SAR EVALUATION REPORT

FCC 47 CFR § 2.1093
IEEE Std 1528-2013

For
SMARTPHONE

FCC ID: BCG-E3175A
Model Name: A1901

Report Number: 11792137-S1V5
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Prepared for
APPLE, INC.
1 INFINITE LOOP, MS 26A
CUPERTINO, CA 95014-2084

Prepared by
UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888

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1. Attestation of Test Results

Applicant Name		APPLE, INC.			
FCC ID		BCG-E3175A			
Model Name		A1901			
Applicable Standards		FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
Exposure Category		SAR Limits (W/Kg)			
		Peak spatial-average(1g of tissue)			
General population / Uncontrolled exposure		1.6			
RF Exposure Conditions		Equipment Class - Highest Reported SAR (W/kg)			
		PCE	DTS	NII	DSS
Head		1.07	1.08	0.75	0.35
Body-worn		1.09	1.17	1.15	0.37
Hotspot		1.09	1.17	1.15	N/A
Simultaneous TX	Head	1.41	1.41	1.39	1.39
	Body-worn	1.59	1.59	1.58	1.58
	Hotspot	1.59	1.59	1.58	N/A
Date Tested		7/24/2017 to 8/17/2017			
Test Results		Pass			

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

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

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

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2. Test Specification, Methods and Procedures

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

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

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

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

Additional Guidance: Operational Description and Manufacturer KDB inquiry

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

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

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3. Facilities and Accreditation

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

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

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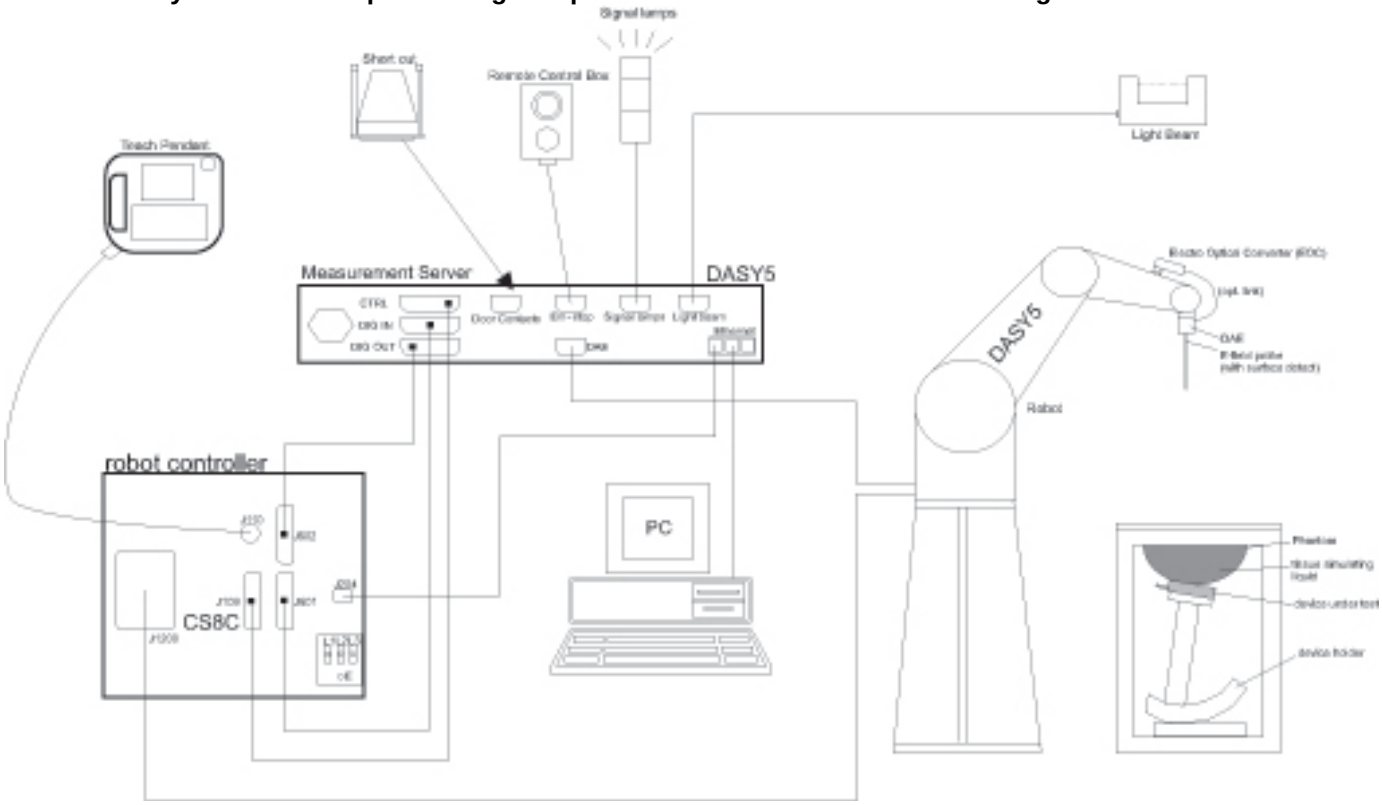
4. SAR Measurement System & Test Equipment

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.

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4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

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

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Step 3: Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Step 4: Power drift measurement

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

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4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	8753ES	MY40001647	8/23/2017
Dielectric Probe kit	SPEAG	DAK-3.5	1087	11/8/2017
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	11/8/2017
Thermometer	Traceable Calibration Control Co.	4242	170064398	1/30/2018

System Check

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

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Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3929	3/15/2018
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	7335	3/15/2018
E-Field Probe (SAR Lab C)	SPEAG	EX3DV4	3885	9/20/2017
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	7356	4/21/2018
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	3772	2/16/2018
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3773	4/21/2018
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3749	1/23/2018
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	3989	2/16/2018
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1434	4/19/2018
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1257	9/15/2017
Data Acquisition Electronics (SAR Lab C)	SPEAG	DAE4	1377	9/14/2017
Data Acquisition Electronics (SAR Lab D)	SPEAG	DAE4	1359	2/10/2018
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1357	2/13/2018
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1259	1/20/2018
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1352	11/11/2017
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1472	3/10/2018
System Validation Dipole	SPEAG	D750V3	1019	3/13/2018
System Validation Dipole	SPEAG	D835V2	4d002	11/8/2017
System Validation Dipole	SPEAG	D835V2	4d117	5/22/2018
System Validation Dipole	SPEAG	D1750V2	1050	4/18/2018
System Validation Dipole	SPEAG	D1750V2	1077	9/14/2017
System Validation Dipole	SPEAG	D1900V2	5d140	4/19/2018
System Validation Dipole	SPEAG	D1900V2	5d043	11/9/2017
System Validation Dipole	SPEAG	D2300V2	1058	8/18/2017
System Validation Dipole	SPEAG	D2450V2	706	5/9/2018
System Validation Dipole	SPEAG	D2450V2	748	2/8/2018
System Validation Dipole	SPEAG	D2600V2	1006	9/13/2017
System Validation Dipole	SPEAG	D5GHzV2	1003	2/13/2018
System Validation Dipole	SPEAG	D5GHzV2	1138	9/22/2017
System Validation Dipole	SPEAG	D5GHzV2	1168	11/14/2017

Other

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

Notes:

1. Equipment was not used after calibration due date.

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5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

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6. Device Under Test (DUT) Information

6.1. DUT Description

Model A1901 is a smartphone with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/HSUPA, LTE FDD/TDD & Carrier Aggregation / TDSCDMA, VoLTE radio, IEEE 802.11a/b/g/n/ac radio 2x2 MIMO, Bluetooth radio, GPS and NFC. The rechargeable battery is not user accessible.

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

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

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

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

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

Device Dimension	Overall (Length x Width): 143.3 mm x 70.8 mm Overall Diagonal: 153 mm Display Diagonal: 148.6 mm
Back Cover	☒ The rechargeable battery is not user accessible.
Battery Options	☒ The rechargeable battery is not user accessible.
Accessory	Headset
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☐ Mobile Hotspot (Wi-Fi 5 GHz)
AirPlay	AirPlay mode enabled devices transfer data directly between each other ☒ AirPlay (Wi-Fi 2.4 GHz) ☒ AirPlay (Wi-Fi 5 GHz)

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6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☒ Class 10 - 2 Up, 4 Down ☐ Class 12 - 4 Up, 4 Down ☐ Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 FDD Band 30 TDD Band 41 FDD Band 66	QPSK 16QAM 64QAM ☒ Rel. 11 Carrier Aggregation (2 Uplinks and 4 Downlinks), UE Category 10		100% (FDD) 63.3% (TDD) This device supports uplink-downlink configuration 0-6. The configuration with the highest duty cycle was used (config. 0 at 63.3%).
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)		100%
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)		100%
	Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No			
	Does this device support Band gap channel(s)? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	Version 5.0 LE		77.5% (DH5)[1]

Notes:

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

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6.3. Maximum Output Power from Tune-up Procedure

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

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

The maximum calibration level already includes component tolerance of ± 0.75dB for modulations other than 8PSK, where a ±1dB tolerance is included. KDB 447498 sec.4.1.(d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

RF Air interface	Mode	Target Avg. RF Output Power (dBm)															
		MODE A								MODE B							
		UAT 1				LAT 1				UAT 1				LAT 1			
		MAX		Tolerance	Frame	MAX		Tolerance	Frame	MAX		Tolerance	Frame	MAX		Tolerance	Frame
GSM850	Voice/GPRS (1 slot)	30.8	±	0.75	21.8	30.8	±	0.75	21.8	33.3	±	0.75	24.3	33.3	±	0.75	24.3
	GPRS 2 slots	29.8	±	0.75	23.8	29.8	±	0.75	23.8	32.3	±	0.75	26.3	32.3	±	0.75	26.3
	EGPRS 1 slot	25.5	±	1.0	16.5	25.5	±	1.0	16.5	28.0	±	1.0	19.0	28.0	±	1.0	19.0
	EGPRS 2 slots	25.5	±	1.0	19.5	25.5	±	1.0	19.5	28.0	±	1.0	22.0	28.0	±	1.0	22.0
GSM1900	Voice/GPRS (1 slot)	28.0	±	0.75	19.0	28.0	±	0.75	19.0	31.3	±	0.75	22.3	30.0	±	0.75	21.0
	GPRS 2 slots	26.5	±	0.75	20.5	26.3	±	0.75	20.3	30.3	±	0.75	24.3	27.0	±	0.75	21.0
	EGPRS 1 slot	23.5	±	1.0	14.5	23.5	±	1.0	14.5	27.0	±	1.0	18.0	27.0	±	1.0	18.0
	EGPRS 2 slots	23.5	±	1.0	17.5	23.5	±	1.0	17.5	27.0	±	1.0	21.0	27.0	±	1.0	21.0

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RF Air interface	Mode	Target Avg. RF Output Power (dBm)											
		MODE A						MODE B					
		UAT 1			LAT 1			UAT 1			LAT 1		
		MAX		Tolerance	MAX		Tolerance	MAX		Tolerance	MAX		Tolerance
W-CDMA Band V	R99	24.3	±	0.75	24.3	±	0.75	24.8	±	0.75	24.8	±	0.75
	HSDPA	24.3	±	0.75	24.3	±	0.75	24.8	±	0.75	24.8	±	0.75
	HSUPA	24.3	±	0.75	24.3	±	0.75	24.8	±	0.75	24.8	±	0.75
	DC-HSDPA	24.3	±	0.75	24.3	±	0.75	24.8	±	0.75	24.8	±	0.75
	HSPA+	24.3	±	0.75	24.3	±	0.75	24.8	±	0.75	24.8	±	0.75
W-CDMA Band IV	R99	22.7	±	0.75	22.7	±	0.75	25.3	±	0.75	24.3	±	0.75
	HSDPA	22.7	±	0.75	22.7	±	0.75	25.3	±	0.75	24.3	±	0.75
	HSUPA	22.7	±	0.75	22.7	±	0.75	25.3	±	0.75	24.3	±	0.75
	DC-HSDPA	22.7	±	0.75	22.7	±	0.75	25.3	±	0.75	24.3	±	0.75
	HSPA+	22.7	±	0.75	22.7	±	0.75	25.3	±	0.75	24.3	±	0.75
W-CDMA Band II	R99	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
	HSDPA	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
	HSUPA	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
	DC-HSDPA	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
	HSPA+	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
LTE Band 2	QPSK	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
LTE Band 4	QPSK	22.2	±	0.75	22.2	±	0.75	25.3	±	0.75	24.3	±	0.75
LTE Band 5	QPSK	24.0	±	0.75	24.0	±	0.75	24.8	±	0.75	24.8	±	0.75
LTE Band 7	QPSK	19.0	±	0.75	19.5	±	0.75	25.3	±	0.75	22.3	±	0.75
LTE Band 12	QPSK	24.0	±	0.75	24.0	±	0.75	24.8	±	0.75	24.8	±	0.75
LTE Band 13	QPSK	24.0	±	0.75	24.0	±	0.75	24.8	±	0.75	24.8	±	0.75
LTE Band 17	QPSK	24.0	±	0.75	24.0	±	0.75	24.8	±	0.75	24.8	±	0.75
LTE Band 25	QPSK	20.3	±	0.75	20.8	±	0.75	25.3	±	0.75	22.5	±	0.75
LTE Band 26	QPSK	24.0	±	0.75	24.0	±	0.75	24.8	±	0.75	24.8	±	0.75
LTE Band 30	QPSK	20.3	±	0.75	20.3	±	0.75	23.8	±	0.75	21.5	±	0.75
LTE Band 41	QPSK	21.0	±	0.75	21.4	±	0.75	24.5	±	0.75	23.8	±	0.75
LTE Band 66	QPSK	22.2	±	0.75	22.2	±	0.75	25.3	±	0.75	24.3	±	0.75
LTE-uplink 2CA Band 7	QPSK	19.0	±	0.75	19.5	±	0.75	23.8	±	0.75	22.3	±	0.75
LTE-uplink 2CA Band 41	QPSK	19.9	±	0.75	19.9	±	0.75	23.8	±	0.75	23.8	±	0.75

RF Air interface	Mode	Max. Avg. RF Output Power (dBm)			
		MODE A		MODE B	
		UAT 1	LAT 3	UAT 1	LAT 3
Bluetooth P_{low}	GFSK	10.0	10.0	10.0	10.0
Bluetooth P_{high}	GFSK	12.0	16.5	13.5	13.5
Bluetooth $P_{standalone}$	GFSK	14.5	19.5	16.5	16.5

Notes:

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

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6.3.1. WLAN SISO (P_{Cell_ON})

