



SAR EVALUATION REPORT

IEEE Std 1528-2013

For
SMARTPHONE

FCC ID: BCG-E3501A
Model Name: A2296

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NVLAP LAB CODE 200065-0

Revision History

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V1	2/13/2020	Initial Issue	--
V2	3/20/2020	Updated the TCB's comments 1. Section 7: updated typo 2. Section 9.4 added note. 3. Section 9.7 & 9.8 maximum power table. 4. Section 9.9 & 10.22 power table.	Devin Chang
V3	3/27/2020	1. Section 6.2 & 6.3 & 9.2 & 9.4 & 10.14: updated typo.	Devin Chang

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1. Attestation of Test Results

Applicant Name	APPLE, INC.			
FCC ID	BCG-E3501A			
Model Name	A2296			
Applicable Standards	Published RF exposure KDB procedures IEEE Std 1528-2013			
Exposure Category	SAR Limits (W/Kg)			
	Peak spatial-average (1g of tissue)	Extremities (hands, wrists, ankles, etc.) (10g of tissue)		
General population / Uncontrolled exposure	1.6	4		
RF Exposure Conditions	Equipment Class - Highest Reported SAR (W/kg)			
	PCE	DTS	NII	DSS
Head	1.087	1.020	1.174	1.140
Body-worn (Dist.= 5 mm)	1.095	1.100	1.153	1.160
Hotspot (Dist.= 5 mm)	1.095	1.100	1.153	1.160
Simultaneous TX	Head	1.462	1.351	1.462
	Body-worn	1.571	1.510	1.571
	Hotspot	1.571	1.510	1.571
Date Tested	1/7/2020 to 2/3/2020			
Test Results	Pass			
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.				
Approved & Released By:		Prepared By:		
				
Devin Chang Senior Test Engineer UL Verification Services Inc.		Chakrit Thammanavarat Senior Test Engineer UL Verification Services Inc.		

2. Test Specification, Methods and Procedures

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

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

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

- [TCB workshop](#) October 2014; RF Exposure Procedures (Other LTE Considerations)
- [TCB workshop](#) April 2015; RF Exposure Procedures (Overlapping LTE Bands)
- [TCB workshop](#) October 2015; RF Exposure Procedures (KDB 941225 D05A)
- [TCB workshop](#) April 2016; RF Exposure Procedures (LTE Carrier Aggregation for DL)
- [TCB workshop](#) October 2016; RF Exposure Procedures (LTE Carrier Aggregation for UL)
- [TCB workshop](#) October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- [TCB workshop](#) October 2016; RF Exposure Procedures (DUT Holder Perturbations)
- [TCB workshop](#) May 2017; RF Exposure Procedures (Broadband Liquid Above 3 GHz)
- [TCB workshop](#) May 2017; RF Exposure Procedures (LTE Band 41 Power Class 2)
- [TCB workshop](#) November 2017; RF Exposure Procedures (LTE UL/DL Carrier Aggregation SAR)
- [TCB workshop](#) April 2018; RF Exposure Procedures (LTE DL CA SAR Test Exclusion)
- [TCB workshop](#) October 2018; RF Exposure Procedures (LTE Inter-Band Uplink Carrier Aggregation – Interim Procedures)
- [TCB workshop](#) April 2019; RF Exposure Procedures (Tissue Simulating Liquids (TSL))
- [TCB workshop](#) April 2019; RF Exposure Procedures (802.11ax SAR Testing)

3. Facilities and Accreditation

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

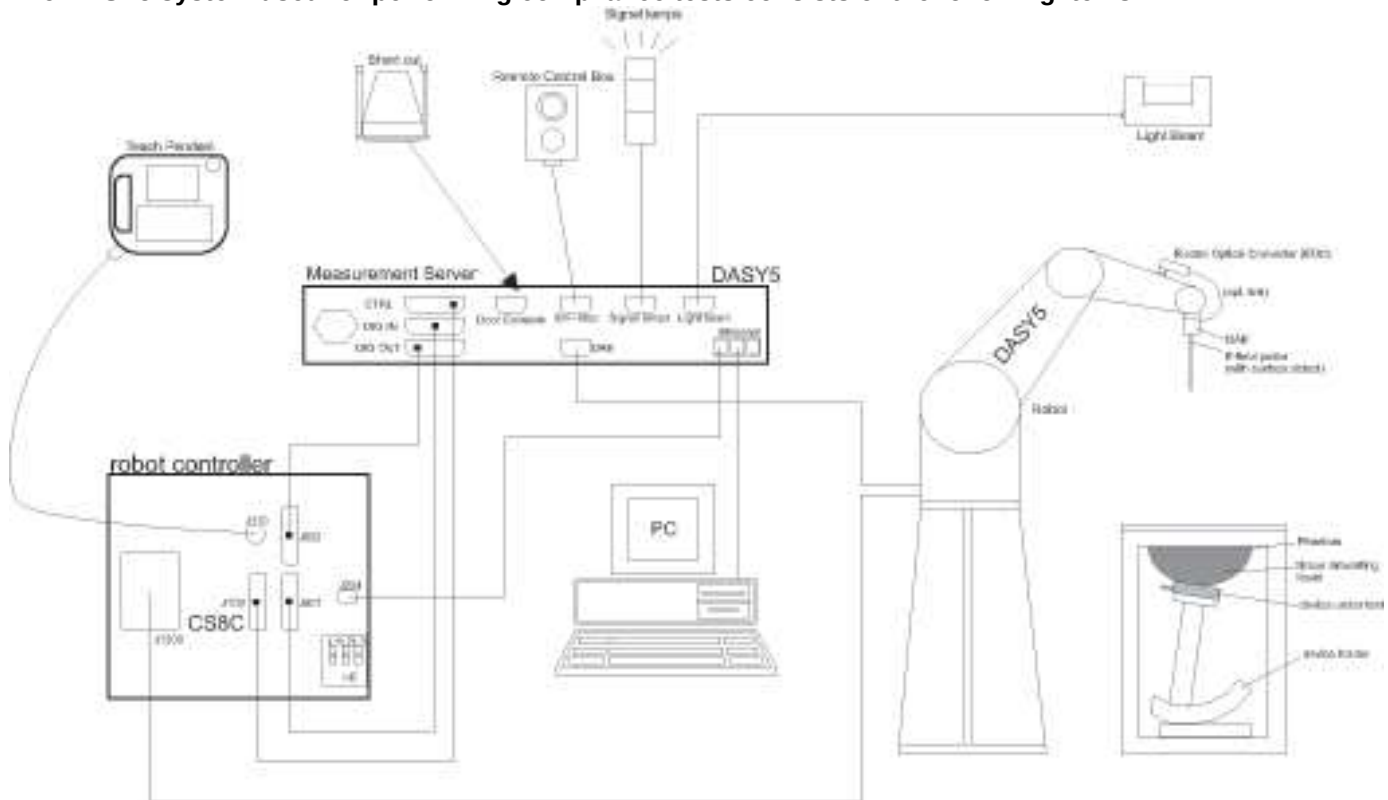
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	SAR Lab 6
SAR Lab G	SAR Lab 7
SAR Lab H	SAR Lab 8

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: Δx_{Area} , Δy_{Area}	≤ 2 GHz: ≤ 15 mm $2 - 3$ GHz: ≤ 12 mm	$3 - 4$ GHz: ≤ 12 mm $4 - 6$ GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ 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	R&S	ZNLE6	101274-mn	3/7/2020
Dielectric Probe kit	SPEAG	DAK-3.5	1082	10/8/2020
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	10/8/2020
Thermometer	Fisher Scientific	Traceable	140562250	3/5/2020
Network Analyzer	R&S	ZNLE6	181650	4/24/2020
Dielectric Probe kit	SPEAG	DAK-3.5	SM DAK 040 CA	2/12/2020
Shorting block	SPEAG	DAK-3.5 Short	1103	2/12/2020
Thermometer	Fisher Scientific	Traceable	170064398	5/21/2020

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Signal Generator	Agilent	N5181A	MY50140630	10/21/2020
Signal Generator	Rhode & Schwarz	SMB100A	181388	2/13/2020
Power Sensor	Hewlett Packard	8481A	2237A31744	8/22/2020
Power Sensor	Rhode & Schwarz	NRP18A	181144	2/15/2020
Power Sensor	Rhode & Schwarz	NRP18A	181143	2/15/2020
Power Meter	Hewlett Packard	437B	3125U12345	1/22/2021
Power Meter	Keysight	N1912A	MY55196007	1/22/2021
Power Sensor	Agilent	E9323A	MY53070005	8/2/2020
Power Sensor	Agilent	N1921A	MY52260009	2/5/2020
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2149	N/A
DC Power Supply	Sorensen	XT 15-4	1817A02680	N/A

Note(s):

*Equipment not used past calibration due date.

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	7463	7/18/2020
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	3686	9/26/2020
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	3773	3/27/2020
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	3929	4/17/2020
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3929	4/17/2020
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3773	3/27/2020
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	7482	7/18/2020
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	7448	3/27/2020
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	7356	4/17/2020
E-Field Probe (SAR Lab 5)	SPEAG	EX3DV4	3902	5/21/2020
E-Field Probe (SAR Lab 5)	SPEAG	EX3DV4	3749	1/25/2020
E-Field Probe (SAR Lab 6)	SPEAG	EX3DV4	7483	11/25/2020
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1259	7/10/2020
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1439	7/11/2020
Data Acquisition Electronics (SAR Lab D)	SPEAG	DAE4	1546	5/14/2020
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1357	2/13/2020
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1352	11/15/2020
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1258	5/14/2020
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1545	4/12/2020
Data Acquisition Electronics (SAR Lab 5)	SPEAG	DAE4	1433	3/20/2020
Data Acquisition Electronics (SAR Lab 6)	SPEAG	DAE4	1380	8/27/2020
System Validation Dipole	SPEAG	D750V3	1024	5/15/2020
System Validation Dipole	SPEAG	D750V3	1019	3/21/2020
System Validation Dipole	SPEAG	D835V2	4d142	8/23/2020
System Validation Dipole	SPEAG	D1750V2	1077	10/10/2020
System Validation Dipole	SPEAG	D1900V2	5d043	11/20/2020
System Validation Dipole	SPEAG	D1900V2	5d163	10/14/2020
System Validation Dipole	SPEAG	D2300V2	1058	10/14/2020
System Validation Dipole	SPEAG	D2300V2	1002	3/22/2020
System Validation Dipole	SPEAG	D2450V2	899	3/22/2020
System Validation Dipole	SPEAG	D2450V2	748	2/16/2020
System Validation Dipole	SPEAG	D2450V2	706	5/16/2020
System Validation Dipole	SPEAG	D2600V2	1036	3/22/2020
System Validation Dipole	SPEAG	D2600V2	1006	10/14/2020
System Validation Dipole	SPEAG	D5GHzV2	1003	2/19/2020
System Validation Dipole	SPEAG	D5GHzV2	1168	11/23/2020

Other

Name of Equipment	Manufacturer	Type/Model	Tnumber	Serial No.	Cal. Due Date
Base Station Simulator	R & S	CMW500	T375	132910-cp	2/18/2020
Base Station Simulator	R & S	CMW500	T970	137875-dz	2/21/2020
Base Station Simulator	R & S	CMW500	T979	135394-mC	2/20/2020
Base Station Simulator	R & S	CMW500	T964	134853-ud	2/21/2020
Base Station Simulator	R & S	CMW500	T959	137873-WG	2/16/2020
Base Station Simulator	R & S	CMW500	T259	124594-HX	2/17/2020
Base Station Simulator	R & S	CMW500	T919	125236-eS	4/10/2020

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.

Therefore, the measurement uncertainty is not required.

6. Device Under Test (DUT) Information

6.1. DUT Description

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, TD-SCDMA, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, GPS and NFC. All models support at least one UICC based SIM. The second SIM, if present, is either UICC based pSIM (physical SIM) or e-SIM (electronic SIM). The device has a built-in inductive charging receiver. The rechargeable battery is also not user accessible.

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

The device utilizes two power modes: Mode A and Mode B. 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.

The WWAN transmit antenna switching mechanism between WWAN antennas is implemented with a physical "break-before-make" switch so that only one antenna can be used for WWAN transmission at one time.

In Airplay mode, the device uses same power and power control mechanism as Wi-Fi. Airplay is not supported in hotspot mode. Airplay utilize the same 802.11 modes, modulation, MIMO, Channel Bandwidth, etc. as Wi-Fi does. Therefore Airplay usage is categorized by the Wi-Fi SAR testing contained in Section 10.

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 Back Cover is not removable
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)
Bluetooth Tethering (Hotspot)	BT Tethering mode permits the device to share its cellular data connection with other devices. ☒ BT Tethering (Bluetooth 2.4 GHz)

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EDGE (8PSK)	GSM Class : B Multi-Slot Class: Class 12 - 4 Up, 4 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
CDMA (CDMA2000)	BC0 BC1 BC10	1xRTT (Voice & Data) 1xEV-DO Rel. 0 1xEV-DO Rev. A 1xAdvanced		100%
	Does this device support SV-DO (1xRTT-1xEVDO)? ☐ 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 29 (DL Only) FDD Band 30 TDD Band 41 ³ TDD Band 46 (DL Only) TDD Band 48 FDD Band 66 Carrier Aggregation ⁴ FDD Band 5B FDD Band 7C TDD Band 41C	QPSK 16QAM 64QAM Carrier Aggregation (2 Uplinks and 5 Downlinks)		100% (FDD) 63.3% (TDD) ^{Power Class 3} 43.3% (TDD) ^{Power Class 2} Refer to §6.4
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
Wi-Fi	2.4 GHz ¹	802.11b 802.11g 802.11n (HT20) 802.11ac (VHT20) 802.11ax (HE20)		100% ^{(802.11b) ¹} 98.71% ^{(802.11g/n 20MHz BW) ¹}
	5 GHz ¹	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80) 802.11ax (HE20) 802.11ax (HE40) 802.11ax (HE80)		98.92% ^{(802.11a/n/ac/ax 20MHz BW) ¹} 97.92% ^{(802.11n/ac/ax 40MHz BW) ¹} 95.43% ^{(802.11ac/ax 80MHz BW) ¹}
	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 ¹	BR, EDR, LE, and HDR		100%
NFC	13.56 MHz	Type A/B/F and ISO15693		N/A ²

Notes:

1. Duty cycle for Wi-Fi is referenced from the DTS and UNII report.
2. Measured Duty Cycle is not required due to SAR test exemption.
3. This device supports Power Class 2 and Power Class 3 for LTE Band 41.
4. LTE-uplink 2CA is the total combined power of the UL CA.

6.3. General LTE SAR Test and Reporting Considerations

Item	Description						
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz (BW = 60 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	18700 /1860	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5	18607/ 1850.7
	Mid	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880
	High	19100/ 1900	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19185/ 1908.5	19193/ 1909.3
	Band 4	Frequency range: 1710 - 1755 MHz (BW = 45 MHz)					
		Channel Bandwidth					
		20 MHz ¹	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
	Mid	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz (BW = 25 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz ¹	5 MHz	3 MHz	1.4 MHz
	Low			20450/ 829	20425/ 826.5	20415/ 825.5	20407/ 824.7
	Mid			20525/ 836.5	20525/ 836.5	20525/ 836.5	20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5	20643/ 848.3
	Band 7	Frequency range: 2500 - 2570 MHz (BW = 70 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20850 2510	20825/ 2507.5	20800/ 2505	20775/ 2502.5		
	Mid	21100 2535	21100/ 2535	21100/ 2535	21100/ 2535		
	High	21350 2560	21375/ 2562.5	21400/ 2565	21425/ 2567.5		
	Band 12	Frequency range: 699 – 716 MHz (BW = 17 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz ¹	5 MHz	3 MHz	1.4 MHz
	Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
	Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5
	High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz (BW = 10 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz ¹	5 MHz ¹	3 MHz	1.4 MHz
	Low				23205/ 779.5		
	Mid			23230/ 782	23230/ 782		
	High				23255/ 784.5		
	Band 17	Frequency range: 704 - 716 MHz (BW = 12 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz ¹	5 MHz ¹	3 MHz	1.4 MHz
	Low			23780/ 709	23755/ 706.5		
	Mid			23790/ 710	23790/ 710		
	High			23800/ 710	23825/ 710		

LTE transmitter and antenna implementation	Band 25	Frequency range: 1850 - 1915 MHz (BW = 65 MHz)						
		Channel Bandwidth						
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
	Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7	
	Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	
	High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5	26683/ 1914.3	
	Band 26	Frequency range: 814 - 849 MHz (BW = 35 MHz)						
		Channel Bandwidth						
		20 MHz	15 MHz ¹	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 (BW = 10 MHz)						
		Channel Bandwidth						
		20 MHz	15 MHz	10 MHz ¹	5 MHz ¹	3 MHz	1.4 MHz	
	Low				27685/ 2307.5			
	Mid			27710/ 2310	27710/ 2310			
	High				27735/ 2312.5			
	Band 41 ²	Frequency range: 2496 - 2690 MHz (BW = 194 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 48	Frequency range: 3550 - 3700 MHz (BW = 150 MHz)						
		Channel Bandwidth						
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
	Low	55340/ 3560	55315/ 3557.5	55290/ 3555	55265/ 3552.5			
	Mid-Low	55773/ 3603.3	55765/ 3602.5	55757/ 3601.7	55748/ 3600.8			
	Mid-High	56207/ 3646.7	56215/ 3647.5	56223/ 3648.3	56232/ 3649.2			
	High	56640/ 3690	56665/ 3692.5	56690/ 3695	56715/ 3697.5			
	Band 66	Frequency range: 1710 - 1780 MHz (BW = 70 MHz)						
		Channel Bandwidth						
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
	Low	132072/ 1720	132047/ 1717.5	132022/ 1715	131997/ 1712.5	131987/ 1711.5	131979/ 1710.7	
	Mid	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	
	High	132572/ 1770	132597/ 1772.5	132622/ 1775	132647/ 1777.5	132657/ 1778.5	132665/ 1779.3	
	LTE transmitter and antenna implementation		LTE can transmit from either LAT 1 and UAT 1(except for LTE B48) and UAT 2(LTE B48 only) Then 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 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3 <table><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table> MPR Built-in by design The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values. A-MPR (additional MPR) was disabled during SAR testing	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
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:

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

6.4. LTE (TDD) Considerations

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

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

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

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

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

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

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

Note(s):

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

7. RF Exposure Conditions (Test Configurations)

This device has a total of 5 antennas. From Front of the device, antennas and supported frequencies are described and located as follows:

LAT 1 (Primary Cellular Antenna) - located all along the bottom of the device.

UAT 1 (Secondary Cellular Antenna (699 – 2700 MHz only), Wi-Fi 2.4 GHz, and Bluetooth) - located all along the top of the device.

UAT 2 (Secondary Cellular 3.4 GHz Antenna (only) and Wi-Fi 5GHz Bands) – located at the upper left corner of the device.

LAT 3 (Wi-Fi 2.4/5 GHz Bands and Bluetooth) – located at the lower right corner of the device.

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.

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/Hotspot	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	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	
Wi-Fi 2.4/5 GHz 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/Hotspot	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Edge 1 (Top)	> 25 mm	No	1
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	< 25 mm	Yes	
			Edge 4 (Left)	< 25 mm	Yes	

Note(s):

- SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
- 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.

Upper Antenna

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN and Wi-Fi 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/Hotspot	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	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	
LTE B48/ Wi-Fi 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/Hotspot	5 mm	Rear	< 25 mm	Yes	2
			Front	< 25 mm	Yes	2
	Hotspot	5 mm	Edge 1 (Top)	< 25 mm	Yes	
			Edge 2 (Right)	> 25 mm	No	1
			Edge 3 (Bottom)	> 25 mm	No	1
			Edge 4 (Left)	< 25 mm	Yes	

Note(s):

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. 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 $\leq 3\text{ GHz}$.

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	1/14/2020	2600	Head	2600	38.09	39.01	-2.36	1.94	1.96	-1.03
				2495	38.25	39.14	-2.28	1.84	1.85	-0.25
				2690	37.95	38.90	-2.44	2.01	2.06	-2.40
A	1/15/2020	2600	Body	2600	51.47	52.51	-1.98	2.14	2.16	-0.82
				2495	51.74	52.64	-1.72	2.01	2.01	-0.21
				2690	51.20	52.40	-2.29	2.25	2.29	-1.59
A	1/20/2020	2600	Head	2600	37.51	39.01	-3.85	1.92	1.96	-2.05
				2495	37.67	39.14	-3.76	1.83	1.85	-1.28
				2690	37.34	38.90	-4.00	2.00	2.06	-3.08
A	1/20/2020	2600	Body	2600	50.31	52.51	-4.19	2.18	2.16	0.98
				2495	50.59	52.64	-3.90	2.05	2.01	1.58
				2690	49.97	52.40	-4.63	2.30	2.29	0.38
A	1/24/2020	2600	Body	2600	52.45	52.51	-0.12	2.22	2.16	2.92
				2495	52.73	52.64	0.16	2.09	2.01	3.86
				2690	52.17	52.40	-0.43	2.34	2.29	2.26
A	1/25/2020	2600	Head	2600	38.77	39.01	-0.62	1.90	1.96	-3.12
				2495	38.93	39.14	-0.54	1.78	1.81	-1.44
				2690	38.59	38.90	-0.79	1.98	2.06	-4.10
A	1/27/2020	2450	Head	2450	38.75	39.20	-1.15	1.80	1.80	-0.28
				2400	38.82	39.30	-1.21	1.76	1.75	0.25
				2480	38.76	39.16	-1.03	1.82	1.83	-0.84
A	1/27/2020	2450	Body	2450	53.84	52.70	2.16	2.00	1.95	2.31
				2400	53.94	52.77	2.21	1.94	1.90	2.21
				2480	53.81	52.66	2.18	2.03	1.99	1.65
A	1/28/2020	2600	Head	2600	38.43	39.01	-1.49	1.94	1.96	-0.98
				2495	38.57	39.14	-1.46	1.85	1.85	0.07
				2690	38.25	38.90	-1.66	2.02	2.06	-2.01
A	1/29/2020	3500 & 3700	Body	3500	50.95	51.32	-0.73	3.21	3.31	-3.26
				3600	50.69	51.19	-0.97	3.34	3.43	-2.52
				3700	50.38	51.05	-1.32	3.48	3.55	-1.83
A	1/31/2020	2450	Head	2450	38.88	39.20	-0.82	1.75	1.80	-3.00
				2400	38.94	39.30	-0.91	1.71	1.75	-2.32
				2480	38.88	39.16	-0.72	1.77	1.83	-3.63
A	1/31/2020	2450	Body	2450	52.75	52.70	0.09	2.03	1.95	4.15
				2400	52.89	52.77	0.22	1.98	1.90	4.11
				2480	52.72	52.66	0.11	2.06	1.99	3.61

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
B	1/13/2020	1750	Head	1750	38.17	40.08	-4.78	1.38	1.37	0.95
				1710	38.20	40.15	-4.85	1.36	1.35	1.01
				1755	38.15	40.08	-4.81	1.39	1.37	0.96
B	1/13/2020	1750	Body	1750	50.91	53.44	-4.74	1.52	1.49	2.48
				1710	51.02	53.54	-4.71	1.48	1.46	1.13
				1755	50.88	53.43	-4.77	1.53	1.49	2.60
B	1/17/2020	1750	Head	1750	42.01	40.08	4.80	1.32	1.37	-3.72
				1710	41.99	40.15	4.59	1.29	1.35	-4.04
				1755	42.01	40.08	4.82	1.32	1.37	-3.70
B	1/17/2020	1750	Body	1750	53.52	53.44	0.15	1.48	1.49	-0.14
				1710	53.57	53.54	0.05	1.44	1.46	-1.61
				1755	53.51	53.43	0.15	1.49	1.49	0.12
B	1/21/2020	1750	Head	1750	39.71	40.08	-0.93	1.34	1.37	-1.82
				1710	39.77	40.15	-0.94	1.32	1.35	-1.96
				1755	39.70	40.08	-0.94	1.35	1.37	-1.88
B	1/21/2020	1750	Body	1750	51.33	53.44	-3.95	1.53	1.49	2.61
				1710	51.49	53.54	-3.84	1.48	1.46	1.33
				1755	51.31	53.43	-3.96	1.53	1.49	2.80
B	1/23/2020	2600	Head	2600	37.70	39.01	-3.36	1.96	1.96	-0.21
				2495	37.84	39.14	-3.33	1.87	1.85	0.88
				2690	37.53	38.90	-3.52	2.03	2.06	-1.33
B	1/28/2020	1750	Head	1750	38.29	40.08	-4.48	1.36	1.37	-0.87
				1710	38.30	40.15	-4.60	1.33	1.35	-0.92
				1755	38.27	40.08	-4.51	1.36	1.37	-0.86
B	1/28/2020	1750	Body	1750	52.86	53.44	-1.09	1.52	1.49	2.41
				1710	52.96	53.54	-1.09	1.47	1.46	0.72
				1755	52.84	53.43	-1.10	1.53	1.49	2.60

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
D	1/14/2020	1900	Head	1900	39.19	40.00	-2.03	1.44	1.40	2.93
				1850	39.42	40.00	-1.45	1.39	1.40	-0.64
				1920	39.13	40.00	-2.17	1.47	1.40	4.64
D	1/14/2020	1900	Body	1900	53.45	53.30	0.28	1.53	1.52	0.86
				1850	53.59	53.30	0.54	1.48	1.52	-2.43
				1920	53.41	53.30	0.21	1.56	1.52	2.30
D	1/18/2020	1900	Head	1900	41.60	40.00	4.00	1.44	1.40	3.14
				1850	41.80	40.00	4.50	1.39	1.40	-0.86
				1920	41.53	40.00	3.83	1.47	1.40	4.93
D	1/18/2020	1900	Body	1900	54.00	53.30	1.31	1.57	1.52	3.09
				1850	54.15	53.30	1.59	1.51	1.52	-0.59
				1920	53.95	53.30	1.22	1.60	1.52	4.93
D	1/22/2020	1900	Head	1900	38.37	40.00	-4.08	1.45	1.40	3.43
				1850	38.60	40.00	-3.50	1.40	1.40	0.14
				1920	38.29	40.00	-4.28	1.47	1.40	5.00
D	1/22/2020	1900	Body	1900	54.41	53.30	2.08	1.57	1.52	3.22
				1850	54.50	53.30	2.25	1.52	1.52	-0.07
				1920	54.40	53.30	2.06	1.59	1.52	4.67
D	1/24/2020	1900	Head	1900	41.27	40.00	3.18	1.39	1.40	-0.50
				1850	41.45	40.00	3.63	1.34	1.40	-4.14
				1920	41.21	40.00	3.03	1.42	1.40	1.14
D	1/24/2020	3500 & 3700	Head	3500	38.47	37.93	1.42	2.97	2.91	2.01
				3600	38.16	37.82	0.91	3.08	3.01	2.26
				3700	37.81	37.70	0.29	3.20	3.12	2.53
D	1/28/2020	3500 & 3700	Head	3500	38.06	37.93	0.34	3.01	2.91	3.35
				3600	37.78	37.82	-0.09	3.12	3.01	3.55
				3700	37.45	37.70	-0.67	3.24	3.12	3.81

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
E	1/13/2020	2450	Head	2450	39.02	39.20	-0.46	1.89	1.80	4.78
				2400	39.21	39.30	-0.22	1.83	1.75	4.36
				2480	38.94	39.16	-0.57	1.92	1.83	4.89
E	1/13/2020	2450	Body	2450	50.53	52.70	-4.12	1.96	1.95	0.41
				2400	50.71	52.77	-3.91	1.89	1.90	-0.26
				2480	50.46	52.66	-4.18	2.00	1.99	0.24
E	1/16/2020	2300	Head	2300	39.23	39.47	-0.61	1.69	1.66	1.52
				2350	39.00	39.38	-0.98	1.74	1.71	1.83
				2400	38.81	39.30	-1.24	1.80	1.75	2.65
E	1/16/2020	2300	Body	2300	50.89	52.90	-3.81	1.82	1.80	0.97
				2350	50.71	52.84	-4.03	1.88	1.85	1.53
				2400	50.51	52.77	-4.29	1.95	1.90	2.53
E	1/20/2020	2300	Head	2300	39.35	39.47	-0.31	1.71	1.66	2.84
				2350	39.14	39.38	-0.62	1.77	1.71	3.41
				2400	38.89	39.30	-1.03	1.82	1.75	4.07
E	1/20/2020	2300	Body	2300	51.44	52.90	-2.77	1.77	1.80	-1.75
				2350	51.26	52.84	-2.99	1.83	1.85	-0.91
				2400	51.01	52.77	-3.34	1.90	1.90	0.10
E	1/20/2020	2450	Head	2450	38.67	39.20	-1.35	1.88	1.80	4.56
				2400	38.89	39.30	-1.03	1.82	1.75	4.07
				2480	38.60	39.16	-1.44	1.92	1.83	4.56
E	1/20/2020	2450	Body	2450	50.84	52.70	-3.53	1.97	1.95	0.82
				2400	51.01	52.77	-3.34	1.90	1.90	0.10
				2480	50.78	52.66	-3.57	2.00	1.99	0.54
E	1/24/2020	2450	Head	2450	38.68	39.20	-1.33	1.84	1.80	2.00
				2400	38.89	39.30	-1.03	1.78	1.75	1.73
				2480	38.58	39.16	-1.49	1.87	1.83	2.16
E	1/24/2020	2450	Body	2450	51.34	52.70	-2.58	2.01	1.95	3.08
				2400	51.55	52.77	-2.32	1.95	1.90	2.58
				2480	51.25	52.66	-2.68	2.05	1.99	3.00
E	1/28/2020	2450	Head	2450	38.55	39.20	-1.66	1.87	1.80	4.11
				2400	38.77	39.30	-1.34	1.82	1.75	3.85
				2480	38.47	39.16	-1.77	1.91	1.83	4.34
E	1/28/2020	2450	Body	2450	51.75	52.70	-1.80	2.01	1.95	2.82
				2400	51.93	52.77	-1.60	1.94	1.90	2.16
				2480	51.68	52.66	-1.87	2.05	1.99	2.70

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
F	1/13/2020	5250	Head	5250	35.15	35.93	-2.18	4.67	4.70	-0.70
				5150	35.45	36.05	-1.66	4.55	4.60	-1.02
				5350	34.96	35.82	-2.40	4.81	4.80	0.05
F	1/13/2020	5250	Body	5250	48.17	48.95	-1.60	5.54	5.35	3.51
				5150	48.44	49.09	-1.32	5.38	5.24	2.78
				5350	48.01	48.82	-1.65	5.72	5.47	4.56
F	1/17/2020	5250	Head	5250	36.98	35.93	2.91	4.52	4.70	-3.85
				5150	37.15	36.05	3.06	4.41	4.60	-4.13
				5350	36.72	35.82	2.52	4.64	4.80	-3.40
F	1/17/2020	5250	Body	5250	46.64	48.95	-4.72	5.40	5.35	0.84
				5150	46.78	49.09	-4.70	5.29	5.24	0.99
				5350	46.39	48.82	-4.97	5.53	5.47	1.18
F	1/21/2020	5250	Head	5250	37.31	35.93	3.83	4.55	4.70	-3.24
				5150	37.52	36.05	4.09	4.43	4.60	-3.60
				5350	37.16	35.82	3.74	4.66	4.80	-3.11
F	1/21/2020	5250	Body	5250	46.64	48.95	-4.72	5.40	5.35	0.84
				5150	46.92	49.09	-4.42	5.36	5.24	2.38
				5350	46.56	48.82	-4.62	5.64	5.47	3.19
F	1/27/2020	5250	Head	5250	35.23	35.93	-1.96	4.51	4.70	-4.00
				5150	35.39	36.05	-1.82	4.40	4.60	-4.41
				5350	35.03	35.82	-2.20	4.64	4.80	-3.38
F	1/27/2020	5250	Body	5250	48.93	48.95	-0.04	5.46	5.35	2.04
				5150	49.02	49.09	-0.14	5.31	5.24	1.31
				5350	48.71	48.82	-0.22	5.60	5.47	2.44
F	1/29/2020	2450	Head	2450	38.50	39.20	-1.79	1.82	1.80	1.00
				2400	38.57	39.30	-1.85	1.78	1.75	1.56
				2480	38.52	39.16	-1.64	1.84	1.83	0.36
F	1/31/2020	5250	Body	5250	48.44	48.95	-1.05	5.51	5.35	2.90
				5150	48.70	49.09	-0.79	5.36	5.24	2.44
				5350	48.26	48.82	-1.14	5.62	5.47	2.75

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
G	1/13/2020	5600	Head	5600	36.99	35.53	4.10	5.11	5.06	0.92
				5500	37.14	35.65	4.19	5.01	4.96	1.05
				5725	36.79	35.39	3.95	5.25	5.19	1.10
G	1/13/2020	5600	Body	5600	47.52	48.48	-1.98	5.94	5.76	3.02
				5500	47.75	48.61	-1.78	5.79	5.64	2.49
				5725	47.26	48.31	-2.17	6.13	5.91	3.76
G	1/17/2020	5600	Head	5600	35.49	35.53	-0.12	4.81	5.06	-4.98
				5500	35.63	35.65	-0.05	4.74	4.96	-4.46
				5725	35.31	35.39	-0.23	4.94	5.19	-4.73
G	1/17/2020	5600	Body	5600	46.53	48.48	-4.02	5.83	5.76	1.20
				5500	46.67	48.61	-4.00	5.69	5.64	0.72
				5725	46.27	48.31	-4.22	6.02	5.91	1.99
G	1/21/2020	5600	Head	5600	36.22	35.53	1.93	4.99	5.06	-1.37
				5500	36.41	35.65	2.14	4.88	4.96	-1.63
				5725	36.04	35.39	1.83	5.16	5.19	-0.62
G	1/21/2020	5600	Body	5600	47.21	48.48	-2.62	5.77	5.76	0.12
				5500	47.42	48.61	-2.45	5.61	5.64	-0.56
				5725	47.00	48.31	-2.71	5.97	5.91	1.04
G	1/27/2020	5600	Head	5600	36.47	35.53	2.63	5.05	5.06	-0.26
				5500	36.63	35.65	2.75	4.92	4.96	-0.70
				5725	36.28	35.39	2.51	5.20	5.19	0.15
G	1/27/2020	5600	Body	5600	47.42	48.48	-2.18	5.79	5.76	0.57
				5500	47.58	48.61	-2.13	5.65	5.64	0.15
				5725	47.21	48.31	-2.27	5.98	5.91	1.29
G	1/27/2020	5800	Head	5800	36.08	35.30	2.21	5.26	5.27	-0.13
				5700	36.24	35.42	2.32	5.17	5.16	0.14
				5850	36.13	35.30	2.35	5.32	5.27	0.91
G	1/27/2020	5800	Body	5800	47.10	48.20	-2.28	6.09	6.00	1.57
				5700	47.27	48.34	-2.22	5.95	5.88	1.20
				5850	47.00	48.20	-2.49	6.15	6.00	2.48
G	1/31/2020	5600	Head	5600	37.01	35.53	4.15	4.90	5.06	-3.23
				5500	37.18	35.65	4.30	4.79	4.96	-3.39
				5725	36.82	35.39	4.04	5.05	5.19	-2.70
G	1/31/2020	5600	Body	5600	47.81	48.48	-1.38	5.58	5.76	-3.23
				5500	48.01	48.61	-1.24	5.43	5.64	-3.82
				5725	47.57	48.31	-1.53	5.76	5.91	-2.47
G	1/31/2020	5800	Head	5800	36.71	35.30	3.99	5.09	5.27	-3.38
				5700	36.81	35.42	3.92	5.00	5.16	-3.15
				5850	36.67	35.30	3.88	5.18	5.27	-1.78
G	1/31/2020	5800	Body	5800	47.41	48.20	-1.64	5.82	6.00	-2.98
				5700	47.54	48.34	-1.66	5.70	5.88	-3.02
				5850	47.40	48.20	-1.66	5.94	6.00	-1.03

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
H	1/13/2020	5750	Head	5750	35.76	35.36	1.12	5.25	5.21	0.70
				5700	35.81	35.42	1.10	5.22	5.16	1.05
				5850	35.58	35.30	0.79	5.37	5.27	1.92
H	1/13/2020	5750	Body	5750	46.35	48.27	-3.99	5.78	5.94	-2.58
				5700	46.58	48.34	-3.65	5.67	5.88	-3.60
				5850	46.20	48.20	-4.15	5.88	6.00	-2.00
H	1/17/2020	5750	Head	5750	35.04	35.36	-0.91	5.00	5.21	-4.18
				5700	35.17	35.42	-0.71	4.92	5.16	-4.78
				5850	34.87	35.30	-1.22	5.09	5.27	-3.42
H	1/17/2020	5750	Body	5750	48.80	48.27	1.09	5.69	5.94	-4.09
				5700	48.87	48.34	1.09	5.62	5.88	-4.47
				5850	48.62	48.20	0.87	5.82	6.00	-2.97
H	1/20/2020	2450	Head	2450	39.16	39.20	-0.10	1.82	1.80	1.33
				2400	39.23	39.30	-0.17	1.79	1.75	1.90
				2480	39.14	39.16	-0.06	1.85	1.83	0.74
H	1/21/2020	5750	Head	5750	36.17	35.36	2.28	5.18	5.21	-0.57
				5700	36.34	35.42	2.60	5.11	5.16	-1.02
				5850	36.07	35.30	2.18	5.28	5.27	0.21
H	1/21/2020	5750	Body	5750	50.00	48.27	3.57	5.71	5.94	-3.84
				5700	50.16	48.34	3.76	5.64	5.88	-4.06
				5850	49.86	48.20	3.44	5.83	6.00	-2.92
H	1/25/2020	3500 & 3700	Body	3500	50.71	51.32	-1.19	3.27	3.31	-1.35
				3600	50.44	51.19	-1.46	3.40	3.43	-0.77
				3700	50.16	51.05	-1.75	3.54	3.55	-0.11
H	1/29/2020	3500 & 3700	Body	3500	51.75	51.32	0.83	3.34	3.31	0.82
				3600	51.45	51.19	0.51	3.48	3.43	1.59
				3700	51.13	51.05	0.15	3.63	3.55	2.31
H	1/31/2020	5250	Head	5250	35.25	35.93	-1.90	4.87	4.70	3.57
				5150	35.45	36.05	-1.66	4.73	4.60	2.74
				5350	34.97	35.82	-2.37	5.01	4.80	4.19
H	1/31/2020	5250	Body	5250	48.69	48.95	-0.53	5.30	5.35	-0.93
				5150	48.83	49.09	-0.52	5.13	5.24	-1.96
				5350	48.44	48.82	-0.77	5.47	5.47	-0.08

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
5	1/7/2020	835	Head	835	42.78	41.50	3.08	0.92	0.90	2.16
				805	43.19	41.68	3.62	0.89	0.90	-0.73
				850	42.57	41.50	2.58	0.93	0.92	2.00
5	1/7/2020	835	Body	835	53.46	55.20	-3.15	0.96	0.97	-1.43
				805	53.80	55.33	-2.77	0.92	0.97	-4.42
				850	53.27	55.16	-3.42	0.97	0.99	-1.59
5	1/13/2020	835	Head	835	42.25	41.50	1.81	0.93	0.90	3.32
				805	42.63	41.68	2.28	0.90	0.90	0.57
				850	42.07	41.50	1.37	0.94	0.92	3.11
5	1/13/2020	835	Body	835	53.37	55.20	-3.32	0.98	0.97	0.88
				805	53.67	55.33	-3.01	0.95	0.97	-2.30
				850	53.24	55.16	-3.48	0.99	0.99	0.74
5	1/17/2020	835	Head	835	39.99	41.50	-3.64	0.91	0.90	1.22
				805	40.38	41.68	-3.12	0.88	0.90	-1.44
				850	39.82	41.50	-4.05	0.92	0.92	1.02
5	1/17/2020	835	Body	835	53.57	55.20	-2.95	0.96	0.97	-1.21
				805	53.82	55.33	-2.74	0.93	0.97	-3.97
				850	53.44	55.16	-3.11	0.97	0.99	-1.51
5	1/21/2020	2300	Head	2300	38.69	39.47	-1.98	1.73	1.66	3.80
				2350	38.59	39.38	-2.02	1.77	1.71	3.53
				2400	38.53	39.30	-1.95	1.81	1.75	3.05
5	1/21/2020	2300	Body	2300	50.43	52.90	-4.68	1.86	1.80	3.24
				2350	50.34	52.84	-4.73	1.90	1.85	2.50
				2400	50.21	52.77	-4.86	1.95	1.90	2.58
5	1/24/2020	835	Head	835	40.41	41.50	-2.63	0.93	0.90	3.38
				805	40.52	41.68	-2.78	0.92	0.90	2.52
				850	40.34	41.50	-2.80	0.94	0.92	2.33
5	1/24/2020	835	Body	835	52.99	55.20	-4.00	1.00	0.97	3.30
				805	53.06	55.33	-4.11	0.99	0.97	2.75
				850	52.88	55.16	-4.13	1.01	0.99	2.11
5	1/26/2020	2600	Head	2600	37.78	39.01	-3.16	1.90	1.96	-3.42
				2495	37.91	39.14	-3.15	1.82	1.85	-1.33
				2690	37.62	38.90	-3.28	1.99	2.06	-3.52
5	1/26/2020	2600	Body	2600	51.13	52.51	-2.63	2.14	2.16	-1.06
				2495	51.28	52.64	-2.59	2.04	2.01	1.53
				2690	50.96	52.40	-2.74	2.24	2.29	-2.24
5	1/29/2020	2450	Head	2450	37.40	39.20	-4.59	1.73	1.80	-4.00
				2400	37.47	39.30	-4.65	1.67	1.75	-4.43
				2480	37.35	39.16	-4.63	1.75	1.83	-4.72
5	1/29/2020	2450	Body	2450	53.67	52.70	1.84	1.97	1.95	0.87
				2400	53.71	52.77	1.78	1.92	1.90	1.05
				2480	53.58	52.66	1.74	1.99	1.99	-0.11
5	1/30/2020	2300	Head	2300	37.97	39.47	-3.81	1.63	1.66	-1.79
				2350	37.99	39.38	-3.54	1.68	1.71	-1.56
				2400	37.87	39.30	-3.63	1.70	1.75	-3.01
5	1/30/2020	2300	Body	2300	50.85	52.90	-3.88	1.87	1.80	3.80
				2350	50.92	52.84	-3.63	1.93	1.85	4.23
				2400	50.77	52.77	-3.79	1.94	1.90	2.26

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
					Measured	Target	Delta	Measured	Target	Delta
6	1/7/2020	750	Head	750	42.05	41.96	0.21	0.90	0.89	0.88
				660	43.44	42.42	2.40	0.82	0.89	-7.41
				800	41.48	41.71	-0.54	0.95	0.90	5.76
6	1/7/2020	750	Body	750	55.17	55.55	-0.68	0.92	0.96	-4.35
				700	55.92	55.74	0.33	0.87	0.96	-8.84
				800	54.80	55.35	-1.00	0.97	0.97	0.60
6	1/8/2020	750	Head	750	42.64	41.96	1.62	0.94	0.89	4.69
				660	43.82	42.42	3.29	0.86	0.89	-3.47
				800	41.85	41.71	0.35	0.98	0.90	9.81
6	1/8/2020	750	Body	750	58.73	55.55	5.73	0.95	0.96	-1.29
				660	59.67	55.89	6.76	0.87	0.96	-8.69
				800	58.15	55.35	5.05	1.00	0.97	3.63
6	1/9/2020	750	Head	750	42.01	41.96	0.12	0.91	0.89	1.45
				660	43.68	42.42	2.96	0.83	0.89	-5.82
				800	41.20	41.71	-1.21	0.93	0.90	3.81
6	1/9/2020	750	Body	750	51.88	55.55	-6.60	1.00	0.96	3.83
				660	53.62	55.89	-4.07	0.91	0.96	-4.99
				800	51.28	55.35	-7.36	1.05	0.97	8.70
6	1/13/2929	750	Head	750	40.93	41.96	-2.46	0.94	0.89	5.28
				660	41.70	42.42	-1.70	0.89	0.89	0.61
				800	40.36	41.71	-3.23	0.98	0.90	9.55
6	1/13/2020	750	Body	750	54.12	55.55	-2.57	1.01	0.96	5.18
				660	54.96	55.89	-1.67	0.93	0.96	-2.55
				800	53.68	55.35	-3.02	1.06	0.97	9.63
6	1/14/2020	750	Head	750	42.45	41.96	1.16	0.88	0.89	-1.55
				660	43.55	42.42	2.66	0.80	0.89	-9.80
				800	41.75	41.71	0.11	0.92	0.90	3.03
6	1/14/2020	750	Body	750	60.49	55.55	8.90	0.95	0.96	-1.81
				660	61.21	55.89	9.51	0.86	0.96	-9.66
				800	59.94	55.35	8.29	0.99	0.97	1.90
6	1/15/2020	750	Head	750	57.15	55.55	2.89	0.94	0.96	-2.14
				660	57.98	55.89	3.74	0.87	0.96	-9.52
				800	53.36	55.35	-3.60	0.99	0.97	2.51
6	1/15/2020	750	Body	750	40.49	41.96	-3.51	0.88	0.89	-1.03
				660	41.92	42.42	-1.19	0.80	0.89	-9.76
				800	39.79	41.71	-4.59	0.93	0.90	3.87
6	1/17/2020	750	Head	750	40.93	41.96	-2.46	0.91	0.89	1.93
				660	41.39	42.42	-2.44	0.88	0.89	-0.53
				800	40.58	41.71	-2.70	0.92	0.90	3.01
6	1/17/2020	750	Body	750	53.99	55.55	-2.80	0.94	0.96	-1.91
				660	55.00	55.89	-1.60	0.92	0.96	-4.05
				800	54.29	55.35	-1.92	0.96	0.97	-0.94
6	1/20/2020	1900	Head	1900	38.48	40.00	-3.80	1.45	1.40	3.29
				1850	38.51	40.00	-3.73	1.41	1.40	0.50
				1920	38.48	40.00	-3.80	1.45	1.40	3.86
6	1/20/2020	1900	Body	1900	52.10	53.30	-2.25	1.58	1.52	4.14
				1850	52.08	53.30	-2.29	1.54	1.52	1.32
				1920	52.06	53.30	-2.33	1.59	1.52	4.54
6	1/22/2020	2600	Head	2600	37.57	39.01	-3.69	1.92	1.96	-2.30
				2495	38.06	39.14	-2.77	1.80	1.85	-2.63
				2690	37.59	38.90	-3.36	2.03	2.06	-1.53
6	1/22/2020	2600	Body	2600	52.73	52.51	0.42	2.15	2.16	-0.59
				2495	52.93	52.64	0.54	2.05	2.01	1.78
				2690	52.51	52.40	0.22	2.22	2.29	-2.99
6	1/23/2020	750	Body	750	54.47	55.55	-1.94	0.97	0.96	0.56
				660	53.11	55.89	-4.98	0.94	0.96	-2.06
				800	53.16	55.35	-3.96	0.99	0.97	2.39
6	1/26/2020	2600	Head	2600	38.93	39.01	-0.21	1.89	1.96	-3.63
				2495	39.07	39.14	-0.19	1.81	1.85	-2.04
				2690	38.76	38.90	-0.35	1.96	2.06	-4.73
6	1/26/2020	2600	Body	2600	50.34	52.51	-4.13	2.13	2.16	-1.24
				2495	50.48	52.64	-4.11	2.04	2.01	1.33
				2690	50.17	52.40	-4.25	2.23	2.29	-2.72

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 $\pm$ 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 $\geq$ 15.0 cm for SAR measurements $\leq$ 3 GHz and $\geq$ 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 $\pm 10\%$ of the manufacturer calibrated dipole SAR target. Refer to Appendix B for the SAR System Check Plots.

SAR Lab	Date	Tissue Type	Dipole Type_Serial #	Dipole Cal. Due Date	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1W	Target (Ref. Value)	Delta $\pm 10\%$	Zoom Scan to 100 mW	Normalize to 1W	Target (Ref. Value)	Delta $\pm 10\%$	
A	1/14/2020	Head	D2600V2 SN:1006	10/14/2020	5.470	54.70	55.70	-1.80	2.440	24.40	25.10	-2.79	
A	1/15/2020	Body	D2600V2 SN:1006	10/14/2020	5.680	56.80	53.90	5.38	2.520	25.20	24.20	4.13	1,2
A	1/20/2020	Head	D2600V2 SN:1006	10/14/2020	5.530	55.30	55.70	-0.72	2.480	24.80	25.10	-1.20	
A	1/20/2020	Body	D2600V2 SN:1006	10/14/2020	5.210	52.10	53.90	-3.34	2.230	22.30	24.20	-7.85	
A	1/24/2020	Body	D2600V2 SN:1006	10/14/2020	5.300	53.00	53.90	-1.67	2.260	22.60	24.20	-6.61	
A	1/25/2020	Head	D2600V2 SN:1006	10/14/2020	5.730	57.30	55.70	2.87	2.570	25.70	25.10	2.39	
A	1/27/2020	Head	D2450V2 SN:748	2/16/2020	5.180	51.80	52.00	-0.38	2.400	24.00	24.20	-0.83	
A	1/27/2020	Body	D2450V2 SN:748	2/16/2020	5.030	50.30	53.30	-5.63	2.270	22.70	23.60	-3.81	
A	1/28/2020	Head	D2600V2 SN:1006	10/14/2020	5.690	56.90	55.70	2.15	2.560	25.60	25.10	1.99	
A	1/28/2020	Body	D2600V2 SN:1006	10/14/2020	5.460	54.60	53.90	1.30	2.450	24.50	24.20	1.24	
A	1/29/2020	Body	D3500V2 SN:1011	5/13/2020	6.520	65.20	66.00	-1.21	2.450	24.50	24.40	0.41	3,4
A	1/29/2020	Body	D3700V2 SN:1039	6/12/2020	6.400	64.00	62.90	1.75	2.390	23.90	22.50	6.22	5,6
A	1/31/2020	Head	D2450V2 SN:748	2/16/2020	4.890	48.90	52.00	-5.96	2.260	22.60	24.20	-6.61	7,8
A	1/31/2020	Body	D2450V2 SN:748	2/16/2020	5.020	50.20	53.30	-5.82	2.280	22.80	23.60	-3.39	
B	1/13/2020	Head	D1750V2 SN:1077	10/10/2020	3.700	37.00	37.00	0.00	1.960	19.60	19.40	1.03	
B	1/13/2020	Body	D1750V2 SN:1077	10/10/2020	3.910	39.10	36.90	5.96	2.060	20.60	19.70	4.57	
B	1/17/2020	Head	D1750V2 SN:1077	10/10/2020	3.660	36.60	37.00	-1.08	1.940	19.40	19.40	0.00	
B	1/17/2020	Body	D1750V2 SN:1077	10/10/2020	3.970	39.70	36.90	7.59	2.100	21.00	19.70	6.60	
B	1/21/2020	Head	D1750V2 SN:1077	10/10/2020	3.860	38.60	37.00	4.32	2.040	20.40	19.40	5.15	
B	1/21/2020	Body	D1750V2 SN:1077	10/10/2020	4.050	40.50	36.90	9.76	2.130	21.30	19.70	8.12	9,10
B	1/23/2020	Head	D2600V2 SN:1006	10/14/2020	5.860	58.60	55.70	5.21	2.620	26.20	25.10	4.38	11,12
B	1/28/2020	Head	D1750V2 SN:1077	10/10/2020	3.490	34.90	37.00	-5.68	1.850	18.50	19.40	-4.64	
B	1/28/2020	Body	D1750V2 SN:1077	10/10/2020	3.790	37.90	36.90	2.71	1.990	19.90	19.70	1.02	
D	1/14/2020	Head	D1900V2 SN:5d163	10/14/2020	4.120	41.20	40.30	2.23	2.130	21.30	21.10	0.95	
D	1/14/2020	Body	D1900V2 SN:5d163	10/14/2020	3.770	37.70	39.70	-5.04	1.940	19.40	20.90	-7.18	13,14
D	1/18/2020	Head	D1900V2 SN:5d163	10/14/2020	4.060	40.60	40.30	0.74	2.070	20.70	21.10	-1.90	
D	1/18/2020	Body	D1900V2 SN:5d163	10/14/2020	3.890	38.90	39.70	-2.02	2.010	20.10	20.90	-3.83	
D	1/22/2020	Head	D1900V2 SN:5d163	10/14/2020	4.010	40.10	40.30	-0.50	2.080	20.80	21.10	-1.42	
D	1/22/2020	Body	D1900V2 SN:5d163	10/14/2020	3.820	38.20	39.70	-3.78	1.980	19.80	20.90	-5.26	15,16
D	1/24/2020	Head	D1900V2 SN:5d163	10/14/2020	3.910	39.10	40.30	-2.98	2.090	20.90	21.10	-0.95	
D	1/24/2020	Head	D3500V2 SN:1011	5/13/2020	6.480	64.80	64.50	0.47	2.390	23.90	24.30	-1.65	
D	1/24/2020	Head	D3700V2 SN:1039	6/12/2020	6.410	64.10	66.50	-3.61	2.290	22.90	24.20	-5.37	17,18
D	1/28/2020	Head	D3500V2 SN:1011	5/13/2020	6.410	64.10	64.50	-0.62	2.360	23.60	24.30	-2.88	19,20
D	1/28/2020	Head	D3700V2 SN:1039	6/12/2020	6.720	67.20	66.50	1.05	2.380	23.80	24.20	-1.65	
E	1/13/2020	Head	D2450V2 SN:706	5/16/2020	5.350	53.50	51.60	3.68	2.410	24.10	24.00	0.42	
E	1/13/2020	Body	D2450V2 SN:706	5/16/2020	5.040	50.40	50.60	-0.40	2.310	23.10	23.80	-2.94	
E	1/16/2020	Head	D2300V2 SN:1058	10/14/2020	4.650	46.50	48.70	-4.52	2.170	21.70	23.70	-8.44	
E	1/16/2020	Body	D2300V2 SN:1058	10/14/2020	4.500	45.00	47.20	-4.66	2.130	21.30	22.90	-6.99	
E	1/20/2020	Head	D2300V2 SN:1058	10/14/2020	4.630	46.30	48.70	-4.93	2.150	21.50	23.70	-9.28	
E	1/20/2020	Body	D2300V2 SN:1058	10/14/2020	4.480	44.80	47.20	-5.08	2.110	21.10	22.90	-7.86	21,22
E	1/20/2020	Head	D2450V2 SN:748	2/16/2020	5.320	53.20	52.00	2.31	2.390	23.90	24.20	-1.24	
E	1/20/2020	Body	D2450V2 SN:748	2/16/2020	4.930	49.30	53.30	-7.50	2.240	22.40	23.60	-5.08	23,24
E	1/24/2020	Head	D2450V2 SN:748	2/16/2020	5.420	54.20	52.00	4.23	2.460	24.60	24.20	1.65	
E	1/24/2020	Body	D2450V2 SN:748	2/16/2020	5.170	51.70	53.30	-3.00	2.390	23.90	23.60	1.27	
E	1/28/2020	Head	D2450V2 SN:706	5/16/2020	5.570	55.70	51.60	7.95	2.520	25.20	24.00	5.00	25,26
E	1/28/2020	Body	D2450V2 SN:706	5/16/2020	5.090	50.90	50.60	0.59	2.330	23.30	23.80	-2.10	

