.5	19.5	0	20.4	20.4	20.4
			1	2	0.0	18.5	18.5	18.5	0	24.8	24.8	24.8	0	19.5	19.5	19.5	0	20.5	20.5	20.5
			1	5	0.0	18.4	18.4	18.4	0	24.5	24.5	24.5	0	19.5	19.5	19.5	0	20.4	20.4	20.4
			3	0	0.0	18.4	18.4	18.4	0	23.6	23.6	23.6	0	19.4	19.4	19.4	0	20.4	20.4	20.4
			3	1	0.0	18.5	18.5	18.5	0	23.8	23.8	23.8	0	19.5	19.5	19.5	0	20.4	20.5	20.5
			3	2	0.0	18.5	18.5	18.5	0	23.7	23.7	23.7	0	19.4	19.4	19.4	0	20.5	20.5	20.4
			6	0	0.0	18.4	18.5	18.4	1	23.7	23.8	23.7	0	19.4	19.4	19.4	0	20.5	20.5	20.5
		16QAM	1	0	0.0	18.4	18.4	18.4	1	23.7	23.8	23.6	0	19.4	19.4	19.4	0	20.4	20.4	20.4
			1	2	0.0	18.5	18.5	18.5	1	23.7	23.8	23.6	0	19.5	19.5	19.5	0	20.5	20.5	20.5
			1	5	0.0	18.4	18.4	18.4	1	23.7	23.8	23.7	0	19.4	19.4	19.4	0	20.4	20.4	20.4
			3	0	0.0	18.4	18.4	18.4	1	22.6	22.8	22.8	1	18.7	18.7	18.7	0	20.4	20.5	20.4
			3	1	0.0	18.5	18.5	18.5	1	22.6	22.8	22.8	1	18.7	18.7	18.6	0	20.5	20.5	20.5
			3	2	0.0	18.5	18.5	18.5	1	22.6	22.8	22.8	1	18.6	18.7	18.7	0	20.4	20.5	20.5
		64QAM	6	0	0.0	18.4	18.5	18.4	2	22.7	22.8	22.7	1	18.7	18.7	18.7	0	20.4	20.5	20.5
			1	0	0.0	18.4	18.4	18.4	2	22.7	22.8	22.7	1	18.7	18.6	18.6	0	20.4	20.5	20.5
			1	2	0.0	18.4	18.4	18.4	2	22.7	22.8	22.7	1	18.6	18.7	18.7	0	20.4	20.5	20.5
			1	5	0.0	18.4	18.4	18.4	2	22.7	22.8	22.7	1	18.7	18.7	18.7	0	20.4	20.5	20.5
			3	0	0.8	17.7	17.7	17.7	2	21.6	21.6	21.6	2	17.7	17.7	17.6	0	20.4	20.5	20.4
			3	1	0.8	17.7	17.7	17.7	2	21.6	21.6	21.6	2	17.6	17.6	17.7	0	20.5	20.5	20.4
			3	2	0.8	17.7	17.7	17.7	2	21.6	21.6	21.6	2	17.7	17.7	17.7	0	20.5	20.5	20.4
			6	0	0.8	17.7	17.7	17.7	3	21.6	21.6	21.6	2	17.7	17.6	17.7	0	20.5	20.5	20.4

LTE Band 5 Average Power (dBm) Measured Results

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

LTE Band 7 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A							MODE B										
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1				
						2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		
LTE Band 7	20	Max Power (dBm)			15.3			24.5			18.3			18.0								
		QPSK	1	0	0.0	15.3	15.3	15.3	0.0	24.5	24.5	24.5	0.0	18.0	18.0	18.0	0.0	17.6	17.5	17.7		
			1	49	0.0	15.3	15.3	15.3	0.0	24.5	24.5	24.5	0.0	18.0	18.0	18.0	0.0	17.6	17.5	17.7		
			1	99	0.0	15.3	15.3	15.3	0.0	24.5	24.5	24.5	0.0	18.0	18.0	18.0	0.0	17.6	17.5	17.7		
			50	0	0.0	15.3	15.3	15.3	0.2	24.3	24.3	24.2	0.0	18.0	18.0	18.0	0.0	17.6	17.6	17.8		
			50	24	0.0	15.3	15.3	15.3	0.2	24.3	24.3	24.2	0.0	18.0	18.0	18.0	0.0	17.6	17.7	17.8		
			50	49	0.0	15.3	15.3	15.3	0.2	24.3	24.3	24.2	0.0	18.0	18.0	18.0	0.0	17.6	17.6	17.8		
		16QAM	100	0	0.0	15.3	15.3	15.3	0.2	24.3	24.3	24.2	0.0	18.0	18.0	18.0	0.0	17.6	17.6	17.8		
			1	0	0.0	15.3	15.1	15.2	0.2	24.1	24.1	24.2	0.0	18.0	18.0	18.1	0.0	17.5	17.7	17.7		
			1	49	0.0	15.3	15.2	15.2	0.2	24.2	24.1	24.2	0.0	18.1	18.0	18.0	0.0	17.5	17.7	17.8		
			1	99	0.0	15.3	15.1	15.2	0.2	24.2	24.2	24.3	0.0	17.9	18.0	17.9	0.0	17.7	17.7	17.6		
			50	0	0.0	15.2	15.2	15.2	1.2	23.2	23.3	23.2	0.0	18.0	17.9	18.0	0.0	17.6	17.5	17.8		
			50	24	0.0	15.3	15.2	15.3	1.2	23.3	23.1	23.2	0.0	18.0	18.0	18.0	0.0	17.7	17.5	17.6		
		64QAM	50	49	0.0	15.2	15.2	15.2	1.2	23.3	23.2	23.3	0.0	17.9	18.0	18.0	0.0	17.7	17.7	17.5		
			100	0	0.0	15.2	15.2	15.3	1.2	23.3	23.3	23.3	0.0	18.0	17.9	17.9	0.0	17.6	17.6	17.5		
			1	0	0.0	15.3	15.2	15.2	1.2	23.1	23.2	23.2	0.0	18.0	17.9	18.1	0.0	17.8	17.6	17.7		
			1	49	0.0	15.3	15.2	15.2	1.2	23.1	23.2	23.3	0.0	18.1	18.0	18.0	0.0	17.6	17.6	17.6		
			1	99	0.0	15.3	15.3	15.2	1.2	23.1	23.2	23.3	0.0	18.0	18.1	18.0	0.0	17.5	17.7	17.6		
			50	0	0.0	15.2	15.2	15.3	2.2	22.2	22.2	22.1	0.5	17.3	17.1	17.3	0.0	17.6	17.7	17.7		
		LTE Band 7	15	QPSK	1	0	0.0	15.2	15.3	15.2	0.0	24.5	24.5	24.4	0.0	17.9	17.9	18.0	0.0	17.6	17.5	17.6
					1	36	0.0	15.2	15.2	15.2	0.0	24.5	24.5	24.5	0.0	18.0	17.9	18.0	0.0	17.7	17.7	17.5
					1	74	0.0	15.1	15.2	15.1	0.0	24.5	24.4	24.4	0.0	18.0	18.0	18.1	0.0	17.7	17.6	17.6
36	0				0.0	15.1	15.1	15.2	0.2	24.1	24.2	24.2	0.0	18.0	17.9	18.1	0.0	17.7	17.8	17.7		
36	18				0.0	15.3	15.1	15.2	0.2	24.1	24.2	24.2	0.0	17.9	18.0	18.0	0.0	17.6	17.7	17.8		
36	37				0.0	15.1	15.2	15.2	0.2	24.2	24.2	24.2	0.0	17.9	18.0	18.0	0.0	17.7	17.5	17.6		
16QAM	75			0	0.0	15.1	15.3	15.1	0.2	24.2	24.1	24.2	0.0	18.0	18.0	18.0	0.0	17.6	17.5	17.6		
	1			0	0.0	15.2	15.1	15.3	0.2	24.3	24.1	24.3	0.0	18.0	17.9	18.0	0.0	17.5	17.5	17.8		
	1			36	0.0	15.2	15.1	15.2	0.2	24.2	24.1	24.3	0.0	18.1	17.9	18.1	0.0	17.8	17.7	17.8		
	1			74	0.0	15.2	15.2	15.3	0.2	24.2	24.3	24.2	0.0	18.0	17.9	18.1	0.0	17.6	17.5	17.7		
	36			0	0.0	15.2	15.3	15.3	1.2	23.2	23.2	23.3	0.0	18.0	18.1	18.0	0.0	17.7	17.6	17.7		
	36			18	0.0	15.2	15.2	15.3	1.2	23.3	23.2	23.2	0.0	18.1	17.9	18.0	0.0	17.6	17.7	17.6		
64QAM	36			37	0.0	15.3	15.1	15.3	1.2	23.1	23.2	23.1	0.0	18.1	18.0	18.1	0.0	17.6	17.7	17.8		
	75			0	0.0	15.3	15.1	15.1	1.2	23.2	23.1	23.2	0.0	18.1	18.1	18.1	0.0	17.6	17.8	17.6		
	1			0	0.0	15.2	15.2	15.2	1.2	23.2	23.2	23.2	0.0	17.9	18.0	18.0	0.0	17.6	17.5	17.6		
	1			36	0.0	15.2	15.3	15.1	1.2	23.1	23.2	23.2	0.0	17.9	18.0	18.1	0.0	17.6	17.6	17.6		
	1			74	0.0	15.3	15.2	15.2	1.2	23.2	23.1	23.1	0.0	17.9	18.0	18.1	0.0	17.6	17.5	17.7		
	36			0	0.0	15.1	15.2	15.2	2.2	22.2	22.1	22.3	0.5	17.2	17.1	17.1	0.0	17.6	17.6	17.6		
64QAM	36			18	0.0	15.2	15.2	15.1	2.2	22.3	22.2	22.2	0.5	17.2	17.2	17.1	0.0	17.8	17.7	17.6		
	36			37	0.0	15.1	15.3	15.1	2.2	22.2	22.3	22.2	0.5	17.2	17.3	17.1	0.0	17.8	17.6	17.7		
	75			0	0.0	15.2	15.2	15.1	2.2	22.3	22.1	22.3	0.5	17.2	17.2	17.1	0.0	17.7	17.6	17.6		

LTE Band 7 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1				
						2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		
LTE Band 7	10	QPSK	1	0	0.0	15.2	15.2	15.3	0.0	24.5	24.5	24.5	0.0	18.0	18.0	18.0	0.0	17.8	17.7	17.5		
			1	24	0.0	15.2	15.2	15.3	0.0	24.5	24.4	24.5	0.0	18.1	18.0	17.9	0.0	17.7	17.7	17.8		
			1	49	0.0	15.3	15.3	15.2	0.0	24.5	24.4	24.5	0.0	18.1	17.9	17.9	0.0	17.6	17.8	17.5		
			25	0	0.0	15.2	15.1	15.2	0.2	24.3	24.1	24.2	0.0	18.0	18.0	18.1	0.0	17.7	17.8	17.8		
			25	12	0.0	15.2	15.3	15.3	0.2	24.3	24.2	24.3	0.0	17.9	18.0	17.9	0.0	17.5	17.5	17.6		
			25	24	0.0	15.1	15.1	15.2	0.2	24.3	24.3	24.3	0.0	17.9	18.1	18.1	0.0	17.6	17.6	17.7		
		64QAM	50	0	0.0	15.2	15.1	15.2	0.2	24.1	24.2	24.2	0.0	17.9	17.9	18.0	0.0	17.8	17.6	17.6		
		1	0	0.0	15.3	15.2	15.3	0.2	24.1	24.2	24.3	0.0	18.0	18.0	18.0	0.0	17.6	17.8	17.7			
		1	24	0.0	15.3	15.3	15.2	0.2	24.1	24.2	24.3	0.0	17.9	18.1	18.0	0.0	17.6	17.6	17.6			
		1	49	0.0	15.2	15.2	15.1	0.2	24.2	24.1	24.1	0.0	18.1	18.0	17.9	0.0	17.7	17.7	17.7			
		25	0	0.0	15.3	15.3	15.1	1.2	23.2	23.1	23.3	0.0	18.0	18.0	18.0	0.0	17.6	17.6	17.7			
		25	12	0.0	15.1	15.2	15.2	1.2	23.3	23.2	23.2	0.0	18.0	18.0	18.0	0.0	17.5	17.7	17.7			
		25	24	0.0	15.2	15.3	15.1	1.2	23.2	23.3	23.2	0.0	18.0	18.0	17.9	0.0	17.6	17.7	17.7			
		50	0	0.0	15.1	15.1	15.2	1.2	23.3	23.1	23.3	0.0	18.0	18.1	18.0	0.0	17.6	17.7	17.7			
		64QAM	1	0	0.0	15.2	15.3	15.3	1.2	23.2	23.2	23.2	0.0	18.1	18.0	18.1	0.0	17.5	17.5	17.8		
		1	24	0.0	15.2	15.3	15.3	1.2	23.2	23.3	23.1	0.0	18.1	18.0	18.1	0.0	17.7	17.7	17.6			
		1	49	0.0	15.2	15.1	15.1	1.2	23.2	23.3	23.2	0.0	17.9	18.0	18.1	0.0	17.6	17.6	17.6			
		25	0	0.0	15.2	15.2	15.1	2.2	22.2	22.2	22.2	0.5	17.1	17.2	17.2	0.0	17.7	17.8	17.7			
		25	12	0.0	15.3	15.2	15.2	2.2	22.2	22.3	22.1	0.5	17.2	17.1	17.3	0.0	17.7	17.6	17.5			
		25	24	0.0	15.3	15.2	15.2	2.2	22.2	22.3	22.2	0.5	17.3	17.1	17.3	0.0	17.7	17.8	17.6			
50	0	0.0	15.2	15.1	15.2	2.2	22.2	22.3	22.1	0.5	17.1	17.3	17.1	0.0	17.7	17.7	17.7					
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1				
						2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz						
LTE Band 7	5	QPSK	1	0	0.0	15.1	15.3	15.2	0.0	24.5	24.4	24.5	0.0	18.1	18.0	17.9	0.0	17.7	17.6	17.5		
			1	12	0.0	15.2	15.3	15.2	0.0	24.4	24.4	24.5	0.0	17.9	17.9	17.9	0.0	17.8	17.8	17.7		
			1	24	0.0	15.2	15.2	15.2	0.0	24.5	24.5	24.5	0.0	18.1	18.0	17.9	0.0	17.8	17.5	17.6		
			12	0	0.0	15.2	15.3	15.1	0.2	24.2	24.2	24.1	0.0	17.9	18.0	17.9	0.0	17.6	17.5	17.7		
			12	7	0.0	15.3	15.2	15.2	0.2	24.2	24.2	24.3	0.0	18.0	18.1	17.9	0.0	17.5	17.7	17.8		
			12	13	0.0	15.1	15.2	15.2	0.2	24.3	24.2	24.2	0.0	17.9	18.0	18.0	0.0	17.7	17.5	17.6		
		64QAM	25	0	0.0	15.1	15.2	15.2	0.2	24.1	24.2	24.1	0.0	18.0	18.0	18.1	0.0	17.7	17.7	17.7		
		1	0	0.0	15.3	15.2	15.2	0.2	24.2	24.1	24.2	0.0	18.0	18.0	18.0	0.0	17.6	17.7	17.6			
		1	12	0.0	15.1	15.3	15.2	0.2	24.2	24.2	24.2	0.0	18.0	18.0	18.0	0.0	17.5	17.6	17.7			
		1	24	0.0	15.2	15.2	15.2	0.2	24.1	24.2	24.2	0.0	18.0	18.1	17.9	0.0	17.6	17.7	17.7			
		12	0	0.0	15.1	15.2	15.3	1.2	23.2	23.2	23.2	0.0	17.9	18.1	18.0	0.0	17.6	17.8	17.6			
		12	7	0.0	15.2	15.2	15.1	1.2	23.1	23.3	23.2	0.0	17.9	17.9	18.0	0.0	17.7	17.5	17.5			
		12	13	0.0	15.3	15.2	15.1	1.2	23.3	23.2	23.1	0.0	18.1	18.1	18.0	0.0	17.7	17.5	17.8			
		25	0	0.0	15.2	15.2	15.2	1.2	23.2	23.2	23.2	0.0	17.9	18.1	18.1	0.0	17.6	17.7	17.5			
		64QAM	1	0	0.0	15.1	15.2	15.2	1.2	23.2	23.2	23.2	0.0	18.0	18.1	17.9	0.0	17.8	17.5	17.6		
		1	12	0.0	15.2	15.3	15.2	1.2	23.2	23.2	23.1	0.0	18.1	17.9	18.1	0.0	17.8	17.7	17.7			
		1	24	0.0	15.2	15.2	15.2	1.2	23.2	23.3	23.2	0.0	18.1	17.9	17.9	0.0	17.8	17.7	17.6			
		12	0	0.0	15.2	15.1	15.1	2.2	22.3	22.2	22.1	0.5	17.1	17.2	17.1	0.0	17.7	17.6	17.5			
		12	7	0.0	15.2	15.1	15.2	2.2	22.3	22.1	22.1	0.5	17.2	17.2	17.3	0.0	17.6	17.7	17.5			
		12	13	0.0	15.3	15.2	15.2	2.2	22.2	22.2	22.3	0.5	17.3	17.2	17.2	0.0	17.6	17.5	17.7			
25	0	0.0	15.2	15.2	15.3	2.2	22.1	22.2	22.1	0.5	17.1	17.2	17.3	0.0	17.7	17.6	17.7					

LTE Band 12 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1		Target MPR	LAT 1		Target MPR	UAT 1		Target MPR	LAT 1					
							707.5 MHz			707.5 MHz			707.5 MHz			707.5 MHz				
LTE Band 12	Max Power (dBm)					23.3			24.8			23.3			24.8					
	10	QPSK	1	0	0		23.3		0		24.8		0		23.3		0		24.8	
			1	24	0		23.3		0		24.8		0		23.3		0		24.8	
			1	49	0		23.3		0		24.8		0		23.3		0		24.8	
			25	0	1		23.3		1		23.8		1		22.3		1		23.8	
			25	12	1		23.3		1		23.8		1		22.3		1		23.8	
			25	24	1		23.3		1		23.8		1		22.3		1		23.8	
		16QAM	50	0	1		23.3		1		23.8		1		22.3		1		23.8	
			1	0	1		22.2		1		23.7		1		22.2		1		23.7	
			1	24	1		22.3		1		23.7		1		22.3		1		23.7	
			1	49	1		22.2		1		23.8		1		22.2		1		23.8	
			25	0	2		21.3		2		22.7		2		21.3		2		22.7	
			25	12	2		21.1		2		22.7		2		21.1		2		22.7	
	64QAM	25	24	2		21.1		2		22.7		2		21.1		2		22.7		
		50	0	2		21.2		2		22.7		2		21.2		2		22.7		
		1	0	2		21.3		2		22.8		2		21.3		2		22.8		
		1	24	2		21.2		2		22.7		2		21.2		2		22.7		
		1	49	2		21.1		2		22.7		2		21.1		2		22.7		
		25	0	3		20.2		3		21.8		3		20.2		3		21.8		
		25	12	3		20.1		3		21.6		3		20.1		3		21.6		
		25	24	3		20.2		3		21.8		3		20.2		3		21.8		
	50	0	3		20.2		3		21.6		3		20.2		3		21.6			
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz				
LTE Band 12	5	QPSK	1	0	0	23.3	23.2	23.2	0	24.7	24.7	24.7	0	23.3	23.2	23.2	0	24.7	24.7	24.7
			1	12	0	23.2	23.1	23.2	0	24.7	24.7	24.7	0	23.2	23.1	23.2	0	24.7	24.7	24.7
			1	24	0	23.2	23.1	23.1	0	24.7	24.7	24.7	0	23.2	23.1	23.1	0	24.7	24.7	24.7
			12	0	1	22.2	22.2	22.2	1	23.6	23.7	23.8	1	22.2	22.2	22.2	1	23.6	23.7	23.8
			12	7	1	22.3	22.2	22.3	1	23.7	23.7	23.6	1	22.3	22.2	22.3	1	23.7	23.7	23.6
			12	13	1	22.1	22.2	22.1	1	23.7	23.7	23.8	1	22.1	22.2	22.1	1	23.7	23.7	23.8
		16QAM	25	0	1	22.3	22.1	22.1	1	23.8	23.8	23.6	1	22.3	22.1	22.1	1	23.8	23.8	23.6
			1	0	1	22.2	22.2	22.3	1	23.7	23.7	23.8	1	22.2	22.2	22.3	1	23.7	23.7	23.8
			1	12	1	22.3	22.2	22.2	1	23.7	23.7	23.7	1	22.3	22.2	22.2	1	23.7	23.7	23.7
			1	24	1	22.3	22.2	22.2	1	23.8	23.8	23.8	1	22.3	22.2	22.2	1	23.8	23.8	23.8
			12	0	2	21.2	21.1	21.2	2	22.7	22.7	22.7	2	21.2	21.1	21.2	2	22.7	22.7	22.7
			12	7	2	21.2	21.2	21.2	2	22.6	22.7	22.7	2	21.2	21.2	21.2	2	22.6	22.7	22.7
		64QAM	12	13	2	21.2	21.2	21.3	2	22.8	22.7	22.7	2	21.2	21.2	21.3	2	22.8	22.7	22.7
			25	0	2	21.2	21.1	21.2	2	22.7	22.7	22.8	2	21.2	21.1	21.2	2	22.7	22.7	22.8
			1	0	2	21.2	21.3	21.2	2	22.6	22.8	22.7	2	21.2	21.3	21.2	2	22.6	22.8	22.7
			1	12	2	21.2	21.3	21.1	2	22.8	22.7	22.8	2	21.2	21.3	21.1	2	22.8	22.7	22.8
			1	24	2	21.3	21.3	21.2	2	22.6	22.8	22.7	2	21.3	21.3	21.2	2	22.6	22.8	22.7
			12	0	3	20.2	20.2	20.2	3	21.8	21.7	21.7	3	20.2	20.2	20.2	3	21.8	21.7	21.7
			12	7	3	20.2	20.2	20.2	3	21.6	21.7	21.7	3	20.2	20.2	20.2	3	21.6	21.7	21.7
			12	13	3	20.2	20.3	20.2	3	21.7	21.7	21.7	3	20.2	20.3	20.2	3	21.7	21.7	21.7
			25	0	3	20.2	20.1	20.1	3	21.8	21.8	21.7	3	20.2	20.1	20.1	3	21.8	21.8	21.7

Note(s):

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

LTE Band 12 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1				
						700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		
LTE Band 12	3	QPSK	1	0	0	23.1	23.3	23.2	0	24.7	24.6	24.7	0	23.1	23.3	23.2	0	24.7	24.6	24.7		
			1	8	0	23.1	23.1	23.2	0	24.7	24.7	24.6	0	23.1	23.1	23.2	0	24.7	24.7	24.6		
			1	14	0	23.2	23.2	23.1	0	24.8	24.7	24.7	0	23.2	23.2	23.1	0	24.8	24.7	24.7		
			8	0	1	22.2	22.2	22.3	1	23.7	23.7	23.8	1	22.2	22.2	22.3	1	23.7	23.7	23.8		
			8	4	1	22.2	22.2	22.2	1	23.7	23.7	23.7	1	22.2	22.2	22.2	1	23.7	23.7	23.7		
			8	7	1	22.1	22.3	22.2	1	23.7	23.7	23.8	1	22.1	22.3	22.2	1	23.7	23.7	23.8		
		16QAM	15	0	1	22.2	22.3	22.3	1	23.7	23.7	23.8	1	22.2	22.3	22.3	1	23.7	23.7	23.8		
			1	0	1	22.1	22.1	22.3	1	23.7	23.6	23.7	1	22.1	22.1	22.3	1	23.7	23.6	23.7		
			1	8	1	22.2	22.1	22.1	1	23.7	23.7	23.7	1	22.2	22.1	22.1	1	23.7	23.7	23.7		
			1	14	1	22.3	22.3	22.3	1	23.6	23.7	23.8	1	22.3	22.3	22.3	1	23.6	23.7	23.8		
			8	0	2	21.2	21.3	21.3	2	22.6	22.6	22.6	2	21.2	21.3	21.3	2	22.6	22.6	22.6		
			8	4	2	21.1	21.2	21.2	2	22.7	22.7	22.7	2	21.1	21.2	21.2	2	22.7	22.7	22.7		
		64QAM	8	7	2	21.2	21.2	21.2	2	22.8	22.7	22.7	2	21.2	21.2	21.2	2	22.8	22.7	22.7		
			15	0	2	21.2	21.3	21.2	2	22.7	22.8	22.6	2	21.2	21.3	21.2	2	22.7	22.8	22.6		
			1	0	2	21.1	21.1	21.3	2	22.7	22.6	22.7	2	21.1	21.1	21.3	2	22.7	22.6	22.7		
			1	8	2	21.2	21.1	21.2	2	22.7	22.7	22.7	2	21.2	21.1	21.2	2	22.7	22.7	22.7		
			1	14	2	21.3	21.2	21.3	2	22.7	22.7	22.7	2	21.3	21.2	21.3	2	22.7	22.7	22.7		
			8	0	3	20.3	20.1	20.1	3	21.7	21.6	21.8	3	20.3	20.1	20.1	3	21.7	21.6	21.8		
			8	4	3	20.1	20.1	20.3	3	21.7	21.7	21.7	3	20.1	20.1	20.3	3	21.7	21.7	21.7		
			8	7	3	20.2	20.1	20.2	3	21.6	21.7	21.7	3	20.2	20.1	20.2	3	21.6	21.7	21.7		
			15	0	3	20.3	20.3	20.2	3	21.7	21.8	21.8	3	20.3	20.3	20.2	3	21.7	21.8	21.8		
LTE Band 12	1.4	QPSK	1	0	0	23.1	23.1	23.3	0	24.6	24.7	24.6	0	23.1	23.1	23.3	0	24.6	24.7	24.6		
			1	2	0	23.3	23.1	23.3	0	24.7	24.6	24.7	0	23.3	23.1	23.3	0	24.7	24.6	24.7		
			1	5	0	23.1	23.2	23.2	0	24.8	24.8	24.7	0	23.1	23.2	23.2	0	24.8	24.8	24.7		
			3	0	1	23.1	23.2	23.1	1	24.7	24.7	24.7	1	23.1	23.2	23.1	1	24.7	24.7	24.7		
			3	1	1	23.2	23.2	23.2	1	24.8	24.7	24.7	1	23.2	23.2	23.2	1	24.8	24.7	24.7		
			3	2	1	23.1	23.3	23.2	1	24.6	24.7	24.8	1	23.1	23.3	23.2	1	24.6	24.7	24.8		
		16QAM	6	0	1	22.1	22.3	22.3	1	23.7	23.6	23.7	1	22.1	22.3	22.3	1	23.7	23.6	23.7		
			1	0	1	22.2	22.3	22.2	1	23.7	23.7	23.7	1	22.2	22.3	22.2	1	23.7	23.7	23.7		
			1	2	1	22.1	22.2	22.2	1	23.7	23.6	23.7	1	22.1	22.2	22.2	1	23.7	23.6	23.7		
			1	5	1	22.3	22.2	22.3	1	23.6	23.6	23.7	1	22.3	22.2	22.3	1	23.6	23.6	23.7		
			3	0	2	22.2	22.2	22.2	2	23.6	23.8	23.8	2	22.2	22.2	22.2	2	23.6	23.8	23.8		
			3	1	2	22.2	22.3	22.3	2	23.7	23.7	23.6	2	22.2	22.3	22.3	2	23.7	23.7	23.6		
		64QAM	3	2	2	22.2	22.2	22.3	2	23.8	23.7	23.7	2	22.2	22.2	22.3	2	23.8	23.7	23.7		
			6	0	2	21.1	21.1	21.2	2	22.7	22.6	22.8	2	21.1	21.1	21.2	2	22.7	22.6	22.8		
			1	0	2	21.2	21.2	21.2	2	22.6	22.7	22.7	2	21.2	21.2	21.2	2	22.6	22.7	22.7		
			1	2	2	21.2	21.2	21.3	2	22.6	22.7	22.7	2	21.2	21.2	21.3	2	22.6	22.7	22.7		
			1	5	2	21.2	21.1	21.1	2	22.7	22.8	22.7	2	21.2	21.1	21.1	2	22.7	22.8	22.7		
			3	0	3	21.3	21.2	21.3	3	22.7	22.8	22.7	3	21.3	21.2	21.3	3	22.7	22.8	22.7		
			3	1	3	21.3	21.1	21.2	3	22.6	22.8	22.7	3	21.3	21.1	21.2	3	22.6	22.8	22.7		
			3	2	3	21.2	21.2	21.2	3	22.7	22.7	22.8	3	21.2	21.2	21.2	3	22.7	22.7	22.8		
			6	0	3	20.2	20.2	20.3	3	21.6	21.7	21.7	3	20.2	20.2	20.3	3	21.6	21.7	21.7		

LTE Band 13 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1		Target MPR	LAT 1		Target MPR	UAT 1		Target MPR	LAT 1					
							782 MHz			782 MHz			782 MHz			782 MHz		782 MHz		
LTE Band 13	10	Max Power (dBm)			23.3				24.8				23.3				24.8			
		QPSK	1	0	0		23.3	0		24.8	0		23.3	0		24.8				
			1	24	0		23.3	0		24.8	0		23.3	0		24.8				
			1	49	0		23.3	0		24.8	0		23.3	0		24.8				
			25	0	1		22.3	1		23.8	1		22.3	1		23.8				
			25	12	1		22.3	1		23.8	1		22.3	1		23.8				
			25	24	1		22.3	1		23.8	1		22.3	1		23.8				
		16QAM	50	0	1		22.3	1		23.8	1		22.3	1		23.8				
			1	0	1		22.2	1		23.6	1		22.2	1		23.6				
			1	24	1		22.3	1		23.8	1		22.3	1		23.8				
			1	49	1		22.2	1		23.6	1		22.2	1		23.6				
			25	0	2		21.2	2		22.7	2		21.2	2		22.7				
			25	12	2		21.2	2		22.8	2		21.2	2		22.8				
		64QAM	25	24	2		21.2	2		22.8	2		21.2	2		22.8				
			50	0	2		21.2	2		22.7	2		21.2	2		22.7				
			1	0	2		21.2	2		22.8	2		21.2	2		22.8				
			1	24	2		21.3	2		22.7	2		21.3	2		22.7				
			1	49	2		21.1	2		22.7	2		21.1	2		22.7				
			25	0	3		20.3	3		21.7	3		20.3	3		21.7				
			25	12	3		20.2	3		21.8	3		20.2	3		21.8				
			25	24	3		20.2	3		21.7	3		20.2	3		21.7				
		50	0	3		20.1	3		21.7	3		20.1	3		21.7					
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1		Target MPR	LAT 1		Target MPR	UAT 1		Target MPR	LAT 1					
						782 MHz			782 MHz			782 MHz			782 MHz			782 MHz		
LTE Band 13	5	QPSK	1	0	0		23.3	0		24.8	0		23.3	0		24.8				
			1	12	0		23.3	0		24.8	0		23.3	0		24.8				
			1	24	0		23.3	0		24.7	0		23.3	0		24.7				
			12	0	1		22.2	1		23.6	1		22.2	1		23.6				
			12	7	1		22.2	1		23.6	1		22.2	1		23.6				
			12	13	1		22.2	1		23.8	1		22.2	1		23.8				
		16QAM	25	0	1		22.2	1		23.7	1		22.2	1		23.7				
			1	0	1		22.2	1		23.8	1		22.2	1		23.8				
			1	12	1		22.2	1		23.8	1		22.2	1		23.8				
			1	24	1		22.2	1		23.7	1		22.2	1		23.7				
			12	0	2		21.3	2		22.7	2		21.3	2		22.7				
			12	7	2		21.2	2		22.7	2		21.2	2		22.7				
		64QAM	12	13	2		21.2	2		22.7	2		21.2	2		22.7				
			25	0	2		21.2	2		22.7	2		21.2	2		22.7				
			1	0	2		21.2	2		22.6	2		21.2	2		22.6				
			1	12	2		21.3	2		22.7	2		21.3	2		22.7				
			1	24	2		21.1	2		22.7	2		21.1	2		22.7				
			12	0	3		20.3	3		21.7	3		20.3	3		21.7				
			12	7	3		20.3	3		21.7	3		20.3	3		21.7				
			12	13	3		20.1	3		21.7	3		20.1	3		21.7				
			25	0	3		20.1	3		21.6	3		20.1	3		21.6				

Note(s):

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

LTE Band 17 Average Power (dBm) Measured Results

SAR for LTE Band 17 (Frequency range: 704 – 716 MHz) is covered by LTE Band 12 (Frequency range: 699 – 716 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