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 DSSS	802.11b	1 Tx	1	2412	13.0	20.5	15.5	15.5	Yes
			2	2417	13.0	22.0	15.5	15.5	
			6	2437	13.0	22.0	15.5	15.5	
			11	2462	13.0	22.0	15.5	15.5	
			12	2467	13.0	20.5	15.5	15.5	
			13	2472	13.0	19.0	15.5	15.5	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	1 Tx	1	2412	13.0	17.5	15.5	15.5	No
			2	2417	13.0	19.5	15.5	15.5	
			3	2422	13.0	21.5	15.5	15.5	
			6	2437	13.0	21.5	15.5	15.5	
			9	2452	13.0	21.5	15.5	15.5	
			10	2457	13.0	19.5	15.5	15.5	
			11	2462	13.0	17.5	15.5	15.5	
			12	2467	13.0	15.5	15.5	15.5	
			13	2472	8.0	8.0	8.0	8.0	
	802.11n	1 Tx HT20	1	2412	13.0	17.5	15.5	15.5	No
			2	2417	13.0	19.5	15.5	15.5	
			3	2422	13.0	21.5	15.5	15.5	
			6	2437	13.0	21.5	15.5	15.5	
			9	2452	13.0	21.5	15.5	15.5	
			10	2457	13.0	19.5	15.5	15.5	
			11	2462	13.0	17.5	15.5	15.5	
			12	2467	13.0	15.5	15.5	15.5	
			13	2472	8.0	8.0	8.0	8.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. Sec. 5.2.2. of KDB 248227 D01 states: When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	1 Tx	36	5180	14.5	19.0	10.5	11.3	No
			40	5200	14.5	21.0	10.5	11.3	
			44	5220	14.5	21.0	10.5	11.3	
			48	5240	14.5	21.0	10.5	11.3	
	802.11n	1 Tx HT20	36	5180	14.5	19.0	10.5	11.3	No
			40	5200	14.5	21.0	10.5	11.3	
			44	5220	14.5	21.0	10.5	11.3	
			48	5240	14.5	21.0	10.5	11.3	
		1 Tx HT40	38	5190	14.5	18.0	10.5	11.3	No
			46	5230	14.5	19.5	10.5	11.3	
	802.11ac	1 Tx VHT20	36	5180	14.5	19.0	10.5	11.3	No
			40	5200	14.5	21.0	10.5	11.3	
			44	5220	14.5	21.0	10.5	11.3	
			48	5240	14.5	21.0	10.5	11.3	
		1 Tx VHT40	38	5190	14.5	18.0	10.5	11.3	No
			46	5230	14.5	19.5	10.5	11.3	
		1 Tx VHT80	42	5210	14.5	17.5	10.5	11.3	No
5.3	802.11a	1 Tx	52	5260	15.0	21.0	11.0	11.3	Yes
			56	5280	15.0	21.0	11.0	11.3	
			60	5300	15.0	21.0	11.0	11.3	
			64	5320	15.0	19.0	11.0	11.3	
	802.11n	1 Tx HT20	52	5260	15.0	21.0	11.0	11.3	No
			56	5280	15.0	21.0	11.0	11.3	
			60	5300	15.0	21.0	11.0	11.3	
			64	5320	15.0	19.0	11.0	11.3	
		1 Tx HT40	54	5270	15.0	19.5	11.0	11.3	No
			62	5310	15.0	18.0	11.0	11.3	
	802.11ac	1 Tx VHT20	52	5260	15.0	21.0	11.0	11.3	No
			56	5280	15.0	21.0	11.0	11.3	
			60	5300	15.0	21.0	11.0	11.3	
			64	5320	15.0	19.0	11.0	11.3	
		1 Tx VHT40	54	5270	15.0	19.5	11.0	11.3	No
			62	5310	15.0	18.0	11.0	11.3	
		1 Tx VHT80	58	5290	15.0	17.5	11.0	11.3	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	1 Tx	100	5500	16.0	19.0	10.5	12.5	Yes
			104	5520	16.0	21.0	10.5	12.5	
			108	5540	16.0	21.0	10.5	12.5	
			112	5560	16.0	21.0	10.5	12.5	
			116	5580	16.0	21.0	10.5	12.5	
			120	5600	16.0	21.0	10.5	12.5	
			124	5620	16.0	21.0	10.5	12.5	
			128	5640	16.0	21.0	10.5	12.5	
			132	5660	16.0	21.0	10.5	12.5	
			136	5680	16.0	21.0	10.5	12.5	
			140	5700	16.0	19.0	10.5	12.5	
			144	5720	16.0	21.0	10.5	12.5	
	802.11n	1 Tx HT20	100	5500	16.0	19.0	10.5	12.5	No
			104	5520	16.0	21.0	10.5	12.5	
			108	5540	16.0	21.0	10.5	12.5	
			112	5560	16.0	21.0	10.5	12.5	
			116	5580	16.0	21.0	10.5	12.5	
			120	5600	16.0	21.0	10.5	12.5	
			124	5620	16.0	21.0	10.5	12.5	
			128	5640	16.0	21.0	10.5	12.5	
			132	5660	16.0	21.0	10.5	12.5	
			136	5680	16.0	21.0	10.5	12.5	
			140	5700	16.0	19.0	10.5	12.5	
			144	5720	16.0	21.0	10.5	12.5	
		1 Tx HT40	102	5510	16.0	18.0	10.5	12.5	No
			110	5550	16.0	19.5	10.5	12.5	
			118	5590	16.0	19.5	10.5	12.5	
			126	5630	16.0	19.5	10.5	12.5	
			134	5670	16.0	19.5	10.5	12.5	
			142	5710	16.0	19.5	10.5	12.5	
	802.11ac	1 Tx VHT20	100	5500	16.0	19.0	10.5	12.5	No
			104	5520	16.0	21.0	10.5	12.5	
			108	5540	16.0	21.0	10.5	12.5	
			112	5560	16.0	21.0	10.5	12.5	
			116	5580	16.0	21.0	10.5	12.5	
			120	5600	16.0	21.0	10.5	12.5	
			124	5620	16.0	21.0	10.5	12.5	
			128	5640	16.0	21.0	10.5	12.5	
			132	5660	16.0	21.0	10.5	12.5	
			136	5680	16.0	21.0	10.5	12.5	
			140	5700	16.0	19.0	10.5	12.5	
			144	5720	16.0	21.0	10.5	12.5	
		1 Tx VHT40	102	5510	16.0	18.0	10.5	12.5	No
			110	5550	16.0	19.5	10.5	12.5	
			118	5590	16.0	19.5	10.5	12.5	
			126	5630	16.0	19.5	10.5	12.5	
			134	5670	16.0	19.5	10.5	12.5	
			142	5710	16.0	19.5	10.5	12.5	
		1 Tx VHT80	106	5530	16.0	17.5	10.5	12.5	Yes
			122	5610	16.0	19.5	10.5	12.5	
			138	5690	16.0	19.5	10.5	12.5	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	1 Tx	149	5745	16.0	21.5	10.5	12.0	Yes
			153	5765	16.0	21.5	10.5	12.0	
			157	5785	16.0	21.5	10.5	12.0	
			161	5805	16.0	21.5	10.5	12.0	
			165	5825	16.0	21.5	10.5	12.0	
	802.11n	1 Tx HT20	149	5745	16.0	21.5	10.5	12.0	No
			153	5765	16.0	21.5	10.5	12.0	
			157	5785	16.0	21.5	10.5	12.0	
			161	5805	16.0	21.5	10.5	12.0	
			165	5825	16.0	21.5	10.5	12.0	
		1 Tx HT40	151	5755	16.0	19.5	10.5	12.0	No
			159	5795	16.0	19.5	10.5	12.0	
	802.11ac	1 Tx VHT20	149	5745	16.0	21.5	10.5	12.0	No
			153	5765	16.0	21.5	10.5	12.0	
			157	5785	16.0	21.5	10.5	12.0	
			161	5805	16.0	21.5	10.5	12.0	
			165	5825	16.0	21.5	10.5	12.0	
		1 Tx VHT40	151	5755	16.0	19.5	10.5	12.0	No
			159	5795	16.0	19.5	10.5	12.0	
		1 Tx VHT80	155	5775	16.0	19.5	10.5	12.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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6.3.2. WLAN MIMO (P_{Cell_ON})

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max.Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	2 Tx CDD	1	2412	13.0	16.5	15.5	15.5	Yes
			2	2417	13.0	18.5	15.5	15.5	
			3	2422	13.0	20.0	15.5	15.5	
			4	2427	13.0	21.5	15.5	15.5	
			6	2437	13.0	21.5	15.5	15.5	
			8	2447	13.0	21.5	15.5	15.5	
			9	2452	13.0	20.0	15.5	15.5	
			10	2457	13.0	18.5	15.5	15.5	
			11	2462	13.0	16.5	15.5	15.5	
			12	2467	13.0	14.5	14.5	14.5	
			13	2472	7.0	7.0	7.0	7.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	1	2412	13.0	16.5	15.5	15.5	No
			2	2417	13.0	18.5	15.5	15.5	
			3	2422	13.0	20.0	15.5	15.5	
			4	2427	13.0	21.5	15.5	15.5	
			6	2437	13.0	21.5	15.5	15.5	
			8	2447	13.0	21.5	15.5	15.5	
			9	2452	13.0	20.0	15.5	15.5	
			10	2457	13.0	18.5	15.5	15.5	
			11	2462	13.0	16.5	15.5	15.5	
			12	2467	13.0	14.5	14.5	14.5	
			13	2472	7.0	7.0	7.0	7.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	2 Tx CDD	36	5180	14.5	18.0	10.5	11.3	No
			40	5200	14.5	18.0	10.5	11.3	
			44	5220	14.5	18.0	10.5	11.3	
			48	5240	14.5	18.0	10.5	11.3	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	36	5180	14.5	18.0	10.5	11.3	No
			40	5200	14.5	18.0	10.5	11.3	
			44	5220	14.5	18.0	10.5	11.3	
			48	5240	14.5	18.0	10.5	11.3	
		2 Tx HT40 CDD/STBC/SDM	38	5190	14.5	17.0	10.5	11.3	No
			46	5230	14.5	19.5	10.5	11.3	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	36	5180	14.5	18.0	10.5	11.3	No
			40	5200	14.5	18.0	10.5	11.3	
			44	5220	14.5	18.0	10.5	11.3	
			48	5240	14.5	18.0	10.5	11.3	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	14.5	17.0	10.5	11.3	No
			46	5230	14.5	19.5	10.5	11.3	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	14.5	16.5	10.5	11.3	No
5.3	802.11a	2 Tx CDD	52	5260	15.0	18.0	11.0	11.3	No
			56	5280	15.0	18.0	11.0	11.3	
			60	5300	15.0	18.0	11.0	11.3	
			64	5320	15.0	18.0	11.0	11.3	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	52	5260	15.0	18.0	11.0	11.3	No
			56	5280	15.0	18.0	11.0	11.3	
			60	5300	15.0	18.0	11.0	11.3	
			64	5320	15.0	18.0	11.0	11.3	
		2 Tx HT40 CDD/STBC/SDM	54	5270	15.0	19.5	11.0	11.3	Yes
			62	5310	15.0	17.0	11.0	11.3	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	52	5260	15.0	18.0	11.0	11.3	No
			56	5280	15.0	18.0	11.0	11.3	
			60	5300	15.0	18.0	11.0	11.3	
			64	5320	15.0	18.0	11.0	11.3	
		2 Tx VHT40 CDD/STBC/SDM	54	5270	15.0	19.5	11.0	11.3	No
			62	5310	15.0	17.0	11.0	11.3	
		2 Tx VHT80 CDD/STBC/SDM	58	5290	15.0	16.5	11.0	11.3	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	2 Tx CDD	100	5500	16.0	18.0	10.5	12.5	No
			104	5520	16.0	18.0	10.5	12.5	
			108	5540	16.0	18.0	10.5	12.5	
			112	5560	16.0	18.0	10.5	12.5	
			116	5580	16.0	18.0	10.5	12.5	
			120	5600	16.0	18.0	10.5	12.5	
			124	5620	16.0	18.0	10.5	12.5	
			128	5640	16.0	18.0	10.5	12.5	
			132	5660	16.0	18.0	10.5	12.5	
			136	5680	16.0	18.0	10.5	12.5	
			140	5700	16.0	18.0	10.5	12.5	
			144	5720	16.0	18.0	10.5	12.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	100	5500	16.0	18.0	10.5	12.5	No
			104	5520	16.0	18.0	10.5	12.5	
			108	5540	16.0	18.0	10.5	12.5	
			112	5560	16.0	18.0	10.5	12.5	
			116	5580	16.0	18.0	10.5	12.5	
			120	5600	16.0	18.0	10.5	12.5	
			124	5620	16.0	18.0	10.5	12.5	
			128	5640	16.0	18.0	10.5	12.5	
			132	5660	16.0	18.0	10.5	12.5	
			136	5680	16.0	18.0	10.5	12.5	
			140	5700	16.0	18.0	10.5	12.5	
			144	5720	16.0	18.0	10.5	12.5	
		2 Tx HT40 CDD/STBC/ SDM	102	5510	16.0	17.0	10.5	12.5	No
			110	5550	16.0	19.5	10.5	12.5	
			118	5590	16.0	19.5	10.5	12.5	
			126	5630	16.0	19.5	10.5	12.5	
			134	5670	16.0	19.5	10.5	12.5	
			142	5710	16.0	19.5	10.5	12.5	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	100	5500	16.0	18.0	10.5	12.5	No
			104	5520	16.0	18.0	10.5	12.5	
			108	5540	16.0	18.0	10.5	12.5	
			112	5560	16.0	18.0	10.5	12.5	
			116	5580	16.0	18.0	10.5	12.5	
			120	5600	16.0	18.0	10.5	12.5	
			124	5620	16.0	18.0	10.5	12.5	
			128	5640	16.0	18.0	10.5	12.5	
			132	5660	16.0	18.0	10.5	12.5	
			136	5680	16.0	18.0	10.5	12.5	
			140	5700	16.0	18.0	10.5	12.5	
			144	5720	16.0	18.0	10.5	12.5	
		2 Tx VHT40 CDD/STBC/ SDM	102	5510	16.0	17.0	10.5	12.5	No
			110	5550	16.0	19.5	10.5	12.5	
			118	5590	16.0	19.5	10.5	12.5	
			126	5630	16.0	19.5	10.5	12.5	
			134	5670	16.0	19.5	10.5	12.5	
			142	5710	16.0	19.5	10.5	12.5	
		2 Tx VHT80 CDD/STBC/ SDM	106	5530	16.0	16.5	10.5	12.5	Yes
			122	5610	16.0	19.5	10.5	12.5	
			138	5690	16.0	19.5	10.5	12.5	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	2 Tx CDD	149	5745	16.0	21.5	10.5	12.0	Yes
			153	5765	16.0	21.5	10.5	12.0	
			157	5785	16.0	21.5	10.5	12.0	
			161	5805	16.0	21.5	10.5	12.0	
			165	5825	16.0	21.5	10.5	12.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	16.0	21.5	10.5	12.0	No
			153	5765	16.0	21.5	10.5	12.0	
			157	5785	16.0	21.5	10.5	12.0	
			161	5805	16.0	21.5	10.5	12.0	
			165	5825	16.0	21.5	10.5	12.0	
		2 Tx HT40 CDD/STBC/SDM	151	5755	16.0	19.5	10.5	12.0	No
			159	5795	16.0	19.5	10.5	12.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	16.0	21.5	10.5	12.0	No
			153	5765	16.0	21.5	10.5	12.0	
			157	5785	16.0	21.5	10.5	12.0	
			161	5805	16.0	21.5	10.5	12.0	
			165	5825	16.0	21.5	10.5	12.0	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	16.0	19.5	10.5	12.0	No
			159	5795	16.0	19.5	10.5	12.0	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	16.0	19.5	10.5	12.0	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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6.3.3. WLAN SISO (P_{Cell_OFF})

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 DSSS	802.11b	1 Tx	1	2412	18.3	20.5	18.8	20.5	Yes
			2	2417	18.3	22.0	18.8	20.8	
			6	2437	18.3	22.0	18.8	20.8	
			11	2462	18.3	22.0	18.8	20.8	
			12	2467	18.3	20.5	18.8	20.5	
			13	2472	18.3	19.0	18.8	19.0	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	1 Tx	1	2412	17.5	17.5	17.5	17.5	No
			2	2417	18.3	19.5	18.8	19.5	
			3	2422	18.3	21.5	18.8	20.8	
			6	2437	18.3	21.5	18.8	20.8	
			9	2452	18.3	21.5	18.8	20.8	
			10	2457	18.3	19.5	18.8	19.5	
			11	2462	17.5	17.5	17.5	17.5	
			12	2467	15.5	15.5	15.5	15.5	
			13	2472	8.0	8.0	8.0	8.0	
	802.11n	1 Tx HT20	1	2412	17.5	17.5	17.5	17.5	No
			2	2417	18.3	19.5	18.8	19.5	
			3	2422	18.3	21.5	18.8	20.8	
			6	2437	18.3	21.5	18.8	20.8	
			9	2452	18.3	21.5	18.8	20.8	
			10	2457	18.3	19.5	18.8	19.5	
			11	2462	17.5	17.5	17.5	17.5	
			12	2467	15.5	15.5	15.5	15.5	
			13	2472	8.0	8.0	8.0	8.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. Sec. 5.2.2. of KDB 248227 D01 states: When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	1 Tx	36	5180	19.0	19.0	14.8	18.0	No
			40	5200	21.0	21.0	14.8	18.0	
			44	5220	21.0	21.0	14.8	18.0	
			48	5240	21.0	21.0	14.8	18.0	
	802.11n	1 Tx HT20	36	5180	19.0	19.0	14.8	18.0	No
			40	5200	21.0	21.0	14.8	18.0	
			44	5220	21.0	21.0	14.8	18.0	
			48	5240	21.0	21.0	14.8	18.0	
		1 Tx HT40	38	5190	18.0	18.0	14.8	18.0	No
			46	5230	19.5	19.5	14.8	18.0	
	802.11ac	1 Tx VHT20	36	5180	19.0	19.0	14.8	18.0	No
			40	5200	21.0	21.0	14.8	18.0	
			44	5220	21.0	21.0	14.8	18.0	
			48	5240	21.0	21.0	14.8	18.0	
		1 Tx VHT40	38	5190	18.0	18.0	14.8	18.0	No
			46	5230	19.5	19.5	14.8	18.0	
		1 Tx VHT80	42	5210	17.5	17.5	14.8	17.5	No
5.3	802.11a	1 Tx	52	5260	21.0	21.0	15.3	18.0	Yes
			56	5280	21.0	21.0	15.3	18.0	
			60	5300	21.0	21.0	15.3	18.0	
			64	5320	19.0	19.0	15.3	18.0	
	802.11n	1 Tx HT20	52	5260	21.0	21.0	15.3	18.0	No
			56	5280	21.0	21.0	15.3	18.0	
			60	5300	21.0	21.0	15.3	18.0	
			64	5320	19.0	19.0	15.3	18.0	
		1 Tx HT40	54	5270	19.5	19.5	15.3	18.0	Yes
			62	5310	18.0	18.0	15.3	18.0	
	802.11ac	1 Tx VHT20	52	5260	21.0	21.0	15.3	18.0	No
			56	5280	21.0	21.0	15.3	18.0	
			60	5300	21.0	21.0	15.3	18.0	
			64	5320	19.0	19.0	15.3	18.0	
		1 Tx VHT40	54	5270	19.5	19.5	15.3	18.0	No
			62	5310	18.0	18.0	15.3	18.0	
		1 Tx VHT80	58	5290	17.5	17.5	15.3	17.5	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	1 Tx	100	5500	19.0	19.0	14.8	19.0	Yes
			104	5520	21.0	21.0	14.8	19.3	
			108	5540	21.0	21.0	14.8	19.3	
			112	5560	21.0	21.0	14.8	19.3	
			116	5580	21.0	21.0	14.8	19.3	
			120	5600	21.0	21.0	14.8	19.3	
			124	5620	21.0	21.0	14.8	19.3	
			128	5640	21.0	21.0	14.8	19.3	
			132	5660	21.0	21.0	14.8	19.3	
			136	5680	21.0	21.0	14.8	19.3	
			140	5700	19.0	19.0	14.8	19.0	
			144	5720	21.0	21.0	14.8	19.3	
	802.11n	1 Tx HT20	100	5500	19.0	19.0	14.8	19.0	No
			104	5520	21.0	21.0	14.8	19.3	
			108	5540	21.0	21.0	14.8	19.3	
			112	5560	21.0	21.0	14.8	19.3	
			116	5580	21.0	21.0	14.8	19.3	
			120	5600	21.0	21.0	14.8	19.3	
			124	5620	21.0	21.0	14.8	19.3	
			128	5640	21.0	21.0	14.8	19.3	
			132	5660	21.0	21.0	14.8	19.3	
			136	5680	21.0	21.0	14.8	19.3	
			140	5700	19.0	19.0	14.8	19.0	
			144	5720	21.0	21.0	14.8	19.3	
		1 Tx HT40	102	5510	18.0	18.0	14.8	18.0	No
			110	5550	19.5	19.5	14.8	19.3	
			118	5590	19.5	19.5	14.8	19.3	
			126	5630	19.5	19.5	14.8	19.3	
			134	5670	19.5	19.5	14.8	19.3	
			142	5710	19.5	19.5	14.8	19.3	
	802.11ac	1 Tx VHT20	100	5500	19.0	19.0	14.8	19.0	No
			104	5520	21.0	21.0	14.8	19.3	
			108	5540	21.0	21.0	14.8	19.3	
			112	5560	21.0	21.0	14.8	19.3	
			116	5580	21.0	21.0	14.8	19.3	
			120	5600	21.0	21.0	14.8	19.3	
			124	5620	21.0	21.0	14.8	19.3	
			128	5640	21.0	21.0	14.8	19.3	
			132	5660	21.0	21.0	14.8	19.3	
			136	5680	21.0	21.0	14.8	19.3	
			140	5700	19.0	19.0	14.8	19.0	
			144	5720	21.0	21.0	14.8	19.3	
		1 Tx VHT40	102	5510	18.0	18.0	14.8	18.0	No
			110	5550	19.5	19.5	14.8	19.3	
			118	5590	19.5	19.5	14.8	19.3	
			126	5630	19.5	19.5	14.8	19.3	
			134	5670	19.5	19.5	14.8	19.3	
			142	5710	19.5	19.5	14.8	19.3	
		1 Tx VHT80	106	5530	17.5	17.5	14.8	17.5	Yes
			122	5610	19.5	19.5	14.8	19.3	
			138	5690	19.5	19.5	14.8	19.3	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	1 Tx	149	5745	21.0	21.5	14.8	18.8	Yes
			153	5765	21.0	21.5	14.8	18.8	
			157	5785	21.0	21.5	14.8	18.8	
			161	5805	21.0	21.5	14.8	18.8	
			165	5825	21.0	21.5	14.8	18.8	
	802.11n	1 Tx HT20	149	5745	21.0	21.5	14.8	18.8	No
			153	5765	21.0	21.5	14.8	18.8	
			157	5785	21.0	21.5	14.8	18.8	
			161	5805	21.0	21.5	14.8	18.8	
			165	5825	21.0	21.5	14.8	18.8	
		1 Tx HT40	151	5755	19.5	19.5	14.8	18.8	No
			159	5795	19.5	19.5	14.8	18.8	
	802.11ac	1 Tx VHT20	149	5745	21.0	21.5	14.8	18.8	No
			153	5765	21.0	21.5	14.8	18.8	
			157	5785	21.0	21.5	14.8	18.8	
			161	5805	21.0	21.5	14.8	18.8	
			165	5825	21.0	21.5	14.8	18.8	
		1 Tx VHT40	151	5755	19.5	19.5	14.8	18.8	No
			159	5795	19.5	19.5	14.8	18.8	
		1 Tx VHT80	155	5775	19.5	19.5	14.8	18.8	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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6.3.4. WLAN MIMO (P_{Cell_OFF})