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 1W	Target (Ref. Value)	Delta $\pm 10\%$	Zoom Scan to 100 mW	Normalize to 1W	Target (Ref. Value)	Delta $\pm 10\%$	
F	1/13/2020	Head	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.990	79.90	80.80	-1.11	2.290	22.90	23.30	-1.72	
F	1/13/2020	Body	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.560	75.60	74.40	1.61	2.120	21.20	20.80	1.92	
F	1/17/2020	Head	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.460	74.60	80.80	-7.67	2.150	21.50	23.30	-7.73	
F	1/17/2020	Body	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.340	73.40	74.40	-1.34	2.050	20.50	20.80	-1.44	
F	1/21/2020	Head	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.870	78.70	80.80	-2.60	2.250	22.50	23.30	-3.43	
F	1/21/2020	Body	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.220	72.20	74.40	-2.96	2.020	20.20	20.80	-2.88	
F	1/27/2020	Head	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.790	77.90	80.80	-3.59	2.250	22.50	23.30	-3.43	
F	1/27/2020	Body	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	8.070	80.70	74.40	8.47	2.270	22.70	20.80	9.13	27,28
F	1/29/2020	Head	D2450V2 SN:706	5/16/2020	5.120	51.20	51.60	-0.78	2.370	23.70	24.00	-1.25	29,30
F	1/31/2020	Body	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.710	77.10	74.40	3.63	2.170	21.70	20.80	4.33	
G	1/13/2020	Head	D5GHzV2 SN:1168 (5.6 GHz)	11/23/2020	7.830	78.30	83.80	-6.56	2.200	22.00	23.70	-7.17	
G	1/13/2020	Body	D5GHzV2 SN:1168 (5.6 GHz)	11/23/2020	8.520	85.20	79.40	7.30	2.370	23.70	22.00	7.73	
G	1/17/2020	Head	D5GHzV2 SN:1168 (5.6 GHz)	11/23/2020	7.620	76.20	83.80	-9.07	2.150	21.50	23.70	-9.28	31,32
G	1/17/2020	Body	D5GHzV2 SN:1168 (5.6 GHz)	11/23/2020	8.230	82.30	79.40	3.65	2.300	23.00	22.00	4.55	
G	1/21/2020	Head	D5GHzV2 SN:1168 (5.6 GHz)	11/23/2020	8.050	80.50	83.80	-3.94	2.270	22.70	23.70	-4.22	
G	1/21/2020	Body	D5GHzV2 SN:1168 (5.6 GHz)	11/23/2020	8.430	84.30	79.40	6.17	2.340	23.40	22.00	6.36	
G	1/27/2020	Head	D5GHzV2 SN:1003 (5.60 GHz)	2/19/2020	7.900	79.00	82.70	-4.47	2.220	22.20	23.80	-6.72	
G	1/27/2020	Body	D5GHzV2 SN:1003 (5.60 GHz)	2/19/2020	8.510	85.10	79.30	7.31	2.360	23.60	22.30	5.83	
G	1/27/2020	Head	D5GHzV2 SN:1003 (5.85 GHz)	2/19/2020	7.860	78.60	83.50	-5.87	2.200	22.00	23.70	-7.17	
G	1/27/2020	Body	D5GHzV2 SN:1003 (5.85 GHz)	2/19/2020	8.300	83.00	78.40	5.87	2.300	23.00	21.70	5.99	
G	1/31/2020	Head	D5GHzV2 SN:1003 (5.60 GHz)	2/19/2020	7.930	79.30	82.70	-4.11	2.230	22.30	23.80	-6.30	
G	1/31/2020	Body	D5GHzV2 SN:1003 (5.60 GHz)	2/19/2020	8.540	85.40	79.30	7.69	2.370	23.70	22.30	6.28	33,34
G	1/31/2020	Head	D5GHzV2 SN:1003 (5.85 GHz)	2/19/2020	7.840	78.40	83.50	-6.11	2.200	22.00	23.70	-7.17	
G	1/31/2020	Body	D5GHzV2 SN:1003 (5.85 GHz)	2/19/2020	8.350	83.50	78.40	6.51	2.320	23.20	21.70	6.91	35,36
H	1/13/2020	Head	D5GHzV2 SN:1003 (5.75 GHz)	2/19/2020	8.310	83.10	80.70	2.97	2.360	23.60	23.00	2.61	
H	1/13/2020	Body	D5GHzV2 SN:1003 (5.75 GHz)	2/19/2020	7.940	79.40	76.20	4.20	2.280	22.80	21.40	6.54	
H	1/17/2020	Head	D5GHzV2 SN:1003 (5.75 GHz)	2/19/2020	7.890	78.90	80.70	-2.23	2.250	22.50	23.00	-2.17	
H	1/17/2020	Body	D5GHzV2 SN:1003 (5.75 GHz)	2/19/2020	7.040	70.40	76.20	-7.61	2.010	20.10	21.40	-6.07	
H	1/21/2020	Head	D5GHzV2 SN:1003 (5.75 GHz)	2/19/2020	7.370	73.70	80.70	-8.67	2.090	20.90	23.00	-9.13	
H	1/21/2020	Body	D5GHzV2 SN:1003 (5.75 GHz)	2/19/2020	6.880	68.80	76.20	-9.71	1.960	19.60	21.40	-8.41	37,38
H	1/25/2020	Body	D3500V2 SN:1011	5/13/2020	6.480	64.80	66.00	-1.82	2.510	25.10	24.40	2.87	
H	1/25/2020	Body	D3700V2 SN:1039	6/12/2020	6.370	63.70	62.90	1.27	2.380	23.80	22.50	5.78	
H	1/29/2020	Body	D3500V2 SN:1011	5/13/2020	6.720	67.20	66.00	1.82	2.530	25.30	24.40	3.69	39,40
H	1/29/2020	Body	D3700V2 SN:1039	6/12/2020	6.460	64.60	62.90	2.70	2.380	23.80	22.50	5.78	41,42
H	1/31/2020	Head	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.900	79.00	80.80	-2.23	2.250	22.50	23.30	-3.43	
H	1/31/2020	Body	D5GHzV2 SN:1003 (5.25 GHz)	2/19/2020	7.670	76.70	74.40	3.09	2.190	21.90	20.80	5.29	43,44

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 $\pm 10\%$	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta $\pm 10\%$	
5	1/7/2020	Head	D835V2 SN:4d142	8/23/2020	1.030	10.30	9.61	7.18	0.676	6.76	6.22	8.68	
5	1/7/2020	Body	D835V2 SN:4d142	8/23/2020	1.040	10.40	9.69	7.33	0.683	6.83	6.36	7.39	45,46
5	1/13/2020	Head	D835V2 SN:4d142	8/23/2020	0.963	9.63	9.61	0.21	0.632	6.32	6.22	1.61	
5	1/13/2020	Body	D835V2 SN:4d142	8/23/2020	0.965	9.65	9.69	-0.41	0.635	6.35	6.36	-0.16	
5	1/17/2020	Head	D835V2 SN:4d142	8/23/2020	1.000	10.00	9.61	4.06	0.658	6.58	6.22	5.79	
5	1/17/2020	Body	D835V2 SN:4d142	8/23/2020	0.994	9.94	9.69	2.58	0.652	6.52	6.36	2.52	
5	1/21/2020	Head	D2300V2 SN:1002	3/22/2020	4.960	49.60	48.30	2.69	2.360	23.60	23.30	1.29	47,48
5	1/21/2020	Body	D2300V2 SN:1002	3/22/2020	4.670	46.70	46.80	-0.21	2.170	21.70	22.60	-3.98	
5	1/24/2020	Head	D835V2 SN:4d142	8/23/2020	1.020	10.20	9.61	6.14	0.663	6.63	6.22	6.59	
5	1/24/2020	Body	D835V2 SN:4d142	8/23/2020	1.040	10.40	9.69	7.33	0.681	6.81	6.36	7.08	
5	1/26/2020	Head	D2600V2 SN:1036	3/22/2020	5.950	59.50	55.90	6.44	2.650	26.50	24.80	6.85	49,50
5	1/26/2020	Body	D2600V2 SN:1036	3/22/2020	5.690	56.90	53.90	5.57	2.530	25.30	23.90	5.86	
5	1/29/2020	Head	D2450V2 SN:899	3/22/2020	5.040	50.40	51.60	-2.33	2.340	23.40	24.10	-2.90	
5	1/29/2020	Body	D2450V2 SN:899	3/22/2020	5.230	52.30	50.00	4.60	2.380	23.80	23.50	1.28	51,52
5	1/30/2020	Head	D2300V2 SN:1058	10/14/2020	4.530	45.30	48.70	-6.98	2.150	21.50	23.70	-9.28	53,54
5	1/30/2020	Body	D2300V2 SN:1058	10/14/2020	4.960	49.60	47.20	5.08	2.350	23.50	22.90	2.62	
6	1/7/2020	Head	D750V3 SN:1024	5/15/2020	0.883	8.83	8.33	6.00	0.581	5.81	5.44	6.80	
6	1/7/2020	Body	D750V3 SN:1024	5/15/2020	0.891	8.91	8.67	2.77	0.594	5.94	5.72	3.85	
6	1/13/2020	Head	D750V3 SN:1024	5/15/2020	0.895	8.95	8.33	7.44	0.591	5.91	5.44	8.64	55,56
6	1/13/2020	Body	D750V3 SN:1024	5/15/2020	0.914	9.14	8.67	5.42	0.610	6.10	5.72	6.64	
6	1/17/2020	Head	D750V3 SN:1019	3/21/2020	0.859	8.59	8.29	3.62	0.567	5.67	5.44	4.23	
6	1/17/2020	Body	D750V3 SN:1019	3/21/2020	0.878	8.78	8.47	3.66	0.586	5.86	5.59	4.83	57,58
6	1/20/2020	Head	D1900V2 SN:5d043	11/20/2020	4.100	41.00	40.40	1.49	2.120	21.20	21.10	0.47	59,60
6	1/20/2020	Body	D1900V2 SN:5d043	11/20/2020	3.990	39.90	39.40	1.27	2.070	20.70	20.70	0.00	
6	1/22/2020	Head	D2600V2 SN:1036	3/22/2020	5.500	55.00	55.90	-1.61	2.440	24.40	24.80	-1.61	
6	1/22/2020	Body	D2600V2 SN:1036	3/22/2020	5.180	51.80	53.90	-3.90	2.240	22.40	23.90	-6.28	61,62
6	1/23/2020	Body	D750V3 SN:1019	3/21/2020	0.865	8.65	8.47	2.13	0.568	5.68	5.59	1.61	
6	1/26/2020	Head	D2600V2 SN:1006	10/14/2020	5.140	51.40	55.70	-7.72	2.720	27.20	25.10	8.37	63,64
6	1/26/2020	Body	D2600V2 SN:1006	10/14/2020	5.080	50.80	53.90	-5.75	2.600	26.00	24.20	7.44	

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.

The selection between antennas LAT 1, UAT 1, UAT 2, and LAT 3 in the application is based on RSSI based antenna selection. The full details of power selections are described in the operational description. Refer to Sec. 7 and 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.

The Tune-up limit already includes component tolerance of ± 0.5 dB for all modulations other than GSM which includes a ± 0.75 dB tolerance and LTE 2UL CA intra- band which includes a ± 1.0 dB tolerance. 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.

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

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

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

Per October 2013 TCB Workshop:

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

Maximum Output Power (Tune-up Limit) for GSM

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

RF Air interface	Mode	Maximum Output Power (Tune-up Limit) (dBm)			
		LAT 1		UAT 1	
		Mode A	Mode B	Mode A	Mode B
GSM850	Voice/GPRS (1 slot)	32.75	32.75	30.75	30.75
	GPRS 2 slots	31.75	31.75	29.75	29.75
	EGPRS 1 slot	27.25	27.25	25.25	25.25
	EGPRS 2 slots	26.25	26.25	24.25	24.25
GSM1900	Voice/GPRS (1 slot)	31.25	28.00	26.75	28.00
	GPRS 2 slots	30.25	25.00	23.75	25.00
	EGPRS 1 slot	26.25	26.25	23.75	23.75
	EGPRS 2 slots	25.25	24.75	22.75	22.75

GSM850 Measured Results (LAT 1)

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Power Mode A (dBm)				Power Mode B (dBm)			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	128	824.2	31.80	22.77	32.75	23.72	31.80	22.77	32.75	23.72
			190	836.6	31.80	22.77			31.80	22.77		
			251	848.8	31.80	22.77			31.80	22.77		
		2	128	824.2	31.75	25.73	31.75	25.73	31.75	25.73	31.75	25.73
			190	836.6	31.71	25.69			31.71	25.69		
			251	848.8	31.72	25.70			31.72	25.70		
EDGE (8PSK)	MCS5	1	128	824.2	26.42	17.39	27.25	18.22	26.42	17.39	27.25	18.22
			190	836.6	26.37	17.34			26.37	17.34		
			251	848.8	26.27	17.24			26.27	17.24		
		2	128	824.2	25.99	19.97	26.25	20.23	25.99	19.97	26.25	20.23
			190	836.6	25.84	19.82			25.84	19.82		
			251	848.8	25.77	19.75			25.77	19.75		

Notes:

Based on the Tune-up Procedure, GPRS/EDGE (GMSK) mode with 2 time slots for Mode A and Mode B have maximum frame-averaged power.

GSM850 Measured Results (UAT 1)

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Power Mode A (dBm)				Power Mode B (dBm)			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	128	824.2	30.33	21.30	30.75	21.72	30.33	21.30	30.75	21.72
			190	836.6	30.28	21.25			30.28	21.25		
			251	848.8	30.30	21.27			30.30	21.27		
		2	128	824.2	29.50	23.48	29.75	23.73	29.50	23.48	29.75	23.73
			190	836.6	29.50	23.48			29.50	23.48		
			251	848.8	29.50	23.48			29.50	23.48		
EDGE (8PSK)	MCS5	1	128	824.2	25.17	16.14	25.25	16.22	25.17	16.14	25.25	16.22
			190	836.6	25.13	16.10			25.13	16.10		
			251	848.8	25.18	16.15			25.18	16.15		
		2	128	824.2	24.05	18.03	24.25	18.23	24.05	18.03	24.25	18.23
			190	836.6	24.03	18.01			24.03	18.01		
			251	848.8	24.06	18.04			24.06	18.04		

Notes:

Based on the Tune-up Procedure, GPRS/EDGE (GMSK) mode with 2 time slots for Mode A and Mode B have maximum frame-averaged power.

GSM1900 Measured Results (LAT 1)

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Power Mode A (dBm)				Power Mode B (dBm)			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	512	1850.2	30.30	21.27	31.25	22.22	27.62	18.59	28.00	18.97
			661	1880.0	30.48	21.45			27.40	18.37		
			810	1909.8	30.32	21.29			27.29	18.26		
		2	512	1850.2	30.00	23.98	30.25	24.23	24.75	18.73	25.00	18.98
			661	1880.0	30.00	23.98			24.63	18.61		
			810	1909.8	30.00	23.98			24.55	18.53		
EDGE (8PSK)	MCS5	1	512	1850.2	25.59	16.56	26.25	17.22	25.59	16.56	26.25	17.22
			661	1880.0	25.45	16.42			25.45	16.42		
			810	1909.8	25.37	16.34			25.37	16.34		
		2	512	1850.2	25.15	19.13	25.25	19.23	24.60	18.58	24.75	18.73
			661	1880.0	25.00	18.98			24.48	18.46		
			810	1909.8	25.25	19.23			24.38	18.36		

Notes:

Based on the Tune-up Procedure, GPRS/EDGE (GMSK) mode with 2 time slots for Mode A and Mode B have maximum frame-averaged power.

GSM1900 Measured Results (UAT 1)

Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Power Mode A (dBm)				Power Mode B (dBm)			
				Measured		Tune-up Limit		Measured		Tune-up Limit	
				Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
CS1	1	512	1850.2	26.44	17.41	26.75	17.72	27.84	18.81	28.00	18.97
		661	1880.0	26.52	17.49			27.79	18.76		
		810	1909.8	26.56	17.53			27.70	18.67		
	2	512	1850.2	23.50	17.48	23.75	17.73	24.80	18.78	25.00	18.98
		661	1880.0	23.45	17.43			24.85	18.83		
		810	1909.8	23.40	17.38			24.90	18.88		
MCS5	1	512	1850.2	23.50	14.47	23.75	14.72	23.50	14.47	23.75	14.72
		661	1880.0	23.60	14.57			23.60	14.57		
		810	1909.8	23.67	14.64			23.67	14.64		
	2	512	1850.2	22.45	16.43	22.75	16.73	22.45	16.43	22.75	16.73
		661	1880.0	22.51	16.49			22.51	16.49		
		810	1909.8	22.62	16.60			22.62	16.60		

Notes:

Based on the Tune-up Procedure, GPRS/EDGE (GMSK) mode with 2 time slots for Mode A and Mode B have maximum frame-averaged power.

9.2. W-CDMA

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

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

Release 99 Setup Procedures used to establish the test signals

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

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

HSDPA Setup Procedures used to establish the test signals

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

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

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

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.

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

Note 3: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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

HSUPA Setup Procedures used to establish the test signals

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{EC}	β_{ES} (Note 4) (Note 5)	β_{ES} (SF)	β_{ES} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E- TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	8/15	15/15	64	8/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ES1}: 47/15$ $\beta_{ES2}: 47/15$	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{HS} = 5/15 * \beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCCH, DPCCH, HS-DPCCH, E-DPCCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$. In case of testing by UE using E-DPCCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 4: β_{ES} can not be set directly; it is set by Absolute Grant Value.

Note 5: For subtests 2, 3 and 4, UE may perform E-DPCCH power scaling at max power which could results in slightly smaller MPR values.

DC-HSDPA Setup Procedures used to establish the test signals

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

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

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

HSPA+ Setup Procedures used to establish the test signals

The following 1 Sub-test was completed according to procedures in table C.11.1.4 of 3GPP TS34.121. A summary of these settings is 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_{SC}	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_{ACK} and Δ_{CGI} = 30/15 with $\beta_{ed} = 30/15 * \beta_c$.											
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 β_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.											

Maximum Output Power (Tune-up Limit) for W-CDMA

SAR measurement is not required for the HSDPA, HSUPA, DC-HSDPA and HSPA+. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is $\leq 1/4$ dB higher than the primary mode

RF Air interface	Mode	Maximum Output Power (Tune-up Limit) (dBm)			
		LAT 1		UAT 1	
		Mode A	Mode B	Mode A	Mode B
W-CDMA Band 2	R99	24.25	18.75	17.75	19.00
	HSDPA	24.25	18.75	17.75	19.00
	HSUPA	24.25	18.75	17.75	19.00
	DC-HSDPA	24.25	18.75	17.75	19.00
	HSPA+	24.25	18.75	17.75	19.00
W-CDMA Band 4	R99	24.50	20.75	18.25	18.50
	HSDPA	24.50	20.75	18.25	18.50
	HSUPA	24.50	20.75	18.25	18.50
	DC-HSDPA	24.50	20.75	18.25	18.50
	HSPA+	24.50	20.75	18.25	18.50
W-CDMA Band 5	R99	25.20	25.20	23.50	23.50
	HSDPA	25.20	25.20	23.50	23.50
	HSUPA	25.20	25.20	23.50	23.50
	DC-HSDPA	25.20	25.20	23.50	23.50
	HSPA+	25.20	25.20	23.50	23.50

W-CDMA Band II Measured Results (LAT 1)

Mode		UL Ch No.	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	24.20	N/A	24.25	18.55	N/A	18.75
		9400	1880.0	24.10			18.52		
		9538	1907.6	24.10			18.50		
HSDPA	Subtest 1	9262	1852.4	24.18	0	24.25	18.44	0	18.75
		9400	1880.0	24.01			18.50		
		9538	1907.6	24.05			18.51		
	Subtest 2	9262	1852.4	24.20	0	24.25	18.50	0	18.75
		9400	1880.0	24.12			18.50		
		9538	1907.6	24.15			18.40		
	Subtest 3	9262	1852.4	23.51	0.5	23.75	17.83	0.5	18.25
		9400	1880.0	23.65			17.88		
		9538	1907.6	23.60			17.90		
	Subtest 4	9262	1852.4	23.41	0.5	23.75	18.00	0.5	18.25
		9400	1880.0	23.59			18.22		
		9538	1907.6	23.49			18.03		
HSUPA	Subtest 1	9262	1852.4	23.96	0	24.25	18.40	0	18.75
		9400	1880.0	24.05			18.50		
		9538	1907.6	23.99			18.50		
	Subtest 2	9262	1852.4	21.88	2	22.25	16.66	2	16.75
		9400	1880.0	21.92			16.74		
		9538	1907.6	21.80			16.73		
	Subtest 3	9262	1852.4	23.10	1	23.25	17.51	1	17.75
		9400	1880.0	23.15			17.67		
		9538	1907.6	23.19			17.59		
	Subtest 4	9262	1852.4	22.08	2	22.25	16.71	2	16.75
		9400	1880.0	22.22			16.74		
		9538	1907.6	22.12			16.75		
	Subtest 5	9262	1852.4	24.20	0	24.25	18.50	0	18.75
		9400	1880.0	24.20			18.50		
		9538	1907.6	24.13			18.50		
DC-HSDPA	Subtest 1	9262	1852.4	24.01	0	24.25	18.50	0	18.75
		9400	1880.0	24.09			18.50		
		9538	1907.6	24.00			18.40		
	Subtest 2	9262	1852.4	23.79	0	24.25	18.39	0	18.75
		9400	1880.0	23.82			18.47		
		9538	1907.6	23.88			18.44		
	Subtest 3	9262	1852.4	23.55	0.5	23.75	18.00	0.5	18.25
		9400	1880.0	23.60			18.19		
		9538	1907.6	23.53			18.09		
	Subtest 4	9262	1852.4	23.41	0.5	23.75	17.82	0.5	18.25
		9400	1880.0	23.49			17.99		
		9538	1907.6	23.50			18.00		
HSPA+	Subtest 1	9262	1852.4	20.99	2.5	21.75	16.00	2.5	16.25
		9400	1880.0	21.31			15.93		
		9538	1907.6	21.08			16.02		

W-CDMA Band II Measured Results (UAT 1)

Mode		UL Ch No.	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	17.50	N/A	17.75	18.70	N/A	19.00
		9400	1880.0	17.75			18.80		
		9538	1907.6	17.70			19.00		
HSDPA	Subtest 1	9262	1852.4	17.44	0	17.75	18.50	0	19.00
		9400	1880.0	17.39			18.72		
		9538	1907.6	17.58			18.70		
	Subtest 2	9262	1852.4	17.22	0	17.75	18.65	0	19.00
		9400	1880.0	17.31			18.58		
		9538	1907.6	17.29			18.51		
	Subtest 3	9262	1852.4	17.01	0.5	17.25	17.91	0.5	18.50
		9400	1880.0	17.12			17.99		
		9538	1907.6	17.15			18.05		
	Subtest 4	9262	1852.4	16.82	0.5	17.25	18.11	0.5	18.50
		9400	1880.0	16.89			18.20		
		9538	1907.6	16.91			18.29		
HSUPA	Subtest 1	9262	1852.4	17.25	0	17.75	18.33	0	19.00
		9400	1880.0	17.31			18.41		
		9538	1907.6	17.33			18.40		
	Subtest 2	9262	1852.4	15.20	2	15.75	16.59	2	17.00
		9400	1880.0	15.23			16.49		
		9538	1907.6	15.40			16.58		
	Subtest 3	9262	1852.4	16.59	1	16.75	17.81	1	18.00
		9400	1880.0	16.48			17.60		
		9538	1907.6	16.63			17.40		
	Subtest 4	9262	1852.4	15.29	2	15.75	16.35	2	17.00
		9400	1880.0	15.31			16.53		
		9538	1907.6	15.30			16.59		
	Subtest 5	9262	1852.4	17.68	0	17.75	18.49	0	19.00
		9400	1880.0	17.75			18.71		
		9538	1907.6	17.74			18.66		
DC-HSDPA	Subtest 1	9262	1852.4	17.68	0	17.75	18.80	0	19.00
		9400	1880.0	17.69			18.96		
		9538	1907.6	17.70			18.99		
	Subtest 2	9262	1852.4	17.17	0	17.75	18.71	0	19.00
		9400	1880.0	17.25			18.74		
		9538	1907.6	17.32			18.90		
	Subtest 3	9262	1852.4	17.00	0.5	17.25	17.86	0.5	18.50
		9400	1880.0	16.93			17.99		
		9538	1907.6	16.99			18.00		
	Subtest 4	9262	1852.4	16.85	0.5	17.25	18.21	0.5	18.50
		9400	1880.0	16.81			18.25		
		9538	1907.6	16.90			18.30		
HSPA+	Subtest 1	9262	1852.4	14.80	2.5	15.25	16.29	2.5	16.50
		9400	1880.0	14.90			16.20		
		9538	1907.6	14.85			16.22		

W-CDMA Band IV Measured Results (LAT 1)

Mode		UL Ch No.	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	24.40	N/A	24.50	20.60	N/A	20.75
		1413	1732.6	24.40			20.60		
		1513	1752.6	24.30			20.75		
HSDPA	Subtest 1	1312	1712.4	24.12	0	24.50	20.06	0	20.75
		1413	1732.6	24.22			20.23		
		1513	1752.6	24.13			20.20		
	Subtest 2	1312	1712.4	24.23	0	24.50	19.98	0	20.75
		1413	1732.6	24.31			19.95		
		1513	1752.6	24.30			20.00		
	Subtest 3	1312	1712.4	23.66	0.5	24.00	19.72	0.5	20.25
		1413	1732.6	23.71			19.75		
		1513	1752.6	23.69			19.67		
	Subtest 4	1312	1712.4	23.80	0.5	24.00	19.50	0.5	20.25
		1413	1732.6	23.88			19.57		
		1513	1752.6	23.89			19.60		
HSUPA	Subtest 1	1312	1712.4	24.13	0	24.50	20.05	0	20.75
		1413	1732.6	24.19			19.99		
		1513	1752.6	24.00			20.10		
	Subtest 2	1312	1712.4	22.01	2	22.50	17.92	2	18.75
		1413	1732.6	22.04			17.88		
		1513	1752.6	22.07			18.16		
	Subtest 3	1312	1712.4	23.04	1	23.50	18.79	1	19.75
		1413	1732.6	23.01			18.94		
		1513	1752.6	23.00			18.86		
	Subtest 4	1312	1712.4	22.38	2	22.50	17.79	2	18.75
		1413	1732.6	22.33			17.83		
		1513	1752.6	22.37			18.00		
	Subtest 5	1312	1712.4	24.20	0	24.50	19.91	0	20.75
		1413	1732.6	24.22			20.06		
		1513	1752.6	24.30			20.19		
DC-HSDPA	Subtest 1	1312	1712.4	24.35	0	24.50	20.15	0	20.75
		1413	1732.6	24.40			19.99		
		1513	1752.6	24.33			20.10		
	Subtest 2	1312	1712.4	24.40	0	24.50	19.80	0	20.75
		1413	1732.6	24.40			19.83		
		1513	1752.6	24.23			19.91		
	Subtest 3	1312	1712.4	23.70	0.5	24.00	19.70	0.5	20.25
		1413	1732.6	23.80			19.75		
		1513	1752.6	23.71			19.72		
	Subtest 4	1312	1712.4	23.88	0.5	24.00	19.51	0.5	20.25
		1413	1732.6	23.89			19.63		
		1513	1752.6	23.95			19.67		
HSPA+	Subtest 1	1312	1712.4	21.66	2.5	22.00	17.50	2.5	18.25
		1413	1732.6	21.80			17.60		
		1513	1752.6	21.82			17.61		

W-CDMA Band IV Measured Results (UAT 1)

Mode		UL Ch No.	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	18.20	N/A	18.25	18.45	N/A	18.50
		1413	1732.6	18.25			18.40		
		1513	1752.6	18.10			18.30		
HSDPA	Subtest 1	1312	1712.4	18.00	0	18.25	18.23	0	18.50
		1413	1732.6	17.95			18.18		
		1513	1752.6	18.11			18.34		
	Subtest 2	1312	1712.4	17.90	0	18.25	18.13	0	18.50
		1413	1732.6	17.61			17.84		
		1513	1752.6	17.83			18.06		
	Subtest 3	1312	1712.4	17.23	0.5	17.75	17.46	0.5	18.00
		1413	1732.6	17.33			17.56		
		1513	1752.6	17.39			17.62		
	Subtest 4	1312	1712.4	17.30	0.5	17.75	17.53	0.5	18.00
		1413	1732.6	17.41			17.64		
		1513	1752.6	17.38			17.61		
HSUPA	Subtest 1	1312	1712.4	17.59	0	18.25	17.82	0	18.50
		1413	1732.6	17.66			17.89		
		1513	1752.6	17.65			17.88		
	Subtest 2	1312	1712.4	16.21	2	16.25	16.44	2	16.50
		1413	1732.6	16.25			16.48		
		1513	1752.6	16.19			16.42		
	Subtest 3	1312	1712.4	16.88	1	17.25	17.11	1	17.50
		1413	1732.6	16.95			17.18		
		1513	1752.6	16.83			17.06		
	Subtest 4	1312	1712.4	15.81	2	16.25	16.04	2	16.50
		1413	1732.6	15.95			16.18		
		1513	1752.6	16.03			16.26		
	Subtest 5	1312	1712.4	18.06	0	18.25	18.29	0	18.50
		1413	1732.6	18.16			18.39		
		1513	1752.6	18.10			18.33		
DC-HSDPA	Subtest 1	1312	1712.4	17.60	0	18.25	17.83	0	18.50
		1413	1732.6	17.88			18.11		
		1513	1752.6	17.74			17.97		
	Subtest 2	1312	1712.4	17.69	0	18.25	17.92	0	18.50
		1413	1732.6	17.90			18.13		
		1513	1752.6	17.84			18.07		
	Subtest 3	1312	1712.4	17.61	0.5	17.75	17.84	0.5	18.00
		1413	1732.6	17.69			17.92		
		1513	1752.6	17.55			17.78		
	Subtest 4	1312	1712.4	17.50	0.5	17.75	17.73	0.5	18.00
		1413	1732.6	17.75			17.98		
		1513	1752.6	17.72			17.95		
HSPA+	Subtest 1	1312	1712.4	15.33	2.5	15.75	15.56	2.5	16.00
		1413	1732.6	15.49			15.72		
		1513	1752.6	15.38			15.61		

W-CDMA Band V Measured Results (LAT 1)

Mode		UL Ch No.	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	25.00	N/A	25.20	25.00	N/A	25.20
		4183	836.6	25.00			25.00		
		4233	846.6	25.00			25.00		
HSDPA	Subtest 1	4132	826.4	24.99	0	25.20	24.99	0	25.20
		4183	836.6	25.00			25.00		
		4233	846.6	25.00			25.00		
	Subtest 2	4132	826.4	25.00	0	25.20	25.00	0	25.20
		4183	836.6	25.00			25.00		
		4233	846.6	25.00			25.00		
	Subtest 3	4132	826.4	24.30	0.5	24.70	24.30	0.5	24.70
		4183	836.6	24.33			24.33		
		4233	846.6	24.37			24.37		
	Subtest 4	4132	826.4	24.41	0.5	24.70	24.41	0.5	24.70
		4183	836.6	24.44			24.44		
		4233	846.6	24.45			24.45		
HSUPA	Subtest 1	4132	826.4	25.00	0	25.20	25.00	0	25.20
		4183	836.6	25.00			25.00		
		4233	846.6	25.00			25.00		
	Subtest 2	4132	826.4	23.08	2	23.20	23.08	2	23.20
		4183	836.6	23.20			23.20		
		4233	846.6	23.18			23.18		
	Subtest 3	4132	826.4	24.00	1	24.20	24.00	1	24.20
		4183	836.6	24.00			24.00		
		4233	846.6	24.05			24.05		
	Subtest 4	4132	826.4	23.00	2	23.20	23.00	2	23.20
		4183	836.6	23.01			23.01		
		4233	846.6	23.10			23.10		
	Subtest 5	4132	826.4	24.99	0	25.20	24.99	0	25.20
		4183	836.6	24.80			24.80		
		4233	846.6	24.89			24.89		
DC-HSDPA	Subtest 1	4132	826.4	25.00	0	25.20	25.00	0	25.20
		4183	836.6	25.00			25.00		
		4233	846.6	25.00			25.00		
	Subtest 2	4132	826.4	25.00	0	25.20	25.00	0	25.20
		4183	836.6	25.00			25.00		
		4233	846.6	25.00			25.00		
	Subtest 3	4132	826.4	24.66	0.5	24.70	24.66	0.5	24.70
		4183	836.6	24.60			24.60		
		4233	846.6	24.68			24.68		
	Subtest 4	4132	826.4	24.55	0.5	24.70	24.55	0.5	24.70
		4183	836.6	24.56			24.56		
		4233	846.6	24.53			24.53		
HSPA+	Subtest 1	4132	826.4	22.45	2.5	22.70	22.45	2.5	22.70
		4183	836.6	22.50			22.50		
		4233	846.6	22.43			22.43		

W-CDMA Band V Measured Results (UAT 1)

Mode		UL Ch No.	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.20	N/A	23.50	23.20	N/A	23.50
		4183	836.6	23.20			23.20		
		4233	846.6	23.10			23.10		
HSDPA	Subtest 1	4132	826.4	23.30	0	23.50	23.30	0	23.50
		4183	836.6	23.44			23.44		
		4233	846.6	23.41			23.41		
	Subtest 2	4132	826.4	23.11	0	23.50	23.11	0	23.50
		4183	836.6	23.29			23.29		
		4233	846.6	23.30			23.30		
	Subtest 3	4132	826.4	23.00	0.5	23.00	23.00	0.5	23.00
		4183	836.6	22.99			22.99		
		4233	846.6	22.91			22.91		
	Subtest 4	4132	826.4	22.57	0.5	23.00	22.57	0.5	23.00
		4183	836.6	22.70			22.70		
		4233	846.6	22.59			22.59		
HSUPA	Subtest 1	4132	826.4	23.01	0	23.50	23.01	0	23.50
		4183	836.6	23.16			23.16		
		4233	846.6	23.20			23.20		
	Subtest 2	4132	826.4	20.99	2	21.50	20.99	2	21.50
		4183	836.6	21.16			21.16		
		4233	846.6	21.05			21.05		
	Subtest 3	4132	826.4	22.13	1	22.50	22.13	1	22.50
		4183	836.6	22.03			22.03		
		4233	846.6	22.30			22.30		
	Subtest 4	4132	826.4	21.20	2	21.50	21.20	2	21.50
		4183	836.6	21.40			21.40		
		4233	846.6	21.22			21.22		
	Subtest 5	4132	826.4	22.78	0	23.50	22.78	0	23.50
		4183	836.6	22.89			22.89		
		4233	846.6	22.77			22.77		
DC-HSDPA	Subtest 1	4132	826.4	22.70	0	23.50	22.70	0	23.50
		4183	836.6	22.88			22.88		
		4233	846.6	22.81			22.81		
	Subtest 2	4132	826.4	22.77	0	23.50	22.77	0	23.50
		4183	836.6	22.92			22.92		
		4233	846.6	22.86			22.86		
	Subtest 3	4132	826.4	22.13	0.5	23.00	22.13	0.5	23.00
		4183	836.6	22.37			22.37		
		4233	846.6	22.40			22.40		
	Subtest 4	4132	826.4	22.35	0.5	23.00	22.35	0.5	23.00
		4183	836.6	22.53			22.53		
		4233	846.6	22.49			22.49		
HSPA+	Subtest 1	4132	826.4	20.66	2.5	21.00	20.66	2.5	21.00
		4183	836.6	20.70			20.70		
		4233	846.6	20.79			20.79		

9.3. CDMA

1x Advanced Setup Procedures used to establish the test signals

Call box setup procedure

- Protocol Rev > 6 (IS-2000-0)
- System ID: 331; NID: 65535, Reg. Ch. #.:
- Radio Config (RC) > Fwd11, Rvs8
- Service Option (SO) Setup > SO75 (Loopback)
- Traffic Data Rate > Full
- Rvs Power Ctrl > All Up bits (Maximum Tx Pout)
- Reverse Power Control Mode: 00-200 to 400 bps
- Smart blanking was disabled.

1xEV-DO Rev. B Setup Procedures used to establish the test signals

Call box setup procedure

- CMW 500 Signal Generator > 1xEV-DO Taskbar Enable
- CMW 500 1xEV-DO Signaling Configuration Window >
- 1xEV-DO Signaling On Window:
Under Access Network Control:
Band Class: BC0: US Cellular
RF Channel: 31
1xEV-DO Power: -70 dBm
Release B
- 1xEV-DO Signaling Configuration Window

Under RF Frequency Band / Channel: Enter Ch. Frequency
➤ Under Carrier Configuration: RF Frequency
For Two Carriers: Low Channel (1013)

	<u>RF Channel</u>	<u>RF Channel Offset</u>
Carrier [0]	31	0
Carrier [1]	1013	982

	<u>Carrier Sector</u>	<u>Active on AN</u>	<u>Assigned to AT</u>
Pilot [0]	C0/S0	✓	✓
	CA/S1	✓	✓

For Three Carriers: Low Channel (1013)

	<u>RF Channel</u>	<u>RF Channel Offset</u>
Carrier [0]	72	0
Carrier [1]	31	-41
Carrier [2]	1013	941

	<u>Carrier Sector</u>	<u>Active on AN</u>	<u>Assigned to AT</u>
Pilot [0]	C0/S0	✓	✓
Pilot [1]	C1/S1	✓	✓
Pilot [2]	C2/S2	✓	✓

- Rvs Power Ctrl > All Up bits (to get the maximum power)

Maximum Output Power (Tune-up Limit) for CDMA

SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55. The 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode

Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 D01 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCHn), with FCH only as the primary mode.

When VOIP is supported by Ev-Do devices for next to the ear use, head exposure SAR is required.

SAR measurement is not required for the 1xEVDO Rev. A, Rel. 0 and 1x-Advanced. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode

RF Air interface	Mode	Maximum Output Power (Tune-up Limit) (dBm)			
		LAT 1		UAT 1	
		Mode A	Mode B	Mode A	Mode B
CDMA BC0	1xRTT	25.20	25.20	23.50	23.50
	1xAdvanced	25.20	25.20	23.50	23.50
	1xEVDO Rel. 0	25.20	25.20	23.50	23.50
	1xEVDO Rev. A	25.20	25.20	23.50	23.50
CDMA BC1	1xRTT	24.25	18.75	17.75	19.00
	1xAdvanced	24.25	18.75	17.75	19.00
	1xEVDO Rel. 0	24.25	18.75	17.75	19.00
	1xEVDO Rev. A	24.25	18.75	17.75	19.00
CDMA BC10	1xRTT	25.20	25.20	23.50	23.50
	1xAdvanced	25.20	25.20	23.50	23.50
	1xEVDO Rel. 0	25.20	25.20	23.50	23.50
	1xEVDO Rev. A	25.20	25.20	23.50	23.50

CDMA BC0 Measured Results (LAT 1)

Mode		Channel	Freq. (MHz)	Power Mode A (dBm)		Power Mode B (dBm)	
				Measured Pwr	Tune-up Limit	Measured Pwr	Tune-up Limit
1xRTT	RC1, SO55 (Loopback)	1013	824.70	24.90	25.20	24.90	25.20
		384	836.52	24.80		24.80	
		777	848.31	25.10		25.10	
	RC3, SO55 (Loopback)	1013	824.70	24.90		24.90	
		384	836.52	24.80		24.80	
		777	848.31	25.10		25.10	
	RC3, SO32 (+F-SCH)	1013	824.70	24.90		24.90	
		384	836.52	24.80		24.80	
		777	848.31	25.10		25.10	
1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	1013	824.70	24.90	25.20	24.90	25.20
		384	836.52	24.80		24.80	
		777	848.31	25.10		25.10	
1xEv-Do Rel. 0	307.2 kbps (2 slot, QPSK)	1013	824.70	24.90	25.20	24.90	25.20
		384	836.52	24.80		24.80	
		777	848.31	25.10		25.10	
1xEv-Do Rev. A	307.2K, QPSK/ ACK channel is transmitted at all the slots	1013	824.70	24.90	25.20	24.90	25.20
		384	836.52	24.80		24.80	
		777	848.31	25.10		25.10	

CDMA BC0 Measured Results (UAT 1)

Mode		Channel	Freq. (MHz)	Power Mode A (dBm)		Power Mode B (dBm)	
				Measured Pwr	Tune-up Limit	Measured Pwr	Tune-up Limit
1xRTT	RC1, SO55 (Loopback)	1013	824.70	23.40	23.50	23.40	23.50
		384	836.52	23.40		23.40	
		777	848.31	23.30		23.30	
	RC3, SO55 (Loopback)	1013	824.70	23.40		23.40	
		384	836.52	23.40		23.40	
		777	848.31	23.30		23.30	
	RC3, SO32 (+F-SCH)	1013	824.70	23.40		23.40	
		384	836.52	23.40		23.40	
		777	848.31	23.30		23.30	
1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	1013	824.70	23.40	23.50	23.40	23.50
		384	836.52	23.40		23.40	
		777	848.31	23.30		23.30	
1xEv-Do Rel. 0	307.2 kbps (2 slot, QPSK)	1013	824.70	23.40	23.50	23.40	23.50
		384	836.52	23.40		23.40	
		777	848.31	23.30		23.30	
1xEv-Do Rev. A	307.2K, QPSK/ ACK channel is transmitted at all the slots	1013	824.70	23.40	23.50	23.40	23.50
		384	836.52	23.40		23.40	
		777	848.31	23.30		23.30	

CDMA BC1 Measured Results (LAT 1)

Mode		Channel	Freq. (MHz)	Power Mode A (dBm)		Power Mode B (dBm)	
				Measured Pw r	Tune-up Limit	Measured Pw r	Tune-up Limit
1xRTT	RC1, SO55 (Loopback)	25	1851.25	24.00	24.25	18.70	18.75
		600	1880.00	24.00		18.60	
		1175	1908.75	24.10		18.40	
	RC3, SO55 (Loopback)	25	1851.25	24.00		18.70	
		600	1880.00	24.00		18.60	
		1175	1908.75	24.10		18.40	
	RC3, SO32 (+F-SCH)	25	1851.25	24.00		18.70	
		600	1880.00	24.00		18.60	
		1175	1908.75	24.10		18.40	
1xAdvanced	Fw d11/Rvs8 SO75 (Loopback)	25	1851.25	24.00	24.25	18.70	18.75
		600	1880	24.00		18.60	
		1175	1908.75	24.10		18.40	
1xEv-Do Rel. 0	307.2 kbps (2 slot, QPSK)	25	1851.25	24.00	24.25	18.70	18.75
		600	1880.00	24.00		18.60	
		1175	1908.75	24.10		18.40	
1xEv-Do Rev. A	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	24.00	24.25	18.70	18.75
		600	1880	24.00		18.60	
		1175	1908.75	24.10		18.40	

CDMA BC1 Measured Results (UAT 1)

Mode		Channel	Freq. (MHz)	Power Mode A (dBm)		Power Mode B (dBm)	
				Measured Pw r	Tune-up Limit	Measured Pw r	Tune-up Limit
1xRTT	RC1, SO55 (Loopback)	25	1851.25	17.65	17.75	18.90	19.00
		600	1880.00	17.60		18.80	
		1175	1908.75	17.75		19.00	
	RC3, SO55 (Loopback)	25	1851.25	17.65		18.90	
		600	1880.00	17.60		18.80	
		1175	1908.75	17.75		19.00	
	RC3, SO32 (+F-SCH)	25	1851.25	17.65		18.90	
		600	1880.00	17.60		18.80	
		1175	1908.75	17.75		19.00	
1xAdvanced	Fw d11/Rvs8 SO75 (Loopback)	25	1851.25	17.65	17.75	18.90	19.00
		600	1880	17.60		18.80	
		1175	1908.75	17.75		19.00	
1xEv-Do Rel. 0	307.2 kbps (2 slot, QPSK)	25	1851.25	17.65	17.75	18.90	19.00
		600	1880.00	17.60		18.80	
		1175	1908.75	17.75		19.00	
1xEv-Do Rev. A	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	17.65	17.75	18.90	19.00
		600	1880	17.60		18.80	
		1175	1908.75	17.75		19.00	

CDMA BC10 Measured Results (LAT 1)

Mode		Channel	Freq. (MHz)	Power Mode A (dBm)		Power Mode B (dBm)	
				Measured Pwr	Tune-up Limit	Measured Pwr	Tune-up Limit
1xRTT	RC1, SO55 (Loopback)	560	820.00	25.00	25.20	25.00	25.20
	RC3, SO55 (Loopback)	560	820.00	25.00		25.00	
	RC3, SO32 (+F-SCH)	560	820.00	25.00		25.00	
1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	560	820.00	25.00	25.20	25.00	25.20
1xEV-Do Rel. 0	307.2 kbps (2 slot, QPSK)	560	820.00	25.00	25.20	25.00	25.20
1xEV-Do Rev. A	307.2k, QPSK/ ACK channel is transmitted at all the slots	560	820.00	25.00	25.20	25.00	25.20

CDMA BC10 Measured Results (UAT 1)

Mode		Channel	Freq. (MHz)	Power Mode A (dBm)		Power Mode B (dBm)	
				Measured Pwr	Tune-up Limit	Measured Pwr	Tune-up Limit
1xRTT	RC1, SO55 (Loopback)	560	820.00	23.30	23.50	23.30	23.50
	RC3, SO55 (Loopback)	560	820.00	23.30		23.30	
	RC3, SO32 (+F-SCH)	560	820.00	23.30		23.30	
1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	560	820.00	23.30	23.50	23.30	23.50
1xEV-Do Rel. 0	307.2 kbps (2 slot, QPSK)	560	820.00	23.30	23.50	23.30	23.50
1xEV-Do Rev. A	307.2k, QPSK/ ACK channel is transmitted at all the slots	560	820.00	23.30	23.50	23.30	23.50

9.4. LTE

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

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

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

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

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

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

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

Maximum Output Power (Tune-up Limit) for LTE

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

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

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

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

SAR measurement is not required for the 16QAM and 64QAM. When the highest maximum output power for 16QAM and 64QAM is $\leq \frac{1}{2}$ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.

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

RF Air interface	Mode	Maximum Output Power (Tune-up Limit) (dBm)			
		LAT 1		UAT 1	
		Mode A	Mode B	Mode A	Mode B
LTE Band 2	QPSK	24.25	18.75	17.75	19.00
LTE Band 4	QPSK	24.50	20.75	18.25	18.50
LTE Band 5	QPSK	25.20	25.20	23.50	23.50
LTE Band 7	QPSK	25.20	18.50	16.25	18.75
LTE Band 12	QPSK	25.20	25.20	23.50	23.50
LTE Band 13	QPSK	25.20	25.20	23.50	23.50
LTE Band 17	QPSK	25.20	25.20	23.50	23.50
LTE Band 25	QPSK	24.25	18.75	17.75	19.00
LTE Band 26	QPSK	25.20	25.20	23.50	23.50
LTE Band 30	QPSK	23.50	21.75	15.50	17.75
LTE Band 41 (PC3)	QPSK	25.20	21.00	17.75	19.75
LTE Band 41 (PC 2)	QPSK	28.00	21.00	17.75	19.75
LTE Band 66	QPSK	24.50	20.75	18.25	18.50
RF Air interface	Mode	Maximum Output Power (Tune-up Limit) (dBm)			
		LAT 1		UAT 2	
		Mode A	Mode B	Mode A	Mode B
LTE Band 48	QPSK	25.00	19.75	17.00	20.50

Notes:

LTE Band 48 Low and high channels were tested using the maximum tune-up limit. This is for testing purpose only. For device placing to the market would follow the tune up procedure.

LTE Band 5 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
					20525		MPR	Tune-up Limit		20525		MPR	Tune-up Limit
					836.5 MHz					836.5 MHz			
10 MHz	QPSK	1	0		24.50		0	25.20		24.50		0	25.20
		1	25		24.70		0	25.20		24.70		0	25.20
		1	49		24.22		0	25.20		24.22		0	25.20
		25	0		23.45		1	24.20		23.45		1	24.20
		25	12		23.70		1	24.20		23.70		1	24.20
		25	25		23.20		1	24.20		23.20		1	24.20
	16QAM	50	0		23.70		1	24.20		23.70		1	24.20
		1	0		23.92		1	24.20		23.92		1	24.20
		1	25		23.76		1	24.20		23.76		1	24.20
		1	49		23.61		1	24.20		23.61		1	24.20
		25	0		22.45		2	23.20		22.45		2	23.20
		25	12		22.39		2	23.20		22.39		2	23.20
	64QAM	25	25		22.24		2	23.20		22.24		2	23.20
		50	0		22.33		2	23.20		22.33		2	23.20
		1	0		22.61		2	23.20		22.61		2	23.20
		1	25		22.49		2	23.20		22.49		2	23.20
		1	49		22.49		2	23.20		22.49		2	23.20
		25	0		21.31		3	22.20		21.31		3	22.20
		25	12		21.33		3	22.20		21.33		3	22.20
		25	25		21.27		3	22.20		21.27		3	22.20
		50	0		21.35		3	22.20		21.35		3	22.20
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20425	20525	20625	MPR	Tune-up Limit	20425	20525	20625	MPR	Tune-up Limit
				826.5 MHz	836.5 MHz	846.5 MHz			826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	24.34	24.56	24.37	0	25.20	24.34	24.56	24.37	0	25.20
		1	12	24.32	24.40	24.50	0	25.20	24.32	24.40	24.50	0	25.20
		1	24	24.42	24.32	24.53	0	25.20	24.42	24.32	24.53	0	25.20
		12	0	23.24	23.50	23.39	1	24.20	23.24	23.50	23.39	1	24.20
		12	7	23.22	23.45	23.45	1	24.20	23.22	23.45	23.45	1	24.20
		12	13	23.25	23.30	23.46	1	24.20	23.25	23.30	23.46	1	24.20
	16QAM	25	0	23.28	23.40	23.45	1	24.20	23.28	23.40	23.45	1	24.20
		1	0	23.82	23.95	23.72	1	24.20	23.82	23.95	23.72	1	24.20
		1	12	23.79	23.73	23.85	1	24.20	23.79	23.73	23.85	1	24.20
		1	24	23.93	23.70	23.84	1	24.20	23.93	23.70	23.84	1	24.20
		12	0	22.31	22.54	22.44	2	23.20	22.31	22.54	22.44	2	23.20
		12	7	22.28	22.46	22.52	2	23.20	22.28	22.46	22.52	2	23.20
	64QAM	12	13	22.33	22.33	22.51	2	23.20	22.33	22.33	22.51	2	23.20
		25	0	22.32	22.39	22.51	2	23.20	22.32	22.39	22.51	2	23.20
		1	0	22.75	22.65	22.77	2	23.20	22.75	22.65	22.77	2	23.20
		1	12	22.84	22.57	22.83	2	23.20	22.84	22.57	22.83	2	23.20
		1	24	22.82	22.55	22.80	2	23.20	22.82	22.55	22.80	2	23.20
		12	0	21.55	21.37	21.46	3	22.20	21.55	21.37	21.46	3	22.20
		12	7	21.55	21.32	21.43	3	22.20	21.55	21.32	21.43	3	22.20
		12	13	21.54	21.27	21.44	3	22.20	21.54	21.27	21.44	3	22.20
		25	0	21.50	21.33	21.43	3	22.20	21.50	21.33	21.43	3	22.20

LTE Band 5 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20415	20525	20635	MPR	Tune-up Limit	20415	20525	20635	MPR	Tune-up Limit
				825.5 MHz	836.5 MHz	847.5 MHz			825.5 MHz	836.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	24.32	24.54	24.50	0	25.20	24.32	24.54	24.50	0	25.20
		1	8	24.34	24.48	24.58	0	25.20	24.34	24.48	24.58	0	25.20
		1	14	24.37	24.37	24.52	0	25.20	24.37	24.37	24.52	0	25.20
		8	0	23.28	23.49	23.55	1	24.20	23.28	23.49	23.55	1	24.20
		8	4	23.26	23.50	23.53	1	24.20	23.26	23.50	23.53	1	24.20
		8	7	23.25	23.45	23.54	1	24.20	23.25	23.45	23.54	1	24.20
	16QAM	15	0	23.27	23.45	23.55	1	24.20	23.27	23.45	23.55	1	24.20
		1	0	23.72	23.89	23.91	1	24.20	23.72	23.89	23.91	1	24.20
		1	8	23.64	23.78	23.96	1	24.20	23.64	23.78	23.96	1	24.20
		1	14	23.83	23.63	23.84	1	24.20	23.83	23.63	23.84	1	24.20
		8	0	22.36	22.58	22.56	2	23.20	22.36	22.58	22.56	2	23.20
		8	4	22.33	22.58	22.53	2	23.20	22.33	22.58	22.53	2	23.20
	64QAM	8	7	22.34	22.48	22.54	2	23.20	22.34	22.48	22.54	2	23.20
		15	0	22.31	22.45	22.52	2	23.20	22.31	22.45	22.52	2	23.20
		1	0	22.66	22.67	22.72	2	23.20	22.66	22.67	22.72	2	23.20
		1	8	22.72	22.62	22.71	2	23.20	22.72	22.62	22.71	2	23.20
		1	14	22.82	22.46	22.65	2	23.20	22.82	22.46	22.65	2	23.20
		8	0	21.54	21.50	21.50	3	22.20	21.54	21.50	21.50	3	22.20
1.4 MHz	QPSK	8	4	21.61	21.47	21.48	3	22.20	21.61	21.47	21.48	3	22.20
		8	7	21.63	21.45	21.48	3	22.20	21.63	21.45	21.48	3	22.20
		15	0	21.60	21.45	21.44	3	22.20	21.60	21.45	21.44	3	22.20
	16QAM	1	0	24.39	24.42	24.52	0	25.20	24.39	24.42	24.52	0	25.20
		1	3	24.31	24.42	24.53	0	25.20	24.31	24.42	24.53	0	25.20
		1	5	24.33	24.40	24.57	0	25.20	24.33	24.40	24.57	0	25.20
		3	0	24.29	24.45	24.50	0	25.20	24.29	24.45	24.50	0	25.20
		3	1	24.26	24.40	24.51	0	25.20	24.26	24.40	24.51	0	25.20
		3	3	24.25	24.32	24.51	0	25.20	24.25	24.32	24.51	0	25.20
	64QAM	6	0	23.30	23.39	23.49	1	24.20	23.30	23.39	23.49	1	24.20
		1	0	23.67	23.70	23.86	1	24.20	23.67	23.70	23.86	1	24.20
		1	3	23.57	23.69	23.81	1	24.20	23.57	23.69	23.81	1	24.20
		1	5	23.61	23.63	23.89	1	24.20	23.61	23.63	23.89	1	24.20
		3	0	23.49	23.62	23.60	1	24.20	23.49	23.62	23.60	1	24.20
		3	1	23.45	23.61	23.62	1	24.20	23.45	23.61	23.62	1	24.20
1.4 MHz	16QAM	3	3	23.44	23.53	23.60	1	24.20	23.44	23.53	23.60	1	24.20
		6	0	22.39	22.47	22.52	2	23.20	22.39	22.47	22.52	2	23.20
	64QAM	1	0	22.92	22.64	22.63	2	23.20	22.92	22.64	22.63	2	23.20
		1	3	22.80	22.58	22.65	2	23.20	22.80	22.58	22.65	2	23.20
		1	5	22.89	22.56	22.72	2	23.20	22.89	22.56	22.72	2	23.20
		3	0	22.71	22.50	22.63	2	23.20	22.71	22.50	22.63	2	23.20
	64QAM	3	1	22.66	22.49	22.59	2	23.20	22.66	22.49	22.59	2	23.20
		3	3	22.63	22.46	22.58	2	23.20	22.63	22.46	22.58	2	23.20
		6	0	21.56	21.47	21.59	3	22.20	21.56	21.47	21.59	3	22.20