LTE Band 25 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	Max Power (dBm)					18.0				24.8				19.5				20.5		
	20	QPSK	1	0	0.0	17.8	17.8	17.8	0.0	24.0	24.0	24.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
			1	49	0.0	17.8	17.8	17.8	0.0	24.0	24.0	24.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
			1	99	0.0	17.8	17.8	17.8	0.0	24.0	24.0	24.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
			50	0	0.0	17.8	17.8	17.8	0.0	23.0	22.8	23.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
			50	24	0.0	17.8	17.8	17.8	1.0	23.0	22.8	23.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
			50	49	0.0	17.8	17.8	17.8	1.0	23.0	22.8	23.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
		16QAM	100	0	0.0	17.8	17.8	17.8	1.0	23.0	23.0	23.0	0.0	19.0	19.0	19.0	0.0	20.5	20.5	20.5
			1	0	0.0	17.5	17.5	17.6	1.0	23.0	23.0	23.0	0.0	18.9	18.8	18.9	0.0	20.3	20.4	20.4
			1	49	0.0	17.6	17.5	17.6	1.0	23.0	23.0	23.0	0.0	19.0	19.0	19.0	0.0	20.4	20.4	20.5
			1	99	0.0	17.6	17.6	17.7	1.0	23.0	23.0	23.0	0.0	18.8	18.9	19.0	0.0	20.5	20.5	20.5
			50	0	0.0	17.6	17.5	17.7	2.0	22.0	22.0	22.0	0.7	18.6	18.6	18.7	0.0	20.4	20.3	20.5
			50	24	0.0	17.5	17.6	17.6	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.7	0.0	20.3	20.5	20.5
		64QAM	50	49	0.0	17.5	17.6	17.6	2.0	22.0	22.0	22.0	0.7	18.7	18.7	18.8	0.0	20.3	20.5	20.4
			100	0	0.0	17.6	17.6	17.6	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.8	0.0	20.4	20.5	20.5
			1	0	0.0	17.6	17.5	17.6	2.0	22.0	22.0	21.7	0.7	18.6	18.7	18.7	0.0	20.4	20.3	20.4
			1	49	0.0	17.7	17.5	17.7	2.0	22.0	22.0	22.0	0.7	18.6	18.7	18.7	0.0	20.5	20.3	20.5
			1	99	0.0	17.6	17.5	17.7	2.0	22.0	22.0	21.9	0.7	18.7	18.7	18.7	0.0	20.5	20.4	20.5
			50	0	0.2	17.4	17.5	17.4	3.0	21.0	21.0	21.0	1.7	17.6	17.7	17.7	0.0	20.4	20.5	20.4
			50	24	0.2	17.5	17.3	17.4	3.0	21.0	21.0	21.0	1.7	17.6	17.8	17.8	0.0	20.5	20.3	20.5
			50	49	0.2	17.5	17.4	17.5	3.0	21.0	21.0	20.9	1.7	17.7	17.8	17.6	0.0	20.5	20.5	20.5
			100	0	0.2	17.5	17.5	17.5	3.0	21.0	21.0	21.0	1.7	17.7	17.7	17.7	0.0	20.5	20.5	20.5
LTE Band 25	15	QPSK	1	0	0.0	17.7	17.6	17.6	0.0	24.0	24.0	24.0	0.0	18.9	18.9	18.9	0.0	20.3	20.5	20.5
			1	36	0.0	17.6	17.7	17.6	0.0	24.0	24.0	24.0	0.0	18.9	19.0	18.9	0.0	20.4	20.5	20.5
			1	74	0.0	17.7	17.5	17.7	0.0	24.0	24.0	24.0	0.0	18.9	18.9	19.0	0.0	20.3	20.5	20.5
			36	0	0.0	17.6	17.6	17.6	1.0	23.0	23.0	23.0	0.0	19.0	19.0	18.9	0.0	20.5	20.4	20.4
			36	18	0.0	17.6	17.7	17.5	1.0	23.0	23.0	23.0	0.0	19.0	18.8	18.9	0.0	20.4	20.4	20.3
			36	37	0.0	17.6	17.7	17.6	1.0	23.0	23.0	23.0	0.0	19.0	19.0	18.9	0.0	20.4	20.4	20.5
		16QAM	75	0	0.0	17.6	17.7	17.5	1.0	23.0	23.0	23.0	0.0	18.9	19.0	18.9	0.0	20.5	20.4	20.4
			1	0	0.0	17.6	17.6	17.5	1.0	23.0	22.9	23.0	0.0	19.0	18.8	18.8	0.0	20.3	20.5	20.4
			1	36	0.0	17.6	17.6	17.6	1.0	23.0	23.0	23.0	0.0	18.8	18.9	18.9	0.0	20.4	20.3	20.4
			1	74	0.0	17.7	17.6	17.5	1.0	23.0	23.0	23.0	0.0	18.9	18.9	19.0	0.0	20.5	20.5	20.4
			36	0	0.0	17.7	17.5	17.5	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.7	0.0	20.4	20.5	20.4
			36	18	0.0	17.6	17.6	17.7	2.0	22.0	21.9	22.0	0.7	18.8	18.6	18.8	0.0	20.4	20.4	20.4
		64QAM	36	37	0.0	17.5	17.6	17.5	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.8	0.0	20.4	20.4	20.5
			75	0	0.0	17.5	17.7	17.7	2.0	22.0	22.0	22.0	0.7	18.7	18.8	18.7	0.0	20.5	20.4	20.4
			1	0	0.0	17.5	17.5	17.6	2.0	22.0	22.0	21.9	0.7	18.8	18.6	18.7	0.0	20.5	20.5	20.4
			1	36	0.0	17.6	17.6	17.6	2.0	21.9	21.9	21.8	0.7	18.8	18.7	18.8	0.0	20.5	20.3	20.5
			1	74	0.0	17.5	17.7	17.6	2.0	22.0	22.0	22.0	0.7	18.8	18.8	18.8	0.0	20.4	20.5	20.4
			36	0	0.2	17.5	17.4	17.3	3.0	21.0	21.0	21.0	1.7	17.6	17.7	17.7	0.0	20.4	20.5	20.3
			36	18	0.2	17.4	17.4	17.4	3.0	20.9	20.9	21.0	1.7	17.8	17.7	17.6	0.0	20.4	20.5	20.4
			36	37	0.2	17.4	17.4	17.4	3.0	20.9	21.0	21.0	1.7	17.7	17.7	17.8	0.0	20.5	20.5	20.3
			75	0	0.2	17.4	17.4	17.3	3.0	20.9	21.0	21.0	1.7	17.8	17.8	17.6	0.0	20.5	20.4	20.3

LTE Band 25 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1				
						1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		
LTE Band 25	10	QPSK	1	0	0.0	17.6	17.7	17.6	0.0	24.0	24.0	24.0	0.0	19.0	18.8	18.9	0.0	20.4	20.5	20.5		
			1	24	0.0	17.7	17.6	17.7	0.0	24.0	24.0	24.0	0.0	19.0	18.9	19.0	0.0	20.5	20.5	20.3		
			1	49	0.0	17.7	17.6	17.7	0.0	24.0	24.0	24.0	0.0	18.9	18.8	18.8	0.0	20.5	20.4	20.4		
			25	0	0.0	17.5	17.6	17.7	1.0	23.0	23.0	23.0	0.0	19.0	18.9	18.8	0.0	20.5	20.4	20.5		
			25	12	0.0	17.5	17.6	17.6	1.0	23.0	23.0	23.0	0.0	18.9	18.9	18.9	0.0	20.4	20.4	20.3		
			25	24	0.0	17.6	17.5	17.7	1.0	23.0	22.9	23.0	0.0	18.9	18.8	19.0	0.0	20.3	20.5	20.5		
		50	0	0.0	17.7	17.5	17.7	1.0	23.0	23.0	23.0	0.0	18.9	18.9	19.0	0.0	20.3	20.3	20.4			
		16QAM	1	0	0.0	17.5	17.7	17.5	1.0	23.0	23.0	23.0	0.0	19.0	18.9	18.8	0.0	20.5	20.4	20.4		
			1	24	0.0	17.5	17.6	17.5	1.0	23.0	22.9	23.0	0.0	19.0	18.8	18.8	0.0	20.3	20.5	20.4		
			1	49	0.0	17.7	17.6	17.5	1.0	23.0	23.0	23.0	0.0	19.0	18.9	19.0	0.0	20.5	20.4	20.4		
			25	0	0.0	17.5	17.5	17.5	2.0	22.0	22.0	22.0	0.7	18.6	18.7	18.8	0.0	20.4	20.5	20.4		
			25	12	0.0	17.7	17.6	17.5	2.0	22.0	21.9	22.0	0.7	18.6	18.7	18.8	0.0	20.5	20.4	20.5		
			25	24	0.0	17.5	17.6	17.5	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.6	0.0	20.4	20.5	20.3		
		50	0	0.0	17.6	17.7	17.5	2.0	22.0	22.0	22.0	0.7	18.7	18.7	18.6	0.0	20.5	20.5	20.5			
		64QAM	1	0	0.0	17.5	17.6	17.6	2.0	21.9	21.9	22.0	0.7	18.7	18.7	18.8	0.0	20.5	20.5	20.5		
			1	24	0.0	17.6	17.6	17.7	2.0	21.9	22.0	22.0	0.7	18.8	18.7	18.7	0.0	20.5	20.4	20.5		
			1	49	0.0	17.6	17.6	17.6	2.0	22.0	22.0	22.0	0.7	18.6	18.7	18.6	0.0	20.3	20.4	20.5		
			25	0	0.0	17.4	17.4	17.4	3.0	21.0	21.0	21.0	1.7	17.7	17.7	17.7	0.0	20.3	20.4	20.4		
25	12		0.0	17.4	17.5	17.3	3.0	21.0	20.8	21.0	1.7	17.6	17.6	17.7	0.0	20.4	20.3	20.5				
25	24		0.0	17.3	17.5	17.4	3.0	20.9	21.0	20.9	1.7	17.6	17.6	17.6	0.0	20.5	20.3	20.5				
50	0	0.0	17.3	17.3	17.4	3.0	20.9	20.8	20.9	1.7	17.7	17.7	17.6	0.0	20.3	20.5	20.3					
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1				
						1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		
LTE Band 25	5	QPSK	1	0	0.0	17.7	17.7	17.6	0.0	24.0	24.0	24.0	0.0	18.9	18.9	18.9	0.0	20.4	20.5	20.3		
			1	12	0.0	17.5	17.7	17.7	0.0	24.0	24.0	24.0	0.0	19.0	19.0	18.9	0.0	20.5	20.5	20.4		
			1	24	0.0	17.6	17.7	17.5	0.0	24.0	24.0	24.0	0.0	19.0	19.0	18.9	0.0	20.3	20.3	20.3		
			12	0	0.0	17.7	17.5	17.7	1.0	23.0	23.0	23.0	0.0	18.9	19.0	18.9	0.0	20.5	20.5	20.3		
			12	7	0.0	17.7	17.5	17.5	1.0	23.0	23.0	23.0	0.0	19.0	18.9	19.0	0.0	20.4	20.4	20.3		
			12	13	0.0	17.5	17.6	17.5	1.0	23.0	23.0	23.0	0.0	18.9	18.8	19.0	0.0	20.4	20.5	20.4		
		25	0	0.0	17.6	17.6	17.7	1.0	23.0	23.0	23.0	0.0	18.9	18.9	18.9	0.0	20.3	20.5	20.5			
		16QAM	1	0	0.0	17.5	17.5	17.6	1.0	23.0	23.0	23.0	0.0	18.9	18.9	18.8	0.0	20.5	20.4	20.5		
			1	12	0.0	17.7	17.6	17.6	1.0	23.0	23.0	23.0	0.0	19.0	18.9	18.9	0.0	20.5	20.5	20.5		
			1	24	0.0	17.5	17.6	17.7	1.0	23.0	23.0	23.0	0.0	18.9	19.0	19.0	0.0	20.5	20.4	20.4		
			12	0	0.0	17.6	17.7	17.6	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.7	0.0	20.4	20.5	20.3		
			12	7	0.0	17.6	17.7	17.7	2.0	22.0	22.0	22.0	0.7	18.7	18.7	18.7	0.0	20.3	20.5	20.4		
			12	13	0.0	17.5	17.7	17.6	2.0	22.0	22.0	22.0	0.7	18.6	18.7	18.7	0.0	20.3	20.3	20.4		
		25	0	0.0	17.6	17.5	17.7	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.6	0.0	20.5	20.5	20.5			
		64QAM	1	0	0.0	17.6	17.6	17.6	2.0	22.0	22.0	22.0	0.7	18.7	18.6	18.8	0.0	20.3	20.5	20.5		
			1	12	0.0	17.5	17.6	17.5	2.0	22.0	21.9	22.0	0.7	18.8	18.7	18.7	0.0	20.5	20.5	20.4		
			1	24	0.0	17.6	17.7	17.6	2.0	21.9	22.0	21.9	0.7	18.7	18.8	18.7	0.0	20.5	20.4	20.5		
			12	0	0.2	17.4	17.4	17.4	3.0	21.0	21.0	20.9	1.7	17.8	17.8	17.6	0.0	20.5	20.3	20.3		
12	7		0.2	17.4	17.3	17.5	3.0	21.0	20.9	20.9	1.7	17.7	17.7	17.8	0.0	20.3	20.5	20.3				
12	13		0.2	17.4	17.5	17.4	3.0	21.0	21.0	21.0	1.7	17.8	17.7	17.7	0.0	20.4	20.5	20.5				
25	0	0.2	17.5	17.3	17.4	3.0	20.9	21.0	21.0	1.7	17.8	17.7	17.6	0.0	20.4	20.4	20.5					

LTE Band 25 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz
LTE Band 25	3	QPSK	1	0	0.0	17.7	17.6	17.6	0.0	24.0	24.0	24.1	0.0	19.0	19.0	18.9	0.0	20.3	20.5	20.5
			1	8	0.0	17.5	17.5	17.6	0.0	24.1	24.0	24.1	0.0	18.9	18.9	18.8	0.0	20.4	20.5	20.5
			1	14	0.0	17.6	17.6	17.6	0.0	24.0	24.1	24.1	0.0	19.0	18.9	18.8	0.0	20.4	20.5	20.5
			8	0	0.0	17.6	17.7	17.5	1.0	23.0	23.0	23.0	0.0	19.0	19.0	18.9	0.0	20.3	20.5	20.4
			8	4	0.0	17.6	17.7	17.6	1.0	23.0	23.0	23.0	0.0	18.9	18.9	19.0	0.0	20.4	20.3	20.5
			8	7	0.0	17.5	17.5	17.6	1.0	23.0	23.1	23.1	0.0	18.9	19.0	18.8	0.0	20.4	20.5	20.4
		15	0	0.0	17.6	17.7	17.7	1.0	23.0	23.1	23.0	0.0	18.9	19.0	18.8	0.0	20.4	20.5	20.3	
		16QAM	1	0	0.0	17.7	17.7	17.6	1.0	23.0	23.0	23.0	0.0	18.9	19.0	19.0	0.0	20.5	20.5	20.5
			1	8	0.0	17.6	17.7	17.6	1.0	23.0	23.1	23.0	0.0	18.9	18.9	19.0	0.0	20.5	20.5	20.5
			1	14	0.0	17.7	17.6	17.7	1.0	23.0	23.0	23.0	0.0	18.9	18.9	19.0	0.0	20.5	20.3	20.5
			8	0	0.0	17.6	17.7	17.7	2.0	22.0	22.0	21.9	0.7	18.8	18.6	18.8	0.0	20.4	20.5	20.4
			8	4	0.0	17.7	17.6	17.6	2.0	22.0	22.1	22.0	0.7	18.7	18.7	18.7	0.0	20.5	20.3	20.5
			8	7	0.0	17.6	17.6	17.6	2.0	22.0	21.9	22.1	0.7	18.7	18.8	18.6	0.0	20.5	20.4	20.3
		15	0	0.0	17.6	17.7	17.6	2.0	22.0	22.0	22.1	0.7	18.7	18.8	18.7	0.0	20.4	20.4	20.5	
		64QAM	1	0	0.0	17.7	17.7	17.7	2.0	21.9	21.9	21.9	0.7	18.7	18.8	18.6	0.0	20.5	20.4	20.4
	1		8	0.0	17.5	17.6	17.6	2.0	22.0	22.0	21.9	0.7	18.7	18.7	18.6	0.0	20.4	20.4	20.5	
	1		14	0.0	17.7	17.6	17.5	2.0	22.0	21.9	21.9	0.7	18.7	18.7	18.7	0.0	20.4	20.4	20.4	
	8		0	0.2	17.4	17.4	17.5	3.0	21.0	20.9	20.9	1.7	17.7	17.7	17.7	0.0	20.5	20.4	20.5	
	8		4	0.2	17.5	17.5	17.3	3.0	21.0	20.9	20.9	1.7	17.7	17.7	17.7	0.0	20.3	20.3	20.5	
	8		7	0.2	17.3	17.4	17.4	3.0	20.9	20.8	21.1	1.7	17.8	17.7	17.7	0.0	20.4	20.5	20.4	
	15	0	0.2	17.3	17.5	17.5	3.0	21.1	21.0	21.1	1.7	17.7	17.8	17.7	0.0	20.5	20.5	20.4		
LTE Band 25	1.4	QPSK	1	0	0.0	17.7	17.7	17.5	0.0	24.0	24.1	24.1	0.0	18.9	18.9	18.9	0.0	20.4	20.5	20.4
			1	3	0.0	17.6	17.6	17.7	0.0	24.0	24.0	24.1	0.0	18.9	18.9	18.8	0.0	20.3	20.3	20.4
			1	5	0.0	17.7	17.6	17.6	0.0	24.0	24.0	24.1	0.0	18.9	18.9	19.0	0.0	20.4	20.5	20.5
			3	0	0.0	17.7	17.6	17.5	0.0	24.0	24.1	24.0	0.0	18.9	18.9	18.9	0.0	20.5	20.5	20.4
			3	1	0.0	17.6	17.6	17.6	0.0	23.9	24.0	24.0	0.0	18.9	18.9	18.8	0.0	20.4	20.5	20.4
			3	3	0.0	17.6	17.6	17.6	0.0	24.1	24.0	24.0	0.0	18.9	18.9	19.0	0.0	20.5	20.5	20.5
		6	0	0.0	17.7	17.6	17.6	1.0	23.1	23.0	23.1	0.0	18.8	18.9	18.9	0.0	20.4	20.5	20.5	
		16QAM	1	0	0.0	17.6	17.7	17.6	1.0	23.0	23.1	23.0	0.0	18.9	19.0	19.0	0.0	20.5	20.4	20.4
			1	3	0.0	17.7	17.6	17.6	1.0	23.1	23.1	23.1	0.0	18.8	18.8	18.9	0.0	20.5	20.5	20.5
			1	5	0.0	17.7	17.6	17.5	1.0	22.9	23.0	23.1	0.0	19.0	18.8	18.8	0.0	20.4	20.5	20.4
			3	0	0.0	17.6	17.7	17.6	1.0	23.1	23.0	23.1	0.0	18.8	18.9	18.9	0.0	20.5	20.5	20.5
			3	1	0.0	17.6	17.5	17.6	1.0	23.1	23.1	23.0	0.0	18.8	18.8	18.9	0.0	20.4	20.5	20.4
			3	3	0.0	17.7	17.5	17.6	1.0	23.1	23.1	23.0	0.0	18.9	18.9	18.9	0.0	20.5	20.4	20.4
		6	0	0.0	17.7	17.7	17.6	2.0	22.1	22.0	22.1	0.7	18.8	18.7	18.6	0.0	20.5	20.4	20.5	
		64QAM	1	0	0.0	17.5	17.6	17.7	2.0	22.0	22.1	22.0	0.7	18.8	18.6	18.6	0.0	20.5	20.5	20.3
	1		3	0.0	17.6	17.5	17.6	2.0	21.9	22.0	22.1	0.7	18.7	18.7	18.8	0.0	20.4	20.5	20.5	
	1		5	0.0	17.5	17.6	17.6	2.0	22.0	21.9	21.9	0.7	18.6	18.7	18.6	0.0	20.3	20.5	20.5	
	3		0	0.0	17.6	17.6	17.6	2.0	22.0	21.9	21.9	0.7	18.6	18.8	18.8	0.0	20.4	20.5	20.3	
	3		1	0.0	17.7	17.6	17.6	2.0	21.9	21.9	22.1	0.7	18.6	18.6	18.7	0.0	20.4	20.5	20.4	
	3		3	0.0	17.6	17.6	17.6	2.0	22.1	22.0	22.1	0.7	18.7	18.7	18.7	0.0	20.4	20.5	20.5	
	6	0	0.2	17.5	17.3	17.3	3.0	20.9	21.0	21.1	1.7	17.8	17.7	17.7	0.0	20.4	20.3	20.4		

LTE Band 26 (Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B								
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1			
						819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz	
LTE Band 26	Max Power (dBm)				23.3				24.8				23.3				24.8				
	10	QPSK	1	0	0	23.3	23.3	23.3	0	24.8	24.8	24.8	0	23.3	23.3	23.3	0	24.8	24.8	24.8	
			1	24	0	23.3	23.3	23.3	0	24.8	24.8	24.8	0	23.3	23.3	23.3	0	24.8	24.8	24.8	
			1	49	0	23.3	23.3	23.3	0	24.8	24.8	24.8	0	23.3	23.3	23.3	0	24.8	24.8	24.8	
			25	0	1	22.3	22.3	22.3	1	23.8	23.8	23.8	1	22.3	22.3	22.3	1	23.8	23.8	23.8	
			25	12	1	22.3	22.3	22.3	1	23.8	23.8	23.8	1	22.3	22.3	22.3	1	23.8	23.8	23.8	
			25	24	1	22.3	22.3	22.3	1	23.8	23.8	23.8	1	22.3	22.3	22.3	1	23.8	23.8	23.8	
		50	0	1	22.3	22.3	22.3	1	23.8	23.8	23.8	1	22.3	22.3	22.3	1	23.8	23.8	23.8		
		16QAM	1	0	1	22.3	22.1	22.3	1	23.7	23.7	23.8	1	22.3	22.1	22.3	1	23.7	23.7	23.8	
			1	24	1	22.2	22.1	22.3	1	23.7	23.7	23.8	1	22.2	22.1	22.3	1	23.7	23.7	23.8	
			1	49	1	22.2	22.3	22.2	1	23.8	23.7	23.7	1	22.2	22.3	22.2	1	23.8	23.7	23.7	
			25	0	2	21.1	21.2	21.3	2	22.6	22.6	22.7	2	21.1	21.2	21.3	2	22.6	22.6	22.7	
			25	12	2	21.1	21.2	21.3	2	22.7	22.7	22.8	2	21.1	21.2	21.3	2	22.7	22.7	22.8	
			25	24	2	21.2	21.2	21.2	2	22.7	22.8	22.8	2	21.2	21.2	21.2	2	22.7	22.8	22.8	
		64QAM	50	0	2	21.1	21.1	21.3	2	22.7	22.6	22.6	2	21.1	21.1	21.3	2	22.7	22.6	22.6	
			1	0	2	21.2	21.1	21.2	2	22.7	22.7	22.8	2	21.2	21.1	21.2	2	22.7	22.7	22.8	
			1	24	2	21.2	21.2	21.1	2	22.7	22.6	22.7	2	21.2	21.2	21.1	2	22.7	22.6	22.7	
			1	49	2	21.2	21.2	21.1	2	22.7	22.8	22.7	2	21.2	21.2	21.1	2	22.7	22.8	22.7	
			25	0	3	20.2	20.2	20.1	3	21.7	21.6	21.8	3	20.2	20.2	20.1	3	21.7	21.6	21.8	
	25		12	3	20.2	20.3	20.2	3	21.6	21.8	21.8	3	20.2	20.3	20.2	3	21.6	21.8	21.8		
		25	24	3	20.3	20.2	20.3	3	21.7	21.8	21.7	3	20.3	20.2	20.3	3	21.7	21.8	21.7		
		50	0	3	20.3	20.2	20.3	3	21.7	21.6	21.6	3	20.3	20.2	20.3	3	21.7	21.6	21.6		
		Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B						
Target MPR							UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
							816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz
LTE Band 26	5	QPSK	1	0	0	23.3	23.2	23.3	0	24.7	24.7	24.7	0	23.3	23.2	23.3	0	24.7	24.7	24.7	
			1	12	0	23.2	23.2	23.3	0	24.8	24.7	24.8	0	23.2	23.2	23.3	0	24.8	24.7	24.8	
			1	24	0	23.3	23.3	23.3	0	24.8	24.6	24.7	0	23.3	23.3	23.3	0	24.8	24.6	24.7	
			12	0	1	22.3	22.1	22.2	1	23.6	23.8	23.7	1	22.3	22.1	22.2	1	23.6	23.8	23.7	
			12	7	1	22.3	22.2	22.3	1	23.7	23.7	23.7	1	22.3	22.2	22.3	1	23.7	23.7	23.7	
			12	13	1	22.3	22.3	22.3	1	23.6	23.8	23.7	1	22.3	22.3	22.3	1	23.6	23.8	23.7	
		16QAM	25	0	1	22.1	22.2	22.2	1	23.6	23.6	23.8	1	22.1	22.2	22.2	1	23.6	23.6	23.8	
			1	0	1	22.1	22.2	22.3	1	23.7	23.7	23.6	1	22.1	22.2	22.3	1	23.7	23.7	23.6	
			1	12	1	22.1	22.2	22.3	1	23.8	23.7	23.7	1	22.1	22.2	22.3	1	23.8	23.7	23.7	
			1	24	1	22.2	22.1	22.1	1	23.8	23.7	23.7	1	22.2	22.1	22.1	1	23.8	23.7	23.7	
			12	0	2	21.2	21.2	21.2	2	22.7	22.7	22.8	2	21.2	21.2	21.2	2	22.7	22.7	22.8	
			12	7	2	21.2	21.2	21.2	2	22.7	22.7	22.7	2	21.2	21.2	21.2	2	22.7	22.7	22.7	
		64QAM	12	13	2	21.2	21.3	21.3	2	22.7	22.7	22.7	2	21.2	21.3	21.3	2	22.7	22.7	22.7	
			25	0	2	21.2	21.3	21.2	2	22.8	22.7	22.6	2	21.2	21.3	21.2	2	22.8	22.7	22.6	
			1	0	2	21.2	21.1	21.2	2	22.8	22.7	22.7	2	21.2	21.1	21.2	2	22.8	22.7	22.7	
			1	12	2	21.2	21.2	21.2	2	22.7	22.6	22.7	2	21.2	21.2	21.2	2	22.7	22.6	22.7	
			1	24	2	21.1	21.1	21.2	2	22.8	22.7	22.6	2	21.1	21.1	21.2	2	22.8	22.7	22.6	
			12	0	3	20.1	20.2	20.1	3	21.7	21.7	21.7	3	20.1	20.2	20.1	3	21.7	21.7	21.7	
	12	7	3	20.2	20.3	20.1	3	21.7	21.8	21.6	3	20.2	20.3	20.1	3	21.7	21.8	21.6			
	12	13	3	20.1	20.2	20.2	3	21.8	21.6	21.8	3	20.1	20.2	20.2	3	21.8	21.6	21.8			
	25	0	3	20.2	20.2	20.3	3	21.8	21.6	21.7	3	20.2	20.2	20.3	3	21.8	21.6	21.7			

LTE Band 26 Average Power (dBm) Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz
LTE Band 26	3	QPSK	1	0	0	23.2	23.3	23.2	0	24.6	24.6	24.8	0	23.2	23.3	23.2	0	24.6	24.6	24.8
			1	8	0	23.2	23.2	23.3	0	24.7	24.7	24.7	0	23.2	23.2	23.3	0	24.7	24.7	24.7
			1	14	0	23.2	23.3	23.3	0	24.8	24.7	24.6	0	23.2	23.3	23.3	0	24.8	24.7	24.6
			8	0	1	22.1	22.2	22.2	1	23.8	23.8	23.6	1	22.1	22.2	22.2	1	23.8	23.8	23.6
			8	4	1	22.2	22.1	22.1	1	23.7	23.8	23.6	1	22.2	22.1	22.1	1	23.7	23.8	23.6
			8	7	1	22.2	22.1	22.3	1	23.7	23.8	23.8	1	22.2	22.1	22.3	1	23.7	23.8	23.8
		16QAM	15	0	1	22.3	22.2	22.2	1	23.7	23.6	23.6	1	22.3	22.2	22.2	1	23.7	23.6	23.6
			1	0	1	22.2	22.3	22.2	1	23.7	23.8	23.6	1	22.2	22.3	22.2	1	23.7	23.8	23.6
			1	8	1	22.3	22.1	22.3	1	23.7	23.7	23.6	1	22.3	22.1	22.3	1	23.7	23.7	23.6
			1	14	1	22.2	22.2	22.2	1	23.7	23.7	23.7	1	22.2	22.2	22.2	1	23.7	23.7	23.7
			8	0	2	21.3	21.2	21.2	2	22.8	22.7	22.7	2	21.3	21.2	21.2	2	22.8	22.7	22.7
			8	4	2	21.3	21.2	21.2	2	22.8	22.8	22.6	2	21.3	21.2	21.2	2	22.8	22.8	22.6
		64QAM	8	7	2	21.2	21.2	21.2	2	22.7	22.7	22.7	2	21.2	21.2	21.2	2	22.7	22.7	22.7
			15	0	2	21.3	21.2	21.1	2	22.7	22.8	22.7	2	21.3	21.2	21.1	2	22.7	22.8	22.7
			1	0	2	21.2	21.2	21.3	2	22.7	22.7	22.8	2	21.2	21.2	21.3	2	22.7	22.7	22.8
			1	8	2	21.2	21.3	21.1	2	22.8	22.7	22.8	2	21.2	21.3	21.1	2	22.8	22.7	22.8
			1	14	2	21.3	21.3	21.3	2	22.7	22.8	22.7	2	21.3	21.3	21.3	2	22.7	22.8	22.7
			8	0	3	20.2	20.2	20.2	3	21.7	21.7	21.6	3	20.2	20.2	20.2	3	21.7	21.7	21.6
			8	4	3	20.2	20.2	20.2	3	21.8	21.8	21.7	3	20.2	20.2	20.2	3	21.8	21.8	21.7
			8	7	3	20.2	20.3	20.1	3	21.7	21.6	21.7	3	20.2	20.3	20.1	3	21.7	21.6	21.7
			15	0	3	20.1	20.3	20.2	3	21.7	21.7	21.6	3	20.1	20.3	20.2	3	21.7	21.7	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz
LTE Band 26	1.4	QPSK	1	0	0	23.3	23.2	23.3	0	24.7	24.8	24.7	0	23.3	23.2	23.3	0	24.7	24.8	24.7
			1	3	0	23.3	23.3	23.2	0	24.8	24.7	24.7	0	23.3	23.3	23.2	0	24.8	24.7	24.7
			1	5	0	23.2	23.2	23.2	0	24.8	24.6	24.6	0	23.2	23.2	23.2	0	24.8	24.6	24.6
			3	0	1	23.3	23.3	23.3	1	24.8	24.8	24.7	1	23.3	23.3	23.3	1	24.8	24.8	24.7
			3	1	1	23.2	23.3	23.2	1	24.6	24.7	24.7	1	23.2	23.3	23.2	1	24.6	24.7	24.7
			3	3	1	23.3	23.3	23.3	1	24.7	24.6	24.7	1	23.3	23.3	23.3	1	24.7	24.6	24.7
		16QAM	6	0	1	22.2	22.3	22.2	1	23.8	23.6	23.8	1	22.2	22.3	22.2	1	23.8	23.6	23.8
			1	0	1	22.2	22.3	22.1	1	23.7	23.6	23.7	1	22.2	22.3	22.1	1	23.7	23.6	23.7
			1	3	1	22.2	22.2	22.1	1	23.7	23.8	23.7	1	22.2	22.2	22.1	1	23.7	23.8	23.7
			1	5	1	22.2	22.2	22.2	1	23.8	23.7	23.8	1	22.2	22.2	22.2	1	23.8	23.7	23.8
			3	0	2	22.3	22.2	22.1	2	23.7	23.7	23.7	2	22.3	22.2	22.1	2	23.7	23.7	23.7
			3	1	2	22.3	22.1	22.1	2	23.7	23.8	23.7	2	22.3	22.1	22.1	2	23.7	23.8	23.7
		64QAM	3	3	2	22.2	22.2	22.3	2	23.7	23.7	23.7	2	22.2	22.2	22.3	2	23.7	23.7	23.7
			6	0	2	21.2	21.3	21.3	2	22.7	22.8	22.7	2	21.2	21.3	21.3	2	22.7	22.8	22.7
			1	0	2	21.1	21.1	21.3	2	22.7	22.7	22.7	2	21.1	21.1	21.3	2	22.7	22.7	22.7
			1	3	2	21.3	21.2	21.2	2	22.8	22.7	22.8	2	21.3	21.2	21.2	2	22.8	22.7	22.8
			1	5	2	21.2	21.2	21.2	2	22.7	22.7	22.8	2	21.2	21.2	21.2	2	22.7	22.7	22.8
			3	0	3	21.2	21.3	21.2	3	22.6	22.7	22.8	3	21.2	21.3	21.2	3	22.6	22.7	22.8
			3	1	3	21.2	21.2	21.1	3	22.8	22.7	22.7	3	21.2	21.2	21.1	3	22.8	22.7	22.7
			3	3	3	21.3	21.3	21.2	3	22.6	22.8	22.7	3	21.3	21.3	21.2	3	22.6	22.8	22.7
			6	0	3	20.1	20.3	20.3	3	21.7	21.6	21.7	3	20.1	20.3	20.3	3	21.7	21.6	21.7

LTE Band 30 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A				MODE B											
					Target MPR	UAT 1	Target MPR	LAT 1	Target MPR	UAT 1	Target MPR	LAT 1								
						2310 MHz		2310 MHz		2310 MHz		2310 MHz								
LTE Band 30	Max Power (dBm)				16.5				23.8				18.0				21.5			
	10	QPSK	1	0	0.0	15.5	0.0	22.9	0.0	17.7	0.0	21.5								
			1	24	0.0	15.5	0.0	22.9	0.0	17.7	0.0	21.5								
			1	49	0.0	15.5	0.0	22.9	0.0	17.7	0.0	21.5								
			25	0	0.0	15.5	1.0	22.5	0.0	17.8	0.0	21.5								
			25	12	0.0	15.5	1.0	22.5	0.0	17.8	0.0	21.5								
			25	24	0.0	15.5	1.0	22.5	0.0	17.8	0.0	21.5								
			50	0	0.0	15.5	1.0	22.1	0.0	17.8	0.0	21.5								
		16QAM	1	0	0.0	15.4	1.0	22.1	0.0	17.6	0.0	21.5								
			1	24	0.0	15.5	1.0	22.1	0.0	17.7	0.0	21.4								
			1	49	0.0	15.5	1.0	22.0	0.0	17.7	0.0	21.5								
			25	0	0.0	15.4	2.0	21.7	0.2	17.7	0.0	21.5								
			25	12	0.0	15.5	2.0	21.8	0.2	17.4	0.0	21.4								
			25	24	0.0	15.4	2.0	21.8	0.2	17.4	0.0	21.4								
			50	0	0.0	15.4	2.0	21.8	0.2	17.5	0.0	21.4								
	64QAM	1	0	0.0	15.4	2.0	21.8	0.2	17.5	0.0	21.4									
		1	24	0.0	15.4	2.0	21.7	0.2	17.6	0.0	21.5									
		1	49	0.0	15.5	2.0	21.8	0.2	17.5	0.0	21.5									
		25	0	0.0	15.4	3.0	20.7	1.2	16.5	0.7	20.8									
		25	12	0.0	15.5	3.0	20.8	1.2	16.5	0.7	20.7									
		25	24	0.0	15.4	3.0	20.8	1.2	16.4	0.7	20.7									
		50	0	0.0	15.5	3.0	20.7	1.2	16.5	0.7	20.7									
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A				MODE B											
					Target MPR	UAT 1	Target MPR	LAT 1	Target MPR	UAT 1	Target MPR	LAT 1								
						2310 MHz		2310 MHz		2310 MHz		2310 MHz								
LTE Band 30	5	QPSK	1	0	0.0	15.5	0.0	22.0	0.0	17.7	0.0	21.4								
			1	12	0.0	15.4	0.0	22.0	0.0	17.8	0.0	21.5								
			1	24	0.0	15.5	0.0	22.1	0.0	17.7	0.0	21.5								
			12	0	0.0	15.5	1.0	22.1	0.0	17.7	0.0	21.4								
			12	7	0.0	15.4	1.0	22.0	0.0	17.7	0.0	21.3								
			12	13	0.0	15.4	1.0	22.0	0.0	17.6	0.0	21.3								
			25	0	0.0	15.5	1.0	22.1	0.0	17.7	0.0	21.3								
		16QAM	1	0	0.0	15.5	1.0	22.1	0.0	17.7	0.0	21.4								
			1	12	0.0	15.4	1.0	22.0	0.0	17.7	0.0	21.3								
			1	24	0.0	15.5	1.0	22.1	0.0	17.7	0.0	21.5								
			12	0	0.0	15.4	2.0	21.7	0.0	17.6	0.0	21.4								
			12	7	0.0	15.5	2.0	21.7	0.2	17.5	0.0	21.4								
			12	13	0.0	15.5	2.0	21.8	0.2	17.5	0.0	21.5								
			25	0	0.0	15.4	2.0	21.7	0.2	17.4	0.0	21.5								
		64QAM	1	0	0.0	15.5	2.0	21.8	0.2	17.5	0.0	21.3								
			1	12	0.0	15.4	2.0	21.8	0.2	17.6	0.0	21.3								
			1	24	0.0	15.5	2.0	21.8	0.2	17.5	0.0	21.4								
			12	0	0.0	15.4	3.0	20.6	1.2	16.4	0.7	20.3								
			12	7	0.0	15.5	3.0	20.6	1.2	16.4	0.7	20.3								
			12	13	0.0	15.5	3.0	20.6	1.2	16.5	0.7	20.5								
			25	0	0.0	15.4	3.0	20.8	1.2	16.4	0.7	20.3								