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 1	LAT 3	UAT 1	LAT 3	
2.4 OFDM	802.11g	2 Tx CDD	1	2412	16.5	16.5	16.5	16.5	Yes
			2	2417	18.3	18.5	18.5	18.5	
			3	2422	18.3	20.0	18.8	20.0	
			4	2427	18.3	21.5	18.8	20.8	
			6	2437	18.3	21.5	18.8	20.8	
			8	2447	18.3	21.5	18.8	20.8	
			9	2452	18.3	20.0	18.8	20.0	
			10	2457	18.3	18.5	18.5	18.5	
			11	2462	16.5	16.5	16.5	16.5	
			12	2467	14.5	14.5	14.5	14.5	
			13	2472	7.0	7.0	7.0	7.0	
	802.11g	2 Tx HT20 CDD/STBC/ SDM	1	2412	16.5	16.5	16.5	16.5	No
			2	2417	18.3	18.5	18.5	18.5	
			3	2422	18.3	20.0	18.8	20.0	
			4	2427	18.3	21.5	18.8	20.8	
			6	2437	18.3	21.5	18.8	20.8	
			8	2447	18.3	21.5	18.8	20.8	
			9	2452	18.3	20.0	18.8	20.0	
			10	2457	18.3	18.5	18.5	18.5	
			11	2462	16.5	16.5	16.5	16.5	
			12	2467	14.5	14.5	14.5	14.5	
			13	2472	7.0	7.0	7.0	7.0	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.2	802.11a	2 Tx CDD	36	5180	18.0	18.0	14.8	18.0	No
			40	5200	18.0	18.0	14.8	18.0	
			44	5220	18.0	18.0	14.8	18.0	
			48	5240	18.0	18.0	14.8	18.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	36	5180	18.0	18.0	14.8	18.0	No
			40	5200	18.0	18.0	14.8	18.0	
			44	5220	18.0	18.0	14.8	18.0	
			48	5240	18.0	18.0	14.8	18.0	
		2 Tx HT40 CDD/STBC/SDM	38	5190	17.0	17.0	14.8	17.0	No
			46	5230	19.5	19.5	14.8	18.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	36	5180	18.0	18.0	14.8	18.0	No
			40	5200	18.0	18.0	14.8	18.0	
			44	5220	18.0	18.0	14.8	18.0	
			48	5240	18.0	18.0	14.8	18.0	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	17.0	17.0	14.8	17.0	No
			46	5230	19.5	19.5	14.8	18.0	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	16.5	16.5	14.8	16.5	No
5.3	802.11a	2 Tx CDD	52	5260	18.0	18.0	15.3	18.0	No
			56	5280	18.0	18.0	15.3	18.0	
			60	5300	18.0	18.0	15.3	18.0	
			64	5320	18.0	18.0	15.3	18.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	52	5260	18.0	18.0	15.3	18.0	No
			56	5280	18.0	18.0	15.3	18.0	
			60	5300	18.0	18.0	15.3	18.0	
			64	5320	18.0	18.0	15.3	18.0	
		2 Tx HT40 CDD/STBC/SDM	54	5270	19.5	19.5	15.3	18.0	Yes
			62	5310	17.0	17.0	15.3	17.0	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	52	5260	18.0	18.0	15.3	18.0	No
			56	5280	18.0	18.0	15.3	18.0	
			60	5300	18.0	18.0	15.3	18.0	
			64	5320	18.0	18.0	15.3	18.0	
		2 Tx VHT40 CDD/STBC/SDM	54	5270	19.5	19.5	15.3	18.0	No
			62	5310	17.0	17.0	15.3	17.0	
		2 Tx VHT80 CDD/STBC/SDM	58	5290	16.5	16.5	15.3	16.5	No

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.5	802.11a	2 Tx CDD	100	5500	18.0	18.0	14.8	18.0	No
			104	5520	18.0	18.0	14.8	18.0	
			108	5540	18.0	18.0	14.8	18.0	
			112	5560	18.0	18.0	14.8	18.0	
			116	5580	18.0	18.0	14.8	18.0	
			120	5600	18.0	18.0	14.8	18.0	
			124	5620	18.0	18.0	14.8	18.0	
			128	5640	18.0	18.0	14.8	18.0	
			132	5660	18.0	18.0	14.8	18.0	
			136	5680	18.0	18.0	14.8	18.0	
			140	5700	18.0	18.0	14.8	18.0	
			144	5720	18.0	18.0	14.8	18.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	100	5500	18.0	18.0	14.8	18.0	No
			104	5520	18.0	18.0	14.8	18.0	
			108	5540	18.0	18.0	14.8	18.0	
			112	5560	18.0	18.0	14.8	18.0	
			116	5580	18.0	18.0	14.8	18.0	
			120	5600	18.0	18.0	14.8	18.0	
			124	5620	18.0	18.0	14.8	18.0	
			128	5640	18.0	18.0	14.8	18.0	
			132	5660	18.0	18.0	14.8	18.0	
			136	5680	18.0	18.0	14.8	18.0	
			140	5700	18.0	18.0	14.8	18.0	
			144	5720	18.0	18.0	14.8	18.0	
		2 Tx HT40 CDD/STBC/ SDM	102	5510	17.0	17.0	14.8	17.0	No
			110	5550	19.5	19.5	14.8	19.3	
			118	5590	19.5	19.5	14.8	19.3	
			126	5630	19.5	19.5	14.8	19.3	
			134	5670	19.5	19.5	14.8	19.3	
			142	5710	19.5	19.5	14.8	19.3	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	100	5500	18.0	18.0	14.8	18.0	No
			104	5520	18.0	18.0	14.8	18.0	
			108	5540	18.0	18.0	14.8	18.0	
			112	5560	18.0	18.0	14.8	18.0	
			116	5580	18.0	18.0	14.8	18.0	
			120	5600	18.0	18.0	14.8	18.0	
			124	5620	18.0	18.0	14.8	18.0	
			128	5640	18.0	18.0	14.8	18.0	
			132	5660	18.0	18.0	14.8	18.0	
			136	5680	18.0	18.0	14.8	18.0	
			140	5700	18.0	18.0	14.8	18.0	
			144	5720	18.0	18.0	14.8	18.0	
		2 Tx VHT40 CDD/STBC/ SDM	102	5510	17.0	17.0	14.8	17.0	No
			110	5550	19.5	19.5	14.8	19.3	
			118	5590	19.5	19.5	14.8	19.3	
			126	5630	19.5	19.5	14.8	19.3	
			134	5670	19.5	19.5	14.8	19.3	
			142	5710	19.5	19.5	14.8	19.3	
		2 Tx VHT80 CDD/STBC/ SDM	106	5530	16.5	16.5	14.8	16.5	Yes
			122	5610	19.5	19.5	14.8	19.3	
			138	5690	19.5	19.5	14.8	19.3	

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)				SAR Test (Yes/No)
					MODE A		MODE B		
					UAT 2	LAT 3	UAT 2	LAT 3	
5.8	802.11a	2 Tx CDD	149	5745	21.0	21.5	14.8	18.8	Yes
			153	5765	21.0	21.5	14.8	18.8	
			157	5785	21.0	21.5	14.8	18.8	
			161	5805	21.0	21.5	14.8	18.8	
			165	5825	21.0	21.5	14.8	18.8	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	21.0	21.5	14.8	18.8	No
			153	5765	21.0	21.5	14.8	18.8	
			157	5785	21.0	21.5	14.8	18.8	
			161	5805	21.0	21.5	14.8	18.8	
			165	5825	21.0	21.5	14.8	18.8	
		2 Tx HT40 CDD/STBC/SDM	151	5755	19.5	19.5	14.8	18.8	No
			159	5795	19.5	19.5	14.8	18.8	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	21.0	21.5	14.8	18.8	No
			153	5765	21.0	21.5	14.8	18.8	
			157	5785	21.0	21.5	14.8	18.8	
			161	5805	21.0	21.5	14.8	18.8	
			165	5825	21.0	21.5	14.8	18.8	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	19.5	19.5	14.8	18.8	No
			159	5795	19.5	19.5	14.8	18.8	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	19.5	19.5	14.8	18.8	Yes

Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

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

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

UAT 1 and LAT 3

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)			
			802.11b (1Tx)	802.11g (1Tx)	HT20 (1Tx)	HT20 (2Tx)
2.4	1	2412	20.5	17.5	17.5	16.5
	2	2417	22.0	19.5	19.5	18.5
	3	2422	22.0	21.5	21.5	20.0
	4	2427	22.0	21.5	21.5	21.5
	5	2432	22.0	21.5	21.5	21.5
	6	2437	22.0	21.5	21.5	21.5
	7	2442	22.0	21.5	21.5	21.5
	8	2447	22.0	21.5	21.5	21.5
	9	2452	22.0	21.5	21.5	20.0
	10	2457	22.0	19.5	19.5	18.5
	11	2462	22.0	17.5	17.5	16.5
	12	2467	20.5	15.5	15.5	14.5
	13	2472	19.0	8.0	8.0	7.0

UAT 2 and LAT 3

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)		
			802.11a (1Tx)	HT20 (1Tx)	HT20 (2Tx)
5GHz	36	5180	19.0	19.0	18.0
	40	5200	21.0	21.0	18.0
	44	5220	21.0	21.0	18.0
	48	5240	21.0	21.0	18.0
	52	5260	21.0	21.0	18.0
	56	5280	21.0	21.0	18.0
	60	5300	21.0	21.0	18.0
	64	5320	19.0	19.0	18.0
	100	5500	19.0	19.0	18.0
	104	5520	21.0	21.0	18.0
	108	5540	21.0	21.0	18.0
	112	5560	21.0	21.0	18.0
	116	5580	21.0	21.0	18.0
	120	5600	21.0	21.0	18.0
	124	5620	21.0	21.0	18.0
	128	5640	21.0	21.0	18.0
	132	5660	21.0	21.0	18.0
	136	5680	21.0	21.0	18.0
	140	5700	19.0	19.0	18.0
	144	5720	21.0	21.0	18.0
	149	5745	21.5	21.5	21.5
	153	5765	21.5	21.5	21.5
	157	5785	21.5	21.5	21.5
	161	5805	21.5	21.5	21.5
	165	5825	21.5	21.5	21.5

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Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
			HT40 (1Tx)	HT40 (2Tx)
5GHz	38	5190	18.0	17.0
	46	5230	19.5	19.5
	54	5270	19.5	19.5
	62	5310	18.0	17.0
	102	5510	18.0	17.0
	110	5550	19.5	19.5
	118	5590	19.5	19.5
	126	5630	19.5	19.5
	134	5670	19.5	19.5
	142	5710	19.5	19.5
	151	5755	19.5	19.5
	159	5795	19.5	19.5

Band (GHz)	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
			VHT80 (1Tx)	VHT80 (2Tx)
5GHz	42	5210	17.5	16.5
	58	5290	17.5	16.5
	106	5530	17.5	16.5
	122	5610	19.5	19.5
	138	5690	19.5	19.5
	155	5775	19.5	19.5

UAT 1 and LAT 3

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

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6.4. General LTE SAR Test and Reporting Considerations

Item	Description						
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	18700/ 1860	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5	18607/ 1850.7
	Mid	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880
	High	19100/ 1900	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19185/ 1908.5	19193/ 1909.3
	Band 4	Frequency range: 1710 - 1755 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
	Mid	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			20450/ 829	20425/ 826.5	20415/ 825.5	20407/ 824.7
	Mid			20525/ 836.5	20525/ 836.5	20525/ 836.5	20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5	20643/ 848.3
	Band 7	Frequency range: 2500 - 2570 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					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23035/ 701.5	23025/ 700.5	23017/ 699.7
	Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5
	High				23155/ 713.5	23165/ 714.5	23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low						
	Mid			23230/ 782	23230/ 782		
	High						

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General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 17	Frequency range: 704 - 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23755/ 706.5		
	Mid			23790/ 710	23790/ 710		
	High				23825/ 713.5		
	Band 25	Frequency range: 1850 - 1915 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7
	Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5
	High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5	26683/ 1914.3
	Band 26	Frequency range: 814 - 849 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			26740/ 819	26715/ 816.5	26705/ 815.5	26697/ 814.7
	Mid			26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5
	High			26990/ 844	27015/ 846.5	27025/ 847.5	27033/ 848.3
	Band 30	Frequency range: 2305 - 2315 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low						
	Mid			27710/ 2310	27710/ 2310		
	High						
	Band 41	Frequency range: 2496 - 2690 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	39750 / 2506.0					
	Low-Mid	40185 / 2549.5					
	Mid	40620 / 2593.0					
	Mid-High	41055 / 2636.5					
	High	41490 / 2680.0					
	Band 66	Frequency range: 1710 - 1780 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	132072/ 1720	132047/ 1717.5	132022/ 1715	131997/ 1712.5		
	Mid	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745		
	High	132572/ 1770	132597/ 1772.5	132622/ 1775	132647/ 1777.5		
LTE transmitter and antenna implementation	LTE can transmit from either UAT 1 or LAT 1. The antenna switching is implemented with a physical, “break-before-make” switch such that only one antenna can be used for LTE transmission at a time.						

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<table>
<tr><td>Maximum power reduction (MPR)</td><td>

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

<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table>

MPR Built-in by design. The manufacturer Target MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values.
A-MPR (additional MPR) was disabled during SAR testing.

</td></tr>
<tr><td>Spectrum plots for RB configurations</td><td>A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
</table>

Notes:

1. SAR Testing for LTE was performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

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6.5. LTE (TDD) Considerations

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

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

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

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

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Calculated Duty Cycle

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

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

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

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

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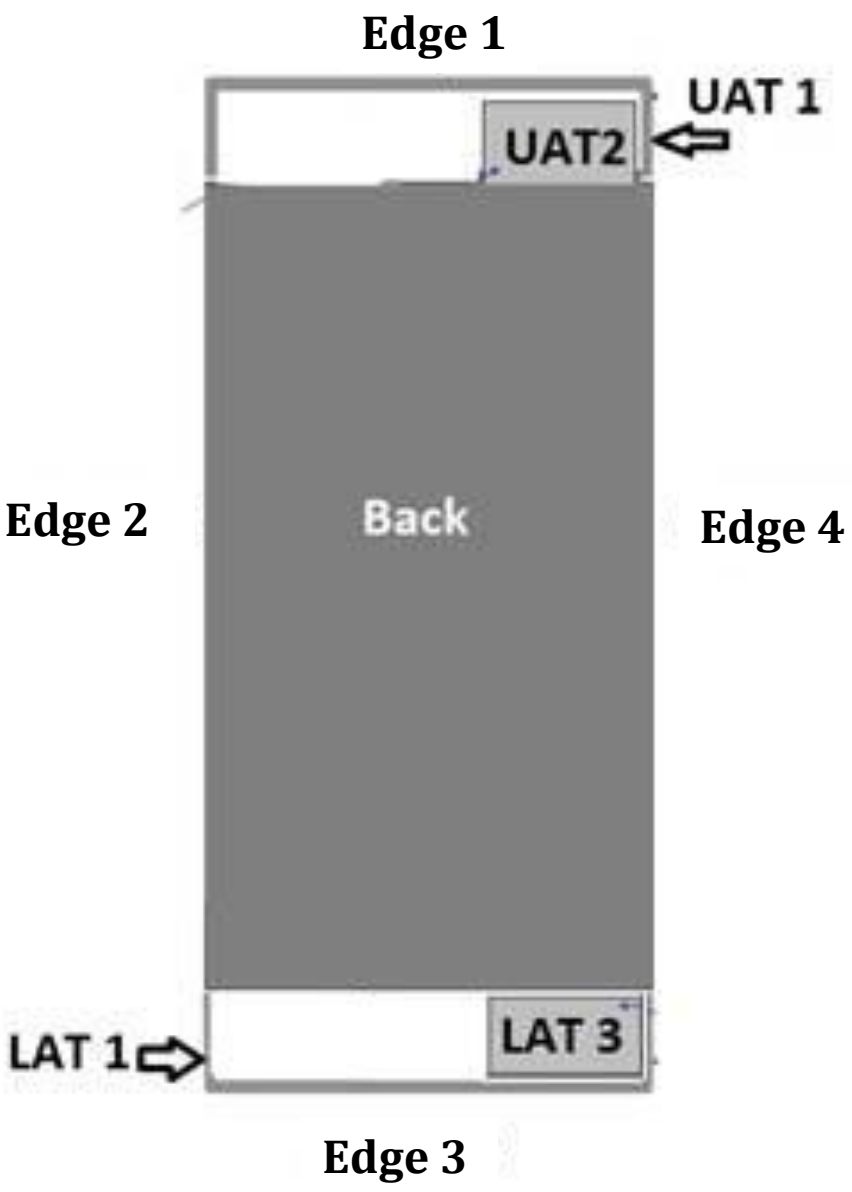
7. RF Exposure Conditions (Test Configurations)