LTE Band 5 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
					20525		MPR	Tune-up Limit		20525		MPR	Tune-up Limit
					836.5 MHz					836.5 MHz			
10 MHz	QPSK	1	0		22.96		0	23.50		22.96		0	23.50
		1	25		23.20		0	23.50		23.20		0	23.50
		1	49		23.00		0	23.50		23.00		0	23.50
		25	0		21.76		1	22.50		21.76		1	22.50
		25	12		22.10		1	22.50		22.10		1	22.50
		25	25		21.93		1	22.50		21.93		1	22.50
	16QAM	50	0		22.10		1	22.50		22.10		1	22.50
		1	0		22.17		1	22.50		22.17		1	22.50
		1	25		22.17		1	22.50		22.17		1	22.50
		1	49		22.28		1	22.50		22.28		1	22.50
		25	0		20.76		2	21.50		20.76		2	21.50
		25	12		20.81		2	21.50		20.81		2	21.50
	64QAM	25	25		20.95		2	21.50		20.95		2	21.50
		50	0		20.77		2	21.50		20.77		2	21.50
		1	0		21.17		2	21.50		21.17		2	21.50
		1	25		21.08		2	21.50		21.08		2	21.50
		1	49		21.11		2	21.50		21.11		2	21.50
		25	0		19.78		3	20.50		19.78		3	20.50
		25	12		19.79		3	20.50		19.79		3	20.50
		25	25		19.89		3	20.50		19.89		3	20.50
		50	0		19.80		3	20.50		19.80		3	20.50
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20425	20525	20625	MPR	Tune-up Limit	20425	20525	20625	MPR	Tune-up Limit
					826.5 MHz	836.5 MHz				846.5 MHz	826.5 MHz		
5 MHz	QPSK	1	0	22.73	22.86	22.90	0	23.50	22.73	22.86	22.90	0	23.50
		1	12	22.64	22.86	22.86	0	23.50	22.64	22.86	22.86	0	23.50
		1	24	22.78	23.01	22.73	0	23.50	22.78	23.01	22.73	0	23.50
		12	0	21.60	21.77	21.81	1	22.50	21.60	21.77	21.81	1	22.50
		12	7	21.62	21.81	21.78	1	22.50	21.62	21.81	21.78	1	22.50
		12	13	21.67	21.88	21.71	1	22.50	21.67	21.88	21.71	1	22.50
	16QAM	25	0	21.64	21.84	21.80	1	22.50	21.64	21.84	21.80	1	22.50
		1	0	22.10	22.23	22.28	1	22.50	22.10	22.23	22.28	1	22.50
		1	12	21.99	22.25	22.22	1	22.50	21.99	22.25	22.22	1	22.50
		1	24	22.14	22.46	22.10	1	22.50	22.14	22.46	22.10	1	22.50
		12	0	20.67	20.80	20.79	2	21.50	20.67	20.80	20.79	2	21.50
		12	7	20.71	20.91	20.85	2	21.50	20.71	20.91	20.85	2	21.50
	64QAM	12	13	20.75	20.96	20.79	2	21.50	20.75	20.96	20.79	2	21.50
		25	0	20.68	20.92	20.86	2	21.50	20.68	20.92	20.86	2	21.50
		1	0	21.08	21.16	21.18	2	21.50	21.08	21.16	21.18	2	21.50
		1	12	20.91	21.16	21.12	2	21.50	20.91	21.16	21.12	2	21.50
		1	24	21.03	21.38	21.10	2	21.50	21.03	21.38	21.10	2	21.50
		12	0	19.66	19.88	19.89	3	20.50	19.66	19.88	19.89	3	20.50
		12	7	19.75	19.93	19.88	3	20.50	19.75	19.93	19.88	3	20.50
		12	13	19.75	19.97	19.83	3	20.50	19.75	19.97	19.83	3	20.50
		25	0	19.69	19.85	19.85	3	20.50	19.69	19.85	19.85	3	20.50

LTE Band 5 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20415	20525	20635	MPR	Tune-up Limit	20415	20525	20635	MPR	Tune-up Limit
				825.5 MHz	836.5 MHz	847.5 MHz			825.5 MHz	836.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	22.82	22.93	22.94	0	23.50	22.82	22.93	22.94	0	23.50
		1	8	22.75	22.97	22.91	0	23.50	22.75	22.97	22.91	0	23.50
		1	14	22.71	22.93	22.79	0	23.50	22.71	22.93	22.79	0	23.50
		8	0	21.74	21.82	21.89	1	22.50	21.74	21.82	21.89	1	22.50
		8	4	21.65	21.86	21.81	1	22.50	21.65	21.86	21.81	1	22.50
		8	7	21.65	21.86	21.81	1	22.50	21.65	21.86	21.81	1	22.50
	16QAM	15	0	21.66	21.87	21.81	1	22.50	21.66	21.87	21.81	1	22.50
		1	0	22.07	22.11	22.15	1	22.50	22.07	22.11	22.15	1	22.50
		1	8	22.02	22.21	22.17	1	22.50	22.02	22.21	22.17	1	22.50
		1	14	21.96	22.21	22.04	1	22.50	21.96	22.21	22.04	1	22.50
		8	0	20.82	20.91	20.92	2	21.50	20.82	20.91	20.92	2	21.50
		8	4	20.70	20.95	20.88	2	21.50	20.70	20.95	20.88	2	21.50
	64QAM	8	7	20.70	20.94	20.88	2	21.50	20.70	20.94	20.88	2	21.50
		15	0	20.69	20.92	20.84	2	21.50	20.69	20.92	20.84	2	21.50
		1	0	21.04	21.18	21.00	2	21.50	21.04	21.18	21.00	2	21.50
		1	8	20.90	21.21	21.06	2	21.50	20.90	21.21	21.06	2	21.50
		1	14	20.90	21.23	20.95	2	21.50	20.90	21.23	20.95	2	21.50
		8	0	19.82	19.98	19.91	3	20.50	19.82	19.98	19.91	3	20.50
1.4 MHz	QPSK	8	4	19.76	20.03	19.88	3	20.50	19.76	20.03	19.88	3	20.50
		8	7	19.76	20.02	19.89	3	20.50	19.76	20.02	19.89	3	20.50
		15	0	19.71	19.98	19.87	3	20.50	19.71	19.98	19.87	3	20.50
	16QAM	1	0	22.78	22.99	22.88	0	23.50	22.78	22.99	22.88	0	23.50
		1	3	22.77	22.93	22.77	0	23.50	22.77	22.93	22.77	0	23.50
		1	5	22.66	22.95	22.80	0	23.50	22.66	22.95	22.80	0	23.50
	64QAM	3	0	22.73	22.88	22.69	0	23.50	22.73	22.88	22.69	0	23.50
		3	1	22.71	22.88	22.69	0	23.50	22.71	22.88	22.69	0	23.50
		3	3	22.71	22.87	22.70	0	23.50	22.71	22.87	22.70	0	23.50
	16QAM	6	0	21.72	21.87	21.68	1	22.50	21.72	21.87	21.68	1	22.50
		1	0	22.11	22.24	22.13	1	22.50	22.11	22.24	22.13	1	22.50
		1	3	22.04	22.25	22.04	1	22.50	22.04	22.25	22.04	1	22.50
		1	5	21.97	22.24	22.08	1	22.50	21.97	22.24	22.08	1	22.50
		3	0	21.88	22.11	21.86	1	22.50	21.88	22.11	21.86	1	22.50
		3	1	21.85	22.09	21.88	1	22.50	21.85	22.09	21.88	1	22.50
	64QAM	3	3	21.81	22.04	21.85	1	22.50	21.81	22.04	21.85	1	22.50
		6	0	20.77	21.02	20.80	2	21.50	20.77	21.02	20.80	2	21.50
		1	0	21.15	21.22	21.03	2	21.50	21.15	21.22	21.03	2	21.50
		1	3	21.11	21.20	20.89	2	21.50	21.11	21.20	20.89	2	21.50
		1	5	21.00	21.17	20.91	2	21.50	21.00	21.17	20.91	2	21.50
		3	0	20.98	21.04	20.80	2	21.50	20.98	21.04	20.80	2	21.50
	64QAM	3	1	20.94	21.03	20.77	2	21.50	20.94	21.03	20.77	2	21.50
		3	3	20.91	21.05	20.79	2	21.50	20.91	21.05	20.79	2	21.50
		6	0	19.83	19.98	19.73	3	20.50	19.83	19.98	19.73	3	20.50

LTE Band 7 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20850	21100	21350	MPR	Tune-up Limit	20850	21100	21350	MPR	Tune-up Limit
				2510 MHz	2535 MHz	2560 MHz			2510 MHz	2535 MHz	2560 MHz		
20 MHz	QPSK	1	0	24.55	24.72	24.42	0	25.2	18.34	18.30	17.92	0	18.5
		1	49	24.70	24.80	24.60	0	25.2	18.35	18.32	18.50	0	18.5
		1	99	24.50	24.70	24.57	0	25.2	18.29	18.30	18.31	0	18.5
		50	0	23.61	23.69	23.38	1	24.2	18.34	18.30	18.08	0	18.5
		50	24	23.70	23.70	23.60	1	24.2	18.38	18.30	18.50	0	18.5
		50	50	23.69	23.62	23.56	1	24.2	18.30	18.26	18.22	0	18.5
	16QAM	100	0	23.63	23.67	23.57	1	24.2	18.36	18.40	18.14	0	18.5
		1	0	23.88	24.02	23.63	1	24.2	18.30	18.30	18.27	0	18.5
		1	49	23.85	23.98	23.78	1	24.2	18.30	18.30	18.30	0	18.5
		1	99	23.93	23.71	23.86	1	24.2	18.30	18.30	18.30	0	18.5
		50	0	22.74	22.79	22.52	2	23.2	18.39	18.36	18.14	0	18.5
		50	24	22.74	22.73	22.60	2	23.2	18.42	18.32	18.22	0	18.5
	64QAM	50	50	22.79	22.66	22.65	2	23.2	18.48	18.29	18.25	0	18.5
		100	0	22.71	22.70	22.59	2	23.2	18.41	18.32	18.17	0	18.5
		1	0	22.75	23.08	22.48	2	23.2	18.36	18.50	18.23	0	18.5
		1	49	22.75	23.03	22.68	2	23.2	18.36	18.50	18.45	0	18.5
		1	99	22.79	22.82	22.70	2	23.2	18.32	18.49	18.50	0	18.5
		50	0	21.77	21.83	21.58	3	22.2	18.32	18.27	18.05	0	18.5
15 MHz	QPSK	50	24	21.81	21.73	21.68	3	22.2	18.31	18.27	18.17	0	18.5
		50	50	21.87	21.70	21.67	3	22.2	18.36	18.25	18.18	0	18.5
		100	0	21.80	21.73	21.63	3	22.2	18.30	18.26	18.15	0	18.5
	16QAM	1	0	24.50	24.50	24.46	0	25.2	18.25	18.27	18.08	0	18.5
		1	37	24.46	24.66	24.55	0	25.2	18.28	18.27	18.22	0	18.5
		1	74	24.64	24.42	24.52	0	25.2	18.35	18.18	18.24	0	18.5
	64QAM	36	0	23.69	23.68	23.56	1	24.2	18.26	18.29	18.12	0	18.5
		36	20	23.66	23.72	23.60	1	24.2	18.26	18.34	18.20	0	18.5
		36	39	23.64	23.60	23.57	1	24.2	18.29	18.25	18.23	0	18.5
	16QAM	75	0	23.62	23.66	23.57	1	24.2	18.25	18.30	18.20	0	18.5
		1	0	23.82	23.92	23.64	1	24.2	18.30	18.30	18.43	0	18.5
		1	37	23.79	23.82	23.76	1	24.2	18.30	18.30	18.30	0	18.5
		1	74	23.90	23.68	23.72	1	24.2	18.30	18.30	18.30	0	18.5
		36	0	22.71	22.77	22.64	2	23.2	18.34	18.35	18.21	0	18.5
		36	20	22.76	22.80	22.71	2	23.2	18.34	18.40	18.27	0	18.5
	64QAM	36	39	22.74	22.71	22.71	2	23.2	18.37	18.31	18.29	0	18.5
		75	0	22.72	22.72	22.69	2	23.2	18.32	18.29	18.21	0	18.5
		1	0	22.95	22.95	22.80	2	23.2	18.48	18.39	18.25	0	18.5
		1	37	22.91	22.88	22.82	2	23.2	18.50	18.34	18.38	0	18.5
		1	74	23.06	22.81	22.91	2	23.2	18.50	18.32	18.35	0	18.5
		36	0	21.83	21.86	21.69	3	22.2	18.29	18.27	18.19	0	18.5
	64QAM	36	20	21.83	21.91	21.74	3	22.2	18.31	18.30	18.21	0	18.5
		36	39	21.87	21.79	21.76	3	22.2	18.30	18.21	18.25	0	18.5
		75	0	21.80	21.74	21.72	3	22.2	18.27	18.21	18.17	0	18.5

LTE Band 7 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20800	21100	21400	MPR	Tune-up Limit	20800	21100	21400	MPR	Tune-up Limit
				2505 MHz	2535 MHz	2565 MHz			2505 MHz	2535 MHz	2565 MHz		
10 MHz	QPSK	1	0	24.71	24.70	24.66	0	25.2	18.29	18.29	18.32	0	18.5
		1	25	24.77	24.70	24.70	0	25.2	18.33	18.33	18.30	0	18.5
		1	49	24.70	24.79	24.72	0	25.2	18.40	18.40	18.25	0	18.5
		25	0	23.71	23.85	23.63	1	24.2	18.23	18.23	18.31	0	18.5
		25	12	23.76	23.85	23.69	1	24.2	18.27	18.27	18.31	0	18.5
		25	25	23.77	23.74	23.74	1	24.2	18.27	18.27	18.20	0	18.5
	16QAM	50	0	23.74	23.79	23.66	1	24.2	18.27	18.27	18.27	0	18.5
		1	0	23.96	24.08	23.81	1	24.2	18.33	18.33	18.33	0	18.5
		1	25	23.96	24.06	23.83	1	24.2	18.33	18.33	18.33	0	18.5
		1	49	24.04	24.00	23.90	1	24.2	18.33	18.33	18.33	0	18.5
		25	0	22.71	22.86	22.66	2	23.2	18.31	18.31	18.36	0	18.5
		25	12	22.80	22.85	22.72	2	23.2	18.35	18.35	18.36	0	18.5
	64QAM	25	25	22.79	22.75	22.73	2	23.2	18.35	18.35	18.26	0	18.5
		50	0	22.78	22.79	22.74	2	23.2	18.37	18.37	18.30	0	18.5
		1	0	22.82	22.91	22.70	2	23.2	18.40	18.50	18.38	0	18.5
		1	25	22.76	22.91	22.87	2	23.2	18.45	18.50	18.43	0	18.5
		1	49	22.87	22.79	22.88	2	23.2	18.49	18.50	18.47	0	18.5
		25	0	21.70	21.83	21.74	3	22.2	18.28	18.35	18.21	0	18.5
5 MHz	QPSK	25	12	21.75	21.84	21.76	3	22.2	18.32	18.35	18.25	0	18.5
		25	25	21.75	21.75	21.82	3	22.2	18.32	18.25	18.29	0	18.5
		50	0	21.80	21.81	21.80	3	22.2	18.35	18.30	18.23	0	18.5
	16QAM	1	0	24.54	24.74	24.68	0	25.2	18.08	18.25	18.23	0	18.5
		1	12	24.58	24.69	24.69	0	25.2	18.12	18.18	18.26	0	18.5
		1	24	24.72	24.66	24.67	0	25.2	18.23	18.17	18.28	0	18.5
		12	0	23.53	23.76	23.67	1	24.2	18.11	18.25	18.22	0	18.5
		12	7	23.54	23.77	23.71	1	24.2	18.05	18.26	18.20	0	18.5
		12	13	23.61	23.72	23.71	1	24.2	18.13	18.21	18.20	0	18.5
	64QAM	25	0	23.59	23.75	23.76	1	24.2	18.12	18.24	18.24	0	18.5
		1	0	23.79	24.08	24.03	1	24.2	18.46	18.36	18.36	0	18.5
		1	12	23.89	24.02	23.96	1	24.2	18.48	18.36	18.36	0	18.5
		1	24	24.00	23.96	23.99	1	24.2	18.36	18.36	18.36	0	18.5
		12	0	22.63	22.78	22.72	2	23.2	18.27	18.35	18.25	0	18.5
		12	7	22.62	22.81	22.74	2	23.2	18.24	18.37	18.30	0	18.5
5 MHz	16QAM	12	13	22.70	22.76	22.71	2	23.2	18.28	18.32	18.30	0	18.5
		25	0	22.63	22.77	22.72	2	23.2	18.19	18.33	18.30	0	18.5
	64QAM	1	0	22.77	22.93	22.85	2	23.2	18.33	18.50	18.40	0	18.5
		1	12	22.77	22.81	22.87	2	23.2	18.36	18.46	18.41	0	18.5
		1	24	22.88	22.86	22.83	2	23.2	18.46	18.40	18.38	0	18.5
		12	0	21.59	21.81	21.70	3	22.2	18.11	18.21	18.22	0	18.5
	64QAM	12	7	21.52	21.83	21.77	3	22.2	18.11	18.20	18.25	0	18.5
		12	13	21.59	21.78	21.76	3	22.2	18.21	18.15	18.26	0	18.5
		25	0	21.55	21.75	21.74	3	22.2	18.14	18.15	18.24	0	18.5

LTE Band 7 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20850	21100	21350	MPR	Tune-up Limit	20850	21100	21350	MPR	Tune-up Limit
				2510 MHz	2535 MHz	2560 MHz			2510 MHz	2535 MHz	2560 MHz		
20 MHz	QPSK	1	0	15.86	15.99	15.73	0	16.25	18.30	18.30	18.48	0	18.75
		1	49	16.10	16.15	16.20	0	16.25	18.40	18.41	18.50	0	18.75
		1	99	15.74	16.00	15.71	0	16.25	18.30	18.23	18.44	0	18.75
		50	0	15.74	15.81	15.74	0	16.25	18.30	18.30	18.46	0	18.75
		50	24	16.15	16.10	16.20	0	16.25	18.36	18.34	18.50	0	18.75
		50	50	15.73	15.55	15.78	0	16.25	18.30	18.24	18.47	0	18.75
		100	0	16.00	16.05	15.74	0	16.25	18.36	18.40	18.34	0	18.75
	16QAM	1	0	16.22	16.00	16.08	0	16.25	18.25	18.25	18.25	0	18.75
		1	49	16.02	16.05	16.02	0	16.25	18.25	18.25	18.25	0	18.75
		1	99	16.12	15.91	16.09	0	16.25	18.25	18.25	18.25	0	18.75
		50	0	15.79	15.87	15.81	0	16.25	18.47	18.30	18.48	0	18.75
		50	24	15.75	15.70	15.80	0	16.25	18.43	18.43	18.43	0	18.75
		50	50	15.78	15.61	15.86	0	16.25	18.30	18.33	18.48	0	18.75
		100	0	15.74	15.67	15.71	0	16.25	18.42	18.41	18.42	0	18.75
	64QAM	1	0	15.93	16.00	15.90	0	16.25	18.40	18.35	18.35	0	18.75
		1	49	15.81	16.06	15.70	0	16.25	18.40	18.35	18.35	0	18.75
		1	99	15.91	15.97	15.77	0	16.25	18.40	18.37	18.35	0	18.75
		50	0	15.75	15.86	15.81	0	16.25	18.50	18.41	18.41	0	18.75
		50	24	15.72	15.67	15.77	0	16.25	18.46	18.45	18.44	0	18.75
		50	50	15.77	15.57	15.80	0	16.25	18.50	18.38	18.49	0	18.75
		100	0	15.71	15.64	15.73	0	16.25	18.43	18.42	18.41	0	18.75
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20825	21100	21375	MPR	Tune-up Limit	20825	21100	21375	MPR	Tune-up Limit
				2507.5 MHz	2535 MHz	2562.5 MHz			2507.5 MHz	2535 MHz	2562.5 MHz		
15 MHz	QPSK	1	0	15.78	15.89	15.77	0	16.25	18.40	18.31	18.31	0	18.75
		1	37	15.79	15.57	15.79	0	16.25	18.40	18.37	18.21	0	18.75
		1	74	15.74	15.51	15.65	0	16.25	18.40	18.25	18.41	0	18.75
		36	0	15.75	15.74	15.73	0	16.25	18.42	18.50	18.46	0	18.75
		36	20	15.74	15.68	15.81	0	16.25	18.48	18.41	18.48	0	18.75
		36	39	15.66	15.53	15.69	0	16.25	18.44	18.25	18.40	0	18.75
		75	0	15.72	15.60	15.74	0	16.25	18.47	18.34	18.48	0	18.75
	16QAM	1	0	16.10	16.14	15.99	0	16.25	18.34	18.34	18.34	0	18.75
		1	37	16.03	15.82	16.02	0	16.25	18.34	18.34	18.34	0	18.75
		1	74	16.00	15.77	15.89	0	16.25	18.34	18.34	18.34	0	18.75
		36	0	15.74	15.80	15.74	0	16.25	18.49	18.25	18.49	0	18.75
		36	20	15.80	15.75	15.81	0	16.25	18.21	18.49	18.32	0	18.75
		36	39	15.71	15.59	15.72	0	16.25	18.44	18.33	18.49	0	18.75
		75	0	15.77	15.65	15.80	0	16.25	18.30	18.41	18.40	0	18.75
	64QAM	1	0	16.08	16.14	16.05	0	16.25	18.30	18.35	18.40	0	18.75
		1	37	16.04	15.95	16.09	0	16.25	18.30	18.35	18.40	0	18.75
		1	74	16.05	15.78	15.87	0	16.25	18.30	18.35	18.40	0	18.75
		36	0	15.75	15.85	15.82	0	16.25	18.50	18.34	18.46	0	18.75
		36	20	15.75	15.79	15.82	0	16.25	18.42	18.34	18.41	0	18.75
		36	39	15.67	15.64	15.73	0	16.25	18.48	18.35	18.49	0	18.75
		75	0	15.72	15.70	15.79	0	16.25	18.40	18.41	18.31	0	18.75

LTE Band 7 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20800	21100	21400	MPR	Tune-up Limit	20800	21100	21400	MPR	Tune-up Limit
				2505 MHz	2535 MHz	2565 MHz			2505 MHz	2535 MHz	2565 MHz		
10 MHz	QPSK	1	0	15.79	15.86	15.88	0	16.25	18.35	18.35	18.35	0	18.75
		1	25	15.70	15.71	15.74	0	16.25	18.45	18.48	18.49	0	18.75
		1	49	15.71	15.53	15.74	0	16.25	18.46	18.36	18.48	0	18.75
		25	0	15.71	15.73	15.80	0	16.25	18.45	18.41	18.41	0	18.75
		25	12	15.69	15.67	15.74	0	16.25	18.46	18.41	18.41	0	18.75
		25	25	15.71	15.51	15.70	0	16.25	18.46	18.29	18.40	0	18.75
		50	0	15.68	15.59	15.76	0	16.25	18.40	18.37	18.44	0	18.75
	16QAM	1	0	16.07	16.07	16.13	0	16.25	18.23	18.23	18.23	0	18.75
		1	25	15.97	15.93	16.02	0	16.25	18.40	18.40	18.40	0	18.75
		1	49	15.99	15.79	16.00	0	16.25	18.23	18.23	18.23	0	18.75
		25	0	15.77	15.79	15.89	0	16.25	18.50	18.25	18.25	0	18.75
		25	12	15.75	15.72	15.81	0	16.25	18.48	18.49	18.49	0	18.75
		25	25	15.78	15.57	15.76	0	16.25	18.24	18.37	18.47	0	18.75
		50	0	15.75	15.66	15.82	0	16.25	18.44	18.46	18.36	0	18.75
	64QAM	1	0	15.92	16.02	16.09	0	16.25	18.35	18.42	18.36	0	18.75
		1	25	15.86	15.87	15.92	0	16.25	18.35	18.42	18.36	0	18.75
		1	49	15.88	15.77	15.93	0	16.25	18.35	18.42	18.36	0	18.75
		25	0	15.74	15.78	15.92	0	16.25	18.49	18.42	18.36	0	18.75
		25	12	15.72	15.73	15.86	0	16.25	18.50	18.48	18.36	0	18.75
		25	25	15.77	15.59	15.81	0	16.25	18.40	18.39	18.47	0	18.75
		50	0	15.75	15.69	15.87	0	16.25	18.40	18.46	18.40	0	18.75
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				20775	21100	21425	MPR	Tune-up Limit	20775	21100	21425	MPR	Tune-up Limit
				2502.5 MHz	2535 MHz	2567.5 MHz			2502.5 MHz	2535 MHz	2567.5 MHz		
5 MHz	QPSK	1	0	15.77	15.74	15.73	0	16.25	18.30	18.48	18.30	0	18.75
		1	12	15.64	15.59	15.68	0	16.25	18.44	18.29	18.42	0	18.75
		1	24	15.66	15.53	15.72	0	16.25	18.30	18.28	18.44	0	18.75
		12	0	15.74	15.69	15.65	0	16.25	18.45	18.40	18.40	0	18.75
		12	7	15.65	15.66	15.63	0	16.25	18.37	18.38	18.39	0	18.75
		12	13	15.63	15.54	15.64	0	16.25	18.37	18.32	18.39	0	18.75
	16QAM	25	0	15.68	15.58	15.68	0	16.25	18.42	18.30	18.44	0	18.75
		1	0	16.19	16.09	16.12	0	16.25	18.20	18.30	18.40	0	18.75
		1	12	16.04	15.90	16.05	0	16.25	18.20	18.30	18.40	0	18.75
		1	24	16.05	15.87	16.08	0	16.25	18.20	18.30	18.40	0	18.75
		12	0	15.82	15.70	15.75	0	16.25	18.23	18.41	18.40	0	18.75
		12	7	15.74	15.69	15.70	0	16.25	18.44	18.41	18.49	0	18.75
	64QAM	12	13	15.72	15.61	15.74	0	16.25	18.43	18.38	18.44	0	18.75
		25	0	15.73	15.62	15.72	0	16.25	18.45	18.38	18.41	0	18.75
		1	0	16.02	16.02	16.09	0	16.25	18.20	18.30	18.30	0	18.75
		1	12	15.90	15.82	15.99	0	16.25	18.20	18.10	18.20	0	18.75
		1	24	15.85	15.80	15.93	0	16.25	18.20	18.10	18.20	0	18.75
		12	0	15.84	15.82	15.80	0	16.25	18.48	18.46	18.13	0	18.75
		12	7	15.70	15.76	15.76	0	16.25	18.43	18.44	18.06	0	18.75
		12	13	15.67	15.72	15.78	0	16.25	18.42	18.37	18.34	0	18.75
		25	0	15.69	15.64	15.75	0	16.25	18.42	18.39	18.48	0	18.75

LTE Band 12 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
					23095		MPR	Tune-up Limit		23095		MPR	Tune-up Limit
					707.5 MHz					707.5 MHz			
10 MHz	QPSK	1	0		24.20		0	25.20		24.20		0	25.20
		1	25		24.70		0	25.20		24.70		0	25.20
		1	49		24.20		0	25.20		24.20		0	25.20
		25	0		23.31		1	24.20		23.31		1	24.20
		25	12		23.70		1	24.20		23.70		1	24.20
		25	25		23.37		1	24.20		23.37		1	24.20
	16QAM	50	0		23.70		1	24.20		23.70		1	24.20
		1	0		23.39		1	24.20		23.39		1	24.20
		1	25		23.68		1	24.20		23.68		1	24.20
		1	49		23.53		1	24.20		23.53		1	24.20
		25	0		22.34		2	23.20		22.34		2	23.20
		25	12		22.44		2	23.20		22.44		2	23.20
	64QAM	25	25		22.40		2	23.20		22.40		2	23.20
		50	0		22.45		2	23.20		22.45		2	23.20
		1	0		22.20		2	23.20		22.20		2	23.20
		1	25		22.39		2	23.20		22.39		2	23.20
		1	49		22.50		2	23.20		22.50		2	23.20
		25	0		21.20		3	22.20		21.20		3	22.20
		25	12		21.37		3	22.20		21.37		3	22.20
		25	25		21.42		3	22.20		21.42		3	22.20
		50	0		21.42		3	22.20		21.42		3	22.20
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				23035	23095	23155	MPR	Tune-up Limit	23035	23095	23155	MPR	Tune-up Limit
				701.5 MHz	707.5 MHz	713.5 MHz			701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	24.20	24.33	24.33	0	25.20	24.20	24.33	24.33	0	25.20
		1	12	24.20	24.40	24.20	0	25.20	24.20	24.40	24.20	0	25.20
		1	24	24.20	24.45	24.28	0	25.20	24.20	24.45	24.28	0	25.20
		12	0	23.20	23.35	23.20	1	24.20	23.20	23.35	23.20	1	24.20
		12	7	23.20	23.44	23.21	1	24.20	23.20	23.44	23.21	1	24.20
		12	13	23.20	23.46	23.26	1	24.20	23.20	23.46	23.26	1	24.20
	16QAM	25	0	23.20	23.45	23.25	1	24.20	23.20	23.45	23.25	1	24.20
		1	0	23.54	23.50	23.75	1	24.20	23.54	23.50	23.75	1	24.20
		1	12	23.37	23.69	23.55	1	24.20	23.37	23.69	23.55	1	24.20
		1	24	23.58	23.73	23.63	1	24.20	23.58	23.73	23.63	1	24.20
		12	0	22.22	22.47	22.28	2	23.20	22.22	22.47	22.28	2	23.20
		12	7	22.20	22.54	22.29	2	23.20	22.20	22.54	22.29	2	23.20
	64QAM	12	13	22.20	22.56	22.26	2	23.20	22.20	22.56	22.26	2	23.20
		25	0	22.20	22.53	22.26	2	23.20	22.20	22.53	22.26	2	23.20
		1	0	22.59	22.32	22.68	2	23.20	22.59	22.32	22.68	2	23.20
		1	12	22.31	22.48	22.73	2	23.20	22.31	22.48	22.73	2	23.20
		1	24	22.27	22.66	22.55	2	23.20	22.27	22.66	22.55	2	23.20
		12	0	21.33	21.22	21.51	3	22.20	21.33	21.22	21.51	3	22.20
		12	7	21.20	21.30	21.43	3	22.20	21.20	21.30	21.43	3	22.20
		12	13	21.20	21.35	21.38	3	22.20	21.20	21.35	21.38	3	22.20
		25	0	21.20	21.34	21.44	3	22.20	21.20	21.34	21.44	3	22.20

LTE Band 12 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				23025	23095	23165	MPR	Tune-up Limit	23025	23095	23165	MPR	Tune-up Limit
				700.5 MHz	707.5 MHz	714.5 MHz			700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	24.22	24.41	24.26	0	25.20	24.22	24.41	24.26	0	25.20
		1	8	24.21	24.56	24.30	0	25.20	24.21	24.56	24.30	0	25.20
		1	14	24.20	24.48	24.30	0	25.20	24.20	24.48	24.30	0	25.20
		8	0	23.24	23.48	23.25	1	24.20	23.24	23.48	23.25	1	24.20
		8	4	23.20	23.53	23.31	1	24.20	23.20	23.53	23.31	1	24.20
		8	7	23.21	23.54	23.36	1	24.20	23.21	23.54	23.36	1	24.20
	16QAM	15	0	23.22	23.56	23.42	1	24.20	23.22	23.56	23.42	1	24.20
		1	0	23.52	23.71	23.58	1	24.20	23.52	23.71	23.58	1	24.20
		1	8	23.53	23.76	23.59	1	24.20	23.53	23.76	23.59	1	24.20
		1	14	23.37	23.75	23.50	1	24.20	23.37	23.75	23.50	1	24.20
		8	0	22.32	22.53	22.31	2	23.20	22.32	22.53	22.31	2	23.20
		8	4	22.28	22.56	22.30	2	23.20	22.28	22.56	22.30	2	23.20
	64QAM	8	7	22.26	22.57	22.31	2	23.20	22.26	22.57	22.31	2	23.20
		15	0	22.26	22.56	22.35	2	23.20	22.26	22.56	22.35	2	23.20
		1	0	22.49	22.43	22.57	2	23.20	22.49	22.43	22.57	2	23.20
		1	8	22.50	22.46	22.47	2	23.20	22.50	22.46	22.47	2	23.20
		1	14	22.33	22.54	22.30	2	23.20	22.33	22.54	22.30	2	23.20
		8	0	21.47	21.39	21.48	3	22.20	21.47	21.39	21.48	3	22.20
1.4 MHz	QPSK	8	4	21.43	21.44	21.40	3	22.20	21.43	21.44	21.40	3	22.20
		8	7	21.35	21.44	21.37	3	22.20	21.35	21.44	21.37	3	22.20
		15	0	21.35	21.42	21.37	3	22.20	21.35	21.42	21.37	3	22.20
	16QAM	1	0	24.25	24.49	24.34	0	25.20	24.25	24.49	24.34	0	25.20
		1	3	24.25	24.46	24.38	0	25.20	24.25	24.46	24.38	0	25.20
		1	5	24.21	24.51	24.36	0	25.20	24.21	24.51	24.36	0	25.20
		3	0	24.20	24.51	24.35	0	25.20	24.20	24.51	24.35	0	25.20
		3	1	24.20	24.51	24.35	0	25.20	24.20	24.51	24.35	0	25.20
		3	3	24.20	24.51	24.36	0	25.20	24.20	24.51	24.36	0	25.20
	64QAM	6	0	23.20	23.52	23.42	1	24.20	23.20	23.52	23.42	1	24.20
		1	0	23.46	23.69	23.62	1	24.20	23.46	23.69	23.62	1	24.20
		1	3	23.46	23.65	23.55	1	24.20	23.46	23.65	23.55	1	24.20
		1	5	23.47	23.75	23.66	1	24.20	23.47	23.75	23.66	1	24.20
		3	0	23.32	23.60	23.45	1	24.20	23.32	23.60	23.45	1	24.20
		3	1	23.34	23.61	23.45	1	24.20	23.34	23.61	23.45	1	24.20
1.4 MHz	16QAM	3	3	23.33	23.62	23.45	1	24.20	23.33	23.62	23.45	1	24.20
		6	0	22.29	22.58	22.41	2	23.20	22.29	22.58	22.41	2	23.20
	64QAM	1	0	22.64	22.43	22.65	2	23.20	22.64	22.43	22.65	2	23.20
		1	3	22.51	22.35	22.61	2	23.20	22.51	22.35	22.61	2	23.20
		1	5	22.51	22.48	22.60	2	23.20	22.51	22.48	22.60	2	23.20
		3	0	22.49	22.38	22.46	2	23.20	22.49	22.38	22.46	2	23.20
	64QAM	3	1	22.46	22.33	22.43	2	23.20	22.46	22.33	22.43	2	23.20
		3	3	22.49	22.36	22.46	2	23.20	22.49	22.36	22.46	2	23.20
		6	0	21.46	21.39	21.35	3	22.20	21.46	21.39	21.35	3	22.20

LTE Band 12 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
					23095		MPR	Tune-up Limit		23095		MPR	Tune-up Limit
					707.5 MHz					707.5 MHz			
10 MHz	QPSK	1	0		22.73		0	23.50		22.73		0	23.50
		1	25		23.00		0	23.50		23.00		0	23.50
		1	49		22.69		0	23.50		22.69		0	23.50
		25	0		21.78		1	22.50		21.78		1	22.50
		25	12		22.00		1	22.50		22.00		1	22.50
		25	25		21.68		1	22.50		21.68		1	22.50
		50	0		22.00		1	22.50		22.00		1	22.50
	16QAM	1	0		21.94		1	22.50		21.94		1	22.50
		1	25		22.06		1	22.50		22.06		1	22.50
		1	49		22.00		1	22.50		22.00		1	22.50
		25	0		20.86		2	21.50		20.86		2	21.50
		25	12		20.88		2	21.50		20.88		2	21.50
		25	25		20.82		2	21.50		20.82		2	21.50
		50	0		20.90		2	21.50		20.90		2	21.50
	64QAM	1	0		20.97		2	21.50		20.97		2	21.50
		1	25		20.99		2	21.50		20.99		2	21.50
		1	49		20.94		2	21.50		20.94		2	21.50
		25	0		19.87		3	20.50		19.87		3	20.50
		25	12		19.83		3	20.50		19.83		3	20.50
		25	25		19.69		3	20.50		19.69		3	20.50
		50	0		19.85		3	20.50		19.85		3	20.50
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				23035	23095	23155	MPR	Tune-up Limit	23035	23095	23155	MPR	Tune-up Limit
					701.5 MHz	707.5 MHz				713.5 MHz	701.5 MHz		
5 MHz	QPSK	1	0	22.75	22.82	22.71	0	23.50	22.75	22.82	22.71	0	23.50
		1	12	22.70	22.77	22.69	0	23.50	22.70	22.77	22.69	0	23.50
		1	24	22.73	22.68	22.74	0	23.50	22.73	22.68	22.74	0	23.50
		12	0	21.75	21.78	21.73	1	22.50	21.75	21.78	21.73	1	22.50
		12	7	21.73	21.80	21.74	1	22.50	21.73	21.80	21.74	1	22.50
		12	13	21.72	21.74	21.77	1	22.50	21.72	21.74	21.77	1	22.50
		25	0	21.79	21.83	21.77	1	22.50	21.79	21.83	21.77	1	22.50
	16QAM	1	0	22.15	22.12	22.13	1	22.50	22.15	22.12	22.13	1	22.50
		1	12	22.04	22.11	22.04	1	22.50	22.04	22.11	22.04	1	22.50
		1	24	22.09	22.05	22.14	1	22.50	22.09	22.05	22.14	1	22.50
		12	0	20.83	20.91	20.80	2	21.50	20.83	20.91	20.80	2	21.50
		12	7	20.83	20.89	20.75	2	21.50	20.83	20.89	20.75	2	21.50
		12	13	20.82	20.83	20.76	2	21.50	20.82	20.83	20.76	2	21.50
		25	0	20.83	20.90	20.79	2	21.50	20.83	20.90	20.79	2	21.50
	64QAM	1	0	21.04	21.04	20.90	2	21.50	21.04	21.04	20.90	2	21.50
		1	12	20.85	21.01	20.85	2	21.50	20.85	21.01	20.85	2	21.50
		1	24	20.89	20.98	21.05	2	21.50	20.89	20.98	21.05	2	21.50
		12	0	19.76	19.75	19.67	3	20.50	19.76	19.75	19.67	3	20.50
		12	7	19.73	19.77	19.63	3	20.50	19.73	19.77	19.63	3	20.50
		12	13	19.72	19.70	19.67	3	20.50	19.72	19.70	19.67	3	20.50
		25	0	19.72	19.82	19.66	3	20.50	19.72	19.82	19.66	3	20.50

LTE Band 12 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				23025	23095	23165	MPR	Tune-up Limit	23025	23095	23165	MPR	Tune-up Limit
				700.5 MHz	707.5 MHz	714.5 MHz			700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	22.79	22.83	22.75	0	23.50	22.79	22.83	22.75	0	23.50
		1	8	22.84	22.90	22.82	0	23.50	22.84	22.90	22.82	0	23.50
		1	14	22.75	22.81	22.78	0	23.50	22.75	22.81	22.78	0	23.50
		8	0	21.84	21.88	21.74	1	22.50	21.84	21.88	21.74	1	22.50
		8	4	21.83	21.88	21.77	1	22.50	21.83	21.88	21.77	1	22.50
		8	7	21.82	21.89	21.77	1	22.50	21.82	21.89	21.77	1	22.50
	16QAM	15	0	21.85	21.91	21.80	1	22.50	21.85	21.91	21.80	1	22.50
		1	0	22.18	22.17	21.99	1	22.50	22.18	22.17	21.99	1	22.50
		1	8	22.19	22.30	22.09	1	22.50	22.19	22.30	22.09	1	22.50
		1	14	22.08	22.22	22.11	1	22.50	22.08	22.22	22.11	1	22.50
		8	0	20.96	20.96	20.79	2	21.50	20.96	20.96	20.79	2	21.50
		8	4	20.94	20.94	20.82	2	21.50	20.94	20.94	20.82	2	21.50
	64QAM	8	7	20.95	20.96	20.83	2	21.50	20.95	20.96	20.83	2	21.50
		15	0	20.93	20.94	20.82	2	21.50	20.93	20.94	20.82	2	21.50
		1	0	21.07	21.01	20.91	2	21.50	21.07	21.01	20.91	2	21.50
		1	8	20.89	21.12	20.85	2	21.50	20.89	21.12	20.85	2	21.50
		1	14	20.88	20.98	20.91	2	21.50	20.88	20.98	20.91	2	21.50
		8	0	19.87	19.95	19.69	3	20.50	19.87	19.95	19.69	3	20.50
1.4 MHz	QPSK	8	4	19.85	19.95	19.78	3	20.50	19.85	19.95	19.78	3	20.50
		8	7	19.84	19.96	19.78	3	20.50	19.84	19.96	19.78	3	20.50
		15	0	19.83	19.91	19.78	3	20.50	19.83	19.91	19.78	3	20.50
	16QAM	1	0	22.89	22.83	22.80	0	23.50	22.89	22.83	22.80	0	23.50
		1	3	22.81	22.82	22.82	0	23.50	22.81	22.82	22.82	0	23.50
		1	5	22.84	22.85	22.85	0	23.50	22.84	22.85	22.85	0	23.50
	64QAM	3	0	22.81	22.84	22.84	0	23.50	22.81	22.84	22.84	0	23.50
		3	1	22.80	22.83	22.83	0	23.50	22.80	22.83	22.83	0	23.50
		3	3	22.77	22.83	22.82	0	23.50	22.77	22.83	22.82	0	23.50
	16QAM	6	0	21.84	21.85	21.81	1	22.50	21.84	21.85	21.81	1	22.50
		1	0	22.14	22.08	22.16	1	22.50	22.14	22.08	22.16	1	22.50
		1	3	22.10	22.07	22.14	1	22.50	22.10	22.07	22.14	1	22.50
		1	5	22.10	22.08	22.20	1	22.50	22.10	22.08	22.20	1	22.50
		3	0	22.00	22.01	21.95	1	22.50	22.00	22.01	21.95	1	22.50
		3	1	21.95	22.00	21.93	1	22.50	21.95	22.00	21.93	1	22.50
	64QAM	3	3	21.95	22.02	21.92	1	22.50	21.95	22.02	21.92	1	22.50
		6	0	20.94	20.95	20.89	2	21.50	20.94	20.95	20.89	2	21.50
		1	0	21.23	21.06	20.95	2	21.50	21.23	21.06	20.95	2	21.50
		1	3	21.19	21.03	20.92	2	21.50	21.19	21.03	20.92	2	21.50
		1	5	21.15	20.99	20.97	2	21.50	21.15	20.99	20.97	2	21.50
		3	0	21.01	20.89	20.86	2	21.50	21.01	20.89	20.86	2	21.50
	64QAM	3	1	20.99	20.89	20.83	2	21.50	20.99	20.89	20.83	2	21.50
		3	3	20.99	20.91	20.84	2	21.50	20.99	20.91	20.84	2	21.50
		6	0	19.89	19.88	19.87	3	20.50	19.89	19.88	19.87	3	20.50

LTE Band 13 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)				Power Mode B (dBm)			
				23230 782 MHz		MPR	Tune-up Limit	23230 782 MHz		MPR	Tune-up Limit
10 MHz	QPSK	1	0	24.45		0	25.20	24.45		0	25.20
		1	25	24.70		0	25.20	24.70		0	25.20
		1	49	24.41		0	25.20	24.41		0	25.20
		25	0	23.20		1	24.20	23.20		1	24.20
		25	12	23.70		1	24.20	23.70		1	24.20
		25	25	23.39		1	24.20	23.39		1	24.20
	16QAM	50	0	23.70		1	24.20	23.70		1	24.20
		1	0	23.70		1	24.20	23.70		1	24.20
		1	25	23.58		1	24.20	23.58		1	24.20
		1	49	23.70		1	24.20	23.70		1	24.20
		25	0	22.20		2	23.20	22.20		2	23.20
		25	12	22.27		2	23.20	22.27		2	23.20
	64QAM	25	25	22.42		2	23.20	22.42		2	23.20
		50	0	22.31		2	23.20	22.31		2	23.20
		1	0	22.89		2	23.20	22.75		2	23.20
		1	25	22.54		2	23.20	22.54		2	23.20
		1	49	22.70		2	23.20	22.70		2	23.20
		25	0	21.20		3	22.20	21.20		3	22.20
		25	12	21.37		3	22.20	21.37		3	22.20
		25	25	21.37		3	22.20	21.37		3	22.20
		50	0	21.38		3	22.20	21.38		3	22.20
5 MHz	QPSK	1	0	24.20		0	25.20	24.20		0	25.20
		1	12	24.28		0	25.20	24.28		0	25.20
		1	24	24.47		0	25.20	24.47		0	25.20
		12	0	23.20		1	24.20	23.20		1	24.20
		12	7	23.27		1	24.20	23.27		1	24.20
		12	13	23.29		1	24.20	23.29		1	24.20
	16QAM	25	0	23.25		1	24.20	23.25		1	24.20
		1	0	23.31		1	24.20	23.31		1	24.20
		1	12	23.54		1	24.20	23.54		1	24.20
		1	24	23.73		1	24.20	23.73		1	24.20
		12	0	22.20		2	23.20	22.20		2	23.20
		12	7	22.27		2	23.20	22.27		2	23.20
	64QAM	12	13	22.31		2	23.20	22.31		2	23.20
		25	0	22.26		2	23.20	22.26		2	23.20
		1	0	22.47		2	23.20	22.47		2	23.20
		1	12	22.64		2	23.20	22.64		2	23.20
		1	24	22.64		2	23.20	22.64		2	23.20
		12	0	21.32		3	22.20	21.32		3	22.20
		12	7	21.39		3	22.20	21.39		3	22.20
		12	13	21.33		3	22.20	21.33		3	22.20
		25	0	21.33		3	22.20	21.33		3	22.20

LTE Band 13 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)				Power Mode B (dBm)			
				23230 782 MHz		MPR	Tune-up Limit	23230 782 MHz		MPR	Tune-up Limit
10 MHz	QPSK	1	0	22.96		0	23.50	22.96		0	23.50
		1	25	23.10		0	23.50	23.10		0	23.50
		1	49	22.80		0	23.50	22.80		0	23.50
		25	0	21.80		1	22.50	21.80		1	22.50
		25	12	22.10		1	22.50	22.10		1	22.50
		25	25	21.96		1	22.50	21.96		1	22.50
	16QAM	50	0	22.05		1	22.50	22.05		1	22.50
		1	0	22.27		1	22.50	22.27		1	22.50
		1	25	22.26		1	22.50	22.26		1	22.50
		1	49	22.13		1	22.50	22.13		1	22.50
		25	0	20.80		2	21.50	20.80		2	21.50
		25	12	20.97		2	21.50	20.97		2	21.50
	64QAM	25	25	20.98		2	21.50	20.98		2	21.50
		50	0	21.02		2	21.50	21.02		2	21.50
		1	0	21.14		2	21.50	21.14		2	21.50
		1	25	21.12		2	21.50	21.12		2	21.50
		1	49	21.06		2	21.50	21.06		2	21.50
		25	0	19.71		3	20.50	19.71		3	20.50
5 MHz	QPSK	25	12	19.93		3	20.50	19.93		3	20.50
		25	25	19.99		3	20.50	19.99		3	20.50
		50	0	19.97		3	20.50	19.97		3	20.50
	16QAM	1	0	22.94		0	23.50	22.94		0	23.50
		1	12	23.01		0	23.50	23.01		0	23.50
		1	24	23.04		0	23.50	23.04		0	23.50
		12	0	21.95		1	22.50	21.95		1	22.50
		12	7	21.97		1	22.50	21.97		1	22.50
		12	13	21.98		1	22.50	21.98		1	22.50
	64QAM	25	0	22.01		1	22.50	22.01		1	22.50
		1	0	22.18		1	22.50	22.18		1	22.50
		1	12	22.33		1	22.50	22.33		1	22.50
		1	24	22.35		1	22.50	22.35		1	22.50
		12	0	21.01		2	21.50	21.01		2	21.50
		12	7	21.05		2	21.50	21.05		2	21.50
	16QAM	12	13	21.04		2	21.50	21.04		2	21.50
		25	0	21.03		2	21.50	21.03		2	21.50
		1	0	21.13		2	21.50	21.13		2	21.50
		1	12	21.25		2	21.50	21.25		2	21.50
		1	24	21.31		2	21.50	21.31		2	21.50
		12	0	19.98		3	20.50	19.98		3	20.50
	64QAM	12	7	20.06		3	20.50	20.06		3	20.50
		12	13	20.04		3	20.50	20.04		3	20.50
		25	0	19.93		3	20.50	19.93		3	20.50

LTE Band 25 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26140	26365	26590	MPR	Tune-up Limit	26140	26365	26590	MPR	Tune-up Limit
				1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	23.99	24.17	23.86	0	24.25	18.41	18.68	18.59	0	18.75
		1	49	24.10	24.20	24.20	0	24.25	18.70	18.75	18.60	0	18.75
		1	99	24.10	23.80	23.51	0	24.25	18.66	18.53	18.58	0	18.75
		50	0	23.28	23.39	23.33	0.05	24.20	18.48	18.65	18.46	0	18.75
		50	24	23.70	23.70	23.70	0.05	24.20	18.60	18.71	18.55	0	18.75
		50	50	23.39	23.20	23.34	0.05	24.20	18.57	18.54	18.46	0	18.75
	16QAM	100	0	23.28	23.70	23.23	0.05	24.20	18.49	18.70	18.60	0	18.75
		1	0	23.69	23.90	23.55	0.05	24.20	18.19	18.50	18.33	0	18.75
		1	49	23.69	23.51	23.46	0.05	24.20	18.27	18.47	18.27	0	18.75
		1	99	23.93	23.50	23.48	0.05	24.20	18.52	18.42	18.63	0	18.75
		50	0	22.41	22.31	22.32	1.05	23.20	18.55	18.60	18.51	0	18.75
		50	24	22.41	22.24	22.21	1.05	23.20	18.54	18.65	18.60	0	18.75
	64QAM	50	50	22.54	22.39	22.39	1.05	23.20	18.68	18.59	18.60	0	18.75
		100	0	22.40	22.24	22.26	1.05	23.20	18.54	18.67	18.67	0	18.75
		1	0	22.25	22.75	22.48	1.05	23.20	18.57	18.75	18.73	0	18.75
		1	49	22.38	22.42	22.29	1.05	23.20	18.55	18.73	18.62	0	18.75
		1	99	22.56	22.42	22.59	1.05	23.20	18.75	18.71	18.75	0	18.75
		50	0	21.50	21.45	21.37	2.05	22.20	18.54	18.48	18.17	0	18.75
15 MHz	QPSK	50	24	21.51	21.34	21.23	2.05	22.20	18.53	18.36	18.26	0	18.75
		50	50	21.63	21.29	21.42	2.05	22.20	18.64	18.34	18.48	0	18.75
		100	0	21.50	21.34	21.30	2.05	22.20	18.48	18.38	18.34	0	18.75
	16QAM	1	0	23.97	24.10	24.01	0	24.25	18.50	18.57	18.42	0	18.75
		1	37	23.94	24.08	24.20	0	24.25	18.44	18.61	18.56	0	18.75
		1	74	24.09	24.00	23.91	0	24.25	18.58	18.51	18.50	0	18.75
	64QAM	36	0	23.23	23.42	23.29	0.05	24.20	18.53	18.70	18.45	0	18.75
		36	20	23.21	23.37	23.30	0.05	24.20	18.51	18.59	18.57	0	18.75
		36	39	23.21	23.31	23.30	0.05	24.20	18.50	18.51	18.73	0	18.75
	16QAM	75	0	23.21	23.33	23.41	0.05	24.20	18.46	18.58	18.70	0	18.75
		1	0	23.40	23.30	23.30	0.05	24.20	18.51	18.60	18.56	0	18.75
		1	37	23.45	23.33	23.30	0.05	24.20	18.50	18.71	18.69	0	18.75
		1	74	23.40	23.25	23.30	0.05	24.20	18.64	18.63	18.60	0	18.75
	64QAM	36	0	22.30	22.36	22.34	1.05	23.20	18.55	18.69	18.59	0	18.75
		36	20	22.28	22.40	22.30	1.05	23.20	18.50	18.63	18.71	0	18.75
		36	39	22.30	22.33	22.30	1.05	23.20	18.51	18.56	18.60	0	18.75
		75	0	22.28	22.39	22.30	1.05	23.20	18.51	18.63	18.73	0	18.75
	16QAM	1	0	22.66	22.72	22.28	1.05	23.20	18.70	18.75	18.38	0	18.75
		1	37	22.64	22.37	22.44	1.05	23.20	18.68	18.49	18.55	0	18.75
		1	74	22.85	22.32	22.59	1.05	23.20	18.75	18.41	18.75	0	18.75
		36	0	21.45	21.37	21.36	2.05	22.20	18.48	18.45	18.22	0	18.75
		36	20	21.43	21.29	21.35	2.05	22.20	18.47	18.36	18.38	0	18.75
		36	39	21.44	21.22	21.43	2.05	22.20	18.50	18.31	18.47	0	18.75
	64QAM	75	0	21.42	21.25	21.29	2.05	22.20	18.48	18.33	18.32	0	18.75

LTE Band 25 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26090	26365	26640	MPR	Tune-up Limit	26090	26365	26640	MPR	Tune-up Limit
				1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	23.97	24.10	24.15	0	24.25	18.51	18.68	18.59	0	18.75
		1	25	24.03	24.15	24.10	0	24.25	18.51	18.60	18.74	0	18.75
		1	49	24.10	24.16	24.10	0	24.25	18.51	18.59	18.56	0	18.75
		25	0	23.23	23.40	23.42	0.05	24.20	18.48	18.59	18.65	0	18.75
		25	12	23.23	23.37	23.30	0.05	24.20	18.45	18.57	18.73	0	18.75
		25	25	23.24	23.39	23.30	0.05	24.20	18.43	18.58	18.60	0	18.75
	16QAM	50	0	23.24	23.40	23.30	0.05	24.20	18.45	18.58	18.75	0	18.75
		1	0	23.34	23.30	23.33	0.05	24.20	18.70	18.73	18.70	0	18.75
		1	25	23.36	23.38	23.40	0.05	24.20	18.75	18.68	18.70	0	18.75
		1	49	23.40	23.34	23.40	0.05	24.20	18.70	18.65	18.70	0	18.75
		25	0	22.24	22.41	22.44	1.05	23.20	18.50	18.65	18.73	0	18.75
		25	12	22.26	22.38	22.30	1.05	23.20	18.49	18.63	18.50	0	18.75
	64QAM	25	25	22.26	22.39	22.30	1.05	23.20	18.49	18.64	18.62	0	18.75
		50	0	22.28	22.39	22.30	1.05	23.20	18.51	18.63	18.52	0	18.75
		1	0	22.31	22.36	22.23	1.05	23.20	18.71	18.65	18.47	0	18.75
		1	25	22.37	22.26	22.45	1.05	23.20	18.64	18.60	18.74	0	18.75
		1	49	22.40	22.29	22.43	1.05	23.20	18.61	18.56	18.75	0	18.75
		25	0	21.41	21.30	21.31	2.05	22.20	18.54	18.39	18.34	0	18.75
5 MHz	QPSK	25	12	21.42	21.29	21.42	2.05	22.20	18.52	18.38	18.42	0	18.75
		25	25	21.43	21.29	21.51	2.05	22.20	18.51	18.39	18.55	0	18.75
		50	0	21.46	21.29	21.43	2.05	22.20	18.56	18.38	18.45	0	18.75
	16QAM	1	0	24.22	24.15	24.02	0	24.25	18.41	18.34	18.44	0	18.75
		1	12	24.19	24.08	24.05	0	24.25	18.46	18.29	18.57	0	18.75
		1	24	24.10	24.11	23.91	0	24.25	18.54	18.37	18.55	0	18.75
		12	0	23.38	23.30	23.24	0.05	24.20	18.41	18.27	18.45	0	18.75
		12	7	23.45	23.31	23.28	0.05	24.20	18.47	18.24	18.55	0	18.75
		12	13	23.30	23.31	23.25	0.05	24.20	18.52	18.23	18.56	0	18.75
	64QAM	25	0	23.44	23.33	23.28	0.05	24.20	18.49	18.25	18.56	0	18.75
		1	0	23.44	23.34	23.31	0.05	24.20	18.57	18.67	18.65	0	18.75
		1	12	23.37	23.45	23.54	0.05	24.20	18.61	18.59	18.70	0	18.75
		1	24	23.41	23.50	23.38	0.05	24.20	18.68	18.65	18.74	0	18.75
		12	0	22.34	22.62	22.42	1.05	23.20	18.50	18.35	18.53	0	18.75
		12	7	22.40	22.59	22.49	1.05	23.20	18.56	18.33	18.62	0	18.75
5 MHz	16QAM	12	13	22.45	22.58	22.49	1.05	23.20	18.58	18.32	18.60	0	18.75
		25	0	22.39	22.58	22.50	1.05	23.20	18.48	18.31	18.61	0	18.75
	64QAM	1	0	22.41	22.24	22.63	1.05	23.20	18.67	18.56	18.75	0	18.75
		1	12	22.37	22.39	22.62	1.05	23.20	18.65	18.55	18.74	0	18.75
		1	24	22.49	22.21	22.52	1.05	23.20	18.72	18.53	18.75	0	18.75
		12	0	21.40	21.35	21.42	2.05	22.20	18.40	18.27	18.50	0	18.75
	64QAM	12	7	21.37	21.32	21.47	2.05	22.20	18.48	18.26	18.57	0	18.75
		12	13	21.43	21.31	21.46	2.05	22.20	18.49	18.27	18.57	0	18.75
		25	0	21.35	21.35	21.44	2.05	22.20	18.44	18.29	18.59	0	18.75