Note(s):

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

LTE Band 66 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1					
						1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz			
LTE Band 66	Max Power (dBm)				18.5					24.8				19.5					21.0				
	20	QPSK	1	0	0.0	18.5	18.5	18.5	0.0	24.8	24.8	24.4	0.0	18.5	19.1	19.1	0.0	20.8	20.8	20.7			
			1	49	0.0	18.5	18.5	18.5	0.0	24.8	24.8	24.4	0.0	18.5	19.1	19.1	0.0	20.8	20.8	20.7			
			1	99	0.0	18.5	18.5	18.5	0.0	24.8	24.8	24.4	0.0	18.5	19.1	19.1	0.0	20.8	20.8	20.7			
			50	0	0.0	18.5	18.5	18.5	1.0	23.8	23.8	23.8	0.0	19.1	19.1	19.1	0.0	20.8	20.7	20.7			
			50	24	0.0	18.5	18.5	18.5	1.0	23.8	23.8	23.8	0.0	19.1	19.1	19.1	0.0	20.8	20.7	20.7			
			50	49	0.0	18.5	18.5	18.5	1.0	23.8	23.8	23.8	0.0	19.1	19.1	19.1	0.0	20.8	20.7	20.7			
		16QAM	100	0	0.0	18.5	18.5	18.5	1.0	23.8	23.8	23.8	0.0	19.0	19.1	19.1	0.0	20.8	20.8	20.8			
		1	0	0.0	18.0	18.4	18.4	1.0	23.7	23.8	23.8	0.0	18.4	18.9	18.9	0.0	20.6	20.7	20.8				
		1	49	0.0	18.1	18.3	18.4	1.0	23.7	23.8	23.8	0.0	18.6	18.9	19.0	0.0	20.6	20.7	20.8				
		1	99	0.0	18.1	18.4	18.4	1.0	23.8	23.8	23.7	0.0	18.6	19.0	19.0	0.0	20.7	20.7	20.7				
		50	0	0.0	18.1	18.5	18.4	2.0	22.6	22.7	22.8	0.7	18.0	18.4	18.3	0.0	20.6	20.6	20.8				
		50	24	0.0	18.1	18.3	18.5	2.0	22.6	22.7	22.8	0.7	18.0	18.2	18.4	0.0	20.7	20.6	20.7				
		50	49	0.0	18.2	18.3	18.4	2.0	22.7	22.7	22.7	0.7	18.1	18.2	18.3	0.0	20.7	20.7	20.6				
		100	0	0.0	18.1	18.4	18.3	2.0	22.6	22.6	22.8	0.7	18.0	18.3	18.2	0.0	20.7	20.7	20.6				
		64QAM	1	0	0.0	18.0	18.4	18.4	2.0	22.7	22.6	22.7	0.7	17.9	18.3	18.3	0.0	20.8	20.7	20.7			
		1	49	0.0	18.1	18.4	18.4	2.0	22.7	22.7	22.6	0.7	18.0	18.3	18.3	0.0	20.7	20.7	20.7				
		1	99	0.0	18.2	18.4	18.4	2.0	22.7	22.7	22.6	0.7	18.0	18.3	18.3	0.0	20.6	20.7	20.7				
		50	0	0.7	17.4	17.6	17.7	3.0	21.7	21.6	21.7	1.7	17.0	17.3	17.2	0.0	20.7	20.7	20.7				
	50	24	0.7	17.5	17.7	17.7	3.0	21.7	21.7	21.6	1.7	17.1	17.4	17.4	0.0	20.7	20.7	20.7					
	50	49	0.7	17.4	17.8	17.7	3.0	21.7	21.7	21.6	1.7	17.2	17.3	17.3	0.0	20.8	20.6	20.8					
100	0	0.7	17.3	17.6	17.8	3.0	21.8	21.7	21.7	1.7	17.0	17.3	17.4	0.0	20.6	20.8	20.7						
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A									MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1					
						1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz			
LTE Band 66	15	QPSK	1	0	0.0	18.1	18.5	18.4	0.0	24.7	24.8	24.8	0.0	18.5	19.0	18.8	0.0	20.8	20.7	20.8			
			1	36	0.0	18.1	18.3	18.5	0.0	24.7	24.8	24.8	0.0	18.5	19.0	18.9	0.0	20.7	20.6	20.7			
			1	74	0.0	18.0	18.4	18.5	0.0	24.8	24.8	24.7	0.0	18.4	18.9	19.0	0.0	20.7	20.7	20.7			
			36	0	0.0	18.2	18.4	18.5	1.0	23.8	23.7	23.7	0.0	18.5	19.0	18.9	0.0	20.7	20.7	20.7			
			36	18	0.0	18.2	18.3	18.4	1.0	23.7	23.7	23.8	0.0	18.6	18.8	18.9	0.0	20.7	20.8	20.8			
			36	37	0.0	18.2	18.5	18.4	1.0	23.7	23.8	23.8	0.0	18.6	19.1	18.8	0.0	20.7	20.8	20.7			
			75	0	0.0	18.0	18.5	18.5	1.0	23.8	23.7	23.7	0.0	18.6	19.0	19.0	0.0	20.7	20.6	20.7			
		16QAM	1	0	0.0	18.1	18.5	18.5	1.0	23.8	23.8	23.8	0.0	18.5	18.9	19.1	0.0	20.7	20.7	20.7			
		1	36	0.0	18.1	18.3	18.4	1.0	23.7	23.8	23.7	0.0	18.5	18.9	19.1	0.0	20.6	20.6	20.7				
		1	74	0.0	18.0	18.4	18.3	1.0	23.7	23.7	23.8	0.0	18.6	18.9	19.1	0.0	20.7	20.7	20.7				
		36	0	0.0	18.2	18.4	18.5	2.0	22.7	22.7	22.7	0.7	18.1	18.4	18.3	0.0	20.8	20.7	20.7				
		36	18	0.0	18.0	18.3	18.4	2.0	22.6	22.7	22.7	0.7	18.1	18.2	18.4	0.0	20.8	20.7	20.7				
		36	37	0.0	18.1	18.5	18.4	2.0	22.7	22.7	22.7	0.7	18.1	18.3	18.4	0.0	20.7	20.7	20.7				
		75	0	0.0	18.0	18.3	18.3	2.0	22.7	22.7	22.7	0.7	18.0	18.3	18.4	0.0	20.8	20.7	20.6				
		64QAM	1	0	0.0	18.1	18.4	18.4	2.0	22.8	22.6	22.8	0.7	18.0	18.2	18.3	0.0	20.7	20.7	20.8			
		1	36	0.0	18.2	18.3	18.4	2.0	22.6	22.8	22.7	0.7	18.1	18.4	18.3	0.0	20.7	20.8	20.6				
		1	74	0.0	18.1	18.4	18.5	2.0	22.6	22.6	22.7	0.7	18.1	18.4	18.4	0.0	20.8	20.8	20.8				
		36	0	0.7	17.4	17.7	17.6	3.0	21.7	21.7	21.7	1.7	17.2	17.3	17.3	0.0	20.6	20.6	20.7				
		36	18	0.7	17.5	17.7	17.7	3.0	21.7	21.7	21.7	1.7	17.2	17.2	17.3	0.0	20.7	20.7	20.7				
		36	37	0.7	17.5	17.7	17.7	3.0	21.8	21.6	21.8	1.7	17.0	17.3	17.3	0.0	20.8	20.7	20.7				
		75	0	0.7	17.5	17.7	17.7	3.0	21.6	21.8	21.7	1.7	17.1	17.4	17.3	0.0	20.7	20.8	20.7				

LTE Band 66 Average Power (dBm) Measured Results (continued)

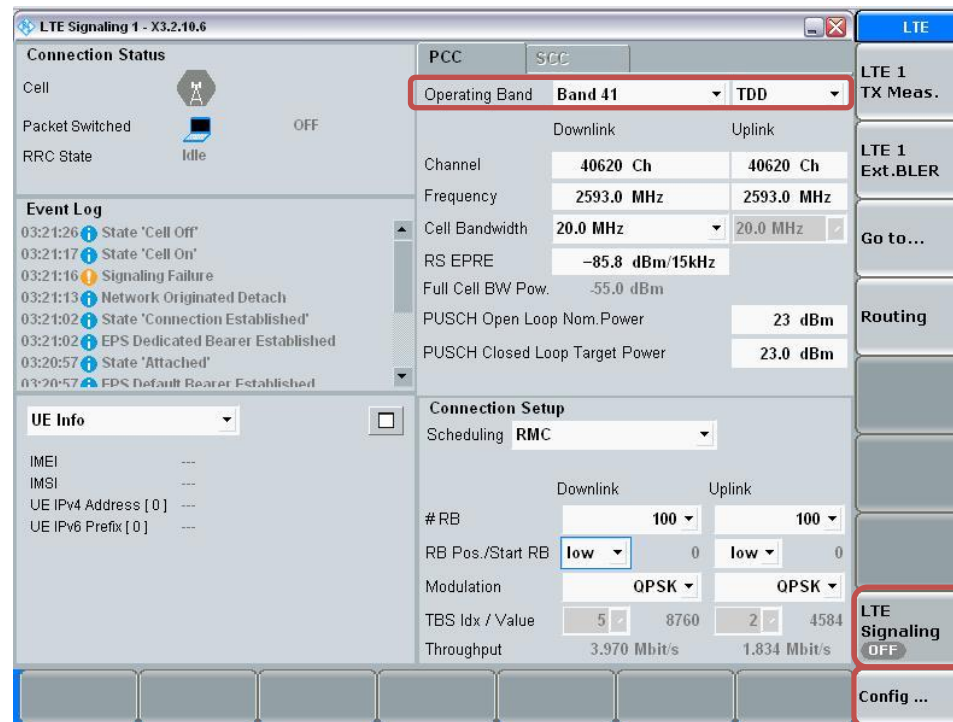
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz
LTE Band 66	10	QPSK	1	0	0.0	18.1	18.4	18.4	0.0	24.7	24.7	24.8	0.0	18.6	19.1	19.0	0.0	20.7	20.7	20.7
			1	24	0.0	18.1	18.4	18.4	0.0	24.8	24.7	24.7	0.0	18.5	19.0	19.1	0.0	20.7	20.8	20.7
			1	49	0.0	18.0	18.3	18.4	0.0	24.8	24.8	24.7	0.0	18.4	19.0	19.0	0.0	20.7	20.7	20.8
			25	0	0.0	18.1	18.4	18.4	1.0	23.8	23.8	23.8	0.0	18.6	18.8	19.0	0.0	20.6	20.7	20.7
			25	12	0.0	18.0	18.3	18.3	1.0	23.8	23.7	23.7	0.0	18.5	19.0	18.9	0.0	20.6	20.7	20.7
			25	24	0.0	18.1	18.4	18.3	1.0	23.8	23.8	23.7	0.0	18.5	19.0	19.0	0.0	20.7	20.8	20.8
		60	0	0.0	18.2	18.5	18.5	1.0	23.8	23.8	23.8	0.0	18.4	18.8	19.0	0.0	20.6	20.6	20.8	
		16QAM	1	0	0.0	18.1	18.4	18.4	1.0	23.7	23.8	23.7	0.0	18.5	19.1	19.0	0.0	20.8	20.7	20.7
			1	24	0.0	18.1	18.4	18.5	1.0	23.8	23.7	23.7	0.0	18.5	18.9	18.9	0.0	20.7	20.7	20.7
			1	49	0.0	18.1	18.4	18.5	1.0	23.8	23.8	23.8	0.0	18.6	18.9	18.9	0.0	20.7	20.8	20.7
			25	0	0.0	18.0	18.3	18.5	2.0	22.6	22.7	22.8	0.7	18.1	18.3	18.2	0.0	20.7	20.7	20.6
			25	12	0.0	18.1	18.4	18.4	2.0	22.7	22.6	22.7	0.7	18.0	18.3	18.4	0.0	20.8	20.8	20.7
			25	24	0.0	18.1	18.4	18.4	2.0	22.7	22.6	22.6	0.7	18.0	18.2	18.3	0.0	20.7	20.7	20.7
		60	0	0.0	18.2	18.5	18.3	2.0	22.6	22.6	22.8	0.7	17.9	18.4	18.3	0.0	20.7	20.8	20.7	
		64QAM	1	0	0.0	18.1	18.4	18.5	2.0	22.8	22.7	22.8	0.7	18.0	18.2	18.2	0.0	20.8	20.7	20.6
			1	24	0.0	18.1	18.4	18.4	2.0	22.7	22.6	22.7	0.7	18.0	18.3	18.3	0.0	20.8	20.8	20.8
			1	49	0.0	18.2	18.5	18.3	2.0	22.7	22.7	22.7	0.7	18.1	18.2	18.3	0.0	20.8	20.6	20.7
			25	0	0.7	17.4	17.8	17.6	3.0	21.7	21.7	21.7	1.7	17.1	17.4	17.2	0.0	20.6	20.6	20.7
25	12		0.7	17.4	17.8	17.7	3.0	21.7	21.7	21.7	1.7	17.1	17.4	17.3	0.0	20.6	20.8	20.8		
25	24		0.7	17.5	17.6	17.8	3.0	21.7	21.8	21.8	1.7	17.2	17.2	17.4	0.0	20.7	20.6	20.7		
60	0	0.7	17.5	17.7	17.8	3.0	21.7	21.8	21.7	1.7	17.1	17.3	17.4	0.0	20.7	20.7	20.7			
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A						MODE B									
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz
LTE Band 66	5	QPSK	1	0	0.0	18.1	18.4	18.4	0.0	24.8	24.8	24.7	0.0	18.6	18.9	18.8	0.0	20.7	20.8	20.7
			1	12	0.0	18.1	18.5	18.4	0.0	24.8	24.7	24.8	0.0	18.5	19.0	18.9	0.0	20.8	20.6	20.6
			1	24	0.0	18.1	18.3	18.5	0.0	24.7	24.8	24.7	0.0	18.6	18.9	18.8	0.0	20.7	20.6	20.8
			12	0	0.0	18.1	18.3	18.3	1.0	23.8	23.8	23.8	0.0	18.6	18.9	19.0	0.0	20.7	20.7	20.6
			12	7	0.0	18.0	18.4	18.4	1.0	23.7	23.7	23.8	0.0	18.6	19.0	18.9	0.0	20.8	20.6	20.7
			12	13	0.0	18.0	18.5	18.3	1.0	23.7	23.8	23.8	0.0	18.5	18.9	19.0	0.0	20.8	20.7	20.8
		60	0	0.0	18.2	18.4	18.3	1.0	23.7	23.8	23.8	0.0	18.5	18.9	18.9	0.0	20.8	20.7	20.6	
		16QAM	1	0	0.0	18.1	18.3	18.5	1.0	23.7	23.8	23.8	0.0	18.4	18.9	18.9	0.0	20.7	20.7	20.6
			1	12	0.0	18.2	18.5	18.3	1.0	23.7	23.7	23.8	0.0	18.6	18.9	18.9	0.0	20.6	20.7	20.6
			1	24	0.0	18.2	18.3	18.4	1.0	23.8	23.8	23.7	0.0	18.5	19.0	19.1	0.0	20.7	20.6	20.8
			12	0	0.0	18.2	18.4	18.4	2.0	22.7	22.8	22.8	0.7	17.9	18.4	18.3	0.0	20.7	20.6	20.7
			12	7	0.0	18.1	18.4	18.3	2.0	22.7	22.8	22.7	0.7	18.1	18.3	18.2	0.0	20.7	20.7	20.8
			12	13	0.0	18.1	18.5	18.4	2.0	22.7	22.6	22.7	0.7	18.0	18.3	18.2	0.0	20.7	20.6	20.7
		60	0	0.0	18.0	18.5	18.4	2.0	22.7	22.7	22.7	0.7	18.1	18.3	18.2	0.0	20.7	20.7	20.6	
		64QAM	1	0	0.0	18.2	18.3	18.4	2.0	22.6	22.6	22.7	0.7	18.1	18.3	18.3	0.0	20.7	20.7	20.7
			1	12	0.0	18.1	18.4	18.4	2.0	22.7	22.7	22.7	0.7	18.1	18.3	18.3	0.0	20.6	20.7	20.6
			1	24	0.0	18.0	18.4	18.4	2.0	22.8	22.7	22.7	0.7	18.0	18.2	18.3	0.0	20.8	20.7	20.7
			12	0	0.7	17.5	17.7	17.8	3.0	21.8	21.7	21.7	1.7	17.1	17.4	17.3	0.0	20.7	20.8	20.7
12	7		0.7	17.4	17.6	17.7	3.0	21.8	21.7	21.7	1.7	17.2	17.4	17.3	0.0	20.7	20.7	20.8		
12	13		0.7	17.4	17.8	17.7	3.0	21.7	21.7	21.7	1.7	17.2	17.2	17.3	0.0	20.7	20.8	20.7		
60	0	0.7	17.3	17.8	17.8	3.0	21.8	21.7	21.6	1.7	17.2	17.3	17.3	0.0	20.7	20.8	20.8			

LTE TDD Band Measured Results

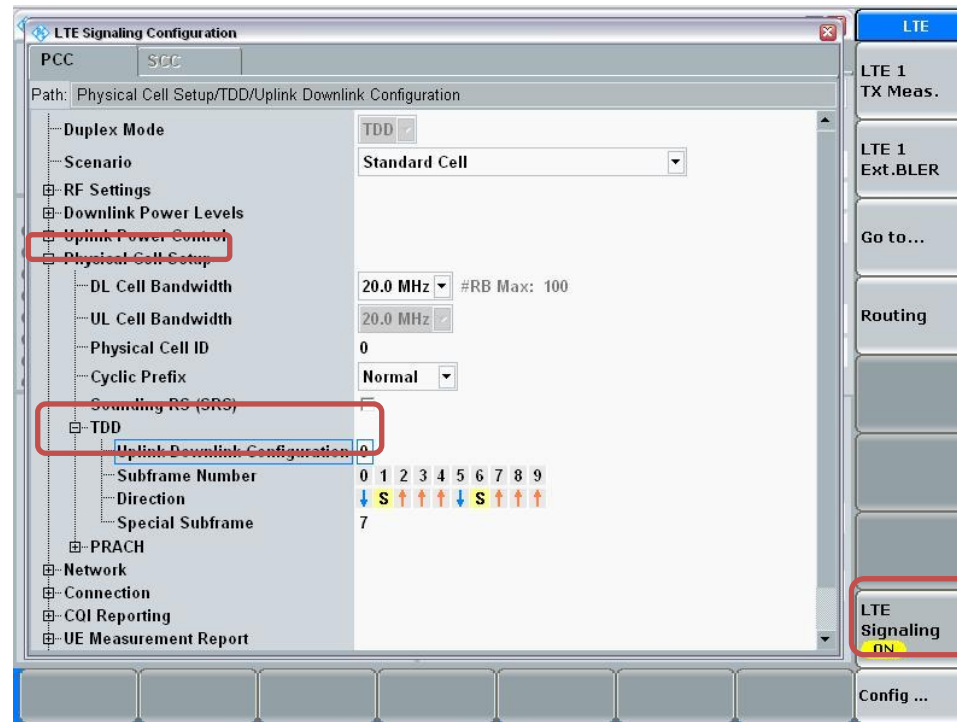
Procedure used to establish SAR test signal for LTE TDD Band

Set to CMW-500 with following parameters:

- Turn the LTE Signaling off using “ON | OFF” key
- Operating Band: Select Band and TDD
- Go to “Config....”

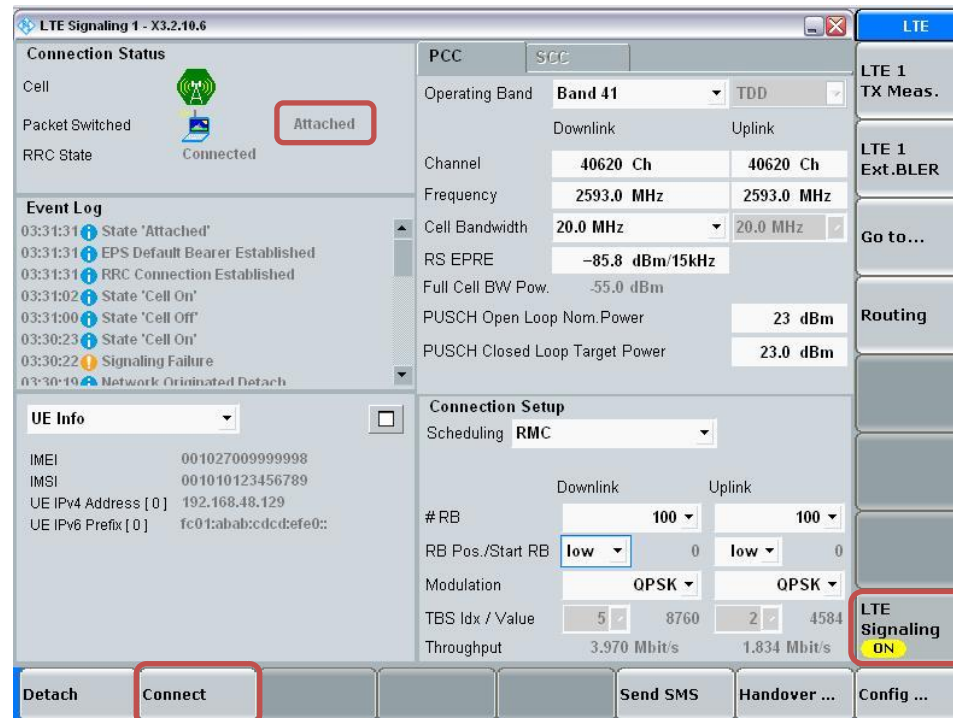


- Go to “Physical Cell Setup”
- Select “TDD” and Set “Uplink Downlink Configuration” to “0”
- Turn the cell on using “ON | OFF” key



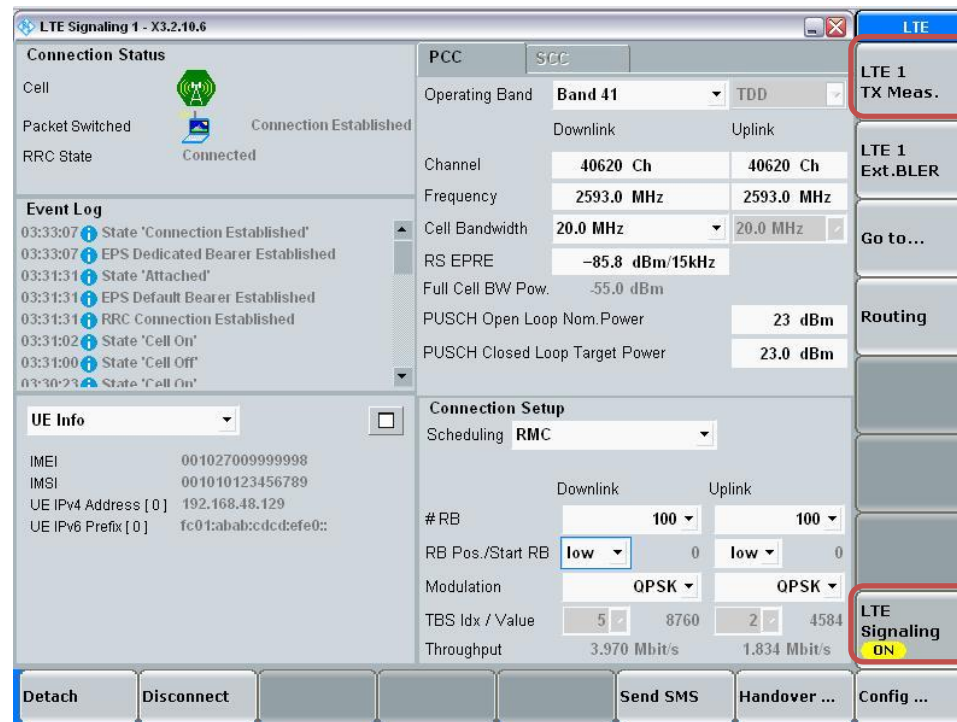
Connect to EUT

- Turn the cell on using “ON | OFF” key
- After EUT is Attached
- Select “Connect”

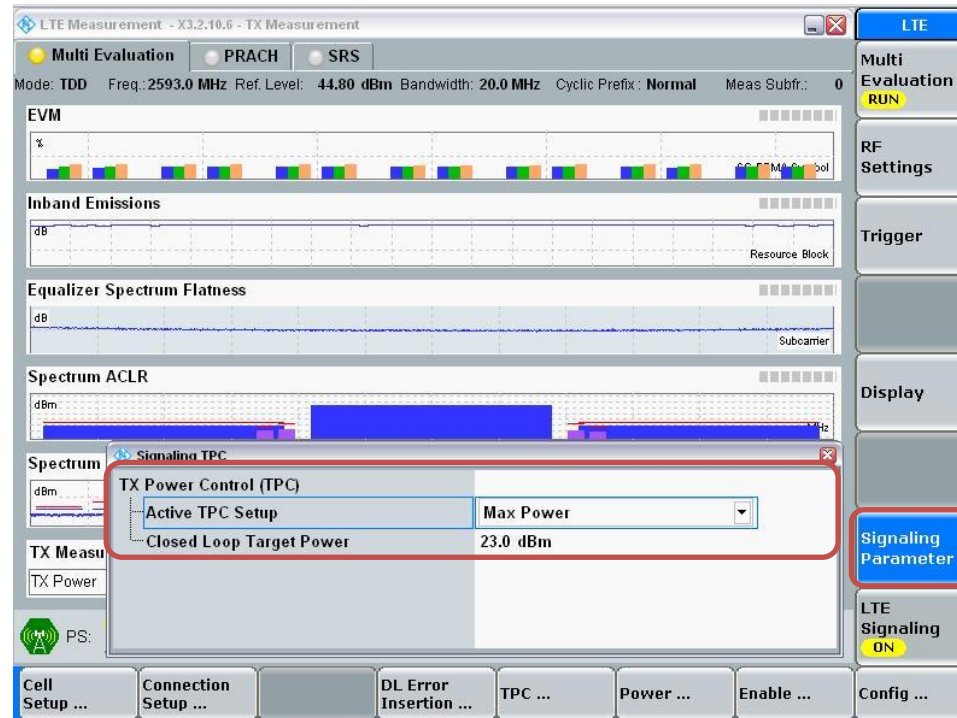


Max Power Setting

- Select "LTE 1 TX Meas."
- Press "RESTART | STOP" Soft key

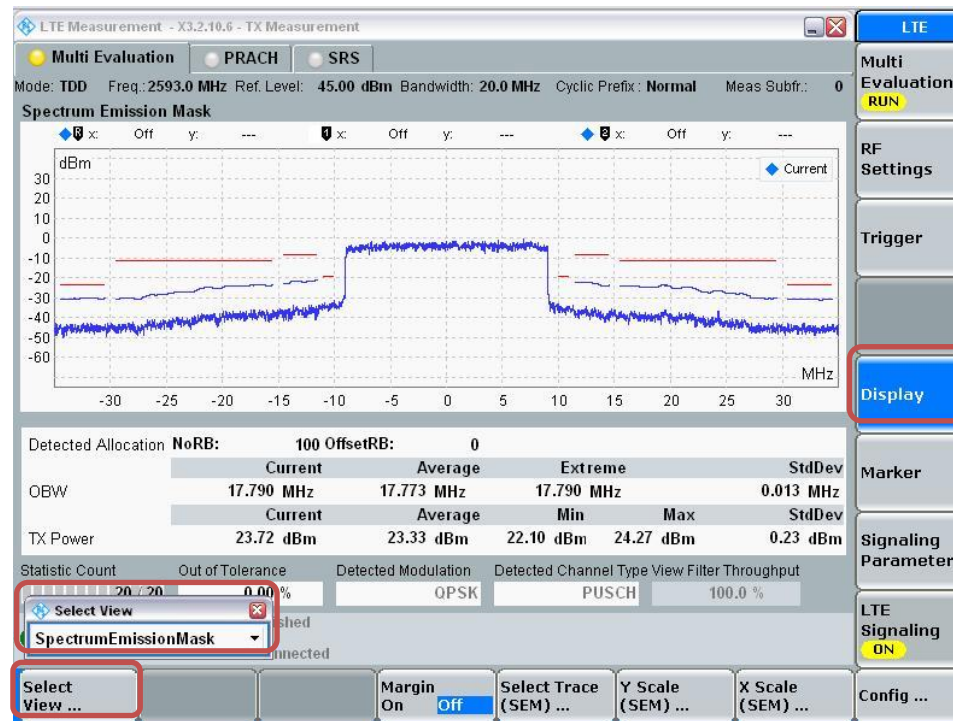


- Select “Signaling Parameter”
- Select “TX Power Control (TPC)” > Select “Active TPC Setup” to “Max Power” > Set “Closed Loop Target Power” to “23 dBm”



View TX Power

- Go to “Display”
- Select “Select View...”
- Select “Spectrum Emission Mask”