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

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

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

Antenna Diagram



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Upper Antenna

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

Notes:

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

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Lower Antenna

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

Notes:

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

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8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

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

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

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

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

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

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

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
A	7/24/2017	835	Body	835	53.41	55.20	-3.24	1.02	0.97	4.74
				805	53.73	55.33	-2.90	0.98	0.97	1.82
				905	52.74	55.00	-4.11	1.09	1.05	3.47
A	7/27/2017	2300	Body	2300	51.63	52.90	-2.41	1.87	1.80	3.91
				2350	51.47	52.84	-2.59	1.94	1.85	4.61
				2400	51.34	52.77	-2.71	1.99	1.90	4.85
A	7/27/2017	2300	Head	2300	39.22	39.47	-0.64	1.72	1.66	3.44
				2350	39.02	39.38	-0.93	1.78	1.71	4.00
				2400	38.83	39.30	-1.19	1.83	1.75	4.36
A	7/28/2017	835	Body	835	53.04	55.20	-3.91	1.00	0.97	3.00
				805	53.36	55.33	-3.57	0.97	0.97	0.07
				905	52.32	55.00	-4.87	1.07	1.05	1.47
A	7/30/2017	2300	Body	2300	50.87	52.90	-3.85	1.88	1.80	3.96
				2350	50.64	52.84	-4.16	1.93	1.85	4.06
				2400	50.52	52.77	-4.27	1.98	1.90	4.11
A	7/30/2017	2300	Head	2300	38.37	39.47	-2.79	1.67	1.66	0.50
				2350	38.15	39.38	-3.13	1.72	1.71	0.49
				2400	38.02	39.30	-3.25	1.76	1.75	0.71
A	7/31/2017	835	Body	835	54.46	55.20	-1.34	1.01	0.97	4.12
				805	54.76	55.33	-1.04	0.98	0.97	1.68
				905	53.90	55.00	-2.00	1.08	1.05	2.99
A	8/3/2017	2300	Head	2300	39.51	39.47	0.09	1.69	1.66	1.46
				2350	39.28	39.38	-0.27	1.75	1.71	2.18
				2400	39.12	39.30	-0.45	1.79	1.75	2.25
A	8/3/2017	2300	Body	2300	52.36	52.90	-1.03	1.87	1.80	3.52
				2350	52.15	52.84	-1.30	1.93	1.85	4.28
				2400	52.04	52.77	-1.39	1.98	1.90	4.37
A	8/3/2017	2600	Body	2600	51.73	52.51	-1.49	2.15	2.16	-0.45
				2495	52.00	52.64	-1.22	2.02	2.01	0.43
				2690	51.45	52.40	-1.81	2.26	2.29	-1.41
A	8/4/2017	835	Body	835	55.40	55.20	0.36	1.02	0.97	4.74
				805	55.60	55.33	0.48	0.98	0.97	1.59
				905	54.74	55.00	-0.47	1.09	1.05	3.37
A	8/7/2017	835	Head	835	40.86	41.50	-1.54	0.89	0.90	-1.27
				805	41.25	41.68	-1.03	0.91	0.90	1.96
				905	40.03	41.50	-3.54	0.98	0.97	0.87
A	8/9/2017	835	Body	835	53.22	55.20	-3.59	1.00	0.97	2.79
				805	53.52	55.33	-3.28	0.97	0.97	0.06
				905	52.63	55.00	-4.31	1.08	1.05	2.14
A	8/10/2017	2450	Body	2450	50.61	52.70	-3.97	2.03	1.95	4.10
				2400	50.76	52.77	-3.81	1.97	1.90	3.90
				2480	50.55	52.66	-4.01	2.07	1.99	3.76
A	8/10/2017	1900	Body	1900	51.30	53.30	-3.75	1.55	1.52	1.97
				1850	51.49	53.30	-3.40	1.50	1.52	-1.38
				1920	51.26	53.30	-3.83	1.56	1.52	2.83
A	8/14/2017	2600	Head	2600	37.36	39.01	-4.23	2.06	1.96	4.88
				2495	37.73	39.14	-3.61	1.93	1.85	4.56
				2690	37.06	38.90	-4.72	2.15	2.06	4.59
A	8/14/2017	2600	Body	2600	53.00	52.51	0.93	2.24	2.16	3.57
				2495	53.32	52.64	1.29	2.10	2.01	4.31
				2690	52.71	52.40	0.60	2.35	2.29	2.52
A	8/16/2017	2450	Head	2450	40.72	39.20	3.88	1.88	1.80	4.56
				2400	40.86	39.30	3.98	1.83	1.75	4.24
				2480	40.60	39.16	3.67	1.92	1.83	4.56

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
B	7/24/2017	750	Head	750	40.17	41.96	-4.27	0.90	0.89	0.36
				695	40.87	42.24	-3.25	0.85	0.89	-4.26
				790	39.69	41.76	-4.95	0.93	0.90	3.82
B	7/27/2017	1750	Head	1750	39.89	40.08	-0.49	1.34	1.37	-2.04
				1710	40.05	40.15	-0.24	1.31	1.35	-3.00
				1755	39.86	40.08	-0.54	1.35	1.37	-1.81
B	7/30/2017	1750	Body	1750	51.62	53.44	-3.41	1.47	1.49	-0.95
				1710	51.73	53.54	-3.39	1.44	1.46	-1.68
				1755	51.62	53.43	-3.38	1.48	1.49	-0.75
B	7/30/2017	1750	Head	1750	40.83	40.08	1.86	1.33	1.37	-2.85
				1710	40.98	40.15	2.08	1.30	1.35	-3.82
				1755	40.83	40.08	1.88	1.34	1.37	-2.61
B	7/30/2017	750	Body	750	54.76	55.55	-1.42	0.97	0.96	0.44
				695	55.23	55.76	-0.95	0.91	0.96	-4.84
				790	54.50	55.39	-1.61	1.01	0.97	4.54
B	8/5/2017	1750	Body	1750	51.60	53.44	-3.44	1.46	1.49	-2.03
				1710	51.71	53.54	-3.42	1.42	1.46	-3.05
				1755	51.59	53.43	-3.44	1.47	1.49	-1.63
B	8/5/2017	1750	Head	1750	39.46	40.08	-1.56	1.33	1.37	-2.85
				1710	39.61	40.15	-1.34	1.29	1.35	-4.04
				1755	39.43	40.08	-1.61	1.34	1.37	-2.54
B	8/7/2017	750	Head	750	41.15	41.96	-1.93	0.93	0.89	3.80
				695	41.93	42.24	-0.74	0.87	0.89	-1.59
				790	40.57	41.76	-2.84	0.96	0.90	7.55
B	8/9/2017	2450	Body	2450	50.62	52.70	-3.95	2.01	1.95	2.92
				2400	50.72	52.77	-3.89	1.94	1.90	2.00
				2480	50.51	52.66	-4.09	2.04	1.99	2.20
B	8/10/2017	2450	Head	2450	37.55	39.20	-4.21	1.84	1.80	2.39
				2400	37.75	39.30	-3.94	1.79	1.75	2.13
				2480	37.46	39.16	-4.35	1.88	1.83	2.38
B	8/14/2017	2450	Head	2450	39.08	39.20	-0.31	1.85	1.80	2.83
				2400	39.32	39.30	0.06	1.79	1.75	2.30
				2480	38.98	39.16	-0.47	1.89	1.83	3.20
B	8/14/2017	2450	Body	2450	52.60	52.70	-0.19	2.02	1.95	3.69
				2400	52.74	52.77	-0.06	1.96	1.90	3.21
				2480	52.54	52.66	-0.23	2.06	1.99	3.46

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
C	7/27/2017	1900	Head	1900	38.16	40.00	-4.60	1.40	1.40	0.14
				1850	38.35	40.00	-4.13	1.36	1.40	-3.21
				1920	38.10	40.00	-4.75	1.42	1.40	1.43
C	7/27/2017	1900	Body	1900	51.01	53.30	-4.30	1.55	1.52	2.04
				1850	50.75	53.30	-4.78	1.49	1.52	-1.84
				1920	51.09	53.30	-4.15	1.57	1.52	3.29
C	7/31/2017	1900	Head	1900	39.27	40.00	-1.82	1.45	1.40	3.43
				1850	39.47	40.00	-1.33	1.40	1.40	0.21
				1920	39.18	40.00	-2.05	1.47	1.40	4.71
C	7/31/2017	1900	Body	1900	51.24	53.30	-3.86	1.57	1.52	3.42
				1850	51.35	53.30	-3.66	1.52	1.52	0.00
				1920	51.20	53.30	-3.94	1.59	1.52	4.74
C	8/4/2017	1900	Head	1900	40.29	40.00	0.72	1.43	1.40	1.79
				1850	40.53	40.00	1.33	1.38	1.40	-1.36
				1920	40.23	40.00	0.57	1.44	1.40	2.86
C	8/4/2017	1900	Body	1900	51.93	53.30	-2.57	1.57	1.52	3.36
				1850	52.02	53.30	-2.40	1.53	1.52	0.33
				1920	51.90	53.30	-2.63	1.58	1.52	4.21
C	8/8/2017	1900	Head	1900	38.47	40.00	-3.83	1.43	1.40	2.36
				1850	38.67	40.00	-3.33	1.39	1.40	-0.57
				1920	38.43	40.00	-3.93	1.45	1.40	3.57
C	8/8/2017	1900	Body	1900	51.52	53.30	-3.34	1.58	1.52	3.68
				1850	51.64	53.30	-3.11	1.54	1.52	0.99
				1920	51.49	53.30	-3.90	1.59	1.52	4.87
C	8/14/2017	1900	Head	1900	38.66	40.00	-3.35	1.40	1.40	0.07
				1850	38.75	40.00	-3.13	1.36	1.40	-3.00
				1920	38.60	40.00	-3.50	1.42	1.40	1.43
C	8/14/2017	1900	Body	1900	52.09	53.30	-2.27	1.57	1.52	3.49
				1850	52.09	53.30	-2.27	1.53	1.52	0.66
				1920	52.07	53.30	-2.31	1.59	1.52	4.74

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
D	7/24/2017	835	Head	835	40.79	41.50	-1.71	0.92	0.90	2.19
				805	41.20	41.68	-1.15	0.89	0.90	-0.74
				905	39.99	41.50	-3.64	0.98	0.97	1.04
D	7/27/2017	2600	Head	2600	37.59	39.01	-3.64	2.00	1.96	1.78
				2495	38.01	39.14	-2.90	1.88	1.85	1.91
				2690	37.25	38.90	-4.23	2.10	2.06	1.82
D	7/27/2017	2600	Body	2600	51.47	52.51	-1.98	2.24	2.16	3.57
				2495	51.84	52.64	-1.53	2.11	2.01	4.66
				2690	51.16	52.40	-2.36	2.35	2.29	2.65
D	7/27/2017	835	Head	835	41.26	41.50	-0.58	0.91	0.90	0.76
				805	41.65	41.68	-0.07	0.88	0.90	-1.82
				905	40.58	41.50	-2.22	0.97	0.97	0.21
D	7/30/2017	2600	Body	2600	51.11	52.51	-2.67	2.16	2.16	0.15
				2495	51.31	52.64	-2.53	2.04	2.01	1.33
				2690	50.84	52.40	-2.97	2.27	2.29	-0.71
D	7/31/2017	835	Head	835	41.44	41.50	-0.14	0.89	0.90	-1.26
				805	41.75	41.68	0.17	0.87	0.90	-3.56
				905	40.64	41.50	-2.07	0.95	0.97	-2.42
D	8/1/2017	2600	Head	2600	37.73	39.01	-3.28	2.02	1.96	2.90
				2495	38.08	39.14	-2.72	1.90	1.85	2.67
				2690	37.40	38.90	-3.85	2.13	2.06	3.28
D	8/3/2017	2600	Body	2600	51.27	52.51	-2.36	2.14	2.16	-0.96
				2495	51.54	52.64	-2.10	2.01	2.01	0.04
				2690	51.04	52.40	-2.59	2.24	2.29	-1.89
D	8/4/2017	2600	Head	2600	38.04	39.01	-2.49	2.04	1.96	3.87
				2495	38.44	39.14	-1.80	1.92	1.85	3.91
				2690	37.65	38.90	-3.21	2.14	2.06	3.81
D	8/5/2017	835	Head	835	42.05	41.50	1.33	0.89	0.90	-0.88
				805	42.35	41.68	1.61	0.86	0.90	-3.96
				905	40.95	41.50	-1.33	0.94	0.97	-3.19
D	8/7/2017	2600	Body	2600	51.72	52.51	-1.51	2.19	2.16	1.40
				2495	52.03	52.64	-1.16	2.07	2.01	2.67
				2690	51.46	52.40	-1.79	2.29	2.29	0.29
D	8/9/2017	2600	Head	2600	38.48	39.01	-1.36	2.01	1.96	2.54
				2495	38.83	39.14	-0.80	1.88	1.85	1.86
				2690	38.15	38.90	-1.92	2.11	2.06	2.60
D	8/9/2017	835	Head	835	40.98	41.50	-1.25	0.90	0.90	-0.26
				805	41.35	41.68	-0.79	0.87	0.90	-3.02
				905	40.22	41.50	-3.08	0.97	0.97	-0.76
D	8/9/2017	835	Body	835	53.67	55.20	-2.77	1.01	0.97	3.71
				805	53.99	55.33	-2.43	0.98	0.97	0.83
				905	53.12	55.00	-3.42	1.08	1.05	2.61
D	8/14/2017	1900	Head	1900	38.42	40.00	-3.95	1.43	1.40	1.86
				1850	38.57	40.00	-3.58	1.38	1.40	-1.50
				1920	38.40	40.00	-4.00	1.45	1.40	3.43
D	8/15/2017	2600	Head	2600	39.51	39.01	1.28	2.03	1.96	3.30
				2495	39.90	39.14	1.93	1.91	1.85	3.16
				2690	39.29	38.90	1.01	2.13	2.06	3.38
D	8/16/2017	2450	Head	2450	40.49	39.20	3.29	1.89	1.80	4.72
				2400	40.44	39.30	2.91	1.82	1.75	4.13
				2480	40.37	39.16	3.08	1.91	1.83	4.23

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
E	7/28/2017	5600	Head	5600	35.27	35.53	-0.74	5.28	5.06	4.42
				5500	35.45	35.65	-0.56	5.17	4.96	4.18
				5725	35.09	35.39	-0.85	5.43	5.19	4.66
E	7/28/2017	5600	Body	5600	47.13	48.48	-2.78	5.90	5.76	2.43
				5500	47.29	48.61	-2.72	5.77	5.64	2.28
				5725	47.03	48.31	-2.65	6.08	5.91	2.92
E	7/30/2017	5600	Head	5600	37.24	35.53	4.80	5.02	5.06	-0.80
				5500	37.36	35.65	4.80	4.91	4.96	-1.01
				5725	37.10	35.39	4.83	5.16	5.19	-0.52
E	7/30/2017	5600	Body	5600	47.14	48.48	-2.76	5.99	5.76	3.91
				5500	47.29	48.61	-2.72	5.84	5.64	3.45
				5725	46.97	48.31	-2.77	6.14	5.91	3.98
E	8/3/2017	5600	Body	5600	46.73	48.48	-3.61	5.97	5.76	3.56
				5500	46.88	48.61	-3.57	5.82	5.64	3.06
				5725	46.55	48.31	-3.64	6.14	5.91	3.98
E	8/3/2017	5600	Head	5600	37.06	35.53	4.29	4.94	5.06	-2.34
				5500	37.21	35.65	4.38	4.84	4.96	-2.48
				5725	36.87	35.39	4.18	5.08	5.19	-2.01
E	8/7/2017	5600	Body	5600	46.71	48.48	-3.65	6.01	5.76	4.30
				5500	46.91	48.61	-3.50	5.85	5.64	3.62
				5725	46.54	48.31	-3.66	6.17	5.91	4.44
E	8/7/2017	5600	Head	5600	36.26	35.53	2.04	4.82	5.06	-4.69
				5500	36.88	35.65	3.46	4.79	4.96	-3.33
				5725	36.16	35.39	2.17	5.07	5.19	-2.32
E	8/11/2017	5600	Head	5600	36.93	35.53	3.93	4.88	5.06	-3.64
				5500	37.11	35.65	4.10	4.77	4.96	-3.89
				5725	36.68	35.39	3.64	5.02	5.19	-3.16
E	8/11/2017	5600	Body	5600	47.19	48.48	-2.66	5.88	5.76	2.13
				5500	47.44	48.61	-2.41	5.73	5.64	1.44
				5725	46.85	48.31	-3.02	6.05	5.91	2.48
E	8/14/2017	5600	Head	5600	33.99	35.53	-4.34	4.86	5.06	-3.88
				5500	34.15	35.65	-4.20	4.75	4.96	-4.11
				5725	33.81	35.39	-4.47	5.01	5.19	-3.53
E	8/14/2017	5600	Body	5600	50.31	48.48	3.78	5.59	5.76	-2.97
				5500	50.48	48.61	3.84	5.42	5.64	-3.91
				5725	50.09	48.31	3.69	5.76	5.91	-2.42