LTE Band 25 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26055	26365	26675	MPR	Tune-up Limit	26055	26365	26675	MPR	Tune-up Limit
				1851.5 MHz	1882.5 MHz	1913.5 MHz			1851.5 MHz	1882.5 MHz	1913.5 MHz		
3 MHz	QPSK	1	0	24.06	23.86	24.19	0	24.25	18.42	18.55	18.56	0	18.75
		1	8	24.13	23.90	24.20	0	24.25	18.51	18.58	18.61	0	18.75
		1	14	24.07	23.84	24.04	0	24.25	18.44	18.53	18.41	0	18.75
		8	0	23.26	23.29	23.40	0.05	24.20	18.42	18.58	18.47	0	18.75
		8	4	23.28	23.27	23.37	0.05	24.20	18.46	18.57	18.46	0	18.75
		8	7	23.29	23.28	23.32	0.05	24.20	18.46	18.57	18.40	0	18.75
	16QAM	15	0	23.29	23.28	23.36	0.05	24.20	18.48	18.57	18.47	0	18.75
		1	0	23.57	23.37	23.74	0.05	24.20	18.50	18.69	18.69	0	18.75
		1	8	23.59	23.38	23.73	0.05	24.20	18.45	18.65	18.52	0	18.75
		1	14	23.54	23.31	23.51	0.05	24.20	18.21	18.39	18.28	0	18.75
		8	0	22.30	22.39	22.48	1.05	23.20	18.51	18.69	18.58	0	18.75
		8	4	22.36	22.35	22.43	1.05	23.20	18.53	18.66	18.57	0	18.75
	64QAM	8	7	22.34	22.37	22.38	1.05	23.20	18.53	18.65	18.52	0	18.75
		15	0	22.33	22.32	22.42	1.05	23.20	18.54	18.62	18.57	0	18.75
		1	0	22.33	22.34	22.47	1.05	23.20	18.60	18.49	18.75	0	18.75
		1	8	22.36	22.20	22.48	1.05	23.20	18.64	18.56	18.75	0	18.75
		1	14	22.49	22.25	22.56	1.05	23.20	18.56	18.52	18.66	0	18.75
		8	0	21.34	21.24	21.56	2.05	22.20	18.46	18.40	18.64	0	18.75
1.4 MHz	QPSK	8	4	21.40	21.21	21.54	2.05	22.20	18.48	18.38	18.63	0	18.75
		8	7	21.40	21.27	21.49	2.05	22.20	18.50	18.37	18.56	0	18.75
		15	0	21.36	21.21	21.47	2.05	22.20	18.47	18.34	18.56	0	18.75
	16QAM	1	0	24.03	23.92	24.07	0	24.25	18.43	18.67	18.58	0	18.75
		1	3	23.97	23.83	24.04	0	24.25	18.44	18.63	18.54	0	18.75
		1	5	24.01	23.87	24.08	0	24.25	18.46	18.63	18.53	0	18.75
	64QAM	3	0	24.02	23.84	24.05	0.05	24.20	18.43	18.60	18.45	0	18.75
		3	1	24.01	23.84	24.03	0.05	24.20	18.44	18.60	18.42	0	18.75
		3	3	24.02	23.84	24.03	0.05	24.20	18.43	18.58	18.43	0	18.75
	16QAM	6	0	23.22	23.28	23.26	0.05	24.20	18.43	18.59	18.43	0	18.75
		1	0	23.47	23.38	23.51	0.05	24.20	18.73	18.73	18.49	0	18.75
		1	3	23.38	23.35	23.47	0.05	24.20	18.69	18.72	18.48	0	18.75
		1	5	23.42	23.41	23.47	0.05	24.20	18.71	18.71	18.49	0	18.75
	64QAM	3	0	23.14	23.04	23.20	1.05	23.20	18.64	18.49	18.68	0	18.75
		3	1	23.10	23.01	23.16	1.05	23.20	18.63	18.48	18.65	0	18.75
		3	3	23.11	23.02	23.15	1.05	23.20	18.62	18.73	18.64	0	18.75
		6	0	22.28	22.40	22.37	1.05	23.20	18.57	18.69	18.56	0	18.75
	16QAM	1	0	22.39	22.35	22.56	1.05	23.20	18.63	18.59	18.75	0	18.75
		1	3	22.30	22.38	22.59	1.05	23.20	18.55	18.53	18.75	0	18.75
		1	5	22.32	22.20	22.56	1.05	23.20	18.65	18.55	18.75	0	18.75
		3	0	22.18	22.05	22.20	2.05	22.20	18.56	18.44	18.62	0	18.75
		3	1	22.17	22.04	22.20	2.05	22.20	18.54	18.44	18.58	0	18.75
		3	3	22.17	22.04	22.20	2.05	22.20	18.45	18.40	18.58	0	18.75
	64QAM	6	0	21.36	21.28	21.26	2.05	22.20	18.44	18.31	18.59	0	18.75

LTE Band 25 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26140	26365	26590	MPR	Tune-up Limit	26140	26365	26590	MPR	Tune-up Limit
				1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	17.55	17.56	17.50	0	17.75	18.61	18.69	18.67	0	19.00
		1	49	17.62	17.65	17.52	0	17.75	18.75	18.85	18.77	0	19.00
		1	99	17.50	17.60	17.50	0	17.75	18.67	18.80	18.70	0	19.00
		50	0	17.45	17.50	17.55	0	17.75	18.56	18.81	18.67	0	19.00
		50	24	17.63	17.60	17.60	0	17.75	18.70	18.83	18.76	0	19.00
		50	50	17.42	17.50	17.58	0	17.75	18.66	18.82	18.68	0	19.00
	16QAM	100	0	17.42	17.61	17.52	0	17.75	18.62	18.83	18.66	0	19.00
		1	0	17.67	17.55	17.66	0	17.75	18.96	19.00	19.00	0	19.00
		1	49	17.60	17.63	17.61	0	17.75	19.00	19.00	19.00	0	19.00
		1	99	17.60	17.69	17.66	0	17.75	19.00	19.00	19.00	0	19.00
		50	0	17.44	17.68	17.57	0	17.75	18.59	18.86	18.72	0	19.00
		50	24	17.49	17.65	17.54	0	17.75	18.68	18.79	18.70	0	19.00
	64QAM	50	50	17.49	17.50	17.56	0	17.75	18.71	18.90	18.73	0	19.00
		100	0	17.47	17.65	17.52	0	17.75	18.62	18.78	18.69	0	19.00
		1	0	17.58	17.68	17.72	0	17.75	18.72	18.83	18.79	0	19.00
		1	49	17.56	17.74	17.65	0	17.75	18.73	18.84	18.83	0	19.00
		1	99	17.63	17.45	17.74	0	17.75	18.74	18.94	18.87	0	19.00
		50	0	17.39	17.67	17.60	0	17.75	18.60	18.85	18.71	0	19.00
15 MHz	QPSK	50	24	17.46	17.62	17.54	0	17.75	18.70	18.84	18.71	0	19.00
		50	50	17.45	17.48	17.56	0	17.75	18.71	18.96	18.73	0	19.00
		100	0	17.43	17.63	17.50	0	17.75	18.68	18.76	18.68	0	19.00
		1	0	17.47	17.62	17.61	0	17.75	18.61	18.73	18.72	0	19.00
		1	37	17.50	17.61	17.62	0	17.75	18.63	18.74	18.68	0	19.00
		1	74	17.51	17.66	17.55	0	17.75	18.62	18.74	18.74	0	19.00
	16QAM	36	0	17.31	17.61	17.52	0	17.75	18.40	18.74	18.66	0	19.00
		36	20	17.46	17.63	17.57	0	17.75	18.58	18.72	18.71	0	19.00
		36	39	17.44	17.71	17.56	0	17.75	18.56	18.83	18.70	0	19.00
		75	0	17.43	17.61	17.57	0	17.75	18.59	18.74	18.64	0	19.00
		1	0	17.42	17.57	17.61	0	17.75	18.96	19.00	18.98	0	19.00
		1	37	17.50	17.62	17.62	0	17.75	18.99	18.98	18.99	0	19.00
	64QAM	1	74	17.48	17.66	17.55	0	17.75	18.94	19.00	18.97	0	19.00
		36	0	17.37	17.67	17.59	0	17.75	18.49	18.82	18.70	0	19.00
		36	20	17.50	17.61	17.63	0	17.75	18.65	18.80	18.69	0	19.00
		36	39	17.50	17.73	17.62	0	17.75	18.63	18.90	18.75	0	19.00
		75	0	17.49	17.62	17.59	0	17.75	18.62	18.79	18.68	0	19.00
		1	0	17.47	17.52	17.69	0	17.75	18.87	19.00	18.91	0	19.00
		1	37	17.52	17.59	17.62	0	17.75	18.92	19.00	18.99	0	19.00
		1	74	17.52	17.71	17.60	0	17.75	18.90	19.00	19.00	0	19.00
		36	0	17.40	17.64	17.57	0	17.75	18.48	18.85	18.66	0	19.00
		36	20	17.56	17.60	17.63	0	17.75	18.66	18.82	18.67	0	19.00
		36	39	17.56	17.74	17.64	0	17.75	18.66	18.92	18.73	0	19.00
		75	0	17.47	17.60	17.59	0	17.75	18.63	18.80	18.63	0	19.00

LTE Band 25 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26090	26365	26640	MPR	Tune-up Limit	26090	26365	26640	MPR	Tune-up Limit
				1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	17.53	17.64	17.62	0	17.75	18.59	18.83	18.81	0	19.00
		1	25	17.39	17.59	17.58	0	17.75	18.49	18.82	18.71	0	19.00
		1	49	17.55	17.74	17.72	0	17.75	18.67	18.98	18.82	0	19.00
		25	0	17.36	17.50	17.53	0	17.75	18.52	18.74	18.70	0	19.00
		25	12	17.32	17.53	17.53	0	17.75	18.46	18.76	18.67	0	19.00
		25	25	17.50	17.58	17.63	0	17.75	18.61	18.82	18.70	0	19.00
		50	0	17.40	17.56	17.60	0	17.75	18.56	18.79	18.71	0	19.00
	16QAM	1	0	17.50	17.56	17.62	0	17.75	18.88	19.00	19.00	0	19.00
		1	25	17.40	17.50	17.55	0	17.75	18.78	19.00	19.00	0	19.00
		1	49	17.53	17.71	17.65	0	17.75	18.95	19.00	19.00	0	19.00
		25	0	17.45	17.58	17.56	0	17.75	18.57	18.80	18.71	0	19.00
		25	12	17.41	17.60	17.53	0	17.75	18.53	18.83	18.71	0	19.00
		25	25	17.51	17.64	17.65	0	17.75	18.67	18.87	18.76	0	19.00
		50	0	17.41	17.61	17.62	0	17.75	18.60	18.85	18.75	0	19.00
	64QAM	1	0	17.41	17.50	17.57	0	17.75	18.78	18.93	19.00	0	19.00
		1	25	17.26	17.47	17.56	0	17.75	18.70	18.88	18.87	0	19.00
		1	49	17.49	17.61	17.58	0	17.75	18.86	19.00	18.98	0	19.00
		25	0	17.42	17.61	17.69	0	17.75	18.58	18.81	18.73	0	19.00
		25	12	17.39	17.64	17.62	0	17.75	18.52	18.83	18.74	0	19.00
		25	25	17.54	17.70	17.70	0	17.75	18.66	18.89	18.80	0	19.00
		50	0	17.43	17.66	17.68	0	17.75	18.61	18.85	18.79	0	19.00
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26065	26365	26665	MPR	Tune-up Limit	26065	26365	26665	MPR	Tune-up Limit
				1852.5 MHz	1882.5 MHz	1912.5 MHz			1852.5 MHz	1882.5 MHz	1912.5 MHz		
5 MHz	QPSK	1	0	17.40	17.55	17.65	0	17.75	18.61	18.70	18.76	0	19.00
		1	12	17.30	17.51	17.63	0	17.75	18.45	18.70	18.78	0	19.00
		1	24	17.27	17.59	17.48	0	17.75	18.49	18.79	18.87	0	19.00
		12	0	17.32	17.52	17.59	0	17.75	18.54	18.71	18.67	0	19.00
		12	7	17.26	17.53	17.61	0	17.75	18.48	18.73	18.73	0	19.00
		12	13	17.23	17.56	17.61	0	17.75	18.46	18.75	18.74	0	19.00
		25	0	17.27	17.58	17.65	0	17.75	18.50	18.78	18.79	0	19.00
	16QAM	1	0	17.49	17.36	17.46	0	17.75	18.97	19.00	19.00	0	19.00
		1	12	17.43	17.33	17.37	0	17.75	18.87	18.95	19.00	0	19.00
		1	24	17.45	17.45	17.45	0	17.75	18.92	19.00	19.00	0	19.00
		12	0	17.44	17.62	17.54	0	17.75	18.58	18.80	18.67	0	19.00
		12	7	17.37	17.65	17.61	0	17.75	18.51	18.79	18.71	0	19.00
		12	13	17.29	17.67	17.60	0	17.75	18.44	18.82	18.70	0	19.00
		25	0	17.34	17.65	17.62	0	17.75	18.50	18.81	18.73	0	19.00
	64QAM	1	0	17.44	17.57	17.66	0	17.75	18.74	19.00	19.00	0	19.00
		1	12	17.35	17.54	17.66	0	17.75	18.67	19.00	18.99	0	19.00
		1	24	17.37	17.66	17.47	0	17.75	18.73	19.00	19.00	0	19.00
		12	0	17.47	17.68	17.58	0	17.75	18.57	18.81	18.72	0	19.00
		12	7	17.43	17.67	17.63	0	17.75	18.48	18.84	18.76	0	19.00
		12	13	17.40	17.70	17.64	0	17.75	18.48	18.82	18.73	0	19.00
		25	0	17.39	17.65	17.67	0	17.75	18.48	18.77	18.71	0	19.00

LTE Band 25 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26055	26365	26675	MPR	Tune-up Limit	26055	26365	26675	MPR	Tune-up Limit
				1851.5 MHz	1882.5 MHz	1913.5 MHz			1851.5 MHz	1882.5 MHz	1913.5 MHz		
3 MHz	QPSK	1	0	17.35	17.54	17.64	0	17.75	18.55	18.75	18.76	0	19.00
		1	8	17.32	17.62	17.67	0	17.75	18.47	18.76	18.83	0	19.00
		1	14	17.29	17.60	17.71	0	17.75	18.43	18.73	18.89	0	19.00
		8	0	17.36	17.57	17.59	0	17.75	18.50	18.72	18.73	0	19.00
		8	4	17.28	17.58	17.58	0	17.75	18.43	18.71	18.72	0	19.00
		8	7	17.30	17.54	17.61	0	17.75	18.44	18.73	18.73	0	19.00
	16QAM	15	0	17.28	17.53	17.61	0	17.75	18.44	18.73	18.74	0	19.00
		1	0	17.61	17.47	17.59	0	17.75	18.72	19.00	19.00	0	19.00
		1	8	17.56	17.54	17.61	0	17.75	18.77	19.00	19.00	0	19.00
		1	14	17.52	17.53	17.67	0	17.75	18.66	19.00	19.00	0	19.00
		8	0	17.38	17.60	17.66	0	17.75	18.52	18.80	18.81	0	19.00
		8	4	17.29	17.60	17.66	0	17.75	18.47	18.79	18.80	0	19.00
	64QAM	8	7	17.31	17.60	17.68	0	17.75	18.50	18.81	18.79	0	19.00
		15	0	17.29	17.59	17.65	0	17.75	18.47	18.80	18.72	0	19.00
		1	0	17.58	17.33	17.45	0	17.75	19.00	18.98	18.88	0	19.00
		1	8	17.54	17.47	17.57	0	17.75	18.77	18.98	18.95	0	19.00
		1	14	17.53	17.44	17.58	0	17.75	18.68	18.93	18.99	0	19.00
		8	0	17.48	17.58	17.63	0	17.75	18.65	18.84	18.75	0	19.00
1.4 MHz	QPSK	8	4	17.35	17.59	17.63	0	17.75	18.57	18.81	18.73	0	19.00
		8	7	17.37	17.60	17.63	0	17.75	18.58	18.86	18.75	0	19.00
		15	0	17.33	17.56	17.58	0	17.75	18.50	18.80	18.68	0	19.00
	16QAM	1	0	17.42	17.63	17.62	0	17.75	18.59	18.71	18.77	0	19.00
		1	3	17.37	17.58	17.60	0	17.75	18.52	18.71	18.78	0	19.00
		1	5	17.42	17.62	17.69	0	17.75	18.55	18.73	18.85	0	19.00
	64QAM	3	0	17.35	17.56	17.50	0	17.75	18.50	18.68	18.68	0	19.00
		3	1	17.35	17.56	17.50	0	17.75	18.48	18.68	18.67	0	19.00
		3	3	17.35	17.56	17.52	0	17.75	18.49	18.68	18.69	0	19.00
	QPSK	6	0	17.36	17.58	17.52	0	17.75	18.51	18.69	18.69	0	19.00
		1	0	17.66	17.66	17.54	0	17.75	18.79	18.93	19.00	0	19.00
	16QAM	1	3	17.62	17.66	17.53	0	17.75	18.71	18.91	19.00	0	19.00
		1	5	17.66	17.71	17.65	0	17.75	18.77	18.99	19.00	0	19.00
		3	0	17.50	17.73	17.71	0	17.75	18.60	18.85	18.85	0	19.00
		3	1	17.51	17.71	17.71	0	17.75	18.61	18.80	18.82	0	19.00
	64QAM	3	3	17.53	17.68	17.71	0	17.75	18.61	18.82	18.82	0	19.00
		6	0	17.46	17.61	17.66	0	17.75	18.56	18.80	18.74	0	19.00
	QPSK	1	0	17.51	17.40	17.46	0	17.75	18.76	18.98	18.96	0	19.00
		1	3	17.49	17.44	17.48	0	17.75	18.63	18.85	18.91	0	19.00
		1	5	17.49	17.44	17.56	0	17.75	18.72	18.91	19.00	0	19.00
		3	0	17.42	17.66	17.64	0	17.75	18.59	18.83	18.81	0	19.00
		3	1	17.42	17.65	17.60	0	17.75	18.60	18.83	18.80	0	19.00
		3	3	17.40	17.63	17.61	0	17.75	18.58	18.84	18.80	0	19.00
	64QAM	6	0	17.39	17.60	17.59	0	17.75	18.59	18.82	18.77	0	19.00

LTE Band 26 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26740	26865	26990	MPR	Tune-up Limit	26740	26865	26990	MPR	Tune-up Limit
				819 MHz	831.5 MHz	844 MHz			819 MHz	831.5 MHz	844 MHz		
10 MHz	QPSK	1	0	24.69	24.67	24.38	0	25.20	24.69	24.67	24.38	0	25.20
		1	25	24.70	24.80	24.80	0	25.20	24.70	24.80	24.80	0	25.20
		1	49	24.55	24.48	24.57	0	25.20	24.55	24.48	24.57	0	25.20
		25	0	23.46	23.56	23.38	1	24.20	23.46	23.56	23.38	1	24.20
		25	12	23.70	23.80	23.70	1	24.20	23.70	23.80	23.70	1	24.20
	16QAM	25	25	23.58	23.37	23.51	1	24.20	23.58	23.37	23.51	1	24.20
		50	0	23.52	23.70	23.41	1	24.20	23.52	23.70	23.41	1	24.20
		1	0	24.03	23.94	23.77	1	24.20	24.03	23.94	23.77	1	24.20
		1	25	23.81	23.87	23.83	1	24.20	23.81	23.87	23.83	1	24.20
		1	49	23.91	23.75	23.94	1	24.20	23.91	23.75	23.94	1	24.20
	64QAM	25	0	22.52	22.59	22.40	2	23.20	22.52	22.59	22.40	2	23.20
		25	12	22.51	22.58	22.42	2	23.20	22.51	22.58	22.42	2	23.20
		25	25	22.52	22.44	22.47	2	23.20	22.52	22.44	22.47	2	23.20
		50	0	22.52	22.50	22.40	2	23.20	22.52	22.50	22.40	2	23.20
		1	0	22.77	22.90	22.49	2	23.20	22.77	22.90	22.49	2	23.20
5 MHz	QPSK	1	25	22.43	22.73	22.52	2	23.20	22.43	22.73	22.52	2	23.20
		1	49	22.64	22.61	22.68	2	23.20	22.64	22.61	22.68	2	23.20
		25	0	21.32	21.52	21.26	3	22.20	21.32	21.52	21.26	3	22.20
		25	12	21.37	21.49	21.27	3	22.20	21.37	21.49	21.27	3	22.20
		25	25	21.45	21.32	21.34	3	22.20	21.45	21.32	21.34	3	22.20
	16QAM	50	0	21.39	21.42	21.27	3	22.20	21.39	21.42	21.27	3	22.20
		1	0	24.67	24.68	24.48	0	25.20	24.67	24.68	24.48	0	25.20
		1	12	24.48	24.53	24.49	0	25.20	24.48	24.53	24.49	0	25.20
		1	24	24.51	24.51	24.59	0	25.20	24.51	24.51	24.59	0	25.20
		12	0	23.55	23.55	23.46	1	24.20	23.55	23.55	23.46	1	24.20
	64QAM	12	7	23.49	23.57	23.49	1	24.20	23.49	23.57	23.49	1	24.20
		12	13	23.46	23.47	23.50	1	24.20	23.46	23.47	23.50	1	24.20
		25	0	23.49	23.51	23.50	1	24.20	23.49	23.51	23.50	1	24.20
		1	0	24.09	23.99	23.90	1	24.20	24.09	23.99	23.90	1	24.20
		1	12	23.91	23.89	23.99	1	24.20	23.91	23.89	23.99	1	24.20
5 MHz	16QAM	1	24	23.87	23.80	24.02	1	24.20	23.87	23.80	24.02	1	24.20
		12	0	22.54	22.63	22.58	2	23.20	22.54	22.63	22.58	2	23.20
		12	7	22.48	22.60	22.57	2	23.20	22.48	22.60	22.57	2	23.20
		12	13	22.46	22.53	22.54	2	23.20	22.46	22.53	22.54	2	23.20
		25	0	22.49	22.51	22.52	2	23.20	22.49	22.51	22.52	2	23.20
	64QAM	1	0	22.90	22.82	22.73	2	23.20	22.90	22.82	22.73	2	23.20
		1	12	22.67	22.66	22.76	2	23.20	22.67	22.66	22.76	2	23.20
		1	24	22.58	22.66	22.86	2	23.20	22.58	22.66	22.86	2	23.20
		12	0	21.49	21.46	21.39	3	22.20	21.49	21.46	21.39	3	22.20
		12	7	21.45	21.43	21.39	3	22.20	21.45	21.43	21.39	3	22.20
		12	13	21.45	21.39	21.42	3	22.20	21.45	21.39	21.42	3	22.20
		25	0	21.42	21.44	21.38	3	22.20	21.42	21.44	21.38	3	22.20

LTE Band 26 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26705	26865	27025	MPR	Tune-up Limit	26705	26865	27025	MPR	Tune-up Limit
				815.5 MHz	831.5 MHz	847.5 MHz			815.5 MHz	831.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	24.72	24.65	24.58	0	25.20	24.72	24.65	24.58	0	25.20
		1	8	24.63	24.58	24.63	0	25.20	24.63	24.58	24.63	0	25.20
		1	14	24.53	24.50	24.57	0	25.20	24.53	24.50	24.57	0	25.20
		8	0	23.67	23.68	23.52	1	24.20	23.67	23.68	23.52	1	24.20
		8	4	23.60	23.66	23.53	1	24.20	23.60	23.66	23.53	1	24.20
		8	7	23.58	23.58	23.51	1	24.20	23.58	23.58	23.51	1	24.20
	16QAM	15	0	23.59	23.58	23.53	1	24.20	23.59	23.58	23.53	1	24.20
		1	0	24.01	24.07	24.00	1	24.20	24.01	24.07	24.00	1	24.20
		1	8	23.92	24.04	23.96	1	24.20	23.92	24.04	23.96	1	24.20
		1	14	23.84	23.92	23.92	1	24.20	23.84	23.92	23.92	1	24.20
		8	0	22.74	22.76	22.64	2	23.20	22.74	22.76	22.64	2	23.20
		8	4	22.61	22.73	22.63	2	23.20	22.61	22.73	22.63	2	23.20
	64QAM	8	7	22.59	22.68	22.60	2	23.20	22.59	22.68	22.60	2	23.20
		15	0	22.59	22.65	22.60	2	23.20	22.59	22.65	22.60	2	23.20
		1	0	22.79	22.87	22.68	2	23.20	22.79	22.87	22.68	2	23.20
		1	8	22.72	22.71	22.65	2	23.20	22.72	22.71	22.65	2	23.20
		1	14	22.70	22.62	22.70	2	23.20	22.70	22.62	22.70	2	23.20
		8	0	21.70	21.66	21.49	3	22.20	21.70	21.66	21.49	3	22.20
1.4 MHz	QPSK	8	4	21.56	21.63	21.51	3	22.20	21.56	21.63	21.51	3	22.20
		8	7	21.57	21.58	21.49	3	22.20	21.57	21.58	21.49	3	22.20
		15	0	21.53	21.53	21.45	3	22.20	21.53	21.53	21.45	3	22.20
	16QAM	1	0	24.77	24.65	24.59	0	25.20	24.77	24.65	24.59	0	25.20
		1	3	24.68	24.63	24.59	0	25.20	24.68	24.63	24.59	0	25.20
		1	5	24.64	24.58	24.61	0	25.20	24.64	24.58	24.61	0	25.20
		3	0	24.68	24.58	24.57	0	25.20	24.68	24.58	24.57	0	25.20
		3	1	24.67	24.57	24.56	0	25.20	24.67	24.57	24.56	0	25.20
		3	3	24.66	24.51	24.56	0	25.20	24.66	24.51	24.56	0	25.20
	64QAM	6	0	23.67	23.53	23.55	1	24.20	23.67	23.53	23.55	1	24.20
		1	0	24.07	23.90	23.91	1	24.20	24.07	23.90	23.91	1	24.20
		1	3	23.94	23.86	23.94	1	24.20	23.94	23.86	23.94	1	24.20
		1	5	23.94	23.80	23.94	1	24.20	23.94	23.80	23.94	1	24.20
		3	0	23.87	23.79	23.70	1	24.20	23.87	23.79	23.70	1	24.20
		3	1	23.83	23.76	23.66	1	24.20	23.83	23.76	23.66	1	24.20
1.4 MHz	16QAM	3	3	23.80	23.67	23.64	1	24.20	23.80	23.67	23.64	1	24.20
		6	0	22.77	22.64	22.59	2	23.20	22.77	22.64	22.59	2	23.20
	64QAM	1	0	22.88	22.87	22.71	2	23.20	22.88	22.87	22.71	2	23.20
		1	3	22.83	22.95	22.76	2	23.20	22.83	22.95	22.76	2	23.20
		1	5	22.77	22.85	22.70	2	23.20	22.77	22.85	22.70	2	23.20
		3	0	22.75	22.76	22.59	2	23.20	22.75	22.76	22.59	2	23.20
	64QAM	3	1	22.67	22.75	22.53	2	23.20	22.67	22.75	22.53	2	23.20
		3	3	22.65	22.68	22.53	2	23.20	22.65	22.68	22.53	2	23.20
		6	0	21.68	21.57	21.56	3	22.20	21.68	21.57	21.56	3	22.20

LTE Band 26 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26740	26865	26990	MPR	Tune-up Limit	26740	26865	26990	MPR	Tune-up Limit
				819 MHz	831.5 MHz	844 MHz			819 MHz	831.5 MHz	844 MHz		
10 MHz	QPSK	1	0	23.05	22.76	23.03	0	23.50	23.05	22.76	23.03	0	23.50
		1	25	23.10	23.20	23.10	0	23.50	23.10	23.20	23.10	0	23.50
		1	49	22.73	22.81	22.84	0	23.50	22.73	22.81	22.84	0	23.50
		25	0	21.94	21.78	21.82	1	22.50	21.94	21.78	21.82	1	22.50
		25	12	22.10	22.20	22.10	1	22.50	22.10	22.20	22.10	1	22.50
		25	25	21.73	21.76	21.79	1	22.50	21.73	21.76	21.79	1	22.50
		50	0	21.82	22.20	21.76	1	22.50	21.82	22.20	21.76	1	22.50
		1	0	22.30	22.08	22.38	1	22.50	22.30	22.08	22.38	1	22.50
		1	25	22.12	22.23	22.17	1	22.50	22.12	22.23	22.17	1	22.50
		1	49	21.99	22.15	22.24	1	22.50	21.99	22.15	22.24	1	22.50
	16QAM	25	0	20.97	20.80	20.82	2	21.50	20.97	20.80	20.82	2	21.50
		25	12	20.75	20.81	20.78	2	21.50	20.75	20.81	20.78	2	21.50
		25	25	20.70	20.73	20.82	2	21.50	20.70	20.73	20.82	2	21.50
		50	0	20.77	20.82	20.80	2	21.50	20.77	20.82	20.80	2	21.50
		1	0	21.12	20.99	21.21	2	21.50	21.12	20.99	21.21	2	21.50
	64QAM	1	25	20.88	21.16	21.08	2	21.50	20.88	21.16	21.08	2	21.50
		1	49	20.98	21.08	21.04	2	21.50	20.98	21.08	21.04	2	21.50
		25	0	19.81	19.83	19.98	3	20.50	19.81	19.83	19.98	3	20.50
		25	12	19.73	19.86	19.77	3	20.50	19.73	19.86	19.77	3	20.50
		25	25	19.76	19.79	19.77	3	20.50	19.76	19.79	19.77	3	20.50
		50	0	19.76	19.88	19.81	3	20.50	19.76	19.88	19.81	3	20.50
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26715	26865	27015	MPR	Tune-up Limit	26715	26865	27015	MPR	Tune-up Limit
				816.5 MHz	831.5 MHz	846.5 MHz			816.5 MHz	831.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	22.89	22.85	23.09	0	23.50	22.89	22.85	23.09	0	23.50
		1	12	22.85	22.81	22.88	0	23.50	22.85	22.81	22.88	0	23.50
		1	24	22.75	22.78	22.86	0	23.50	22.75	22.78	22.86	0	23.50
		12	0	21.79	21.84	21.82	1	22.50	21.79	21.84	21.82	1	22.50
		12	7	21.78	21.84	21.81	1	22.50	21.78	21.84	21.81	1	22.50
		12	13	21.75	21.83	21.79	1	22.50	21.75	21.83	21.79	1	22.50
		25	0	21.80	21.83	21.82	1	22.50	21.80	21.83	21.82	1	22.50
	16QAM	1	0	22.34	22.27	22.41	1	22.50	22.34	22.27	22.41	1	22.50
		1	12	22.29	22.28	22.18	1	22.50	22.29	22.28	22.18	1	22.50
		1	24	22.18	22.15	22.11	1	22.50	22.18	22.15	22.11	1	22.50
		12	0	20.82	20.84	20.95	2	21.50	20.82	20.84	20.95	2	21.50
		12	7	20.83	20.82	20.91	2	21.50	20.83	20.82	20.91	2	21.50
		12	13	20.74	20.84	20.84	2	21.50	20.74	20.84	20.84	2	21.50
		25	0	20.82	20.83	20.88	2	21.50	20.82	20.83	20.88	2	21.50
	64QAM	1	0	21.27	21.17	21.25	2	21.50	21.27	21.17	21.25	2	21.50
		1	12	21.12	21.14	21.23	2	21.50	21.12	21.14	21.23	2	21.50
		1	24	21.05	21.15	21.14	2	21.50	21.05	21.15	21.14	2	21.50
		12	0	19.85	19.86	19.82	3	20.50	19.85	19.86	19.82	3	20.50
		12	7	19.87	19.83	19.80	3	20.50	19.87	19.83	19.80	3	20.50
		12	13	19.79	19.83	19.80	3	20.50	19.79	19.83	19.80	3	20.50
		25	0	19.84	19.86	19.83	3	20.50	19.84	19.86	19.83	3	20.50

LTE Band 26 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				26705	26865	27025	MPR	Tune-up Limit	26705	26865	27025	MPR	Tune-up Limit
				815.5 MHz	831.5 MHz	847.5 MHz			815.5 MHz	831.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	22.82	22.87	22.95	0	23.50	22.82	22.87	22.95	0	23.50
		1	8	22.83	22.91	22.87	0	23.50	22.83	22.91	22.87	0	23.50
		1	14	22.70	22.85	22.80	0	23.50	22.70	22.85	22.80	0	23.50
		8	0	21.80	21.85	21.90	1	22.50	21.80	21.85	21.90	1	22.50
		8	4	21.73	21.84	21.82	1	22.50	21.73	21.84	21.82	1	22.50
		8	7	21.73	21.85	21.83	1	22.50	21.73	21.85	21.83	1	22.50
	16QAM	15	0	21.73	21.84	21.83	1	22.50	21.73	21.84	21.83	1	22.50
		1	0	22.20	22.16	22.35	1	22.50	22.20	22.16	22.35	1	22.50
		1	8	22.21	22.25	22.27	1	22.50	22.21	22.25	22.27	1	22.50
		1	14	22.04	22.17	22.23	1	22.50	22.04	22.17	22.23	1	22.50
		8	0	20.88	20.89	20.95	2	21.50	20.88	20.89	20.95	2	21.50
		8	4	20.80	20.96	20.87	2	21.50	20.80	20.96	20.87	2	21.50
	64QAM	8	7	20.81	20.97	20.88	2	21.50	20.81	20.97	20.88	2	21.50
		15	0	20.79	20.96	20.83	2	21.50	20.79	20.96	20.83	2	21.50
		1	0	21.20	21.18	21.02	2	21.50	21.20	21.18	21.02	2	21.50
		1	8	21.04	21.19	21.05	2	21.50	21.04	21.19	21.05	2	21.50
		1	14	20.99	21.10	20.97	2	21.50	20.99	21.10	20.97	2	21.50
		8	0	20.02	20.01	19.92	3	20.50	20.02	20.01	19.92	3	20.50
1.4 MHz	QPSK	8	4	19.94	20.01	19.84	3	20.50	19.94	20.01	19.84	3	20.50
		8	7	19.95	20.03	19.87	3	20.50	19.95	20.03	19.87	3	20.50
		15	0	19.92	19.96	19.82	3	20.50	19.92	19.96	19.82	3	20.50
	16QAM	1	0	22.86	22.93	23.03	0	23.50	22.86	22.93	23.03	0	23.50
		1	3	22.76	22.90	22.87	0	23.50	22.76	22.90	22.87	0	23.50
		1	5	22.80	22.91	22.83	0	23.50	22.80	22.91	22.83	0	23.50
	64QAM	3	0	22.73	22.84	22.94	0	23.50	22.73	22.84	22.94	0	23.50
		3	1	22.69	22.84	22.85	0	23.50	22.69	22.84	22.85	0	23.50
		3	3	22.70	22.85	22.84	0	23.50	22.70	22.85	22.84	0	23.50
	16QAM	6	0	21.68	21.84	21.85	1	22.50	21.68	21.84	21.85	1	22.50
		1	0	22.21	22.18	22.18	1	22.50	22.21	22.18	22.18	1	22.50
		1	3	22.11	22.15	22.10	1	22.50	22.11	22.15	22.10	1	22.50
		1	5	22.10	22.24	22.07	1	22.50	22.10	22.24	22.07	1	22.50
		3	0	21.85	22.05	22.07	1	22.50	21.85	22.05	22.07	1	22.50
		3	1	21.83	22.03	22.03	1	22.50	21.83	22.03	22.03	1	22.50
	64QAM	3	3	21.83	22.03	21.98	1	22.50	21.83	22.03	21.98	1	22.50
		6	0	20.74	20.95	20.92	2	21.50	20.74	20.95	20.92	2	21.50
		1	0	21.33	21.29	21.22	2	21.50	21.33	21.29	21.22	2	21.50
		1	3	21.11	21.26	21.06	2	21.50	21.11	21.26	21.06	2	21.50
		1	5	21.16	21.27	21.15	2	21.50	21.16	21.27	21.15	2	21.50
		3	0	21.13	21.09	20.92	2	21.50	21.13	21.09	20.92	2	21.50
	64QAM	3	1	21.03	21.08	20.92	2	21.50	21.03	21.08	20.92	2	21.50
		3	3	21.03	21.07	20.90	2	21.50	21.03	21.07	20.90	2	21.50
		6	0	20.00	19.99	19.77	3	20.50	20.00	19.99	19.77	3	20.50

LTE Band 30 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)				Power Mode B (dBm)			
				27710 2310 MHz		MPR	Tune-up Limit	27710 2310 MHz		MPR	Tune-up Limit
10 MHz	QPSK	1	0	23.39		0	23.5	21.48		0	21.75
		1	25	23.40		0	23.5	21.52		0	21.75
		1	49	23.33		0	23.5	21.37		0	21.75
		25	0	23.02		0	23.5	21.42		0	21.75
		25	12	23.20		0	23.5	21.53		0	21.75
		25	25	22.77		0	23.5	21.16		0	21.75
	16QAM	50	0	23.20		0	23.5	21.55		0	21.75
		1	0	23.40		0	23.5	21.40		0	21.75
		1	25	23.38		0	23.5	21.40		0	21.75
		1	49	23.32		0	23.5	21.40		0	21.75
		25	0	22.30		0.3	23.2	21.47		0	21.75
		25	12	22.30		0.3	23.2	21.42		0	21.75
	64QAM	25	25	22.30		0.3	23.2	21.20		0	21.75
		50	0	22.30		0.3	23.2	21.53		0	21.75
		1	0	22.99		0.3	23.2	21.27		0	21.75
		1	25	22.98		0.3	23.2	21.21		0	21.75
		1	49	22.96		0.3	23.2	21.16		0	21.75
		25	0	21.82		1.3	22.2	20.82		0	21.75
		25	12	21.79		1.3	22.2	20.77		0	21.75
		25	25	21.59		1.3	22.2	20.75		0	21.75
		50	0	21.88		1.3	22.2	20.88		0	21.75
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)				Power Mode B (dBm)			
				27710 2310 MHz		MPR	Tune-up Limit	27710 2310 MHz		MPR	Tune-up Limit
5 MHz	QPSK	1	0	23.39		0	23.5	21.52		0	21.75
		1	12	23.34		0	23.5	21.49		0	21.75
		1	24	23.08		0	23.5	21.22		0	21.75
		12	0	22.95		0	23.5	21.42		0	21.75
		12	7	22.91		0	23.5	21.39		0	21.75
		12	13	22.94		0	23.5	21.39		0	21.75
	16QAM	25	0	23.01		0	23.5	21.51		0	21.75
		1	0	23.39		0	23.5	21.40		0	21.75
		1	12	23.37		0	23.5	21.40		0	21.75
		1	24	23.17		0	23.5	21.53		0	21.75
		12	0	22.30		0.3	23.2	21.53		0	21.75
		12	7	22.30		0.3	23.2	21.48		0	21.75
	64QAM	12	13	22.30		0.3	23.2	21.48		0	21.75
		25	0	22.30		0.3	23.2	21.56		0	21.75
		1	0	23.15		0.3	23.2	21.48		0	21.75
		1	12	23.14		0.3	23.2	21.44		0	21.75
		1	24	22.83		0.3	23.2	21.19		0	21.75
		12	0	21.79		1.3	22.2	20.76		0	21.75
		12	7	21.76		1.3	22.2	20.75		0	21.75
		12	13	21.76		1.3	22.2	20.75		0	21.75
		25	0	21.9		1.3	22.2	20.82		0	21.75

LTE Band 30 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)				Power Mode B (dBm)			
				27710	2310 MHz	MPR	Tune-up Limit	27710	2310 MHz	MPR	Tune-up Limit
10 MHz	QPSK	1	0	15.18		0	15.5	17.34		0	17.75
		1	25	15.20		0	15.5	17.62		0	17.75
		1	49	15.14		0	15.5	17.24		0	17.75
		25	0	15.13		0	15.5	17.25		0	17.75
		25	12	15.20		0	15.5	17.52		0	17.75
		25	25	15.16		0	15.5	17.30		0	17.75
	16QAM	50	0	15.10		0	15.5	17.57		0	17.75
		1	0	15.00		0	15.5	17.67		0	17.75
		1	25	15.20		0	15.5	17.45		0	17.75
		1	49	15.00		0	15.5	17.59		0	17.75
		25	0	15.15		0	15.5	17.26		0	17.75
		25	12	15.01		0	15.5	17.11		0	17.75
	64QAM	25	25	15.20		0	15.5	17.30		0	17.75
		50	0	15.03		0	15.5	17.19		0	17.75
		1	0	15.00		0	15.5	17.44		0	17.75
		1	25	15.06		0	15.5	17.23		0	17.75
		1	49	15.00		0	15.5	17.48		0	17.75
		25	0	15.16		0	15.5	17.29		0	17.75
5 MHz	QPSK	25	12	15.02		0	15.5	17.16		0	17.75
		25	25	15.22		0	15.5	17.31		0	17.75
		50	0	15.12		0	15.5	17.20		0	17.75
	16QAM	1	0	15.10		0	15.5	17.33		0	17.75
		1	12	14.97		0	15.5	17.18		0	17.75
		1	24	15.09		0	15.5	17.35		0	17.75
		12	0	14.99		0	15.5	17.21		0	17.75
		12	7	14.91		0	15.5	17.08		0	17.75
		12	13	14.87		0	15.5	17.00		0	17.75
	16QAM	25	0	15.01		0	15.5	17.13		0	17.75
		1	0	15.00		0	15.5	17.54		0	17.75
		1	12	15.25		0	15.5	17.41		0	17.75
		1	24	15.00		0	15.5	17.60		0	17.75
		12	0	15.09		0	15.5	17.23		0	17.75
		12	7	14.98		0	15.5	17.13		0	17.75
	64QAM	12	13	14.97		0	15.5	17.12		0	17.75
		25	0	15.05		0	15.5	17.24		0	17.75
		1	0	15.00		0	15.5	17.50		0	17.75
		1	12	15.11		0	15.5	17.39		0	17.75
		1	24	15.00		0	15.5	17.53		0	17.75
		12	0	15.08		0	15.5	17.23		0	17.75
	QPSK	12	7	15.01		0	15.5	17.11		0	17.75
		12	13	14.95		0	15.5	17.07		0	17.75
		25	0	15.04		0	15.5	17.21		0	17.75
	16QAM	1	0	15.10		0	15.5	17.33		0	17.75
		1	12	14.97		0	15.5	17.18		0	17.75
		1	24	15.09		0	15.5	17.35		0	17.75
	64QAM	12	0	14.99		0	15.5	17.21		0	17.75
		12	7	14.91		0	15.5	17.08		0	17.75
		12	13	14.87		0	15.5	17.00		0	17.75
	16QAM	25	0	15.01		0	15.5	17.13		0	17.75
		1	0	15.00		0	15.5	17.54		0	17.75
		1	12	15.25		0	15.5	17.41		0	17.75
		1	24	15.00		0	15.5	17.60		0	17.75
		12	0	15.09		0	15.5	17.23		0	17.75
		12	7	14.98		0	15.5	17.13		0	17.75
	64QAM	12	13	14.97		0	15.5	17.12		0	17.75
		25	0	15.05		0	15.5	17.24		0	17.75
		1	0	15.00		0	15.5	17.50		0	17.75
		1	12	15.11		0	15.5	17.39		0	17.75
		1	24	15.00		0	15.5	17.53		0	17.75
		12	0	15.08		0	15.5	17.23		0	17.75
	16QAM	12	7	15.01		0	15.5	17.11		0	17.75
		12	13	14.95		0	15.5	17.07		0	17.75
		25	0	15.04		0	15.5	17.21		0	17.75
	64QAM	1	0	15.10		0	15.5	17.33		0	17.75
		1	12	14.97		0	15.5	17.18		0	17.75
		1	24	15.09		0	15.5	17.35		0	17.75
		12	0	14.99		0	15.5	17.21		0	17.75
		12	7	14.91		0	15.5	17.08		0	17.75
		12	13	14.87		0	15.5	17.00		0	17.75

LTE Band 41 Power Class 3 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)							Power Mode B (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	25.04	25.00	25.04	24.84	24.20	0	25.2	20.83	20.65	20.85	20.69	20.60	0	21.0
		1	49	25.00	24.85	25.10	24.80	24.75	0	25.2	20.85	20.70	20.90	20.70	20.70	0	21.0
		1	99	24.92	24.85	24.98	24.77	24.20	0	25.2	20.67	20.64	20.80	20.62	20.69	0	21.0
		50	0	24.00	23.93	24.02	23.79	23.20	1	24.2	20.74	20.60	20.80	20.61	20.65	0	21.0
		50	24	24.05	23.86	24.05	23.75	23.75	1	24.2	20.80	20.70	20.90	20.70	20.70	0	21.0
		50	50	23.94	23.86	24.03	23.78	23.30	1	24.2	20.68	20.68	20.83	20.62	20.68	0	21.0
		100	0	23.77	23.70	24.10	23.54	23.30	1	24.2	20.72	20.71	20.90	20.60	20.64	0	21.0
		1	0	24.20	24.10	24.17	23.92	23.25	1	24.2	20.99	20.94	20.96	20.83	20.81	0	21.0
		1	49	24.09	24.01	24.11	23.87	23.23	1	24.2	20.89	20.82	20.93	20.69	20.83	0	21.0
		1	99	24.09	23.91	24.08	23.88	23.23	1	24.2	20.78	20.77	20.92	20.73	20.77	0	21.0
	16QAM	50	0	23.02	22.96	23.06	22.79	22.40	2	23.2	20.79	20.77	20.84	20.67	20.64	0	21.0
		50	24	22.98	22.93	23.07	22.76	22.40	2	23.2	20.76	20.74	20.85	20.64	20.67	0	21.0
		50	50	22.95	22.90	23.06	22.81	22.40	2	23.2	20.73	20.70	20.87	20.67	20.70	0	21.0
		100	0	22.97	22.92	23.06	22.75	22.40	2	23.2	20.68	20.74	20.86	20.65	20.67	0	21.0
		1	0	23.17	23.10	23.16	22.97	22.31	2	23.2	21.00	20.92	20.80	20.82	20.80	0	21.0
		1	49	23.00	23.02	23.13	22.89	22.30	2	23.2	20.90	20.76	20.80	20.69	20.75	0	21.0
		1	99	22.99	22.98	23.13	22.96	22.23	2	23.2	20.86	20.76	20.80	20.70	20.75	0	21.0
		50	0	21.98	22.01	22.09	21.84	21.30	3	22.2	20.84	20.78	20.92	20.65	20.63	0	21.0
		50	24	21.93	21.97	22.08	21.82	21.30	3	22.2	20.82	20.74	20.89	20.64	20.67	0	21.0
		50	50	21.90	21.94	22.09	21.85	21.30	3	22.2	20.78	20.71	20.89	20.66	20.72	0	21.0
		100	0	21.91	21.96	22.08	21.81	21.30	3	22.2	20.80	20.73	20.87	20.64	20.67	0	21.0
	64QAM	1	0	23.17	23.10	23.16	22.97	22.31	2	23.2	21.00	20.92	20.80	20.82	20.80	0	21.0
		1	49	23.00	23.02	23.13	22.89	22.30	2	23.2	20.90	20.76	20.80	20.69	20.75	0	21.0
		1	99	22.99	22.98	23.13	22.96	22.23	2	23.2	20.86	20.76	20.80	20.70	20.75	0	21.0
		50	0	21.98	22.01	22.09	21.84	21.30	3	22.2	20.84	20.78	20.92	20.65	20.63	0	21.0
		50	24	21.93	21.97	22.08	21.82	21.30	3	22.2	20.82	20.74	20.89	20.64	20.67	0	21.0
		50	50	21.90	21.94	22.09	21.85	21.30	3	22.2	20.78	20.71	20.89	20.66	20.72	0	21.0
		100	0	21.91	21.96	22.08	21.81	21.30	3	22.2	20.80	20.73	20.87	20.64	20.67	0	21.0
15 MHz	QPSK	1	0	25.04	24.95	25.02	24.81	24.85	0	25.2	20.83	20.74	20.82	20.63	20.64	0	21.0
		1	37	24.95	24.91	25.03	24.75	24.86	0	25.2	20.78	20.72	20.87	20.60	20.68	0	21.0
		1	74	24.91	24.84	24.95	24.75	24.86	0	25.2	20.72	20.65	20.80	20.61	20.65	0	21.0
		36	0	23.99	23.88	23.98	23.73	23.80	1	24.2	20.81	20.70	20.79	20.56	20.61	0	21.0
		36	20	23.97	23.87	24.01	23.72	23.87	1	24.2	20.74	20.68	20.81	20.55	20.65	0	21.0
		36	39	23.93	23.83	24.00	23.75	23.85	1	24.2	20.71	20.66	20.81	20.60	20.63	0	21.0
		75	0	23.91	23.86	24.01	23.72	23.88	1	24.2	20.73	20.68	20.81	20.56	20.66	0	21.0
	16QAM	1	0	24.05	23.94	24.02	23.80	23.86	1	24.2	20.91	20.78	20.82	20.66	20.71	0	21.0
		1	37	23.94	23.89	24.02	23.76	23.92	1	24.2	20.80	20.77	20.87	20.64	20.70	0	21.0
		1	74	23.92	23.79	23.95	23.72	23.91	1	24.2	20.73	20.64	20.80	20.66	20.69	0	21.0
		36	0	22.96	22.90	23.03	22.75	22.85	2	23.2	20.78	20.73	20.84	20.61	20.66	0	21.0
		36	20	22.98	22.89	23.04	22.74	22.91	2	23.2	20.78	20.73	20.86	20.60	20.70	0	21.0
		36	39	22.95	22.86	23.05	22.79	22.89	2	23.2	20.75	20.70	20.86	20.65	20.68	0	21.0
		75	0	22.92	22.88	23.03	22.73	22.89	2	23.2	20.77	20.72	20.85	20.60	20.68	0	21.0
	64QAM	1	0	23.08	23.04	23.10	22.88	22.93	2	23.2	20.83	20.77	20.89	20.76	20.74	0	21.0
		1	37	22.93	22.96	23.12	22.82	22.92	2	23.2	20.83	20.80	20.95	20.71	20.73	0	21.0
		1	74	22.89	22.92	23.03	22.87	22.88	2	23.2	20.66	20.67	20.88	20.74	20.73	0	21.0
		36	0	21.92	21.92	22.04	21.80	21.78	3	22.2	20.71	20.71	20.81	20.60	20.65	0	21.0
		36	20	21.90	21.93	22.07	21.79	21.84	3	22.2	20.69	20.71	20.84	20.59	20.69	0	21.0
		36	39	21.87	21.89	22.06	21.82	21.82	3	22.2	20.66	20.69	20.86	20.64	20.66	0	21.0
		75	0	21.88	21.93	22.06	21.79	21.84	3	22.2	20.68	20.71	20.86	20.59	20.66	0	21.0

LTE Band 41 Power Class 3 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)							Power Mode B (dBm)						
				39750	40185	40620	41055	41490	MFR	Tune-up Limit	39750	40185	40620	41055	41490	MFR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	25.01	24.97	25.03	24.80	24.86	0	25.2	20.82	20.79	20.84	20.62	20.68	0	21.0
		1	25	24.91	24.89	25.00	24.74	24.88	0	25.2	20.78	20.70	20.85	20.61	20.67	0	21.0
		1	49	24.95	24.89	25.05	24.80	24.92	0	25.2	20.74	20.68	20.84	20.62	20.72	0	21.0
		25	0	23.95	23.93	24.01	23.76	23.85	1	24.2	20.75	20.70	20.80	20.56	20.67	0	21.0
		25	12	23.93	23.91	24.01	23.75	23.84	1	24.2	20.73	20.68	20.80	20.55	20.66	0	21.0
		25	25	23.92	23.91	24.04	23.83	23.85	1	24.2	20.73	20.69	20.82	20.60	20.66	0	21.0
		50	0	23.90	23.94	24.04	23.78	23.88	1	24.2	20.76	20.71	20.83	20.57	20.69	0	21.0
		1	0	24.05	24.07	24.15	23.90	23.92	1	24.2	20.94	20.84	20.92	20.69	20.75	0	21.0
		1	25	24.00	24.02	24.14	23.84	23.94	1	24.2	20.91	20.79	20.94	20.64	20.79	0	21.0
		1	49	24.02	24.03	24.18	23.96	23.99	1	24.2	20.83	20.79	20.97	20.74	20.87	0	21.0
	16QAM	25	0	22.96	22.96	23.08	22.82	22.89	2	23.2	20.80	20.75	20.85	20.62	20.73	0	21.0
		25	12	22.96	22.94	23.06	22.80	22.86	2	23.2	20.78	20.73	20.85	20.60	20.71	0	21.0
		25	25	22.96	22.94	23.08	22.85	22.86	2	23.2	20.78	20.72	20.87	20.66	20.71	0	21.0
		50	0	22.96	22.96	23.09	22.81	22.87	2	23.2	20.80	20.75	20.87	20.61	20.68	0	21.0
		1	0	23.11	23.01	23.07	22.94	22.97	2	23.2	20.93	20.84	20.94	20.74	20.72	0	21.0
		1	25	23.10	23.03	23.13	22.89	22.90	2	23.2	20.82	20.76	20.87	20.72	20.74	0	21.0
		1	49	23.07	22.97	23.14	22.98	22.96	2	23.2	20.87	20.71	20.93	20.70	20.77	0	21.0
		25	0	21.95	21.97	22.07	21.81	21.90	3	22.2	20.76	20.73	20.84	20.62	20.69	0	21.0
		25	12	21.91	21.91	22.08	21.77	21.88	3	22.2	20.74	20.71	20.85	20.59	20.69	0	21.0
		25	25	21.92	21.89	22.04	21.86	21.88	3	22.2	20.74	20.72	20.86	20.65	20.69	0	21.0
	64QAM	50	0	21.96	21.92	22.02	21.80	21.90	3	22.2	20.78	20.73	20.86	20.63	20.69	0	21.0
5 MHz	QPSK	1	0	24.92	25.14	25.03	24.95	24.91	0	25.2	20.65	20.59	20.78	20.74	20.75	0	21.0
		1	12	24.87	25.09	24.98	24.91	24.84	0	25.2	20.62	20.47	20.78	20.69	20.68	0	21.0
		1	24	24.90	25.14	25.05	24.99	24.89	0	25.2	20.65	20.59	20.84	20.73	20.69	0	21.0
		12	0	23.86	24.13	24.00	23.93	23.82	1	24.2	20.63	20.49	20.77	20.68	20.67	0	21.0
		12	7	23.84	24.11	23.99	23.91	23.81	1	24.2	20.62	20.47	20.78	20.67	20.65	0	21.0
		12	13	23.84	24.10	23.98	23.91	23.81	1	24.2	20.58	20.48	20.75	20.67	20.65	0	21.0
		25	0	23.87	24.07	23.97	23.93	23.83	1	24.2	20.60	20.50	20.73	20.70	20.68	0	21.0
	16QAM	1	0	24.02	24.13	24.02	24.00	23.89	1	24.2	20.70	20.57	20.77	20.78	20.79	0	21.0
		1	12	23.96	24.09	23.98	23.94	23.84	1	24.2	20.67	20.51	20.78	20.74	20.73	0	21.0
		1	24	23.97	24.12	24.01	24.05	23.89	1	24.2	20.71	20.64	20.82	20.76	20.76	0	21.0
		12	0	22.94	23.07	23.02	22.95	22.89	2	23.2	20.62	20.53	20.70	20.74	20.72	0	21.0
		12	7	22.89	23.08	22.96	22.94	22.84	2	23.2	20.62	20.49	20.73	20.73	20.70	0	21.0
		12	13	22.86	23.07	23.02	22.94	22.83	2	23.2	20.59	20.49	20.74	20.73	20.68	0	21.0
		25	0	22.90	23.08	23.00	22.96	22.85	2	23.2	20.62	20.53	20.76	20.71	20.73	0	21.0
	64QAM	1	0	22.98	23.20	23.09	23.10	22.91	2	23.2	20.80	20.75	20.90	20.90	20.90	0	21.0
		1	12	22.92	23.19	23.10	23.06	22.92	2	23.2	20.66	20.65	20.88	20.76	20.77	0	21.0
		1	24	22.95	23.20	23.05	23.14	22.99	2	23.2	20.73	20.76	20.88	20.80	20.80	0	21.0
		12	0	21.88	22.20	22.01	21.98	21.91	3	22.2	20.67	20.55	20.80	20.72	20.70	0	21.0
		12	7	21.93	22.15	21.98	21.95	21.89	3	22.2	20.65	20.53	20.80	20.72	20.69	0	21.0
		12	13	21.88	22.14	21.99	21.96	21.88	3	22.2	20.63	20.55	20.82	20.72	20.69	0	21.0
		25	0	21.92	22.14	21.96	21.95	21.83	3	22.2	20.62	20.53	20.78	20.70	20.67	0	21.0