LTE Band 41 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A										MODE B													
					Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	Max Power (dBm)					17.0						24.5						19.8						20.5				
	20	QPSK	1	0	0.0	16.8	16.8	16.6	16.7	16.7	0.0	24.5	24.5	24.5	24.5	24.5	0.0	19.7	19.5	19.4	19.7	19.5	0.0	20.5	20.5	20.5	20.5	20.5
			1	49	0.0	16.8	16.8	16.7	16.7	16.7	0.0	24.5	24.5	24.5	24.5	24.5	0.0	19.7	19.5	19.5	19.7	19.5	0.0	20.5	20.5	20.5	20.5	20.5
			1	99	0.0	16.8	16.8	16.6	16.7	16.7	0.0	24.5	24.5	24.5	24.5	24.5	0.0	19.7	19.5	19.5	19.7	19.5	0.0	20.5	20.5	20.5	20.5	20.5
			50	0	0.0	16.8	16.6	16.6	16.7	16.7	0.5	23.5	23.5	23.5	23.5	23.5	0.0	19.8	19.8	19.6	19.8	19.8	0.0	20.4	20.3	20.3	20.3	20.3
			50	24	0.0	16.8	16.6	16.6	16.7	16.7	0.5	23.5	23.5	23.5	23.5	23.5	0.0	19.8	19.8	19.6	19.8	19.8	0.0	20.4	20.3	20.3	20.3	20.3
		50	49	0.0	16.8	16.6	16.6	16.7	16.7	0.5	23.5	23.5	23.5	23.5	23.5	0.0	19.8	19.8	19.6	19.8	19.8	0.0	20.4	20.3	20.3	20.3	20.3	
		100	0	0.0	16.8	16.6	16.6	16.7	16.7	0.5	23.5	23.5	23.5	23.5	23.5	0.0	19.6	19.6	19.6	19.6	19.6	0.0	20.4	20.3	20.3	20.3	20.3	
		16QAM	1	0	0.0	16.5	16.5	16.6	16.6	16.5	0.5	23.9	23.9	23.8	23.9	24.0	0.0	19.7	19.8	19.8	19.8	19.8	0.0	20.5	20.4	20.5	20.4	20.3
			1	49	0.0	16.6	16.6	16.6	16.7	16.6	0.5	23.8	24.0	23.9	23.8	24.0	0.0	19.7	19.8	19.7	19.7	19.8	0.0	20.4	20.4	20.4	20.4	20.4
			1	99	0.0	16.5	16.7	16.5	16.6	16.6	0.5	23.9	24.0	23.9	24.0	23.8	0.0	19.7	19.8	19.7	19.7	19.7	0.0	20.4	20.4	20.4	20.3	20.4
			50	0	0.0	16.5	16.6	16.6	16.6	16.6	1.5	22.8	22.8	22.9	22.9	22.8	1.0	18.6	18.6	18.7	18.7	18.6	0.0	20.5	20.4	20.5	20.4	20.5
			50	24	0.0	16.6	16.6	16.5	16.6	16.7	1.5	22.9	22.9	22.9	23.0	22.9	1.0	18.7	18.7	18.7	18.8	18.7	0.0	20.5	20.4	20.5	20.3	20.4
		64QAM	50	49	0.0	16.5	16.7	16.6	16.5	16.7	1.5	22.8	23.0	22.8	22.9	22.9	1.0	18.6	18.8	18.6	18.7	18.7	0.0	20.5	20.3	20.4	20.4	20.4
			100	0	0.0	16.6	16.7	16.6	16.7	16.5	1.5	22.8	22.9	22.9	22.9	22.9	1.0	18.6	18.7	18.7	18.7	18.7	0.0	20.3	20.5	20.5	20.3	20.5
			1	0	0.0	16.6	16.7	16.6	16.7	16.7	1.5	22.9	22.9	22.8	22.9	23.0	1.0	18.7	18.7	18.6	18.7	18.8	0.0	20.3	20.5	20.3	20.3	20.4
			1	49	0.0	16.7	16.7	16.5	16.6	16.6	1.5	22.8	23.0	22.9	22.8	23.0	1.0	18.6	18.8	18.7	18.6	18.8	0.0	20.3	20.5	20.4	20.3	20.3
			1	99	0.0	16.5	16.6	16.7	16.5	16.6	1.5	22.9	23.0	22.9	23.0	22.8	1.0	18.7	18.8	18.7	18.8	18.6	0.0	20.3	20.3	20.5	20.4	20.3
			50	0	0.0	16.7	16.6	16.5	16.5	16.6	2.5	21.9	22.0	21.9	21.9	21.9	2.0	17.7	17.7	17.6	17.7	17.8	0.0	20.3	20.4	20.3	20.4	20.5
			50	24	0.0	16.6	16.5	16.6	16.6	16.7	2.5	22.0	22.0	21.9	21.9	21.9	2.0	17.6	17.8	17.7	17.6	17.8	0.0	20.3	20.3	20.4	20.4	20.4
			50	49	0.0	16.7	16.6	16.6	16.5	16.6	2.5	21.9	21.8	22.0	22.0	21.9	2.0	17.7	17.8	17.7	17.8	17.6	0.0	20.4	20.5	20.4	20.4	20.4
			100	0	0.0	16.5	16.6	16.5	16.6	16.6	2.5	21.8	21.8	21.8	21.9	21.8	2.0	17.7	17.8	17.7	17.8	17.8	0.0	20.4	20.4	20.4	20.4	20.5
LTE Band 41	15		QPSK	1	0	0.0	16.6	16.6	16.5	16.6	16.6	0.0	24.3	24.3	24.4	24.4	24.2	0.0	19.8	19.7	19.8	19.7	19.8	0.0	20.4	20.4	20.5	20.3
		1		36	0.0	16.6	16.5	16.5	16.6	16.5	0.0	24.4	24.4	24.4	24.5	24.4	0.0	19.8	19.7	19.8	19.8	19.8	0.0	20.4	20.5	20.4	20.4	20.3
		1		74	0.0	16.7	16.7	16.6	16.6	16.6	0.0	24.3	24.5	24.3	24.4	24.4	0.0	19.8	19.8	19.6	19.8	19.8	0.0	20.4	20.5	20.4	20.5	20.4
		36		0	0.0	16.7	16.6	16.7	16.5	16.7	0.5	23.9	24.0	23.9	24.0	24.0	0.0	19.7	19.7	19.7	19.7	19.7	0.0	20.4	20.5	20.5	20.3	20.5
		36		18	0.0	16.6	16.6	16.6	16.6	16.7	0.5	24.0	24.0	23.8	23.9	23.9	0.0	19.8	19.8	19.8	19.8	19.7	0.0	20.4	20.4	20.3	20.5	20.4
		36		37	0.0	16.5	16.6	16.7	16.6	16.6	0.5	23.8	23.9	24.0	23.8	23.9	0.0	19.7	19.8	19.7	19.8	19.8	0.0	20.4	20.4	20.3	20.4	20.3
		75		0	0.0	16.7	16.5	16.6	16.6	16.5	0.5	24.0	23.9	23.8	23.8	23.9	0.0	19.7	19.8	19.7	19.7	19.8	0.0	20.4	20.5	20.4	20.4	20.4
		16QAM	1	0	0.0	16.6	16.6	16.6	16.7	16.6	0.5	23.9	23.8	23.9	23.9	24.0	0.0	19.8	19.7	19.7	19.7	19.8	0.0	20.4	20.4	20.3	20.5	20.4
			1	36	0.0	16.5	16.7	16.5	16.5	16.6	0.5	24.0	23.9	23.9	23.8	23.9	0.0	19.7	19.8	19.8	19.7	19.8	0.0	20.5	20.4	20.5	20.3	20.4
			1	74	0.0	16.6	16.7	16.5	16.6	16.5	0.5	23.8	23.9	23.8	23.9	23.9	0.0	19.7	19.8	19.7	19.8	19.7	0.0	20.5	20.4	20.3	20.4	20.3
			36	0	0.0	16.5	16.7	16.7	16.5	16.5	1.5	22.9	23.0	22.9	23.0	23.0	1.0	18.7	18.8	18.7	18.8	18.8	0.0	20.5	20.4	20.4	20.4	20.4
			36	18	0.0	16.6	16.6	16.6	16.6	16.5	1.5	23.0	23.0	22.8	22.9	22.9	1.0	18.8	18.8	18.6	18.7	18.7	0.0	20.4	20.5	20.4	20.3	20.4
		64QAM	36	37	0.0	16.7	16.6	16.7	16.6	16.5	1.5	22.8	22.9	23.0	22.8	22.9	1.0	18.6	18.7	18.8	18.6	18.7	0.0	20.5	20.4	20.4	20.3	20.3
			75	0	0.0	16.6	16.6	16.6	16.6	16.6	1.5	23.0	22.9	22.8	22.8	22.9	1.0	18.8	18.7	18.6	18.6	18.7	0.0	20.4	20.4	20.4	20.4	20.4
			1	0	0.0	16.6	16.6	16.6	16.5	16.6	1.5	22.9	22.8	22.9	22.9	23.0	1.0	18.7	18.6	18.7	18.7	18.8	0.0	20.5	20.3	20.4	20.5	20.4
			1	36	0.0	16.7	16.6	16.7	16.6	16.7	1.5	23.0	22.9	22.9	22.8	22.9	1.0	18.8	18.7	18.7	18.6	18.7	0.0	20.3	20.3	20.4	20.4	20.5
			1	74	0.0	16.7	16.6	16.7	16.5	16.6	1.5	22.8	22.9	22.8	22.9	22.9	1.0	18.6	18.7	18.6	18.7	18.7	0.0	20.5	20.5	20.5	20.4	20.4
			36	0	0.0	16.7	16.5	16.6	16.6	16.6	2.5	22.0	21.8	21.8	22.0	21.9	2.0	17.8	17.8	17.6	17.7	17.7	0.0	20.5	20.4	20.5	20.4	20.5
			36	18	0.0	16.5	16.7	16.7	16.5	16.7	2.5	21.9	21.9	21.9	21.9	21.9	2.0	17.6	17.7	17.8	17.6	17.7	0.0	20.4	20.5	20.5	20.5	20.4
			36	37	0.0	16.5	16.7	16.5	16.5	16.6	2.5	21.8	21.9	21.8	22.0	21.9	2.0	17.8	17.7	17.6	17.6	17.7	0.0	20.4	20.4	20.4	20.4	20.4
			75	0	0.0	16.5	16.7	16.6	16.5	16.5	2.5	21.8	22.0	21.9	22.0	22.0	2.0	17.7	17.6	17.7	17.7	17.8	0.0	20.5	20.4	20.5	20.5	20.5

LTE Band 41 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A										MODE B													
					Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	10	QPSK	1	0	0.0	16.7	16.6	16.7	16.5	16.6	0.0	24.4	24.5	24.3	24.4	24.3	0.0	19.8	19.6	19.8	19.8	19.7	0.0	20.5	20.3	20.3	20.4	20.4
			1	24	0.0	16.7	16.6	16.5	16.6	16.5	0.0	24.3	24.5	24.5	24.3	24.3	0.0	19.7	19.6	19.7	19.8	19.8	0.0	20.3	20.5	20.5	20.4	20.5
			1	49	0.0	16.7	16.6	16.6	16.6	16.6	0.0	24.4	24.4	24.4	24.4	24.3	0.0	19.8	19.7	19.7	19.8	19.8	0.0	20.3	20.4	20.4	20.4	20.4
			25	0	0.0	16.6	16.7	16.6	16.5	16.6	0.5	23.9	23.9	23.8	23.9	23.9	0.0	19.8	19.7	19.7	19.8	19.7	0.0	20.4	20.4	20.3	20.3	20.4
			25	12	0.0	16.7	16.6	16.6	16.5	16.5	0.5	23.9	23.8	23.8	23.9	23.8	0.0	19.7	19.7	19.7	19.7	19.7	0.0	20.3	20.3	20.3	20.4	20.4
			25	24	0.0	16.6	16.6	16.6	16.6	16.6	0.5	24.0	24.0	23.9	23.9	23.9	0.0	19.8	19.8	19.7	19.7	19.8	0.0	20.3	20.5	20.5	20.3	20.4
			50	0	0.0	16.7	16.5	16.6	16.6	16.7	16.6	0.5	24.0	23.9	24.0	23.8	24.0	0.0	19.8	19.7	19.8	19.7	19.8	0.0	20.4	20.5	20.5	20.4
		16QAM	1	0	0.0	16.5	16.5	16.6	16.6	16.7	0.5	23.9	23.9	23.9	23.9	24.0	0.0	19.7	19.8	19.7	19.7	19.8	0.0	20.5	20.4	20.3	20.4	20.4
			1	24	0.0	16.7	16.7	16.7	16.6	16.6	0.5	23.8	23.9	24.0	23.9	23.9	0.0	19.7	19.7	19.8	19.7	19.8	0.0	20.4	20.4	20.4	20.4	20.5
			1	49	0.0	16.7	16.6	16.7	16.6	16.7	0.5	24.0	23.8	23.9	23.9	23.8	0.0	19.8	19.7	19.8	19.7	19.7	0.0	20.4	20.4	20.4	20.5	20.4
			25	0	0.0	16.6	16.7	16.7	16.7	16.6	1.5	22.9	22.9	22.8	22.9	22.9	1.0	18.7	18.7	18.6	18.7	18.7	0.0	20.5	20.4	20.4	20.5	20.4
			25	12	0.0	16.6	16.6	16.6	16.6	16.6	1.5	22.9	22.8	22.8	22.9	22.8	1.0	18.7	18.6	18.6	18.7	18.6	0.0	20.3	20.4	20.5	20.4	20.4
			25	24	0.0	16.7	16.6	16.7	16.7	16.7	1.5	23.0	23.0	22.9	22.9	22.9	1.0	18.8	18.8	18.7	18.7	18.7	0.0	20.3	20.4	20.5	20.3	20.4
			50	0	0.0	16.5	16.6	16.6	16.6	16.7	16.6	1.5	23.0	22.9	23.0	22.8	23.0	1.0	18.8	18.7	18.8	18.6	18.8	0.0	20.5	20.5	20.4	20.3
		64QAM	1	0	0.0	16.5	16.6	16.6	16.7	16.7	1.5	22.9	22.9	22.9	22.9	23.0	1.0	18.7	18.7	18.7	18.7	18.8	0.0	20.5	20.4	20.3	20.4	20.3
			1	24	0.0	16.7	16.5	16.5	16.6	16.6	1.5	22.8	22.9	23.0	22.9	22.9	1.0	18.6	18.7	18.8	18.7	18.7	0.0	20.4	20.4	20.4	20.4	20.4
			1	49	0.0	16.5	16.7	16.7	16.6	16.7	1.5	23.0	22.8	22.9	22.9	22.8	1.0	18.8	18.6	18.7	18.7	18.6	0.0	20.5	20.4	20.4	20.4	20.4
			25	0	0.0	16.5	16.6	16.6	16.6	16.6	2.5	22.0	21.9	22.0	21.8	21.9	2.0	17.8	17.8	17.7	17.7	17.7	0.0	20.4	20.5	20.3	20.3	20.4
			25	12	0.0	16.6	16.6	16.5	16.5	16.6	2.5	21.9	22.0	22.0	22.0	21.9	2.0	17.8	17.7	17.8	17.6	17.8	0.0	20.5	20.4	20.4	20.5	20.4
			25	24	0.0	16.5	16.5	16.5	16.6	16.6	2.5	22.0	22.0	21.9	21.8	21.8	2.0	17.7	17.7	17.7	17.7	17.8	0.0	20.4	20.4	20.5	20.3	20.5
			50	0	0.0	16.5	16.7	16.7	16.5	16.6	2.5	22.0	21.8	22.0	21.9	21.9	2.0	17.6	17.7	17.8	17.7	17.7	0.0	20.4	20.3	20.5	20.4	20.4
Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A										MODE B													
Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1									
	2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz					
LTE Band 41	5	QPSK	1	0	0.0	16.7	16.6	16.6	16.7	16.6	0.0	24.5	24.4	24.5	24.4	24.3	0.0	19.7	19.7	19.7	19.7	19.6	0.0	20.5	20.4	20.4	20.5	20.4
			1	12	0.0	16.6	16.7	16.5	16.7	16.6	0.0	24.4	24.4	24.4	24.4	24.4	0.0	19.5	19.6	19.7	19.8	19.7	0.0	20.4	20.5	20.3	20.5	20.4
			1	24	0.0	16.6	16.6	16.6	16.6	16.6	0.0	24.4	24.4	24.4	24.3	24.4	0.0	19.7	19.6	19.8	19.8	19.7	0.0	20.4	20.4	20.4	20.4	20.4
			12	0	0.0	16.5	16.7	16.6	16.5	16.7	0.5	23.9	23.9	23.9	23.9	23.8	0.0	19.8	19.8	19.8	19.8	19.8	0.0	20.3	20.5	20.4	20.3	20.5
			12	7	0.0	16.5	16.6	16.5	16.6	16.6	0.5	24.0	23.9	24.0	23.9	23.8	0.0	19.8	19.8	19.7	19.8	19.8	0.0	20.3	20.4	20.3	20.4	20.4
			12	13	0.0	16.6	16.7	16.7	16.6	16.7	0.5	23.9	23.9	23.9	23.9	23.9	0.0	19.7	19.8	19.8	19.7	19.8	0.0	20.4	20.5	20.5	20.4	20.5
			25	0	0.0	16.5	16.5	16.6	16.7	16.6	0.5	23.9	23.9	23.9	23.8	23.9	0.0	19.8	19.8	19.7	19.7	19.7	0.0	20.3	20.3	20.4	20.5	20.4
		16QAM	1	0	0.0	16.6	16.7	16.7	16.6	16.6	0.5	24.0	23.9	24.0	23.9	24.0	0.0	19.7	19.7	19.7	19.7	19.8	0.0	20.4	20.5	20.5	20.4	20.4
			1	12	0.0	16.6	16.6	16.7	16.6	16.7	0.5	24.0	23.9	24.0	23.8	23.9	0.0	19.8	19.7	19.7	19.7	19.8	0.0	20.4	20.4	20.5	20.4	20.5
			1	24	0.0	16.5	16.5	16.5	16.6	16.6	0.5	24.0	23.8	23.9	23.9	23.9	0.0	19.7	19.7	19.7	19.7	19.8	0.0	20.3	20.3	20.3	20.4	20.4
			12	0	0.0	16.6	16.7	16.7	16.7	16.7	1.5	22.9	22.9	22.9	23.0	22.9	1.0	18.7	18.7	18.7	18.8	18.7	0.0	20.4	20.5	20.5	20.5	20.5
			12	7	0.0	16.7	16.6	16.6	16.5	16.5	1.5	22.8	23.0	22.8	22.8	22.9	1.0	18.6	18.8	18.6	18.6	18.7	0.0	20.5	20.4	20.4	20.3	20.3
			12	13	0.0	16.5	16.6	16.6	16.7	16.7	1.5	22.9	23.0	22.8	22.9	22.8	1.0	18.7	18.8	18.6	18.7	18.6	0.0	20.3	20.4	20.4	20.5	20.5
			25	0	0.0	16.6	16.6	16.6	16.6	16.6	1.5	22.8	23.0	23.0	22.8	22.8	1.0	18.6	18.8	18.8	18.6	18.6	0.0	20.4	20.4	20.4	20.4	20.4
		64QAM	1	0	0.0	16.5	16.5	16.7	16.6	16.5	1.5	22.9	22.9	22.9	22.9	22.8	1.0	18.7	18.7	18.7	18.7	18.6	0.0	20.3	20.3	20.5	20.4	20.3
			1	12	0.0	16.7	16.7	16.6	16.6	16.5	1.5	23.0	22.9	23.0	22.9	22.8	1.0	18.8	18.7	18.8	18.7	18.6	0.0	20.5	20.5	20.4	20.4	20.3
			1	24	0.0	16.7	16.5	16.5	16.6	16.7	1.5	22.9	22.9	22.9	22.9	22.9	1.0	18.7	18.7	18.7	18.7	18.7	0.0	20.5	20.3	20.3	20.4	20.5
			12	0	0.0	16.6	16.6	16.6	16.6	16.7	2.5	21.8	21.8	21.9	21.9	22.0	2.0	17.8	17.6	17.7	17.7	17.6	0.0	20.4	20.4	20.4	20.4	20.5
			12	7	0.0	16.7	16.6	16.7	16.6	16.6	2.5	21.9	21.9	21.9	21.9	21.8	2.0	17.7	17.7	17.7	17.8	17.7	0.0	20.4	20.4	20.3	20.5	20.4
			12	13	0.0	16.6	16.6	16.7	16.6	16.7	2.5	21.8	21.8	21.9	22.0	21.9	2.0	17.6	17.8	17.6	17.6	17.7	0.0	20.3	20.4	20.4	20.4	20.3
25	0	0.0	16.6	16.5	16.6	16.6	16.6	2.5	21.8	21.8	21.9	22.0	21.9	2.0	17.7	17.8	17.6	17.7	17.6	0.0	20.4	20.3	20.4	20.4	20.4			

9.4. LTE Rel. 11 Carrier Aggregation

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

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

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

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

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

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

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

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

Where M_A is defined as follows

$$M_A = \begin{array}{ll} 8.2 & ; 0 \leq A < 0.025 \\ 9.2 - 40A & ; 0.025 \leq A < 0.05 \\ 8 - 16A & ; 0.05 \leq A < 0.25 \\ 4.83 - 3.33A & ; 0.25 \leq A \leq 0.4 \\ 3.83 - 0.83A & ; 0.4 \leq A \leq 1 \end{array}$$

and M_{IM5} is defined as follows

$$M_{\text{IM5}} = \begin{array}{ll} 4.5 & ; \Delta_{\text{IM5}} < 1.5 * \text{BW}_{\text{Channel_CA}} \\ 6.0 & ; 1.5 * \text{BW}_{\text{Channel_CA}} \leq \Delta_{\text{IM5}} < \text{BW}_{\text{Channel_CA}}/2 + \Delta f_{\text{ooB}} \\ M_A & ; \Delta_{\text{IM5}} \geq \text{BW}_{\text{Channel_CA}}/2 + \Delta f_{\text{ooB}} \end{array}$$

Where

$$A = N_{\text{RB_alloc}} / N_{\text{RB_agg}}$$

$$\Delta_{\text{IM5}} = \max(|F_{\text{C_agg}} - (3 * F_{\text{agg_alloc_low}} - 2 * F_{\text{agg_alloc_high}})|, |F_{\text{C_agg}} - (3 * F_{\text{agg_alloc_high}} - 2 * F_{\text{agg_alloc_low}})|)$$

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

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

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

$$\text{MPR} = \text{CEIL}\{M_N, 0.5\}$$

Where M_N is defined as follows

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

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

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

LTE Carrier Aggregation Test Signal Set-up Procedure**(Use normal LTE set-up procedure in addition with the following steps)**

Set to CMW-500 with following parameters:

- PCC tab:
 - Select the testing Operating Band, Channel, Frequency, Cell Bandwidth, Uplink RBs

The screenshot shows the 'LTE Signaling 1 - V3.5.40 - Base V 3.5.90' interface. The 'PCC' tab is selected, showing the following parameters:

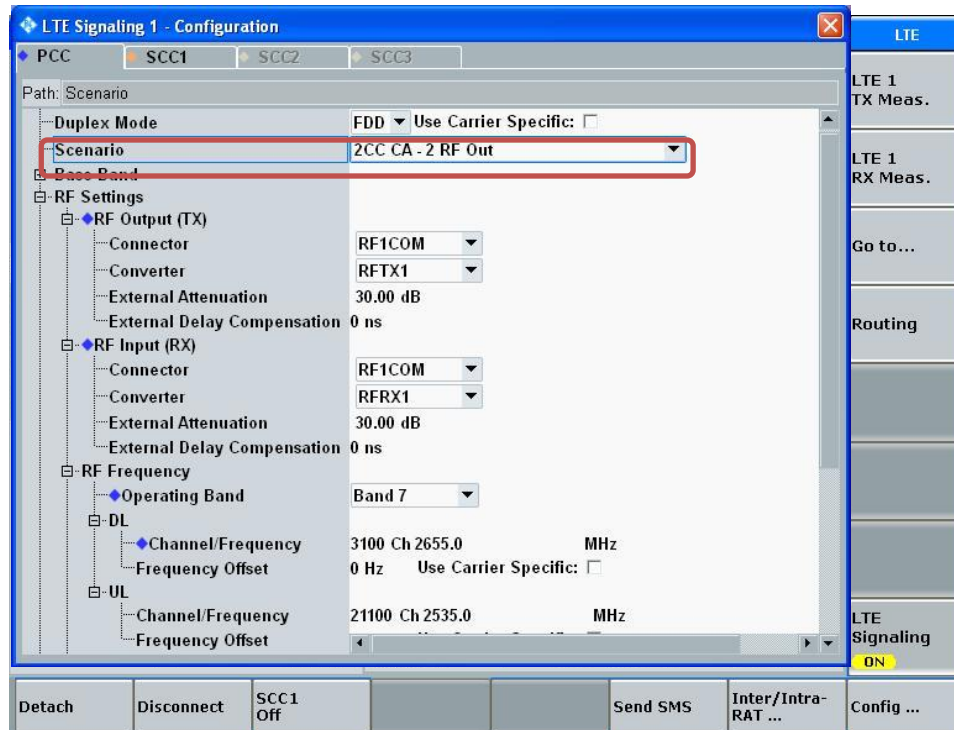
Parameter	Value
Operating Band	Band 7
Channel	2850 Ch
Frequency	2630.0 MHz
Cell Bandwidth	20.0 MHz
RS EPRE	-85.0 dBm/15kHz
Full Cell BW Pow.	-54.2 dBm
PUSCH Open Loop Nom.Power	23 dBm
PUSCH Closed Loop Target Power	33.0 dBm
Sched.	User def. Channels
Multicenter UL	☐
#RB	100
Start RB	0
Mod / TBSI	QPSK 5
Code Rate / TBS	0.320 8760
Throughput	8.760 Mbit/s

The 'LTE' tab on the right shows the following parameters:

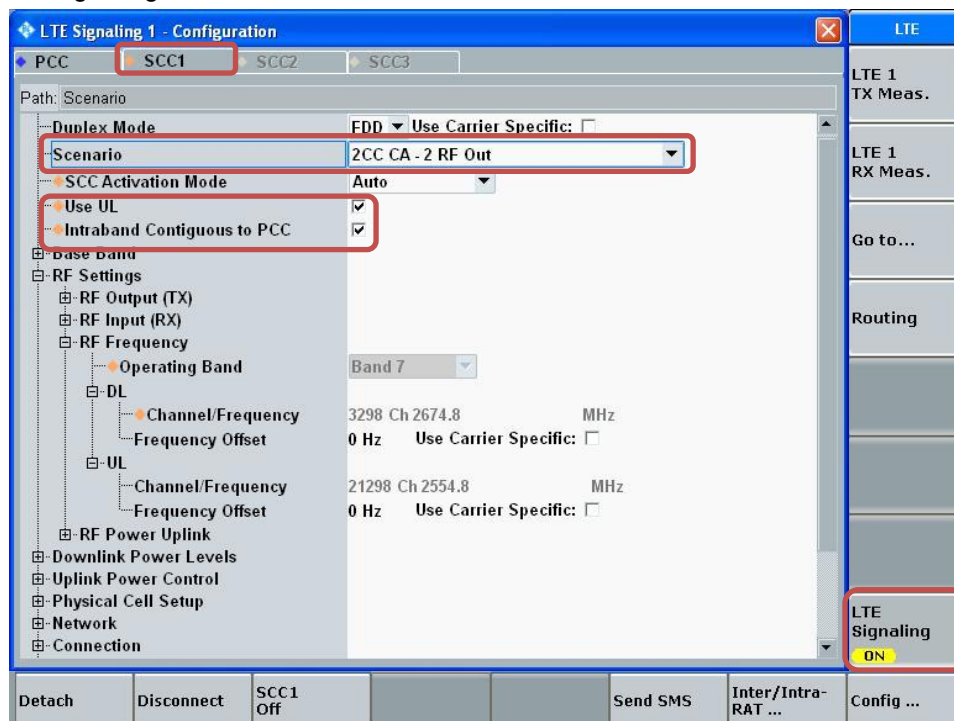
Parameter	Value
LTE 1 TX Meas.	
LTE 1 RX Meas.	
Go to...	
Routing	
LTE Signaling	ON
Config ...	

- Go to "Config...."

- Go to "Scenario"
- Set to "2CC CA - 2 RF Out"



- Select "SCC1" tab
- Go to "Scenario"
- Set to "2CC CA - 2 RF Out"
- Enable "Use UL"
- Enable "Intraband Contiguous to PCC"
- Select "LTE Signaling" button



- Select “SCC1” tab
 - Select the testing Cell Bandwidth, Uplink RBs

LTE Signaling 1 - V3.5.40 - Base V 3.5.90

Connection Status

Cell:  Connection Established

RRC State: Connected

SCC1 State: MAC Activated

Event Log

02:17:19 Redirection Successful

02:17:18 Tracking Area Update Received

02:17:18 RRC Connection Established

02:17:17 RRC Connection Released

02:17:16 Redirection Start

02:17:12 Redirection Successful

UE Info

IMEI: 359250065123018

IMSI: 001010000150503

Voice Domain Pr...: IMS PS Voice preferred CS Voic

UE's Usage Settl...: Voice centric

Default Bearer IPv4 address: 192.168.48.129 IPv6 pref: 01:abab:cdcd

Dedicated Bearer TFT Port Range DL / UL: 5005 - 5008 / 5005 - 5008

SCC1

Operating Band: Band 7 FDD

Downlink: Channel 3048 Ch 21048 Ch

Frequency: 2649.8 MHz 2529.8 MHz

Cell Bandwidth: 20.0 MHz 20.0 MHz

RS EPRE: -85.8 dBm/15kHz

Full Cell BW Pow: -55.0 dBm

PUSCH Open Loop Nom.Power: 23 dBm

PUSCH Closed Loop Target Power: 33.0 dBm

Intraband Contiguous to PCC: ☒

PCC <-> SCC1 Swap

PCC -> SCC1 Copy

Sched. User def. Channels Multicenter UL

Downlink Uplink

#RB: 100 100

Start RB: 0 0

Mod / TBSI: QPSK 5 QPSK 10

Code Rate / TBS: 0.320 8760 0.613 17568

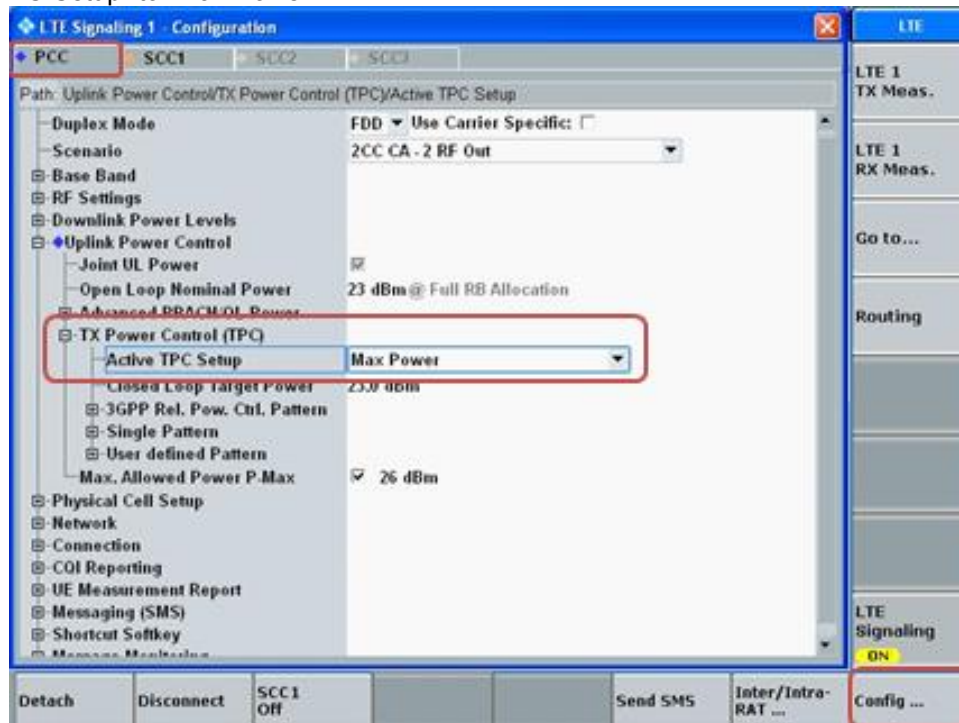
Throughput: 8.760 Mbit/s 17.568 Mbit/s

LTE Signaling ON

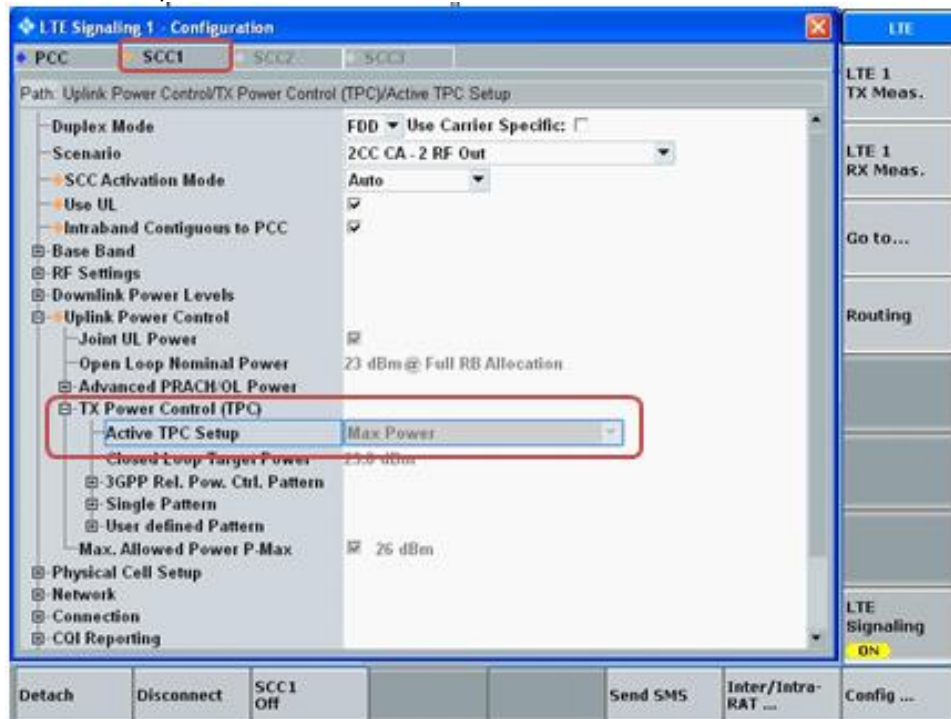
Detach Disconnect SCC1 Off Send SMS Inter/Intra-RAT ... Config ...