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
F	7/28/2017	2450	Head	2450	39.23	39.20	0.08	1.88	1.80	4.44
				2400	39.42	39.30	0.31	1.82	1.75	3.79
				2480	39.13	39.16	-0.08	1.92	1.83	4.78
F	7/28/2017	2450	Body	2450	52.01	52.70	-1.31	2.03	1.95	3.85
				2400	52.15	52.77	-1.18	1.96	1.90	3.00
				2480	51.88	52.66	-1.49	2.07	1.99	3.71
F	7/30/2017	2450	Head	2450	38.24	39.20	-2.45	1.84	1.80	2.06
				2400	38.43	39.30	-2.21	1.78	1.75	1.56
				2480	38.11	39.16	-2.69	1.87	1.83	2.16
F	7/30/2017	2450	Body	2450	53.22	52.70	0.99	2.00	1.95	2.72
				2400	53.43	52.77	1.25	1.93	1.90	1.84
				2480	53.10	52.66	0.83	2.05	1.99	2.70
F	8/3/2017	2450	Head	2450	37.38	39.20	-4.64	1.88	1.80	4.39
				2400	37.53	39.30	-4.50	1.81	1.75	3.50
				2480	37.25	39.16	-4.88	1.91	1.83	4.07
F	8/3/2017	2450	Body	2450	50.64	52.70	-3.91	1.99	1.95	2.00
				2400	50.77	52.77	-3.79	1.91	1.90	0.84
				2480	50.51	52.66	-4.09	2.02	1.99	1.55
F	8/7/2017	2450	Body	2450	50.66	52.70	-3.87	1.99	1.95	2.05
				2400	50.80	52.77	-3.74	1.93	1.90	1.47
				2480	50.52	52.66	-4.07	2.03	1.99	2.00
F	8/7/2017	2450	Head	2450	37.87	39.20	-3.39	1.88	1.80	4.61
				2400	38.03	39.30	-3.22	1.83	1.75	4.36
				2480	37.72	39.16	-3.68	1.92	1.83	4.56
F	8/11/2017	2450	Body	2450	51.65	52.70	-1.99	1.90	1.95	-2.82
				2400	51.86	52.77	-1.73	1.84	1.90	-2.90
				2480	51.50	52.66	-2.21	1.93	1.99	-3.02
F	8/11/2017	2450	Head	2450	38.32	39.20	-2.24	1.89	1.80	4.89
				2400	38.53	39.30	-1.95	1.83	1.75	4.30
				2480	38.18	39.16	-2.51	1.92	1.83	4.83
F	8/14/2017	2450	Body	2450	52.40	52.70	-0.57	1.97	1.95	1.08
				2400	52.65	52.77	-0.23	1.90	1.90	0.31
				2480	52.34	52.66	-0.61	2.02	1.99	1.30
F	8/14/2017	2450	Head	2450	38.99	39.20	-0.54	1.88	1.80	4.28
				2400	39.21	39.30	-0.22	1.82	1.75	3.67
				2480	38.88	39.16	-0.72	1.92	1.83	4.51

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
G	7/28/2017	5800	Head	5800	34.65	35.30	-1.84	5.46	5.27	3.66
				5700	34.78	35.42	-1.81	5.36	5.16	3.79
				5850	34.65	35.30	-1.84	5.53	5.27	4.88
G	7/28/2017	5800	Body	5800	46.87	48.20	-2.76	6.17	6.00	2.78
				5700	46.98	48.34	-2.82	6.04	5.88	2.83
				5850	46.81	48.20	-2.88	6.25	6.00	4.10
G	7/30/2017	5800	Head	5800	36.10	35.30	2.27	5.17	5.27	-1.84
				5700	36.22	35.42	2.26	5.06	5.16	-2.01
				5850	36.08	35.30	2.21	5.22	5.27	-0.99
G	7/30/2017	5800	Body	5800	46.91	48.20	-2.68	5.98	6.00	-0.35
				5700	47.09	48.34	-2.59	5.86	5.88	-0.33
				5850	46.88	48.20	-2.74	6.05	6.00	0.78
G	8/3/2017	5800	Body	5800	46.86	48.20	-2.78	6.23	6.00	3.85
				5700	46.97	48.34	-2.84	6.09	5.88	3.68
				5850	46.77	48.20	-2.97	6.30	6.00	4.95
G	8/3/2017	5800	Head	5800	36.63	35.30	3.77	5.08	5.27	-3.62
				5700	36.72	35.42	3.67	4.97	5.16	-3.67
				5850	36.57	35.30	3.60	5.15	5.27	-2.35
G	8/7/2017	5800	Head	5800	36.46	35.30	3.29	5.04	5.27	-4.44
				5700	36.56	35.42	3.22	4.95	5.16	-4.04
				5850	36.46	35.30	3.29	5.09	5.27	-3.36
G	8/7/2017	5800	Body	5800	45.87	48.20	-4.83	6.16	6.00	2.62
				5700	46.00	48.34	-4.85	6.02	5.88	2.47
				5850	45.90	48.20	-4.77	6.22	6.00	3.72
G	8/11/2017	5800	Body	5800	45.91	48.20	-4.75	6.16	6.00	2.62
				5700	46.12	48.34	-4.60	6.04	5.88	2.76
				5850	45.86	48.20	-4.85	6.24	6.00	4.02
G	8/11/2017	5800	Head	5800	36.92	35.30	4.59	5.31	5.27	0.76
				5700	37.03	35.42	4.55	5.24	5.16	1.58
				5850	36.87	35.30	4.45	5.35	5.27	1.44
G	8/14/2017	5800	Body	5800	49.96	48.20	3.65	5.97	6.00	-0.48
				5700	50.17	48.34	3.78	5.82	5.88	-0.91
				5850	50.00	48.20	3.73	6.06	6.00	0.95
G	8/14/2017	5800	Head	5800	34.67	35.30	-1.78	5.14	5.27	-2.43
				5700	34.80	35.42	-1.75	5.03	5.16	-2.55
				5850	34.67	35.30	-1.78	5.21	5.27	-1.16
G	8/15/2017	2450	Body	2450	50.35	52.70	-4.46	1.98	1.95	1.49
				2400	50.24	52.77	-4.79	1.91	1.90	0.68
				2480	50.25	52.66	-4.58	2.02	1.99	1.61
G	8/16/2017	2450	Head	2450	38.16	39.20	-2.65	1.88	1.80	4.39
				2400	38.35	39.30	-2.42	1.82	1.75	4.00
				2480	38.00	39.16	-2.96	1.91	1.83	4.48

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Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
H	7/28/2017	5200	Head	5200	35.30	35.99	-1.92	4.71	4.65	1.31
				5150	35.37	36.05	-1.88	4.67	4.60	1.59
				5350	35.16	35.82	-1.84	4.87	4.80	1.28
H	7/29/2017	5200	Body	5200	47.11	49.02	-3.90	5.49	5.29	3.65
				5150	47.22	49.09	-3.80	5.42	5.24	3.49
				5350	46.85	48.82	-4.03	5.70	5.47	4.23
H	7/30/2017	5200	Head	5200	37.23	35.99	3.44	4.53	4.65	-2.56
				5150	37.28	36.05	3.42	4.47	4.60	-2.80
				5350	37.06	35.82	3.46	4.67	4.80	-2.80
H	7/30/2017	5200	Body	5200	47.71	49.02	-2.67	5.25	5.29	-0.88
				5150	47.77	49.09	-2.68	5.18	5.24	-1.13
				5350	47.53	48.82	-2.64	5.42	5.47	-1.00
H	8/3/2017	5200	Head	5200	36.79	35.99	2.22	4.54	4.65	-2.34
				5150	36.86	36.05	2.25	4.47	4.60	-2.80
				5350	36.62	35.82	2.24	4.69	4.80	-2.38
H	8/3/2017	5200	Body	5200	47.59	49.02	-2.92	5.36	5.29	1.18
				5150	47.68	49.09	-2.87	5.26	5.24	0.43
				5350	47.41	48.82	-2.88	5.55	5.47	1.40
H	8/7/2017	5200	Head	5200	36.42	35.99	1.19	4.60	4.65	-1.14
				5150	36.44	36.05	1.09	4.55	4.60	-1.00
				5350	36.31	35.82	1.37	4.69	4.80	-2.42
H	8/7/2017	5200	Body	5200	47.67	49.02	-2.75	5.43	5.29	2.63
				5150	47.64	49.09	-2.95	5.35	5.24	2.07
				5350	47.63	48.82	-2.43	5.65	5.47	3.28
H	8/10/2017	5600	Head	5600	36.15	35.53	1.73	4.88	5.06	-3.64
				5500	36.20	35.65	1.55	4.77	4.96	-3.79
				5725	36.02	35.39	1.78	5.01	5.19	-3.43
H	8/11/2017	5600	Body	5600	46.43	48.48	-4.22	6.00	5.76	4.13
				5500	46.68	48.61	-3.98	5.85	5.64	3.59
				5725	46.19	48.31	-4.39	6.20	5.91	4.98
H	8/14/2017	5200	Body	5200	51.14	49.02	4.33	5.18	5.29	-2.24
				5150	51.18	49.09	4.26	5.12	5.24	-2.24
				5350	50.87	48.82	4.21	5.33	5.47	-2.50
H	8/14/2017	5200	Head	5200	34.56	35.99	-3.97	4.50	4.65	-3.33
				5150	34.61	36.05	-3.99	4.44	4.60	-3.45
				5350	34.35	35.82	-4.10	4.61	4.80	-4.05

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8.2. System Check

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

System Performance Check Measurement Conditions:

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

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System Check Results

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

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
A	7/24/2017	Body	D835V2 SN:4d117	5/22/2018	1.010	10.10	10.39	-2.79	0.665	6.65	6.76	-1.63	1,2
A	7/27/2017	Head	D2300V2 SN:1058	8/18/2017	5.210	52.10	50.50	3.17	2.440	24.40	24.20	0.83	
A	7/27/2017	Body	D2300V2 SN:1058	8/18/2017	5.040	50.40	48.50	3.92	2.390	23.90	23.50	1.70	
A	7/28/2017	Body	D835V2 SN:4d002	11/8/2017	1.030	10.30	9.55	7.85	0.676	6.76	6.33	6.79	
A	7/30/2017	Body	D2300V2 SN:1058	8/18/2017	5.060	50.60	48.50	4.33	2.370	23.70	23.50	0.85	3,4
A	7/30/2017	Head	D2300V2 SN:1058	8/18/2017	5.070	50.70	50.50	0.40	2.380	23.80	24.20	-1.65	
A	7/31/2017	Body	D835V2 SN:4d002	11/8/2017	1.000	10.00	9.55	4.71	0.659	6.59	6.33	4.11	
A	8/3/2017	Head	D2300V2 SN:1058	8/18/2017	5.000	50.00	50.50	-0.99	2.350	23.50	24.20	-2.89	
A	8/3/2017	Body	D2300V2 SN:1058	8/18/2017	4.910	49.10	48.50	1.24	2.310	23.10	23.50	-1.70	
A	8/3/2017	Body	D2600V2 SN:1006	9/13/2017	5.350	53.50	54.20	-1.29	2.340	23.40	24.30	-3.70	
A	8/4/2017	Body	D835V2 SN:4d002	11/8/2017	1.030	10.30	9.55	7.85	0.680	6.80	6.33	7.42	5,6
A	8/7/2017	Head	D835V2 SN:4d002	11/8/2017	0.991	9.91	9.46	4.76	0.651	6.51	6.15	5.85	
A	8/9/2017	Body	D835V2 SN:4d002	11/8/2017	1.020	10.20	9.55	6.81	0.676	6.76	6.33	6.79	
A	8/10/2017	Body	D2450V2 SN:706	5/9/2018	4.880	48.80	50.60	-3.56	2.240	22.40	23.80	-5.88	7,8
A	8/10/2017	Body	D1900V2 SN:5d043	11/9/2017	4.010	40.10	39.10	2.56	2.070	20.70	20.70	0.00	9,10
A	8/14/2017	Head	D2600V2 SN:1006	9/13/2017	5.880	58.80	55.50	5.95	2.560	25.60	25.00	2.40	11,12
A	8/14/2017	Body	D2600V2 SN:1006	9/13/2017	5.730	57.30	54.20	5.72	2.500	25.00	24.30	2.88	
A	8/16/2017	Head	D2450V2 SN:748	2/8/2018	5.520	55.20	52.10	5.95	2.500	25.00	24.20	3.31	13,14
B	7/24/2017	Head	D750V3 SN:1019	3/13/2018	0.828	8.28	8.22	0.73	0.546	5.46	5.39	1.30	
B	7/27/2017	Head	D1750V2 SN:1050	4/18/2018	3.660	36.60	36.76	-0.44	1.950	19.50	19.60	-0.51	
B	7/27/2017	Body	D1750V2 SN:1050	4/18/2018	3.850	38.50	37.68	2.18	2.030	20.30	19.92	1.91	15,16
B	7/28/2017	Body	D750V3 SN:1019	3/13/2018	0.829	8.29	8.76	-5.37	0.558	5.58	5.80	-3.79	
B	7/30/2017	Body	D1750V2 SN:1050	4/18/2018	3.800	38.00	37.68	0.85	2.000	20.00	19.92	0.40	
B	7/30/2017	Head	D1750V2 SN:1050	4/18/2018	3.700	37.00	36.76	0.65	1.980	19.80	19.60	1.02	
B	8/1/2017	Body	D750V3 SN:1019	3/13/2018	0.879	8.79	8.76	0.34	0.591	5.91	5.80	1.90	
B	8/5/2017	Body	D1750V2 SN:1077	9/14/2017	3.560	35.60	36.20	-1.66	1.890	18.90	19.30	-2.07	
B	8/5/2017	Head	D1750V2 SN:1077	9/14/2017	3.490	34.90	36.00	-3.06	1.880	18.80	19.10	-1.57	17,18
B	8/7/2017	Head	D750V3 SN:1019	3/13/2018	0.877	8.77	8.22	6.69	0.583	5.83	5.39	8.16	19,20
B	8/9/2017	Body	D2450V2 SN:748	2/8/2018	5.300	53.00	51.30	3.31	2.450	24.50	23.90	2.51	
B	8/10/2017	Head	D2450V2 SN:748	2/8/2018	5.110	51.10	52.10	-1.92	2.370	23.70	24.20	-2.07	
B	8/14/2017	Body	D2450V2 SN:748	2/8/2018	5.310	53.10	51.30	3.51	2.450	24.50	23.90	2.51	21,22
B	8/14/2017	Head	D2450V2 SN:748	2/8/2018	5.160	51.60	52.10	-0.96	2.370	23.70	24.20	-2.07	
C	7/27/2017	Head	D1900V2 SN:5d140	4/19/2018	4.270	42.70	40.80	4.66	2.170	21.70	21.16	2.55	
C	7/27/2017	Body	D1900V2 SN:5d140	4/19/2018	4.330	43.30	41.20	5.10	2.210	22.10	21.52	2.70	23,24
C	7/31/2017	Body	D1900V2 SN:5d140	4/19/2018	3.940	39.40	41.20	-4.37	2.000	20.00	21.52	-7.06	
C	7/31/2017	Head	D1900V2 SN:5d140	4/19/2018	3.940	39.40	40.80	-3.43	2.000	20.00	21.16	-5.48	
C	8/4/2017	Head	D1900V2 SN:5d140	4/19/2018	4.170	41.70	40.80	2.21	2.120	21.20	21.16	0.19	
C	8/4/2017	Body	D1900V2 SN:5d140	4/19/2018	4.230	42.30	41.20	2.67	2.150	21.50	21.52	-0.09	
C	8/8/2017	Head	D1900V2 SN:5d043	11/9/2017	4.200	42.00	40.00	5.00	2.140	21.40	20.90	2.39	
C	8/8/2017	Body	D1900V2 SN:5d043	11/9/2017	4.160	41.60	39.10	6.39	2.130	21.30	20.70	2.90	
C	8/14/2017	Head	D1900V2 SN:5d043	11/9/2017	4.110	41.10	40.00	2.75	2.090	20.90	20.90	0.00	
C	8/14/2017	Body	D1900V2 SN:5d043	11/9/2017	4.260	42.60	39.10	8.95	2.180	21.80	20.70	5.31	25,26

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SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
D	7/24/2017	Head	D835V2 SN:4d002	11/8/2017	0.971	9.71	9.46	2.64	0.640	6.40	6.15	4.07	
D	7/27/2017	Head	D2600V2 SN:1006	9/13/2017	5.940	59.40	55.50	7.03	2.600	26.00	25.00	4.00	27,28
D	7/27/2017	Body	D2600V2 SN:1006	9/13/2017	5.590	55.90	54.20	3.14	2.440	24.40	24.30	0.41	
D	7/27/2017	Head	D835V2 SN:4d002	11/8/2017	1.000	10.00	9.46	5.71	0.662	6.62	6.15	7.64	29,30
D	7/30/2017	Body	D2600V2 SN:1006	9/13/2017	5.500	55.00	54.20	1.48	2.400	24.00	24.30	-1.23	
D	7/31/2017	Body	D835V2 SN:4d002	11/8/2017	0.961	9.61	9.55	0.63	0.596	5.96	6.33	-5.85	
D	8/1/2017	Head	D2600V2 SN:1006	9/13/2017	5.760	57.60	55.50	3.78	2.530	25.30	25.00	1.20	
D	8/3/2017	Body	D2600V2 SN:1006	9/13/2017	5.290	52.90	54.20	-2.40	2.320	23.20	24.30	-4.53	
D	8/5/2017	Head	D2600V2 SN:1006	9/13/2017	5.590	55.90	55.50	0.72	2.440	24.40	25.00	-2.40	
D	8/5/2017	Head	D835V2 SN:4d002	11/8/2017	0.918	9.18	9.46	-2.96	0.606	6.06	6.15	-1.46	
D	8/7/2017	Body	D2600V2 SN:1006	9/13/2017	5.480	54.80	54.20	1.11	2.420	24.20	24.30	-0.41	
D	8/9/2017	Head	D2600V2 SN:1006	9/13/2017	5.920	59.20	55.50	6.67	2.600	26.00	25.00	4.00	
D	8/9/2017	Head	D835V2 SN:4d002	11/8/2017	0.962	9.62	9.46	1.69	0.633	6.33	6.15	2.93	
D	8/9/2017	Body	D835V2 SN:4d002	11/8/2017	0.945	9.45	9.55	-1.05	0.624	6.24	6.33	-1.42	
D	8/14/2017	Head	D1900V2 SN:5d043	11/9/2017	4.080	40.80	40.00	2.00	2.100	21.00	20.90	0.48	31,32
D	8/15/2017	Head	D2600V2 SN:1006	9/13/2017	5.520	55.20	55.50	-0.54	2.420	24.20	25.00	-3.20	
D	8/16/2017	Head	D2450V2 SN:706	5/9/2018	5.650	56.50	52.10	8.45	2.570	25.70	24.40	5.33	33,34
E	7/28/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.860	78.60	83.30	-5.64	2.210	22.10	23.80	-7.14	
E	7/28/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.480	84.80	78.30	8.30	2.340	23.40	22.00	6.36	
E	7/30/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.230	82.30	83.30	-1.20	2.310	23.10	23.80	-2.94	
E	7/30/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.860	78.60	78.30	0.38	2.190	21.90	22.00	-0.45	
E	8/3/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.470	84.70	78.30	8.17	2.350	23.50	22.00	6.82	
E	8/3/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.780	77.80	83.30	-6.60	2.190	21.90	23.80	-7.98	
E	8/7/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.410	84.10	78.30	7.41	2.320	23.20	22.00	5.45	
E	8/7/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.630	76.30	83.30	-8.40	2.150	21.50	23.80	-9.66	
E	8/11/2017	Head	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	7.970	79.70	83.30	-4.32	2.240	22.40	23.80	-5.88	
E	8/11/2017	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/13/2018	8.560	85.60	78.30	9.32	2.370	23.70	22.00	7.73	35,36
E	8/15/2017	Body	D5GHzV2 SN:1168 (5.6 GHz)	11/14/2017	8.010	80.10	78.60	1.91	2.230	22.30	22.00	1.36	
E	8/15/2017	Head	D5GHzV2 SN:1168 (5.6 GHz)	11/14/2017	7.790	77.90	83.30	-6.48	2.200	22.00	23.80	-7.56	37,38
F	7/28/2017	Head	D2450V2 SN:748	2/8/2018	5.660	56.60	52.10	8.64	2.540	25.40	24.20	4.96	39,40
F	7/28/2017	Body	D2450V2 SN:748	2/8/2018	5.390	53.90	51.30	5.07	2.480	24.80	23.90	3.77	
F	7/30/2017	Head	D2450V2 SN:748	2/8/2018	5.630	56.30	52.10	8.06	2.530	25.30	24.20	4.55	
F	7/30/2017	Body	D2450V2 SN:748	2/8/2018	5.270	52.70	51.30	2.73	2.430	24.30	23.90	1.67	
F	8/3/2017	Head	D2450V2 SN:748	2/8/2018	5.560	55.60	52.10	6.72	2.490	24.90	24.20	2.89	
F	8/3/2017	Body	D2450V2 SN:748	2/8/2018	5.110	51.10	51.30	-0.39	2.360	23.60	23.90	-1.26	
F	8/7/2017	Body	D2450V2 SN:748	2/8/2018	5.280	52.80	51.30	2.92	2.420	24.20	23.90	1.26	
F	8/7/2017	Head	D2450V2 SN:748	2/8/2018	5.580	55.80	52.10	7.10	2.510	25.10	24.20	3.72	
F	8/11/2017	Head	D2450V2 SN:748	2/8/2018	5.610	56.10	52.10	7.68	2.530	25.30	24.20	4.55	
F	8/11/2017	Body	D2450V2 SN:748	2/8/2018	4.920	49.20	51.30	-4.09	2.270	22.70	23.90	-5.02	
F	8/14/2017	Body	D2450V2 SN:748	2/8/2018	5.010	50.10	51.30	-2.34	2.280	22.80	23.90	-4.60	
F	8/14/2017	Head	D2450V2 SN:748	2/8/2018	5.630	56.30	52.10	8.06	2.520	25.20	24.20	4.13	