LTE Band 41 Power Class 3 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)							Power Mode B (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	17.50	17.64	17.32	17.38	17.38	0	17.75	19.41	19.37	19.32	19.55	19.50	0	19.75
		1	49	17.70	17.70	17.70	17.40	17.60	0	17.75	19.60	19.60	19.60	19.60	19.60	0	19.75
		1	99	17.66	17.64	17.51	17.34	17.59	0	17.75	19.54	19.30	19.47	19.56	19.44	0	19.75
		50	0	17.50	17.64	17.29	17.39	17.42	0	17.75	19.41	19.35	19.25	19.58	19.50	0	19.75
		50	24	17.67	17.70	17.70	17.40	17.50	0	17.75	19.60	19.60	19.60	19.60	19.60	0	19.75
		50	50	17.66	17.61	17.45	17.33	17.49	0	17.75	19.52	19.28	19.38	19.50	19.50	0	19.75
		100	0	17.67	17.58	17.70	17.34	17.36	0	17.75	19.40	19.31	19.60	19.58	19.50	0	19.75
		1	0	17.50	17.73	17.46	17.51	17.47	0	17.75	19.43	19.48	19.40	19.73	19.50	0	19.75
	16QAM	1	49	17.50	17.50	17.45	17.44	17.51	0	17.75	19.55	19.39	19.38	19.71	19.50	0	19.75
		1	99	17.65	17.50	17.64	17.45	17.67	0	17.75	19.64	19.38	19.54	19.73	19.68	0	19.75
		50	0	17.50	17.63	17.33	17.41	17.39	0	17.75	19.00	19.37	19.28	19.62	19.40	0	19.75
		50	24	17.68	17.59	17.37	17.34	17.42	0	17.75	19.00	19.33	19.31	19.61	19.70	0	19.75
		50	50	17.67	17.62	17.48	17.30	17.51	0	17.75	19.10	19.31	19.41	19.59	19.70	0	19.75
		100	0	17.69	17.58	17.30	17.31	17.38	0	17.75	19.00	19.33	19.31	19.60	19.71	0	19.75
		1	0	17.50	17.71	17.40	17.49	17.47	0	17.75	19.60	19.40	19.54	19.50	19.50	0	19.75
		1	49	17.50	17.70	17.45	17.44	17.57	0	17.75	19.50	19.43	19.50	19.50	19.50	0	19.75
	64QAM	1	99	17.69	17.60	17.60	17.46	17.65	0	17.75	19.50	19.35	19.66	19.60	19.61	0	19.75
		50	0	17.50	17.67	17.33	17.42	17.41	0	17.75	19.00	19.12	19.09	19.38	19.58	0	19.75
		50	24	17.70	17.66	17.37	17.37	17.43	0	17.75	19.10	19.07	19.10	19.38	19.49	0	19.75
		50	50	17.70	17.65	17.48	17.36	17.54	0	17.75	19.30	19.07	19.22	19.38	19.47	0	19.75
		100	0	17.70	17.59	17.36	17.32	17.40	0	17.75	19.20	19.08	19.10	19.38	19.49	0	19.75
15 MHz	QPSK	1	0	17.50	17.63	17.29	17.38	17.47	0	17.75	19.42	19.36	19.25	19.60	19.50	0	19.75
		1	37	17.73	17.62	17.38	17.37	17.53	0	17.75	19.50	19.28	19.34	19.62	19.50	0	19.75
		1	74	17.66	17.56	17.52	17.28	17.59	0	17.75	19.48	19.23	19.47	19.59	19.68	0	19.75
		36	0	17.50	17.63	17.33	17.38	17.42	0	17.75	19.38	19.32	19.23	19.60	19.50	0	19.75
		36	20	17.60	17.65	17.39	17.36	17.46	0	17.75	19.42	19.37	19.28	19.60	19.36	0	19.75
		36	39	17.70	17.62	17.37	17.33	17.51	0	17.75	19.48	19.33	19.33	19.60	19.60	0	19.75
		75	0	17.50	17.57	17.33	17.31	17.44	0	17.75	19.41	19.31	19.27	19.58	19.50	0	19.75
		1	0	17.50	17.64	17.33	17.38	17.53	0	17.75	19.43	19.38	19.23	19.62	19.50	0	19.75
	16QAM	1	37	17.50	17.71	17.42	17.39	17.52	0	17.75	19.43	19.33	19.27	19.50	19.50	0	19.75
		1	74	17.71	17.57	17.57	17.33	17.56	0	17.75	19.51	19.23	19.44	19.60	19.60	0	19.75
		36	0	17.50	17.64	17.32	17.36	17.45	0	17.75	19.10	19.38	19.27	19.61	19.50	0	19.75
		36	20	17.71	17.62	17.37	17.40	17.49	0	17.75	19.20	19.36	19.32	19.50	19.50	0	19.75
		36	39	17.68	17.58	17.40	17.37	17.54	0	17.75	19.20	19.35	19.37	19.59	19.60	0	19.75
		75	0	17.72	17.61	17.36	17.34	17.48	0	17.75	19.11	19.32	19.31	19.59	19.50	0	19.75
		1	0	17.50	17.68	17.36	17.44	17.55	0	17.75	19.40	19.35	19.32	19.60	19.50	0	19.75
		1	37	17.50	17.70	17.40	17.45	17.62	0	17.75	19.20	19.35	19.35	19.60	19.50	0	19.75
	64QAM	1	74	17.71	17.63	17.53	17.34	17.59	0	17.75	19.20	19.30	19.48	19.60	19.50	0	19.75
		36	0	17.50	17.65	17.33	17.38	17.43	0	17.75	19.10	19.10	19.02	19.37	19.58	0	19.75
		36	20	17.68	17.60	17.32	17.38	17.48	0	17.75	19.10	19.14	19.10	19.35	19.49	0	19.75
		36	39	17.64	17.59	17.35	17.35	17.53	0	17.75	19.10	19.08	19.11	19.34	19.46	0	19.75
		75	0	17.68	17.61	17.32	17.32	17.46	0	17.75	19.30	19.07	19.08	19.35	19.45	0	19.75

LTE Band 41 Power Class 3 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)							Power Mode B (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	17.50	17.63	17.28	17.42	17.49	0	17.75	19.44	19.34	19.32	19.61	19.50	0	19.75
		1	25	17.73	17.62	17.31	17.38	17.41	0	17.75	19.42	19.31	19.31	19.59	19.50	0	19.75
		1	49	17.50	17.63	17.44	17.37	17.54	0	17.75	19.55	19.34	19.43	19.50	19.50	0	19.75
		25	0	17.50	17.58	17.27	17.36	17.39	0	17.75	19.40	19.37	19.34	19.62	19.50	0	19.75
		25	12	17.67	17.57	17.25	17.30	17.42	0	17.75	19.44	19.32	19.32	19.62	19.41	0	19.75
		25	25	17.71	17.58	17.32	17.33	17.45	0	17.75	19.48	19.35	19.40	19.63	19.41	0	19.75
		50	0	17.71	17.59	17.27	17.33	17.44	0	17.75	19.41	19.34	19.35	19.58	19.41	0	19.75
		1	0	17.50	17.73	17.34	17.49	17.57	0	17.75	19.50	19.48	19.40	19.55	19.53	0	19.75
	16QAM	1	25	17.50	17.65	17.35	17.44	17.55	0	17.75	19.47	19.42	19.43	19.51	19.53	0	19.75
		1	49	17.50	17.68	17.49	17.44	17.68	0	17.75	19.62	19.45	19.54	19.52	19.53	0	19.75
		25	0	17.50	17.62	17.33	17.40	17.43	0	17.75	19.00	19.40	19.38	19.59	19.53	0	19.75
		25	12	17.72	17.61	17.29	17.35	17.46	0	17.75	19.10	19.31	19.36	19.58	19.50	0	19.75
		25	25	17.50	17.62	17.36	17.38	17.48	0	17.75	19.20	19.34	19.42	19.59	19.40	0	19.75
		50	0	17.73	17.62	17.31	17.36	17.47	0	17.75	19.10	19.32	19.31	19.61	19.50	0	19.75
		1	0	17.50	17.66	17.37	17.49	17.52	0	17.75	19.30	19.40	19.36	19.66	19.50	0	19.75
		1	25	17.73	17.67	17.39	17.35	17.44	0	17.75	19.10	19.30	19.31	19.59	19.50	0	19.75
	64QAM	1	49	17.69	17.58	17.48	17.39	17.61	0	17.75	19.20	19.36	19.48	19.66	19.69	0	19.75
		25	0	17.74	17.60	17.30	17.38	17.42	0	17.75	19.10	19.13	19.11	19.40	19.53	0	19.75
		25	12	17.69	17.59	17.27	17.33	17.44	0	17.75	19.20	19.11	19.10	19.33	19.48	0	19.75
		25	25	17.73	17.60	17.35	17.36	17.49	0	17.75	19.30	19.15	19.17	19.33	19.52	0	19.75
		50	0	17.71	17.61	17.30	17.34	17.46	0	17.75	19.20	19.10	19.12	19.34	19.47	0	19.75
5 MHz	QPSK	1	0	17.74	17.59	17.32	17.37	17.45	0	17.75	19.50	19.59	19.33	19.44	19.42	0	19.75
		1	12	17.72	17.56	17.28	17.34	17.45	0	17.75	19.60	19.57	19.29	19.30	19.42	0	19.75
		1	24	17.73	17.60	17.36	17.36	17.50	0	17.75	19.50	19.60	19.34	19.33	19.51	0	19.75
		12	0	17.71	17.56	17.29	17.34	17.39	0	17.75	19.50	19.58	19.23	19.33	19.37	0	19.75
		12	7	17.64	17.56	17.27	17.27	17.43	0	17.75	19.54	19.57	19.20	19.26	19.41	0	19.75
		12	13	17.65	17.55	17.33	17.28	17.47	0	17.75	19.56	19.57	19.28	19.27	19.47	0	19.75
		25	0	17.66	17.57	17.29	17.28	17.45	0	17.75	19.56	19.54	19.21	19.28	19.44	0	19.75
		1	0	17.50	17.62	17.38	17.41	17.46	0	17.75	19.50	19.57	19.28	19.35	19.45	0	19.75
	16QAM	1	12	17.69	17.59	17.26	17.33	17.44	0	17.75	19.55	19.55	19.24	19.27	19.46	0	19.75
		1	24	17.73	17.63	17.34	17.36	17.50	0	17.75	19.50	19.58	19.30	19.35	19.52	0	19.75
		12	0	17.74	17.54	17.22	17.41	17.31	0	17.75	19.54	19.54	19.21	19.38	19.30	0	19.75
		12	7	17.69	17.59	17.24	17.29	17.38	0	17.75	19.57	19.53	19.23	19.29	19.20	0	19.75
		12	13	17.66	17.58	17.29	17.31	17.40	0	17.75	19.59	19.56	19.31	19.29	19.10	0	19.75
		25	0	17.69	17.60	17.28	17.31	17.41	0	17.75	19.54	19.56	19.24	19.29	19.30	0	19.75
		1	0	17.50	17.65	17.41	17.49	17.47	0	17.75	19.50	19.55	19.34	19.40	19.20	0	19.75
		1	12	17.70	17.70	17.31	17.37	17.52	0	17.75	19.45	19.52	19.32	19.32	19.20	0	19.75
	64QAM	1	24	17.50	17.69	17.43	17.37	17.57	0	17.75	19.55	19.54	19.30	19.34	19.20	0	19.75
		12	0	17.50	17.66	17.23	17.42	17.37	0	17.75	19.48	19.31	18.95	19.08	19.50	0	19.75
		12	7	17.69	17.63	17.21	17.31	17.39	0	17.75	19.39	19.30	18.96	19.05	19.50	0	19.75
		12	13	17.71	17.63	17.30	17.32	17.41	0	17.75	19.40	19.30	19.03	19.06	19.50	0	19.75
		25	0	17.69	17.59	17.22	17.30	17.34	0	17.75	19.38	19.29	18.94	19.04	19.50	0	19.75

LTE Band 48 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55340	55773	56207	56640	MPR	Tune-up Limit	55340	55773	56207	56640	MPR	Tune-up Limit
				3560 MHz	3603.3 MHz	3646.7 MHz	3690 MHz			3560 MHz	3603.3 MHz	3646.7 MHz	3690 MHz		
20 MHz	QPSK	1	0	24.71	24.77	24.78	24.66	0	25	19.40	19.20	19.40	19.00	0	19.75
		1	49	24.80	24.80	24.80	24.80	0	25	19.70	19.20	19.50	19.15	0	19.75
		1	99	24.80	24.80	24.75	24.96	0	25	19.40	19.20	19.40	19.00	0	19.75
		50	0	23.70	23.70	23.73	23.94	1	24	19.00	19.10	19.40	18.80	0	19.75
		50	24	23.82	23.75	23.90	23.72	1	24	19.00	19.25	19.50	18.80	0	19.75
		50	50	23.82	23.68	23.70	23.82	1	24	19.00	19.10	19.40	18.80	0	19.75
		100	0	24.00	23.73	24.00	23.99	1	24	19.31	19.20	19.50	19.40	0	19.75
	16QAM	1	0	23.83	23.88	23.84	23.77	1	24	19.30	19.50	19.50	19.39	0	19.75
		1	49	23.90	23.56	23.63	23.78	1	24	19.14	19.47	19.50	19.39	0	19.75
		1	99	23.92	24.00	23.85	23.71	1	24	19.40	19.50	19.50	19.47	0	19.75
		50	0	22.80	22.71	22.68	22.70	2	23	19.14	19.48	19.40	19.29	0	19.75
		50	24	22.88	22.62	22.65	22.66	2	23	19.19	19.38	19.49	19.34	0	19.75
		50	50	22.79	22.64	22.65	22.70	2	23	19.32	19.45	19.40	19.29	0	19.75
		100	0	22.97	22.71	22.76	22.83	2	23	19.27	19.49	19.40	19.44	0	19.75
	64QAM	1	0	22.82	22.75	22.74	22.77	2	23	19.16	19.40	19.40	19.28	0	19.75
		1	49	22.80	22.50	22.57	22.58	2	23	18.96	19.25	19.40	19.20	0	19.75
		1	99	22.90	22.77	22.79	22.41	2	23	19.34	19.40	19.40	19.30	0	19.75
		50	0	21.76	21.64	21.69	21.98	3	22	19.10	19.44	19.50	19.21	0	19.75
		50	24	21.83	21.55	21.65	21.59	3	22	19.14	19.33	19.48	19.30	0	19.75
		50	50	21.76	21.57	21.66	21.64	3	22	19.29	19.40	19.48	19.21	0	19.75
		100	0	21.95	21.68	21.77	21.75	3	22	19.27	19.47	19.40	19.41	0	19.75
15 MHz	QPSK	1	0	24.55	24.67	24.64	24.45	0	25	19.40	19.40	19.40	19.50	0	19.75
		1	37	24.71	24.49	24.59	24.56	0	25	19.30	19.49	19.40	19.40	0	19.75
		1	74	24.67	24.67	24.67	24.73	0	25	19.30	19.30	19.30	19.30	0	19.75
		36	0	23.71	23.68	23.73	23.72	1	24	19.41	19.43	19.48	19.42	0	19.75
		36	20	23.83	23.61	23.74	23.77	1	24	19.40	19.36	19.49	19.47	0	19.75
		36	39	23.82	23.59	23.72	23.80	1	24	19.40	19.34	19.47	19.50	0	19.75
		75	0	23.83	23.64	23.72	23.82	1	24	19.40	19.39	19.47	19.30	0	19.75
	16QAM	1	0	23.57	23.57	23.56	23.45	1	24	19.27	19.32	19.31	19.15	0	19.75
		1	37	23.70	23.40	23.47	23.52	1	24	19.40	19.15	19.22	19.22	0	19.75
		1	74	23.78	23.54	23.58	23.63	1	24	19.48	19.29	19.33	19.33	0	19.75
		36	0	22.60	22.59	22.60	22.61	2	23	19.40	19.40	19.40	19.40	0	19.75
		36	20	22.68	22.53	22.60	22.67	2	23	19.40	19.40	19.40	19.40	0	19.75
		36	39	22.70	22.53	22.61	22.70	2	23	19.40	19.40	19.40	19.40	0	19.75
		75	0	22.78	22.62	22.66	22.76	2	23	19.50	19.40	19.40	19.50	0	19.75
	64QAM	1	0	22.73	22.74	22.72	22.53	2	23	19.30	19.40	19.40	19.30	0	19.75
		1	37	22.77	22.58	22.58	22.60	2	23	19.50	19.40	19.40	19.30	0	19.75
		1	74	22.82	22.68	22.76	22.78	2	23	19.50	19.40	19.40	19.30	0	19.75
		36	0	21.62	21.52	21.64	21.56	3	22	18.92	18.82	18.94	18.86	0	19.75
		36	20	21.70	21.46	21.63	21.59	3	22	19.00	18.76	18.93	18.89	0	19.75
		36	39	21.70	21.46	21.57	21.61	3	22	19.00	18.76	18.87	18.91	0	19.75
		75	0	21.78	21.55	21.64	21.70	3	22	19.08	18.85	18.94	19.00	0	19.75

Notes:

LTE Band 48 Low and high channels were tested using the maximum tune-up limit. This is for testing purpose only. For device placing to the market would follow the tune up procedure.

LTE Band 48 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55290	55757	56223	56690	MPR	Tune-up Limit	55290	55757	56223	56690	MPR	Tune-up Limit
				3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz			3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz		
10 MHz	QPSK	1	0	24.52	24.42	24.42	24.38	0	25	19.40	19.42	19.42	19.38	0	19.75
		1	25	24.39	24.14	24.18	24.16	0	25	19.39	19.14	19.18	19.16	0	19.75
		1	49	24.76	24.57	24.52	24.60	0	25	19.30	19.30	19.30	19.30	0	19.75
		25	0	23.73	23.57	23.71	23.71	1	24	19.43	18.87	19.01	19.41	0	19.75
		25	12	23.74	23.51	23.63	23.63	1	24	19.44	18.81	18.93	19.33	0	19.75
		25	25	23.87	23.58	23.71	23.72	1	24	19.40	18.88	19.01	19.42	0	19.75
		50	0	23.83	23.68	23.79	23.78	1	24	19.40	18.98	19.09	19.48	0	19.75
	16QAM	1	0	23.72	23.63	23.61	23.65	1	24	19.42	18.93	18.91	19.35	0	19.75
		1	25	23.63	23.37	23.39	23.55	1	24	19.33	18.97	18.99	19.25	0	19.75
		1	49	23.98	23.65	23.63	23.76	1	24	19.30	18.95	18.93	19.46	0	19.75
		25	0	22.61	22.51	22.61	22.59	2	23	19.30	19.30	19.30	19.30	0	19.75
		25	12	22.64	22.45	22.55	22.55	2	23	19.40	19.40	19.40	19.40	0	19.75
		25	25	22.78	22.51	22.63	22.63	2	23	19.30	19.30	19.30	19.30	0	19.75
		50	0	22.77	22.62	22.79	22.76	2	23	19.20	19.20	19.20	19.20	0	19.75
	64QAM	1	0	22.45	22.43	22.37	22.28	2	23	19.45	19.43	19.37	19.28	0	19.75
		1	25	22.29	22.19	22.04	22.10	2	23	19.29	19.19	19.04	19.10	0	19.75
		1	49	22.64	22.42	22.26	22.44	2	23	19.30	19.42	19.26	19.44	0	19.75
		25	0	21.57	21.49	21.53	21.51	3	22	18.97	18.89	18.93	18.91	0	19.75
		25	12	21.58	21.38	21.49	21.47	3	22	18.98	18.78	18.89	18.87	0	19.75
		25	25	21.71	21.44	21.57	21.56	3	22	19.11	18.84	18.97	18.96	0	19.75
		50	0	21.76	21.59	21.72	21.68	3	22	19.16	18.99	19.12	19.08	0	19.75
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55265	55748	56232	56715	MPR	Tune-up Limit	55265	55748	56232	56715	MPR	Tune-up Limit
				3552.5 MHz	3600.8 MHz	3649.2 MHz	3697.5 MHz			3552.5 MHz	3600.8 MHz	3649.2 MHz	3697.5 MHz		
5 MHz	QPSK	1	0	24.22	24.40	24.36	24.51	0	25	19.42	19.30	19.30	19.30	0	19.75
		1	12	24.06	24.08	24.06	24.31	0	25	19.26	19.28	19.26	19.30	0	19.75
		1	24	24.49	24.35	24.33	24.60	0	25	19.20	19.20	19.20	19.20	0	19.75
		12	0	23.54	23.41	23.63	23.55	1	24	19.44	18.90	18.83	19.45	0	19.75
		12	7	23.51	23.26	23.55	23.50	1	24	19.41	18.90	18.90	19.40	0	19.75
		12	13	23.57	23.32	23.61	23.55	1	24	19.47	19.00	18.81	19.45	0	19.75
		25	0	23.78	23.61	23.77	23.80	1	24	19.20	18.81	18.97	19.00	0	19.75
	16QAM	1	0	23.28	23.36	23.26	23.42	1	24	19.18	19.00	19.00	19.32	0	19.75
		1	12	23.10	23.23	23.12	23.41	1	24	18.80	19.00	19.00	19.31	0	19.75
		1	24	23.31	23.27	23.11	23.47	1	24	19.21	19.00	19.00	19.37	0	19.75
		12	0	22.28	22.28	22.45	22.57	2	23	19.48	19.48	19.30	19.30	0	19.75
		12	7	22.30	22.28	22.35	22.49	2	23	19.30	19.48	19.30	19.30	0	19.75
		12	13	22.34	22.31	22.38	22.47	2	23	19.30	19.40	19.30	19.30	0	19.75
		25	0	22.60	22.44	22.60	22.67	2	23	19.50	19.40	19.30	19.30	0	19.75
	64QAM	1	0	22.01	22.07	22.33	22.21	2	23	19.01	19.27	19.30	19.19	0	19.75
		1	12	22.74	22.21	22.14	22.75	2	23	18.94	19.01	19.34	18.95	0	19.75
		1	24	22.13	22.21	22.43	22.22	2	23	19.33	19.19	19.40	19.42	0	19.75
		12	0	21.14	21.02	21.58	21.55	3	22	18.94	18.82	19.38	19.35	0	19.75
		12	7	21.30	21.22	21.44	21.35	3	22	19.10	19.02	19.24	19.15	0	19.75
		12	13	21.35	21.20	21.52	21.27	3	22	19.15	19.00	19.32	19.07	0	19.75
		25	0	21.49	21.41	21.49	21.60	3	22	19.29	19.21	19.29	19.40	0	19.75

Notes:

LTE Band 48 Low and high channels were tested using the maximum tune-up limit. This is for testing purpose only. For device placing to the market would follow the tune up procedure.

LTE Band 48 Measured Results (UAT 2)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55340	55773	56207	56640	MPR	Tune-up Limit	55340	55773	56207	56640	MPR	Tune-up Limit
				3560 MHz	3603.3 MHz	3646.7 MHz	3690 MHz			3560 MHz	3603.3 MHz	3646.7 MHz	3690 MHz		
20 MHz	QPSK	1	0	16.89	16.69	16.89	16.82	0	17	20.40	20.20	20.13	20.34	0	20.5
		1	49	16.90	16.76	16.90	17.00	0	17	20.50	20.35	20.50	20.44	0	20.5
		1	99	16.89	16.49	16.81	16.87	0	17	20.48	20.18	20.14	20.32	0	20.5
		50	0	16.40	16.70	16.22	16.20	0	17	19.51	20.11	20.18	19.50	0	20.5
		50	24	16.80	16.88	16.76	17.00	0	17	19.61	20.45	20.22	19.52	0	20.5
		50	50	16.32	16.72	16.16	16.12	0	17	19.57	20.27	20.11	19.51	0	20.5
		100	0	16.49	16.58	16.84	16.19	0	17	20.22	20.12	20.30	20.26	0	20.5
	16QAM	1	0	16.43	16.83	16.45	16.30	0	17	19.71	20.01	19.97	20.43	0	20.5
		1	49	16.36	16.76	16.10	16.09	0	17	20.47	20.07	20.31	20.22	0	20.5
		1	99	16.49	16.89	16.29	16.27	0	17	19.82	20.12	19.83	20.34	0	20.5
		50	0	16.54	16.54	16.37	16.34	0	17	20.46	20.06	19.88	20.25	0	20.5
		50	24	16.55	16.55	16.26	16.25	0	17	20.48	20.08	19.76	20.23	0	20.5
		50	50	16.47	16.47	16.29	16.26	0	17	20.42	20.02	19.77	20.20	0	20.5
		100	0	16.65	16.65	16.38	16.34	0	17	19.78	20.08	19.85	20.31	0	20.5
	64QAM	1	0	16.56	16.56	16.44	16.27	0	17	20.46	20.06	19.93	20.20	0	20.5
		1	49	16.39	16.39	16.08	16.11	0	17	20.40	20.00	19.74	19.98	0	20.5
		1	99	16.52	16.52	16.31	16.24	0	17	19.72	20.02	19.94	20.18	0	20.5
		50	0	16.73	16.93	16.57	16.53	0	17	19.44	19.04	19.12	19.23	1	19.5
		50	24	16.74	16.94	16.46	16.46	0	17	19.48	19.08	18.96	19.19	1	19.5
		50	50	16.66	16.86	16.50	16.48	0	17	19.40	19.00	18.95	19.20	1	19.5
		100	0	16.87	16.47	16.57	16.58	0	17	18.81	19.11	19.11	19.31	1	19.5
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55315	55765	56215	56665	MPR	Tune-up Limit	55315	55765	56215	56665	MPR	Tune-up Limit
				3557.5 MHz	3602.5 MHz	3647.5 MHz	3692.5 MHz			3557.5 MHz	3602.5 MHz	3647.5 MHz	3692.5 MHz		
15 MHz	QPSK	1	0	16.82	16.82	16.78	16.70	0	17	20.36	20.36	20.33	20.29	0	20.5
		1	37	16.85	16.85	16.66	16.57	0	17	20.39	20.39	20.14	20.16	0	20.5
		1	74	16.97	16.97	16.79	16.72	0	17	20.42	20.42	20.25	20.11	0	20.5
		36	0	16.62	16.52	16.53	16.46	0	17	20.41	20.41	19.74	19.74	0	20.5
		36	20	16.68	16.58	16.45	16.37	0	17	20.43	20.43	19.67	19.69	0	20.5
		36	39	16.74	16.84	16.44	16.38	0	17	19.70	19.70	19.68	19.63	0	20.5
		75	0	16.70	16.80	16.43	16.43	0	17	20.49	20.49	19.67	19.72	0	20.5
	16QAM	1	0	16.43	16.33	16.32	16.52	0	17	20.22	20.22	19.66	19.97	0	20.5
		1	37	16.46	16.36	16.50	16.41	0	17	20.24	20.24	19.74	19.68	0	20.5
		1	74	16.51	16.41	16.31	16.50	0	17	20.37	20.37	19.52	19.53	0	20.5
		36	0	16.43	16.83	16.24	16.28	0	17	20.32	20.32	19.79	19.88	0	20.5
		36	20	16.51	16.91	16.22	16.15	0	17	20.35	20.35	19.70	19.82	0	20.5
		36	39	16.56	16.96	16.24	16.19	0	17	20.42	20.42	19.72	19.74	0	20.5
		75	0	16.56	16.96	16.27	16.28	0	17	20.45	20.45	19.80	19.89	0	20.5
	64QAM	1	0	16.43	16.83	16.35	16.27	0	17	20.42	20.42	19.89	19.92	0	20.5
		1	37	16.41	16.81	16.18	16.11	0	17	20.37	20.37	19.71	19.60	0	20.5
		1	74	16.52	16.92	16.36	16.22	0	17	20.48	20.48	20.40	20.29	0	20.5
		36	0	16.60	16.80	16.41	16.42	0	17	19.29	19.29	19.05	19.05	1	19.5
		36	20	16.67	16.87	16.38	16.33	0	17	19.32	19.32	18.97	19.00	1	19.5
		36	39	16.73	16.93	16.42	16.35	0	17	19.40	19.40	18.91	18.92	1	19.5
		75	0	16.74	16.94	16.45	16.45	0	17	19.43	19.43	19.08	19.10	1	19.5

Notes:

LTE Band 48 Low and high channels were tested using the maximum tune-up limit. This is for testing purpose only. For device placing to the market would follow the tune up procedure.

LTE Band 48 Measured Results (UAT 2) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55290	55757	56223	56690	MPR	Tune-up Limit	55290	55757	56223	56690	MPR	Tune-up Limit
				3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz			3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz		
10 MHz	QPSK	1	0	16.68	16.68	16.62	16.55	0	17	20.26	20.26	20.15	19.55	0	20.5
		1	25	16.39	16.39	16.19	16.28	0	17	20.04	20.04	19.94	20.13	0	20.5
		1	49	16.82	16.82	16.55	16.51	0	17	20.41	20.41	20.08	20.12	0	20.5
		25	0	16.14	16.34	16.07	16.08	0	17	20.31	20.31	20.40	20.35	0	20.5
		25	12	16.16	16.36	16.02	16.03	0	17	20.33	20.33	20.36	20.27	0	20.5
		25	25	16.31	16.51	16.09	16.10	0	17	20.44	20.44	20.44	20.25	0	20.5
		50	0	16.31	16.51	16.18	16.13	0	17	20.44	20.44	19.71	20.28	0	20.5
	16QAM	1	0	16.24	16.44	16.20	16.09	0	17	20.46	20.46	19.78	20.36	0	20.5
		1	25	16.02	16.22	16.17	16.02	0	17	20.18	20.18	20.21	20.12	0	20.5
		1	49	16.41	16.61	16.10	16.06	0	17	19.84	19.84	20.42	20.10	0	20.5
		25	0	16.27	16.57	16.96	16.96	0	17	20.22	20.22	19.73	20.15	0	20.5
		25	12	16.41	16.71	16.90	16.92	0	17	20.25	20.25	19.68	20.05	0	20.5
		25	25	16.45	16.75	16.97	16.98	0	17	20.34	20.34	19.75	20.04	0	20.5
		50	0	16.11	16.41	16.31	16.26	0	17	20.40	20.40	19.86	20.20	0	20.5
	64QAM	1	0	16.13	16.17	16.72	16.62	0	17	20.06	20.06	19.90	20.29	0	20.5
		1	25	16.28	16.58	16.50	16.30	0	17	19.94	19.94	19.69	20.07	0	20.5
		1	49	16.23	16.53	16.64	16.73	0	17	20.22	20.22	19.65	19.98	0	20.5
		25	0	16.46	16.86	16.31	16.31	0	17	19.17	19.17	19.03	19.23	1	19.5
		25	12	16.60	17.00	16.27	16.26	0	17	19.16	19.16	18.95	19.15	1	19.5
		25	25	16.65	16.35	16.33	16.33	0	17	19.27	19.27	18.87	19.11	1	19.5
		50	0	16.65	16.35	16.47	16.42	0	17	19.33	19.33	19.08	19.21	1	19.5
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)						Power Mode B (dBm)					
				55265	55748	56232	56715	MPR	Tune-up Limit	55265	55748	56232	56715	MPR	Tune-up Limit
				3552.5 MHz	3600.8 MHz	3649.2 MHz	3697.5 MHz			3552.5 MHz	3600.8 MHz	3649.2 MHz	3697.5 MHz		
5 MHz	QPSK	1	0	16.51	16.51	16.50	16.37	0	17	20.25	20.25	20.41	20.29	0	20.5
		1	12	16.32	16.32	16.19	16.13	0	17	20.31	20.31	20.26	20.37	0	20.5
		1	24	16.51	16.51	16.50	16.43	0	17	20.15	20.15	20.20	20.16	0	20.5
		12	0	16.74	16.84	16.65	16.66	0	17	19.66	19.66	19.70	19.70	0	20.5
		12	7	16.67	16.77	16.60	16.61	0	17	19.61	19.61	19.64	19.65	0	20.5
		12	13	16.79	16.89	16.66	16.65	0	17	19.51	19.51	19.59	19.56	0	20.5
		25	0	16.97	16.37	16.92	16.86	0	17	19.76	19.76	19.80	19.81	0	20.5
	16QAM	1	0	16.60	16.70	16.55	16.44	0	17	19.90	19.90	19.93	19.93	0	20.5
		1	12	16.54	16.64	16.25	16.21	0	17	19.81	19.81	19.76	19.87	0	20.5
		1	24	16.55	16.65	16.48	16.46	0	17	19.64	19.64	19.69	19.71	0	20.5
		12	0	16.13	16.43	16.04	16.06	0	17	20.46	20.46	19.75	19.70	0	20.5
		12	7	16.06	16.36	16.25	16.21	0	17	20.41	20.41	20.47	20.46	0	20.5
		12	13	16.12	16.42	16.24	16.22	0	17	20.32	20.32	20.42	20.37	0	20.5
		25	0	16.20	16.50	16.16	16.09	0	17	19.83	19.83	19.89	19.89	0	20.5
	64QAM	1	0	16.06	16.36	16.02	16.13	0	17	19.90	19.90	20.01	19.91	0	20.5
		1	12	16.23	16.27	16.24	16.27	0	17	19.77	19.77	19.82	19.85	0	20.5
		1	24	16.22	16.52	16.15	16.11	0	17	19.59	19.59	19.75	19.71	0	20.5
		12	0	16.16	16.30	17.00	16.80	0	17	18.83	18.83	18.90	18.79	1	19.5
		12	7	16.30	16.70	16.94	16.70	0	17	18.77	18.77	18.83	18.76	1	19.5
		12	13	16.21	16.61	16.92	16.90	0	17	19.48	19.48	18.78	19.48	1	19.5
		25	0	16.38	16.78	16.34	16.24	0	17	19.09	19.09	19.06	19.09	1	19.5

Notes:

LTE Band 48 Low and high channels were tested using the maximum tune-up limit. This is for testing purpose only. For device placing to the market would follow the tune up procedure.

LTE Band 66 Measured Results (LAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				132072	132322	132572	MPR	Tune-up Limit	132072	132322	132572	MPR	Tune-up Limit
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	24.08	24.09	24.29	0	24.5	20.02	20.19	20.12	0	20.75
		1	49	24.15	24.40	24.30	0	24.5	20.50	20.71	20.66	0	20.75
		1	99	24.00	24.24	24.17	0	24.5	20.00	20.02	19.99	0	20.75
		50	0	23.35	23.38	23.49	0.3	24.2	19.88	20.18	20.07	0	20.75
		50	24	23.50	23.50	23.44	0.3	24.2	20.43	20.75	20.61	0	20.75
	16QAM	50	50	23.30	23.32	23.35	0.3	24.2	19.87	20.15	20.03	0	20.75
		100	0	23.36	23.50	23.46	0.3	24.2	19.76	20.70	20.05	0	20.75
		1	0	23.28	23.35	23.23	0.3	24.2	20.37	20.51	20.47	0	20.75
		1	49	23.45	23.34	23.21	0.3	24.2	20.11	20.50	20.35	0	20.75
		1	99	23.22	23.41	23.31	0.3	24.2	20.33	20.37	20.36	0	20.75
	64QAM	50	0	22.39	22.43	22.25	1.3	23.2	19.86	20.25	20.13	0	20.75
		50	24	22.39	22.38	22.49	1.3	23.2	19.80	20.24	20.10	0	20.75
		50	50	22.34	22.33	22.40	1.3	23.2	19.84	20.21	20.08	0	20.75
		100	0	22.39	22.38	22.46	1.3	23.2	19.81	20.25	20.09	0	20.75
		1	0	22.37	22.47	22.33	1.3	23.2	20.14	20.31	20.18	0	20.75
15 MHz	QPSK	1	49	22.36	22.39	22.49	1.3	23.2	19.92	20.27	20.10	0	20.75
		1	99	22.50	22.47	22.39	1.3	23.2	20.14	20.13	20.11	0	20.75
		50	0	21.37	21.38	21.50	2.3	22.2	19.87	20.22	20.08	0	20.75
		50	24	21.38	21.37	21.46	2.3	22.2	19.82	20.22	20.05	0	20.75
		50	50	21.33	21.33	21.37	2.3	22.2	19.86	20.19	20.03	0	20.75
	16QAM	100	0	21.37	21.36	21.44	2.3	22.2	19.82	20.23	20.03	0	20.75
		1	0	23.99	24.10	24.32	0	24.5	20.01	20.02	20.20	0	20.75
		1	37	23.84	24.11	24.20	0	24.5	19.81	20.04	20.13	0	20.75
		1	74	23.83	24.06	24.11	0	24.5	19.80	20.04	20.01	0	20.75
		36	0	23.30	23.30	23.49	0.3	24.2	19.85	20.06	20.14	0	20.75
	64QAM	36	20	23.31	23.32	23.42	0.3	24.2	19.87	20.03	20.12	0	20.75
		36	39	23.32	23.27	23.37	0.3	24.2	19.87	19.98	20.08	0	20.75
		75	0	23.32	23.32	23.38	0.3	24.2	19.86	20.03	20.13	0	20.75
		1	0	23.40	23.43	23.44	0.3	24.2	20.27	20.26	20.34	0	20.75
		1	37	23.30	23.44	23.41	0.3	24.2	20.09	20.22	20.45	0	20.75
15 MHz	16QAM	1	74	23.34	23.48	23.41	0.3	24.2	20.08	20.24	20.30	0	20.75
		36	0	22.34	22.36	22.44	1.3	23.2	19.89	20.07	20.23	0	20.75
		36	20	22.34	22.37	22.48	1.3	23.2	19.89	20.07	20.20	0	20.75
		36	39	22.34	22.30	22.43	1.3	23.2	19.85	20.02	20.16	0	20.75
		75	0	22.32	22.34	22.45	1.3	23.2	19.85	20.07	20.17	0	20.75
	64QAM	1	0	22.46	22.41	22.48	1.3	23.2	20.29	20.28	20.51	0	20.75
		1	37	22.30	22.41	22.40	1.3	23.2	20.10	20.35	20.39	0	20.75
		1	74	22.28	22.43	22.44	1.3	23.2	20.13	20.30	20.23	0	20.75
		36	0	21.35	21.39	21.49	2.3	22.2	19.91	20.09	20.24	0	20.75
		36	20	21.35	21.39	21.43	2.3	22.2	19.91	20.09	20.21	0	20.75
		36	39	21.36	21.34	21.38	2.3	22.2	19.87	20.04	20.16	0	20.75
		75	0	21.32	21.32	21.40	2.3	22.2	19.85	20.07	20.17	0	20.75

LTE Band 66 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				132022	132322	132622	MPR	Tune-up Limit	132022	132322	132622	MPR	Tune-up Limit
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	24.02	24.17	24.26	0	24.5	20.02	20.22	20.10	0	20.75
		1	25	23.90	24.12	24.17	0	24.5	19.89	20.22	20.02	0	20.75
		1	49	23.88	24.12	24.16	0	24.5	19.82	20.24	20.02	0	20.75
		25	0	23.30	23.30	23.35	0.3	24.2	19.98	20.19	20.04	0	20.75
		25	12	23.21	23.33	23.31	0.3	24.2	19.86	20.23	20.02	0	20.75
		25	25	23.23	23.31	23.29	0.3	24.2	19.79	20.23	20.00	0	20.75
	16QAM	50	0	23.22	23.35	23.35	0.3	24.2	19.86	20.25	20.03	0	20.75
		1	0	23.48	23.26	23.24	0.3	24.2	20.22	20.45	20.38	0	20.75
		1	25	23.28	23.40	23.29	0.3	24.2	20.15	20.44	20.27	0	20.75
		1	49	23.34	23.44	23.31	0.3	24.2	20.02	20.45	20.27	0	20.75
		25	0	22.37	22.35	22.39	1.3	23.2	19.97	20.18	20.07	0	20.75
		25	12	22.29	22.36	22.36	1.3	23.2	19.90	20.22	20.03	0	20.75
	64QAM	25	25	22.29	22.34	22.33	1.3	23.2	19.84	20.22	20.00	0	20.75
		50	0	22.29	22.37	22.36	1.3	23.2	19.92	20.22	20.02	0	20.75
		1	0	22.43	22.47	22.41	1.3	23.2	20.20	20.28	20.21	0	20.75
		1	25	22.25	22.39	22.47	1.3	23.2	20.10	20.35	20.15	0	20.75
		1	49	22.34	22.44	22.50	1.3	23.2	19.91	20.34	20.18	0	20.75
		25	0	21.36	21.32	21.37	2.3	22.2	19.96	20.18	20.06	0	20.75
5 MHz	QPSK	25	12	21.28	21.36	21.34	2.3	22.2	19.90	20.23	20.02	0	20.75
		25	25	21.29	21.34	21.34	2.3	22.2	19.84	20.24	20.00	0	20.75
		50	0	21.29	21.37	21.35	2.3	22.2	19.93	20.24	20.02	0	20.75
	16QAM	1	0	23.95	24.02	24.07	0	24.5	19.98	20.08	19.93	0	20.75
		1	12	23.82	24.00	24.00	0	24.5	19.89	20.10	19.88	0	20.75
		1	24	23.79	24.04	24.03	0	24.5	19.84	20.14	19.94	0	20.75
		12	0	23.30	23.27	23.25	0.3	24.2	19.93	20.15	19.93	0	20.75
		12	7	23.21	23.25	23.23	0.3	24.2	19.92	20.14	19.92	0	20.75
		12	13	23.35	23.25	23.23	0.3	24.2	19.85	20.15	19.93	0	20.75
	64QAM	25	0	23.26	23.30	23.28	0.3	24.2	19.94	20.17	19.97	0	20.75
		1	0	23.43	23.33	23.40	0.3	24.2	20.34	20.47	20.36	0	20.75
		1	12	23.27	23.38	23.34	0.3	24.2	20.23	20.48	20.31	0	20.75
		1	24	23.32	23.38	23.45	0.3	24.2	20.20	20.46	20.35	0	20.75
		12	0	22.37	22.30	22.27	1.3	23.2	19.96	20.16	20.03	0	20.75
		12	7	22.26	22.30	22.24	1.3	23.2	19.95	20.14	20.00	0	20.75
5 MHz	16QAM	12	13	22.22	22.32	22.26	1.3	23.2	19.87	20.14	20.00	0	20.75
		25	0	22.28	22.28	22.25	1.3	23.2	19.94	20.15	20.01	0	20.75
	64QAM	1	0	22.33	22.43	22.45	1.3	23.2	20.20	20.33	20.22	0	20.75
		1	12	22.31	22.46	22.40	1.3	23.2	20.10	20.36	20.19	0	20.75
		1	24	22.26	22.35	22.41	1.3	23.2	20.09	20.37	20.25	0	20.75
		12	0	21.40	21.37	21.31	2.3	22.2	19.96	20.24	20.06	0	20.75
	64QAM	12	7	21.25	21.33	21.30	2.3	22.2	19.94	20.23	20.04	0	20.75
		12	13	21.22	21.33	21.29	2.3	22.2	19.90	20.23	20.05	0	20.75
		25	0	21.24	21.33	21.27	2.3	22.2	19.90	20.20	19.99	0	20.75

LTE Band 66 Measured Results (LAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				131987	132322	132657	MPR	Tune-up Limit	131987	132322	132657	MPR	Tune-up Limit
				1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	23.96	24.00	24.06	0	24.5	20.00	20.14	19.90	0	20.75
		1	8	23.90	24.08	24.07	0	24.5	19.99	20.18	19.95	0	20.75
		1	14	23.87	24.01	24.02	0	24.5	19.88	20.15	19.93	0	20.75
		8	0	23.37	23.23	23.24	0.3	24.2	19.89	20.12	19.93	0	20.75
		8	4	23.30	23.22	23.24	0.3	24.2	19.87	20.09	19.92	0	20.75
		8	7	23.24	23.23	23.24	0.3	24.2	19.89	20.10	19.93	0	20.75
		15	0	23.25	23.24	23.26	0.3	24.2	19.90	20.11	19.94	0	20.75
	16QAM	1	0	23.33	23.46	23.48	0.3	24.2	20.20	20.39	20.24	0	20.75
		1	8	23.34	23.40	23.39	0.3	24.2	20.19	20.38	20.21	0	20.75
		1	14	23.27	23.40	23.39	0.3	24.2	20.14	20.34	20.12	0	20.75
		8	0	22.40	22.32	22.35	1.3	23.2	19.97	20.17	19.95	0	20.75
		8	4	22.30	22.31	22.31	1.3	23.2	19.97	20.15	19.93	0	20.75
		8	7	22.31	22.31	22.30	1.3	23.2	19.96	20.17	19.95	0	20.75
		15	0	22.30	22.30	22.29	1.3	23.2	19.95	20.14	19.92	0	20.75
	64QAM	1	0	22.34	22.42	22.35	1.3	23.2	20.07	20.19	20.11	0	20.75
		1	8	22.29	22.43	22.35	1.3	23.2	20.03	20.26	20.12	0	20.75
		1	14	22.21	22.31	22.22	1.3	23.2	20.00	20.29	20.10	0	20.75
		8	0	21.26	21.31	21.23	2.3	22.2	19.94	20.22	19.97	0	20.75
		8	4	21.20	21.32	21.22	2.3	22.2	19.93	20.22	19.98	0	20.75
		8	7	21.39	21.33	21.23	2.3	22.2	19.92	20.23	19.98	0	20.75
		15	0	21.38	21.31	21.23	2.3	22.2	19.91	20.22	19.94	0	20.75
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				131979	132322	132665	MPR	Tune-up Limit	131979	132322	132665	MPR	Tune-up Limit
				1710.7 MHz	1745 MHz	1779.3 MHz			1710.7 MHz	1745 MHz	1779.3 MHz		
1.4 MHz	QPSK	1	0	23.93	24.08	24.02	0	24.5	19.93	20.19	19.94	0	20.75
		1	3	23.87	24.06	23.98	0	24.5	19.87	20.16	19.94	0	20.75
		1	5	23.94	24.09	24.02	0	24.5	19.92	20.19	19.99	0	20.75
		3	0	23.91	24.07	24.00	0	24.5	19.95	20.12	19.92	0	20.75
		3	1	23.88	24.04	23.96	0	24.5	19.90	20.11	19.91	0	20.75
		3	3	23.88	24.01	23.94	0	24.5	19.90	20.11	19.92	0	20.75
		6	0	23.30	23.44	23.34	0.3	24.2	19.85	20.13	19.94	0	20.75
	16QAM	1	0	23.47	23.35	23.43	0.3	24.2	20.15	20.43	20.26	0	20.75
		1	3	23.43	23.46	23.38	0.3	24.2	20.11	20.38	20.14	0	20.75
		1	5	23.49	23.23	23.43	0.3	24.2	20.14	20.42	20.19	0	20.75
		3	0	23.28	23.38	23.29	0.3	24.2	20.11	20.28	20.04	0	20.75
		3	1	23.28	23.35	23.28	0.3	24.2	20.04	20.29	20.05	0	20.75
		3	3	23.27	23.35	23.30	0.3	24.2	20.01	20.29	20.06	0	20.75
		6	0	23.40	23.54	23.46	0.3	24.2	19.98	20.25	19.99	0	20.75
	64QAM	1	0	22.40	22.36	22.40	1.3	23.2	20.14	20.33	20.09	0	20.75
		1	3	22.48	22.41	22.48	1.3	23.2	20.08	20.26	20.13	0	20.75
		1	5	22.42	22.43	22.49	1.3	23.2	20.10	20.30	20.13	0	20.75
		3	0	22.37	22.37	22.38	1.3	23.2	20.06	20.24	20.04	0	20.75
		3	1	22.35	22.37	22.38	1.3	23.2	20.01	20.22	20.02	0	20.75
		3	3	22.34	22.35	22.39	1.3	23.2	20.02	20.22	20.04	0	20.75
		6	0	21.28	21.38	21.31	2.3	22.2	20.04	20.24	20.02	0	20.75

LTE Band 66 Measured Results (UAT 1)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				132072	132322	132572	MPR	Tune-up Limit	132072	132322	132572	MPR	Tune-up Limit
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	18.00	17.86	17.90	0	18.25	18.32	18.37	18.17	0	18.50
		1	49	18.00	18.00	18.00	0	18.25	18.50	18.50	18.40	0	18.50
		1	99	17.92	17.95	18.00	0	18.25	18.42	18.01	18.13	0	18.50
		50	0	17.83	18.00	17.96	0	18.25	18.31	18.11	18.08	0	18.50
		50	24	18.00	18.00	18.00	0	18.25	18.50	18.50	18.30	0	18.50
		50	50	17.92	17.93	17.99	0	18.25	18.47	18.05	18.11	0	18.50
	16QAM	100	0	17.90	18.00	17.89	0	18.25	18.30	18.50	18.02	0	18.50
		1	0	17.78	18.00	17.97	0	18.25	18.46	18.46	18.31	0	18.50
		1	49	17.80	17.81	17.82	0	18.25	18.30	18.15	18.17	0	18.50
		1	99	17.85	17.83	17.98	0	18.25	18.30	18.18	18.30	0	18.50
		50	0	17.88	18.00	17.99	0	18.25	18.16	17.97	17.92	0	18.50
		50	24	17.94	17.95	17.94	0	18.25	18.28	17.86	17.86	0	18.50
	64QAM	50	50	17.97	17.97	18.00	0	18.25	18.33	17.90	17.96	0	18.50
		100	0	17.94	17.95	17.93	0	18.25	18.28	17.88	17.87	0	18.50
		1	0	17.52	18.00	17.72	0	18.25	18.49	18.33	18.03	0	18.50
		1	49	17.60	17.88	17.64	0	18.25	18.40	17.95	17.86	0	18.50
		1	99	17.65	17.91	17.72	0	18.25	18.40	17.99	18.00	0	18.50
		50	0	17.85	18.00	17.97	0	18.25	18.17	18.02	17.91	0	18.50
15 MHz	QPSK	50	24	17.95	18.00	17.90	0	18.25	18.28	17.91	17.83	0	18.50
		50	50	18.00	17.97	18.00	0	18.25	18.32	17.94	17.93	0	18.50
		100	0	17.94	17.93	17.89	0	18.25	18.27	17.92	17.83	0	18.50
		1	0	18.00	18.00	18.00	0	18.25	18.28	18.28	18.09	0	18.50
		1	37	18.17	17.97	18.02	0	18.25	18.27	18.08	18.15	0	18.50
		1	74	18.00	18.00	18.00	0	18.25	18.41	18.10	18.18	0	18.50
	16QAM	36	0	18.00	18.00	17.96	0	18.25	18.19	18.16	18.00	0	18.50
		36	20	18.00	17.97	18.00	0	18.25	18.32	18.09	18.13	0	18.50
		36	39	18.00	17.98	17.97	0	18.25	18.42	18.10	18.08	0	18.50
		75	0	18.00	17.98	18.00	0	18.25	18.31	18.03	18.14	0	18.50
		1	0	18.00	18.00	17.83	0	18.25	18.33	18.33	18.17	0	18.50
		1	37	18.00	17.87	17.89	0	18.25	18.33	18.06	18.21	0	18.50
	64QAM	1	74	18.00	17.89	17.87	0	18.25	18.40	18.10	18.20	0	18.50
		36	0	18.19	18.12	17.94	0	18.25	18.05	17.95	17.85	0	18.50
		36	20	17.86	18.00	18.00	0	18.25	18.17	17.87	17.98	0	18.50
		36	39	17.96	18.00	18.00	0	18.25	18.28	17.88	17.95	0	18.50
		75	0	17.84	17.95	17.95	0	18.25	18.11	17.86	17.98	0	18.50
		1	0	17.98	18.00	17.89	0	18.25	18.31	18.37	18.21	0	18.50
15 MHz	64QAM	1	37	18.00	17.86	17.92	0	18.25	18.41	18.20	18.31	0	18.50
		1	74	17.83	17.89	17.99	0	18.25	18.40	18.23	18.27	0	18.50
		36	0	17.75	18.00	17.95	0	18.25	18.06	17.96	17.90	0	18.50
		36	20	17.84	17.95	18.00	0	18.25	18.18	17.89	18.04	0	18.50
		36	39	17.95	18.00	18.00	0	18.25	18.24	17.90	17.99	0	18.50
		75	0	17.80	17.96	18.00	0	18.25	18.11	17.87	18.01	0	18.50

LTE Band 66 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				132022	132322	132622	MPR	Tune-up Limit	132022	132322	132622	MPR	Tune-up Limit
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	17.95	18.10	18.00	0	18.25	18.31	18.18	18.12	0	18.50
		1	25	18.00	17.98	18.00	0	18.25	18.21	18.05	18.13	0	18.50
		1	49	18.00	18.00	18.00	0	18.25	18.38	18.12	18.24	0	18.50
		25	0	18.00	17.95	17.96	0	18.25	18.21	18.11	18.15	0	18.50
		25	12	18.00	17.92	17.94	0	18.25	18.15	18.05	18.13	0	18.50
		25	25	17.95	17.95	17.96	0	18.25	18.26	18.08	18.11	0	18.50
		50	0	18.00	17.93	17.96	0	18.25	18.16	18.06	18.08	0	18.50
	16QAM	1	0	17.98	17.91	17.84	0	18.25	18.31	18.27	18.18	0	18.50
		1	25	17.92	17.77	17.85	0	18.25	18.17	18.14	18.12	0	18.50
		1	49	18.00	17.82	17.96	0	18.25	18.42	18.14	18.27	0	18.50
		25	0	18.00	18.00	18.00	0	18.25	18.06	17.98	17.96	0	18.50
		25	12	18.00	17.98	17.89	0	18.25	17.99	17.91	17.94	0	18.50
		25	25	17.98	17.99	17.98	0	18.25	18.10	17.92	17.95	0	18.50
		50	0	18.00	17.99	18.00	0	18.25	18.01	17.91	17.95	0	18.50
	64QAM	1	0	17.96	17.91	17.78	0	18.25	18.27	18.29	18.04	0	18.50
		1	25	17.87	17.74	17.77	0	18.25	18.25	18.09	18.08	0	18.50
		1	49	18.00	17.79	17.84	0	18.25	18.39	18.10	18.11	0	18.50
		25	0	18.00	18.00	18.00	0	18.25	18.16	17.99	17.92	0	18.50
		25	12	17.95	17.93	17.91	0	18.25	18.10	17.93	17.89	0	18.50
		25	25	17.93	17.94	17.93	0	18.25	18.20	17.95	17.89	0	18.50
		50	0	17.98	17.93	17.93	0	18.25	18.05	17.93	17.92	0	18.50
BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				131997	132322	132647	MPR	Tune-up Limit	131997	132322	132647	MPR	Tune-up Limit
				1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz		
5 MHz	QPSK	1	0	17.90	17.96	18.00	0	18.25	18.25	18.02	18.09	0	18.50
		1	12	17.96	17.88	18.00	0	18.25	18.22	17.95	18.09	0	18.50
		1	24	17.96	17.90	18.00	0	18.25	18.21	17.97	18.26	0	18.50
		12	0	17.93	17.89	17.94	0	18.25	18.27	17.98	18.03	0	18.50
		12	7	17.94	17.87	17.94	0	18.25	18.26	17.97	18.03	0	18.50
		12	13	17.99	17.87	18.00	0	18.25	18.20	17.94	18.09	0	18.50
		25	0	17.98	17.90	17.98	0	18.25	18.22	17.98	18.09	0	18.50
	16QAM	1	0	18.00	17.87	17.95	0	18.25	18.41	18.19	18.26	0	18.50
		1	12	18.00	17.88	17.88	0	18.25	18.35	18.16	18.23	0	18.50
		1	24	17.83	17.88	18.00	0	18.25	18.40	18.14	18.37	0	18.50
		12	0	17.83	17.95	18.00	0	18.25	18.08	17.84	17.94	0	18.50
		12	7	17.92	17.94	18.00	0	18.25	18.07	17.84	17.92	0	18.50
		12	13	18.00	17.94	18.00	0	18.25	18.02	17.85	17.98	0	18.50
		25	0	18.00	17.95	18.00	0	18.25	18.06	17.84	17.92	0	18.50
	64QAM	1	0	17.92	17.80	17.90	0	18.25	18.30	18.07	18.13	0	18.50
		1	12	18.00	17.73	17.87	0	18.25	18.24	18.07	18.15	0	18.50
		1	24	18.00	17.72	18.00	0	18.25	18.28	18.05	18.26	0	18.50
		12	0	18.00	17.93	18.00	0	18.25	18.09	17.90	17.95	0	18.50
		12	7	18.00	17.94	18.00	0	18.25	18.07	17.87	17.97	0	18.50
		12	13	18.00	17.93	18.00	0	18.25	18.03	17.88	18.02	0	18.50
		25	0	18.00	17.91	18.00	0	18.25	18.06	17.85	17.94	0	18.50

LTE Band 66 Measured Results (UAT 1) (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Power Mode A (dBm)					Power Mode B (dBm)				
				131987	132322	132657	MPR	Tune-up Limit	131987	132322	132657	MPR	Tune-up Limit
				1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	17.95	17.84	18.00	0	18.25	18.19	17.98	18.09	0	18.50
		1	8	17.93	17.90	17.95	0	18.25	18.24	18.00	18.13	0	18.50
		1	14	17.95	17.85	17.96	0	18.25	18.19	17.92	18.20	0	18.50
		8	0	17.99	17.88	18.00	0	18.25	18.19	17.96	18.08	0	18.50
		8	4	17.90	17.87	18.00	0	18.25	18.17	17.95	18.11	0	18.50
		8	7	17.90	17.89	17.95	0	18.25	18.18	17.96	18.13	0	18.50
	16QAM	15	0	17.91	17.90	17.95	0	18.25	18.18	17.97	18.14	0	18.50
		1	0	17.95	17.77	17.83	0	18.25	18.25	17.97	18.14	0	18.50
		1	8	18.00	17.82	17.97	0	18.25	18.31	18.08	18.23	0	18.50
		1	14	17.91	17.73	17.99	0	18.25	18.18	17.97	18.31	0	18.50
		8	0	18.00	17.97	17.94	0	18.25	18.06	17.82	17.97	0	18.50
		8	4	18.00	17.94	18.00	0	18.25	18.05	17.82	18.00	0	18.50
	64QAM	8	7	18.00	17.97	18.00	0	18.25	18.05	17.84	18.00	0	18.50
		15	0	18.00	17.93	18.00	0	18.25	18.04	17.82	17.99	0	18.50
		1	0	17.88	17.65	17.66	0	18.25	18.20	18.01	18.02	0	18.50
		1	8	17.84	17.59	17.83	0	18.25	18.14	18.00	18.00	0	18.50
		1	14	17.78	17.56	17.89	0	18.25	18.11	17.93	18.14	0	18.50
		8	0	18.00	17.96	18.00	0	18.25	18.07	17.88	17.90	0	18.50
1.4 MHz	QPSK	8	4	18.00	17.94	17.94	0	18.25	18.08	17.88	17.94	0	18.50
		8	7	18.00	17.97	17.97	0	18.25	18.08	17.90	17.97	0	18.50
		15	0	18.00	17.94	17.95	0	18.25	18.08	17.86	17.95	0	18.50
	16QAM	1	0	17.95	17.94	18.00	0	18.25	18.22	18.04	18.13	0	18.50
		1	3	17.95	17.92	18.00	0	18.25	18.21	18.01	18.14	0	18.50
		1	5	17.98	17.98	17.94	0	18.25	18.20	18.01	18.26	0	18.50
	64QAM	3	0	17.98	17.85	18.00	0	18.25	18.18	17.95	18.12	0	18.50
		3	1	17.98	17.85	18.00	0	18.25	18.19	17.95	18.12	0	18.50
		3	3	17.98	17.85	18.00	0	18.25	18.19	17.95	18.12	0	18.50
	16QAM	6	0	17.90	17.88	18.00	0	18.25	18.20	17.98	18.15	0	18.50
		1	0	17.92	17.74	17.93	0	18.25	18.23	18.08	18.23	0	18.50
		1	3	17.95	17.73	17.90	0	18.25	18.26	18.08	18.20	0	18.50
		1	5	17.88	17.79	18.00	0	18.25	18.26	18.08	18.26	0	18.50
		3	0	17.76	17.62	17.78	0	18.25	18.16	17.95	18.03	0	18.50
		3	1	17.78	17.61	17.80	0	18.25	18.14	17.93	18.03	0	18.50
	64QAM	3	3	17.80	17.64	17.80	0	18.25	18.16	17.93	18.02	0	18.50
		6	0	17.75	17.58	17.76	0	18.25	18.13	17.89	17.99	0	18.50
		1	0	17.91	17.66	17.83	0	18.25	18.43	17.93	18.23	0	18.50
		1	3	17.92	17.61	17.83	0	18.25	18.34	17.98	18.20	0	18.50
		1	5	17.93	17.68	17.86	0	18.25	18.37	18.03	18.36	0	18.50
		3	0	17.88	17.99	17.99	0	18.25	18.23	17.88	18.16	0	18.50
	64QAM	3	1	17.90	17.98	17.90	0	18.25	18.22	17.90	18.09	0	18.50
		3	3	17.89	17.99	17.91	0	18.25	18.25	17.89	18.08	0	18.50
		6	0	17.90	17.98	17.89	0	18.25	18.11	17.90	17.99	0	18.50

9.5. LTE Up-Link Carrier Aggregation

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

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

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

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

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

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

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

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

Where M_A is defined as follows

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

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

and M_{IM5} is defined as follows

$$M_{IM5} = \begin{aligned} &4.5 \quad ; \Delta_{IM5} < 1.5 * BW_{Channel_CA} \\ &6.0 \quad ; 1.5 * BW_{Channel_CA} \leq \Delta_{IM5} < BW_{Channel_CA}/2 + \Delta f_{00B} \\ &M_A \quad ; \Delta_{IM5} \geq BW_{Channel_CA}/2 + \Delta f_{00B} \end{aligned}$$

Where

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

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

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

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 $W_{GAP} \leq 42.2$ MHz as follows

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

Where M_N is defined as follows

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

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

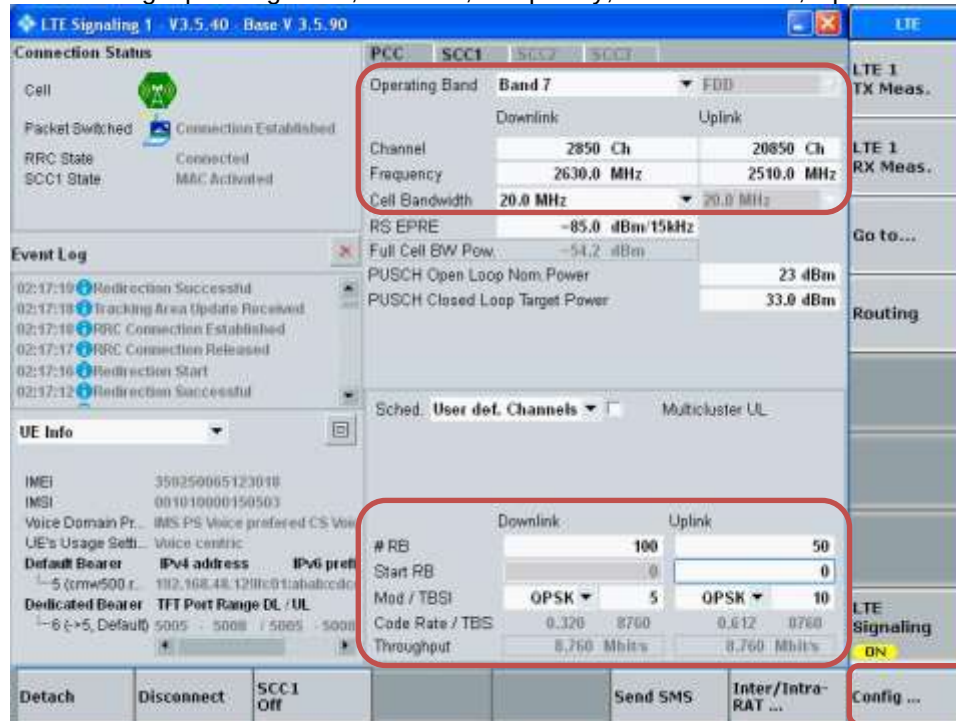
For the UE maximum output power modified by MPR, the power limits specified in subclause 6.2.5A apply.