Max Power Setting

- Select “Config ...” button
- Select PCC tab
- Set “Active TPC Setup” to “Max Power”

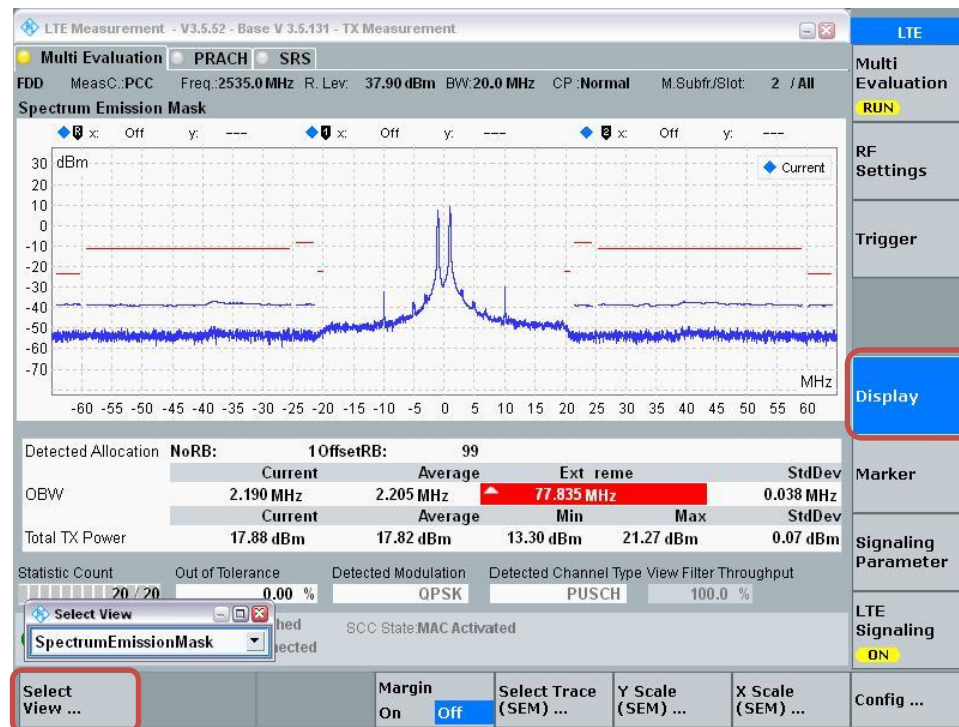


- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



View TX Power

- Go to “Display”
- Select “Select View...”
- Select “Spectrum Emission Mask”



LTE Advanced Carrier Aggregation Combinations:

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

DL Inter-Band (2 Bands, 3CC Max)

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-2A-5A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 5			Yes	Yes			
CA_2A-2A-12A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 12			Yes	Yes			
CA_2A-2A-13A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 13				Yes			
CA_2A-2A-29A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 29			Yes	Yes			
CA_2A-2A-30A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 30			Yes	Yes			
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_2C-5A (0)	Band 2	See CA_2C (0)						50 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_2C-12A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 12			Yes	Yes			

CA-2A-12B (0)	Band 2			Yes	Yes	Yes	Yes	35 MHz
	Band 12	See CA_12B (0)						
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-29A (0) (1) (2)	Band 2			Yes	Yes			20 MHz
	Band 29		Yes	Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 29			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 29			Yes	Yes			
CA-2C-29A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 29			Yes	Yes			
CA_2A-30A (0)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 30			Yes	Yes			
CA_2C-30A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 30			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_2A-66B (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 66	See CA_66B (0)						
CA-2A-66C (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 66	See CA_66C (0)						
CA_4A-4A-5A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 5			Yes	Yes			
CA_4A-4A-7A (0) (1)	Band 4			Yes	Yes			40 MHz
	Band 4			Yes	Yes			
	Band 7			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	

	Band 4			Yes	Yes	Yes	Yes	
	Band 7			Yes	Yes	Yes	Yes	
CA_4A-4A-12A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 12			Yes	Yes			
CA_4A-4A-13A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 13				Yes			
CA_4A-4A-29A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 29			Yes	Yes			
CA_4A-4A-30A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 30			Yes	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-7A (0) (1)	Band 4			Yes	Yes			30 MHz
	Band 7			Yes	Yes	Yes	Yes	
	Band 4			Yes	Yes	Yes	Yes	40 MHz
	Band 7			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	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-12B (0)	Band 4			Yes	Yes	Yes	Yes	35 MHz
	Band 12	See CA_12B (0)						
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			
CA_4A-17A (0)	Band 4			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA_4A-29A (0) (1) (2)	Band 4			Yes	Yes			20 MHz
	Band 29		Yes	Yes	Yes			
	Band 4			Yes	Yes			20 MHz
	Band 29			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 29			Yes	Yes			
CA_4A-30A (0)	Band 4			Yes	Yes	Yes	Yes	20 MHz
	Band 30			Yes	Yes			
CA_5A-7A (0) (1)	Band 5	Yes	Yes	Yes	Yes			30 MHz
	Band 7				Yes	Yes	Yes	
	Band 5			Yes	Yes			30 MHz
	Band 7				Yes	Yes	Yes	
CA_5A-25A (0)	Band 5			Yes	Yes			30 MHz
	Band 25			Yes	Yes	Yes	Yes	
CA_5A-30A (0)	Band 5			Yes	Yes			20 MHz
	Band 30			Yes	Yes			
CA_5A-66A (0)	Band 5			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_7A-12A (0)	Band 7			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
CA_12A-30A (0)	Band 12			Yes	Yes			20 MHz
	Band 30			Yes	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_12A-66A-66A (0)	Band 12			Yes	Yes			50 MHz
	Band 66	See CA_66A-66A (0)						
CA_12A_66C (0)	Band 12			Yes	Yes			50 MHz
	Band 66	See CA_66C (0)						
CA_13A-66A (0)	Band 13			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_25A-26A (0) (1) (2)	Band 25		Yes	Yes	Yes	Yes	Yes	35 MHz
	Band 26	Yes	Yes	Yes	Yes	Yes		
	Band 25		Yes	Yes	Yes			20 MHz
	Band 26		Yes	Yes	Yes			
	Band 25			Yes	Yes			20 MHz
	Band 26			Yes	Yes			
CA_29A-30A (0)	Band 29			Yes	Yes			20 MHz
	Band 30			Yes	Yes			
CA_30A-66A (0)	Band 30			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	

DL Inter-Band (3 Bands, 4CC Max)

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-2A-5A-30A (0)	Band 2	See CA_2A-2A (0)						60 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-2A-12A-30A (0)	Band 2	See CA_2A-2A (0)						60 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-2A-29A-30A (0)	Band 2	See CA_2A-2A (0)						60 MHz
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_2C-29A-30A (0)	Band 2	See CA_2C (0)						60 MHz
	Band 29			Yes	Yes			
	Band 30			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-12A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 12			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_2A-4A-29A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 29			Yes	Yes			
CA_2A-4A-30A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 30			Yes	Yes			
CA_2A-5A-30A (0)	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA_2C-5A-30A (0)	Band 2	See CA_2C (0)						60 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-5A-66A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 5			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA_2A-12A-30A (0)	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_2C-12A-30A (0)	Band 2	See CA_2C (0)						60 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-12A-66A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 12			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA_2A-13A-66A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 13			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA-2A-29A-30A (0)	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 29			Yes	Yes			

	Band 30			Yes	Yes			
CA_2A-30A-66A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA_2C_29A-30A (0)	Band 2	See CA_2C (0)						60 MHz
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_4A-4A-5A-30A (0)	Band 4	See CA_4A_4A (0)						60 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA_4A-4A-12A-30A (0)	Band 4	See CA_4A_4A (0)						60 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_4A-4A-29A-30A (0)	Band 4	See CA_4A_4A (0)						60 MHz
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_4A-5A-30A (0)	Band 4			Yes	Yes	Yes	Yes	40 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA_4A-7A-12A (0) (1)	Band 4			Yes	Yes			40 MHz
	Band 7			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	50 MHz
	Band 7			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			
CA_4A-12A-30A (0)	Band 4			Yes	Yes	Yes	Yes	40 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_4A-29A-30A (0)	Band 4			Yes	Yes	Yes	Yes	40 MHz
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_5A-30A-66A (0)	Band 5			Yes	Yes			40 MHz
	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA_12A-30A-66A (0)	Band 12			Yes	Yes			40 MHz

	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	

DL Inter-Band (4 Bands, 4CC Max)

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-5A-30A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA2A-4A-12A-30A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-4A-29A-30A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-5A-30A-66A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA_2A-12A-30A-66A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	

DL Intra-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	
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_7A-7A (0) (1) (2) (3)	Band 7	5	15		40 MHz
		10	10, 15		
		15	15, 20		
		20	20		
		5, 10, 15, 20	5, 10, 15, 20		40 MHz
		5, 10, 15, 20	5, 10		30 MHz

		10, 15, 20	10, 15, 20		40 MHz
CA_25A-25A (0) (1)	Band 25	5, 10	5, 10		20 MHz
		5, 10, 15, 20	5, 10, 15, 20		40 MHz
CA_41A-41A (0) (1)	Band 41	10, 15, 20	10, 15, 20		40 MHz
		5, 10, 15, 20	5, 10, 15, 20		40 MHz
CA_41A-41C (0)	Band 41	5, 10, 15, 20	See CA_41C (1)		60 MHz
CA_41C_41A (0)	Band 41	See CA_41C (1)	5, 10, 15, 20		60 MHz
CA_66A-66A (0)	Band 66	5, 10, 15, 20	5, 10, 15, 20		40 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	
CA_2C (0)	Band 2	5	20		40 MHz
		10	15, 20		
		15	10, 15, 20		
		20	5, 10, 15, 20		
CA_7B (0)	Band 7	15	5		20 MHz
CA_7C (0) (1) (2)	Band 7	15	15		40 MHz
		20	20		40 MHz
		10	20		
		15	15, 20		
		20	10, 15, 20		40 MHz
		15	10, 15		
		20	15, 20		
CA_12B (0)	Band 12	5	5, 10		15 MHz
CA_41C (0) (1) (2) (3)	Band 41	10	20		40 MHz
		15	15, 20		
		20	10, 15, 20		
		5, 10	20		40 MHz
		15	15, 20		
		20	5, 10, 15, 20		
		10	15, 20		40 MHz
		15	10, 15, 20		
		20	10, 15, 20		
		10	20		40 MHz
		20	20		

CA_41D (0)	Band 41	10	20	15	40 MHz
		10	15, 20	20	
		15	20	10, 15	
		15	10, 15, 20	20	
		20	15, 20	10	
		20	10, 15, 20	15, 20	
CA_66B (0)	Band 66	5	5, 10, 15		20 MHz
		10	5, 10		
		15	5		
CA_66C (0)	Band 66	10	15, 20		40 MHz
		15	10, 15, 20		
		20	5, 10, 15, 20		

UL 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	
CA_7C (0) (1) (2)	Band 7	15	15		40 MHz
		20	20		
		10	20		40 MHz
		15	15, 20		
		20	10, 15, 20		
		15	10, 15		40 MHz
		20	15, 20		
CA_41C (0) (1) (2) (3)	Band 41	10	20		40 MHz
		15	15, 20		
		20	10, 15, 20		
		5, 10	20		40 MHz
		15	15, 20		
		20	5, 10, 15, 20		
		10	15, 20		40 MHz
		15	10, 15, 20		
		20	10, 15, 20		
		10	20		40 MHz
		20	20		

Carrier Aggregation Power Measurements:

Power measurements were performed on the channel with the highest maximum output power from Tune-up Procedure on LAT antenna, Head power table on QPSK modulation following the Manufacturer KDB inquiry - Carrier Aggregation.

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

E-UTRA CA configuration (BCS)				
DL Inter-Band (2 Bands, 2CC)	DL Inter-Band (2 Bands, 3CC)	DL Inter-Band (3 Bands, 3CC)	DL Inter-Band (3 Bands, 4CC)	DL Inter-Band (4 Bands, 4CC)
CA_2A-4A(0)(1)(2)				CA_2A-4A-5A-30A(0)
CA_2A-5A(0)(1)	CA_2A-2A-5A(0)	CA_2A-4A-5A(0)		CA_2A-4A-5A-30A(0)
	CA_2C-5A(0)			
	CA_2C-30A(0)			
		CA_2A-5A-30A(0)	CA_2A-2A-5A-30A(0)	CA_2A-4A-5A-30A(0)
			CA_2C-5A-30A(0)	
CA_4A-5A(0)(1)	CA_4A-4A-5A(0)			CA_2A-4A-5A-30A(0)
CA_4A-30A(0)	CA_4A-4A-30A(0)	CA_4A-5A-30A(0)	CA_4A-4A-5A-30A(0)	CA_2A-4A-5A-30A(0)
CA_5A-30A(0)				CA_2A-4A-5A-30A(0)
CA_2A-12A(0)(1)(2)	CA_2A-2A-12A(0)	CA_2A-4A-12A(0)		CA_2A-4A-12A-30A(0)
		CA_2A-12A-30A(0)	CA_2A-2A-12A-30A(0)	CA_2A-4A-12A-30A(0)
			CA_2C-12A-30A(0)	
	CA_2A-12B(0)			
	CA_2C-12A(0)			
		CA_4A-12A-30A(0)	CA_4A-4A-12A-30A(0)	CA_2A-4A-12A-30A(0)
CA_4A-12A(0)(1)(2)(3)(4)(5)	CA_4A-4A-12A(0)	CA_4A-7A-12A(0)(1)		
	CA_4A-12B(0)			
CA_12A-30A(0)				CA_2A-4A-12A-30A(0)
CA_2A-29A(0)(1)(2)	CA_2A-2A-29A(0)	CA_2A-4A-29A(0)		CA_2A-4A-29A-30A(0)
CA_2A-30A(0)	CA_2A-2A-30A(0)	CA_2A-4A-30A(0)		CA_2A-4A-29A-30A(0)
CA_2C-29A(0)			CA_2C_29A-30A(0)	
		CA_2A-29A-30A(0)	CA_2A-2A-29A-30A(0)	CA_2A-4A-29A-30A(0)
CA_4A-29A(0)(1)(2)	CA_4A-4A-29A(0)			CA_2A-4A-29A-30A(0)
		CA_4A-29A-30A(0)	CA_4A-4A-29A-30A(0)	CA_2A-4A-29A-30A(0)
CA_29A-30A(0)				CA_2A-4A-29A-30A(0)
CA_2A-66A(0)(1)(2)		CA_2A-5A-66A(0)		CA_2A-5A-30A-66A(0)
		CA_2A_30A-66A(0)		CA_2A-5A-30A-66A(0)
	CA_2A-66B(0)			
	CA_2A-66C(0)			
CA_5A-66A(0)		CA_5A-30A-66A(0)		
		CA_2A-12A-66A(0)		CA_2A-12A-30A-66A(0)
CA_12A-66A(0)(1)(2)(3)(4)(5)	CA_12A-66A-66A(0)	CA_12A-30A-66A(0)		CA_2A-12A-30A-66A(0)
CA_30A-66A(0)				CA_2A-12A-30A-66A(0)
	CA_12A-66C(0)			
CA_2A-13A(0)(1)	CA_2A-2A-13A(0)	CA_2A-4A-13A(0)		
		CA_2A-13A-66A(0)		
CA_2A-17A(0)				
CA_4A-7A(0)(1)	CA_4A-4A-7A(0)(1)			
CA_4A-13A(0)(1)	CA_4A-4A-13A(0)			
CA_4A-17A(0)				
CA_7A-12A(0)				
CA_5A-7A(0)(1)				
CA_5A-25A(0)				
CA_13A-66A(0)				
CA_25A-26A(0)(1)(2)				

DL Inter-Band (2 Bands, 2CC and 3CC)

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulation	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2C-5A (0)	2C	2C	5A		20	1960	900	20	1980	1100	10	881.5	2525				QPSK	1	49	20	1880	18900	50	0	24.0	23.9	-0.1	13
	5A	2C	2C		10	881.5	2525	20	1960	900	20	1980	1100				QPSK	1	24	10	836.5	20525	50	0	24.8	24.5	-0.3	13
CA_2C-12A (0)	2C	2C	12A		20	1960	900	20	1980	1100	10	737.5	5095				QPSK	1	49	20	1880	18900	50	0	24.0	23.9	-0.1	13
	12A	2C	2C		10	737.5	5095	20	1960	900	20	1980	1100				QPSK	1	24	10	707.5	23095	50	0	24.8	24.7	-0.1	13
CA-2A-12B (0)	2A	12B	12B		20	1960	900	10	737.5	5095	5	745	5170				QPSK	1	49	20	1880	18900	35	0	24.0	23.9	-0.1	12
	12B	12B	2A		10	737.5	5095	5	745	5170	20	1960	900				QPSK	1	24	10	707.5	23095	35	0	24.8	24.7	-0.1	12
CA_2A-17A (0)	2A	17A			20	1960	900	10	740	5790							QPSK	1	49	20	1880	18900	20	0	24.0	24.0	0.0	11
	17A	2A			10	740	5790	20	1960	900							QPSK	1	24	10	710	23790	20	0	24.8	24.7	-0.1	11
CA_2C-30A (0)	2C	2C	30A		20	1960	900	20	1980	1100	10	2355	9820				QPSK	1	49	20	1880	18900	50	0	24.0	24.0	0.0	13
	30A	2C	2C		10	2355	9820	20	1960	900	20	1980	1100				QPSK	1	24	10	2310	27710	50	0	22.9	22.8	-0.1	13
CA_2A-66B (0)	2A	66B	66B		20	1960	900	15	2145	66786	5	2155	66866				QPSK	1	49	20	1880	18900	40	0	24.0	24.0	0.0	14
	66B	66B	2A		15	2145	66786	5	2155	66866	20	1960	900				QPSK	1	49	15	1745	132322	40	0	24.8	24.6	-0.2	14
CA-2A-66C (0)	2A	66C	66C		20	1960	900	20	2145	66786	20	2165	66986				QPSK	1	49	20	1880	18900	60	0	24.0	24.0	0.0	14
	66C	66C	2A		20	2145	66786	20	2165	66986	20	1960	900				QPSK	1	49	20	1745	132322	60	0	24.8	24.6	-0.2	14
CA_4A-4A-7A (0) (1)	4A	4A	7A		20	2132.5	2175	20	2132.5	2175	20	2655	3100				QPSK	1	49	20	1732.5	20175	40	0	24.8	24.6	-0.2	13
	7A	4A	4A		20	2655	3100	20	2132.5	2175	20	2132.5	2175				QPSK	1	49	20	2535	21100	40	0	24.5	24	-0.5	13
CA_4A-4A-13A (0)	4A	4A	13A		20	2132.5	2175	20	2132.5	2175	10	751	5230				QPSK	1	49	20	1732.5	20175	50	0	24.8	24.6	-0.2	12
	13A	4A	4A		10	751	5230	20	2132.5	2175	20	2132.5	2175				QPSK	1	24	10	782	23230	50	0	24.8	24.7	-0.1	12
CA_4A-12B (0)	4A	12B	12B		20	2132.5	2175	10	737.5	5095	5A	745	5170				QPSK	1	49	20	1732.5	20175	35	0	24.8	24.5	-0.3	12
	12B	12B	4A		10	737.5	5095	5	745	5170	20	2132.5	2175				QPSK	1	24	10	707.5	23095	35	0	24.8	24.7	-0.1	12
CA_4A-17A (0)	4A	17A			20	2132.5	2175	10	740	5790							QPSK	1	49	20	1732.5	20175	20	0	24.8	24.6	-0.2	11
	17A	4A			10	740	5790	20	2132.5	2175							QPSK	1	24	10	710	23790	20	0	24.8	24.7	-0.1	11
CA_5A-7A (0) (1)	5A	7A			10	881.5	2525	20	2655	3100							QPSK	1	24	10	836.5	20525	30	0	24.8	24.5	-0.3	13
	7A	5A			20	2655	3100	10	881.5	2525							QPSK	1	49	20	2535	21100	30	0	24.5	24	-0.5	13
CA_5A-25A (0)	5A	25A			10	881.5	2525	20	1962.5	8365							QPSK	1	24	10	836.5	20525	30	0	24.8	24.5	-0.3	12
	25A	5A			20	1962.5	8365	10	881.5	2525							QPSK	1	49	20	1882.5	26365	30	0	24.0	24.0	0.0	12
CA_7A-12A (0)	7A	12A			20	2655	3100	10	737.5	5095							QPSK	1	49	20	2535	21100	30	0	24.5	24.0	-0.5	12
	12A	7A			10	737.5	5095	20	2655	3100							QPSK	1	24	10	707.5	23095	30	0	24.8	24.7	-0.1	12
CA_12A-66C (0)	12A	66C	66C		10	737.5	5095	20	2145	66786	20	2165	66986				QPSK	1	24	10	707.5	23095	50	0	24.8	24.7	-0.1	14
	66C	66C	12A		20	2145	66786	20	2165	66986	10	737.5	5095				QPSK	1	49	20	1745	132322	50	0	24.8	24.6	-0.2	14
CA_13A-66A (0)	13A	66A			10	751	5230	20	2145	66786							QPSK	1	24	10	782	23230	30	0	24.8	24.6	-0.2	14
	66A	13A			20	2145	66786	10	751	5230							QPSK	1	49	20	1745	132322	30	0	24.8	24.6	-0.2	14
CA_25A-26A (0) (1) (2)	25A	26A			20	1962.5	8365	10	876.5	8865							QPSK	1	49	20	1882.5	26365	35	0	24.0	24.0	0.0	13
	26A	25A			10	876.5	8865	20	1962.5	8365							QPSK	1	24	10	831.5	26865	35	0	24.8	24.5	-0.3	13

DL Inter-Band (3 Bands, 3 CC and 4 CC)

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2A-4A-13A (0)	2A	4A	13A		20	1960	900	20	2132.5	2175	10	751	5230				QPSK	1	49	20	1880	18900	50	0	24.0	23.9	-0.1	12
	4A	13A	2A		20	2132.5	2175	10	751	5230	20	1960	900				QPSK	1	49	20	1732.5	20175	50	0	24.8	24.5	-0.3	12
	13A	2A	4A		10	751	5230	20	1960	900	20	2132.5	2175				QPSK	1	24	10	782	23230	50	0	24.8	24.7	-0.1	12
CA_2C-5A-30A (0)	2C	2C	5A	30A	20	1960	900	20	1980	1100	10	881.5	2525	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	13
	5A	30A	2C	2C	10	881.5	2525	10	2355	9820	20	1960	900	20	1980	1100	QPSK	1	24	10	836.5	20525	60	0	24.8	24.6	-0.2	13
	30A	2C	2C	5A	10	2355	9820	20	1960	900	20	1980	1100	10	881.5	2525	QPSK	1	24	10	2310	27710	60	0	22.9	22.8	-0.1	13
CA_2C-12A-30A (0)	2C	2C	12A	30A	20	1960	900	20	1980	1100	10	737.5	5095	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	13
	12A	30A	2C	2C	10	737.5	5095	10	2355	9820	20	1960	900	20	1980	1100	QPSK	1	24	10	707.5	23095	60	0	24.8	24.6	-0.2	13
	30A	2C	2C	12A	10	2355	9820	20	1960	900	20	1980	1100	10	737.5	5095	QPSK	1	24	10	2310	27710	60	0	22.9	22.8	-0.1	13
CA_2A-13A-66A (0)	2A	13A	66A		20	1960	900	10	751	5230	20	2145	66786				QPSK	1	49	20	1880	18900	50	0	24.0	23.9	-0.1	14
	13A	66A	2A		10	751	5230	20	2145	66786	20	1960	900				QPSK	1	24	10	782	23230	50	0	24.8	24.6	-0.2	14
	66A	2A	13A		20	2145	66786	20	1960	900	10	751	5230				QPSK	1	49	20	1745	132322	50	0	24.8	24.5	-0.3	14
CA_2C-29A-30A (0)	2C	2C	29A	30A	20	1960	900	20	1980	1100	10	722.5	9715	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	24.0	23.9	-0.1	13
	29A	30A	2C	2C	10	722.5	9715	10	2355	9820	20	1960	900	20	1980	1100	QPSK	1	24	10	DL Only	DL Only	60	0	DL Only	DL Only	DL Only	13
	30A	2C	2C	29A	10	2355	9820	20	1960	900	20	1980	1100	10	722.5	9715	QPSK	1	24	10	2310	27710	60	0	22.9	22.8	-0.1	13
CA_4A-7A-12A (0) (1)	4A	7A	12A		20	2132.5	2175	20	2655	3100	10	737.5	5095				QPSK	1	49	20	1732.5	20175	50	0	24.8	24.4	-0.4	13
	7A	12A	4A		20	2655	3100	10	737.5	5095	20	2132.5	2175				QPSK	1	49	20	2535	21100	50	0	24.5	24.0	-0.5	13
	12A	4A	7A		10	737.5	5095	20	2132.5	2175	20	2655	3100				QPSK	1	24	10	707.5	23095	50	0	24.8	24.6	-0.2	13
CA_5A-30A-66A (0)	5A	30A	66A		10	881.5	2525	10	2355	9820	20	2145	66786				QPSK	1	24	10	836.5	20525	40	0	24.8	24.6	-0.2	14
	30A	66A	5A		10	2355	9820	20	2145	66786	10	881.5	2525				QPSK	1	24	10	2310	27710	40	0	22.9	22.8	-0.1	14
	66A	5A	30A		20	2145	66786	10	881.5	2525	10	2355	9820				QPSK	1	49	20	1745	132322	40	0	24.8	24.5	-0.3	14

DL Inter-Band (4 Bands, 4CC)

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2A-4A-5A-30A (0)	2A	4A	5A	30A	20	1960	900	20	2132.5	2175	10	881.5	2525	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	13
	4A	5A	30A	2A	20	2132.5	2175	10	881.5	2525	10	2355	9820	20	1960	900	QPSK	1	49	20	1732.5	20175	60	0	24.8	24.6	-0.2	13
	5A	30A	2A	4A	10	881.5	2525	10	2355	9820	20	1960	900	20	2132.5	2175	QPSK	1	24	10	836.5	20525	60	0	24.8	24.7	-0.1	13
	30A	2A	4A	5A	10	2355	9820	20	1960	900	20	2132.5	2175	10	881.5	2525	QPSK	1	24	10	2310	27710	60	0	22.9	22.9	0.0	13
CA2A-4A-12A-30A (0)	2A	4A	12A	30A	20	1960	900	20	2132.5	2175	10	737.5	5095	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	13
	4A	12A	30A	2A	20	2132.5	2175	10	737.5	5095	10	2355	9820	20	1960	900	QPSK	1	49	20	1732.5	20175	60	0	24.8	24.6	-0.2	13
	12A	30A	2A	4A	10	737.5	5095	10	2355	9820	20	1960	900	20	2132.5	2175	QPSK	1	24	10	707.5	23095	60	0	24.8	24.7	-0.1	13
	30A	2A	4A	12A	10	2355	9820	20	1960	900	20	2132.5	2175	10	737.5	5095	QPSK	1	24	10	2310	27710	60	0	22.9	22.9	0.0	13
CA_2A-4A-29A-30A (0)	2A	4A	29A	30A	20	1960	900	20	2132.5	2175	10	722.5	9715	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	13
	4A	29A	30A	2A	20	2132.5	2175	10	722.5	9715	10	2355	9820	20	1960	900	QPSK	1	49	20	1732.5	20175	60	0	24.8	24.6	-0.2	13
	29A	30A	2A	4A	10	722.5	9715	10	2355	9820	20	1960	900	20	2132.5	2175	QPSK	1	24	10	DL Only	DL Only	60	0	DL Only	DL Only	DL Only	13
	30A	2A	4A	29A	10	2355	9820	20	1960	900	20	2132.5	2175	10	722.5	9715	QPSK	1	24	10	2310	27710	60	0	22.9	22.9	0.0	13
CA_2A-5A-30A-66A (0)	2A	5A	30A	66A	20	1960	900	10	881.5	2525	10	2355	9820	20	2145	66786	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	14
	5A	30A	66A	2A	10	881.5	2525	10	2355	9820	20	2145	66786	20	1960	900	QPSK	1	24	10	836.5	20525	60	0	24.8	24.7	-0.1	14
	30A	66A	2A	5A	10	2355	9820	20	2145	66786	20	1960	900	10	881.5	2525	QPSK	1	24	10	2310	27710	60	0	22.9	22.9	0.0	14
	66A	2A	5A	30A	20	2145	66786	20	1960	900	10	881.5	2525	10	2355	9820	QPSK	1	49	20	1745	132322	60	0	24.8	24.6	-0.2	14
CA_2A-12A-30A-66A (0)	2A	12A	30A	66A	20	1960	900	10	737.5	5095	10	2355	9820	20	2145	66786	QPSK	1	49	20	1880	18900	60	0	24.0	23.8	-0.2	14
	12A	30A	66A	2A	10	737.5	5095	10	2355	9820	20	2145	66786	20	1960	900	QPSK	1	24	10	707.5	23095	60	0	24.8	24.7	-0.1	14
	30A	66A	2A	12A	10	2355	9820	20	2145	66786	20	1960	900	10	737.5	5095	QPSK	1	24	10	2310	27710	60	0	22.9	22.9	0.0	14
	66A	2A	12A	30A	20	2145	66786	20	1960	900	10	737.5	5095	10	2355	9820	QPSK	1	49	20	1745	132322	60	0	24.8	24.6	-0.2	14

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

E-UTRA CA configuration (BCS)		
DL Intra-Band Non-Contiguous	DL Intra-Band Contiguous	UL Intra-Band Contiguous
CA_2A-2A (0)	CA_2C (0)	CA_7C (0) (1) (2)
CA_4A_4A (0) (1)	CA_7B (0)	CA_41C (0) (1) (2) (3)
CA_7A_7A (0) (1) (2) (3)	CA_7C (0) (1) (2)	
CA_25A_25A (0) (1)	CA_12B (0)	
CA_41A-41A (0) (1)	CA_41C (0) (1) (2) (3)	
CA_41A-41C (0)	CA_41D (0)	
CA_41C_41A (0)	CA_66B (0)	
CA_66A-66A (0)	CA_66C (0)	

DL Intra-Band Non-Contiguous

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulation	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2A-2A(0)	2A	2A			20	1940	700	20	1980	1100							QPSK	1	49	20	1860	18700	40	0	24.0	23.9	-0.1	12
CA_4A_4A(0)(1)	4A	4A			20	2120	2050	20	2145	2300							QPSK	1	49	20	1720	20050	40	0	24.8	24.5	-0.3	12
CA_7A_7A(0)(1)(2)(3)	7A	7A			20	2630	2850	20	2680	3350							QPSK	1	49	20	2510	20850	40	0	24.5	24.0	-0.5	12
CA_25A_25A(0)(1)	25A	25A			20	1940	8140	20	1985	8590							QPSK	1	49	20	1860	26140	40	0	24.0	23.9	-0.1	12
CA_41A-41A(0)(1)	41A	41A			20	2506	39750	20	2680	41490							QPSK	1	49	20	2506	39750	40	0	24.5	24.1	-0.4	12
CA_41A-41C(0)	41A	41C	41C		20	2506	39750	20	2660	41290	20	2680	41490				QPSK	1	49	20	2506	39750	60	0	24.5	24.1	-0.4	12
CA_41C_41A(0)	41C	41C	41A		20	2506	39750	20	2526	39950	20	2680	41490				QPSK	1	49	20	2506	39750	60	0	24.5	24.1	-0.4	12
CA_66A-66A(0)	66A	66A			20	2120	66536	20	2170	67035							QPSK	1	49	20	1720	132072	40	0	24.8	24.6	-0.2	13

DL Intra-Band Contiguous

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2C (0)	2C	2C			20	1960	900	20	1980	1100							QPSK	1	49	20	1880	18900	40	0	24.0	23.6	-0.4	12
CA_7B (0)	7B	7B			15	2655	3100	5	2665	3200							QPSK	1	36	15	2535	21100	20	0	24.5	23.8	-0.7	13
CA_7C (0) (1) (2)	7C	7C			20	2655	3100	20	2675	3300							QPSK	1	49	20	2535	21100	40	0	24.5	23.8	-0.7	13
CA_12B (0)	12B	12B			10	737.5	5095	5	745	5170							QPSK	1	24	10	707.5	23095	15	0	24.8	24.3	-0.5	12
CA_41C (0) (1) (2) (3)	41C	41C			20	2593	40620	20	2613	40820							QPSK	1	49	20	2593	40620	40	0	24.5	24.0	-0.5	13
CA_41D (0)	41D	41D	41D		20	2593	40620	20	2613	40820	20	2633	41020				QPSK	1	49	20	2593	40620	60	0	24.5	24.0	-0.5	12
CA_66B (0)	66B	66B			15	2145	66786	5	2155	66886							QPSK	1	49	20	1745	132322	20	0	24.8	24.4	-0.4	13
CA_66C (0)	66C	66C			20	2145	66786	20	2165	66986							QPSK	1	49	20	1745	132322	40	0	24.8	24.4	-0.4	13

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

UL CA power measurements were performed for both antennas (UAT 1 and LAT 1) at with QPSK modulation based on the worst-case standalone SAR. The tune-up limits are provided in Section 6.3 of this report.

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

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power). In all cases the UL CA power is less than or equal to the standalone power, which is in accordance with the tune-up limits in Section 6.3 of this report.

LTE-uplink 2CA Band 7 for SAR testing (Refer to Section. 10.18.)

RF Exposure Conditions	Antenna	E-UTRA CA configuration (BCS)	Bands		DL						UL																				
			PCC	SCC	PCC			SCC			PCC						SCC						MPR	Standalone		PCC+SCC					
			1st	2nd	BW	Freq	Ch	BW	Freq	Ch	Modulation	RB	Offset	BW	Freq	Ch	Modulation	RB	Offset	BW	Freq	Ch		PCC CA Inactive	SCC CA Inactive	Aggregated BW	MPR	Tune-Up Limit	CA Power (Total PCC+SCC)	Delta	3GPP Rel. #
Head	UAT 1	CA_7C (0) (1) (2)	7C	7C	20	2630	2850	20	2649.8	3048	QPSK	1	99	20	2510	20850	QPSK	1	0	20	2529.8	21048	0	17.6	17.6	40	0	18.0	17.3	-0.3	13
Head	UAT 1	CA_7C (0) (1) (2)	7C	7C	20	2655	3100	20	2674.8	3298	QPSK	1	99	20	2535	21100	QPSK	1	0	20	2554.8	21298	0	17.7	17.7	40	0	18.0	17.3	-0.4	13
Head	UAT 1	CA_7C (0) (1) (2)	7C	7C	20	2680	3350	20	2660.2	3152	QPSK	1	0	20	2560	21350	QPSK	1	99	20	2540.2	21152	0	17.5	17.5	40	0	18.0	17.4	-0.1	13
Body-worn	LAT 1	CA_7C (0) (1) (2)	7C	7C	20	2630	2850	20	2649.8	3048	QPSK	1	99	20	2510	20850	QPSK	1	0	20	2529.8	21048	0	17.9	17.9	40	0	18.5	17.7	-0.2	13
Body-worn	LAT 1	CA_7C (0) (1) (2)	7C	7C	20	2655	3100	20	2674.8	3298	QPSK	1	99	20	2535	21100	QPSK	1	0	20	2554.8	21298	0	17.8	17.8	40	0	18.5	17.8	0.0	13
Body-worn	LAT 1	CA_7C (0) (1) (2)	7C	7C	20	2680	3350	20	2660.2	3152	QPSK	1	0	20	2560	21350	QPSK	1	99	20	2540.2	21152	0	17.9	17.9	40	0	18.5	17.7	-0.2	13

LTE-uplink 2CA Band 41 for SAR testing (Refer to Section. 10.19.)

RF Exposure Conditions	Antenna	E-UTRA CA configuration (BCS)	Bands		DL						UL																				
			PCC	SCC	PCC			SCC			PCC						SCC						MPR	Standalone		PCC+SCC					
			1st	2nd	BW	Freq	Ch	BW	Freq	Ch	Modulation	RB	Offset	BW	Freq	Ch	Modulation	RB	Offset	BW	Freq	Ch		PCC CA Inactive	SCC CA Inactive	Aggregated BW	MPR	Tune-Up Limit	CA Power (Total PCC+SCC)	Delta	3GPP Rel. #
Body-worn	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2506	39750	20	2525.8	39948	QPSK	1	99	20	2506	39750	QPSK	1	0	20	2525.8	39948	0	19.7	19.7	40	0	19.3	19.2	-0.5	13
Body-worn	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2550	40185	20	2569.3	40383	QPSK	1	99	20	2550	40185	QPSK	1	0	20	2569.3	40383	0	19.5	19.5	40	0	19.3	19.2	-0.3	13
Body-worn	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2593	40620	20	2612.8	40818	QPSK	1	99	20	2593	40620	QPSK	1	0	20	2612.8	40818	0	19.5	19.5	40	0	19.3	19.3	-0.2	13
Body-worn	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2637	41055	20	2656.3	41253	QPSK	1	99	20	2637	41055	QPSK	1	0	20	2656.3	41253	0	19.7	19.7	40	0	19.3	19.2	-0.5	13
Body-worn	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2680	41490	20	2660.2	41292	QPSK	1	0	20	2680	41490	QPSK	1	99	20	2660.2	41292	0	19.5	19.5	40	0	19.3	19.2	-0.3	13
Body-worn	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2506	39750	20	2525.8	39948	QPSK	1	99	20	2506	39750	QPSK	1	0	20	2525.8	39948	0	20.5	20.5	40	0	20.5	20.4	-0.1	13
Body-worn	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2550	40185	20	2569.3	40383	QPSK	1	99	20	2550	40185	QPSK	1	0	20	2569.3	40383	0	20.5	20.5	40	0	20.5	20.5	0.0	13
Body-worn	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2593	40620	20	2612.8	40818	QPSK	1	99	20	2593	40620	QPSK	1	0	20	2612.8	40818	0	20.5	20.5	40	0	20.5	20.4	-0.1	13
Body-worn	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2637	41055	20	2656.3	41253	QPSK	1	0	20	2637	41055	QPSK	1	99	20	2616.7	40857	0	20.5	20.5	40	0	20.5	20.4	-0.1	13
Body-worn	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2680	41490	20	2660.2	41292	QPSK	1	0	20	2680	41490	QPSK	1	99	20	2660.2	41292	0	20.5	20.5	40	0	20.5	20.4	-0.1	13

9.5. WLAN SISO (P_{Cell_ON})

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF}: This will be used when only Wi-Fi radio is ON

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11b	1 Tx	1	2412	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
			6	2437	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
			11	2462	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.2	802.11ac	1 Tx VHT80	42	5210	7.3	7.3	Not required	Not required	14.0	14.0	Not required	Not required
5.3	802.11a	1 Tx	52	5260	Not required	Not required	19.8	19.8	Not required	Not required	Not required	Not required
			56	5280			19.8	19.8				
			60	5300			19.5	19.5				
			64	5320			16.5	16.5				
	802.11ac	1 Tx VHT80	58	5290	Not required	Not required	Not required	Not required	Not required	Not required	9.5	9.5
5.5	802.11a	1 Tx	108	5540	Not required	Not required	19.8	19.8	Not required	Not required	Not required	Not required
			124	5620			19.8	19.8				
			144	5720			19.8	19.8				
	802.11ac	1 Tx VHT80	106	5530	4.5	4.5	Not required	Not required	11.5	11.5	10.0	10.0
			122	5610	4.5	4.5			11.5	11.5	10.0	10.0
			138	5690	4.5	4.5			11.5	11.5	10.0	10.0
5.8	802.11a	1 Tx	153	5765	Not required	Not required	19.8	19.8	Not required	Not required	Not required	Not required
			157	5785			19.8	19.8				
			161	5805			19.8	19.8				
	802.11ac	1 Tx VHT80	155	5775	5.3	5.3	Not required	Not required	11.5	11.5	10.3	10.3

Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/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. Additional output power measurements were not deemed necessary.