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SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
G	7/28/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.130	71.30	73.50	-2.99	1.960	19.60	20.50	-4.39	
G	7/28/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.300	73.00	78.10	-6.53	2.060	20.60	22.10	-6.79	
G	7/30/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.670	76.70	78.10	-1.79	2.160	21.60	22.10	-2.26	
G	7/30/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.470	74.70	73.50	1.63	2.060	20.60	20.50	0.49	
G	8/3/2017	Body	D5GHzV2 SN:1168 (5.8 GHz)	11/14/2017	7.730	77.30	73.90	4.60	2.140	21.40	20.50	4.39	41,42
G	8/3/2017	Head	D5GHzV2 SN:1168 (5.8 GHz)	11/14/2017	7.800	78.00	78.10	-0.13	2.220	22.20	22.20	0.00	
G	8/7/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.180	71.80	78.10	-8.07	2.050	20.50	22.10	-7.24	
G	8/7/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.980	79.80	73.50	8.57	2.200	22.00	20.50	7.32	
G	8/11/2017	Body	D5GHzV2 SN:1168 (5.8 GHz)	11/14/2017	7.110	71.10	73.90	-3.79	1.980	19.80	20.50	-3.41	
G	8/11/2017	Head	D5GHzV2 SN:1168 (5.8 GHz)	11/14/2017	7.480	74.80	78.10	-4.23	2.140	21.40	22.20	-3.60	
G	8/15/2017	Head	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	7.070	70.70	78.10	-9.48	1.990	19.90	22.10	-9.95	
G	8/15/2017	Body	D5GHzV2 SN:1003 (5.8 GHz)	2/13/2018	8.060	80.60	73.50	9.66	2.220	22.20	20.50	8.29	43,44
G	8/15/2017	Body	D2450V2 SN:748	2/8/2018	5.240	52.40	51.30	2.14	2.430	24.30	23.90	1.67	
G	8/16/2017	Head	D2450V2 SN:748	2/8/2018	5.510	55.10	52.10	5.76	2.490	24.90	24.20	2.89	45,46
H	7/28/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	8.000	80.00	76.80	4.17	2.320	23.20	22.00	5.45	
H	7/29/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.470	74.70	73.60	1.49	2.120	21.20	20.50	3.41	
H	7/30/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.290	72.90	73.60	-0.95	2.060	20.60	20.50	0.49	
H	7/30/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	8.220	82.20	76.80	7.03	2.380	23.80	22.00	8.18	47,48
H	8/3/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	6.870	68.70	73.60	-6.66	1.960	19.60	20.50	-4.39	
H	8/3/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.660	76.60	76.80	-0.26	2.230	22.30	22.00	1.36	
H	8/7/2017	Head	D5GHzV2 SN:1003 (5.2 GHz)	2/13/2018	8.060	80.60	76.50	5.36	2.340	23.40	21.80	7.34	
H	8/7/2017	Body	D5GHzV2 SN:1003 (5.2 GHz)	2/13/2018	7.670	76.70	70.50	8.79	2.120	21.20	19.80	7.07	49,50
H	8/10/2017	Head	D5GHzV2 SN:1168 (5.6 GHz)	11/14/2017	7.860	78.60	83.30	-5.64	2.310	23.10	23.80	-2.94	
H	8/11/2017	Body	D5GHzV2 SN:1138 (5.6 GHz)	9/22/2017	8.340	83.40	78.80	5.84	2.340	23.40	22.00	6.36	51,52
H	8/14/2017	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.180	71.80	73.60	-2.45	2.040	20.40	20.50	-0.49	
H	8/14/2017	Head	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.650	76.50	76.80	-0.39	2.220	22.20	22.00	0.91	

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9. Conducted Output Power Measurements

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

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

GSM850 Measured Results

GPRS (GMSK) - Coding Scheme: CS1

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	**Max Power (dBm)**		**30.8**	**29.8**	**33.3**	**32.3**	**33.3**	**32.3**	**33.3**	**32.3**
	128	824.2	30.7	29.8	30.7	29.8	33.1	32.1	33.1	32.1
	190	836.6	30.6	29.7	30.6	29.7	33.1	32.3	33.1	32.3
	251	848.8	30.7	29.7	30.7	29.7	32.9	32.3	32.9	32.3
Frame Power (dBm)										
850	**Max Power (dBm)**		**21.8**	**23.8**	**21.8**	**23.8**	**24.3**	**26.3**	**24.3**	**26.3**
	128	824.2	21.7	23.8	21.7	23.8	24.1	26.1	24.1	26.1
	190	836.6	21.6	23.7	21.6	23.7	24.1	26.3	24.1	26.3
	251	848.8	21.7	23.7	21.7	23.7	23.9	26.3	23.9	26.3

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
850	**Max Power (dBm)**		**25.5**	**25.5**	**25.5**	**25.5**	**28.0**	**28.0**	**28.0**	**28.0**
	128	824.2	25.5	25.5	25.5	25.5	28.0	28.0	28.0	28.0
	190	836.6	25.5	25.5	25.5	25.5	28.0	28.0	28.0	28.0
	251	848.8	25.5	25.5	25.5	25.5	28.0	28.0	28.0	28.0
Frame Power (dBm)										
850	**Max Power (dBm)**		**16.5**	**19.5**	**16.5**	**19.5**	**19.0**	**22.0**	**19.0**	**22.0**
	128	824.2	16.5	19.5	16.5	19.5	19.0	22.0	19.0	22.0
	190	836.6	16.5	19.5	16.5	19.5	19.0	22.0	19.0	22.0
	251	848.8	16.5	19.5	16.5	19.5	19.0	22.0	19.0	22.0

Notes:

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

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

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GSM1900 Measured Results

GPRS (GMSK) - Coding Scheme: CS1

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
1900	**Max Power (dBm)**		**28.0**	**26.5**	**28.0**	**26.3**	**31.3**	**30.3**	**30.0**	**27.0**
	512	1850.2	27.3	26.3	27.3	26.3	31.3	30.0	29.9	27.0
	661	1880.0	27.3	26.2	27.3	26.2	31.3	30.0	29.9	27.0
	810	1909.8	27.3	26.1	27.3	26.1	31.1	30.2	29.9	26.9
Frame Power (dBm)										
1900	**Max Power (dBm)**		**19.0**	**20.5**	**19.0**	**20.3**	**22.3**	**24.3**	**21.0**	**21.0**
	512	1850.2	18.3	20.3	18.3	20.3	22.3	24.0	20.9	21.0
	661	1880.0	18.3	20.2	18.3	20.2	22.3	24.0	20.9	21.0
	810	1909.8	18.3	20.1	18.3	20.1	22.1	24.2	20.9	20.9

EGPRS (8PSK) - Coding Scheme: MCS5

Band	Ch No.	Freq. (MHz)	MODE A				MODE B			
			UAT 1		LAT 1		UAT 1		LAT 1	
			1 slot	2 slots	1 slot	2 slots	1 slot	2 slots	1 slot	2 slots
Burst Power (dBm)										
1900	**Max Power (dBm)**		**23.5**	**23.5**	**23.5**	**23.5**	**27.0**	**27.0**	**27.0**	**27.0**
	512	1850.2	23.5	23.5	23.5	23.5	27.0	27.0	27.0	27.0
	661	1880.0	23.5	23.5	23.5	23.5	27.0	27.0	27.0	27.0
	810	1909.8	23.5	23.5	23.5	23.5	27.0	27.0	27.0	27.0
Frame Power (dBm)										
1900	**Max Power (dBm)**		**14.5**	**17.5**	**14.5**	**17.5**	**18.0**	**21.0**	**18.0**	**21.0**
	512	1850.2	14.5	17.5	14.5	17.5	18.0	21.0	18.0	21.0
	661	1880.0	14.5	17.5	14.5	17.5	18.0	21.0	18.0	21.0
	810	1909.8	14.5	17.5	14.5	17.5	18.0	21.0	18.0	21.0

Notes:

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

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

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9.2. W-CDMA

Release 99 Setup Procedures used to establish the test signals

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

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

HSDPA Setup Procedures used to establish the test signals

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

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

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

The following 5 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSPA				
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2 kbps RMC				
	HSDPA FRC	H-Set 1				
	HSUPA Test	HSPA				
	Power Control Algorithm	Algorithm 2				Algorithm 1
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/βd	11/15	6/15	15/9	2/15	15/1
	βhs	22/15	12/15	30/15	4/15	5/15
	βed	1309/225	94/75	47/15	56/75	47/15
	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	E-DPDCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	5	5	2	5	1
	Reference E-TFCI	11	11	11	11	67
	Reference E-TFCI PO	4	4	4	4	18
	Reference E-TFCI	67	67	92	67	67
	Reference E-TFCI PO	18	18	18	18	18
	Reference E-TFCI	71	71	71	71	71
	Reference E-TFCI PO	23	23	23	23	23
	Reference E-TFCI	75	75	75	75	75
	Reference E-TFCI PO	26	26	26	26	26
	Reference E-TFCI	81	81	81	81	81
	Reference E-TFCI PO	27	27	27	27	27
	Maximum Channelization Codes	2xSF2				SF4

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DC-HSDPA Setup Procedures used to establish the test signals

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

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

Table E.5.0: Levels for HSDPA connection setup

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

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

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

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

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK

Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.

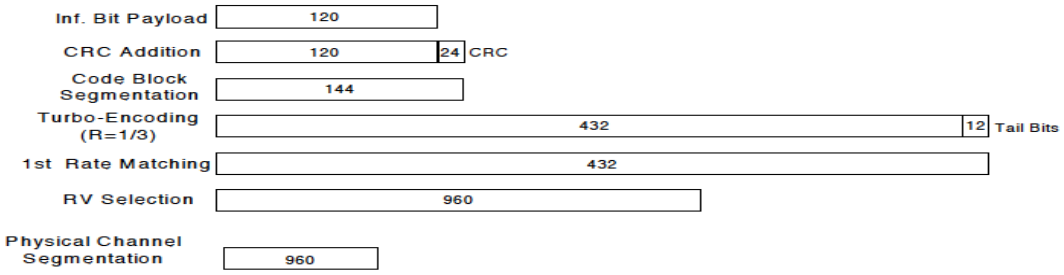

Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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HSPA+

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

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

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

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

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W-CDMA Band V Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)			
						MODE A		MODE B	
						UAT 1	LAT 1	UAT 1	LAT 1
W-CDMA Band V	Rel 99	**Max Power (dBm)**				**24.3**	**24.3**	**24.8**	**24.8**
		RMC, 12.2 kbps	4132	826.4	N/A	24.1	24.1	24.8	24.8
			4183	836.6	N/A	24.1	24.1	24.8	24.8
			4233	846.6	N/A	24.2	24.2	24.8	24.8
	HSDPA	**Max Power (dBm)**				**24.3**	**24.3**	**24.8**	**24.8**
		Subtest 1	4132	826.4	0	24.1	24.1	24.8	24.8
			4183	836.6	0	24.1	24.1	24.8	24.8
			4233	846.6	0	24.2	24.2	24.8	24.8
		Subtest 2	4132	826.4	0	24.1	24.1	24.8	24.8
			4183	836.6	0	24.1	24.1	24.8	24.8
			4233	846.6	0	24.2	24.2	24.8	24.8
		Subtest 3	4132	826.4	0.5	23.6	23.6	24.2	24.2
			4183	836.6	0.5	23.6	23.6	24.2	24.2
			4233	846.6	0.5	23.7	23.7	24.2	24.2
		Subtest 4	4132	826.4	0.5	23.6	23.6	24.2	24.2
			4183	836.6	0.5	23.6	23.6	24.2	24.2
			4233	846.6	0.5	23.7	23.7	24.2	24.2
	HSUPA	**Max Power (dBm)**				**24.3**	**24.3**	**24.8**	**24.8**
		Subtest 1	4132	826.4	0	24.1	24.1	24.8	24.8
			4183	836.6	0	24.1	24.1	24.8	24.8
			4233	846.6	0	24.2	24.2	24.8	24.8
		Subtest 2	4132	826.4	2	22.1	22.1	22.8	22.8
			4183	836.6	2	22.1	22.1	22.8	22.8
			4233	846.6	2	22.3	22.3	22.8	22.8
		Subtest 3	4132	826.4	1	23.1	23.1	23.8	23.8
			4183	836.6	1	23.1	23.1	23.8	23.8
			4233	846.6	1	23.2	23.2	23.8	23.8
		Subtest 4	4132	826.4	2	22.1	22.1	22.7	22.7
			4183	836.6	2	22.1	22.1	22.7	22.7
			4233	846.6	2	22.2	22.2	22.7	22.7
		Subtest 5	4132	826.4	0	24.1	24.1	24.8	24.8
			4183	836.6	0	24.1	24.1	24.8	24.8
			4233	846.6	0	24.2	24.2	24.8	24.8
	DC-HSDPA	**Max Power (dBm)**				**24.3**	**24.3**	**24.8**	**24.8**
		Subtest 1	4132	826.4	0	24.2	24.2	24.8	24.8
			4183	836.6	0	24.2	24.2	24.8	24.8
			4233	846.6	0	24.2	24.2	24.8	24.8
		Subtest 2	4132	826.4	0	24.2	24.2	24.8	24.8
			4183	836.6	0	24.2	24.2	24.8	24.8
			4233	846.6	0	24.2	24.2	24.8	24.8
		Subtest 3	4132	826.4	0.5	23.7	23.7	24.2	24.2
			4183	836.6	0.5	23.7	23.7	24.2	24.2
			4233	846.6	0.5	23.7	23.7	24.2	24.2
		Subtest 4	4132	826.4	0.5	23.7	23.7	24.2	24.2
			4183	836.6	0.5	23.7	23.7	24.2	24.2
			4233	846.6	0.5	23.7	23.7	24.2	24.2
	HSPA+	**Max Power (dBm)**				**24.3**	**24.3**	**24.8**	**24.8**
		Subtest 1	4132	826.4	2.5	21.5	21.5	22.3	22.3
			4183	836.6	2.5	21.5	21.5	22.3	22.3
			4233	846.6	2.5	21.5	21.5	22.3	22.3