LTE Carrier Aggregation Test Signal Set-up Procedure

(Use normal LTE set-up procedure in addition with the following steps)

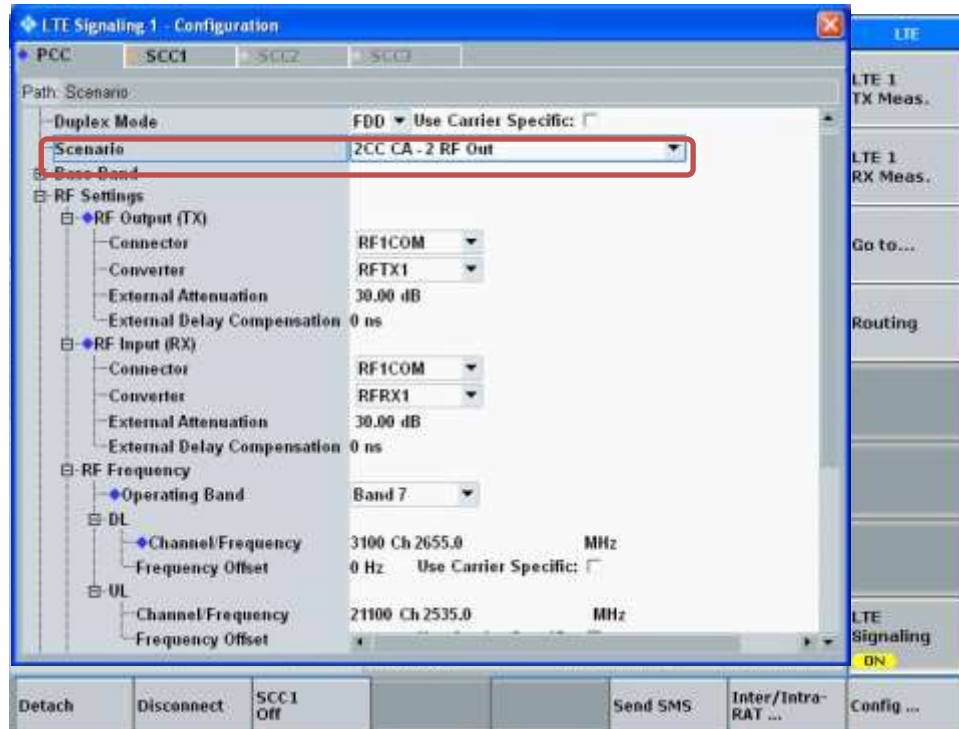
Set to CMW-500 with following parameters:

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

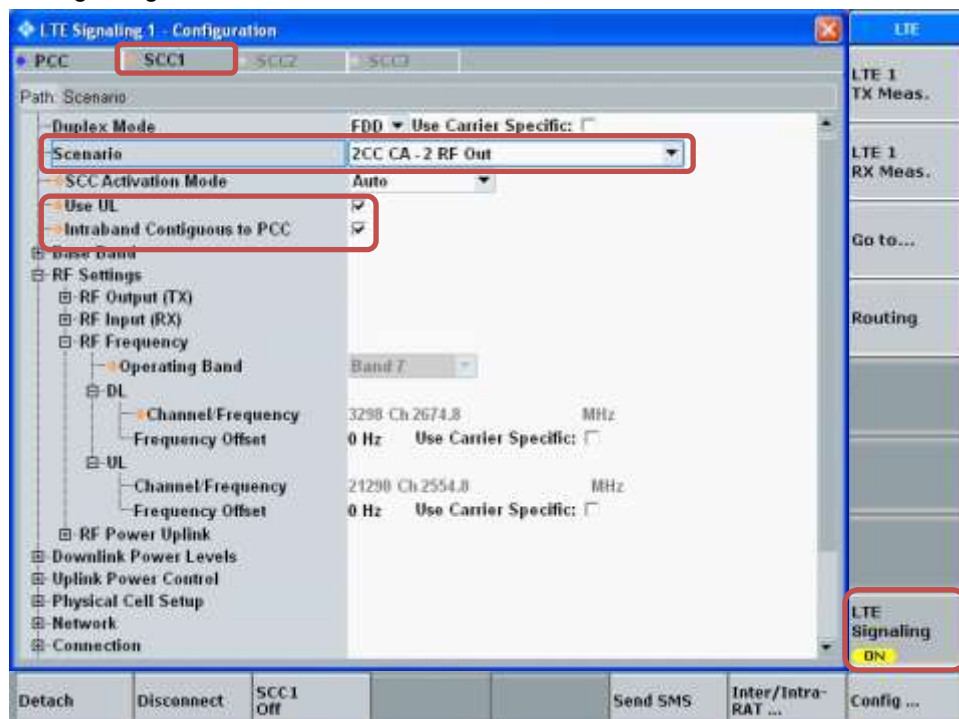


- Go to "Config...."

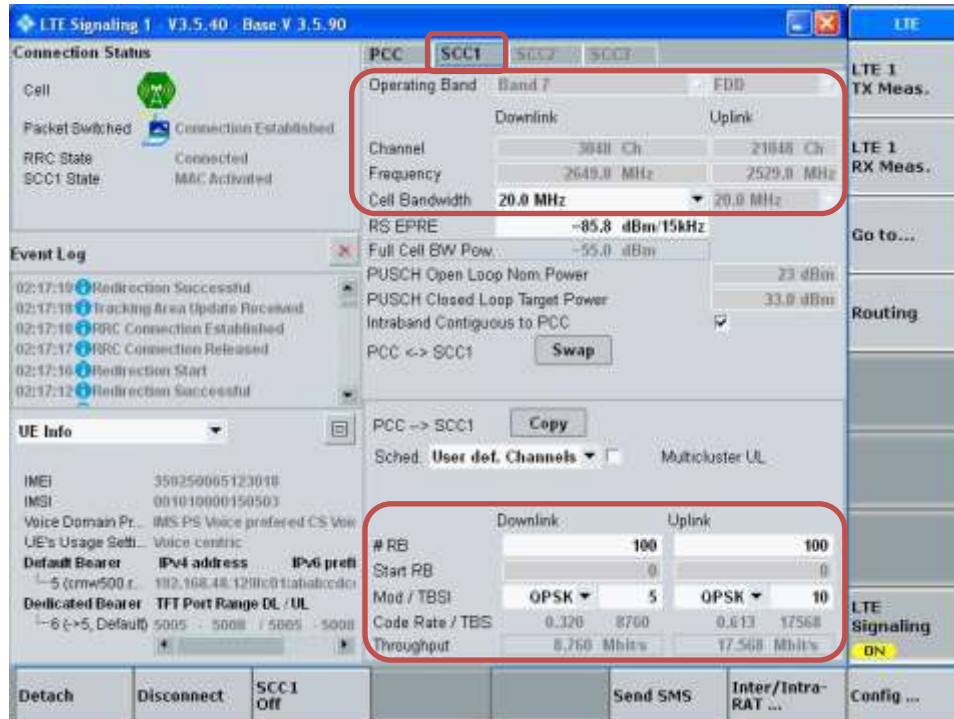
- Go to “Scenario”
- Set to “2CC CA – 2 RF Out”



- 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

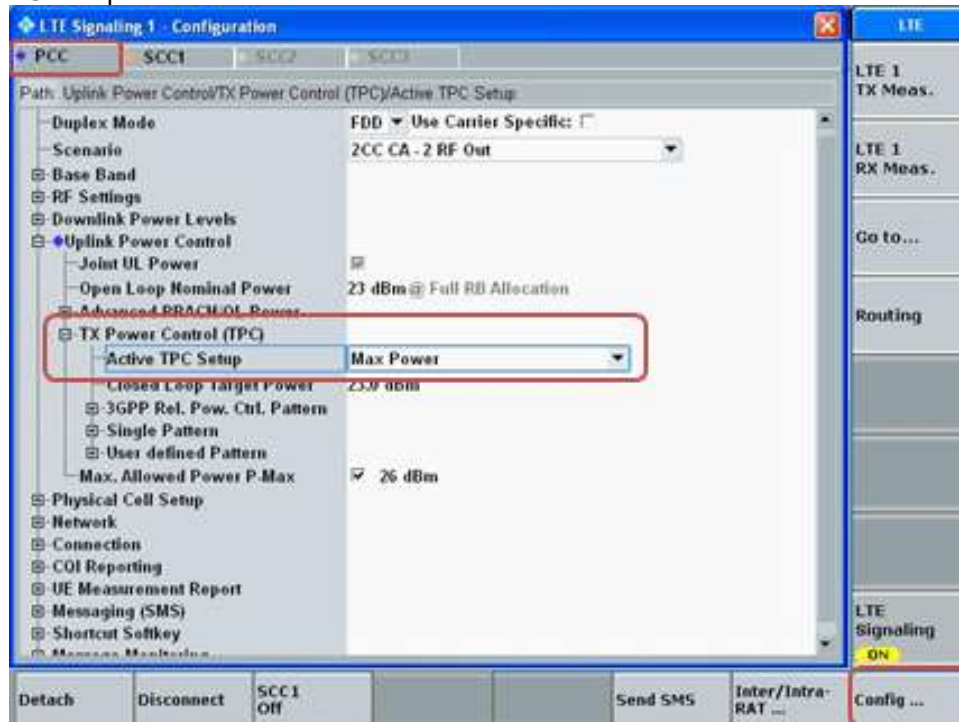


- Select “SCC1” tab
 - Select the testing Cell Bandwidth, Uplink RBs

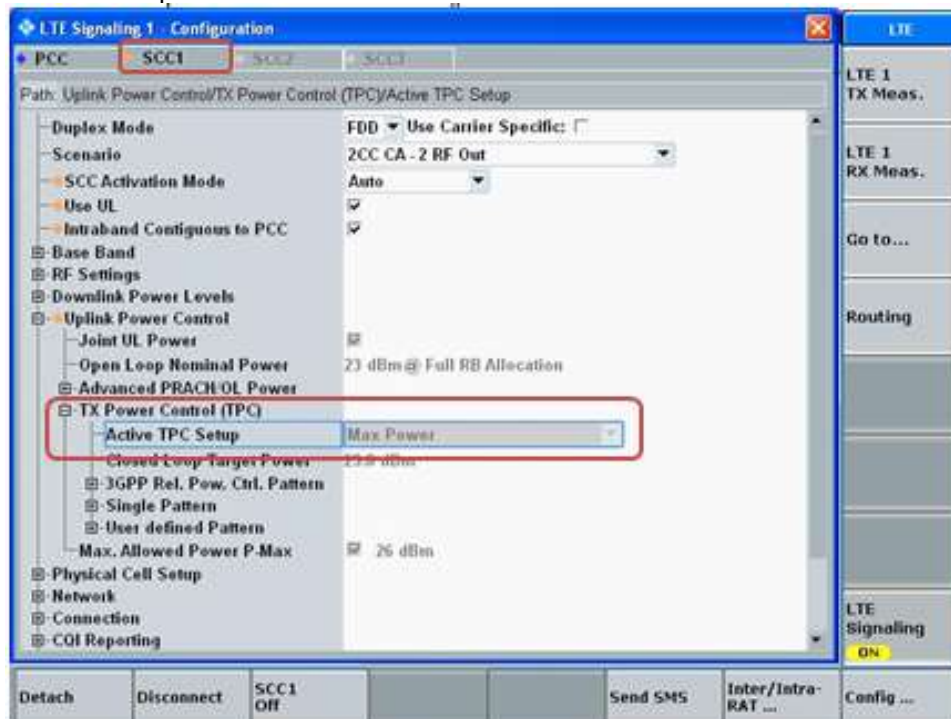


Max Power Setting

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

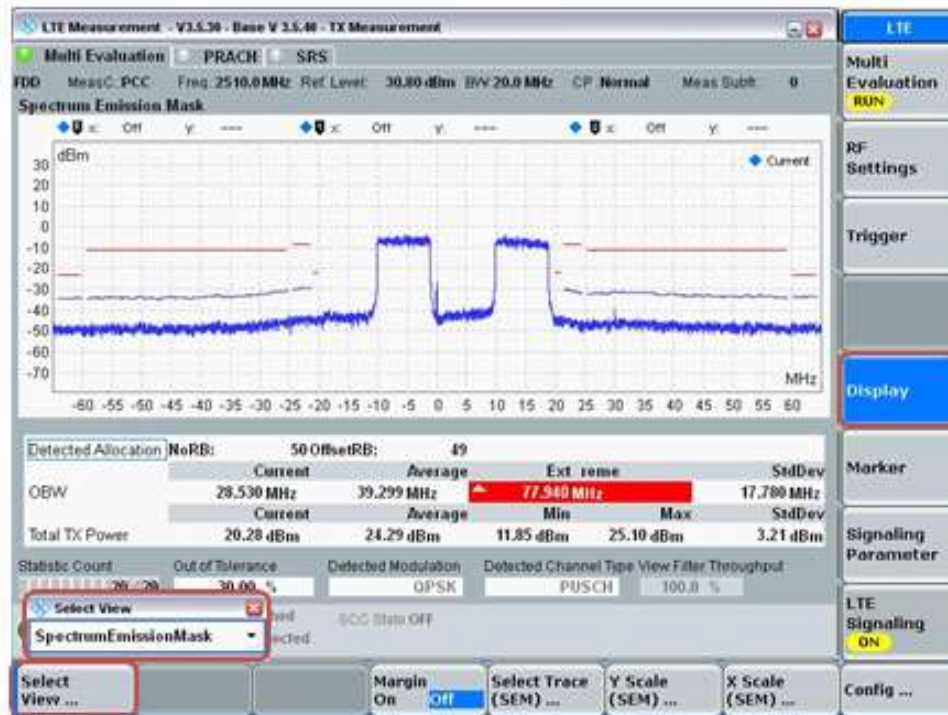


- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



View TX Power

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



LTE Intra-Band Contiguous Carrier Aggregation

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

UL CA power measurements were performed for each antennas (LAT 1 and UAT 1) at with QPSK modulation based on the worst-case standalone SAR.

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 and RB allocation setting).

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

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

- a) When the maximum output for UL CA is $\leq$ standalone LTE mode (without CA)
 - PCC is configured according to the highest standalone SAR configuration tested
 - SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC
- b) When the Reported SAR for UL CA configuration, described above, is > 1.2 W/kg, UL CA SAR is also required for all required test channels(PCC based)
- c) UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level

Maximum Output Power (Tune-up Limit) for LTE UL Carrier Aggregation

Intra-Band Contiguous	Mode	Maximum Output Power (Tune-up Limit) (dBm)			
		LAT 1		UAT 1	
		Mode A	Mode B	Mode A	Mode B
CA_5B	QPSK	24.50	24.50	23.00	23.00
CA_7C	QPSK	24.50	18.50	16.25	18.75
CA_41C (PC3)	QPSK	24.50	21.00	17.75	19.75
CA_41C (PC2)	QPSK	26.00	21.00	17.75	19.75

LTE CA 5B Measured Results

UL CA Combination	Antenna	Power Mode	Modulation	PCC				SCC				Standalone Power		(PCC + SCC) UL CA Power		
				BW (MHz)	Freq	RB	Offset	BW (MHz)	Freq	RB	Offset	Tune-Up Limit (dBm)	UL CA Inactive (dBm)	Tune-Up Limit (dBm)	UL CA active (dBm)	Delta
CA_5B	LAT 1	Mode A	QPSK	10	836.5	1	49	5	843.9	1	0	25.20	24.22	24.50	24.00	-0.2
CA_5B	LAT 1	Mode B	QPSK	10	836.5	1	49	5	843.9	1	0	25.20	24.22	24.50	24.00	-0.2
CA_5B	UAT 1	Mode A	QPSK	10	836.5	1	49	5	843.9	1	0	23.50	23.00	23.00	22.60	-0.4
CA_5B	UAT 1	Mode B	QPSK	10	836.5	1	49	5	843.9	1	0	23.50	23.00	23.00	22.60	-0.4

Note(s):

PCC RB allocation setting for UL CA has been adjusted based on the worst-case power.

LTE CA 7C Measured Results

UL CA Combination	Antenna	Power Mode	Modulation	PCC				SCC				Standalone Power		(PCC + SCC) UL CA Power		
				BW (MHz)	Freq	RB	Offset	BW (MHz)	Freq	RB	Offset	Tune-Up Limit (dBm)	UL CA Inactive (dBm)	Tune-Up Limit (dBm)	UL CA active (dBm)	Delta
CA_7C	LAT 1	Mode A	QPSK	20	2535.0	1	99	20	2554.8	1	0	25.20	24.70	24.50	24.30	-0.4
CA_7C	LAT 1	Mode B	QPSK	20	2535.0	1	99	20	2554.8	1	0	18.50	18.30	18.50	18.30	0.0
CA_7C	UAT 1	Mode A	QPSK	20	2510	1	99	20	2529.8	1	0	16.25	16.00	16.25	16.00	0.0
CA_7C	UAT 1	Mode B	QPSK	20	2510	1	99	20	2529.8	1	0	18.75	18.23	18.75	18.30	0.1

Note(s):

PCC RB allocation setting for UL CA has been adjusted based on the worst-case power.

LTE CA 41C (PC3) Measured Results

UL CA Combination	Antenna	Power Mode	Modulation	PCC				SCC				Standalone Power		(PCC + SCC) UL CA Power		
				BW (MHz)	Freq	RB	Offset	BW (MHz)	Freq	RB	Offset	Tune-Up Limit (dBm)	UL CA Inactive (dBm)	Tune-Up Limit (dBm)	UL CA active (dBm)	Delta
CA_41C	LAT 1	Mode A	QPSK	20	2593.0	1	99	20	2612.8	1	0	25.20	24.98	24.50	24.30	-0.7
CA_41C	LAT 1	Mode B	QPSK	20	2549.5	1	99	20	2569.3	1	0	21.00	20.80	21.00	20.80	0.0
CA_41C	UAT 1	Mode A	QPSK	20	2506	1	99	20	2525.8	1	0	17.75	17.51	17.75	17.50	0.0
CA_41C	UAT 1	Mode B	QPSK	20	2506	1	99	20	2525.8	1	0	19.75	19.47	19.75	19.40	-0.1

Note(s):

1. PCC RB allocation setting for UL CA has been adjusted based on the worst-case power.
2. Additional SAR for UL CA PC2 is not required. Test reduction has been applied base on standalone SAR.

LTE Inter-Band Carrier Aggregation

According to October 2018 TCB workshop, Uplink CA SAR Test Guidance as follows:

- Provide the single uplink SAR values you have obtained for the relevant SAR configurations and frequency bands that employ inter-band uplink carrier aggregation.
- If the single uplink 1-g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1-g SAR values are less than 1.45 W/kg no additional measurements need to be performed.
- If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in FCC KDB Publication 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04.
- If the algebraic sum of the 1-g SAR values is > 1.45 W/kg additional measurements may have to be made. Submit a KDB inquiry for additional guidance.

Maximum Output Power (Tune-up Limit) and SAR test exemption for LTE UL Carrier Aggregation

Test positions and test channels used for the testing below are based on the standalone worst-case SAR results. UL CA is reduced by 3dB therefore power and SAR was estimated based on standalone results.

UL CA inter-bands	RF Exposure Conditions	Antenna Ports				Standalone worst-case position				UL CA				
						Tune-up Limit (dBm)		Reported 1-g SAR (W/kg)		Tune-up Limit (-3dB) (dBm)		Reported 1-g SAR (W/kg)		
		CC1		CC2		CC1	CC2	CC1	CC2	CC1	CC2	CC1	CC2	CC1+CC2
CA_2A-5A	Head	LAT 1	2A	UAT 1	5A	24.25	23.50	0.878	0.822	21.25	20.50	0.440	0.412	0.852
		UAT 1	2A	LAT 1	5A	17.75	25.20	0.968	0.516	14.75	22.20	0.485	0.259	0.744
	Body & Hotspot	LAT 1	2A	UAT 1	5A	18.75	23.50	0.949	0.459	15.75	20.50	0.476	0.230	0.706
		UAT 1	2A	LAT 1	5A	19.00	25.20	0.816	0.820	16.00	22.20	0.409	0.411	0.820
CA_2A-12A	Head	LAT 1	2A	UAT 1	12A	24.25	23.50	0.878	0.769	21.25	20.50	0.440	0.385	0.825
		UAT 1	2A	LAT 1	12A	17.75	25.20	0.968	0.341	14.75	22.20	0.485	0.171	0.656
	Body & Hotspot	LAT 1	2A	UAT 1	12A	18.75	23.50	0.949	0.472	15.75	20.50	0.476	0.237	0.712
		UAT 1	2A	LAT 1	12A	19.00	25.20	0.816	0.591	16.00	22.20	0.409	0.296	0.705
CA_2A-13A	Head	LAT 1	2A	UAT 1	13A	24.25	23.50	0.878	0.769	21.25	20.50	0.440	0.385	0.825
		UAT 1	2A	LAT 1	13A	17.75	25.20	0.968	0.393	14.75	22.20	0.485	0.197	0.682
	Body & Hotspot	LAT 1	2A	UAT 1	13A	18.75	23.50	0.949	0.515	15.75	20.50	0.476	0.258	0.734
		UAT 1	2A	LAT 1	13A	19.00	25.20	0.816	0.900	16.00	22.20	0.409	0.451	0.860
CA_4A-5A	Head	LAT 1	4A	UAT 1	5A	24.50	23.50	0.736	0.822	21.50	20.50	0.369	0.412	0.781
		UAT 1	4A	LAT 1	5A	18.25	25.20	1.021	0.516	15.25	22.20	0.512	0.259	0.770
	Body & Hotspot	LAT 1	4A	UAT 1	5A	20.75	23.50	1.095	0.459	17.75	20.50	0.549	0.230	0.779
		UAT 1	4A	LAT 1	5A	18.50	25.20	0.897	0.820	15.50	22.20	0.450	0.411	0.861
CA_4A-12A	Head	LAT 1	4A	UAT 1	12A	24.50	23.50	0.736	0.769	21.50	20.50	0.369	0.385	0.754
		UAT 1	4A	LAT 1	12A	18.25	25.20	1.021	0.341	15.25	22.20	0.512	0.171	0.683
	Body & Hotspot	LAT 1	4A	UAT 1	12A	20.75	23.50	1.095	0.472	17.75	20.50	0.549	0.237	0.785
		UAT 1	4A	LAT 1	12A	18.50	25.20	0.897	0.591	15.50	22.20	0.450	0.296	0.746
CA_4A-13A	Head	LAT 1	4A	UAT 1	13A	24.50	23.50	0.736	0.769	21.50	20.50	0.369	0.385	0.754
		UAT 1	4A	LAT 1	13A	18.25	25.20	1.021	0.393	15.25	22.20	0.512	0.197	0.709
	Body & Hotspot	LAT 1	4A	UAT 1	13A	20.75	23.50	1.095	0.515	17.75	20.50	0.549	0.258	0.807
		UAT 1	4A	LAT 1	13A	18.50	25.20	0.897	0.900	15.50	22.20	0.450	0.451	0.901
CA_5A-7A	Head	LAT 1	5A	UAT 1	7A	25.20	16.25	0.516	1.087	22.20	13.25	0.259	0.545	0.803
		UAT 1	5A	LAT 1	7A	23.50	25.20	0.822	0.731	20.50	22.20	0.412	0.366	0.778
	Body & Hotspot	LAT 1	5A	UAT 1	7A	25.20	18.75	0.820	0.847	22.20	15.75	0.411	0.425	0.835
		UAT 1	5A	LAT 1	7A	23.50	18.50	0.459	1.080	20.50	15.50	0.230	0.541	0.771
CA_5A-66A	Head	LAT 1	5A	UAT 1	66A	25.20	18.25	0.516	1.021	22.20	15.25	0.259	0.512	0.770
		UAT 1	5A	LAT 1	66A	23.50	24.50	0.822	0.736	20.50	21.50	0.412	0.369	0.781
	Body & Hotspot	LAT 1	5A	UAT 1	66A	25.20	18.50	0.820	0.897	22.20	15.50	0.411	0.450	0.861
		UAT 1	5A	LAT 1	66A	23.50	20.75	0.459	1.095	20.50	17.75	0.230	0.549	0.779
CA_12A-30A	Head	LAT 1	12A	UAT 1	30A	25.20	15.50	0.341	0.928	0.118	0.316	0.001	0.028	0.029
		UAT 1	12A	LAT 1	30A	23.50	23.50	0.769	0.486	0.213	0.266	0.004	0.002	0.006
	Body	LAT 1	12A	UAT 1	30A	25.20	17.75	0.591	0.880	0.356	0.398	0.002	0.016	0.018
		UAT 1	12A	LAT 1	30A	23.50	21.75	0.472	1.089	0.140	0.422	0.002	0.008	0.010
CA_12A-66A	Head	LAT 1	12A	UAT 1	66A	25.20	18.25	0.341	1.021	0.118	0.368	0.001	0.017	0.018
		UAT 1	12A	LAT 1	66A	23.50	24.50	0.769	0.736	0.213	0.158	0.004	0.003	0.006
	Body	LAT 1	12A	UAT 1	66A	25.20	18.50	0.591	0.897	0.356	0.393	0.002	0.014	0.016
		UAT 1	12A	LAT 1	66A	23.50	20.75	0.472	1.095	0.140	0.458	0.002	0.010	0.012
CA_13A-66A	Head	LAT 1	13A	UAT 1	66A	25.20	18.25	0.393	1.021	0.134	0.368	0.001	0.017	0.018
		UAT 1	13A	LAT 1	66A	23.50	24.50	0.769	0.736	0.219	0.158	0.004	0.003	0.006
	Body	LAT 1	13A	UAT 1	66A	25.20	18.50	0.900	0.897	0.295	0.393	0.003	0.014	0.017
		UAT 1	13A	LAT 1	66A	23.50	20.75	0.515	1.095	0.151	0.458	0.002	0.010	0.013

Conclusion:

The single uplink 1-g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1-g SAR values are less than 1.45 W/kg. Therefore, no additional measurements are required.

9.6. LTE Down-Link Carrier Aggregation

This device supports LTE downlink carrier aggregation (CA). The tables appendix G is show the supported frequency bands of the device for DL Inter-band and DL Intra-band combinations.

9.7. Wi-Fi 2.4GHz (DTS Band)

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 b/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. g, n, ac, then ax) is selected. Therefore the SAR measurements performed for the 802.11b modes, as the lowest order modulation, cover 802.11g/n/ac/ax modes.

According to KDB 248227 D01, simultaneous SAR provisions in KDB 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

When antennas are spatially separated to the extent that SAR distributions do not overlap and can be treated independently, SAR compliance for simultaneous transmission is determined separately for each individual antenna.

Maximum Power

The table below is the Maximum power for this device. The highlighted values indicates what the overall worst case transmission mode will be required for SAR testing per channel. In the Wi-Fi 2.4 GHz (Pcell_OFF and Pcell_ON) table, the highlighted worst case Low/Mid/High channels are selected for Mode A and Mode B.

LAT3													
Channel	Frequency (MHz)	b (SISO)	g (SISO)	11n/11ac HT20 (SISO)	11ax HE20 SU (SISO)	11ax HE20 RU106 (SISO)	11ax HE20 RU52 (SISO)	11ax HE20 RU26 (SISO)	11n/11ac HT20 (MIMO)	11ax HE20 SU (MIMO)	11ax HE20 RU106 (MIMO)	11ax HE20 RU52 (MIMO)	11ax HE20 RU26 (MIMO)
1	2412	19.00	16.50	16.50	15.00	15.00	15.00	15.00	15.50	14.00	14.00	14.00	14.00
2	2417	20.00	19.00	19.00	17.50	17.50	17.50	17.50	18.00	16.50	16.50	16.50	16.50
3	2422	20.00	20.50	20.50	19.00	19.00	19.00	19.00	19.50	17.00	17.00	17.00	17.00
4	2427	21.50	21.50	21.50	21.50	21.50	21.50	21.50	20.50	19.00	19.00	19.00	19.00
5	2432	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	20.00
6	2437	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	20.00
7	2442	20.00	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	20.00
8	2447	19.50	21.50	21.50	21.50	21.50	21.50	21.50	20.50	19.00	19.00	19.00	19.00
9	2452	19.50	20.50	20.50	19.00	19.00	19.00	19.00	19.50	17.00	17.00	17.00	17.00
10	2457	19.00	19.00	19.00	17.50	17.50	17.50	17.50	18.00	16.50	16.50	16.50	16.50
11	2462	19.00	16.50	16.50	15.00	15.00	15.00	15.00	15.50	14.00	14.00	14.00	14.00
12	2467	17.00	14.00	14.00	12.50	12.50	12.50	12.50	13.00	11.50	11.50	11.50	11.50
13	2472	15.50	4.50	4.50	3.00	0.00	0.00	0.00	4.50	3.00	0.00	0.00	0.00

UAT1													
Channel	Frequency (MHz)	b (SISO)	g (SISO)	11n/11ac HT20 (SISO)	11ax HE20 SU (SISO)	11ax HE20 RU106 (SISO)	11ax HE20 RU52 (SISO)	11ax HE20 RU26 (SISO)	11n/11ac HT20 (MIMO)	11ax HE20 SU (MIMO)	11ax HE20 RU106 (MIMO)	11ax HE20 RU52 (MIMO)	11ax HE20 RU26 (MIMO)
1	2412	19.00	16.50	16.50	15.00	15.00	15.00	15.00	15.50	14.00	14.00	14.00	14.00
2	2417	19.00	19.00	19.00	17.50	17.50	17.50	17.50	18.00	16.50	16.50	16.50	16.50
3	2422	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	17.00	17.00	17.00	17.00
4	2427	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
5	2432	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
6	2437	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
7	2442	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
8	2447	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
9	2452	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	17.00	17.00	17.00	17.00
10	2457	19.00	19.00	19.00	17.50	17.50	17.50	17.50	18.00	16.50	16.50	16.50	16.50
11	2462	19.00	16.50	16.50	15.00	15.00	15.00	15.00	15.50	14.00	14.00	14.00	14.00
12	2467	17.00	14.00	14.00	12.50	12.50	12.50	12.50	13.00	11.50	11.50	11.50	11.50
13	2472	15.50	4.50	4.50	3.00	0.00	0.00	0.00	4.50	3.00	0.00	0.00	0.00

Wi-Fi 2.4 GHz ($P_{\text{cell OFF}}$ and $P_{\text{cell ON}}$)

For 2.4 GHz band, there are two use cases:

- $P_{\text{cell ON}}$: This will be used when both WWAN and Wi-Fi radios are ON.
- $P_{\text{cell OFF}}$: This will be used when only Wi-Fi radio is ON

Mode	Channel	Frequency (MHz)	Pcell OFF				Pcell ON			
			LAT 3		UAT 1		LAT 3		UAT 1	
			Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B
802.11b DSSS (SISO)	1	2412	19.00	19.00	15.50	19.00	19.00	14.00	10.25	15.25
	2	2417	20.00	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	3	2422	20.00	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	4	2427	21.50	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	5	2432	21.50	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	6	2437	21.50	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	7	2442	20.00	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	8	2447	19.50	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	9	2452	19.50	19.25	15.50	19.00	19.25	14.00	10.25	15.25
	10	2457	19.00	19.00	15.50	19.00	19.00	14.00	10.25	15.25
	11	2462	19.00	19.00	15.50	19.00	19.00	14.00	10.25	15.25
	12	2467	17.00	17.00	15.50	17.00	17.00	14.00	10.25	15.25
	13	2472	15.50	15.50	15.50	15.50	15.50	14.00	10.25	15.25

Wi-Fi 2.4GHz Measured Results

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

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 802.11g/n/ac/ax mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Power Mode	Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
						Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
Pcell OFF	LAT 3	DSSS 802.11b	1 Mbps	1	2412	19.00	19.00	Yes	19.00	19.00	Yes
				2	2417	20.00	20.00		19.25	19.25	
				4	2427	21.50	21.50		19.25	19.25	
				6	2437	21.50	21.50		19.25	19.25	
				7	2442	20.00	20.00		19.25	19.25	
				9	2452	19.50	19.50		19.25	19.25	
				11	2462	19.00	19.00		19.00	19.00	
				12	2467	17.00	17.00		17.00	17.00	
	UAT 1	DSSS 802.11b	1 Mbps	13	2472	15.50	15.50	Yes	15.50	15.50	Yes
				1	2412	15.50	15.50		19.00	19.00	
				6	2437	15.50	15.50		19.00	19.00	
				11	2462	15.50	15.50		19.00	19.00	
				12	2467	15.50	15.50		17.00	17.00	
				13	2472	15.50	15.50		15.50	15.50	
Power Mode	Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
						Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
Pcell ON	LAT 3	DSSS 802.11b	1 Mbps	1	2412	19.25	19.25	Yes	14.00	14.00	Yes
				6	2437	19.25	19.25		14.00	14.00	
				11	2462	19.00	19.00		14.00	14.00	
				12	2467	17.00	17.00		14.00	14.00	
				13	2472	15.50	15.50		14.00	14.00	
	UAT 1	DSSS 802.11b	1 Mbps	1	2412	10.25	10.25	Yes	15.25	15.25	Yes
				6	2437	10.25	10.25		15.25	15.25	
				11	2462	10.25	10.25		15.25	15.25	
				12	2467	10.25	10.25		15.25	15.25	
				13	2472	10.25	10.25		15.25	15.25	

Note(s):

SAR is not required for channel 12 and 13 because the tune-up limit and the measured output power for these two channels are not greater than those for the default test channels. Refer to KDB 248227 D01 section 3.1

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

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

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.

According to KDB 248227 D01, simultaneous SAR provisions in KDB 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6 W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

When antennas are spatially separated to the extent that SAR distributions do not overlap and can be treated independently, SAR compliance for simultaneous transmission is determined separately for each individual antenna.

Maximum Power

The table below is the Maximum power for this device. The highlighted values indicates what the overall worst case transmission mode will be required for SAR testing per channel. In the Wi-Fi 5 GHz (Pcell_OFF and Pcell_ON) table, the highlighted worst case Low/Mid/High channels are selected for Mode A and Mode B.

LAT3														
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-1	20 MHz	36	5180	17.50	17.50	16.00	16.00	15.00	12.00	17.00	15.50	15.00	12.00	9.00
		40	5200	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		44	5220	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		48	5240	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
	40 MHz	38	5190		15.50	14.00	14.00	14.00	12.00	14.50	13.00	13.00	12.00	9.00
		46	5230		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
	80 MHz	42	5210		14.50	13.00	13.00	13.00	12.00	14.00	12.50	12.50	12.00	9.00
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-2A	20 MHz	52	5260	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		56	5280	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		60	5300	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		64	5320	16.50	16.50	14.00	14.00	14.00	12.00	16.00	13.50	13.50	12.00	9.00
	40 MHz	54	5270		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
		62	5310		15.50	14.00	14.00	14.00	12.00	15.00	13.50	13.50	12.00	9.00
	80 MHz	58	5290		15.00	13.50	13.50	13.50	12.00	14.50	13.00	13.00	12.00	9.00
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-2C	20 MHz	100	5500	16.50	16.50	14.00	14.00	14.00	12.00	16.00	13.50	13.50	12.00	9.00
		104	5520	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		108	5540	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		112	5560	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		116	5580	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		120	5600	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		124	5620	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		128	5640	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		132	5660	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		136	5680	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
	40 MHz	140	5700	17.00	17.00	15.50	15.50	15.00	12.00	16.50	14.00	14.00	12.00	9.00
		144	5720	21.00	21.00	21.00	18.00	15.00	12.00	18.00	18.00	15.00	12.00	9.00
		102	5510		15.50	14.00	14.00	14.00	12.00	15.00	13.50	13.50	12.00	9.00
		110	5550		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
		118	5590		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
	80 MHz	126	5630		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
		134	5670		18.00	16.50	16.50	15.00	12.00	17.50	16.00	15.00	12.00	9.00
		142	5710		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
		106	5530		15.00	13.50	13.50	13.50	12.00	14.50	13.00	13.00	12.00	9.00
		122	5610		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
		138	5690		21.00	21.00	18.00	15.00	12.00	20.00	20.00	15.00	12.00	9.00
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-3	20 MHz	149	5745	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
		153	5765	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
		157	5785	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
		161	5805	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
		165	5825	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
	40 MHz	151	5755		21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
		159	5795		21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
	80 MHz	155	5775		21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00

UAT 2														
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-1	20 MHz	36	5180	17.50	17.50	16.00	16.00	15.00	12.00	17.00	15.50	15.00	12.00	9.00
		40	5200	17.50	17.50	17.50	17.50	15.00	12.00	17.50	17.50	15.00	12.00	9.00
		44	5220	17.50	17.50	17.50	17.50	15.00	12.00	17.50	17.50	15.00	12.00	9.00
		48	5240	17.50	17.50	17.50	17.50	15.00	12.00	17.50	17.50	15.00	12.00	9.00
	40 MHz	38	5190		15.50	14.00	14.00	14.00	12.00	14.50	13.00	13.00	12.00	9.00
		46	5230		17.50	17.50	17.50	15.00	12.00	17.50	17.50	15.00	12.00	9.00
	80 MHz	42	5210		14.50	13.00	13.00	13.00	12.00	14.00	12.50	12.50	12.00	9.00
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-2A	20 MHz	52	5260	16.50	16.50	16.50	16.50	15.00	12.00	16.50	16.50	15.00	12.00	9.00
		56	5280	16.50	16.50	16.50	16.50	15.00	12.00	16.50	16.50	15.00	12.00	9.00
		60	5300	16.50	16.50	16.50	16.50	15.00	12.00	16.50	16.50	15.00	12.00	9.00
		64	5320	16.50	16.50	14.00	14.00	14.00	12.00	16.00	13.50	13.50	12.00	9.00
	40 MHz	54	5270		16.50	16.50	16.50	15.00	12.00	16.50	16.50	15.00	12.00	9.00
		62	5310		15.50	14.00	14.00	14.00	12.00	15.00	13.50	13.50	12.00	9.00
	80 MHz	58	5290		15.00	13.50	13.50	13.50	12.00	14.50	13.00	13.00	12.00	9.00
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-2C	20 MHz	100	5500	16.50	16.50	14.00	14.00	14.00	12.00	16.00	13.50	13.50	12.00	9.00
		104	5520	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		108	5540	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		112	5560	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		116	5580	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		120	5600	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		124	5620	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		128	5640	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		132	5660	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		136	5680	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
	40 MHz	140	5700	17.00	17.00	15.50	15.50	15.00	12.00	16.50	14.00	14.00	12.00	9.00
		144	5720	17.00	17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		102	5510		15.50	14.00	14.00	14.00	12.00	15.00	13.50	13.50	12.00	9.00
		110	5550		17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		118	5590		17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		126	5630		17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
	80 MHz	134	5670		17.00	16.50	16.50	15.00	12.00	17.00	16.00	15.00	12.00	9.00
		142	5710		17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		106	5530		15.00	13.50	13.50	13.50	12.00	14.50	13.00	13.00	12.00	9.00
		122	5610		17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
		138	5690		17.00	17.00	17.00	15.00	12.00	17.00	17.00	15.00	12.00	9.00
Band	Bandwidth	Channel	Frequency (MHz)	a (SISO)	11n/11ac HT (SISO)	11ax HE SU (SISO)	11ax HE RU106 (SISO)	11ax HE RU52 (SISO)	11ax HE RU26 (SISO)	11n/11ac HT (MIMO)	11ax HE SU (MIMO)	11ax HE RU106 (MIMO)	11ax HE RU52 (MIMO)	11ax HE RU26 (MIMO)
U-NII-3	20 MHz	149	5745	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
		153	5765	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
		157	5785	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
		161	5805	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
		165	5825	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
	40 MHz	151	5755		17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
		159	5795		17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75
	80 MHz	155	5775		17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75

Wi-Fi 5 GHz ($P_{\text{cell OFF}}$ and $P_{\text{cell ON}}$)

For 5GHz band, there are two use cases:

- $P_{\text{cell ON}}$: This will be used when both WWAN and Wi-Fi radios are ON.
- $P_{\text{cell OFF}}$: This will be used when only Wi-Fi radio is ON

Mode	Bandwidth	Channel	Frequency	$P_{\text{cell OFF}}$				$P_{\text{cell ON}}$			
				LAT 3		UAT 2		LAT 3		UAT 2	
				Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B
U-NII-1 5.2 GHz (SISO)	802.11a/n/ac 20 MHz	36	5180	17.50	15.50	13.75	17.50	17.50	8.75	6.00	13.25
		40	5200	21.00	15.50	13.75	17.50	20.25	8.75	6.00	13.25
		44	5220	21.00	15.50	13.75	17.50	20.25	8.75	6.00	13.25
		48	5240	21.00	15.50	13.75	17.50	20.25	8.75	6.00	13.25
	802.11n/ac 40 MHz	38	5190	16.00	15.50	13.75	16.00	16.00	8.75	6.00	13.25
		46	5230	21.00	15.50	13.75	17.50	20.25	8.75	6.00	13.25
	802.11ac 80 MHz	42	5210	14.50	14.50	13.75	14.50	14.50	8.75	6.00	13.25
U-NII-2A 5.3 GHz (SISO)	802.11a/n/ac 20 MHz	52	5260	21.00	15.75	13.50	16.50	19.00	9.00	5.75	12.50
		56	5280	21.00	15.75	13.50	16.50	19.00	9.00	5.75	12.50
		60	5300	21.00	15.75	13.50	16.50	19.00	9.00	5.75	12.50
		64	5320	16.50	15.75	13.50	16.50	16.50	9.00	5.75	12.50
	802.11n/ac 40 MHz	54	5270	21.00	15.75	13.50	16.50	19.00	9.00	5.75	12.50
		62	5310	15.50	15.50	13.50	15.50	15.50	9.00	5.75	12.50
	802.11ac 80 MHz	58	5290	15.00	15.00	13.50	15.00	15.00	9.00	5.75	12.50
Mode	Bandwidth	Channel	Frequency	$P_{\text{cell OFF}}$				$P_{\text{cell ON}}$			
				LAT 3		UAT 2		LAT 3		UAT 2	
				Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B
U-NII-2C 5.5 GHz (SISO)	802.11a/n/ac 20 MHz	100	5500	16.50	16.50	16.00	16.50	16.50	9.50	8.25	12.75
		104	5520	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		108	5540	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		112	5560	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		116	5580	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		120	5600	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		124	5620	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		128	5640	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		132	5660	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		136	5680	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
	802.11n/ac 40 MHz	140	5700	17.00	16.50	16.00	17.00	17.00	9.50	8.25	12.75
		144	5720	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		102	5510	15.50	15.50	15.50	15.50	15.50	9.50	8.25	12.75
		110	5550	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		118	5590	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
	802.11ac 80 MHz	126	5630	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		134	5670	18.00	16.50	16.00	17.00	18.00	9.50	8.25	12.75
		142	5710	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		106	5530	15.00	15.00	15.00	15.00	15.00	9.50	8.25	12.75
		122	5610	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
		138	5690	21.00	16.50	16.00	17.00	18.25	9.50	8.25	12.75
Mode	Bandwidth	Channel	Frequency	$P_{\text{cell OFF}}$				$P_{\text{cell ON}}$			
				LAT 3		UAT 2		LAT 3		UAT 2	
				Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B
U-NII-3 5.8 GHz (SISO)	802.11a/n/ac 20 MHz	149	5745	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
		153	5765	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
		157	5785	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
		161	5805	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
	802.11n/ac 40 MHz	165	5825	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
		151	5755	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
	802.11ac 80 MHz	159	5795	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50
		155	5775	21.00	16.75	17.50	17.75	19.00	10.00	9.75	13.50

Wi-Fi 5 GHz Measured Results

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

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

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.

Power Mode	Antenna	Mode	Mode	Ch #	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)			
						Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)	
Pcell OFF	LAT 3	U-NII-2A	802.11n HT40	54	5270	21.00	21.00	Yes	15.75	15.75	Yes	
				62	5310	15.50	15.50		15.50	15.50		
		U-NII-2C	802.11ac VHT80	106	5530	15.00	15.00	Yes	15.00	15.00	Yes	
				122	5610	21.00	21.00		16.50	16.50		
				138	5690	21.00	21.00		16.50	16.50		
		U-NII-3	802.11ac VHT80	155	5775	21.00	21.00	Yes	16.75	16.75	Yes	
	UAT 2	U-NII-1	802.11n HT40	38	5190				16.00	16.00	Yes	
				46	5230				17.50	17.50		
			802.11ac VHT80	42	5210	13.75	13.75	Yes				
		U-NII-2C	802.11ac VHT80	106	5530	15.00	15.00	Yes	15.00	15.00	Yes	
				122	5610	16.00	16.00		17.00	17.00		
				138	5690	16.00	16.00		17.00	17.00		
		U-NII-3	802.11ac VHT80	155	5775	17.50	17.50	Yes	17.75	17.75	Yes	
		Power Mode	Antenna	Mode	Mode	Ch #	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)	
	Meas Pwr							Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
Pcell ON	LAT 3	U-NII-1	802.11n HT40	38	5190	16.00	16.00	Yes				
				46	5230	20.25	20.25					
		U-NII-2A	802.11ac VHT80	54	5270				9.00	9.00	Yes	
				106	5530	15.00	15.00	Yes	9.50	9.50	Yes	
		122	5610	18.25	18.25	9.50	9.50					
		138	5690	18.25	18.25	9.50	9.50					
	U-NII-3	802.11ac VHT80	155	5775	19.00	19.00	Yes	10.00	10.00	Yes		
	UAT 2	U-NII-1	802.11ac VHT80	42	5210	6.00	6.00	Yes	13.25	13.25	Yes	
		U-NII-2C	802.11ac VHT80	106	5530	8.25	8.25	Yes	12.75	12.75	Yes	
				122	5610	8.25	8.25		12.75	12.75		
138				5690	8.25	8.25	12.75		12.75			
U-NII-3	802.11ac VHT80	155	5775	9.75	9.75	Yes	13.50	13.50	Yes			

9.9. Bluetooth

From October 2016 TCB workshop, this device power and SAR measured is performed with test software, the duty cycle is 100%.

According to KDB 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

When antennas are spatially separated to the extent that SAR distributions do not overlap and can be treated independently, SAR compliance for simultaneous transmission is determined separately for each individual antenna.

Bluetooth (P_{low} , P_{high} , and $P_{standalone}$)

For Bluetooth, there are three use cases:

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

Mode	Maximum Output Power (Tune-up Limit) (dBm)											
	Bluetooth P_{low}				Bluetooth P_{high}				Bluetooth $P_{standalone}$			
	LAT 3		UAT 1		LAT 3		UAT 1		LAT 3		UAT 1	
	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B	Mode A	Mode B
GFSK	12.00	9.50	8.00	8.50	20.00	13.50	10.50	12.50	20.00	20.00	16.50	19.00
EDR	9.00	9.00	8.00	8.50	16.00	13.50	10.50	12.50	16.00	16.00	16.00	16.00
LE	12.00	9.50	8.00	8.50	20.00	13.50	10.50	12.50	20.00	20.00	16.50	19.00
HDR	6.50	6.50	6.50	6.50	12.00	12.00	10.50	12.00	12.00	12.00	12.00	12.00

This device supports Bluetooth beamforming. SAR measurement is not required for Beamforming when the output power is equal or less than a single chain. Please refer to BT tune-up procedure.

Bluetooth Measured Results

SAR measurement is not required for the EDR and LE and HDR and Beamforming. When the secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode.