9.6. WLAN MIMO (P_{Cell_ON})

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF}: This will be used when only Wi-Fi radio is ON

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11g	2 Tx CDD	2	2417	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
			6	2437	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
			9	2452	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
			10	2457	9.5	9.5	18.0	18.0	15.0	15.0	13.5	13.5
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.2	802.11n	2 Tx HT40 CDD/STBC/SDM	38	5190	7.3	7.3	15.0	15.0	Not required	Not required	Not required	Not required
			46	5230	7.3	7.3	19.5	19.5				
	802.11ac	2 Tx VHT 80 CDD/STBC/SDM	42	5210	Not required	Not required	Not required	Not required	14.0	14.0	9.0	9.0
5.5	802.11n	2 Tx HT40 CDD/STBC/SDM	110	5550	4.5	4.5	19.5	19.5	Not required	Not required	Not required	Not required
			126	5630	4.5	4.5	19.5	19.5				
			142	5710	4.5	4.5	19.5	19.5				
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	106	5530	Not required	Not required	Not required	Not required	11.5	11.5	10.0	10.0
			122	5610					11.5	11.5	10.0	10.0
			138	5690					11.5	11.5	10.0	10.0
5.8	802.11a	2 Tx	153	5765	5.3	5.3	19.8	19.8	Not required	Not required	Not required	Not required
			157	5785	5.3	5.3	19.8	19.8				
			161	5805	5.3	5.3	19.8	19.8				
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	155	5775	Not required	Not required	Not required	Not required	11.5	11.5	10.3	10.3

Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/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. Additional output power measurements were not deemed necessary.

9.7. WLAN SISO (P_{Cell_OFF})

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF}: This will be used when only Wi-Fi radio is ON

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11b	1 Tx	1	2412	14.8	14.8	19.0	19.0	18.3	18.3	18.8	18.7
			2	2417	14.8	14.8	20.0	20.0	18.3	18.3	18.8	18.7
			5	2432	14.8	14.8	21.5	21.5	18.3	18.3	18.8	18.7
			6	2437	14.8	14.8	21.5	21.5	18.3	18.3	18.8	18.7
			7	2442	14.8	14.8	20.0	20.0	18.3	18.3	18.8	18.7
			11	2462	14.8	14.8	19.0	19.0	18.3	18.3	18.8	18.7
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.2	802.11n	1 Tx HT40	38	5190	Not required	Not required	Not required	Not required	16.5	16.5	Not required	Not required
			46	5230	Not required	Not required	Not required	Not required	18.3	18.3	Not required	Not required
	802.11ac	1 Tx VHT80	42	5210	15.0	14.8	Not required	Not required	Not required	Not required	Not required	Not required
5.3	802.11a	1 Tx	52	5260	Not required	Not required	21.0	19.8	Not required	Not required	Not required	Not required
			56	5280			21.0	19.8				
			60	5300			19.5	19.5				
			64	5320			16.5	16.5				
	802.11n	1 Tx HT40	54	5270	Not required	Not required	Not required	Not required	Not required	Not required	16.3	16.3
			62	5310							15.5	15.5
5.5	802.11a	1 Tx	108	5540	Not required	Not required	21.0	19.8	Not required	Not required	Not required	Not required
			124	5620			21.0	19.8				
			144	5720			21.0	19.8				
	802.11ac	1 Tx VHT80	106	5530	12.3	12.3	Not required	Not required	15.0	15.0	15.0	15.0
			122	5610	12.3	12.3			15.8	15.5	16.8	16.8
			138	5690	12.3	12.3			15.8	15.6	16.8	16.8
5.8	802.11a	1 Tx	153	5765	Not required	Not required	21.0	19.8	Not required	Not required	Not required	Not required
			157	5785			21.0	19.8				
			161	5805			21.0	19.8				
	802.11ac	1 Tx VHT80	155	5775	13.0	13.0	Not required	Not required	15.8	15.8	17.0	17.0

Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/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. Additional output power measurements were not deemed necessary.

9.8. WLAN MIMO (P_{Cell_OFF})

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P_{Cell_ON}: This will be used when both Cellular and Wi-Fi radios are ON.
- P_{Cell_OFF}: This will be used when only Wi-Fi radio is ON

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11g	2 Tx CDD	3	2422	14.8	14.8	19.5	19.5	18.3	18.0	18.8	18.7
			4	2427	14.8	14.8	21.0	21.0	18.3	18.0	18.8	18.7
			6	2437	14.8	14.8	21.0	21.0	18.3	18.2	18.8	18.8
			8	2447	14.8	14.8	21.0	21.0	18.3	18.0	18.8	18.7
			9	2452	14.8	14.8	19.5	19.5	18.3	18.0	18.8	18.7
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.2	802.11n	2 Tx HT40 CDD/STBC/SDM	38	5190	15.0	15.0	15.0	15.0	15.0	14.8	15.0	15.0
			46	5230	15.0	15.0	19.5	19.1	18.3	18.3	15.8	15.8
5.5	802.11n	2 Tx HT40 CDD/STBC/SDM	110	5550	12.3	12.1	19.5	19.3	Not required	Not required	Not required	Not required
			126	5630	12.3	12.1	19.5	19.5				
			142	5710	12.3	12.1	19.5	19.3				
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	106	5530	Not required	Not required	Not required	Not required	14.5	14.5	14.5	14.5
			122	5610					15.8	15.7	16.8	16.6
			138	5690					15.8	15.5	16.8	16.5
5.8	802.11a	2 Tx CDD	153	5765	13.0	13.0	21.0	21.0	Not required	Not required	Not required	Not required
			157	5785	13.0	13.0	21.0	21.0				
			161	5805	13.0	13.0	21.0	21.0				
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	155	5775	Not required	Not required	Not required	Not required	15.8	15.8	17.0	17.0

Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/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. Additional output power measurements were not deemed necessary.

9.9. Bluetooth

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

P_{low}

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	V 5.0 + EDR, GFSK	1 Tx	0	2402	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
			39	2441	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
			78	2480	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

P_{high}

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	V 5.0 + EDR, GFSK	1 Tx	0	2402	12.0	12.0	16.5	16.5	13.5	13.5	13.5	13.5
			39	2441	12.0	12.0	16.5	16.5	13.5	13.5	13.5	13.5
			78	2480	12.0	12.0	16.5	16.5	13.5	13.5	13.5	13.5

$P_{standalone}$

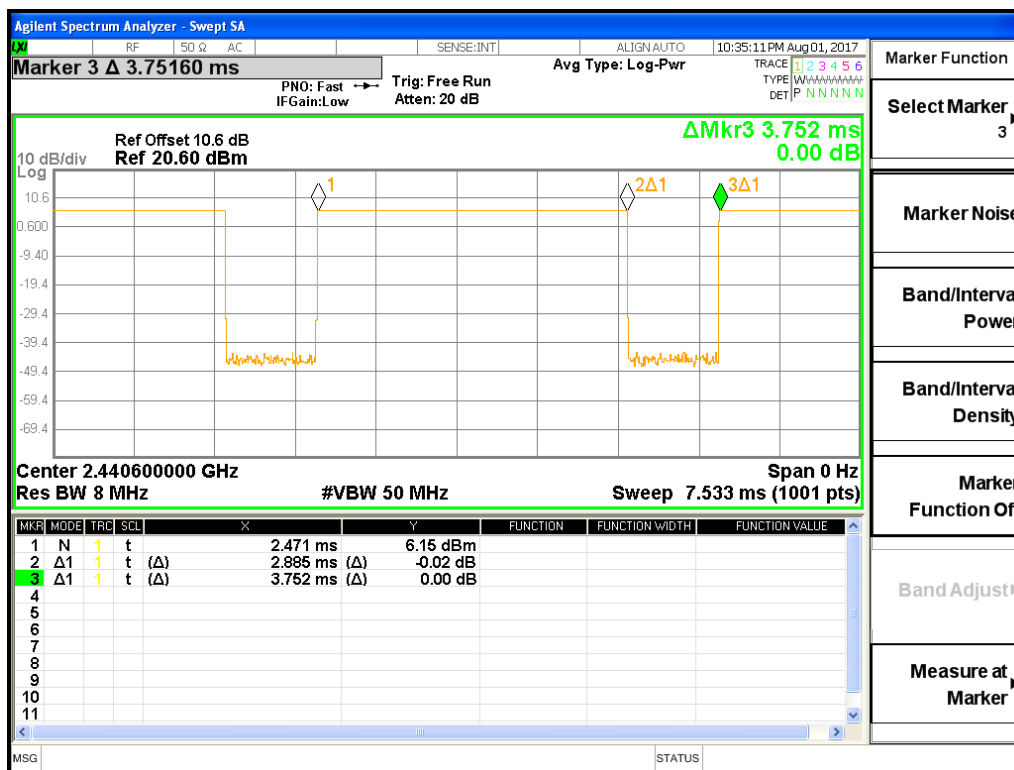
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	V 5.0 + EDR, GFSK	1 Tx	0	2402	14.5	14.5	19.5	19.5	16.5	16.5	16.5	16.5
			39	2441	14.5	14.5	19.5	19.5	16.5	16.5	16.5	16.5
			78	2480	14.5	14.5	19.5	19.5	16.5	16.5	16.5	16.5

Notes:

1. Bluetooth P_{high} is used when Wi-Fi antenna is active and Cellular antenna is inactive.
2. Bluetooth P_{low} is used with Wi-Fi and Cellular antennas are active or with Wi-Fi inactive and Cellular antenna is active.
3. Bluetooth $P_{standalone}$ is used with Wi-Fi and Cellular antennas are inactive.

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.885	3.752	76.89%	1.30

GFSK Duty Cycle plot

10. Measured and Reported (Scaled) SAR Results

SAR Testing was performed based on the power measurement results from Sec. 9. Output power from both power modes: Mode A and Mode B were applied for each respective antenna. Mode A power is used when the device is used against the user's head, or away from the body. Mode B is used when the device is used in a body-worn configuration by the user. Mode C is used when the device is placed on a proprietary Apple wireless charger, as described in Sec. 6.3.5. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Test Tables were organized and labeled by antenna, UAT 1 and LAT 1 for cellular technologies. And for Wi-Fi/Bluetooth technologies, Test Tables were organized and labeled by power configuration and antenna (UAT 1 (Wi-Fi 2.4 GHz), UAT 2 (Wi-Fi 5 GHz), and LAT 3 (Wi-Fi-BT 2.4/5 GHz). Applicable SAR Test Reductions have been applied accordingly following the SAR KDB Procedure as follows:

GENERAL:

1. Reference from 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

2. Reference from 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.

3. Reference from KDB 648474 D04 Handset SAR (Phablet Only):

This device qualifies as a phablet (display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm as applicable), and phablet procedures have been applied. Extremity SAR (10g SAR) is not required as the 1 g SAR values at 5 mm for hotspot mode are all less than 1.2 W/kg.

WIRELESS TECHNOLOGY:

4. Reference 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 $\leq \frac{1}{4}$ 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

5. Reference from KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

- a) 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.
- b) 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.
- c) 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.
- d) 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.
- e) 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.
- f) 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.

6. Reference from 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. GSM850

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.	
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled		
Head	GPRS 2 Slots	0	Left Touch	190	836.6	29.3	29.3	0.405	0.405	0.303	0.303		
			Left Tilt	190	836.6	29.3	29.3	0.265	0.265	0.157	0.157		
			Right Touch	190	836.6	29.3	29.3	0.409	0.409	0.258	0.258		
			Right Tilt	190	836.6	29.3	29.3	0.270	0.270	0.154	0.154		
Body-worn & Hotspot	GPRS 2 Slots	5	Rear	190	836.6	29.8	29.5	0.363	0.389	0.224	0.240		
Front			190	836.6	29.8	29.5	0.299	0.320	0.206	0.221			
Hotspot			Edge 1	190	836.6	29.8	29.5	0.117	0.125	0.056	0.060		
			Edge 2	190	836.6	29.8	29.5	0.313	0.335	0.205	0.220		
			Edge 4	190	836.6	29.8	29.5	0.129	0.138	0.082	0.088		

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	GPRS 2 Slots	0	Left Touch	190	836.6	32.3	32.3	0.508	0.508	0.385	0.385	1
			Left Tilt	190	836.6	32.3	32.3	0.237	0.237	0.185	0.185	
			Right Touch	190	836.6	32.3	32.3	0.415	0.415	0.313	0.313	
			Right Tilt	190	836.6	32.3	32.3	0.226	0.226	0.177	0.177	
Body-worn & Hotspot	GPRS 2 Slots	5	Rear	128	824.2	29.5	29.5	0.795	0.795	0.463	0.463	
				190	836.6	29.5	29.5	0.906	0.906	0.524	0.524	
				251	848.8	29.5	29.5	0.996	0.996	0.570	0.570	2
			Front	190	836.6	29.5	29.5	0.791	0.791	0.453	0.453	
Hotspot			Edge 2	190	836.6	29.5	29.5	0.293	0.293	0.191	0.191	
			Edge 3	190	836.6	29.5	29.5	0.488	0.488	0.234	0.234	
			Edge 4	190	836.6	29.5	29.5	0.769	0.769	0.507	0.507	

10.2. GSM1900

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.	
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled		
Head VoIP	GPRS 2 Slots	0	Left Touch	661	1880.0	24.0	23.9	0.331	0.339	0.192	0.196		
			Left Tilt	661	1880.0	24.0	23.9	0.229	0.234	0.131	0.134		
			Right Touch	512	1850.2	24.0	23.9	0.986	1.009	0.529	0.541		
				661	1880.0	24.0	23.9	1.010	1.034	0.533	0.545	3	
				810	1909.8	24.0	23.9	0.990	1.013	0.524	0.536		
			Right Tilt	661	1880.0	24.0	23.9	0.514	0.526	0.264	0.270		
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	512	1850.2	23.8	23.8	0.881	0.881	0.441	0.441		
				661	1880.0	23.8	23.8	0.896	0.896	0.441	0.441		
				810	1909.8	23.8	23.8	0.855	0.855	0.419	0.419		
			Front	661	1880.0	23.8	23.8	0.752	0.752	0.378	0.378		
			Edge 1	512	1850.2	23.8	23.8	0.861	0.861	0.400	0.400		
				661	1880.0	23.8	23.8	0.872	0.872	0.398	0.398		
810				1909.8	23.8	23.8	0.751	0.751	0.346	0.346			
Edge 2			661	1880.0	23.8	23.8	0.033	0.033	0.017	0.017			
Edge 4			661	1880.0	23.8	23.8	0.619	0.619	0.331	0.331			
Hotspot													

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head VoIP	GPRS 2 Slots	0	Left Touch	661	1880.0	30.3	30.3	0.302	0.302	0.196	0.196	
			Left Tilt	661	1880.0	30.3	30.3	0.168	0.168	0.100	0.100	
			Right Touch	661	1880.0	30.3	30.3	0.613	0.613	0.366	0.366	
			Right Tilt	661	1880.0	30.3	30.3	0.134	0.134	0.087	0.087	
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	512	1850.2	27.0	27.0	0.833	0.833	0.408	0.408	
				661	1880.0	27.0	27.0	0.972	0.972	0.468	0.468	
				810	1909.8	27.0	27.0	1.070	1.070	0.508	0.508	4
			Front	661	1880.0	27.0	27.0	0.673	0.673	0.348	0.348	
Edge 2				512	1850.2	27.0	27.0	0.813	0.813	0.449	0.449	
				661	1880.0	27.0	27.0	0.808	0.808	0.447	0.447	
			810	1909.8	27.0	27.0	0.978	0.978	0.532	0.532		
Hotspot			Edge 3	512	1850.2	27.0	27.0	0.747	0.747	0.355	0.355	
				661	1880.0	27.0	27.0	0.812	0.812	0.380	0.380	
				810	1909.8	27.0	27.0	0.889	0.889	0.409	0.409	
			Edge 4	661	1880.0	27.0	27.0	0.131	0.131	0.069	0.069	

10.3. W-CDMA Band V

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	4132	826.4	23.8	23.8	0.832	0.832	0.588	0.588	
				4183	836.6	23.8	23.8	0.845	0.845	0.596	0.596	
				4233	846.6	23.8	23.8	0.842	0.842	0.598	0.598	
			Left Tilt	4183	836.6	23.8	23.8	0.748	0.748	0.430	0.430	
			Right Touch	4132	826.4	23.8	23.8	0.987	0.987	0.627	0.627	
				4183	836.6	23.8	23.8	1.030	1.030	0.646	0.646	
				4233	846.6	23.8	23.8	1.040	1.040	0.649	0.649	5
			Right Tilt	4183	836.6	23.8	23.8	0.615	0.615	0.347	0.347	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	4183	836.6	23.8	23.8	0.336	0.336	0.226	0.226	
			Front	4183	836.6	23.8	23.8	0.270	0.270	0.187	0.187	
Hotspot	Rel 99 RMC	5	Edge 1	4183	836.6	23.8	23.8	0.089	0.089	0.044	0.044	
			Edge 2	4183	836.6	23.8	23.8	0.267	0.267	0.176	0.176	
			Edge 4	4183	836.6	23.8	23.8	0.124	0.124	0.080	0.080	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	4183	836.6	24.8	24.8	0.493	0.493	0.377	0.377	
			Left Tilt	4183	836.6	24.8	24.8	0.197	0.197	0.154	0.154	
			Right Touch	4183	836.6	24.8	24.8	0.397	0.397	0.301	0.301	
			Right Tilt	4183	836.6	24.8	24.8	0.187	0.187	0.146	0.146	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	4183	836.6	24.8	24.8	0.696	0.696	0.397	0.397	6
			Front	4183	836.6	24.8	24.8	0.673	0.673	0.378	0.378	
Hotspot	Rel 99 RMC	5	Edge 2	4183	836.6	24.8	24.8	0.272	0.272	0.176	0.176	
			Edge 3	4183	836.6	24.8	24.8	0.426	0.426	0.203	0.203	
			Edge 4	4183	836.6	24.8	24.8	0.690	0.690	0.452	0.452	

10.4. W-CDMA Band IV

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	1413	1732.6	18.5	18.5	0.689	0.689	0.439	0.439	
			Left Tilt	1413	1732.6	18.5	18.5	0.663	0.663	0.402	0.402	
			Right Touch	1312	1712.4	18.5	18.5	0.822	0.822	0.485	0.485	
				1413	1732.6	18.5	18.5	0.843	0.843	0.493	0.493	
				1513	1752.6	18.5	18.5	0.942	0.942	0.524	0.524	7
			Right Tilt	1413	1732.6	18.5	18.5	0.673	0.673	0.376	0.376	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	1413	1732.6	19.5	19.3	0.738	0.773	0.394	0.413	
			Front	1413	1732.6	19.5	19.3	0.589	0.617	0.315	0.330	
Hotspot	Rel 99 RMC	5	Edge 1	1312	1712.4	19.5	19.3	0.842	0.882	0.409	0.428	
				1413	1732.6	19.5	19.3	0.838	0.877	0.411	0.430	
				1513	1752.6	19.5	19.3	0.855	0.895	0.423	0.443	
			Edge 2	1413	1732.6	19.5	19.3	0.019	0.020	0.011	0.012	
			Edge 4	1413	1732.6	19.5	19.3	0.497	0.520	0.276	0.289	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	1413	1732.6	25.3	24.7	0.231	0.265	0.160	0.184	
			Left Tilt	1413	1732.6	25.3	24.7	0.131	0.150	0.079	0.091	
			Right Touch	1413	1732.6	25.3	24.7	0.498	0.572	0.319	0.366	
			Right Tilt	1413	1732.6	25.3	24.7	0.127	0.146	0.081	0.093	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	1312	1712.4	21.0	20.8	0.962	1.007	0.507	0.531	
				1413	1732.6	21.0	20.9	0.914	0.935	0.475	0.486	
				1513	1752.6	21.0	20.9	1.060	1.085	0.541	0.554	8
			Front	1413	1732.6	21.0	20.9	0.688	0.704	0.371	0.380	
Hotspot	Rel 99 RMC	5	Edge 2	1413	1732.6	21.0	20.9	0.410	0.420	0.230	0.235	
			Edge 3	1312	1712.4	21.0	20.8	0.983	1.029	0.474	0.496	
				1413	1732.6	21.0	20.9	1.060	1.085	0.509	0.521	
				1513	1752.6	21.0	20.9	1.050	1.074	0.512	0.524	
			Edge 4	1413	1732.6	21.0	20.9	0.115	0.118	0.066	0.068	

10.5. W-CDMA Band II

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	9400	1880.0	18.0	18.0	0.455	0.455	0.266	0.266	9
			Left Tilt	9400	1880.0	18.0	18.0	0.347	0.347	0.205	0.205	
			Right Touch	9262	1852.4	18.0	18.0	1.030	1.030	0.557	0.557	
				9400	1880.0	18.0	18.0	1.080	1.080	0.572	0.572	
			Right Tilt	9538	1907.6	18.0	18.0	0.986	0.986	0.533	0.533	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	9262	1852.4	19.5	19.0	0.756	0.848	0.380	0.426	
				9400	1880.0	19.5	19.0	0.755	0.847	0.378	0.424	
				9538	1907.6	19.5	19.0	0.775	0.870	0.385	0.432	
			Front	9262	1852.4	19.5	19.0	0.742	0.833	0.366	0.411	
				9400	1880.0	19.5	19.0	0.735	0.825	0.364	0.408	
Hotspot	Rel 99 RMC	5	Edge 1	9538	1907.6	19.5	19.0	0.749	0.840	0.374	0.420	
				9262	1852.4	19.5	19.0	0.736	0.826	0.344	0.386	
				9400	1880.0	19.5	19.0	0.726	0.815	0.328	0.368	
			Edge 2	9538	1907.6	19.5	19.0	0.692	0.776	0.311	0.349	
			Edge 4	9400	1880.0	19.5	19.0	0.623	0.699	0.332	0.373	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	9400	1880.0	25.0	25.0	0.377	0.377	0.245	0.245	
			Left Tilt	9400	1880.0	25.0	25.0	0.229	0.229	0.135	0.135	
			Right Touch	9400	1880.0	25.0	25.0	0.712	0.712	0.438	0.438	
			Right Tilt	9400	1880.0	25.0	25.0	0.187	0.187	0.122	0.122	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	9262	1852.4	20.5	20.3	0.750	0.785	0.368	0.385	10
				9400	1880.0	20.5	20.3	0.853	0.893	0.414	0.434	
				9538	1907.6	20.5	20.3	0.972	1.018	0.465	0.487	
			Front	9400	1880.0	20.5	20.3	0.729	0.763	0.365	0.382	
Hotspot	Rel 99 RMC	5	Edge 2	9400	1880.0	20.5	20.3	0.546	0.572	0.295	0.309	
			Edge 3	9262	1852.4	20.5	20.3	0.775	0.812	0.364	0.381	
				9400	1880.0	20.5	20.3	0.796	0.834	0.370	0.387	
				9538	1907.6	20.5	20.3	0.898	0.940	0.403	0.422	
			Edge 4	9400	1880.0	20.5	20.3	0.069	0.072	0.035	0.037	

10.6. LTE Band 2 (20MHz Bandwidth)

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

10.7. LTE Band 4 (20MHz Bandwidth)

SAR for LTE Band 4 (Frequency range: 1710 - 1755 MHz) is covered by LTE Band 66 (Frequency range: 1710 - 1780 MHz) due to overlapping frequency range, same maximum tune-up limit and similar channel bandwidth.

10.8. LTE Band 5 (10MHz Bandwidth)

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

10.9. LTE Band 7 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	20850	2510.0	1	49	15.3	15.3	0.957	0.957	0.364	0.364	
						50	24	15.3	15.3	1.020	1.020	0.387	0.387	
				21100	2535.0	1	49	15.3	15.3	1.010	1.010	0.382	0.382	
						50	24	15.3	15.3	0.984	0.984	0.375	0.375	
						100	24	15.3	15.3	1.000	1.000	0.381	0.381	
				21350	2560.0	1	49	15.3	15.3	0.873	0.873	0.337	0.337	
						50	24	15.3	15.3	0.890	0.890	0.344	0.344	
			Left Tilt	20850	2510.0	1	49	15.3	15.3	1.080	1.080	0.376	0.376	
						50	24	15.3	15.3	1.030	1.030	0.362	0.362	
				21100	2535.0	1	49	15.3	15.3	0.997	0.997	0.351	0.351	
						50	24	15.3	15.3	1.060	1.060	0.366	0.366	
						100	24	15.3	15.3	1.060	1.060	0.363	0.363	
				21350	2560.0	1	49	15.3	15.3	0.883	0.883	0.309	0.309	
						50	24	15.3	15.3	0.962	0.962	0.332	0.332	
			Right Touch	21100	2535.0	1	49	15.3	15.3	0.630	0.630	0.260	0.260	
						50	24	15.3	15.3	0.603	0.603	0.248	0.248	
			Right Tilt	20850	2510.0	50	24	15.3	15.3	0.992	0.992	0.377	0.377	
						1	49	15.3	15.3	0.755	0.755	0.295	0.295	
				21100	2535.0	50	24	15.3	15.3	0.801	0.801	0.305	0.305	
						1	49	15.3	15.3	0.755	0.755	0.295	0.295	
			21350	2560.0	2560.0	50	24	15.3	15.3	0.686	0.686	0.263	0.263	
						1	49	15.3	15.3	0.686	0.686	0.263	0.263	
Body-worn & Hotspot	QPSK	5	Rear	20850	2510.0	50	24	18.3	18.0	0.699	0.749	0.269	0.288	
						1	49	18.3	18.0	0.657	0.704	0.280	0.300	
				21100	2535.0	50	24	18.3	18.0	0.768	0.823	0.317	0.340	
						1	49	18.3	18.0	0.611	0.655	0.256	0.274	
			Front	20850	2510.0	1	49	18.3	18.0	0.834	0.894	0.318	0.341	
						50	24	18.3	18.0	0.715	0.766	0.271	0.290	
				21100	2535.0	1	49	18.3	18.0	0.786	0.842	0.305	0.327	
						50	24	18.3	18.0	0.802	0.859	0.307	0.329	
						100	24	18.3	18.0	0.827	0.886	0.316	0.339	
				21350	2560.0	1	49	18.3	18.0	0.703	0.753	0.281	0.301	
						50	24	18.3	18.0	0.737	0.790	0.290	0.311	
						1	49	18.3	18.0	0.537	0.575	0.190	0.204	
Hotspot	QPSK	5	Edge 1	21100	2535.0	50	24	18.3	18.0	0.544	0.583	0.190	0.204	
						1	49	18.3	18.0	0.667	0.715	0.314	0.336	
			Edge 2	21100	2535.0	50	24	18.3	18.0	0.703	0.753	0.327	0.350	
						1	49	18.3	18.0	0.034	0.037	0.016	0.017	
			Edge 4	21100	2535.0	50	24	18.3	18.0	0.048	0.051	0.022	0.024	
						1	49	18.3	18.0	0.034	0.037	0.016	0.017	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	20850	2510.0	1	49	24.5	24.5	0.981	0.981	0.525	0.525	12
						50	24	24.3	24.3	0.930	0.930	0.499	0.499	
				21100	2535.0	1	49	24.5	24.5	1.060	1.060	0.562	0.562	
						50	24	24.3	24.3	1.020	1.020	0.545	0.545	
				21350	2560.0	1	49	24.5	24.5	0.915	0.915	0.484	0.484	
						50	24	24.3	24.3	0.972	0.972	0.514	0.514	
			Left Tilt	21100	2535.0	1	49	24.5	24.5	0.143	0.143	0.074	0.074	
						50	24	24.3	24.3	0.180	0.180	0.092	0.092	
			Right Touch	21100	2535.0	1	49	24.5	24.5	0.431	0.431	0.237	0.237	
						50	24	24.3	24.3	0.488	0.488	0.268	0.268	
			Right Tilt	21100	2535.0	1	49	24.5	24.5	0.239	0.239	0.126	0.126	
						50	24	24.3	24.3	0.255	0.255	0.137	0.137	
Body-worn & Hotspot	QPSK	5	Rear	20850	2510.0	1	49	18.0	17.6	0.814	0.893	0.321	0.352	
						50	24	18.0	17.6	0.901	0.988	0.353	0.387	
				21100	2535.0	1	49	18.0	17.5	0.734	0.824	0.329	0.369	
						50	24	18.0	17.7	0.968	1.037	0.382	0.409	
				21350	2560.0	1	49	18.0	17.6	0.844	0.925	0.388	0.425	
						50	24	18.0	17.8	0.877	0.929	0.401	0.425	
			Front	20850	2510.0	1	49	18.0	17.6	0.686	0.752	0.272	0.298	
						50	24	18.0	17.6	0.804	0.882	0.318	0.349	
				21100	2535.0	1	49	18.0	17.5	0.742	0.833	0.296	0.332	
						50	24	18.0	17.7	0.811	0.869	0.316	0.339	
				21350	2560.0	1	49	18.0	17.7	0.697	0.747	0.280	0.300	
						50	24	18.0	17.8	0.713	0.755	0.283	0.300	
			Edge 2	21100	2535.0	1	49	18.0	17.5	0.051	0.057	0.025	0.028	
						50	24	18.0	17.7	0.044	0.047	0.021	0.022	
			Edge 3	21100	2535.0	1	49	18.0	17.5	0.498	0.559	0.178	0.200	
						50	24	18.0	17.7	0.505	0.541	0.178	0.191	
			Edge 4	21100	2535.0	1	49	18.0	17.5	0.542	0.608	0.258	0.289	
						50	24	18.0	17.7	0.564	0.604	0.263	0.282	

10.10. LTE Band 12 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23095	707.5	1	24	23.3	23.3	0.491	0.491	0.375	0.375	13
						25	12	22.3	22.3	0.401	0.401	0.306	0.306	
			Left Tilt	23095	707.5	1	24	23.3	23.3	0.515	0.515	0.328	0.328	
						25	12	22.3	22.3	0.399	0.399	0.250	0.250	
			Right Touch	23095	707.5	1	24	23.3	23.3	0.530	0.530	0.346	0.346	
						25	12	22.3	22.3	0.439	0.439	0.312	0.312	
			Right Tilt	23095	707.5	1	24	23.3	23.3	0.540	0.540	0.316	0.316	
						25	12	22.3	22.3	0.437	0.437	0.257	0.257	
Body-worn & Hotspot	QPSK	5	Rear	23095	707.5	1	24	23.3	23.3	0.301	0.301	0.200	0.200	
						25	12	22.3	22.3	0.242	0.242	0.174	0.174	
			Front	23095	707.5	1	24	23.3	23.3	0.291	0.291	0.225	0.225	
						25	12	22.3	22.3	0.232	0.232	0.166	0.166	
Hotspot	QPSK	5	Edge 1	23095	707.5	1	24	23.3	23.3	0.163	0.163	0.079	0.079	
						25	12	22.3	22.3	0.126	0.126	0.061	0.061	
			Edge 2	23095	707.5	1	24	23.3	23.3	0.434	0.434	0.297	0.297	
						25	12	22.3	22.3	0.353	0.353	0.242	0.242	
			Edge 4	23095	707.5	1	24	23.3	23.3	0.343	0.343	0.231	0.231	
						25	12	22.3	22.3	0.274	0.274	0.185	0.185	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23095	707.5	1	24	24.8	24.8	0.290	0.290	0.228	0.228	
						25	12	23.8	23.8	0.234	0.234	0.185	0.185	
			Left Tilt	23095	707.5	1	24	24.8	24.8	0.117	0.117	0.094	0.094	
						25	12	23.8	23.8	0.095	0.095	0.077	0.077	
			Right Touch	23095	707.5	1	24	24.8	24.8	0.262	0.262	0.200	0.200	
						25	12	23.8	23.8	0.217	0.217	0.165	0.165	
			Right Tilt	23095	707.5	1	24	24.8	24.8	0.135	0.135	0.106	0.106	
						25	12	23.8	23.8	0.110	0.110	0.087	0.087	
Body-worn & Hotspot	QPSK	5	Rear	23095	707.5	1	24	24.8	24.8	0.771	0.771	0.427	0.427	14
						25	12	23.8	23.8	0.623	0.623	0.334	0.334	
			Front	23095	707.5	1	24	24.8	24.8	0.582	0.582	0.335	0.335	
						25	12	23.8	23.8	0.477	0.477	0.275	0.275	
Hotspot	QPSK	5	Edge 2	23095	707.5	1	24	24.8	24.8	0.309	0.309	0.207	0.207	
						25	12	23.8	23.8	0.264	0.264	0.175	0.175	
			Edge 3	23095	707.5	1	24	24.8	24.8	0.399	0.399	0.194	0.194	
						25	12	23.8	23.8	0.325	0.325	0.158	0.158	
			Edge 4	23095	707.5	1	24	24.8	24.8	0.623	0.623	0.425	0.425	
						25	12	23.8	23.8	0.509	0.509	0.346	0.346	

10.11. LTE Band 13 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23230	782.0	1	24	23.3	23.3	0.626	0.626	0.460	0.460	15
						25	12	22.3	22.3	0.508	0.508	0.374	0.374	
			Left Tilt	23230	782.0	1	24	23.3	23.3	0.493	0.493	0.304	0.304	
						25	12	22.3	22.3	0.394	0.394	0.244	0.244	
			Right Touch	23230	782.0	1	24	23.3	23.3	0.664	0.664	0.405	0.405	
						25	12	22.3	22.3	0.534	0.534	0.325	0.325	
			Right Tilt	23230	782.0	1	24	23.3	23.3	0.559	0.559	0.306	0.306	
						25	12	22.3	22.3	0.454	0.454	0.249	0.249	
Body-worn & Hotspot	QPSK	5	Rear	23230	782.0	1	24	23.3	23.3	0.378	0.378	0.231	0.231	
						25	12	22.3	22.3	0.303	0.303	0.185	0.185	
			Front	23230	782.0	1	24	23.3	23.3	0.363	0.363	0.225	0.225	
						25	12	22.3	22.3	0.288	0.288	0.179	0.179	
Hotspot	QPSK	5	Edge 1	23230	782.0	1	24	23.3	23.3	0.159	0.159	0.076	0.076	
						25	12	22.3	22.3	0.123	0.123	0.059	0.059	
			Edge 2	23230	782.0	1	24	23.3	23.3	0.401	0.401	0.266	0.266	
						25	12	22.3	22.3	0.327	0.327	0.217	0.217	
			Edge 4	23230	782.0	1	24	23.3	23.3	0.261	0.261	0.171	0.171	
						25	12	22.3	22.3	0.210	0.210	0.138	0.138	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23230	782.0	1	24	24.8	24.8	0.430	0.430	0.330	0.330	
						25	12	23.8	23.8	0.347	0.347	0.266	0.266	
			Left Tilt	23230	782.0	1	24	24.8	24.8	0.195	0.195	0.151	0.151	
						25	12	23.8	23.8	0.157	0.157	0.122	0.122	
			Right Touch	23230	782.0	1	24	24.8	24.8	0.364	0.364	0.277	0.277	
						25	12	23.8	23.8	0.292	0.292	0.222	0.222	
			Right Tilt	23230	782.0	1	24	24.8	24.8	0.197	0.197	0.153	0.153	
						25	12	23.8	23.8	0.157	0.157	0.123	0.123	
Body-worn & Hotspot	QPSK	5	Rear	23230	782.0	1	24	24.8	24.8	0.710	0.710	0.398	0.398	16
						25	12	23.8	23.8	0.568	0.568	0.317	0.317	
			Front	23230	782.0	1	24	24.8	24.8	0.784	0.784	0.434	0.434	
						25	12	23.8	23.8	0.628	0.628	0.349	0.349	
Hotspot	QPSK	5	Edge 2	23230	782.0	1	24	24.8	24.8	0.329	0.329	0.217	0.217	
						25	12	23.8	23.8	0.270	0.270	0.177	0.177	
			Edge 3	23230	782.0	1	24	24.8	24.8	0.417	0.417	0.201	0.201	
						25	12	23.8	23.8	0.330	0.330	0.160	0.160	
			Edge 4	23230	782.0	1	24	24.8	24.8	0.714	0.714	0.476	0.476	
						25	12	23.8	23.8	0.577	0.577	0.384	0.384	