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W-CDMA Band IV Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)			
						MODE A		MODE B	
						UAT 1	LAT 1	UAT 1	LAT 1
W-CDMA Band IV	Rel 99	**Max Power (dBm)**				**22.7**	**22.7**	**25.3**	**24.3**
		RMC, 12.2 kbps	1312	1712.4	N/A	22.6	22.6	25.3	24.3
			1413	1732.6	N/A	22.6	22.6	25.3	24.3
			1513	1752.6	N/A	22.6	22.6	25.2	24.2
	HSDPA	**Max Power (dBm)**				**22.7**	**22.7**	**25.3**	**24.3**
		Subtest 1	1312	1712.4	0	22.6	22.6	25.3	24.3
			1413	1732.6	0	22.6	22.6	25.3	24.3
			1513	1752.6	0	22.7	22.7	25.2	24.3
		Subtest 2	1312	1712.4	0	22.7	22.7	25.3	24.3
			1413	1732.6	0	22.6	22.6	25.3	24.3
			1513	1752.6	0	22.6	22.6	25.2	24.3
		Subtest 3	1312	1712.4	0.5	22.1	22.1	24.8	23.7
			1413	1732.6	0.5	22.2	22.2	24.8	23.7
			1513	1752.6	0.5	22.2	22.2	24.7	23.7
		Subtest 4	1312	1712.4	0.5	22.2	22.2	24.8	23.7
			1413	1732.6	0.5	22.2	22.2	24.8	23.7
			1513	1752.6	0.5	22.1	22.1	24.7	23.7
	HSUPA	**Max Power (dBm)**				**22.7**	**22.7**	**25.3**	**24.3**
		Subtest 1	1312	1712.4	0	22.6	22.6	25.3	24.3
			1413	1732.6	0	22.7	22.7	25.3	24.3
			1513	1752.6	0	22.7	22.7	25.2	24.2
		Subtest 2	1312	1712.4	2	20.7	20.7	23.2	22.1
			1413	1732.6	2	20.7	20.7	23.2	22.1
			1513	1752.6	2	20.7	20.7	23.2	22.1
		Subtest 3	1312	1712.4	1	21.6	21.6	24.2	23.3
			1413	1732.6	1	21.6	21.6	24.2	23.3
			1513	1752.6	1	21.7	21.7	24.2	23.3
		Subtest 4	1312	1712.4	2	20.7	20.7	23.2	22.1
			1413	1732.6	2	20.6	20.6	23.2	22.1
			1513	1752.6	2	20.6	20.6	23.2	22.1
		Subtest 5	1312	1712.4	0	22.7	22.7	25.3	24.2
			1413	1732.6	0	22.7	22.7	25.3	24.2
			1513	1752.6	0	22.7	22.7	25.2	24.2
	DC-HSDPA	**Max Power (dBm)**				**22.7**	**22.7**	**25.3**	**24.3**
		Subtest 1	1312	1712.4	0	22.6	22.6	25.3	24.3
			1413	1732.6	0	22.7	22.7	25.3	24.3
			1513	1752.6	0	22.7	22.7	25.2	24.3
		Subtest 2	1312	1712.4	0	22.7	22.7	25.3	24.3
			1413	1732.6	0	22.6	22.6	25.3	24.3
			1513	1752.6	0	22.6	22.6	25.2	24.3
		Subtest 3	1312	1712.4	0.5	22.2	22.2	24.7	23.7
			1413	1732.6	0.5	22.2	22.2	24.7	23.7
			1513	1752.6	0.5	22.2	22.2	24.7	23.7
		Subtest 4	1312	1712.4	0.5	22.2	22.2	24.7	23.7
			1413	1732.6	0.5	22.2	22.2	24.7	23.7
			1513	1752.6	0.5	22.2	22.2	24.7	23.7
	HSPA+	**Max Power (dBm)**				**22.7**	**22.7**	**25.3**	**24.3**
		Subtest 1	1312	1712.4	2.5	20.2	20.2	22.8	21.7
			1413	1732.6	2.5	20.2	20.2	22.8	21.7
			1513	1752.6	2.5	20.1	20.1	22.7	21.7

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W-CDMA Band II Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)			
						MODE A		MODE B	
						UAT 1	LAT 1	UAT 1	LAT 1
W-CDMA Band II	Rel 99	**Max Power (dBm)**				**20.3**	**20.8**	**25.3**	**22.5**
		RMC, 12.2 kbps	9262	1852.4	N/A	20.3	20.5	25.0	22.5
			9400	1880.0	N/A	20.3	20.5	25.0	22.5
			9538	1907.6	N/A	20.3	20.7	25.0	22.5
	HSDPA	**Max Power (dBm)**				**20.3**	**20.8**	**25.3**	**22.5**
		Subtest 1	9262	1852.4	0	20.3	20.5	25.0	22.5
			9400	1880.0	0	20.3	20.5	25.0	22.5
			9538	1907.6	0	20.3	20.7	25.0	22.5
		Subtest 2	9262	1852.4	0	20.3	20.5	25.0	22.5
			9400	1880.0	0	20.3	20.5	25.0	22.5
			9538	1907.6	0	20.3	20.7	25.0	22.5
		Subtest 3	9262	1852.4	0.5	19.8	20.0	24.5	22.0
			9400	1880.0	0.5	19.8	20.0	24.5	22.0
			9538	1907.6	0.5	19.8	20.2	24.5	22.0
		Subtest 4	9262	1852.4	0.5	19.8	20.0	24.5	22.0
			9400	1880.0	0.5	19.8	20.0	24.5	22.0
			9538	1907.6	0.5	19.8	20.2	24.5	22.0
	HSUPA	**Max Power (dBm)**				**20.3**	**20.8**	**25.3**	**22.5**
		Subtest 1	9262	1852.4	0	20.3	20.5	25.0	22.5
			9400	1880.0	0	20.3	20.5	25.0	22.5
			9538	1907.6	0	20.3	20.7	25.0	22.5
		Subtest 2	9262	1852.4	2	18.3	18.5	23.0	20.5
			9400	1880.0	2	18.3	18.5	23.0	20.5
			9538	1907.6	2	18.3	18.7	23.0	20.5
		Subtest 3	9262	1852.4	1	19.3	19.5	24.0	21.5
			9400	1880.0	1	19.3	19.5	24.0	21.5
			9538	1907.6	1	19.3	19.7	24.0	21.5
		Subtest 4	9262	1852.4	2	18.3	18.5	23.0	20.5
			9400	1880.0	2	18.3	18.5	23.0	20.5
			9538	1907.6	2	18.3	18.7	23.0	20.5
		Subtest 5	9262	1852.4	0	20.3	20.5	25.0	22.5
			9400	1880.0	0	20.3	20.5	25.0	22.5
			9538	1907.6	0	20.3	20.7	25.0	22.5
	DC-HSDPA	**Max Power (dBm)**				**20.3**	**20.8**	**25.3**	**22.5**
		Subtest 1	9262	1852.4	0	20.3	20.5	25.0	22.5
			9400	1880.0	0	20.3	20.5	25.0	22.5
			9538	1907.6	0	20.3	20.7	25.0	22.5
		Subtest 2	9262	1852.4	0	20.3	20.5	25.0	22.5
			9400	1880.0	0	20.3	20.5	25.0	22.5
			9538	1907.6	0	20.3	20.7	25.0	22.5
		Subtest 3	9262	1852.4	0.5	19.8	20.3	24.6	22.0
			9400	1880.0	0.5	19.8	20.3	24.6	22.0
			9538	1907.6	0.5	19.8	20.3	24.6	22.0
		Subtest 4	9262	1852.4	0.5	19.8	20.3	24.6	22.0
			9400	1880.0	0.5	19.8	20.3	24.6	22.0
			9538	1907.6	0.5	19.8	20.3	24.6	22.0
	HSPA+	**Max Power (dBm)**				**20.3**	**20.8**	**25.3**	**22.5**
		Subtest 1	9262	1852.4	2.5	17.7	18.2	22.8	20.0
			9400	1880.0	2.5	17.7	18.2	22.8	20.0
			9538	1907.6	2.5	17.7	18.2	22.8	20.0

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9.3. LTE

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

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

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

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

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

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

Network Signalling value	Requirements (subclause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	N/A
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36, 66, 70	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2, 6.6.3.3.19	41	5, 10, 15, 20	Table 6.2.4-4, Table 6.2.4-4a	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50 (NOTE1)	≤ 1 (NOTE1)
			15, 20	Table 6.2.4-18 (NOTE2)	
		65 (NOTE 3)	10,15,20	≥ 50	≤ 1 (NOTE 1)
			15,20	Table 6.2.4-18 (NOTE 2)	
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	N/A
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	
NS_11	6.6.2.2.1 6.6.3.3.13	23	1.4, 3, 5, 10, 15, 20	Table 6.2.4-5	
NS_12	6.6.3.3.5	26	1.4, 3, 5, 10, 15	Table 6.2.4-6	
NS_13	6.6.3.3.6	26	5	Table 6.2.4-7	
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4-8	
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4-9 Table 6.2.4-10	
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13	
NS_17	6.6.3.3.10	28	5, 10	Table 5.6-1	N/A
NS_18	6.6.3.3.11	28	5	≥ 2	≤ 1
			10, 15, 20	≥ 1	≤ 4
NS_19	6.6.3.3.12	44	10, 15, 20	Table 6.2.4-14	
NS_20	6.2.2 6.6.2.2.1 6.6.3.3.14	23	5, 10, 15, 20	Table 6.2.4-15	
NS_21	6.6.2.2.1 6.6.3.3.15	30	5, 10	Table 6.2.4-16	
NS_22	6.6.3.3.16	42, 43	5, 10, 15, 20	Table 6.2.4-17	
NS_23	6.6.3.3.17	42, 43	5, 10, 15, 20	N/A	
NS_24	6.6.3.3.20	65 (NOTE 4)	5, 10, 15, 20	Table 6.2.4-19	
NS_25	6.6.3.3.21	65 (NOTE 4)	5, 10, 15, 20	Table 6.2.4-20	
NS_26	6.6.3.3.22	68	10, 15	Table 6.2.4-21	
NS_27	6.6.2.2.5, 6.6.3.3.23	48	5, 10, 15, 20	Table 6.2.4-22	
NS_28	6.2.2A, 6.6.3.3.24	46 (NOTE 5)	20	Table 6.2.4-23	
NS_29	6.2.2A, 6.6.2.3.1a, 6.6.3.3.25	46 (NOTE 5)	20	Table 6.2.4-24	
NS_30	6.2.2A, 6.6.3.3.26	46 (NOTE 5)	20	Table 6.2.4-25	
NS_31	6.2.2A, 6.6.3.3.27	46 (NOTE 5)	20	Table 6.2.4-26	
NS_32	-	-	-	-	-

NOTE 1: Applicable when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is larger than or equal to the upper edge of PHS band (1915.7 MHz) + 4 MHz + the channel BW assigned, where channel BW is as defined in subclause 5.6. A-MPR for operations below this frequency is not covered in this version of specifications except for the channel assignments in NOTE2 as the emissions requirement in 6.6.3.3.1 may not be met. For 10MHz channel bandwidth whose carrier frequency is larger than or equal to 1945 MHz or 15 MHz channel bandwidth whose carrier frequency is larger than or equal to 1947.5 MHz, no A-MPR applies.

NOTE 2: Applicable when carrier frequency is 1932.5 MHz for 15MHz channel bandwidth or 1930 MHz for 20MHz channel bandwidth case.

NOTE 3: Applicable when the E-UTRA carrier is within 1920-1980 MHz.

NOTE 4: Applicable when the upper edge of the channel bandwidth frequency is greater than 1980MHz.

NOTE 5: Applicable only for an LAA Scell configured in Band 46.

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LTE Band 2 Average Power (dBm) Measured Results

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

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LTE Band 4 Average Power (dBm) Measured Results

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz
LTE Band 4	Max Power (dBm)				22.2				22.2				25.3				24.3			
	3	QPSK	1	0	0.0	22.2	22.0	22.2	0.0	22.2	22.0	22.2	0.0	25.3	25.3	25.2	0.0	24.1	24.1	24.1
			1	8	0.0	22.1	22.1	22.1	0.0	22.1	22.1	22.1	0.0	25.1	25.2	25.1	0.0	24.2	24.2	24.3
			1	14	0.0	22.2	22.2	22.1	0.0	22.2	22.2	22.1	0.0	25.3	25.2	25.1	0.0	24.2	24.3	24.2
			8	0	1.0	21.0	21.0	21.1	1.0	21.0	21.0	21.1	1.0	24.3	24.1	24.3	0.0	24.3	24.1	24.2
			8	4	1.0	21.2	21.0	21.2	1.0	21.2	21.0	21.2	1.0	24.2	24.1	24.1	0.0	24.1	24.2	24.2
			8	7	1.0	21.1	21.2	21.0	1.0	21.1	21.2	21.0	1.0	24.1	24.3	24.2	0.0	24.1	24.1	24.1
			15	0	1.0	21.2	21.0	21.1	1.0	21.2	21.0	21.1	1.0	24.3	24.2	24.2	0.0	24.3	24.1	24.1
		16QAM	1	0	1.0	21.2	21.0	21.2	1.0	21.2	21.0	21.2	1.0	24.3	24.3	24.1	0.0	24.1	24.2	24.2
			1	8	1.0	21.0	21.1	21.0	1.0	21.0	21.1	21.0	1.0	24.2	24.2	24.3	0.0	24.1	24.3	24.2
			1	14	1.0	21.1	21.1	21.1	1.0	21.1	21.1	21.1	1.0	24.1	24.2	24.3	0.0	24.1	24.1	24.3
			8	0	2.0	20.2	20.1	20.0	2.0	20.2	20.1	20.0	2.0	23.1	23.1	23.2	1.0	23.3	23.2	23.1
			8	4	2.0	20.2	20.2	20.2	2.0	20.2	20.2	20.2	2.0	23.1	23.2	23.3	1.0	23.1	23.3	23.2
			8	7	2.0	20.0	20.1	20.1	2.0	20.0	20.1	20.1	2.0	23.1	23.2	23.3	1.0	23.3	23.2	23.2
			15	0	2.0	20.0	20.1	20.0	2.0	20.0	20.1	20.0	2.0	23.3	23.1	23.2	1.0	23.1	23.2	23.2
		64QAM	1	0	2.0	20.2	20.1	20.0	1.0	20.2	20.1	20.0	2.0	22.7	22.6	22.7	1.0	23.2	23.3	23.2
			1	8	2.0	20.2	20.2	20.2	1.0	20.2	20.2	20.2	2.0	22.6	22.6	22.6	1.0	23.1	23.2	23.3
			1	14	2.0	20.0	20.1	20.1	1.0	20.0	20.1	20.0	2.0	22.6	22.7	22.7	1.0	23.1	23.2	23.2
			8	0	3.0	19.0	19.0	19.0	2.0	19.0	19.0	19.0	3.0	21.7	21.6	21.7	2.0	21.0	20.8	21.0
			8	4	3.0	19.0	19.0	19.0	2.0	19.0	19.0	19.0	3.0	21.6	21.7	21.6	2.0	21.0	21.0	21.0
			8	7	3.0	19.0	19.0	19.0	2.0	19.0	19.0	19.0	3.0	21.7	21.7	21.7	2.0	21.0	20.9	20.9
			15	0	3.0	19.0	19.0	19.0	2.0	19.0	19.0	19.0	3.0	21.7	21.7	21.6	2.0	20.9	20.9	20.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE Band 4	1.4	QPSK	1	0	0.0	22.2	22.2	22.2	0.0	22.2	22.2	22.2	0.0	25.1	25.3	25.1	0.0	24.3	24.1	24.1
			1	2	0.0	22.1	22.1	22.0	0.0	22.1	22.1	22.0	0.0	25.1	25.1	25.1	0.0	24.1	24.1	24.3
			1	5	0.0	22.0	22.1	22.2	0.0	22.0	22.1	22.2	0.0	25.1	25.3	25.1	0.0	24.1	24.1	24.2
			3	0	0.0	22.1	22.2	22.0	0.0	22.1	22.2	22.0	0.0	25.1	25.3	25.1	0.0	24.2	24.2	24.1
			3	1	0.0	22.0	22.1	22.0	0.0	22.0	22.1	22.0	0.0	25.1	25.3	25.1	0.0	24.2	24.3	24.1
			3	2	0.0	22.2	22.1	22.0	0.0	22.2	22.1	22.0	0.0	25.1	25.3	25.1	0.0	24.3	24.1	24.3
			6	0	1.0	21.2	21.1	21.2	1.0	21.2	21.1	21.2	1.0	24.2	24.1	24.2	0.0	24.2	24.2	24.1
		16QAM	1	0	1.0	21.0	21.0	21.1	1.0	21.0	21.0	21.1	1.0	24.2	24.2	24.1	0.0	24.2	24.3	24.2
			1	2	1.0	21.2	21.2	21.0	1.0	21.2	21.2	21.0	1.0	24.1	24.2	24.1	0.0	24.2	24.2	24.1
			1	5	1.0	21.0	21.2	21.1	1.0	21.0	21.2	21.1	1.0	24.3	24.2	24.1	0.0	24.2	24.3	24.2
			3	0	1.0	21.2	21.0	21.2	1.0	21.2	21.0	21.2	1.0	24.3	24.3	24.2	1.0	23.2	23.2	23.3
			3	1	1.0	21.0	21.1	21.1	1.0	21.0	21.1	21.1	1.0	24.3	24.1	24.1	1.0	23.2	23.3	23.2
			3	2	1.0	21.2	21.2	21.2	1.0	21.2	21.2	21.2	1.0	24.1	24.0	24.1	1.0	23.1	23.2	23.3
			6	0	2.0	20.0	20.1	20.1	2.0	20.0	20.1	20.1	2.0	23.2	23.1	23.1	1.0	23.1	23.2	23.2
		64QAM	1	0	2.0	20.2	20.2	20.2	2.0	20.2	20.2	20.2	2.0	22.7	22.7	22.7	1.0	23.2	23.3	23.2
			1	2	2.0	20.0	20.1	20.1	2.0	20.0	20.1	20.1	2.0	22.7	22.7	22.6	1.0	23.1	23.2	23.3
			1	5	2.0	20.2	20.0	20.2	2.0	20.2	20.0	20.2	2.0	22.7	22.7	22.7	1.0	23.1	23.2	23.2
			3	0	2.0	20.0	20.0	20.0	2.0	20.0	20.0	20.0	2.0	22.6	22.6	22.7	2.0	23.2	23.3	23.2
			3	1	2.0	20.0	20.0	20.0	2.0	20.0	20.0	20.0	2.0	22.7	22.6	22.6	2.0	23.1	23.2	23.3
			3	2	2.0	20.0	20.0	20.0	2.0	20.0	20.0	20.0	2.0	22.7	22.6	22.7	2.0	23.1	23.2	23.2
			6	0	3.0	19.0	19.0	19.0	3.0	19.0	19.0	19.0	3.0	21.6	21.7	21.6	2.0	20.8	21.0	20.9

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LTE Band 5 Average Power (dBm) Measured Results