Power Mode	Antenna	Mode	Ch #	Freq. (MHz)	Power Mode A (dBm)			Power Mode B (dBm)		
					Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
Bluetooth P_{low}	LAT 3	GFSK	0	2402	12.00	12.00	Yes	9.50	9.50	Yes
			39	2441	12.00	12.00		9.50	9.50	
			78	2480	12.00	12.00		9.50	9.50	
	UAT 1	GFSK	0	2402	8.00	8.00	Yes	8.50	8.50	Yes
			39	2441	8.00	8.00		8.50	8.50	
			78	2480	8.00	8.00		8.50	8.50	
Bluetooth P_{high}	LAT 3	GFSK	0	2402	20.00	20.00	Yes	13.50	13.50	Yes
			39	2441	20.00	20.00		13.50	13.50	
			78	2480	20.00	20.00		13.50	13.50	
	UAT 1	GFSK	0	2402	10.50	10.50	Yes	12.50	12.50	Yes
			39	2441	10.50	10.50		12.50	12.50	
			78	2480	10.50	10.50		12.50	12.50	
Bluetooth $P_{standalone}$	LAT 3	GFSK	0	2402	20.00	20.00	Yes	20.00	20.00	Yes
			39	2441	20.00	20.00		20.00	20.00	
			78	2480	20.00	20.00		20.00	20.00	
	UAT 1	GFSK	0	2402	16.50	16.50	Yes	19.00	19.00	Yes
			39	2441	16.50	16.50		19.00	19.00	
			78	2480	16.40	16.50		19.00	19.00	

Duty Factor Measured Results

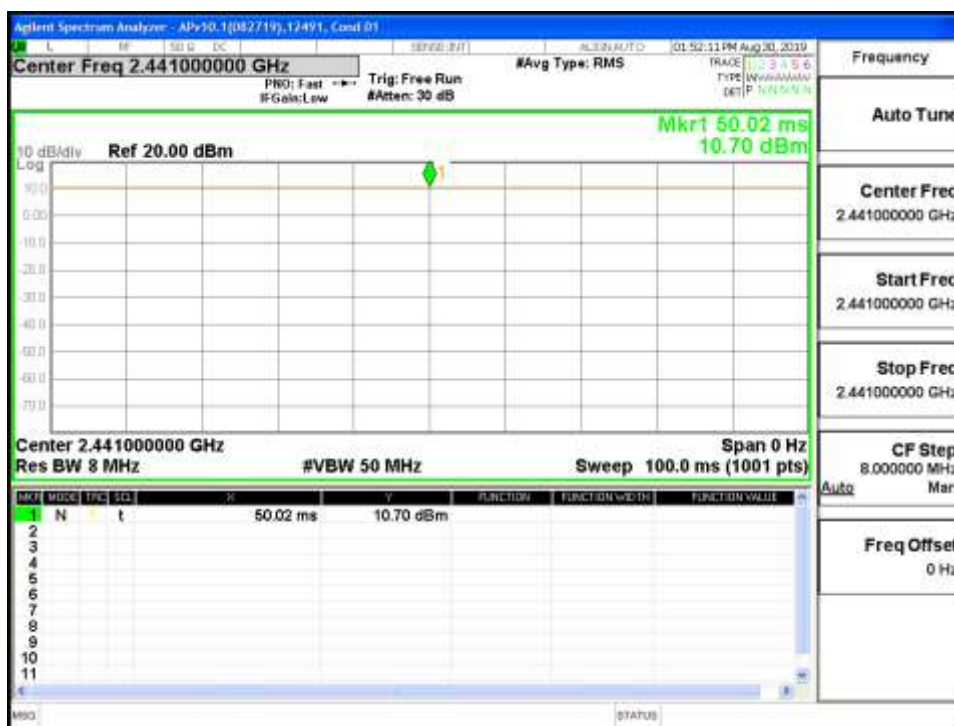
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	1	1	100.00%	1.00

Note(s):

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

Duty Cycle plots

GFSK



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

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

KDB 447498 D01 General RF Exposure Guidance:

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

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 648474 D04 Handset SAR:

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

KDB 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.

KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

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

KDB 248227 D01 SAR meas for 802.11:

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

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

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

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

10.1. GSM850

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	GPRS 2 Slots	Mode A	0	Left Touch	190	836.6	31.75	31.71	0.442	0.446	0.334	0.337	1
					Left Tilt	190	836.6	31.75	31.71	0.182	0.184	0.140	0.141	
					Right Touch	190	836.6	31.75	31.71	0.320	0.323	0.243	0.245	
					Right Tilt	190	836.6	31.75	31.71	0.168	0.170	0.126	0.127	
	Body & Hotspot	GPRS 2 Slots	Mode B	5	Rear	190	836.6	31.75	31.71	0.612	0.618	0.383	0.387	2
					Front	190	836.6	31.75	31.71	0.489	0.494	0.376	0.379	
	Hotspot	GPRS 2 Slots	Mode B	5	Edge 2	190	836.6	31.75	31.71	0.409	0.413	0.267	0.269	
					Edge 3	190	836.6	31.75	31.71	0.266	0.268	0.124	0.125	
					Edge 4	190	836.6	31.75	31.71	0.697	0.703	0.459	0.463	3
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	GPRS 2 Slots	Mode A	0	Left Touch	190	836.6	29.75	29.50	0.598	0.633	0.446	0.472	
					Left Tilt	190	836.6	29.75	29.50	0.407	0.431	0.265	0.281	
					Right Touch	190	836.6	29.75	29.50	0.619	0.656	0.414	0.439	4
					Right Tilt	190	836.6	29.75	29.50	0.459	0.486	0.272	0.288	
	Body & Hotspot	GPRS 2 Slots	Mode B	5	Rear	190	836.6	29.75	29.50	0.301	0.319	0.206	0.218	5
					Front	190	836.6	29.75	29.50	0.285	0.302	0.218	0.231	
	Hotspot	GPRS 2 Slots	Mode B	5	Edge 1	190	836.6	29.75	29.50	0.079	0.084	0.038	0.040	
					Edge 2	190	836.6	29.75	29.50	0.441	0.467	0.289	0.306	6
					Edge 4	190	836.6	29.75	29.50	0.313	0.332	0.204	0.216	

10.2. GSM1900

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	GPRS 2 Slots	Mode A	0	Left Touch	661	1880.0	30.25	30.00	0.297	0.315	0.188	0.199	
					Left Tilt	661	1880.0	30.25	30.00	0.239	0.253	0.153	0.162	
					Right Touch	512	1850.2	30.25	30.00	0.782	0.828	0.489	0.518	
						661	1880.0	30.25	30.00	0.806	0.854	0.505	0.535	
					Right Tilt	810	1909.8	30.25	30.00	0.847	0.897	0.525	0.556	7
						661	1880.0	30.25	30.00	0.323	0.342	0.205	0.217	
	Body & Hotspot	GPRS 2 Slots	Mode B	5	Rear	512	1850.2	25.00	24.75	0.901	0.954	0.427	0.452	
						661	1880.0	25.00	24.63	0.989	1.077	0.459	0.500	
					Front	810	1909.8	25.00	24.55	0.972	1.078	0.450	0.499	8
UAT 1	Hotspot	GPRS 2 Slots	Mode B	5	Edge 2	661	1880.0	25.00	24.63	0.380	0.414	0.207	0.225	
					Edge 3	661	1880.0	25.00	24.63	0.525	0.572	0.239	0.260	
					Edge 4	661	1880.0	25.00	24.63	0.070	0.076	0.037	0.040	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	GPRS 2 Slots	Mode A	0	Left Touch	661	1880.0	23.75	23.45	0.330	0.354	0.200	0.214	
					Left Tilt	661	1880.0	23.75	23.45	0.279	0.299	0.169	0.181	
					Right Touch	512	1850.2	23.75	23.50	0.871	0.923	0.484	0.513	
						661	1880.0	23.75	23.45	0.863	0.925	0.478	0.512	
					Right Tilt	810	1909.8	23.75	23.40	0.903	0.979	0.493	0.534	9
						661	1880.0	23.75	23.45	0.557	0.597	0.285	0.305	
	Body & Hotspot	GPRS 2 Slots	Mode B	5	Rear	661	1880.0	25.00	24.85	0.745	0.771	0.374	0.387	10
					Front	661	1880.0	25.00	24.85	0.594	0.615	0.289	0.299	
UAT 1	Hotspot	GPRS 2 Slots	Mode B	5	Edge 1	661	1880.0	25.00	24.85	0.599	0.620	0.277	0.287	
					Edge 2	661	1880.0	25.00	24.85	0.034	0.035	0.018	0.019	
					Edge 4	661	1880.0	25.00	24.85	0.445	0.461	0.243	0.252	

10.3. W-CDMA Band II

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	Rel 99 RMC 12.2 kbps	Mode A	0	Left Touch	9400	1880.0	24.25	24.10	0.471	0.488	0.311	0.322	
					Left Tilt	9400	1880.0	24.25	24.10	0.277	0.287	0.176	0.182	
					Right Touch	9262	1852.4	24.25	24.20	0.935	0.946	0.581	0.588	
						9400	1880.0	24.25	24.10	0.904	0.936	0.563	0.583	
					Right Tilt	9538	1907.6	24.25	24.10	0.986	1.021	0.602	0.623	11
						9400	1880.0	24.25	24.10	0.326	0.337	0.207	0.214	
	Body & Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Rear	9262	1852.4	18.75	18.55	0.839	0.879	0.400	0.419	
						9400	1880.0	18.75	18.52	0.873	0.920	0.412	0.434	12
					Front	9538	1907.6	18.75	18.50	0.866	0.917	0.406	0.430	
					Front	9400	1880.0	18.75	18.52	0.611	0.644	0.292	0.308	
	Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Edge 2	9400	1880.0	18.75	18.52	0.402	0.424	0.219	0.231	
					Edge 3	9400	1880.0	18.75	18.52	0.554	0.584	0.241	0.254	
					Edge 4	9400	1880.0	18.75	18.52	0.059	0.062	0.033	0.034	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	Rel 99 RMC 12.2 kbps	Mode A	0	Left Touch	9400	1880.0	17.75	17.75	0.378	0.378	0.226	0.226	
					Left Tilt	9400	1880.0	17.75	17.75	0.299	0.299	0.185	0.185	
					Right Touch	9262	1852.4	17.75	17.50	0.864	0.915	0.473	0.501	
						9400	1880.0	17.75	17.75	0.895	0.895	0.491	0.491	
					Right Tilt	9538	1907.6	17.75	17.70	0.973	0.984	0.527	0.533	13
						9400	1880.0	17.75	17.75	0.711	0.711	0.359	0.359	
	Body & Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Rear	9262	1852.4	19.00	18.70	0.801	0.858	0.399	0.428	
						9400	1880.0	19.00	18.80	0.842	0.882	0.421	0.441	
					Front	9538	1907.6	19.00	19.00	0.897	0.897	0.448	0.448	14
					Front	9400	1880.0	19.00	18.80	0.749	0.784	0.360	0.377	
	Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Edge 1	9400	1880.0	19.00	18.80	0.658	0.689	0.298	0.312	
					Edge 2	9400	1880.0	19.00	18.80	0.040	0.042	0.022	0.023	
					Edge 4	9400	1880.0	19.00	18.80	0.589	0.617	0.320	0.335	

10.4. W-CDMA Band IV

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	Rel 99 RMC 12.2 kbps	Mode A	0	Left Touch	1413	1732.6	24.50	24.40	0.189	0.193	0.133	0.136	15
					Left Tilt	1413	1732.6	24.50	24.40	0.125	0.128	0.072	0.074	
					Right Touch	1413	1732.6	24.50	24.40	0.412	0.422	0.267	0.273	
					Right Tilt	1413	1732.6	24.50	24.40	0.131	0.134	0.077	0.079	
	Body & Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Rear	1312	1712.4	20.75	20.60	1.010	1.045	0.505	0.523	16
						1413	1732.6	20.75	20.60	1.030	1.066	0.522	0.540	
						1513	1752.6	20.75	20.75	1.090	1.090	0.537	0.537	
					Front	1312	1712.4	20.75	20.60	0.741	0.767	0.387	0.401	
						1413	1732.6	20.75	20.60	0.810	0.838	0.413	0.428	
						1513	1752.6	20.75	20.75	0.835	0.835	0.429	0.429	
	Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Edge 2	1413	1732.6	20.75	20.60	0.515	0.533	0.286	0.296	
					Edge 3	1312	1712.4	20.75	20.60	0.870	0.901	0.416	0.431	
						1413	1732.6	20.75	20.60	0.939	0.972	0.450	0.466	
						1513	1752.6	20.75	20.75	1.030	1.030	0.492	0.492	
					Edge 4	1413	1732.6	20.75	20.60	0.035	0.036	0.020	0.021	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	Rel 99 RMC 12.2 kbps	Mode A	0	Left Touch	1413	1732.6	18.25	18.25	0.383	0.383	0.243	0.243	17
					Left Tilt	1413	1732.6	18.25	18.25	0.383	0.383	0.244	0.244	
					Right Touch	1312	1712.4	18.25	18.20	1.020	1.032	0.575	0.582	
						1413	1732.6	18.25	18.25	1.070	1.070	0.603	0.603	
					Right Tilt	1513	1752.6	18.25	18.10	0.999	1.034	0.559	0.579	
	Body & Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Rear	1312	1712.4	18.50	18.45	0.828	0.838	0.420	0.425	18
						1413	1732.6	18.50	18.40	0.842	0.862	0.426	0.436	
						1513	1752.6	18.50	18.30	0.782	0.819	0.393	0.412	
					Front	1413	1732.6	18.50	18.40	0.703	0.719	0.353	0.361	
	Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Edge 1	1312	1712.4	18.50	18.45	0.874	0.884	0.426	0.431	19
						1413	1732.6	18.50	18.40	0.788	0.806	0.380	0.389	
						1513	1752.6	18.50	18.30	0.845	0.885	0.414	0.434	
					Edge 2	1413	1732.6	18.50	18.40	0.041	0.042	0.023	0.024	
					Edge 4	1413	1732.6	18.50	18.40	0.586	0.600	0.316	0.323	

10.5. W-CDMA Band V

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	Rel 99 RMC 12.2 kbps	Mode A	0	Left Touch	4183	836.6	25.20	25.00	0.519	0.543	0.395	0.414	20
					Left Tilt	4183	836.6	25.20	25.00	0.235	0.246	0.183	0.192	
					Right Touch	4183	836.6	25.20	25.00	0.396	0.415	0.305	0.319	
					RightTilt	4183	836.6	25.20	25.00	0.204	0.214	0.160	0.168	
	Body & Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Rear	4183	836.6	25.20	25.00	0.696	0.729	0.438	0.459	21
					Front	4183	836.6	25.20	25.00	0.549	0.575	0.423	0.443	
	Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Edge 2	4183	836.6	25.20	25.00	0.547	0.573	0.359	0.376	22
					Edge 3	4183	836.6	25.20	25.00	0.289	0.303	0.141	0.148	
					Edge 4	4183	836.6	25.20	25.00	0.741	0.776	0.494	0.517	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	Rel 99 RMC 12.2 kbps	Mode A	0	Left Touch	4183	836.6	23.50	23.20	0.681	0.730	0.505	0.541	23
					Left Tilt	4183	836.6	23.50	23.20	0.451	0.483	0.309	0.331	
					Right Touch	4183	836.6	23.50	23.20	0.694	0.744	0.466	0.499	
					Right Tilt	4183	836.6	23.50	23.20	0.520	0.557	0.295	0.316	
	Body & Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Rear	4183	836.6	23.50	23.20	0.377	0.404	0.253	0.271	24
					Front	4183	836.6	23.50	23.20	0.326	0.349	0.255	0.273	
	Hotspot	Rel 99 RMC 12.2 kbps	Mode B	5	Edge 1	4183	836.6	23.50	23.20	0.098	0.105	0.048	0.051	25
					Edge 2	4183	836.6	23.50	23.20	0.482	0.516	0.315	0.338	
					Edge 4	4183	836.6	23.50	23.20	0.396	0.424	0.259	0.278	

10.6. CDMA BC0

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	1xRTT RC3 SO55	Mode A	0	Left Touch	384	836.5	25.20	24.80	0.599	0.657	0.451	0.495	26
					Left Tilt	384	836.5	25.20	24.80	0.330	0.362	0.259	0.284	
					Right Touch	384	836.5	25.20	24.80	0.455	0.499	0.352	0.386	
					Right Tilt	384	836.5	25.20	24.80	0.252	0.276	0.198	0.217	
		1xEVDO Rel. 0	Mode A	0	Left Touch	384	836.5	25.20	24.80	0.535	0.587	0.411	0.451	
					Left Tilt	384	836.5	25.20	24.80	0.238	0.261	0.181	0.198	
					Right Touch	384	836.5	25.20	24.80	0.396	0.434	0.302	0.331	
					Right Tilt	384	836.5	25.20	24.80	0.241	0.264	0.186	0.204	
	Body & Hotspot	1xRTT RC3 SO32	Mode B	5	Rear	1013	824.7	25.20	24.90	0.740	0.793	0.465	0.498	
						384	836.5	25.20	24.80	0.814	0.893	0.501	0.549	27
						777	848.3	25.20	25.10	0.770	0.788	0.483	0.494	
					Front	384	836.5	25.20	24.80	0.658	0.721	0.508	0.557	
	Hotspot	1xRTT RC3 SO32	Mode B	5	Edge 2	384	836.5	25.20	24.80	0.608	0.667	0.398	0.436	
					Edge 3	384	836.5	25.20	24.80	0.324	0.355	0.150	0.164	
					Edge 4	1013	824.7	25.20	24.90	0.645	0.691	0.432	0.463	
						384	836.5	25.20	24.80	0.750	0.822	0.502	0.550	
						777	848.3	25.20	25.10	0.931	0.953	0.620	0.634	28
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	1xRTT RC3 SO55	Mode A	0	Left Touch	384	836.5	23.50	23.40	0.744	0.761	0.530	0.542	
					Left Tilt	384	836.5	23.50	23.40	0.506	0.518	0.281	0.288	
					Right Touch	384	836.5	23.50	23.40	0.747	0.764	0.495	0.507	
					Right Tilt	384	836.5	23.50	23.40	0.507	0.519	0.282	0.289	
		1xEVDO Rel. 0	Mode A	0	Left Touch	384	836.5	23.50	23.40	0.769	0.787	0.570	0.583	29
					Left Tilt	384	836.5	23.50	23.40	0.415	0.425	0.240	0.246	
					Right Touch	384	836.5	23.50	23.40	0.721	0.738	0.445	0.455	
					Right Tilt	384	836.5	23.50	23.40	0.514	0.526	0.288	0.295	
	Body & Hotspot	1xRTT RC3 SO32	Mode B	5	Rear	384	836.5	23.50	23.40	0.360	0.368	0.234	0.239	30
					Front	384	836.5	23.50	23.40	0.360	0.368	0.236	0.241	
	Hotspot	1xRTT RC3 SO32	Mode B	5	Edge 1	384	836.5	23.50	23.40	0.077	0.079	0.040	0.041	
					Edge 2	384	836.5	23.50	23.40	0.325	0.333	0.218	0.223	
					Edge 4	384	836.5	23.50	23.40	0.168	0.172	0.112	0.115	

10.7. CDMA BC1

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	1xRTT RC3 SO55	Mode A	0	Left Touch	600	1880.0	24.25	24.00	0.513	0.543	0.339	0.359	
					Left Tilt	600	1880.0	24.25	24.00	0.321	0.340	0.197	0.209	
					Right Touch	25	1851.3	24.25	24.00	0.948	1.004	0.594	0.629	
						600	1880.0	24.25	24.00	0.953	1.009	0.592	0.627	
						1175	1908.8	24.25	24.10	1.050	1.087	0.646	0.669	31
					Right Tilt	600	1880.0	24.25	24.00	0.367	0.389	0.232	0.246	
		1xEVDO Rel. 0	Mode A	0	Left Touch	600	1880.0	24.25	24.00	0.534	0.566	0.352	0.373	
					Left Tilt	600	1880.0	24.25	24.00	0.342	0.362	0.210	0.222	
					Right Touch	25	1851.3	24.25	24.00	0.879	0.931	0.556	0.589	
						600	1880.0	24.25	24.00	0.936	0.991	0.585	0.620	
						1175	1908.8	24.25	24.10	0.977	1.011	0.605	0.626	
					Right Tilt	600	1880.0	24.25	24.00	0.270	0.286	0.163	0.173	
	Body & Hotspot	1xRTT RC3 SO32	Mode B	5	Rear	25	1851.3	18.75	18.70	0.888	0.898	0.413	0.418	
						600	1880.0	18.75	18.60	0.922	0.954	0.420	0.435	
						1175	1908.8	18.75	18.40	0.994	1.077	0.451	0.489	32
	Hotspot	1xRTT RC3 SO32	Mode B	5	Front	600	1880.0	18.75	18.60	0.514	0.532	0.252	0.261	
					Edge 2	600	1880.0	18.75	18.60	0.421	0.436	0.228	0.236	
					Edge 3	600	1880.0	18.75	18.60	0.592	0.613	0.263	0.272	
					Edge 4	600	1880.0	18.75	18.60	0.068	0.070	0.037	0.039	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	1xRTT RC3 SO55	Mode A	0	Left Touch	600	1880.0	17.75	17.60	0.476	0.493	0.282	0.292	
					Left Tilt	600	1880.0	17.75	17.60	0.327	0.338	0.195	0.202	
					Right Touch	25	1851.3	17.75	17.65	0.881	0.902	0.491	0.502	
						600	1880.0	17.75	17.60	0.932	0.965	0.517	0.535	
						1175	1908.8	17.75	17.75	1.000	1.000	0.550	0.550	33
					Right Tilt	600	1880.0	17.75	17.60	0.761	0.788	0.391	0.405	
		1xEVDO Rel. 0	Mode A	0	Left Touch	600	1880.0	17.75	17.60	0.426	0.441	0.254	0.263	
					Left Tilt	600	1880.0	17.75	17.60	0.275	0.285	0.170	0.176	
					Right Touch	25	1851.3	17.75	17.65	0.817	0.836	0.456	0.467	
						600	1880.0	17.75	17.60	0.853	0.883	0.472	0.489	
						1175	1908.8	17.75	17.75	0.931	0.931	0.509	0.509	
					Right Tilt	600	1880.0	17.75	17.60	0.658	0.681	0.342	0.354	
	Body & Hotspot	1xRTT RC3 SO32	Mode B	5	Rear	25	1851.3	19.00	18.90	0.746	0.763	0.378	0.387	
						600	1880.0	19.00	18.80	0.776	0.813	0.392	0.410	34
						1175	1908.8	19.00	19.00	0.803	0.803	0.406	0.406	
	Hotspot	1xRTT RC3 SO32	Mode B	5	Front	600	1880.0	19.00	18.80	0.532	0.557	0.262	0.274	
					Edge 1	600	1880.0	19.00	18.80	0.554	0.580	0.257	0.269	
					Edge 2	600	1880.0	19.00	18.80	0.035	0.037	0.020	0.021	
					Edge 4	600	1880.0	19.00	18.80	0.526	0.551	0.287	0.301	

10.8. CDMA BC10

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	1xRTT RC3 SO55	Mode A	0	Left Touch	560	820.0	25.20	25.00	0.492	0.515	0.375	0.393	35
					Left Tilt	560	820.0	25.20	25.00	0.188	0.197	0.150	0.157	
					Right Touch	560	820.0	25.20	25.00	0.363	0.380	0.280	0.293	
					Right Tilt	560	820.0	25.20	25.00	0.165	0.173	0.131	0.137	
		1xEVDO Rel. 0	Mode A	0	Left Touch	560	820.0	25.20	25.00	0.481	0.504	0.372	0.390	
					Left Tilt	560	820.0	25.20	25.00	0.192	0.201	0.153	0.160	
					Right Touch	560	820.0	25.20	25.00	0.416	0.436	0.320	0.335	
					Right Tilt	560	820.0	25.20	25.00	0.186	0.195	0.144	0.151	
	Body & Hotspot	1xRTT RC3 SO32	Mode B	5	Rear	560	820.0	25.20	25.00	0.704	0.737	0.466	0.488	36
					Front	560	820.0	25.20	25.00	0.628	0.658	0.483	0.506	
	Hotspot	1xRTT RC3 SO32	Mode B	5	Edge 2	560	820.0	25.20	25.00	0.388	0.406	0.254	0.266	
					Edge 3	560	820.0	25.20	25.00	0.250	0.262	0.120	0.126	
					Edge 4	560	820.0	25.20	25.00	0.628	0.658	0.418	0.438	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	1xRTT RC3 SO55	Mode A	0	Left Touch	560	820.0	23.50	23.30	0.739	0.774	0.552	0.578	37
					Left Tilt	560	820.0	23.50	23.30	0.427	0.447	0.278	0.291	
					Right Touch	560	820.0	23.50	23.30	0.718	0.752	0.485	0.508	
					Right Tilt	560	820.0	23.50	23.30	0.488	0.511	0.278	0.291	
		1xEVDO Rel. 0	Mode A	0	Left Touch	560	820.0	23.50	23.30	0.736	0.771	0.550	0.576	
					Left Tilt	560	820.0	23.50	23.30	0.412	0.431	0.279	0.292	
					Right Touch	560	820.0	23.50	23.30	0.679	0.711	0.465	0.487	
					Right Tilt	560	820.0	23.50	23.30	0.483	0.506	0.277	0.290	
	Body & Hotspot	1xRTT RC3 SO32	Mode B	5	Rear	560	820.0	23.50	23.30	0.301	0.315	0.202	0.212	38
					Front	560	820.0	23.50	23.30	0.298	0.312	0.199	0.208	
	Hotspot	1xRTT RC3 SO32	Mode B	5	Edge 1	560	820.0	23.50	23.30	0.057	0.060	0.029	0.030	
					Edge 2	560	820.0	23.50	23.30	0.259	0.271	0.173	0.181	
					Edge 4	560	820.0	23.50	23.30	0.195	0.204	0.131	0.137	

10.9. LTE Band 5 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	20525	836.5	1	25	25.20	24.70	0.460	0.516	0.349	0.392	39
								25	12	24.20	23.70	0.423	0.475	0.322	0.361	
					Left Tilt	20525	836.5	1	25	25.20	24.70	0.209	0.235	0.165	0.185	
								25	12	24.20	23.70	0.193	0.217	0.151	0.169	
					Right Touch	20525	836.5	1	25	25.20	24.70	0.373	0.419	0.285	0.320	
								25	12	24.20	23.70	0.351	0.394	0.270	0.303	
					Right Tilt	20525	836.5	1	25	25.20	24.70	0.165	0.185	0.132	0.148	
								25	12	24.20	23.70	0.178	0.200	0.141	0.158	
	Body & Hotspot	QPSK	Mode B	5	Rear	20525	836.5	1	25	25.20	24.70	0.713	0.800	0.438	0.491	40
								25	12	24.20	23.70	0.666	0.747	0.407	0.457	
					Front	20525	836.5	1	25	25.20	24.70	0.528	0.592	0.400	0.449	
								25	12	24.20	23.70	0.490	0.550	0.371	0.416	
	Hotspot	QPSK	Mode B	5	Edge 2	20525	836.5	1	25	25.20	24.70	0.391	0.439	0.254	0.285	
								25	12	24.20	23.70	0.382	0.429	0.247	0.277	
					Edge 3	20525	836.5	1	25	25.20	24.70	0.287	0.322	0.136	0.153	
								25	12	24.20	23.70	0.258	0.289	0.121	0.136	
					Edge 4	20525	836.5	1	25	25.20	24.70	0.731	0.820	0.479	0.537	41
								25	12	24.20	23.70	0.694	0.779	0.456	0.512	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	QPSK	Mode A	0	Left Touch	20525	836.5	1	25	23.50	23.20	0.767	0.822	0.569	0.610	42
								25	12	22.50	22.10	0.604	0.662	0.447	0.490	
					Left Tilt	20525	836.5	1	25	23.50	23.20	0.491	0.526	0.306	0.328	
								25	12	22.50	22.10	0.378	0.414	0.236	0.259	
					Right Touch	20525	836.5	1	25	23.50	23.20	0.711	0.762	0.465	0.498	
								25	12	22.50	22.10	0.553	0.606	0.359	0.394	
					Right Tilt	20525	836.5	1	25	23.50	23.20	0.595	0.638	0.321	0.344	
								25	12	22.50	22.10	0.461	0.505	0.253	0.277	
	Body & Hotspot	QPSK	Mode B	5	Rear	20525	836.5	1	25	23.50	23.20	0.428	0.459	0.257	0.275	43
								25	12	22.50	22.10	0.343	0.376	0.212	0.232	
					Front	20525	836.5	1	25	23.50	23.20	0.380	0.407	0.243	0.260	
								25	12	22.50	22.10	0.295	0.323	0.200	0.219	
	Hotspot	QPSK	Mode B	5	Edge 1	20525	836.5	1	25	23.50	23.20	0.121	0.130	0.057	0.061	
								25	12	22.50	22.10	0.083	0.091	0.040	0.044	
					Edge 2	20525	836.5	1	25	23.50	23.20	0.333	0.357	0.217	0.233	
								25	12	22.50	22.10	0.282	0.309	0.187	0.205	
					Edge 4	20525	836.5	1	25	23.50	23.20	0.218	0.234	0.140	0.150	
								25	12	22.50	22.10	0.182	0.200	0.120	0.132	

UL CA 5B

Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 1	Head	QPSK	Mode A	0	Left Touch	20525	836.5	1	49	20599	843.9	1	0	24.50	24.00	0.429	0.481	0.335	0.376	
LAT 1	Body	QPSK	Mode B	5	Rear	20525	836.5	1	49	20599	843.9	1	0	24.50	24.00	0.645	0.724	0.384	0.431	
LAT 1	Hotspot	QPSK	Mode B	5	Edge 4	20525	836.5	1	49	20599	843.9	1	0	24.50	24.00	0.633	0.710	0.399	0.448	
UAT 1	Head	QPSK	Mode A	0	Left Touch	20525	836.5	1	49	20599	843.9	1	0	23.00	22.60	0.661	0.725	0.488	0.535	
UAT 1	Body	QPSK	Mode B	5	Rear	20525	836.5	1	49	20599	843.9	1	0	23.00	22.60	0.395	0.433	0.237	0.260	

Note(s):

PCC RB allocation setting for UL CA has been adjusted based on the worst-case power.

10.10. LTE Band 7 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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					
LAT 1	Head	QPSK	Mode A	0	Left Touch	21100	2535.0	1	49	25.20	24.80	0.667	0.731	0.374	0.410	44				
								50	24	24.20	23.70	0.630	0.707	0.313	0.351					
					Left Tilt	21100	2535.0	1	49	25.20	24.80	0.166	0.182	0.075	0.082					
								50	24	24.20	23.70	0.120	0.135	0.053	0.059					
					Right Touch	21100	2535.0	1	49	25.20	24.80	0.258	0.283	0.152	0.167					
								50	24	24.20	23.70	0.207	0.232	0.121	0.136					
					Right Tilt	21100	2535.0	1	49	25.20	24.80	0.160	0.175	0.089	0.098					
								50	24	24.20	23.70	0.124	0.139	0.069	0.077					
					Body & Hotspot	QPSK	Mode B	5	Rear	20850	2510.0	1	49	18.50	18.35	0.905	0.937	0.335	0.347	
												50	24	18.50	18.38	0.873	0.897	0.323	0.332	
	21100	2535.0	1	49						18.50	18.32	0.930	0.969	0.353	0.368					
			50	24						18.50	18.30	0.913	0.956	0.347	0.363					
	21350	2560.0	100	0					18.50	18.40	0.920	0.941	0.342	0.350						
			1	49					18.50	18.50	1.080	1.080	0.402	0.402	45					
		50	24	18.50					18.50	1.060	1.060	0.393	0.393							
	Front	20850	2510.0	1					49	18.50	18.35	0.999	1.034	0.364	0.377					
				50					24	18.50	18.38	0.927	0.953	0.358	0.368					
		21100	2535.0	1					49	18.50	18.32	0.896	0.934	0.339	0.353					
				50					24	18.50	18.30	0.888	0.930	0.336	0.352					
	21350	2560.0	100	0	18.50	18.40	0.842	0.862	0.311	0.318										
			1	49	18.50	18.50	1.020	1.020	0.378	0.378										
		50	24	18.50	18.50	1.000	1.000	0.376	0.376											
	Hotspot	QPSK	Mode B	5	Edge 2	21100	2535.0	1	49	18.50	18.32	0.032	0.033	0.011	0.012					
								50	24	18.50	18.30	0.035	0.037	0.012	0.013					
					Edge 3	21100	2535.0	1	49	18.50	18.32	0.545	0.568	0.165	0.172					
								50	24	18.50	18.30	0.520	0.545	0.158	0.165					
Edge 4					21100	2535.0	1	49	18.50	18.32	0.391	0.408	0.174	0.181						
							50	24	18.50	18.30	0.369	0.386	0.161	0.169						
Antenna	RF Exposure Conditions	Mode	Power 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.				
UAT 1	Head	QPSK	Mode A	0	Left Touch	20850	2510.0	1	49	16.25	16.10	1.040	1.077	0.400	0.414					
								50	24	16.25	16.15	1.040	1.064	0.397	0.406					
						21100	2535.0	1	49	16.25	16.15	0.891	0.912	0.344	0.352					
								50	24	16.25	16.10	0.893	0.924	0.345	0.357					
						21350	2560.0	100	0	16.25	16.05	0.887	0.929	0.342	0.358					
								1	49	16.25	16.20	0.857	0.867	0.342	0.346					
					Left Tilt	20850	2510.0	50	24	16.25	16.10	1.050	1.087	0.385	0.399	46				
								50	24	16.25	16.15	1.050	1.074	0.386	0.395					
						21100	2535.0	1	49	16.25	16.15	1.020	1.044	0.373	0.382					
								50	24	16.25	16.10	1.020	1.056	0.370	0.383					
						21350	2560.0	100	0	16.25	16.05	1.010	1.058	0.368	0.385					
								1	49	16.25	16.20	0.884	0.894	0.327	0.331					
					Right Touch	21100	2535.0	50	24	16.25	16.20	0.887	0.897	0.328	0.332					
								1	49	16.25	16.15	0.370	0.379	0.148	0.151					
						21100	2535.0	50	24	16.25	16.10	0.372	0.385	0.149	0.154					
								1	49	16.25	16.15	0.400	0.409	0.156	0.160					
						21100	2535.0	50	24	16.25	16.10	0.397	0.411	0.154	0.159					
	Body & Hotspot	QPSK	Mode B	5	Rear	21100	2535.0	1	49	18.75	18.41	0.620	0.670	0.285	0.308					
								50	24	18.75	18.34	0.624	0.686	0.288	0.317	47				
					Front	21100	2535.0	1	49	18.75	18.41	0.587	0.635	0.246	0.266					
								50	24	18.75	18.34	0.595	0.654	0.263	0.289					
	Hotspot	QPSK	Mode B	5	Edge 1	21100	2535.0	1	49	18.75	18.41	0.607	0.656	0.214	0.231					
								50	24	18.75	18.34	0.610	0.670	0.216	0.237					
					Edge 2	20850	2510.0	1	49	18.75	18.40	0.781	0.847	0.346	0.375	48				
								50	24	18.75	18.36	0.768	0.840	0.342	0.374					
						21100	2535.0	1	49	18.75	18.41	0.760	0.822	0.344	0.372					
								50	24	18.75	18.34	0.768	0.844	0.340	0.374					
21350					2560.0	100	0	18.75	18.40	0.737	0.799	0.327	0.354							
						1	49	18.75	18.50	0.729	0.772	0.323	0.342							
					50	24	18.75	18.50	0.721	0.764	0.322	0.341								
Edge 4	21100	2535.0	1	49	18.75	18.41	0.078	0.084	0.036	0.039										
			50	24	18.75	18.34	0.076	0.084	0.035	0.038										

UL CA 7C

Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 1	Head	QPSK	Mode A	0	Left Touch	21100	2535.0	1	99	21298	2554.8	1	0	24.50	24.30	0.625	0.654	0.342	0.358	
LAT 1	Body	QPSK	Mode B	5	Rear	21350	2560.0	1	0	21152	2540.2	1	99	18.50	18.30	0.987	1.034	0.367	0.384	
UAT 1	Head	QPSK	Mode A	0	Left Tilt	20850	2510.0	1	99	21048	2529.8	1	0	16.25	16.00	0.905	0.959	0.341	0.361	
UAT 1	Body	QPSK	Mode B	5	Rear	21100	2535.0	1	99	21298	2554.8	1	0	18.75	18.30	0.605	0.671	0.260	0.288	
UAT 1	Hotspot	QPSK	Mode B	5	Edge 2	20850	2510.0	1	99	21048	2529.8	1	0	18.75	18.30	0.743	0.824	0.347	0.385	

Note(s):

PCC RB allocation setting for UL CA has been adjusted based on the worst-case power.

10.11. LTE Band 12 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	23095	707.5	1	25	25.20	24.70	0.304	0.341	0.240	0.269	49
								25	12	24.20	23.70	0.249	0.279	0.195	0.219	
					Left Tilt	23095	707.5	1	25	25.20	24.70	0.144	0.162	0.114	0.128	
								25	12	24.20	23.70	0.119	0.134	0.095	0.107	
					Right Touch	23095	707.5	1	25	25.20	24.70	0.265	0.297	0.205	0.230	
								25	12	24.20	23.70	0.244	0.274	0.189	0.212	
	Body & Hotspot	QPSK	Mode B	5	Right Tilt	23095	707.5	1	25	25.20	24.70	0.161	0.181	0.129	0.145	
								25	12	24.20	23.70	0.148	0.166	0.117	0.131	
					Rear	23095	707.5	1	25	25.20	24.70	0.527	0.591	0.371	0.416	50
								25	12	24.20	23.70	0.491	0.551	0.342	0.384	
					Front	23095	707.5	1	25	25.20	24.70	0.389	0.436	0.255	0.286	
								25	12	24.20	23.70	0.361	0.405	0.237	0.266	
	Hotspot	QPSK	Mode B	5	Edge 2	23095	707.5	1	25	25.20	24.70	0.353	0.396	0.235	0.264	
								25	12	24.20	23.70	0.337	0.378	0.225	0.252	
					Edge 3	23095	707.5	1	25	25.20	24.70	0.245	0.275	0.119	0.134	
								25	12	24.20	23.70	0.224	0.251	0.109	0.122	
					Edge 4	23095	707.5	1	25	25.20	24.70	0.504	0.565	0.343	0.385	
								25	12	24.20	23.70	0.471	0.528	0.320	0.359	
Antenna	RF Exposure Conditions	Mode	Power 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.
UAT 1	Head	QPSK	Mode A	0	Left Touch	23095	707.5	1	25	23.50	23.00	0.552	0.619	0.415	0.466	
								25	12	22.50	22.00	0.451	0.506	0.339	0.380	
					Left Tilt	23095	707.5	1	25	23.50	23.00	0.568	0.637	0.320	0.359	
								25	12	22.50	22.00	0.457	0.513	0.258	0.289	
					Right Touch	23095	707.5	1	25	23.50	23.00	0.685	0.769	0.414	0.465	51
								25	12	22.50	22.00	0.555	0.623	0.335	0.376	
	Body & Hotspot	QPSK	Mode B	5	Right Tilt	23095	707.5	1	25	23.50	23.00	0.537	0.603	0.304	0.341	
								25	12	22.50	22.00	0.453	0.508	0.253	0.284	
					Rear	23095	707.5	1	25	23.50	23.00	0.351	0.394	0.201	0.226	
								25	12	22.50	22.00	0.276	0.310	0.174	0.195	
					Front	23095	707.5	1	25	23.50	23.00	0.389	0.436	0.258	0.289	52
								25	12	22.50	22.00	0.311	0.349	0.207	0.232	
	Hotspot	QPSK	Mode B	5	Edge 1	23095	707.5	1	25	23.50	23.00	0.154	0.173	0.075	0.084	
								25	12	22.50	22.00	0.129	0.145	0.062	0.070	
					Edge 2	23095	707.5	1	25	23.50	23.00	0.421	0.472	0.286	0.321	53
								25	12	22.50	22.00	0.330	0.370	0.225	0.252	
					Edge 4	23095	707.5	1	25	23.50	23.00	0.304	0.341	0.205	0.230	
								25	12	22.50	22.00	0.243	0.273	0.163	0.183	

10.12. LTE Band 13 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	23230	782.0	1	25	25.20	24.70	0.350	0.393	0.264	0.296	54
								25	12	24.20	23.70	0.336	0.377	0.252	0.283	
					Left Tilt	23230	782.0	1	25	25.20	24.70	0.190	0.213	0.146	0.164	
								25	12	24.20	23.70	0.179	0.201	0.138	0.155	
					Right Touch	23230	782.0	1	25	25.20	24.70	0.323	0.362	0.241	0.270	
								25	12	24.20	23.70	0.307	0.344	0.230	0.258	
	Body & Hotspot	QPSK	Mode B	5	Right Tilt	23230	782.0	1	25	25.20	24.70	0.227	0.255	0.167	0.187	
								25	12	24.20	23.70	0.208	0.233	0.153	0.172	
					Rear	23230	782.0	1	25	25.20	24.70	0.591	0.663	0.350	0.393	55
								25	12	24.20	23.70	0.554	0.622	0.328	0.368	
					Front	23230	782.0	1	25	25.20	24.70	0.430	0.482	0.323	0.362	
								25	12	24.20	23.70	0.404	0.453	0.251	0.282	
	Hotspot	QPSK	Mode B	5	Edge 2	23230	782.0	1	25	25.20	24.70	0.396	0.444	0.259	0.291	
								25	12	24.20	23.70	0.374	0.420	0.244	0.274	
					Edge 3	23230	782.0	1	25	25.20	24.70	0.309	0.347	0.145	0.163	
								25	12	24.20	23.70	0.261	0.293	0.124	0.139	
					Edge 4	23230	782.0	1	25	25.20	24.70	0.802	0.900	0.531	0.596	56
								25	12	24.20	23.70	0.753	0.845	0.499	0.560	
UAT 1	Head	QPSK	Mode A	0	Left Touch	23230	782.0	1	25	23.50	23.10	0.701	0.769	0.518	0.568	57
								25	12	22.50	22.10	0.557	0.611	0.412	0.452	
					Left Tilt	23230	782.0	1	25	23.50	23.10	0.561	0.615	0.355	0.389	
								25	12	22.50	22.10	0.450	0.493	0.284	0.311	
					Right Touch	23230	782.0	1	25	23.50	23.10	0.667	0.731	0.479	0.525	
								25	12	22.50	22.10	0.520	0.570	0.373	0.409	
					Right Tilt	23230	782.0	1	25	23.50	23.10	0.561	0.615	0.335	0.367	
								25	12	22.50	22.10	0.449	0.492	0.267	0.293	
	Body & Hotspot	QPSK	Mode B	5	Rear	23230	782.0	1	25	23.50	23.10	0.317	0.348	0.238	0.261	
								25	12	22.50	22.10	0.254	0.279	0.190	0.208	
					Front	23230	782.0	1	25	23.50	23.10	0.343	0.376	0.267	0.293	58
								25	12	22.50	22.10	0.272	0.298	0.212	0.232	
	Hotspot	QPSK	Mode B	5	Edge 1	23230	782.0	1	25	23.50	23.10	0.100	0.110	0.048	0.053	
								25	12	22.50	22.10	0.074	0.081	0.035	0.038	
					Edge 2	23230	782.0	1	25	23.50	23.10	0.470	0.515	0.314	0.344	59
								25	12	22.50	22.10	0.385	0.422	0.257	0.282	
					Edge 4	23230	782.0	1	25	23.50	23.10	0.330	0.362	0.219	0.240	
								25	12	22.50	22.10	0.269	0.295	0.178	0.195	

10.13. LTE Band 25 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	26365	1882.5	1	49	24.25	24.20	0.401	0.406	0.267	0.270	
								50	24	24.20	23.70	0.354	0.397	0.235	0.264	
					Left Tilt	26365	1882.5	1	49	24.25	24.20	0.286	0.289	0.177	0.179	
								50	24	24.20	23.70	0.247	0.277	0.154	0.173	
					Right Touch	26140	1860.0	1	49	24.25	24.10	0.788	0.816	0.492	0.509	
								50	24	24.20	23.70	0.695	0.780	0.434	0.487	
						26365	1882.5	1	49	24.25	24.20	0.853	0.863	0.532	0.538	
								50	24	24.20	23.70	0.768	0.862	0.478	0.536	
								100	0	24.20	23.70	0.705	0.791	0.435	0.488	
						26590	1905.0	1	49	24.25	24.20	0.868	0.878	0.537	0.543	60
								50	24	24.20	23.70	0.754	0.846	0.459	0.515	
					Right Tilt	26365	1882.5	1	49	24.25	24.20	0.220	0.223	0.141	0.143	
								50	24	24.20	23.70	0.192	0.215	0.123	0.138	
	Body & Hotspot	QPSK	Mode B	5	Rear	26140	1860.0	1	49	18.75	18.70	0.840	0.850	0.390	0.395	
								50	24	18.75	18.60	0.853	0.883	0.396	0.410	
						26365	1882.5	1	49	18.75	18.75	0.872	0.872	0.402	0.402	
								50	24	18.75	18.71	0.880	0.888	0.404	0.408	
								100	0	18.75	18.70	0.878	0.888	0.403	0.408	
						26590	1905.0	1	49	18.75	18.60	0.909	0.941	0.416	0.431	
								50	24	18.75	18.55	0.906	0.949	0.413	0.432	61
					Front	26365	1882.5	1	49	18.75	18.75	0.552	0.552	0.267	0.267	
								50	24	18.75	18.71	0.543	0.548	0.262	0.264	
	Hotspot	QPSK	Mode B	5	Edge 2	26365	1882.5	1	49	18.75	18.75	0.366	0.366	0.200	0.200	
								50	24	18.75	18.71	0.362	0.365	0.198	0.200	
					Edge 3	26365	1882.5	1	49	18.75	18.75	0.686	0.686	0.308	0.308	
								50	24	18.75	18.71	0.682	0.688	0.307	0.310	
					Edge 4	26365	1882.5	1	49	18.75	18.75	0.061	0.061	0.033	0.033	
								50	24	18.75	18.71	0.059	0.060	0.033	0.033	
Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 1	Head	QPSK	Mode A	0	Left Touch	26365	1882.5	1	49	17.75	17.65	0.384	0.393	0.227	0.232	
								50	24	17.75	17.60	0.385	0.399	0.224	0.232	
					Left Tilt	26365	1882.5	1	49	17.75	17.65	0.303	0.310	0.176	0.180	
								50	24	17.75	17.60	0.308	0.319	0.179	0.185	
					Right Touch	26140	1860.0	1	49	17.75	17.62	0.832	0.857	0.458	0.472	
								50	24	17.75	17.63	0.819	0.842	0.456	0.469	
						26365	1882.5	1	49	17.75	17.65	0.870	0.890	0.477	0.488	
								50	24	17.75	17.60	0.881	0.912	0.482	0.499	
								100	0	17.75	17.61	0.891	0.920	0.487	0.503	
						26590	1905.0	1	49	17.75	17.52	0.918	0.968	0.499	0.526	62
								50	24	17.75	17.60	0.928	0.961	0.502	0.520	
					Right Tilt	26365	1882.5	1	49	17.75	17.65	0.715	0.732	0.387	0.396	
								50	24	17.75	17.60	0.725	0.750	0.386	0.400	
	Body & Hotspot	QPSK	Mode B	5	Rear	26140	1860.0	1	49	19.00	18.75	0.736	0.780	0.363	0.385	
								50	24	19.00	18.70	0.737	0.790	0.364	0.390	
						26365	1882.5	1	49	19.00	18.85	0.775	0.802	0.379	0.392	
								50	24	19.00	18.83	0.785	0.816	0.384	0.399	63
								100	0	19.00	18.83	0.778	0.809	0.381	0.396	
						26590	1905.0	1	49	19.00	18.77	0.754	0.795	0.365	0.385	
								50	24	19.00	18.76	0.765	0.808	0.371	0.392	
					Front	26365	1882.5	1	49	19.00	18.85	0.674	0.698	0.327	0.338	
								50	24	19.00	18.83	0.689	0.717	0.334	0.347	
	Hotspot	QPSK	Mode B	5	Edge 1	26365	1882.5	1	49	19.00	18.85	0.573	0.593	0.262	0.271	
								50	24	19.00	18.83	0.580	0.603	0.265	0.276	
					Edge 2	26365	1882.5	1	49	19.00	18.85	0.034	0.035	0.019	0.020	
								50	24	19.00	18.83	0.034	0.036	0.019	0.020	
					Edge 4	26365	1882.5	1	49	19.00	18.85	0.545	0.564	0.295	0.305	
								50	24	19.00	18.83	0.548	0.570	0.296	0.308	

10.14. LTE Band 26 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	26865	831.5	1	25	25.20	24.80	0.451	0.495	0.348	0.382	64
								25	12	24.20	23.80	0.420	0.461	0.324	0.355	
					Left Tilt	26865	831.5	1	25	25.20	24.80	0.213	0.234	0.166	0.182	
								25	12	24.20	23.80	0.200	0.219	0.156	0.171	
					Right Touch	26865	831.5	1	25	25.20	24.80	0.387	0.424	0.301	0.330	
								25	12	24.20	23.80	0.346	0.379	0.268	0.294	
	Body & Hotspot	QPSK	Mode B	5	Right Tilt	26865	831.5	1	25	25.20	24.80	0.190	0.208	0.150	0.164	
								25	12	24.20	23.80	0.158	0.173	0.124	0.136	
					Rear	26865	831.5	1	25	25.20	24.80	0.654	0.717	0.419	0.459	65
								25	12	24.20	23.80	0.512	0.561	0.327	0.359	
					Front	26865	831.5	1	25	25.20	24.80	0.541	0.593	0.417	0.457	
								25	12	24.20	23.80	0.424	0.465	0.326	0.357	
	Hotspot	QPSK	Mode B	5	Edge 2	26865	831.5	1	25	25.20	24.80	0.595	0.652	0.388	0.425	
								25	12	24.20	23.80	0.550	0.603	0.337	0.370	
					Edge 3	26865	831.5	1	25	25.20	24.80	0.286	0.314	0.138	0.151	
								25	12	24.20	23.80	0.254	0.279	0.122	0.134	
					Edge 4	26740	819.0	1	25	25.20	24.70	0.628	0.705	0.420	0.471	
								1	25	25.20	24.80	0.748	0.820	0.492	0.539	
						26865	831.5	1	25	25.20	24.80	0.680	0.746	0.448	0.491	
								25	12	24.20	23.80	0.680	0.746	0.448	0.491	
					Edge 4	26990	844.0	1	25	25.20	24.80	0.942	1.033	0.622	0.682	66
								1	25	25.20	24.80	0.942	1.033	0.622	0.682	
UAT 1	Head	QPSK	Mode A	0	Left Touch	26740	819.0	1	25	23.50	23.10	0.784	0.860	0.585	0.641	
								1	25	23.50	23.20	0.834	0.894	0.616	0.660	
								25	12	22.50	22.20	0.656	0.703	0.483	0.518	
					Left Tilt	26865	831.5	1	25	23.50	23.10	0.837	0.918	0.619	0.679	67
								1	25	23.50	23.20	0.511	0.548	0.326	0.349	
								25	12	22.50	22.20	0.398	0.426	0.260	0.279	
					Right Touch	26740	819.0	1	25	23.50	23.10	0.707	0.775	0.471	0.516	
								1	25	23.50	23.20	0.795	0.852	0.528	0.566	
								25	12	22.50	22.20	0.619	0.663	0.413	0.443	
					Right Tilt	26865	831.5	1	25	23.50	23.10	0.721	0.791	0.480	0.526	
								1	25	23.50	23.20	0.516	0.553	0.286	0.306	
								25	12	22.50	22.20	0.403	0.432	0.223	0.239	
	Body & Hotspot	QPSK	Mode B	5	Rear	26865	831.5	1	25	23.50	23.20	0.400	0.429	0.250	0.268	68
								25	12	22.50	22.20	0.315	0.338	0.197	0.211	
					Front	26865	831.5	1	25	23.50	23.20	0.357	0.383	0.238	0.255	
								25	12	22.50	22.20	0.278	0.298	0.185	0.198	
					Edge 1	26865	831.5	1	25	23.50	23.20	0.092	0.099	0.047	0.050	
								25	12	22.50	22.20	0.071	0.076	0.037	0.040	
	Hotspot	QPSK	Mode B	5	Edge 2	26865	831.5	1	25	23.50	23.20	0.376	0.403	0.251	0.269	
								25	12	22.50	22.20	0.294	0.315	0.195	0.209	
					Edge 3	26865	831.5	1	25	23.50	23.20	0.217	0.233	0.145	0.155	
								25	12	22.50	22.20	0.170	0.182	0.114	0.122	
					Edge 4	26865	831.5	1	25	23.50	23.20	0.217	0.233	0.145	0.155	
								25	12	22.50	22.20	0.170	0.182	0.114	0.122	

10.15. LTE Band 30 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	27710	2310.0	1	25	23.50	23.40	0.408	0.418	0.224	0.229	69
								25	12	23.50	23.20	0.407	0.436	0.233	0.250	
					Left Tilt	27710	2310.0	1	25	23.50	23.40	0.257	0.263	0.134	0.137	
								25	12	23.50	23.20	0.257	0.275	0.134	0.144	
					Right Touch	27710	2310.0	1	25	23.50	23.40	0.458	0.469	0.262	0.268	
								25	12	23.50	23.20	0.454	0.486	0.261	0.280	
	Body & Hotspot	QPSK	Mode B	5	Right Tilt	27710	2310.0	1	25	23.50	23.40	0.241	0.247	0.128	0.131	70
								25	12	23.50	23.20	0.240	0.257	0.128	0.137	
					Rear	27710	2310.0	1	25	21.75	21.52	0.993	1.047	0.371	0.391	
								25	12	21.75	21.53	1.020	1.073	0.362	0.381	
					Front	27710	2310.0	50	0	21.75	21.55	1.040	1.089	0.385	0.403	
								1	25	21.75	21.52	0.955	1.007	0.391	0.412	
					Edge 2	27710	2310.0	25	12	21.75	21.53	0.948	0.997	0.387	0.407	
								50	0	21.75	21.55	1.030	1.079	0.418	0.438	
					Edge 3	27710	2310.0	1	25	21.75	21.52	0.320	0.337	0.151	0.159	
								25	12	21.75	21.53	0.322	0.339	0.153	0.161	
	Hotspot	QPSK	Mode B	5	Edge 4	27710	2310.0	1	25	21.75	21.52	0.610	0.643	0.214	0.226	
								25	12	21.75	21.53	0.619	0.651	0.217	0.228	
					Edge 4	27710	2310.0	1	25	21.75	21.52	0.624	0.658	0.308	0.325	
								25	12	21.75	21.53	0.623	0.655	0.306	0.322	
UAT 1	Head	QPSK	Mode A	0	Left Touch	27710	2310.0	1	25	15.50	15.20	0.388	0.416	0.155	0.166	71
								25	12	15.50	15.20	0.385	0.413	0.153	0.164	
					Left Tilt	27710	2310.0	1	25	15.50	15.20	0.435	0.466	0.166	0.178	
								25	12	15.50	15.20	0.436	0.467	0.166	0.178	
					Right Touch	27710	2310.0	1	25	15.50	15.20	0.771	0.826	0.324	0.347	
								25	12	15.50	15.20	0.768	0.823	0.322	0.345	
					Right Tilt	27710	2310.0	50	0	15.50	15.10	0.635	0.696	0.278	0.305	
								1	25	15.50	15.20	0.846	0.907	0.335	0.359	
					Right Tilt	27710	2310.0	25	12	15.50	15.20	0.853	0.914	0.337	0.361	
								50	0	15.50	15.10	0.846	0.928	0.336	0.368	
	Body & Hotspot	QPSK	Mode B	5	Rear	27710	2310.0	1	25	17.75	17.62	0.731	0.753	0.306	0.315	72
								25	12	17.75	17.52	0.716	0.755	0.299	0.315	
					Front	27710	2310.0	1	25	17.75	17.62	0.809	0.834	0.333	0.343	
								25	12	17.75	17.52	0.811	0.855	0.332	0.350	
					Edge 1	27710	2310.0	50	0	17.75	17.57	0.844	0.880	0.357	0.372	
								1	25	17.75	17.62	0.547	0.564	0.187	0.193	
	Hotspot	QPSK	Mode B	5	Edge 2	27710	2310.0	25	12	17.75	17.52	0.546	0.576	0.186	0.196	
								1	25	17.75	17.62	0.133	0.137	0.065	0.067	
					Edge 2	27710	2310.0	25	12	17.75	17.52	0.132	0.139	0.066	0.070	
								1	25	17.75	17.62	0.557	0.574	0.266	0.274	
					Edge 4	27710	2310.0	25	12	17.75	17.52	0.575	0.606	0.272	0.287	
								1	25	17.75	17.62	0.557	0.574	0.266	0.274	

10.16. LTE Band 41 Power Class 3 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	40620	2593.0	1	49	25.20	25.10	0.496	0.508	0.266	0.272	73
								50	24	24.20	24.05	0.391	0.405	0.210	0.217	
					Left Tilt	40620	2593.0	1	49	25.20	25.10	0.094	0.096	0.041	0.042	
								50	24	24.20	24.05	0.072	0.075	0.031	0.032	
					Right Touch	40620	2593.0	1	49	25.20	25.10	0.200	0.205	0.115	0.118	
								50	24	24.20	24.05	0.157	0.163	0.090	0.093	
					Right Tilt	40620	2593.0	1	49	25.20	25.10	0.095	0.097	0.045	0.046	
								50	24	24.20	24.05	0.067	0.069	0.037	0.038	
	Body & Hotspot	QPSK	Mode B	5	Rear	39750	2506.0	1	49	21.00	20.85	0.820	0.849	0.301	0.312	
								50	24	21.00	20.80	0.813	0.851	0.299	0.313	
						40185	2549.5	1	49	21.00	20.70	0.835	0.895	0.314	0.336	
								50	24	21.00	20.70	0.842	0.902	0.316	0.339	
						40620	2593.0	1	49	21.00	20.90	0.897	0.918	0.336	0.344	
								50	24	21.00	20.90	0.880	0.900	0.329	0.337	
								100	0	21.00	20.90	0.878	0.898	0.333	0.341	
						41055	2636.5	1	49	21.00	20.70	0.804	0.862	0.302	0.324	
								50	24	21.00	20.70	0.808	0.866	0.303	0.325	
					Front	41490	2680.0	1	49	21.00	20.70	0.929	0.995	0.348	0.373	
								50	24	21.00	20.70	0.927	0.993	0.349	0.374	
						39750	2506.0	1	49	21.00	20.85	0.945	0.978	0.359	0.372	
								50	24	21.00	20.80	0.941	0.985	0.356	0.373	
						40185	2549.5	1	49	21.00	20.70	0.897	0.961	0.340	0.364	
								50	24	21.00	20.70	0.893	0.957	0.339	0.363	
						40620	2593.0	1	49	21.00	20.90	0.988	1.011	0.367	0.376	74
								50	24	21.00	20.90	0.961	0.983	0.356	0.364	
								100	0	21.00	20.90	0.964	0.986	0.358	0.366	
						41055	2636.5	1	49	21.00	20.70	0.903	0.968	0.331	0.355	
								50	24	21.00	20.70	0.907	0.972	0.330	0.354	
						41490	2680.0	1	49	21.00	20.70	0.793	0.850	0.291	0.312	
								50	24	21.00	20.70	0.805	0.863	0.295	0.316	
	Hotspot	QPSK	Mode B	5	Edge 2	40620	2593.0	1	49	21.00	20.90	0.030	0.031	0.011	0.012	
								50	24	21.00	20.90	0.029	0.030	0.011	0.011	
					Edge 3	40620	2593.0	1	49	21.00	20.90	0.567	0.580	0.173	0.177	
								50	24	21.00	20.90	0.565	0.578	0.173	0.177	
					Edge 4	40620	2593.0	1	49	21.00	20.90	0.420	0.430	0.180	0.184	
								50	24	21.00	20.90	0.425	0.435	0.183	0.187	

Antenna	RF Exposure Conditions	Mode	Power 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					
UAT 1	Head	QPSK	Mode A	0	Left Touch	39750	2506.0	1	49	17.75	17.70	0.987	0.998	0.400	0.405					
								50	24	17.75	17.67	0.971	0.989	0.393	0.400					
						40185	2549.5	1	49	17.75	17.70	1.040	1.052	0.459	0.464					
								50	24	17.75	17.70	1.010	1.022	0.420	0.425					
						40620	2593.0	1	49	17.75	17.70	0.992	1.003	0.447	0.452					
								50	24	17.75	17.70	1.000	1.012	0.452	0.457					
								100	0	17.75	17.70	0.998	1.010	0.449	0.454					
						41055	2636.5	1	49	17.75	17.40	0.871	0.944	0.377	0.409					
								50	24	17.75	17.40	0.869	0.942	0.375	0.406					
						41490	2680.0	1	49	17.75	17.60	0.760	0.787	0.330	0.342					
								50	24	17.75	17.50	0.757	0.802	0.330	0.350					
					Left Tilt	39750	2506.0	1	49	17.75	17.70	1.060	1.072	0.391	0.396	75				
								50	24	17.75	17.67	1.050	1.070	0.384	0.391					
						40185	2549.5	1	49	17.75	17.70	1.040	1.052	0.391	0.396					
								50	24	17.75	17.70	1.030	1.042	0.387	0.391					
						40620	2593.0	1	49	17.75	17.70	0.995	1.007	0.388	0.392					
								50	24	17.75	17.70	1.010	1.022	0.391	0.396					
								100	0	17.75	17.70	1.010	1.022	0.393	0.398					
						41055	2636.5	1	49	17.75	17.40	0.899	0.974	0.350	0.379					
								50	24	17.75	17.40	0.874	0.947	0.340	0.369					
						41490	2680.0	1	49	17.75	17.60	0.727	0.753	0.286	0.296					
								50	24	17.75	17.50	0.727	0.770	0.286	0.303					
					Right Touch	40620	2593.0	1	49	17.75	17.70	0.417	0.422	0.182	0.184					
								50	24	17.75	17.70	0.342	0.346	0.151	0.153					
					Right Tilt	40620	2593.0	1	49	17.75	17.70	0.465	0.470	0.192	0.194					
								50	24	17.75	17.70	0.473	0.478	0.196	0.198					
	Body & Hotspot	QPSK	Mode B	5	Rear	39750	2506.0	1	49	19.75	19.60	0.810	0.838	0.317	0.328	76				
								50	24	19.75	19.60	0.808	0.836	0.317	0.328					
						40185	2549.5	1	49	19.75	19.60	0.676	0.700	0.291	0.301					
								50	24	19.75	19.60	0.691	0.715	0.296	0.306					
						40620	2593.0	1	49	19.75	19.60	0.783	0.811	0.360	0.373					
								50	24	19.75	19.60	0.778	0.805	0.352	0.364					
								100	0	19.75	19.60	0.742	0.768	0.345	0.357					
						41055	2636.5	1	49	19.75	19.60	0.688	0.712	0.317	0.328					
								50	24	19.75	19.60	0.681	0.705	0.313	0.324					
						41490	2680.0	1	49	19.75	19.60	0.796	0.824	0.369	0.382					
								50	24	19.75	19.60	0.793	0.821	0.367	0.380					
					Front	40620	2593.0	1	49	19.75	19.60	0.505	0.523	0.239	0.247					
								50	24	19.75	19.60	0.492	0.509	0.235	0.243					
					Hotspot	QPSK	Mode B	5	Edge 1	40620	2593.0	1	49	19.75	19.60	0.400	0.414	0.121	0.125	
												50	24	19.75	19.60	0.400	0.414	0.120	0.124	
									Edge 2	40620	2593.0	1	49	19.75	19.60	0.599	0.620	0.274	0.284	
												50	24	19.75	19.60	0.602	0.623	0.274	0.284	
									Edge 4	40620	2593.0	1	49	19.75	19.60	0.180	0.186	0.083	0.086	
												50	24	19.75	19.60	0.179	0.185	0.082	0.085	

UL CA 41C

Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 1	Head	QPSK	Mode A	0	Left Touch	40620	2593.0	1	99	40818	2612.8	1	0	24.50	24.30	0.426	0.446	0.229	0.240	
LAT 1	Body	QPSK	Mode B	5	Front	40620	2593.0	1	99	40818	2612.8	1	0	21.00	20.80	0.925	0.969	0.341	0.357	
UAT 1	Head	QPSK	Mode A	0	Left Tilt	39750	2506.0	1	99	39948	2525.8	1	0	17.75	17.50	0.763	0.808	0.282	0.299	
UAT 1	Body	QPSK	Mode B	5	Rear	39750	2506.0	1	99	39948	2525.8	1	0	19.75	19.40	0.670	0.726	0.265	0.287	

Note(s):

PCC RB allocation setting for UL CA has been adjusted based on the worst-case power.