10.12. LTE Band 17 (10MHz Bandwidth)

SAR for LTE Band 17 (Frequency range: 704 – 716 MHz) is covered by LTE Band 12 (Frequency range: 699 – 716 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

10.13. LTE Band 25 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26365	1882.5	1	49	18.0	17.8	0.450	0.477	0.263	0.279	
						50	24	18.0	17.8	0.389	0.412	0.226	0.239	
			Left Tilt	26365	1882.5	1	49	18.0	17.8	0.345	0.365	0.203	0.215	
						50	24	18.0	17.8	0.291	0.308	0.171	0.181	
			Right Touch	26140	1860.0	1	49	18.0	17.8	1.010	1.070	0.543	0.575	
						50	24	18.0	17.8	0.934	0.989	0.507	0.537	
				26365	1882.5	1	49	18.0	17.8	1.010	1.070	0.538	0.570	
						50	24	18.0	17.8	0.939	0.995	0.495	0.524	
						100	0	18.0	17.8	0.972	1.018	0.524	0.549	
				26590	1905.0	1	49	18.0	17.8	1.030	1.091	0.550	0.583	17
						50	24	18.0	17.8	0.962	1.019	0.519	0.550	
			Right Tilt	26365	1882.5	1	49	18.0	17.8	0.718	0.761	0.358	0.379	
						50	24	18.0	17.8	0.666	0.705	0.344	0.364	
Body-worn & Hotspot	QPSK	5	Rear	26140	1860.0	1	49	19.5	19.0	0.778	0.873	0.388	0.435	
						50	24	19.5	19.0	0.710	0.797	0.358	0.402	
				26365	1882.5	1	49	19.5	19.0	0.761	0.854	0.376	0.422	
						50	24	19.5	19.0	0.768	0.862	0.380	0.426	
						100	0	19.5	19.0	0.642	0.720	0.315	0.353	
				26590	1905.0	1	49	19.5	19.0	0.784	0.880	0.385	0.432	
						50	24	19.5	19.0	0.705	0.791	0.353	0.396	
			Front	26365	1882.5	1	49	19.5	19.0	0.680	0.763	0.338	0.379	
						50	24	19.5	19.0	0.609	0.683	0.304	0.341	
			Hotspot	QPSK	5	Edge 1	26140	1860.0	1	49	19.5	19.0	0.707	0.793
26365	1882.5	1					49	19.5	19.0	0.717	0.804	0.333	0.374	
		50					24	19.5	19.0	0.613	0.688	0.283	0.318	
26590	1905.0	1				49	19.5	19.0	0.726	0.815	0.331	0.371		
		Edge 2				26365	1882.5	1	49	19.5	19.0	0.030	0.034	0.016
50	24							19.5	19.0	0.036	0.040	0.019	0.021	
Edge 4	26365	1882.5				1	49	19.5	19.0	0.400	0.449	0.219	0.246	
			50	24	19.5	19.0	0.441	0.495	0.239	0.268				

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26365	1882.5	1	49	24.8	24.0	0.342	0.411	0.221	0.266	
						50	24	23.8	23.0	0.279	0.335	0.179	0.215	
			Left Tilt	26365	1882.5	1	49	24.8	24.0	0.214	0.257	0.128	0.154	
						50	24	23.8	23.0	0.169	0.203	0.101	0.121	
			Right Touch	26365	1882.5	1	49	24.8	24.0	0.657	0.790	0.399	0.480	
						50	24	23.8	23.0	0.524	0.630	0.319	0.384	
			Right Tilt	26365	1882.5	1	49	24.8	24.0	0.175	0.210	0.113	0.136	
						50	24	23.8	23.0	0.143	0.172	0.091	0.109	
Body-worn & Hotspot	QPSK	5	Rear	26140	1860.0	1	49	20.5	20.5	0.944	0.944	0.459	0.459	
						50	24	20.5	20.5	0.759	0.759	0.381	0.381	
				26365	1882.5	1	49	20.5	20.5	1.010	1.010	0.477	0.477	
						50	24	20.5	20.5	0.886	0.886	0.423	0.423	
						100	0	20.5	20.5	0.946	0.946	0.458	0.458	
			Front	26590	1905.0	1	49	20.5	20.5	1.070	1.070	0.506	0.506	18
						50	24	20.5	20.5	1.010	1.010	0.484	0.484	
				26365	1882.5	1	49	20.5	20.5	0.758	0.758	0.382	0.382	
						50	24	20.5	20.5	0.734	0.734	0.368	0.368	
						1	49	20.5	20.5	0.481	0.481	0.263	0.263	
						50	24	20.5	20.5	0.529	0.529	0.288	0.288	
Hotspot	QPSK	5	Edge 2	26365	1882.5	1	49	20.5	20.5	0.858	0.858	0.408	0.408	
						50	24	20.5	20.5	0.841	0.841	0.401	0.401	
			Edge 3	26140	1860.0	1	49	20.5	20.5	0.838	0.838	0.390	0.390	
						50	24	20.5	20.5	0.834	0.834	0.389	0.389	
				26365	1882.5	1	49	20.5	20.5	0.838	0.838	0.390	0.390	
						50	24	20.5	20.5	0.834	0.834	0.389	0.389	
				26590	1905.0	1	49	20.5	20.5	0.872	0.872	0.399	0.399	
						50	24	20.5	20.5	0.882	0.882	0.402	0.402	
			Edge 4	26365	1882.5	1	49	20.5	20.5	0.043	0.043	0.023	0.023	
						50	24	20.5	20.5	0.023	0.023	0.011	0.011	

10.14. LTE Band 26 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26865	831.5	1	24	23.3	23.3	0.642	0.642	0.485	0.485	19
						25	12	22.3	22.3	0.533	0.533	0.387	0.387	
			Left Tilt	26865	831.5	1	24	23.3	23.3	0.553	0.553	0.329	0.329	
						25	12	22.3	22.3	0.523	0.523	0.300	0.300	
			Right Touch	26865	831.5	1	24	23.3	23.3	0.758	0.758	0.470	0.470	
						25	12	22.3	22.3	0.593	0.593	0.370	0.370	
Body-worn & Hotspot	QPSK	5	Rear	26865	831.5	1	24	23.3	23.3	0.338	0.338	0.219	0.219	
						25	12	22.3	22.3	0.349	0.349	0.239	0.239	
			Front	26865	831.5	1	24	23.3	23.3	0.332	0.332	0.213	0.213	
						25	12	22.3	22.3	0.272	0.272	0.173	0.173	
			Edge 1	26865	831.5	1	24	23.3	23.3	0.095	0.095	0.047	0.047	
						25	12	22.3	22.3	0.073	0.073	0.036	0.036	
Hotspot	QPSK	5	Edge 2	26865	831.5	1	24	23.3	23.3	0.310	0.310	0.205	0.205	
						25	12	22.3	22.3	0.244	0.244	0.161	0.161	
			Edge 4	26865	831.5	1	24	23.3	23.3	0.131	0.131	0.086	0.086	
						25	12	22.3	22.3	0.102	0.102	0.066	0.066	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26865	831.5	1	24	24.8	24.8	0.380	0.380	0.289	0.289	
						25	12	23.8	23.8	0.309	0.309	0.234	0.234	
			Left Tilt	26865	831.5	1	24	24.8	24.8	0.189	0.189	0.147	0.147	
						25	12	23.8	23.8	0.152	0.152	0.118	0.118	
			Right Touch	26865	831.5	1	24	24.8	24.8	0.308	0.308	0.234	0.234	
						25	12	23.8	23.8	0.248	0.248	0.186	0.186	
Body-worn & Hotspot	QPSK	5	Right Tilt	26865	831.5	1	24	24.8	24.8	0.183	0.183	0.144	0.144	20
						25	12	23.8	23.8	0.145	0.145	0.114	0.114	
			Rear	26865	831.5	1	24	24.8	24.8	0.642	0.642	0.372	0.372	
						25	12	23.8	23.8	0.515	0.515	0.298	0.298	
			Front	26865	831.5	1	24	24.8	24.8	0.586	0.586	0.336	0.336	
						25	12	23.8	23.8	0.473	0.473	0.270	0.270	
Hotspot	QPSK	5	Edge 2	26865	831.5	1	24	24.8	24.8	0.276	0.276	0.181	0.181	21
						25	12	23.8	23.8	0.220	0.220	0.144	0.144	
			Edge 3	26865	831.5	1	24	24.8	24.8	0.385	0.385	0.185	0.185	
						25	12	23.8	23.8	0.288	0.288	0.138	0.138	
			Edge 4	26865	831.5	1	24	24.8	24.8	0.659	0.659	0.437	0.437	
						25	12	23.8	23.8	0.531	0.531	0.352	0.352	

10.15. LTE Band 30 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	27710	2310.0	1	24	16.5	15.5	0.305	0.384	0.149	0.188	
						25	12	16.5	15.5	0.314	0.395	0.153	0.193	
			Left Tilt	27710	2310.0	1	24	16.5	15.5	0.311	0.392	0.143	0.180	
						25	12	16.5	15.5	0.352	0.443	0.159	0.200	
			Right Touch	27710	2310.0	1	24	16.5	15.5	0.737	0.928	0.338	0.426	
						25	12	16.5	15.5	0.724	0.911	0.352	0.443	
						50	0	16.5	15.5	0.836	1.052	0.391	0.492	
			Right Tilt	27710	2310.0	1	24	16.5	15.5	0.790	0.995	0.333	0.419	
						25	12	16.5	15.5	0.798	1.005	0.345	0.434	
						50	0	16.5	15.5	0.800	1.007	0.347	0.437	
			Rear	27710	2310.0	1	24	18.0	17.7	0.773	0.828	0.352	0.377	
						25	12	18.0	17.8	0.840	0.880	0.380	0.398	
						50	0	18.0	17.8	0.826	0.865	0.375	0.393	
Body-worn & Hotspot	QPSK	5	Front	27710	2310.0	1	24	18.0	17.7	0.770	0.825	0.351	0.376	
						25	12	18.0	17.8	0.747	0.782	0.346	0.362	
			Edge 1	27710	2310.0	1	24	18.0	17.7	0.559	0.599	0.198	0.212	
						25	12	18.0	17.8	0.575	0.602	0.204	0.214	
Hotspot	QPSK	5	Edge 2	27710	2310.0	1	24	18.0	17.7	0.127	0.136	0.062	0.066	
						25	12	18.0	17.8	0.132	0.138	0.065	0.068	
			Edge 4	27710	2310.0	1	24	18.0	17.7	0.481	0.515	0.234	0.251	
						25	12	18.0	17.8	0.472	0.494	0.232	0.243	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	27710	2310.0	1	24	23.8	22.9	0.258	0.317	0.149	0.183	
						25	12	22.8	22.5	0.253	0.271	0.148	0.159	
			Left Tilt	27710	2310.0	1	24	23.8	22.9	0.153	0.188	0.082	0.101	
						25	12	22.8	22.5	0.161	0.173	0.086	0.092	
			Right Touch	27710	2310.0	1	24	23.8	22.9	0.306	0.376	0.176	0.217	
						25	12	22.8	22.5	0.307	0.329	0.177	0.190	
			Right Tilt	27710	2310.0	1	24	23.8	22.9	0.130	0.160	0.076	0.094	
						25	12	22.8	22.5	0.131	0.140	0.078	0.084	
Body-worn & Hotspot	QPSK	5	Rear	27710	2310.0	1	24	21.5	21.5	0.945	0.945	0.357	0.357	23
						25	12	21.5	21.5	0.816	0.816	0.311	0.311	
						50	0	21.5	21.5	0.835	0.835	0.319	0.319	
			Front	27710	2310.0	1	24	21.5	21.5	0.692	0.692	0.295	0.295	
Hotspot	QPSK	5	Edge 2	27710	2310.0	1	24	21.5	21.5	0.388	0.388	0.186	0.186	
						25	12	21.5	21.5	0.358	0.358	0.168	0.168	
			Edge 3	27710	2310.0	1	24	21.5	21.5	0.567	0.567	0.199	0.199	
						25	12	21.5	21.5	0.539	0.539	0.183	0.183	
			Edge 4	27710	2310.0	1	24	21.5	21.5	0.596	0.596	0.298	0.298	
						25	12	21.5	21.5	0.543	0.543	0.274	0.274	
			Edge 4	27710	2310.0	1	24	21.5	21.5	0.596	0.596	0.298	0.298	
						25	12	21.5	21.5	0.543	0.543	0.274	0.274	

10.16. LTE Band 41 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	40620	2593.0	1	49	17.0	16.7	0.558	0.598	0.237	0.254	24
						50	24	17.0	16.6	0.552	0.605	0.226	0.248	
			Left Tilt	40620	2593.0	1	49	17.0	16.7	0.665	0.713	0.255	0.273	
						50	24	17.0	16.6	0.562	0.616	0.212	0.232	
			Right Touch	40620	2593.0	1	49	17.0	16.7	0.253	0.271	0.129	0.138	
						50	24	17.0	16.6	0.231	0.253	0.117	0.128	
			Right Tilt	40620	2593.0	1	49	17.0	16.7	0.278	0.298	0.125	0.134	
						50	24	17.0	16.6	0.215	0.236	0.099	0.109	
Body-worn & Hotspot	QPSK	5	Rear	40620	2593.0	1	49	19.8	19.5	0.514	0.551	0.241	0.258	
						50	24	19.8	19.6	0.494	0.517	0.243	0.254	
			Front	40620	2593.0	1	49	19.8	19.5	0.668	0.716	0.269	0.288	
						50	24	19.8	19.6	0.538	0.563	0.214	0.224	
Hotspot	QPSK	5	Edge 1	40620	2593.0	1	49	19.8	19.5	0.303	0.325	0.093	0.100	
						50	24	19.8	19.6	0.335	0.351	0.103	0.108	
			Edge 2	40620	2593.0	1	49	19.8	19.5	0.437	0.468	0.202	0.216	
						50	24	19.8	19.6	0.475	0.497	0.219	0.229	
			Edge 4	40620	2593.0	1	49	19.8	19.5	0.103	0.110	0.050	0.054	
						50	24	19.8	19.6	0.114	0.119	0.054	0.057	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.			
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled				
Head	QPSK	0	Left Touch	40620	2593.0	1	49	24.5	24.5	0.459	0.459	0.244	0.244				
						50	24	23.5	23.5	0.385	0.385	0.201	0.201				
			Left Tilt	40620	2593.0	1	49	24.5	24.5	0.083	0.083	0.044	0.044				
						50	24	23.5	23.5	0.062	0.062	0.030	0.030				
			Right Touch	40620	2593.0	1	49	24.5	24.5	0.213	0.213	0.114	0.114				
						50	24	23.5	23.5	0.196	0.196	0.103	0.103				
			Right Tilt	40620	2593.0	1	49	24.5	24.5	0.066	0.066	0.035	0.035				
						50	24	23.5	23.5	0.087	0.087	0.043	0.043				
			Body-worn & Hotspot	QPSK	5	Rear	39750	2506.0	1	49	20.5	20.5	0.907	0.907	0.368	0.368	
									50	24	20.5	20.4	0.847	0.867	0.347	0.355	
40185	2549.5	1					49	20.5	20.5	1.060	1.060	0.435	0.435	25			
		50					24	20.5	20.3	0.975	1.021	0.404	0.423				
40620	2593.0	1					49	20.5	20.5	0.926	0.926	0.395	0.395				
		50					24	20.5	20.3	0.867	0.908	0.369	0.386				
		100					0	20.5	20.3	0.947	0.992	0.401	0.420				
41055	2636.5	1					49	20.5	20.5	0.905	0.905	0.394	0.394				
		50					24	20.5	20.3	0.842	0.882	0.365	0.382				
41490	2680.0	1					49	20.5	20.5	0.894	0.894	0.393	0.393				
		50					24	20.5	20.3	0.697	0.730	0.306	0.320				
Front	39750	2506.0					1	49	20.5	20.5	0.987	0.987	0.387	0.387			
						50	24	20.5	20.4	0.836	0.855	0.331	0.339				
	40185	2549.5				1	49	20.5	20.5	0.853	0.853	0.345	0.345				
						50	24	20.5	20.3	0.822	0.861	0.330	0.346				
	40620	2593.0				1	49	20.5	20.5	0.940	0.940	0.372	0.372				
						50	24	20.5	20.3	0.826	0.865	0.330	0.346				
						100	0	20.5	20.3	0.754	0.790	0.304	0.318				
	41055	2636.5				1	49	20.5	20.5	0.775	0.775	0.310	0.310				
						50	24	20.5	20.3	0.686	0.718	0.276	0.289				
	41490	2680.0				1	49	20.5	20.5	0.786	0.786	0.309	0.309				
						50	24	20.5	20.3	0.630	0.660	0.252	0.264				
Hotspot	QPSK	5				Edge 2	40620	2593.0	1	49	20.5	20.5	0.031	0.031	0.015	0.015	
			50	24	20.5				20.3	0.029	0.030	0.014	0.015				
			Edge 3	40620	2593.0	1	49	20.5	20.5	0.583	0.583	0.185	0.185				
						50	24	20.5	20.3	0.478	0.501	0.155	0.162				
			Edge 4	40620	2593.0	1	49	20.5	20.5	0.491	0.491	0.229	0.229				
						50	24	20.5	20.3	0.492	0.515	0.230	0.241				

10.17. LTE Band 66 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	132322	1745.0	1	49	18.5	18.5	0.476	0.476	0.283	0.283	
						50	24	18.5	18.5	0.476	0.476	0.269	0.269	
			Left Tilt	132322	1745.0	1	49	18.5	18.5	0.404	0.404	0.247	0.247	
						50	24	18.5	18.5	0.424	0.424	0.254	0.254	
			Right Touch	132072	1720.0	1	49	18.5	18.5	0.696	0.696	0.405	0.405	
						50	24	18.5	18.5	0.748	0.748	0.435	0.435	
				132322	1745.0	1	49	18.5	18.5	0.940	0.940	0.536	0.536	
						50	24	18.5	18.5	1.000	1.000	0.560	0.560	26
						100	0	18.5	18.5	0.957	0.957	0.542	0.542	
				132572	1770.0	1	49	18.5	18.5	0.796	0.796	0.456	0.456	
						50	24	18.5	18.5	0.846	0.846	0.484	0.484	
			Right Tilt	132322	1745.0	1	49	18.5	18.5	0.689	0.689	0.384	0.384	
						50	24	18.5	18.5	0.717	0.717	0.399	0.399	
Body-worn & Hotspot	QPSK	5	Rear	132322	1745.0	1	49	19.5	19.1	0.579	0.635	0.304	0.333	
						50	24	19.5	19.1	0.572	0.627	0.309	0.339	
			Front	132322	1745.0	1	49	19.5	19.1	0.568	0.623	0.301	0.330	
						50	24	19.5	19.1	0.651	0.714	0.339	0.372	
Hotspot	QPSK	5	Edge 1	132072	1720.0	1	49	19.5	18.5	0.699	0.880	0.342	0.431	
						50	24	19.5	19.1	0.733	0.804	0.355	0.389	
				132322	1745.0	1	49	19.5	19.1	0.800	0.877	0.386	0.423	
						50	24	19.5	19.1	0.790	0.866	0.382	0.419	
						100	0	19.5	19.1	0.781	0.856	0.378	0.414	
				132572	1770.0	1	49	19.5	19.1	0.735	0.806	0.359	0.394	
						50	24	19.5	19.1	0.772	0.846	0.376	0.412	
			Edge 2	132322	1745.0	1	49	19.5	19.1	0.017	0.018	0.010	0.011	
						50	24	19.5	19.1	0.015	0.016	0.009	0.009	
			Edge 4	132322	1745.0	1	49	19.5	19.1	0.430	0.471	0.241	0.264	
						50	24	19.5	19.1	0.505	0.554	0.279	0.306	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	132322	1745.0	1	49	24.8	24.8	0.307	0.307	0.215	0.215	
						50	24	23.8	23.8	0.249	0.249	0.173	0.173	
			Left Tilt	132322	1745.0	1	49	24.8	24.8	0.182	0.182	0.109	0.109	
						50	24	23.8	23.8	0.147	0.147	0.088	0.088	
			Right Touch	132322	1745.0	1	49	24.8	24.8	0.616	0.616	0.394	0.394	
						50	24	23.8	23.8	0.501	0.501	0.319	0.319	
			Right Tilt	132322	1745.0	1	49	24.8	24.8	0.154	0.154	0.097	0.097	
						50	24	23.8	23.8	0.122	0.122	0.077	0.077	
Body-worn & Hotspot	QPSK	5	Rear	132072	1720.0	1	49	21.0	20.8	0.592	0.620	0.328	0.343	
						50	24	21.0	20.8	0.765	0.801	0.414	0.434	
				132322	1745.0	1	49	21.0	20.8	0.840	0.880	0.446	0.467	
						50	24	21.0	20.7	0.847	0.908	0.450	0.482	
						100	0	21.0	20.8	0.796	0.843	0.423	0.448	
						1	49	21.0	20.7	0.879	0.942	0.466	0.499	27
			Front	132322	1745.0	50	24	21.0	20.7	0.873	0.935	0.461	0.494	
						1	49	21.0	20.8	0.728	0.762	0.391	0.409	
						50	24	21.0	20.7	0.665	0.713	0.357	0.383	
						1	49	21.0	20.8	0.392	0.410	0.221	0.231	
Hotspot	QPSK	5	Edge 2	132322	1745.0	50	24	21.0	20.7	0.332	0.356	0.189	0.203	
						1	49	21.0	20.8	0.963	1.008	0.464	0.486	
			Edge 3	132072	1720.0	50	24	21.0	20.8	0.978	1.024	0.468	0.490	
						1	49	21.0	20.8	0.965	1.010	0.464	0.486	
				132322	1745.0	50	24	21.0	20.7	0.974	1.044	0.466	0.499	28
						100	0	21.0	20.8	0.917	0.971	0.444	0.470	
						1	49	21.0	20.7	0.950	1.018	0.461	0.494	
				132572	1770.0	50	24	21.0	20.7	0.933	1.000	0.453	0.485	
						1	49	21.0	20.8	0.051	0.053	0.029	0.031	
			Edge 4	132322	1745.0	50	24	21.0	20.7	0.044	0.047	0.025	0.027	
						1	49	21.0	20.8	0.051	0.053	0.029	0.031	

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

SAR Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

RF Exposure Conditions	Power Mode	Mode	Antenna	Dist. (mm)	Test Position	PCC				SCC				Power (dBm)			1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	MPR	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	A	QPSK	UAT 1	0	Left Tilt	20850	2510.0	1	99	21048	2529.8	1	0	0	15.3	15.3	1.060	1.060	0.376	0.376	29
Head	A	QPSK	LAT 1	0	Left Touch	21100	2535.0	1	0	20902	2515.2	1	99	0	23.8	23.8	0.836	0.836	0.441	0.441	

Notes:

- From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC channel was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. PCC and SCC channels were determined and selected to allow contiguous CA. RB allocations and offsets were selected to allow maximum measured output power. Output power was measured and verified for these test cases.

10.19. LTE-uplink 2CA Band 41 (20MHz + 20MHz BW)

SAR Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

RF Exposure Conditions	Power Mode	Mode	Antenna	Dist. (mm)	Test Position	PCC				SCC				Power (dBm)			1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	MPR	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Body-worn	B	QPSK	UAT 1	0	Front	40620	2593.0	1	0	40422	2573.2	1	99	0	19.3	19.3	0.553	0.553	0.225	0.225	
Body-worn	B	QPSK	LAT 1	0	Rear	40185	2549.5	1	0	39948	2525.8	1	99	0	20.5	20.5	0.908	0.908	0.397	0.397	30

Notes:

- From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC channel was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. PCC and SCC channels were determined and selected to allow contiguous CA. RB allocations and offsets were selected to allow maximum measured output power. Output power was measured and verified for these test cases.

10.20. Wi-Fi (DTS Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 1 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 1		LAT 3			UAT 1				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
2.4 GHz	Head	802.11b 20MHz	0	1 Tx	Left Touch	6	2437	9.5	9.5			0.546	0.327	0.123	0.327	0.123					
					Left Tilt	6	2437	9.5	9.5			0.511									
					Right Touch	6	2437	9.5	9.5			0.337									
					Right Tilt	6	2437	9.5	9.5			0.359									
					Left Touch	6	2437			18.0	18.0	0.165									
					Left Tilt	6	2437			18.0	18.0	0.080									
					Right Touch	6	2437			18.0	18.0	0.452				0.279	0.144	0.279	0.144		
					Right Tilt	6	2437			18.0	18.0	0.084									
		802.11g 20MHz	0	2 Tx	Left Touch	6	2437	9.5	9.5	18.0	18.0	0.402	0.268	0.103	0.268	0.103	0.047	0.025	0.047	0.025	
					Left Tilt	6	2437	9.5	9.5	18.0	18.0	0.332									
					Right Touch	6	2437	9.5	9.5	18.0	18.0	0.289									
					Right Tilt	6	2437	9.5	9.5	18.0	18.0	0.265									
	Body-worn & Hotspot	802.11b 20MHz	5	1 Tx	Rear	6	2437	15.0	15.0			0.357	0.408	0.154	0.408	0.154					
					Front	6	2437	15.0	15.0			0.653	0.459	0.171	0.459	0.171					
					Edge 1	6	2437	15.0	15.0			0.315									
					Edge 2	6	2437	15.0	15.0			0.241									
					Edge 4	6	2437	15.0	15.0			0.114									
					Rear	6	2437			13.5	13.5	0.247									
					Front	6	2437			13.5	13.5	0.542				0.331	0.153	0.331	0.153		
					Edge 2	6	2437			13.5	13.5	0.128									
					Edge 3	6	2437			13.5	13.5	0.100									
					Edge 4	6	2437			13.5	13.5	0.034									
		802.11g 20MHz	5	2 Tx	Rear	6	2437	15.0	15.0	13.5	13.5	0.466									
					Front	6	2437	15.0	15.0	13.5	13.5	0.651	0.373	0.159	0.373	0.159	0.318	0.147	0.318	0.147	
					Edge 1	6	2437	15.0	15.0	13.5	13.5	0.334									
					Edge 2	6	2437	15.0	15.0	13.5	13.5	0.168									
					Edge 3	6	2437	15.0	15.0	13.5	13.5	0.067									
					Edge 4	6	2437	15.0	15.0	13.5	13.5	0.096									

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots	
								UAT 1		LAT 3			UAT 1				LAT 3					
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled			
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g		
2.4 GHz	Head	802.11b 20MHz	0	1 Tx	Left Touch	6	2437	14.8	14.8			1.550	1.030	0.379	1.030	0.379					31	
						11	2462	14.8	14.8			1.380	0.838	0.321	0.838	0.321						
					Left Tilt	6	2437	14.8	14.8			1.500	1.070	0.376	1.070	0.376						
						11	2462	14.8	14.8			1.130	0.766	0.270	0.766	0.270						
					Right Touch	6	2437	14.8	14.8			0.870	0.778	0.320	0.778	0.320						
					Right Tilt	6	2437	14.8	14.8			0.758										
					Left Touch	6	2437			21.5	21.5	0.364					0.233	0.129	0.233	0.129		
					Left Tilt	6	2437			21.5	21.5	0.150										
		Right Touch	6	2437			21.5	21.5	0.694					0.539	0.293	0.539	0.293					
		Right Tilt	6	2437			21.5	21.5	0.153													
		802.11g 20MHz	0	2 Tx	Left Touch	6	2437	14.8	14.8	21.0	21.0	1.920	1.010	0.379	1.010	0.379	0.165	0.097	0.165	0.097		
						8	2447	14.8	14.8	21.0	21.0	1.550	0.937	0.357	0.937	0.357	0.138	0.076	0.138	0.076		
					Left Tilt	6	2437	14.8	14.8	21.0	21.0	1.310	0.786	0.292	0.786	0.292	-	-	-	-		
					Right Touch	6	2437	14.8	14.8	21.0	21.0	1.070	0.746	0.321	0.746	0.321	0.824	0.416	0.824	0.416		
						8	2447	14.8	14.8	21.0	21.0	0.833	0.643	0.275	0.643	0.275	0.575	0.312	0.575	0.312		
					Right Tilt	6	2437	14.8	14.8	21.0	21.0	1.100	0.853	0.349	0.853	0.349	-	-	-	-		
						8	2447	14.8	14.8	21.0	21.0	1.210	0.829	0.331	0.829	0.331	-	-	-	-		
	Body-worn & Hotspot	802.11b 20MHz	5	1 Tx	Rear	6	2437	18.3	18.3			0.867	1.020	0.387	1.020	0.387					32	
						11	2462	18.3	18.3			0.906	0.822	0.307	0.822	0.307						
					Front	6	2437	18.3	18.3			1.650	1.170	0.437	1.170	0.437						
						11	2462	18.3	18.3			1.230	0.922	0.353	0.922	0.353						
					Edge 1	6	2437	18.3	18.3			1.100	0.821	0.272	0.821	0.272						
						11	2462	18.3	18.3			0.827	0.615	0.206	0.615	0.206						
					Edge 2	6	2437	18.3	18.3			0.738	0.552	0.266	0.552	0.266						
					Edge 4	6	2437	18.3	18.3			0.160										
					Rear	6	2437			18.8	18.7	0.363					0.304	0.160	0.311	0.164		
					Front	6	2437			18.8	18.7	0.812					0.827	0.374	0.846	0.383		
						11	2462			18.8	18.7	0.710					0.646	0.291	0.661	0.298		
					Edge 2	6	2437			18.8	18.7	0.305										
					Edge 3	6	2437			18.8	18.7	0.260										
					Edge 4	6	2437			18.8	18.7	0.146										
		802.11g 20MHz	5	2 Tx	Rear	6	2437	18.3	18.2	18.8	18.8	1.410	1.060	0.404	1.085	0.413	0.483	0.248	0.483	0.248		
						9	2452	18.3	18.0	18.8	18.7	0.999	0.740	0.278	0.793	0.298	0.634	0.329	0.649	0.337		
					Front	6	2437	18.3	18.2	18.8	18.8	1.140	0.842	0.321	0.862	0.328	0.755	0.356	0.755	0.356		
						9	2452	18.3	18.0	18.8	18.7	1.400	0.850	0.329	0.911	0.353	0.952	0.443	0.974	0.453		
					Edge 1	6	2437	18.3	18.2	18.8	18.8	0.958	0.787	0.260	0.805	0.266	-	-	-	-		
						9	2452	18.3	18.0	18.8	18.7	0.704	0.563	0.191	0.603	0.205	-	-	-	-		
					Edge 2	6	2437	18.3	18.2	18.8	18.8	0.751	0.548	0.270	0.561	0.276	0.529	0.262	0.529	0.262		
					Edge 3	6	2437	18.3	18.2	18.8	18.8	0.416										
					Edge 4	6	2437	18.3	18.2	18.8	18.8	0.254										

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.21. Wi-Fi (U-NII-1 and U-NII-2A Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 2 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.2 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	42	5210	7.3	7.3			0.149									
					Left Tilt	42	5210	7.3	7.3			0.132									
					Right Touch	42	5210	7.3	7.3			0.336	0.183	0.055	0.183	0.055					
					Right Tilt	42	5210	7.3	7.3			0.256									
5.3 GHz		802.11a	0	1 Tx	Left Touch	56	5280			19.8	19.8	0.427									
					Left Tilt	56	5280			19.8	19.8	0.189									
					Right Touch	56	5280			19.8	19.8	0.430				0.228	0.090	0.228	0.090		
					Right Tilt	56	5280			19.8	19.8	0.157									
5.2 GHz		802.11n HT40	0	2 Tx	Left Touch	46	5230	7.3	7.3	19.5	19.5	0.387									
					Left Tilt	46	5230	7.3	7.3	19.5	19.5	0.163									
					Right Touch	46	5230	7.3	7.3	19.5	19.5	0.388	0.187	0.057	0.187	0.057	0.210	0.086	0.210	0.086	
					Right Tilt	46	5230	7.3	7.3	19.5	19.5	0.279									
5.2 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	42	5210	14.0	14.0			0.934	0.398	0.116	0.398	0.116					
					Front	42	5210	14.0	14.0			0.703	0.307	0.097	0.307	0.097					
					Edge 1	42	5210	14.0	14.0			0.307									
					Edge 2	42	5210	14.0	14.0			0.133									
					Edge 4	42	5210	14.0	14.0			0.675									
5.3 GHz		802.11ac VHT80	5	1 Tx	Rear	58	5290			9.5	9.5	0.107									
					Front	58	5290			9.5	9.5	0.496				0.225	0.061	0.225	0.061		
					Edge 2	58	5290			9.5	9.5	0.094									
					Edge 3	58	5290			9.5	9.5	0.118									
					Edge 4	58	5290			9.5	9.5	0.010									
5.2 GHz		802.11ac VHT80	5	2 Tx	Rear	42	5210	14.0	14.0	9.0	9.0	0.755	0.354	0.102	0.354	0.102	0.049	0.013	0.049	0.013	
					Front	42	5210	14.0	14.0	9.0	9.0	0.505	0.269	0.086	0.269	0.086	0.167	0.047	0.167	0.047	
					Edge 1	42	5210	14.0	14.0	9.0	9.0	0.298									
					Edge 2	42	5210	14.0	14.0	9.0	9.0	0.069									
					Edge 3	42	5210	14.0	14.0	9.0	9.0	0.086									
					Edge 4	42	5210	14.0	14.0	9.0	9.0	0.353									

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots	
								UAT 2		LAT 3			UAT 2				LAT 3					
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled			
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g		
5.2 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	42	5210	15.0	14.8			1.090	0.645	0.215	0.675	0.225						
					Left Tilt	42	5210	15.0	14.8			0.915										
					Right Touch	42	5210	15.0	14.8			2.070	1.120	0.350	1.173	0.366						
					Right Tilt	42	5210	15.0	14.8			1.670	0.873	0.262	0.914	0.274						
5.3 GHz		802.11a	0	1 Tx	Left Touch	56	5280			21.0	19.8	0.427										
					Left Tilt	56	5280			21.0	19.8	0.189										
					Right Touch	56	5280			21.0	19.8	0.430					0.228	0.090	0.301	0.119		
					Right Tilt	56	5280			21.0	19.8	0.157										
5.2 GHz		802.11n HT40	0	2 Tx	Left Touch	46	5230	15.0	15.0	19.5	19.1	1.070	0.617	0.214	0.617	0.214	-	-	-	-		
					Left Tilt	46	5230	15.0	15.0	19.5	19.1	0.754										
					Right Touch	38	5190	15.0	15.0	15.0	15.0	1.830	1.170	0.371	1.170	0.371	0.124	0.051	0.124	0.051		
						46	5230	15.0	15.0	19.5	19.1	2.560	1.190	0.368	1.190	0.368	0.334	0.140	0.366	0.154	33	
					Right Tilt	38	5190	15.0	15.0	15.0	15.0	2.090	1.040	0.300	1.040	0.300	0.038	0.018	0.038	0.018		
						46	5230	15.0	15.0	19.5	19.1	2.270	1.120	0.316	1.120	0.316	0.112	0.049	0.123	0.054		
5.2 GHz		Body-worn & Hotspot	802.11n HT40	5	1 Tx	Rear	38	5190	16.5	16.5			0.725	0.446	0.128	0.446	0.128					
							46	5230	18.3	18.3			2.220	1.120	0.328	1.120	0.328					34
	Front					38	5190	16.5	16.5			0.737	0.380	0.134	0.380	0.134						
						46	5230	18.3	18.3			1.710	0.926	0.321	0.926	0.321						
	Edge 1					46	5230	18.3	18.3			0.673										
	Edge 2					46	5230	18.3	18.3			0.297										
	Edge 4					46	5230	18.3	18.3			1.430	0.731	0.271	0.731	0.271						
	5.3 GHz					802.11n HT40	5	1 Tx	Rear	54	5270			16.3	16.3	0.494					0.254	0.069
Front			54	5270						16.3	16.3	2.060					0.956	0.266	0.956	0.266		
			62	5310						15.5	15.5	1.680					0.876	0.256	0.876	0.256		
Edge 2			54	5270						16.3	16.3	0.471										
Edge 3			54	5270						16.3	16.3	0.482										
Edge 4			54	5270						16.3	16.3	0.042										
5.2 GHz	802.11n HT40		5	2 Tx	Rear	38	5190	15.0	14.8		15.0	15.0	0.804	0.408	0.122	0.427	0.128	0.245	0.061	0.245	0.061	
						46	5230	18.3	18.3		15.8	15.8	1.390	0.834	0.258	0.834	0.258	0.336	0.104	0.336	0.104	
					Front	38	5190	15.0	14.8		15.0	15.0	1.310	0.379	0.122	0.397	0.128	0.838	0.244	0.838	0.244	
						46	5230	18.3	18.3		15.8	15.8	1.810	0.758	0.273	0.758	0.273	1.070	0.309	1.070	0.309	
					Edge 1	46	5230	18.3	18.3		15.8	15.8	0.731									
					Edge 2	46	5230	18.3	18.3		15.8	15.8	0.593									
					Edge 3	46	5230	18.3	18.3		15.8	15.8	0.664									
		Edge 4			46	5230	18.3	18.3		15.8	15.8	1.210	0.660	0.234	0.660	0.234	-	-	-	-		

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.22. Wi-Fi (U-NII-2C Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 2 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.5 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	122	5610	4.5	4.5			0.189									
					Left Tilt	122	5610	4.5	4.5			0.218									
					Right Touch	122	5610	4.5	4.5			0.365	0.188	0.045	0.188	0.045					
					Right Tilt	122	5610	4.5	4.5			0.361									
		802.11a	0	1 Tx	Left Touch	124	5620			19.8	19.8	0.352									
					Left Tilt	124	5620			19.8	19.8	0.144									
					Right Touch	124	5620			19.8	19.8	0.355					0.231	0.094	0.231	0.094	
					Right Tilt	124	5620			19.8	19.8	0.157									
		802.11n HT40	0	2 Tx	Left Touch	126	5630	4.5	4.5	19.5	19.5	0.347									
					Left Tilt	126	5630	4.5	4.5	19.5	19.5	0.305									
					Right Touch	126	5630	4.5	4.5	19.5	19.5	0.415	0.141	0.039	0.141	0.039	0.248	0.098	0.248	0.098	
					Right Tilt	126	5630	4.5	4.5	19.5	19.5	0.398									
5.5 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	138	5690	11.5	11.5			0.483	0.227	0.063	0.227	0.063					
					Front	138	5690	11.5	11.5			0.571	0.363	0.109	0.363	0.109					
					Edge 1	138	5690	11.5	11.5			0.277									
					Edge 2	138	5690	11.5	11.5			0.013									
					Edge 4	138	5690	11.5	11.5			0.162									
		802.11ac VHT80	5	1 Tx	Rear	122	5610			10.0	10.0	0.316									
					Front	122	5610			10.0	10.0	0.351					0.193	0.055	0.193	0.055	
					Edge 2	122	5610			10.0	10.0	0.081									
					Edge 3	122	5610			10.0	10.0	0.071									
		802.11ac VHT80	5	2 Tx	Edge 4	122	5610			10.0	10.0	0.013									
					Rear	122	5610	11.5	11.5	10.0	10.0	0.469	0.249	0.071	0.249	0.071	0.108	0.028	0.108	0.028	
					Front	122	5610	11.5	11.5	10.0	10.0	0.888	0.436	0.135	0.436	0.135	0.223	0.061	0.223	0.061	
					Edge 1	122	5610	11.5	11.5	10.0	10.0	0.306									
					Edge 2	122	5610	11.5	11.5	10.0	10.0	0.181									
					Edge 3	122	5610	11.5	11.5	10.0	10.0	0.099									
					Edge 4	122	5610	11.5	11.5	10.0	10.0	0.068									

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.5 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	122	5610	12.3	12.3			1.360	0.688	0.210	0.688	0.210					
					Left Tilt	122	5610	12.3	12.3			1.210									
					Right Touch	122	5610	12.3	12.3			1.680	0.863	0.242	0.863	0.242					
						138	5690	12.3	12.3			1.640	1.000	0.258	1.000	0.258					
					Right Tilt	122	5610	12.3	12.3			1.330									
		802.11a	0	1 Tx	Left Touch	124	5620			21.0	19.8	0.352									
					Left Tilt	124	5620			21.0	19.8	0.144									
					Right Touch	124	5620			21.0	19.8	0.355					0.231	0.094	0.305	0.124	
					Right Tilt	124	5620			21.0	19.8	0.157									
					Left Touch	126	5630	12.3	12.1	19.5	19.5	1.260	0.697	0.218	0.730	0.228					
		802.11n HT40	0	2 Tx	Left Tilt	126	5630	12.3	12.1	19.5	19.5	1.200									
					Right Touch	126	5630	12.3	12.1	19.5	19.5	1.290	0.828	0.230	0.867	0.241	0.278	0.110	0.278	0.110	
						142	5710	12.3	12.1	19.5	19.3	1.310	0.885	0.247	0.927	0.259	0.311	0.121	0.326	0.127	
					Right Tilt	126	5630	12.3	12.1	19.5	19.5	1.720	0.818	0.232	0.857	0.243	0.105	0.045	0.105	0.045	
						142	5710	12.3	12.1	19.5	19.3	1.760	0.898	0.255	0.940	0.267	0.110	0.046	0.115	0.048	
5.5 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	138	5690	15.8	15.6			0.752									
					Front	122	5610	15.8	15.5			1.160	0.462	0.130	0.495	0.139					
						138	5690	15.8	15.6			1.180	0.747	0.228	0.782	0.239					
					Edge 1	138	5690	15.8	15.6			0.453	0.808	0.249	0.846	0.261					
					Edge 2	138	5690	15.8	15.6			0.029									
		802.11ac VHT80	5	1 Tx	Edge 4	138	5690	15.8	15.6			0.222									
					Rear	122	5610			16.8	16.8	1.090					0.634	0.162	0.634	0.162	
					Front	122	5610			16.8	16.8	1.830					1.000	0.286	1.000	0.286	
						138	5690			16.8	16.8	1.970					1.100	0.321	1.100	0.321	
					Edge 2	122	5610			16.8	16.8	0.491									
		802.11ac VHT80	5	2 Tx	Edge 3	122	5610			16.8	16.8	0.262									
					Edge 4	122	5610			16.8	16.8	0.033									
					Rear	122	5610	15.8	15.7	16.8	16.6	1.280	0.715	0.192	0.732	0.196	0.563	0.179	0.590	0.187	
					Front	122	5610	15.8	15.7	16.8	16.6	1.360	0.690	0.218	0.706	0.223	0.882	0.253	0.924	0.265	
						138	5690	15.8	15.5	16.8	16.5	1.330	0.641	0.198	0.687	0.212	0.817	0.243	0.875	0.260	
		Edge 1	122	5610	15.8	15.7	16.8	16.6	0.715	0.431	0.149	0.441	0.152	-	-	-	-				
		Edge 2	122	5610	15.8	15.7	16.8	16.6	0.395												
		Edge 3	122	5610	15.8	15.7	16.8	16.6	0.345												
		Edge 4	122	5610	15.8	15.7	16.8	16.6	0.313												

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.23. Wi-Fi (U-NII-3 Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 2 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	155	5775	5.3	5.3			0.264									
					Left Tilt	155	5775	5.3	5.3			0.244									
					Right Touch	155	5775	5.3	5.3			0.400	0.164	0.038	0.164	0.038					
					Right Tilt	155	5775	5.3	5.3			0.298									
		802.11a	0	1 Tx	Left Touch	157	5785			19.8	19.8	0.248									
					Left Tilt	157	5785			19.8	19.8	0.127									
					Right Touch	157	5785			19.8	19.8	0.421				0.247	0.097	0.247	0.097		
					Right Tilt	157	5785			19.8	19.8	0.154									
		802.11a	0	2 Tx	Left Touch	157	5785	5.3	5.3	19.8	19.8	0.325									
					Left Tilt	157	5785	5.3	5.3	19.8	19.8	0.278									
					Right Touch	157	5785	5.3	5.3	19.8	19.8	0.381	0.173	0.042	0.173	0.042	0.211	0.091	0.211	0.091	
					Right Tilt	157	5785	5.3	5.3	19.8	19.8	0.305									
5.8 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	155	5775	11.5	11.5			0.421	0.203	0.060	0.203	0.060					
					Front	155	5775	11.5	11.5			0.724	0.433	0.122	0.433	0.122					
					Edge 1	155	5775	11.5	11.5			0.293									
					Edge 2	155	5775	11.5	11.5			0.026									
					Edge 4	155	5775	11.5	11.5			0.133									
		802.11ac VHT80	5	1 Tx	Rear	155	5775			10.3	10.3	0.483				0.235	0.064	0.235	0.064		
					Front	155	5775			10.3	10.3	0.409									
					Edge 2	155	5775			10.3	10.3	0.103									
					Edge 3	155	5775			10.3	10.3	0.098									
					Edge 4	155	5775			10.3	10.3	0.017									
		802.11ac VHT80	5	2 Tx	Rear	155	5775	11.5	11.5	10.3	10.3	0.286	0.145	0.041	0.145	0.041	0.161	0.046	0.161	0.046	
					Front	155	5775	11.5	11.5	10.3	10.3	0.649	0.439	0.119	0.439	0.119	0.178	0.059	0.178	0.059	
					Edge 1	155	5775	11.5	11.5	10.3	10.3	0.188									
					Edge 2	155	5775	11.5	11.5	10.3	10.3	0.171									
					Edge 3	155	5775	11.5	11.5	10.3	10.3	0.095									
					Edge 4	155	5775	11.5	11.5	10.3	10.3	0.124									

Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	155	5775	13.0	13.0			2.250	1.050	0.332	1.050	0.332					37
					Left Tilt	155	5775	13.0	13.0			1.680	0.946	0.301	0.946	0.301					
					Right Touch	155	5775	13.0	13.0			1.830	1.180	0.324	1.180	0.324					
					Right Tilt	155	5775	13.0	13.0			1.610	0.871	0.246	0.871	0.246					
		802.11a	0	1 Tx	Left Touch	157	5785			21.0	19.8	0.248									
					Left Tilt	157	5785			21.0	19.8	0.127									
					Right Touch	157	5785			21.0	19.8	0.421					0.247	0.097	0.326	0.128	
					Right Tilt	157	5785			21.0	19.8	0.154									
		802.11a	0	2 Tx	Left Touch	157	5785	13.0	13.0	21.0	21.0	1.790	0.989	0.309	0.989	0.309					
						161	5805	13.0	13.0	21.0	21.0	1.810	1.040	0.321	1.040	0.321					
					Left Tilt	157	5785	13.0	13.0	21.0	21.0	1.720	0.879	0.274	0.879	0.274	0.100	0.038	0.100	0.038	
						161	5805	13.0	13.0	21.0	21.0	1.320	0.726	0.239	0.726	0.239	0.109	0.046	0.109	0.046	
					Right Touch	157	5785	13.0	13.0	21.0	21.0	1.650	1.120	0.294	1.120	0.294	0.304	0.130	0.304	0.130	
						161	5805	13.0	13.0	21.0	21.0	1.470	1.180	0.297	1.180	0.297	0.313	0.127	0.313	0.127	
					Right Tilt	157	5785	13.0	13.0	21.0	21.0	1.140	0.814	0.228	0.814	0.228	0.106	0.045	0.106	0.045	
						161	5805	13.0	13.0	21.0	21.0	1.240	0.872	0.251	0.872	0.251	0.116	0.042	0.116	0.042	
5.8 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	155	5775	15.8	15.8			0.763	0.423	0.118	0.423	0.118					38
					Front	155	5775	15.8	15.8			2.660	1.100	0.313	1.100	0.313					
					Edge 1	155	5775	15.8	15.8			0.589									
					Edge 2	155	5775	15.8	15.8			0.030									
					Edge 4	155	5775	15.8	15.8			0.212									
		802.11ac VHT80	5	1 Tx	Rear	155	5775			17.0	17.0	1.220					0.825	0.224	0.825	0.224	
					Front	155	5775			17.0	17.0	1.420					0.965	0.249	0.965	0.249	
					Edge 2	155	5775			17.0	17.0	0.363									
					Edge 3	155	5775			17.0	17.0	0.465					0.267	0.096	0.267	0.096	
					Edge 4	155	5775			17.0	17.0	0.032									
		802.11ac VHT80	5	2 Tx	Rear	155	5775	15.8	15.8	17.0	17.0	0.994	0.574	0.147	0.574	0.147	0.528	0.152	0.528	0.152	
					Front	155	5775	15.8	15.8	17.0	17.0	1.240	0.893	0.261	0.893	0.261	0.732	0.235	0.732	0.235	
					Edge 1	155	5775	15.8	15.8	17.0	17.0	0.611									
					Edge 2	155	5775	15.8	15.8	17.0	17.0	0.628									
					Edge 3	155	5775	15.8	15.8	17.0	17.0	0.299									
					Edge 4	155	5775	15.8	15.8	17.0	17.0	0.345									

Notes:

For SAR results with "-", there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.24. Wi-Fi Variant 2 Spot Check

SAR Testing (Spot Check) was performed based on the worst case SAR result from Sec. 10.20 – Sec. 10.23. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Wi-Fi (DTS Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 1		LAT 3		UAT 1				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	2.4 GHz	Head	802.11b	0	1 Tx	Left Tilt	6	2437	14.8	14.8			1.070	0.376	1.070	0.376				
		Body-worn & Hotspot	Front	5	1 Tx	Front	6	2437	18.3	18.3			1.170	0.437	1.170	0.437				
Variant 2 Spot Check	2.4 GHz	Head	802.11b	0	1 Tx	Left Tilt	6	2437	14.8	14.8			1.010	0.381	1.010	0.381				
		Body-worn & Hotspot	Front	5	1 Tx	Front	6	2437	18.3	18.3			1.100	0.411	1.100	0.411				

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Wi-Fi (U-NII-1 and U-NII-2A Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 2		LAT 3		UAT 2				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.2 & 5.3 GHz	Head	802.11n HT40	0	2 Tx	Right Touch	46	5230	15.0	15.0	19.5	19.1	1.190	0.368	1.190	0.368	0.334	0.140	0.366	0.154
		Body-worn & Hotspot	802.11n HT40	5	1Tx	Rear	46	5230	18.3	18.3			1.120	0.328	1.120	0.328				
Variant 2 Spot Check	5.2 & 5.3 GHz	Head	802.11n HT40	0	2 Tx	Right Touch	46	5230	15.0	15.0	19.5	19.5	1.060	0.335	1.060	0.335	0.361	0.156	0.361	0.156
		Body-worn & Hotspot	802.11n HT40	5	1Tx	Rear	46	5230	18.3	18.3			1.080	0.328	1.080	0.328				

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Wi-Fi (U-NII-2C Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 2		LAT 3		UAT 2				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.5 GHz	Head	802.11ac VHT80	0	1Tx	Right Touch	138	5690	12.3	12.3			1.000	0.258	1.000	0.258				
		Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Front	138	5690			16.8	16.8					1.100	0.321	1.100	0.321
Variant 2 Spot Check	5.5 GHz	Head	802.11ac VHT80	0	1Tx	Right Touch	138	5690	12.3	11.6			0.745	0.204	0.875	0.240				
		Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Front	138	5690			16.8	16.2					0.766	0.229	0.879	0.263

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

Wi-Fi (U-NII-3 Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 2		LAT 3		UAT 2				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Right Touch	155	5775	13.0	13.0			1.180	0.324	1.180	0.324				
		Body-worn & Hotspot	802.11ac VHT80	5	1Tx	Front	155	5775	15.8	15.8			1.100	0.313	1.100	0.313				
Variant 2 Spot Check	5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Right Touch	155	5775	13.0	13.0			1.090	0.278	1.090	0.278				
		Body-worn & Hotspot	802.11ac VHT80	5	1Tx	Front	155	5775	15.8	15.3			0.789	0.242	0.885	0.272				

Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

10.25. Bluetooth

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Bluetooth: P_{low} , P_{High} , $P_{standalone}$ and for each Antenna – UAT 1 and LAT 3 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

UAT 1

P_{low}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	10.0	10.0	0.095	0.095	0.036	0.036	
				Left Tilt	39	2441.0	10.0	10.0	0.123	0.123	0.043	0.043	
				Right Touch	39	2441.0	10.0	10.0	0.072	0.072	0.031	0.031	
				Right Tilt	39	2441.0	10.0	10.0	0.075	0.075	0.030	0.030	
	Body-worn	GFSK	5	Rear	39	2441.0	10.0	10.0	0.079	0.079	0.031	0.031	
				Front	39	2441.0	10.0	10.0	0.091	0.091	0.034	0.034	

P_{high}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	12.0	12.0	0.203	0.203	0.078	0.078	
				Left Tilt	39	2441.0	12.0	12.0	0.233	0.233	0.084	0.084	
				Right Touch	39	2441.0	12.0	12.0	0.163	0.163	0.068	0.068	
				Right Tilt	39	2441.0	12.0	12.0	0.209	0.209	0.081	0.081	
	Body-worn	GFSK	5	Rear	39	2441.0	13.5	13.5	0.155	0.155	0.059	0.059	
				Front	39	2441.0	13.5	13.5	0.176	0.176	0.069	0.069	

$P_{standalone}$

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	14.5	14.5	0.373	0.373	0.138	0.138	
				Left Tilt	39	2441.0	14.5	14.5	0.430	0.430	0.151	0.151	39
				Right Touch	39	2441.0	14.5	14.5	0.248	0.248	0.103	0.103	
				Right Tilt	39	2441.0	14.5	14.5	0.314	0.314	0.122	0.122	
	Body-worn	GFSK	5	Rear	39	2441.0	16.5	16.5	0.325	0.325	0.121	0.121	
				Front	39	2441.0	16.5	16.5	0.380	0.380	0.145	0.145	

LAT 3

 P_{low}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	10.0	10.0	0.018	0.018	0.009	0.009	
				Left Tilt	39	2441.0	10.0	10.0	0.010	0.010	0.005	0.005	
				Right Touch	39	2441.0	10.0	10.0	0.041	0.041	0.022	0.022	
				Right Tilt	39	2441.0	10.0	10.0	0.007	0.007	0.004	0.004	
	Body-worn	GFSK	5	Rear	39	2441.0	10.0	10.0	0.042	0.042	0.021	0.021	
				Front	39	2441.0	10.0	10.0	0.091	0.091	0.041	0.041	

 P_{high}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	16.5	16.5	0.040	0.040	0.022	0.022	
				Left Tilt	39	2441.0	16.5	16.5	0.017	0.017	0.010	0.010	
				Right Touch	39	2441.0	16.5	16.5	0.126	0.126	0.065	0.065	
				Right Tilt	39	2441.0	16.5	16.5	0.025	0.025	0.012	0.012	
	Body-worn	GFSK	5	Rear	39	2441.0	13.5	13.5	0.057	0.057	0.028	0.028	
				Front	39	2441.0	13.5	13.5	0.141	0.141	0.064	0.064	

 $P_{standalone}$

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	19.5	19.5	0.162	0.162	0.088	0.088	
				Left Tilt	39	2441.0	19.5	19.5	0.091	0.091	0.045	0.045	
				Right Touch	39	2441.0	19.5	19.5	0.395	0.395	0.212	0.212	
				Right Tilt	39	2441.0	19.5	19.5	0.059	0.059	0.029	0.029	
	Body-worn	GFSK	5	Rear	39	2441.0	16.5	16.5	0.105	0.105	0.054	0.054	
				Front	39	2441.0	16.5	16.5	0.445	0.445	0.214	0.214	40

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 ($\sim 10\%$ 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 .

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated		Second Repeated	
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio
700	LTE Band 12	Body & Hotspot	Rear	No	0.771	N/A	N/A	N/A	N/A
	LTE Band 13	Body & Hotspot	Front	No	0.784	N/A	N/A	N/A	N/A
850	GSM 850	Body & Hotspot	Rear	No	0.996	N/A	N/A	N/A	N/A
	WCDMA Band V	Head	Right Touch	Yes	1.040	0.997	1.04	N/A	N/A
	LTE Band 26	Head	Right Touch	No	0.758	N/A	N/A	N/A	N/A
1700	WCDMA Band IV	Body & Hotspot	Rear	Yes	1.060	0.988	1.07	N/A	N/A
	LTE Band 66	Head	Right Touch	No	1.000	N/A	N/A	N/A	N/A
1900	GSM 1900	Body & Hotspot	Rear	No	1.070	N/A	N/A	N/A	N/A
	WCDMA Band II	Head	Right Touch	Yes	1.080	1.050	1.03	N/A	N/A
	LTE Band 25	Body & Hotspot	Rear	No	1.070	N/A	N/A	N/A	N/A
2300	LTE Band 30	Body & Hotspot	Rear	Yes	0.945	0.926	1.02	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Body	Front	Yes	1.170	1.090	1.07	N/A	N/A
	BT	Body	Front	No	0.445	N/A	N/A	N/A	N/A
2500	LTE Band 7	Head	Left Tilt	Yes	1.080	1.030	1.05	N/A	N/A
2600	LTE Band 41	Body & Hotspot	Rear	Yes	1.060	0.904	1.17	N/A	N/A
5200	Wi-Fi 802.11a/n/ac	Head	Right Touch	Yes	1.190	1.140	1.04	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Body	Front	Yes	1.100	1.04	1.06	N/A	N/A
5800	Wi-Fi 802.11a/n/ac	Head	Right Touch	Yes	1.180	1.09	1.08	N/A	N/A

Note(s):

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

12. Simultaneous Transmission SAR Analysis

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:

SAR₁ 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

SAR₂ 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:

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

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations				
Head Body Worn Accessory Hotspot	1	WWAN OFF (CELLULAR ANTENNAS OFF)	+ (UAT 2) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P _{High})	
	2		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P _{High})	
	3		+ Wi-Fi 5 GHz MIMO	+	(UAT 1) Bluetooth (P _{High})	
	4		+ (UAT 2) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P _{High})	
	5		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P _{High})	
	6		+ Wi-Fi 5 GHz MIMO	+	(LAT 3) Bluetooth (P _{High})	
	7	WWAN ON (CELLULAR ANTENNAS ON)	+ (UAT 1) Wi-Fi 2.4 GHz SISO			
	8		+ (LAT 3) Wi-Fi 2.4 GHz SISO			
	9		+ Wi-Fi 2.4 GHz MIMO			
	10			+	(UAT 1) Bluetooth (P _{High})	
	11			+	(LAT 3) Bluetooth (P _{High})	
	12		+ (UAT 2) Wi-Fi 5 GHz SISO			
	13		+ (LAT 3) Wi-Fi 5 GHz SISO			
	14		+ Wi-Fi 5 GHz MIMO			
	15		+ (UAT 2) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P _{Low})	
	16		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P _{Low})	
	17		+ Wi-Fi 5 GHz MIMO	+	(UAT 1) Bluetooth (P _{Low})	
	18		+ (UAT 2) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P _{Low})	
	19		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P _{Low})	
	20		+ Wi-Fi 5 GHz MIMO	+	(LAT 3) Bluetooth (P _{Low})	
Notes:						
1. Wi-Fi 2.4GHz & Bluetooth cannot transmit simultaneously.						
2. Conditions 12, 13, and 14 are covered by conditions 15, 16, and 17, respectively.						

12.1. Sum of the SAR for Worst Case Cell-Off (UNII & BT only)

RF Exposure Condition	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/g)					
		(E)	(F)	(G)	(H)	(J)	(E) + (H)	(F) + (H)	(G) + (H)	(E) + (J)	(F) + (J)	(G) + (J)
		U-NII UAT2	U-NII LAT3	U-NII MIMO	BT UAT1P-high	BT LAT3 P-high	U-NII + BT UAT2 + UAT1P-high	U-NII + BT LAT3 + UAT1P-high	U-NII + BT MIMO + UAT1P-high	U-NII + BT UAT2 + LAT3 P-high	U-NII + BT LAT3 + LAT3 P-high	U-NII + BT MIMO + LAT3 P-high
Head	Left Touch	1050	0.326	1040	0.203	0.040	1253	0.529	1243	1090	0.366	1080
	Left Tilt	0.946	0.326	0.879	0.233	0.017	1.179	0.559	1.112	0.963	0.343	0.896
	Right Touch	1.180	0.326	1.190	0.163	0.126	1.343	0.489	1.353	1.306	0.452	1.316
	Right Tilt	0.914	0.326	1.120	0.209	0.025	1.123	0.535	1.329	0.939	0.351	1.145
Body-worn Accessory & Hotspot	Rear	1.120	0.825	0.834	0.155	0.057	1.275	0.980	0.989	1.177	0.882	0.891
	Front	1.100	1.100	1.070	0.176	0.141	1.276	1.276	1.246	1.241	1.241	1.211
Hotspot	Edge 1	0.846	1.100	0.441			0.846	1.100	0.441	0.846	1.100	0.441
	Edge 2	1.120	1.100	1.070			1.120	1.100	1.070	1.120	1.100	1.070
	Edge 3	1.120	0.267	1.070			1.120	0.267	1.070	1.120	0.267	1.070
	Edge 4	0.731	1.100	0.660			0.731	1.100	0.660	0.731	1.100	0.660

12.2. Sum of the SAR for Worst Case Cell-On (Cellular UAT 1), DTS and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						Σ 1-g SAR (W/g)				
		(A)	(B)	(C)	(D)	(H)	(J)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (J)
		WWAN UAT1	DTS UAT1	DTS LAT3	DTS MIMO	BT UAT1P-high	BT LAT3 P-high	WWAN + DTS UAT1 + UAT1	WWAN + DTS UAT1 + LAT3	WWAN + DTS UAT1 + MIMO	WWAN + BT UAT1 + UAT1P-high	WWAN + BT UAT1 + LAT3 P-high
Head	Left Touch	1020	0.327	0.279	0.268	0.203	0.040	1347	1299	1288	1223	1060
	Left Tilt	1080	0.327	0.279	0.268	0.233	0.017	1407	1359	1348	1313	1097
	Right Touch	1091	0.327	0.279	0.268	0.163	0.126	1418	1370	1359	1254	1217
	Right Tilt	1007	0.327	0.279	0.268	0.209	0.025	1334	1286	1275	1216	1032
Body-worn Accessory & Hotspot	Rear	0.896	0.408	0.331	0.373	0.155	0.057	1304	1227	1269	1051	0.953
	Front	0.894	0.459	0.331	0.373	0.176	0.141	1353	1225	1267	1070	1035
Hotspot	Edge 1	0.895	0.459	0.331	0.373			1354	1226	1268	0.895	0.895
	Edge 2	0.753	0.459	0.331	0.373			1212	1084	1126	0.753	0.753
	Edge 4	0.699	0.459	0.331	0.373			1158	1030	1072	0.699	0.699

12.3. Sum of the SAR for Worst Case Cell-On (Cellular UAT 1), UNII and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						Σ 1-g SAR (W/g)					
		(A)	(E)	(F)	(G)	(I)	(K)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)	(A) + (E) + (K)	(A) + (F) + (K)	(A) + (G) + (K)
		WWAN UAT1	U-NII UAT2	U-NII LAT3	U-NII MIMO	BT UAT1P-low	BT LAT3 P-low	WWAN + U-NII + BT UAT1+UAT2+UAT1 P-low	WWAN + U-NII + BT UAT1+LAT3+UAT1 P-low	WWAN + U-NII + BT UAT1+MIMO + UAT1P-low	WWAN + U-NII + BT UAT1+UAT2+LAT3 P-low	WWAN + U-NII + BT UAT1+LAT3+LAT3 P-low	WWAN + U-NII + BT UAT1+MIMO + LAT3 P-low
Head	Left Touch	1020	0.188	0.247	0.248	0.095	0.013	1303	1362	1363	1226	1285	1286
	Left Tilt	1080	0.188	0.247	0.248	0.123	0.010	1391	1450	1451	1278	1337	1338
	Right Touch	1091	0.188	0.247	0.248	0.072	0.041	1351	1410	1411	1320	1379	1380
	Right Tilt	1007	0.188	0.247	0.248	0.075	0.007	1270	1329	1330	1202	1261	1262
Body-worn Accessory & Hotspot	Rear	0.896	0.421	0.235	0.354	0.079	0.042	1396	1210	1329	1359	1173	1292
	Front	0.894	0.433	0.225	0.439	0.091	0.091	1413	1210	1424	1413	1210	1424
Hotspot	Edge 1	0.895	0.433	0.235	0.439			1328	1130	1334	1328	1130	1334
	Edge 2	0.753	0.433	0.235	0.439			1186	0.988	1192	1186	0.988	1192
	Edge 4	0.699	0.433	0.235	0.439			1132	0.934	1138	1132	0.934	1138

12.4. Sum of the SAR for Worst Case Cell-On (Cellular LAT 1), DTS and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						Σ 1-g SAR (W/g)				
		(A)	(B)	(C)	(D)	(H)	(J)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (J)
		WWAN LAT1	DTS UAT1	DTS LAT3	DTS MIMO	BT UAT1P-high	BT LAT3 P-high	WWAN + DTS LAT1+UAT1	WWAN + DTS LAT1+LAT3	WWAN + DTS LAT1+MIMO	WWAN + BT LAT1+UAT1P-high	WWAN + BT LAT1+LAT3 P-high
Head	Left Touch	1060	0.327	0.279	0.268	0.203	0.040	1387	1339	1328	1263	1100
	Left Tilt	0.257	0.327	0.279	0.268	0.233	0.017	0.584	0.536	0.525	0.490	0.274
	Right Touch	0.790	0.327	0.279	0.268	0.163	0.126	1117	1069	1058	0.953	0.916
	Right Tilt	0.450	0.327	0.279	0.268	0.209	0.025	0.777	0.729	0.718	0.659	0.475
Body-worn Accessory & Hotspot	Rear	1085	0.408	0.331	0.373	0.155	0.057	1493	1416	1458	1240	1142
	Front	0.987	0.459	0.331	0.373	0.176	0.141	1446	1318	1360	1163	1128
Hotspot	Edge 2	0.978	0.459	0.331	0.373			1437	1309	1351	0.978	0.978
	Edge 3	1085	0.459	0.331	0.373			1544	1416	1458	1085	1085
	Edge 4	0.769	0.459	0.331	0.373			1228	1100	1142	0.769	0.769

12.5. Sum of the SAR for Worst Case Cell-On (Cellular LAT 1), UNII and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						Σ 1-g SAR (W/g)					
		(A)	(E)	(F)	(G)	(I)	(K)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)	(A) + (E) + (K)	(A) + (F) + (K)	(A) + (G) + (K)
		WWAN LAT1	U-NII UAT2	U-NII LAT3	U-NII MIMO	BT UAT1P-low	BT LAT3 P-low	WWAN + U-NII + BT LAT1+UAT2 + UAT1P-low	WWAN + U-NII + BT LAT1+LAT3 + UAT1P-low	WWAN + U-NII + BT LAT1+MIMO + UAT1 P-low	WWAN + U-NII + BT LAT1+UAT2 + LAT3 P-low	WWAN + U-NII + BT LAT1+LAT3 + LAT3 P-low	WWAN + U-NII + BT LAT1+MIMO + LAT3 P-low
Head	Left Touch	1060	0.188	0.247	0.248	0.095	0.018	1343	1402	1403	1266	1325	1326
	Left Tilt	0.257	0.188	0.247	0.248	0.123	0.010	0.568	0.627	0.628	0.455	0.514	0.515
	Right Touch	0.790	0.188	0.247	0.248	0.072	0.041	1050	1109	1110	1019	1078	1079
	Right Tilt	0.450	0.188	0.247	0.248	0.075	0.007	0.713	0.772	0.773	0.645	0.704	0.705
Body-worn Accessory & Hotspot	Rear	1085	0.421	0.235	0.354	0.079	0.042	1585	1399	1518	1548	1362	1481
	Front	0.987	0.433	0.225	0.439	0.091	0.091	1511	1303	1517	1511	1303	1517
Hotspot	Edge 2	0.978	0.433	0.235	0.439			1411	1213	1417	1411	1213	1417
	Edge 3	1085	0.433	0.235	0.439			1518	1320	1524	1518	1320	1524
	Edge 4	0.769	0.433	0.235	0.439			1202	1004	1208	1202	1004	1208

Appendixes

Refer to separated files for the following appendixes.

11708394-S1V2 SAR_App A Setup Photos

11708394-S1V1 SAR_App B System Check Plots

11708394-S1V1 SAR_App C Highest Test Plots

11708394-S1V1 SAR_App D Tissue Ingredients

11708394-S1V1 SAR_App E Probe Cal. Certificates

11708394-S1V1 SAR_App F Dipole Cal. Certificates

END OF REPORT