Additional SAR for UL CA PC2 is not required. Test reduction has been applied base on standalone SAR.

10.17. LTE Band 41 Power Class 2 (20MHz Bandwidth)

According to Section 9.4, SAR evaluation for PC2 is only required when its Maximum output power (Tune-up Limit) is higher from PC3.

LTE Band 41 Power Class 2 SAR Measured Results

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	40620	2593.0	1	49	28.00	27.90	0.373	0.382	0.195	0.200	

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

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

- The reported SAR vs. output power can be linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg

Reported SAR vs. Output Power linearly scaled

Antenna	RF Exposure Conditions	Power Class 2				Power Class 3				PC2 linearly scaled Reported SAR (W/kg)	Linearly scaled (<10%)
		Duty Cycle	Tune-up Power (dBm)	Frame Avg. Power (mW)	Reported 1-g SAR (W/kg)	Duty Cycle	Tune-up Power (dBm)	Frame Avg. Power (mW)	Reported 1-g SAR (W/kg)		
LAT 1	Head	43.3%	28.00	273.20	0.382	63.3%	25.20	209.61	0.508	0.662	-42.31%

Conclusion:

SAR test for Power Class 2 is not required base on the reported SAR <1.4 W/kg and reported SAR vs. output power linearly scaled <10%.

10.18. LTE Band 48 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	56207	3646.7	1	49	25.00	24.80	0.172	0.180	0.101	0.106	77
								50	24	24.00	23.90	0.127	0.130	0.066	0.068	
					Left Tilt	56207	3646.7	1	49	25.00	24.80	0.015	0.016	0.003	0.003	
								50	24	24.00	23.90	0.048	0.049	0.038	0.039	
					Right Touch	56207	3646.7	1	49	25.00	24.80	0.030	0.031	0.028	0.029	
								50	24	24.00	23.90	0.058	0.059	0.037	0.038	
					Right Tilt	56207	3646.7	1	49	25.00	24.80	0.039	0.041	0.025	0.026	
								50	24	24.00	23.90	0.034	0.035	0.023	0.024	
	Body & Hotspot	QPSK	Mode B	5	Rear	55340	3560.0	1	49	19.75	19.70	1.070	1.082	0.316	0.320	
								50	24	19.75	19.00	0.914	1.086	0.271	0.322	78
						55773	3603.3	1	49	19.75	19.20	0.869	0.986	0.260	0.295	
								50	24	19.75	19.25	0.880	0.987	0.262	0.294	
					56207	3646.7		1	49	19.75	19.50	0.809	0.857	0.235	0.249	
								50	24	19.75	19.50	0.808	0.856	0.232	0.246	
								100	0	19.75	19.50	0.866	0.917	0.240	0.254	
								1	49	19.75	19.15	0.664	0.762	0.193	0.222	
					56640	3690.0		1	49	19.75	19.15	0.664	0.762	0.193	0.222	
								50	24	19.75	18.80	0.569	0.708	0.165	0.205	
					Front	56207	3646.7	1	49	19.75	19.50	0.286	0.303	0.121	0.128	
								50	24	19.75	19.50	0.295	0.312	0.125	0.132	
	Hotspot	QPSK	Mode B	5	Edge 2	56207	3646.7	1	49	19.75	19.50	0.041	0.044	0.017	0.018	
								50	24	19.75	19.50	0.044	0.046	0.016	0.017	
					Edge 3	56207	3646.7	1	49	19.75	19.50	0.150	0.159	0.060	0.063	
								50	24	19.75	19.50	0.139	0.147	0.056	0.060	
					Edge 4	56207	3646.7	1	49	19.75	19.50	0.129	0.137	0.049	0.052	
								50	24	19.75	19.50	0.130	0.138	0.050	0.053	

Antenna	RF Exposure Conditions	Mode	Power 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	
UAT 2	Head	QPSK	Mode A	0	Left Touch	56207	3646.7	1	49	17.00	16.90	0.537	0.550	0.194	0.199	
								50	24	17.00	16.76	0.578	0.611	0.218	0.230	
					Left Tilt	56207	3646.7	1	49	17.00	16.90	0.565	0.578	0.204	0.209	
								50	24	17.00	16.76	0.576	0.609	0.206	0.218	
					Right Touch	55340	3560.0	1	49	17.00	16.90	0.882	0.903	0.276	0.282	
								50	24	17.00	16.80	0.873	0.914	0.269	0.282	
						55773	3603.3	1	49	17.00	16.76	0.934	0.987	0.270	0.285	
								50	24	17.00	16.88	0.972	0.999	0.282	0.290	
						56207	3646.7	1	49	17.00	16.90	0.952	0.974	0.276	0.282	
								50	24	17.00	16.76	1.010	1.067	0.290	0.306	
						56640	3690.0	100	0	17.00	16.84	1.030	1.069	0.353	0.366	
								1	49	17.00	17.00	1.080	1.080	0.306	0.306	79
					Right Tilt	55340	3560.0	1	49	17.00	16.90	0.790	0.808	0.235	0.240	
								50	24	17.00	16.80	0.763	0.799	0.225	0.236	
						55773	3603.3	1	49	17.00	16.76	0.770	0.814	0.220	0.232	
								50	24	17.00	16.88	0.803	0.825	0.226	0.232	
						56207	3646.7	1	49	17.00	16.90	0.736	0.753	0.206	0.211	
								50	24	17.00	16.76	0.770	0.814	0.214	0.226	
						56640	3690.0	100	0	17.00	16.84	0.779	0.808	0.217	0.225	
								1	49	17.00	17.00	0.834	0.834	0.233	0.233	
								50	24	17.00	17.00	0.828	0.828	0.231	0.231	
	Body & Hotspot	QPSK	Mode B	5	Rear	55340	3560.0	1	49	20.50	20.50	0.480	0.480	0.209	0.209	
								50	24	20.50	20.22	0.385	0.411	0.164	0.175	
					Front	55340	3560.0	1	49	20.50	20.50	0.695	0.695	0.244	0.244	
								50	24	20.50	19.61	0.568	0.697	0.196	0.241	
						55773	3603.3	1	49	20.50	20.35	0.769	0.796	0.250	0.259	
								50	24	20.50	20.45	0.790	0.799	0.253	0.256	
						56207	3646.7	1	49	20.50	20.50	0.884	0.884	0.279	0.279	80
								50	24	20.50	20.22	0.806	0.860	0.252	0.269	
						56640	3690.0	100	0	20.50	20.30	0.842	0.882	0.262	0.274	
								1	49	20.50	20.44	0.826	0.837	0.265	0.269	
	Hotspot	QPSK	Mode B	5	Edge 1	56207	3646.7	1	49	20.50	20.50	0.241	0.241	0.096	0.096	
								50	24	20.50	20.22	0.196	0.209	0.078	0.083	
					Edge 2	56207	3646.7	1	49	20.50	20.50	0.017	0.017	0.005	0.005	
								50	24	20.50	20.22	0.015	0.015	0.005	0.005	
					Edge 4	56207	3646.7	1	49	20.50	20.50	0.232	0.232	0.094	0.094	
								50	24	20.50	20.22	0.190	0.203	0.071	0.076	

Notes:

Low and high channels were tested using the maximum tune-up limit. This is for testing purpose only. For device placing to the market would follow the tune up procedure.

10.19. LTE Band 66 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	Power 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	
LAT 1	Head	QPSK	Mode A	0	Left Touch	132322	1745.0	1	49	24.50	24.40	0.287	0.294	0.197	0.202	81
								50	24	24.20	23.50	0.235	0.276	0.162	0.190	
					Left Tilt	132322	1745.0	1	49	24.50	24.40	0.149	0.152	0.089	0.091	
								50	24	24.20	23.50	0.119	0.140	0.072	0.085	
					Right Touch	132322	1745.0	1	49	24.50	24.40	0.719	0.736	0.463	0.474	
								50	24	24.20	23.50	0.593	0.697	0.381	0.448	
					Right Tilt	132322	1745.0	1	49	24.50	24.40	0.168	0.172	0.103	0.105	
								50	24	24.20	23.50	0.133	0.156	0.083	0.097	
	Body & Hotspot	QPSK	Mode B	5	Rear	132072	1720.0	1	49	20.75	20.50	0.815	0.863	0.416	0.441	
								50	24	20.75	20.43	0.821	0.884	0.421	0.453	
						132322	1745.0	1	49	20.75	20.71	0.872	0.880	0.439	0.443	
								50	24	20.75	20.75	0.889	0.889	0.445	0.445	
					132572	1770.0		100	0	20.75	20.70	0.989	1.000	0.500	0.506	
								1	49	20.75	20.66	1.050	1.072	0.525	0.536	
								50	24	20.75	20.61	1.060	1.095	0.533	0.550	82
								1	49	20.75	20.71	0.677	0.683	0.346	0.349	
					Front	132322	1745.0	50	24	20.75	20.75	0.656	0.656	0.337	0.337	
								1	49	20.75	20.71	0.449	0.453	0.245	0.247	
UAT 1	Head	QPSK	Mode A	0	Edge 2	132322	1745.0	1	49	20.75	20.71	0.449	0.453	0.245	0.247	
								50	24	20.75	20.75	0.444	0.444	0.243	0.243	
					Edge 3	132072	1720.0	1	49	20.75	20.50	0.862	0.913	0.416	0.441	
								50	24	20.75	20.43	0.851	0.916	0.409	0.440	
						132322	1745.0	1	49	20.75	20.71	0.961	0.970	0.462	0.466	
								50	24	20.75	20.75	0.969	0.969	0.463	0.463	
					132572	1770.0		100	0	20.75	20.70	0.958	0.969	0.459	0.464	
								1	49	20.75	20.66	0.925	0.944	0.440	0.449	
								50	24	20.75	20.61	0.941	0.972	0.445	0.460	
								1	49	20.75	20.71	0.038	0.038	0.022	0.022	
	Body & Hotspot	QPSK	Mode B	5	Edge 4	132322	1745.0	50	24	20.75	20.75	0.040	0.040	0.023	0.023	
								1	49	20.75	20.71	0.038	0.038	0.022	0.022	
					Edge 1	132322	1745.0	1	49	18.25	18.00	0.481	0.510	0.297	0.315	
								50	24	18.25	18.00	0.478	0.506	0.295	0.312	
					Left Tilt	132322	1745.0	1	49	18.25	18.00	0.390	0.413	0.244	0.258	
								50	24	18.25	18.00	0.391	0.414	0.244	0.258	
					Right Touch	132072	1720.0	1	49	18.25	18.00	0.937	0.993	0.528	0.559	
								50	24	18.25	18.00	0.925	0.980	0.521	0.552	
						132322	1745.0	1	49	18.25	18.00	0.922	0.977	0.520	0.551	
								50	24	18.25	18.00	0.926	0.981	0.518	0.549	
	Hotspot	QPSK	Mode B	5	Right Tilt	132572	1770.0	100	0	18.25	18.00	0.939	0.995	0.524	0.555	
								1	49	18.25	18.00	0.964	1.021	0.531	0.562	83
								50	24	18.25	18.00	0.941	0.997	0.517	0.548	
						132322	1745.0	1	49	18.25	18.00	0.732	0.775	0.396	0.419	
								50	24	18.25	18.00	0.724	0.767	0.394	0.417	
					Rear	132072	1720.0	1	49	18.50	18.50	0.897	0.897	0.447	0.447	84
								50	24	18.50	18.50	0.890	0.890	0.444	0.444	
						132322	1745.0	1	49	18.50	18.50	0.868	0.868	0.438	0.438	
								50	24	18.50	18.50	0.884	0.884	0.440	0.440	
					Front	132572	1770.0	100	0	18.50	18.50	0.883	0.883	0.439	0.439	
								1	49	18.50	18.40	0.850	0.870	0.419	0.429	
								50	24	18.50	18.30	0.847	0.887	0.417	0.437	
						132322	1745.0	1	49	18.50	18.50	0.663	0.663	0.336	0.336	
								50	24	18.50	18.50	0.660	0.660	0.335	0.335	
	Hotspot	QPSK	Mode B	5	Edge 1	132322	1745.0	1	49	18.50	18.50	0.780	0.780	0.382	0.382	
								50	24	18.50	18.50	0.789	0.789	0.381	0.381	
					Edge 2	132322	1745.0	1	49	18.50	18.50	0.031	0.031	0.018	0.018	
								50	24	18.50	18.50	0.031	0.031	0.018	0.018	
					Edge 4	132322	1745.0	1	49	18.50	18.50	0.558	0.558	0.307	0.307	
								50	24	18.50	18.50	0.549	0.549	0.301	0.301	

10.20. Wi-Fi (DTS Band)

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

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Antenna	WWAN Power	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
											Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3	Cell OFF	Head	802.11b	Mode A	0	Left Touch	6	2437	0.145	100.0%	21.50	21.50					85
						Left Tilt	6	2437	0.072	100.0%	21.50	21.50					
						Right Touch	6	2437	0.435	100.0%	21.50	21.50	0.302	0.302	0.151	0.151	
						Right Tilt	6	2437	0.135	100.0%	21.50	21.50					
		Body & Hotspot	802.11b	Mode B	5	Rear	6	2437	0.714	100.0%	19.25	19.25					86
						Front	2	2412	1.200	100.0%	19.25	19.25	0.906	0.906	0.422	0.422	
							6	2437	1.200	100.0%	19.25	19.25	0.888	0.888	0.438	0.438	
							9	2452	1.900	100.0%	19.25	19.25	1.100	1.100	0.489	0.489	
		Hotspot	802.11b	Mode B	5	Edge 2	6	2437	0.718	100.0%	19.25	19.25	0.419	0.419	0.194	0.194	
						Edge 3	6	2437	0.424	100.0%	19.25	19.25					
Antenna	WWAN Power	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
											Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
UAT 1	Cell OFF	Head	802.11b	Mode A	0	Left Touch	6	2437	1.450	100.0%	15.50	15.50	0.954	0.954	0.356	0.356	87
							11	2462	1.490	100.0%	15.50	15.50	0.979	0.979	0.366	0.366	
						Left Tilt	6	2437	1.800	100.0%	15.50	15.50	0.902	0.902	0.320	0.320	
							11	2462	1.860	100.0%	15.50	15.50	1.020	1.020	0.364	0.364	
						Right Touch	6	2437	0.776	100.0%	15.50	15.50					
							6	2437	0.974	100.0%	15.50	15.50	0.787	0.787	0.304	0.304	
		Body & Hotspot	802.11b	Mode B	5	Rear	6	2437	0.871	100.0%	19.00	19.00	0.595	0.595	0.227	0.227	88
						Front	6	2437	1.760	100.0%	19.00	19.00	1.020	1.020	0.376	0.376	
							11	2462	1.820	100.0%	19.00	19.00	1.060	1.060	0.410	0.410	
		Hotspot	802.11b	Mode B	5	Edge 1	6	2437	0.863	100.0%	19.00	19.00					
						Edge 2	6	2437	0.465	100.0%	19.00	19.00					
						Edge 4	6	2437	0.226	100.0%	19.00	19.00					
Antenna	WWAN Power	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
											Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3	Cell ON	Head	802.11b	Mode A	0	Left Touch	6	2437	0.122	100.0%	19.25	19.25					89
						Left Tilt	6	2437	0.076	100.0%	19.25	19.25					
						Right Touch	6	2437	0.231	100.0%	19.25	19.25	0.189	0.189	0.097	0.097	
						Right Tilt	6	2437	0.091	100.0%	19.25	19.25					
		Body & Hotspot	802.11b	Mode B	5	Rear	6	2437	0.135	100.0%	14.00	14.00					90
						Front	6	2437	0.345	100.0%	14.00	14.00	0.204	0.204	0.095	0.095	
		Hotspot	802.11b	Mode B	5	Edge 2	6	2437	0.151	100.0%	14.00	14.00					
						Edge 3	6	2437	0.100	100.0%	14.00	14.00					
UAT 1	Cell ON	Head	802.11b	Mode A	0	Left Touch	6	2437	0.407	100.0%	10.25	10.25					91
						Left Tilt	6	2437	0.44	100.0%	10.25	10.25	0.264	0.264	0.094	0.094	
						Right Touch	6	2437	0.239	100.0%	10.25	10.25					
						Right Tilt	6	2437	0.319	100.0%	10.25	10.25					
		Body & Hotspot	802.11b	Mode B	5	Rear	6	2437	0.793	100.0%	15.25	15.25	0.415	0.415	0.151	0.151	92
						Front	6	2437	0.718	100.0%	15.25	15.25	0.421	0.421	0.156	0.156	
		Hotspot	802.11b	Mode B	5	Edge 1	6	2437	0.491	100.0%	15.25	15.25					
						Edge 2	6	2437	0.371	100.0%	15.25	15.25					
						Edge 4	6	2437	0.104	100.0%	15.25	15.25					
							6	2437	0.104	100.0%	15.25	15.25					

Antenna	WWAN Power	Band	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
												Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3	Cell OFF	U-NII-2A	Head	802.11n (HT40)	Mode A	0	Left Touch	54	5270	0.265	97.9%	21.00	21.00					
							Left Tilt	54	5270	0.244	97.9%	21.00	21.00					
							Right Touch	54	5270	0.865	97.9%	21.00	21.00	0.379	0.387	0.155	0.158	93
							Right Tilt	54	5270	0.25	97.9%	21.00	21.00					
			Body & Airplay	802.11n HT40	Mode B	5	Rear	54	5270	0.833	97.9%	15.75	15.75	0.411	0.420	0.112	0.114	
							Front	54	5270	1.790	97.9%	15.75	15.75	1.050	1.072	0.283	0.289	94
								62	5280	1.100	97.9%	15.50	15.50	0.742	0.758	0.235	0.240	
							Airplay	802.11n HT40	Mode B	5	Edge 2	54	5270	0.284	97.9%	15.75	15.75	
Edge 3	54	5270	0.380	97.9%	15.75	15.75												
Antenna	WWAN Power	Band	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
												Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3	Cell OFF	U-NII-2C	Head	802.11ac (VHT80)	Mode A	0	Left Touch	138	5690	0.501	95.4%	21.00	21.00					
							Left Tilt	138	5690	0.268	95.4%	21.00	21.00					
							Right Touch	138	5690	0.793	95.4%	21.00	21.00	0.349	0.366	0.134	0.140	95
							Right Tilt	138	5690	0.288	95.4%	21.00	21.00					
			Body & Airplay	802.11ac (VHT80)	Mode B	5	Rear	122	5610	1.250	95.4%	16.50	16.50	0.664	0.696	0.195	0.204	
							Front	138	5690	1.630	95.4%	16.50	16.50	0.809	0.848	0.233	0.244	
								122	5610	1.970	95.4%	16.50	16.50	1.060	1.111	0.345	0.362	
							138	5690	2.380	95.4%	16.50	16.50	1.100	1.153	0.339	0.355	96	
Airplay	802.11ac (VHT80)	Mode B	5	Edge 2	138	5690	0.322	95.4%	16.50	16.50								
				Edge 3	138	5690	0.488	95.4%	16.50	16.50	0.223	0.234	0.072	0.075				
Antenna	WWAN Power	Band	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
												Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3	Cell OFF	U-NII-3	Head	802.11ac (VHT80)	Mode A	0	Left Touch	155	5775	0.348	95.4%	21.00	21.00					
							Left Tilt	155	5775	0.129	95.4%	21.00	21.00					
							Right Touch	155	5775	0.607	95.4%	21.00	21.00	0.360	0.377	0.142	0.149	97
							Right Tilt	155	5775	0.282	95.4%	21.00	21.00					
			Body & Airplay	802.11ac (VHT80)	Mode B	5	Rear	155	5775	0.880	95.4%	16.75	16.75	0.631	0.661	0.179	0.188	
							Front	155	5775	1.700	95.4%	16.75	16.75	0.938	0.983	0.286	0.300	98
			Airplay	802.11ac (VHT80)	Mode B	5	Edge 2	155	5775	0.154	95.4%	16.75	16.75					
							Edge 3	155	5775	0.405	95.4%	16.75	16.75					
Antenna	WWAN Power	Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.

Antenna	WWAN Power	Band	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.				
												Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled					
LAT 3	Cell ON	U-NII-1	Head	802.11n (HT40)	Mode A	0	Left Touch	46	5230	0.133	97.9%	20.25	20.25					105				
							Left Tilt	46	5230	0.0875	97.9%	20.25	20.25									
							Right Touch	46	5230	0.361	97.9%	20.25	20.25	0.171	0.175	0.073	0.075					
							Right Tilt	46	5230	0.133	97.9%	20.25	20.25									
		U-NII-2A	Body & Airplay	802.11ac (VHT80)	Mode B	5	Rear	58	5290	0.214	95.4%	9.00	9.00					106				
							Front	58	5290	0.232	95.4%	9.00	9.00	0.111	0.116	0.031	0.032					
LAT 3	Cell ON	U-NII-2C	Head	802.11ac (VHT80)	Mode A	0	Edge 2	58	5290	0.0896	95.4%	9.00	9.00									
							Edge 3	58	5290	0.0775	95.4%	9.00	9.00									
							Left Touch	138	5690	0.204	95.4%	18.25	18.25					107				
							Left Tilt	138	5690	0.0864	95.4%	18.25	18.25									
							Right Touch	138	5690	0.521	95.4%	18.25	18.25	0.236	0.247	0.094	0.098					
							Right Tilt	138	5690	0.16	95.4%	18.25	18.25									
LAT 3	Cell ON	U-NII-3	Body & Airplay	802.11ac (VHT80)	Mode B	5	Rear	138	5690	0.275	95.4%	9.50	9.50					108				
							Front	138	5690	0.496	95.4%	9.50	9.50	0.205	0.215	0.061	0.064					
							Edge 2	138	5690	0.037	95.4%	9.50	9.50									
							Edge 3	138	5690	0.101	95.4%	9.50	9.50									
							Airplay	802.11ac (VHT80)	Mode B	5	Left Touch	155	5775	0.101	95.4%	19.00	19.00					109
											Left Tilt	155	5775	0.0527	95.4%	19.00	19.00					
LAT 3	Cell ON	U-NII-3	Head	802.11a	Mode A	0	Right Touch	155	5775	0.339	95.4%	19.00	19.00	0.209	0.219	0.083	0.087	110				
							Right Tilt	155	5775	0.0704	95.4%	19.00	19.00									
							Rear	155	5775	0.239	95.4%	10.00	10.00									
							Front	155	5775	0.596	95.4%	10.00	10.00	0.164	0.172	0.050	0.052					
							Airplay	802.11ac (VHT80)	Mode B	5	Edge 2	155	5775	0.033	95.4%	10.00	10.00					111
											Edge 3	155	5775	0.065	95.4%	10.00	10.00					
LAT 3	Cell ON	U-NII-1	Head	802.11ac (VHT80)	Mode A	0	Left Touch	42	5210	0.068	95.4%	6.00	6.00					112				
							Left Tilt	42	5210	0.048	95.4%	6.00	6.00									
							Right Touch	42	5210	0.187	95.4%	6.00	6.00	0.104	0.109	0.019	0.020					
							Right Tilt	42	5210	0.116	95.4%	6.00	6.00									
							Body & Airplay	802.11ac (VHT80)	Mode B	5	Rear	42	5210	0.879	95.4%	13.25	13.25	0.378	0.396	0.116	0.122	113
											Front	42	5210	0.468	95.4%	13.25	13.25	0.259	0.271	0.066	0.069	
LAT 3	Cell ON	U-NII-2C	Head	802.11ac (VHT80)	Mode A	0	Edge 1	42	5210	0.157	95.4%	13.25	13.25					114				
							Edge 4	42	5210	0.431	95.4%	13.25	13.25									
							Left Touch	138	5690	0.213	95.4%	8.25	8.25					115				
							Left Tilt	138	5690	0.205	95.4%	8.25	8.25									
							Right Touch	138	5690	0.472	95.4%	8.25	8.25	0.124	0.130	0.027	0.028					
							Right Tilt	138	5690	0.331	95.4%	8.25	8.25									
LAT 3	Cell ON	U-NII-3	Body & Airplay	802.11ac (VHT80)	Mode B	5	Rear	138	5690	0.566	95.4%	12.75	12.75	0.167	0.175	0.044	0.046	116				
							Front	138	5690	0.323	95.4%	12.75	12.75									
							Edge 1	138	5690	0.0754	95.4%	12.75	12.75									
							Edge 4	138	5690	0.0686	95.4%	12.75	12.75									
							Airplay	802.11ac (VHT80)	Mode B	5	Left Touch	155	5775	0.196	95.4%	9.75	9.75					117
											Left Tilt	155	5775	0.183	95.4%	9.75	9.75					
LAT 3	Cell ON	U-NII-3	Head	802.11ac (VHT80)	Mode A	0	Right Touch	155	5775	0.258	95.4%	9.75	9.75	0.176	0.184	0.042	0.044	118				
							Right Tilt	155	5775	0.197	95.4%	9.75	9.75									
							Rear	155	5775	0.425	95.4%	13.50	13.50						119			
							Front	155	5775	0.474	95.4%	13.50	13.50	0.213	0.223	0.057	0.060					
							Airplay	802.11ac (VHT80)	Mode B	5	Edge 1	155	5775	0.106	95.4%	13.50	13.50					120
											Edge 4	155	5775	0.0999	95.4%	13.50	13.50					

10.22. Bluetooth

LAT 3 Power Mode A the P_{high} is same as $P_{\text{standalone}}$

Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3 P_{low}	Head	GFSK	Mode A	0	Left Touch	39	2441	100.0%	12.00	12.00	0.012	0.012	0.006	0.006	117
					Left Tilt	39	2441	100.0%	12.00	12.00	0.003	0.003	0.001	0.001	
					Right Touch	39	2441	100.0%	12.00	12.00	0.040	0.040	0.021	0.021	
					Right Tilt	39	2441	100.0%	12.00	12.00	0.010	0.010	0.004	0.004	
	Body & Hotspot	GFSK	Mode B	5	Rear	39	2441	100.0%	9.50	9.50	0.025	0.025	0.010	0.010	118
					Front	39	2441	100.0%	9.50	9.50	0.092	0.092	0.043	0.043	
	Hotspot	GFSK	Mode B	5	Edge 2	39	2441	100.0%	9.50	9.50	0.019	0.019	0.006	0.006	
					Edge 3	39	2441	100.0%	9.50	9.50	0.027	0.027	0.009	0.009	
Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3 P_{high}	Body & Hotspot	GFSK	Mode B	5	Rear	39	2441	100.0%	13.50	13.50	0.158	0.158	0.077	0.077	
					Front	39	2441	100.0%	13.50	13.50	0.211	0.211	0.091	0.091	
	Hotspot	GFSK	Mode B	5	Edge 2	39	2441	100.0%	13.50	13.50	0.070	0.070	0.031	0.031	
					Edge 3	39	2441	100.0%	13.50	13.50	0.051	0.051	0.019	0.019	
Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled	
LAT 3 $P_{\text{standalone}}$	Head	GFSK	Mode A	0	Left Touch	39	2441	100.0%	20.00	20.00	0.068	0.068	0.034	0.034	120
					Left Tilt	39	2441	100.0%	20.00	20.00	0.026	0.026	0.013	0.013	
					Right Touch	39	2441	100.0%	20.00	20.00	0.170	0.170	0.092	0.092	
					Right Tilt	39	2441	100.0%	20.00	20.00	0.047	0.047	0.024	0.024	
	Body & Hotspot	GFSK	Mode B	5	Rear	39	2441	100.0%	20.00	20.00	0.303	0.303	0.148	0.148	121
					Front	39	2441	100.0%	20.00	20.00	0.715	0.715	0.318	0.318	
	Hotspot	GFSK	Mode B	5	Edge 2	39	2441	100.0%	20.00	20.00	0.278	0.278	0.128	0.128	
					Edge 3	39	2441	100.0%	20.00	20.00	0.198	0.198	0.082	0.082	

Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.	
									Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled		
UAT 1 P _{low}	Head	GFSK	Mode A	0	Left Touch	39	2441	100.0%	8.00	8.00	0.138	0.138	0.055	0.055	122	
					Left Tilt	39	2441	100.0%	8.00	8.00	0.113	0.113	0.041	0.041		
					Right Touch	39	2441	100.0%	8.00	8.00	0.080	0.080	0.031	0.031		
					Right Tilt	39	2441	100.0%	8.00	8.00	0.085	0.085	0.033	0.033		
	Body & Hotspot	GFSK	Mode B	5	Rear	39	2441	100.0%	8.50	8.50	0.080	0.080	0.028	0.028		
					Front	39	2441	100.0%	8.50	8.50	0.099	0.099	0.035	0.035	123	
	Hotspot	GFSK	Mode B	5	Edge 1	39	2441	100.0%	8.50	8.50	0.073	0.073	0.021	0.021		
					Edge 2	39	2441	100.0%	8.50	8.50	0.046	0.046	0.020	0.020		
Edge 4					39	2441	100.0%	8.50	8.50	0.003	0.003	0.001	0.001			
Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.	
									Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled		
UAT 1 P _{high}	Head	GFSK	Mode A	0	Left Touch	39	2441	100.0%	10.50	10.50	0.248	0.248	0.101	0.101	124	
					Left Tilt	39	2441	100.0%	10.50	10.50	0.228	0.228	0.087	0.087		
					Right Touch	39	2441	100.0%	10.50	10.50	0.212	0.212	0.085	0.085		
					Right Tilt	39	2441	100.0%	10.50	10.50	0.206	0.206	0.082	0.082		
	Body & Hotspot	GFSK	Mode B	5	Rear	39	2441	100.0%	12.50	12.50	0.229	0.229	0.084	0.084		
					Front	39	2441	100.0%	12.50	12.50	0.230	0.230	0.085	0.085	125	
	Hotspot	GFSK	Mode B	5	Edge 1	39	2441	100.0%	12.50	12.50	0.181	0.181	0.059	0.059		
					Edge 2	39	2441	100.0%	12.50	12.50	0.136	0.136	0.062	0.062		
Edge 4					39	2441	100.0%	12.50	12.50	0.044	0.044	0.018	0.018			
Antenna	RF Exposure Conditions	Mode	Power Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.	
									Tune-up Limit	Meas.	Meas.	Scaled	Meas.	Scaled		
UAT 1 P _{standalone}	Head	GFSK	Mode A	0	Left Touch	0	2402	100.0%	16.50	16.50	1.040	1.040	0.406	0.406	126	
						39	2441	100.0%	16.50	16.50	1.140	1.140	0.455	0.455		
						78	2480	100.0%	16.50	16.40	0.599	0.613	0.246	0.252		
					Left Tilt	0	2402	100.0%	16.50	16.50	0.992	0.992	0.351	0.351		
						39	2441	100.0%	16.50	16.50	1.060	1.060	0.410	0.410		
						78	2480	100.0%	16.50	16.40	0.687	0.703	0.261	0.267		
					Right Touch	39	2441	100.0%	16.50	16.50	0.754	0.754	0.321	0.321		
						0	2402	100.0%	16.50	16.50	0.710	0.710	0.310	0.310		
						39	2441	100.0%	16.50	16.50	0.831	0.831	0.325	0.325		
					Right Tilt	78	2480	100.0%	16.50	16.40	0.294	0.301	0.123	0.126		
						0	2402	100.0%	19.00	19.00	0.873	0.873	0.331	0.331		
						39	2441	100.0%	19.00	19.00	0.954	0.954	0.369	0.369		
	Body & Hotspot	GFSK	Mode B	5	Rear	78	2480	100.0%	19.00	19.00	0.792	0.792	0.319	0.319		
						0	2402	100.0%	19.00	19.00	1.150	1.150	0.431	0.431		
						39	2441	100.0%	19.00	19.00	1.160	1.160	0.429	0.429	127	
					Front	78	2480	100.0%	19.00	19.00	0.768	0.768	0.289	0.289		
						0	2402	100.0%	19.00	19.00	0.720	0.720	0.259	0.259		
						39	2441	100.0%	19.00	19.00	0.855	0.855	0.284	0.284		
	Hotspot	GFSK	Mode B	5	Edge 1	78	2480	100.0%	19.00	19.00	0.382	0.382	0.114	0.114		
						39	2441	100.0%	19.00	19.00	0.666	0.666	0.317	0.317		
						Edge 2	39	2441	100.0%	19.00	19.00	0.666	0.666	0.317	0.317	
					Edge 4	Edge 2	39	2441	100.0%	19.00	19.00	0.666	0.666	0.317	0.317	
						Edge 4	39	2441	100.0%	19.00	19.00	0.173	0.173	0.077	0.077	
						Edge 4	39	2441	100.0%	19.00	19.00	0.173	0.173	0.077	0.077	

11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.8 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.8 or 2 W/kg (1-g or 10-g respectively), repeat that measurement once.
- 3) Perform a second repeated measurement only if the **ratio of largest to smallest SAR** for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 or 3.6 W/kg (~ 10% from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	First Repeated	
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio
850	LTE Band 26	Hotspot	Edge 4	Yes	0.942	0.941	1.00
1700	WCDMA Band IV	Body & Hotspot	Rear	Yes	1.090	1.060	1.03
1900	CDMA BC1	Head	Right Touch	Yes	1.050	1.030	1.02
2300	LTE Band 30	Body & Hotspot	Rear	Yes	1.040	1.030	1.01
2400	BT	Body & Hotspot	Front	Yes	1.160	1.110	1.05
2500	LTE Band 7	Body & Hotspot	Rear	Yes	1.080	1.070	1.01
2600	LTE Band 41	Head	Left Tilt	Yes	1.060	1.040	1.02
3500	LTE Band 48	Head	Right Touch	Yes	1.080	1.020	1.06
5200	Wi-Fi 802.11a/n/ac	Body & Hotspot	Rear	Yes	1.050	1.020	1.03
5300	Wi-Fi 802.11a/n/ac	Body & Hotspot	Front	Yes	1.050	1.000	1.05
5500	Wi-Fi 802.11a/n/ac	Head	Right Touch	Yes	1.120	1.120	1.00
5800	Wi-Fi 802.11a/n/ac	Head	Right Touch	Yes	1.120	1.110	1.01

Note(s):

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

12. Simultaneous Transmission Conditions

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

Sum of SAR

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

SAR to Peak Location Ratio (SPLSR)

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

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

Where:

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:

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

When an individual antenna transmits at on two bands simultaneously, the sum of the highest reported SAR for the frequency bands should be used to determine **SAR₁** or **SAR₂**. When SPLSR is necessary, the smallest distance between the peak SAR locations for the antenna pair with respect to the peaks from each antenna should be used.

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

Simultaneous transmission SAR measurement

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

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

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

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

Combined Multi Band Averaged SAR allows - in addition to the data extraction - an evaluation of the 1 g, 10 g and/or arbitrary averaged mass SAR.

Power Scaling Factor is used to allow the volume scans to be scaled by a value other than "1", this is important when the results need to be scaled to different maximum power levels. The Power Scaling Factor is applied to each individual point of the scan. When power scaling is used in multi-band combinations the scaling factor is applied to each individual point of the first scan, the second factor is then applied to each individual point of the second scan and so on. The scans are then combined.

Simultaneous transmission SAR Exclusion

According to KDB 248227 D01, simultaneous SAR provisions in KDB 447498 D01 apply to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g single transmission chain SAR measurements is <1.6W/kg and/or the MIMO output power is equal or less than a single chain, then no additional SAR measurements for simultaneously at the specified maximum output power of MIMO operation.

When antennas are spatially separated to the extent that SAR distributions do not overlap and can be treated independently, SAR compliance for simultaneous transmission is determined separately for each individual antenna.

In Airplay mode, the device uses same power and power control mechanism as Wi-Fi. Airplay is not supported in hotspot mode. Airplay utilize the same 802.11 modes, modulation, MIMO, Channel Bandwidth, etc. as Wi-Fi does. Therefore Airplay usage is categorized by the Wi-Fi SAR testing contained in Section 10.

The simultaneous transmission possibilities for this device are listed as below.

RF Exposure Condition	Item	Capable Transmit Configurations	
Head Body Worn Accessory Hotspot (for 2.4 GHz) Airplay (for 2.4/5 GHz)	1	WWAN OFF (CELLULAR ANTENNAS OFF)	+ (UAT2) Wi-Fi 5 GHz SISO + (UAT1) Bluetooth (P _{High})
	2		+ (LAT3) Wi-Fi 5 GHz SISO + (UAT1) Bluetooth (P _{High})
	3		+ Wi-Fi 5 GHz MIMO ⁷ + (UAT1) Bluetooth (P _{High})
	4		+ (UAT2) Wi-Fi 5 GHz SISO + (LAT3) Bluetooth (P _{High})
	5		+ (LAT3) Wi-Fi 5 GHz SISO + (LAT3) Bluetooth (P _{High})
	6		+ Wi-Fi 5 GHz MIMO ⁷ + (LAT3) Bluetooth (P _{High})
	7		+ (UAT2) Wi-Fi 5 GHz SISO + Bluetooth Beamforming ⁷
	8		+ (LAT3) Wi-Fi 5 GHz SISO + Bluetooth Beamforming ⁷
	9		+ Wi-Fi 5 GHz MIMO ⁷ + Bluetooth Beamforming ⁷
	10	WWAN ON (CELLULAR ANTENNAS ON)	+ (UAT1) Wi-Fi 2.4 GHz SISO
	11		+ (LAT3) Wi-Fi 2.4 GHz SISO
	12		+ Wi-Fi 2.4 GHz MIMO ⁷
	13		+ (UAT1) Bluetooth (P _{High})
	14		+ (LAT3) Bluetooth (P _{High})
	15		+ Bluetooth Beamforming ⁷
	16		+ (UAT2) Wi-Fi 5 GHz SISO
	17		+ (LAT3) Wi-Fi 5 GHz SISO
	18		+ Wi-Fi 5 GHz MIMO ⁷
	19		+ (UAT2) Wi-Fi 5 GHz SISO + (UAT1) Bluetooth (P _{Low})
	20		+ (LAT3) Wi-Fi 5 GHz SISO + (UAT1) Bluetooth (P _{Low})
	21		+ Wi-Fi 5 GHz MIMO ⁷ + (UAT1) Bluetooth (P _{Low})
	22		+ (UAT2) Wi-Fi 5 GHz SISO + (LAT3) Bluetooth (P _{Low})
	23		+ (LAT3) Wi-Fi 5 GHz SISO + (LAT3) Bluetooth (P _{Low})
	24		+ Wi-Fi 5 GHz MIMO ⁷ + (LAT3) Bluetooth (P _{Low})
	25		+ (UAT2) Wi-Fi 5 GHz SISO + Bluetooth Beamforming ⁷
	26		+ (LAT3) Wi-Fi 5 GHz SISO + Bluetooth Beamforming ⁷
	27		+ Wi-Fi 5 GHz MIMO ⁷ + Bluetooth Beamforming ⁷

Note(s):

1. Wi-Fi 2.4GHz & Bluetooth cannot transmit simultaneously.
2. Wi-Fi 2.4GHz & Wi-Fi 5GHz cannot transmit simultaneously.
3. WWAN LAT1, UAT1, and UAT2 cannot transmit simultaneously.
4. Bluetooth P_{Low} is used with Wi-Fi and WWAN antennas are active.
5. Bluetooth P_{High} is used when Wi-Fi antenna is active and WWAN antenna is inactive or with Wi-Fi inactive and WWAN antenna is active.
6. Bluetooth P_{standalone} is used with Wi-Fi and WWAN antennas are inactive.

7. Wi-Fi SISO mode SAR result can also represent for MIMO mode SAR and is used for MIMO mode simultaneous transmission analysis because antennas are not overlapping and the MIMO mode maximum power is equal or less than SISO mode.

12.1. Sum of the SAR for WWAN Cell-off & Wi-Fi & BT results

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)			
		1	2	3	4	1+3	1+4	2+3	2+4
		Wi-Fi 5G LAT 3	Wi-Fi 5G UAT 2	BT(P _{high}) LAT 3	BT(P _{high}) UAT 1				
Head	Left Touch	0.387	0.559	0.068	0.248	0.455	0.635	0.627	0.807
	Left Tilt	0.387	0.559	0.026	0.228	0.413	0.615	0.585	0.787
	Right Touch	0.387	1.174	0.170	0.212	0.557	0.599	1.344	1.386
	Right Tilt	0.387	1.006	0.047	0.206	0.434	0.593	1.053	1.212
Body-worn & Hotspot	Rear	0.848	1.072	0.158	0.229	1.006	1.077	1.230	1.301
	Front	1.153	1.042	0.211	0.230	1.364	1.383	1.253	1.272
Hotspot	Edge 1		0.638		0.181		0.181	0.638	0.819
	Edge 2	0.234		0.070	0.136	0.304	0.370	0.070	0.136
	Edge 3	0.234		0.051		0.285	0.234	0.051	
	Edge 4		0.638		0.044		0.044	0.638	0.682

12.2. Sum of the SAR for WWAN Cell-on(LAT 1) & Wi-Fi & BT results

RF Exposure conditions	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/kg)			
		1	2	3	6	7	1+2	1+3	1+6	1+7
		WWAN Cell-on LAT 1	Wi-Fi 2.4G LAT 3	Wi-Fi 2.4G UAT 1	BT(P _{high}) LAT 3	BT(P _{high}) UAT 1				
Head	Left Touch	0.731	0.189	0.264	0.068	0.248	0.920	0.995	0.799	0.979
	Left Tilt	0.362	0.189	0.264	0.026	0.228	0.551	0.626	0.388	0.590
	Right Touch	1.087	0.189	0.264	0.170	0.212	1.276	1.351	1.257	1.299
	Right Tilt	0.389	0.189	0.264	0.047	0.206	0.578	0.653	0.436	0.595
Body-worn & Hptspot	Rear	1.095	0.204	0.415	0.158	0.229	1.299	1.510	1.253	1.324
	Front	1.079	0.204	0.421	0.211	0.230	1.283	1.500	1.290	1.309
Hotspot	Edge 1			0.415		0.181		0.415		0.181
	Edge 2	0.667	0.204	0.415	0.070	0.136	0.871	1.082	0.737	0.803
	Edge 3	1.030	0.204		0.051		1.234	1.030	1.081	1.030
	Edge 4	1.033		0.415		0.044	1.033	1.448	1.033	1.077
RF Exposure conditions	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/kg)			
		1	4	5	8	9	1+4+8	1+4+9	1+5+8	1+5+9
		WWAN Cell-on LAT 1	Wi-Fi 5G LAT 3	Wi-Fi 5G UAT 2	BT(P _{Low}) LAT 3	BT(P _{Low}) UAT 1				
Head	Left Touch	0.731	0.247	0.184	0.012	0.138	0.991	1.117	0.928	1.054
	Left Tilt	0.362	0.247	0.184	0.003	0.113	0.613	0.723	0.550	0.660
	Right Touch	1.087	0.247	0.184	0.040	0.080	1.374	1.414	1.311	1.351
	Right Tilt	0.389	0.247	0.184	0.010	0.085	0.646	0.721	0.583	0.658
Body-worn & Hptspot	Rear	1.095	0.215	0.396	0.025	0.080	1.335	1.390	1.516	1.571
	Front	1.079	0.215	0.271	0.092	0.099	1.385	1.392	1.442	1.449
Hotspot	Edge 1			0.271		0.073		0.073	0.271	0.344
	Edge 2	0.667	0.215		0.019	0.046	0.900	0.927	0.686	0.713
	Edge 3	1.030	0.215		0.027		1.272	1.245	1.057	1.030
	Edge 4	1.033		0.271		0.003	1.033	1.036	1.304	1.307

12.3. Sum of the SAR for WWAN Cell-on(UAT 1) & Wi-Fi & BT results

RF Exposure conditions	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/kg)			
		1	2	3	6	7	1+2	1+3	1+6	1+7
		WWAN Cell-on UAT 1	Wi-Fi 2.4G LAT 3	Wi-Fi 2.4G UAT 1	BT(P _{high}) LAT 3	BT(P _{high}) UAT 1				
Head	Left Touch	1.077	0.189	0.264	0.068	0.248	1.266	1.341	1.145	1.325
	Left Tilt	1.087	0.189	0.264	0.026	0.228	1.276	1.351	1.113	1.315
	Right Touch	1.070	0.189	0.264	0.170	0.212	1.259	1.334	1.240	1.282
	Right Tilt	0.928	0.189	0.264	0.047	0.206	1.117	1.192	0.975	1.134
Body-worn & Hptspot	Rear	0.897	0.204	0.415	0.158	0.229	1.101	1.312	1.055	1.126
	Front	0.880	0.204	0.421	0.211	0.230	1.084	1.301	1.091	1.110
Hotspot	Edge 1	0.885		0.415		0.181	0.885	1.300	0.885	1.066
	Edge 2	0.847	0.204	0.415	0.070	0.136	1.051	1.262	0.917	0.983
	Edge 3		0.204		0.051		0.204		0.051	
	Edge 4	0.617		0.415		0.044	0.617	1.032	0.617	0.661
RF Exposure conditions	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/kg)			
		1	4	5	8	9	1+4+8	1+4+9	1+5+8	1+5+9
		WWAN Cell-on UAT 1	Wi-Fi 5G LAT 3	Wi-Fi 5G UAT 2	BT(P _{Low}) LAT 3	BT(P _{Low}) UAT 1				
Head	Left Touch	1.077	0.247	0.184	0.012	0.138	1.336	1.462	1.273	1.399
	Left Tilt	1.087	0.247	0.184	0.003	0.113	1.337	1.447	1.274	1.384
	Right Touch	1.070	0.247	0.184	0.040	0.080	1.357	1.397	1.294	1.334
	Right Tilt	0.928	0.247	0.184	0.010	0.085	1.185	1.260	1.122	1.197
Body-worn & Hptspot	Rear	0.897	0.215	0.396	0.025	0.080	1.137	1.192	1.318	1.373
	Front	0.880	0.215	0.271	0.092	0.099	1.187	1.194	1.243	1.250
Hotspot	Edge 1	0.885		0.271		0.073	0.885	0.958	1.156	1.229
	Edge 2	0.847	0.215		0.019	0.046	1.080	1.107	0.866	0.893
	Edge 3		0.215		0.027		0.242	0.215	0.027	
	Edge 4	0.617		0.271		0.003	0.617	0.620	0.888	0.891

12.4. Sum of the SAR for WWAN Cell-on(UAT 2) & Wi-Fi & BT results

RF Exposure conditions	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/kg)			
		1	2	3	6	7	1+2	1+3	1+6	1+7
		WWAN Cell-on UAT 2	Wi-Fi 2.4G LAT 3	Wi-Fi 2.4G UAT 1	BT(P _{high}) LAT 3	BT(P _{high}) UAT 1				
Head	Left Touch	0.611	0.189	0.264	0.068	0.248	0.800	0.875	0.679	0.859
	Left Tilt	0.609	0.189	0.264	0.026	0.228	0.798	0.873	0.635	0.837
	Right Touch	1.080	0.189	0.264	0.170	0.212	1.269	1.344	1.250	1.292
	Right Tilt	0.834	0.189	0.264	0.047	0.206	1.023	1.098	0.881	1.040
Body-worn & Hptspot	Rear	0.480	0.204	0.415	0.158	0.229	0.684	0.895	0.638	0.709
	Front	0.884	0.204	0.421	0.211	0.230	1.088	1.305	1.095	1.114
Hotspot	Edge 1	0.241		0.415		0.181	0.241	0.656	0.241	0.422
	Edge 2		0.204	0.415	0.070	0.136	0.204	0.415	0.070	0.136
	Edge 3		0.204		0.051		0.204		0.051	
	Edge 4	0.232		0.415		0.044	0.232	0.647	0.232	0.276
RF Exposure conditions	Test Position	Standalone SAR (W/kg)					Σ 1-g SAR (W/kg)			
		1	4	5	8	9	1+4+8	1+4+9	1+5+8	1+5+9
		WWAN Cell-on UAT 2	Wi-Fi 5G LAT 3	Wi-Fi 5G UAT 2	BT(P _{Low}) LAT 3	BT(P _{Low}) UAT 1				
Head	Left Touch	0.611	0.247	0.184	0.012	0.138	0.870	0.996	0.807	0.933
	Left Tilt	0.609	0.247	0.184	0.003	0.113	0.859	0.969	0.796	0.906
	Right Touch	1.080	0.247	0.184	0.040	0.080	1.367	1.407	1.304	1.344
	Right Tilt	0.834	0.247	0.184	0.010	0.085	1.091	1.166	1.028	1.103
Body-worn & Hptspot	Rear	0.480	0.215	0.396	0.025	0.080	0.720	0.775	0.901	0.956
	Front	0.884	0.215	0.271	0.092	0.099	1.191	1.198	1.247	1.254
Hotspot	Edge 1	0.241		0.271		0.073	0.241	0.314	0.512	0.585
	Edge 2		0.215		0.019	0.046	0.234	0.261	0.019	0.046
	Edge 3		0.215		0.027		0.242	0.215	0.027	
	Edge 4	0.232		0.271		0.003	0.232	0.235	0.503	0.506

Appendixes

Refer to separated files for the following appendixes.

Appendix A: SAR Setup Photos

Appendix B: SAR System Check Plots

Appendix C: SAR Highest Test Plots

Appendix D: SAR Tissue Ingredients

Appendix E: SAR Probe Certificates

Appendix F: SAR Dipole Certificates

Appendix G: LTE Down-Link Carrier Aggregation

Appendix H: Body Detect Validation

END OF REPORT