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

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LTE Band 7 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz
LTE Band 7	Max Power (dBm)				19.0				19.5				25.3				22.3			
	20	QPSK	1	0	0.0	19.0	18.9	19.0	0.0	19.5	19.4	19.5	0.0	25.1	25.1	25.2	0.0	22.2	22.2	22.3
			1	49	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	0.0	25.1	25.3	25.2	0.0	22.3	22.2	22.3
			1	99	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.4	0.0	25.1	25.2	25.1	0.0	22.2	22.2	22.2
			50	0	0.0	18.9	18.9	19.0	0.0	19.4	19.4	19.5	1.0	24.2	24.2	24.2	0.0	22.2	22.2	22.3
			50	24	0.0	19.0	18.9	19.0	0.0	19.4	19.4	19.5	1.0	24.1	24.3	24.2	0.0	22.2	22.2	22.3
			50	49	0.0	19.0	18.9	18.8	0.0	19.4	19.4	19.5	1.0	24.2	24.2	24.1	0.0	22.2	22.2	22.3
			100	0	0.0	19.0	18.9	19.0	0.0	19.4	19.3	19.5	1.0	24.1	24.1	24.2	0.0	22.3	22.2	22.3
		16QAM	1	0	0.0	19.0	19.0	18.9	0.0	19.5	19.5	19.4	1.0	24.2	24.3	24.3	0.0	22.3	22.3	22.2
			1	49	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	1.0	24.3	24.3	24.3	0.0	22.3	22.3	22.2
			1	99	0.0	19.0	19.0	19.0	0.0	19.4	19.5	19.5	1.0	24.2	24.3	24.2	0.0	22.2	22.3	22.2
			50	0	0.0	19.0	18.9	19.0	0.0	19.5	19.4	19.4	2.0	23.2	23.3	23.2	0.0	22.2	22.2	22.3
			50	24	0.0	19.0	19.0	18.9	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.3	0.0	22.3	22.3	22.2
			50	49	0.0	18.8	19.0	18.9	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.2	0.0	22.3	22.2	22.2
			100	0	0.0	19.0	19.0	18.9	0.0	19.5	19.4	19.3	2.0	23.2	23.3	23.2	0.0	22.2	22.2	22.3
		64QAM	1	0	0.0	18.9	19.0	19.0	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.3	0.0	22.3	22.3	22.3
			1	49	0.0	19.0	19.0	19.0	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.2	0.0	22.2	22.3	22.2
			1	99	0.0	19.0	19.0	19.0	0.0	19.5	19.3	19.4	2.0	23.3	23.3	23.3	0.0	22.3	22.3	22.2
			50	0	0.0	19.0	19.0	18.9	0.4	19.1	19.0	19.0	3.0	22.3	22.3	22.2	0.0	22.2	22.3	22.2
			50	24	0.0	18.9	19.0	19.0	0.4	19.1	19.1	19.1	3.0	22.3	22.3	22.3	0.0	22.2	22.3	22.3
			50	49	0.0	18.9	18.8	19.0	0.4	19.0	19.0	19.1	3.0	22.3	22.2	22.3	0.0	22.2	22.3	22.3
			100	0	0.0	18.9	19.0	19.0	0.4	19.0	19.1	19.1	3.0	22.3	22.2	22.3	0.0	22.2	22.3	22.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						2507.5 MHz	2535 MHz	2562.5 MHz		2507.5 MHz	2535 MHz	2562.5 MHz		2507.5 MHz	2535 MHz	2562.5 MHz		2507.5 MHz	2535 MHz	2562.5 MHz
LTE Band 7	15	QPSK	1	0	0.0	18.9	19.0	19.0	0.0	19.5	19.5	19.5	0.0	25.2	25.1	25.1	0.0	22.3	22.2	22.3
			1	36	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	0.0	25.2	25.1	25.2	0.0	22.3	22.3	22.3
			1	74	0.0	19.0	19.0	19.0	0.0	19.4	19.5	19.4	0.0	25.1	25.1	25.2	0.0	22.2	22.2	22.2
			36	0	0.0	19.0	19.0	18.9	0.0	19.5	19.4	19.5	1.0	24.2	24.2	24.2	0.0	22.3	22.3	22.3
			36	18	0.0	18.9	19.0	19.0	0.0	19.5	19.4	19.5	1.0	24.2	24.1	24.2	0.0	22.3	22.3	22.3
			36	37	0.0	18.9	18.8	19.0	0.0	19.5	19.4	19.5	1.0	24.1	24.2	24.2	0.0	22.3	22.2	22.3
			75	0	0.0	18.9	19.0	19.0	0.0	19.5	19.4	19.5	1.0	24.2	24.1	24.1	0.0	22.3	22.3	22.3
		16QAM	1	0	0.0	19.0	18.9	19.0	0.0	19.4	19.5	19.4	1.0	24.3	24.2	24.3	0.0	22.2	22.3	22.3
			1	36	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	1.0	24.3	24.3	24.3	0.0	22.2	22.3	22.3
			1	74	0.0	19.0	19.0	19.0	0.0	19.5	19.4	19.5	1.0	24.2	24.2	24.3	0.0	22.2	22.2	22.3
			36	0	0.0	18.9	19.0	19.0	0.0	19.4	19.5	19.4	2.0	23.2	23.2	23.3	0.0	22.3	22.2	22.2
			36	18	0.0	19.0	18.9	19.0	0.0	19.4	19.5	19.5	2.0	23.3	23.3	23.3	0.0	22.2	22.3	22.3
			36	37	0.0	19.0	18.9	18.8	0.0	19.4	19.5	19.4	2.0	23.2	23.3	23.3	0.0	22.2	22.3	22.2
			75	0	0.0	19.0	18.9	19.0	0.0	19.3	19.5	19.4	2.0	23.2	23.2	23.3	0.0	22.3	22.2	22.2
		64QAM	1	0	0.0	19.0	19.0	18.9	0.0	19.4	19.5	19.4	2.0	23.3	23.3	23.3	0.0	22.3	22.3	22.3
			1	36	0.0	19.0	19.0	19.0	0.0	19.4	19.5	19.5	2.0	23.2	23.3	23.3	0.0	22.2	22.2	22.3
			1	74	0.0	19.0	19.0	19.0	0.0	19.4	19.5	19.4	2.0	23.3	23.3	23.3	0.0	22.2	22.3	22.3
			36	0	0.0	19.0	18.9	19.0	0.4	19.0	19.1	19.0	3.0	22.2	22.3	22.3	0.0	22.2	22.2	22.3
			36	18	0.0	19.0	19.0	18.9	0.4	19.1	19.1	19.0	3.0	22.3	22.3	22.3	0.0	22.3	22.2	22.3
			36	37	0.0	18.8	19.0	18.9	0.4	19.1	19.0	19.0	3.0	22.3	22.3	22.2	0.0	22.3	22.2	22.3
			75	0	0.0	19.0	19.0	18.9	0.4	19.1	19.0	19.1	3.0	22.3	22.3	22.2	0.0	22.2	22.2	22.3

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz		2505 MHz	2535 MHz	2565 MHz
LTE Band 7	10	QPSK	1	0	0.0	19.0	19.0	18.9	0.0	19.5	19.5	19.5	0.0	25.1	25.2	25.1	0.0	22.3	22.3	22.2
			1	24	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	0.0	25.2	25.2	25.1	0.0	22.3	22.3	22.3
			1	49	0.0	19.0	19.0	19.0	0.0	19.4	19.4	19.5	0.0	25.2	25.1	25.1	0.0	22.2	22.2	22.2
			25	0	0.0	19.0	18.9	19.0	0.0	19.5	19.5	19.4	1.0	24.2	24.2	24.2	0.0	22.3	22.3	22.3
			25	12	0.0	19.0	19.0	18.9	0.0	19.5	19.5	19.4	1.0	24.2	24.2	24.1	0.0	22.3	22.3	22.3
			25	24	0.0	18.8	19.0	18.9	0.0	19.5	19.5	19.4	1.0	24.2	24.1	24.2	0.0	22.3	22.3	22.2
			50	0	0.0	19.0	19.0	18.9	0.0	19.5	19.5	19.4	1.0	24.1	24.2	24.1	0.0	22.3	22.3	22.3
		16QAM	1	0	0.0	18.9	19.0	19.0	0.0	19.4	19.4	19.5	1.0	24.3	24.3	24.2	0.0	22.3	22.2	22.3
			1	24	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	1.0	24.3	24.3	24.3	0.0	22.3	22.2	22.3
			1	49	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.4	1.0	24.3	24.2	24.2	0.0	22.3	22.2	22.2
			25	0	0.0	19.0	19.0	18.9	0.0	19.4	19.4	19.5	2.0	23.3	23.2	23.2	0.0	22.2	22.3	22.2
			25	12	0.0	18.9	19.0	19.0	0.0	19.4	19.4	19.5	2.0	23.3	23.3	23.3	0.0	22.3	22.2	22.3
			25	24	0.0	18.9	18.8	19.0	0.0	19.4	19.4	19.5	2.0	23.3	23.2	23.3	0.0	22.2	22.2	22.3
			50	0	0.0	18.9	19.0	19.0	0.0	19.3	19.3	19.5	2.0	23.3	23.2	23.2	0.0	22.2	22.3	22.2
		64QAM	1	0	0.0	19.0	18.9	19.0	0.0	19.4	19.4	19.5	2.0	23.3	23.3	23.3	0.0	22.3	22.3	22.3
			1	24	0.0	19.0	19.0	19.0	0.0	19.4	19.4	19.5	2.0	23.3	23.2	23.3	0.0	22.3	22.2	22.2
			1	49	0.0	19.0	19.0	19.0	0.0	19.4	19.4	19.5	2.0	23.3	23.3	23.3	0.0	22.3	22.2	22.3
			25	0	0.0	18.9	19.0	19.0	0.4	19.0	19.0	19.1	3.0	22.3	22.2	22.3	0.0	22.3	22.2	22.2
			25	12	0.0	19.0	18.9	19.0	0.4	19.1	19.1	19.1	3.0	22.3	22.3	22.3	0.0	22.3	22.3	22.2
			25	24	0.0	19.0	18.9	18.8	0.4	19.1	19.1	19.0	3.0	22.2	22.3	22.3	0.0	22.3	22.3	22.2
			50	0	0.0	19.0	18.9	19.0	0.4	19.1	19.1	19.0	3.0	22.3	22.3	22.2	0.0	22.3	22.3	22.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz		2502.5 MHz	2535 MHz	2567.5 MHz
LTE Band 7	5	QPSK	1	0	0.0	19.0	18.9	19.0	0.0	19.5	19.5	19.5	0.0	25.1	25.1	25.2	0.0	22.3	22.2	22.3
			1	12	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	0.0	25.2	25.1	25.2	0.0	22.3	22.3	22.3
			1	24	0.0	19.0	19.0	19.0	0.0	19.5	19.4	19.4	0.0	25.2	25.1	25.1	0.0	22.2	22.2	22.2
			12	0	0.0	19.0	19.0	18.9	0.0	19.4	19.5	19.5	0.0	25.1	25.1	25.2	0.0	22.3	22.3	22.3
			12	7	0.0	19.0	18.9	19.0	0.0	19.4	19.5	19.5	0.0	25.2	25.1	25.2	0.0	22.3	22.3	22.3
			12	13	0.0	18.8	18.9	19.0	0.0	19.4	19.5	19.5	0.0	25.2	25.1	25.1	0.0	22.3	22.2	22.3
			25	0	0.0	19.0	18.9	19.0	0.0	19.4	19.5	19.5	1.0	24.1	24.1	24.2	0.0	22.3	22.3	22.3
		16QAM	1	0	0.0	18.9	19.0	19.0	0.0	19.5	19.4	19.4	1.0	24.3	24.2	24.3	0.0	22.2	22.3	22.3
			1	12	0.0	19.0	19.0	19.0	0.0	19.5	19.5	19.5	1.0	24.3	24.3	24.3	0.0	22.2	22.3	22.3
			1	24	0.0	19.0	19.0	19.0	0.0	19.4	19.5	19.5	1.0	24.3	24.2	24.2	0.0	22.2	22.2	22.3
			12	0	0.0	19.0	18.9	19.0	0.0	19.5	19.4	19.4	1.0	24.3	24.2	24.3	0.0	22.3	22.2	22.2
			12	7	0.0	19.0	19.0	19.0	0.0	19.5	19.4	19.4	1.0	24.3	24.3	24.3	0.0	22.2	22.3	22.3
			12	13	0.0	18.9	19.0	18.8	0.0	19.5	19.4	19.4	1.0	24.3	24.2	24.2	0.0	22.2	22.3	22.2
			25	0	0.0	18.9	19.0	19.0	0.0	19.5	19.5	19.3	2.0	23.3	23.2	23.2	0.0	22.3	22.2	22.2
		64QAM	1	0	0.0	19.0	18.9	18.9	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.3	0.0	22.3	22.3	22.3
			1	12	0.0	19.0	19.0	19.0	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.2	0.0	22.2	22.2	22.3
			1	24	0.0	19.0	18.9	19.0	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.3	0.0	22.2	22.3	22.3
			12	0	0.0	18.9	19.0	19.0	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.3	0.0	22.2	22.2	22.3
			12	7	0.0	19.0	19.0	18.9	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.2	0.0	22.3	22.2	22.3
			12	13	0.0	19.0	18.8	18.9	0.0	19.5	19.4	19.4	2.0	23.3	23.3	23.3	0.0	22.3	22.2	22.3
			25	0	0.0	19.0	18.9	18.9	0.4	19.0	19.0	19.1	3.0	22.2	22.3	22.3	0.0	22.2	22.2	22.3

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LTE Band 12 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A							MODE B						
					Target MPR	UAT 1			Target MPR	LAT 1		Target MPR	UAT 1			Target MPR	LAT 1	
							707.5 MHz				707.5 MHz			707.5 MHz				707.5 MHz
	Max Power (dBm)				**24.0**				**24.0**			**24.8**				**24.8**		
LTE Band 12	10	QPSK	1	0	0		23.9		0		23.9	0		24.7		0		24.7
			1	24	0		24.0		0		24.0	0		24.8		0		24.8
			1	49	0		23.9		0		23.9	0		24.7		0		24.7
			25	0	1		23.0		1		23.0	1		23.6		1		23.6
			25	12	1		23.0		1		23.0	1		23.8		1		23.8
			25	24	1		22.9		1		22.9	1		23.7		1		23.7
			50	0	1		23.0		1		23.0	1		23.5		1		23.5
		16QAM	1	0	1		22.9		1		22.9	1		23.7		1		23.7
			1	24	1		23.0		1		23.0	1		23.7		1		23.7
			1	49	1		23.0		1		23.0	1		23.7		1		23.7
			25	0	2		21.9		2		21.9	2		22.7		2		22.7
			25	12	2		22.0		2		22.0	2		22.7		2		22.7
			25	24	2		22.0		2		22.0	2		22.7		2		22.7
			50	0	2		22.0		2		22.0	2		22.8		2		22.8
		64QAM	1	0	2		21.9		2		21.9	2		22.7		2		22.7
			1	24	2		21.9		2		21.9	2		22.7		2		22.7
			1	49	2		22.0		2		22.0	2		22.7		2		22.7
			25	0	3		21.0		3		21.0	3		21.6		3		21.6
			25	12	3		20.9		3		20.9	3		21.7		3		21.7
			25	24	3		21.0		3		21.0	3		21.8		3		21.8
			50	0	3		21.0		3		21.0	3		21.7		3		21.7

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A							MODE B						
					Target MPR	UAT 1			Target MPR	LAT 1		Target MPR	UAT 1			Target MPR	LAT 1	
						701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz
LTE Band 12	5	QPSK	1	0	0	23.9	24.0	24.0	0	23.9	24.0	24.0	0	24.8	24.6	24.7	0	24.8	24.6	24.7
			1	12	0	24.0	24.0	23.9	0	24.0	24.0	23.9	0	24.8	24.5	24.7	0	24.8	24.5	24.7
			1	24	0	23.9	24.0	23.9	0	23.9	24.0	23.9	0	24.7	24.8	24.7	0	24.7	24.8	24.7
			12	0	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.7	23.7	23.6	1	23.7	23.7	23.6
			12	7	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.8	23.8	23.7	1	23.8	23.8	23.7
			12	13	1	22.9	23.0	22.9	1	22.9	23.0	22.9	1	23.8	23.7	23.7	1	23.8	23.7	23.7
			25	0	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.7	23.6	23.5	1	23.7	23.6	23.5
		16QAM	1	0	1	22.9	22.9	22.9	1	22.9	22.9	22.9	1	23.8	23.8	23.7	1	23.8	23.8	23.7
			1	12	1	23.0	23.0	22.9	1	23.0	23.0	22.9	1	23.8	23.7	23.7	1	23.8	23.7	23.7
			1	24	1	23.0	23.0	22.9	1	23.0	23.0	22.9	1	23.7	23.7	23.7	1	23.7	23.7	23.7
			12	0	2	21.9	21.9	22.0	2	21.9	21.9	22.0	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			12	7	2	22.0	22.0	22.0	2	22.0	22.0	22.0	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			12	13	2	22.0	22.0	21.9	2	22.0	22.0	21.9	2	22.7	22.6	22.7	2	22.7	22.6	22.7
			25	0	2	22.0	22.0	21.9	2	22.0	22.0	21.9	2	22.8	22.8	22.8	2	22.8	22.8	22.8
		64QAM	1	0	2	21.9	21.9	21.9	2	21.9	21.9	21.9	2	22.7	22.7	22.7	2	22.7	22.7	22.7
			1	12	2	21.9	22.0	22.0	2	21.9	22.0	22.0	2	22.8	22.8	22.7	2	22.8	22.8	22.7
			1	24	2	22.0	22.0	21.9	2	22.0	22.0	21.9	2	22.7	22.6	22.7	2	22.7	22.6	22.7
			12	0	3	21.0	21.0	20.9	3	21.0	21.0	20.9	3	21.8	21.7	21.6	3	21.8	21.7	21.6
			12	7	3	20.9	21.0	20.9	3	20.9	21.0	20.9	3	21.8	21.7	21.7	3	21.8	21.7	21.7
			12	13	3	21.0	21.0	20.9	3	21.0	21.0	20.9	3	21.8	21.8	21.8	3	21.8	21.8	21.8
			25	0	3	21.0	20.9	21.0	3	21.0	20.9	21.0	3	21.8	21.7	21.7	3	21.8	21.7	21.7

Note(s):

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

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz
LTE Band 12	3	QPSK	1	0	0	24.0	24.0	23.9	0	24.0	24.0	23.9	0	24.7	24.8	24.6	0	24.7	24.8	24.6
			1	8	0	24.0	23.9	24.0	0	24.0	23.9	24.0	0	24.7	24.8	24.5	0	24.7	24.8	24.5
			1	14	0	24.0	23.9	23.9	0	24.0	23.9	23.9	0	24.7	24.7	24.8	0	24.7	24.7	24.8
			8	0	1	23.0	23.0	22.9	1	23.0	23.0	22.9	1	23.6	23.7	23.7	1	23.6	23.7	23.7
			8	4	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.7	23.8	23.8	1	23.7	23.8	23.8
			8	7	1	23.0	22.9	22.9	1	23.0	22.9	22.9	1	23.7	23.8	23.7	1	23.7	23.8	23.7
			15	0	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.5	23.7	23.6	1	23.5	23.7	23.6
		16QAM	1	0	1	22.9	22.9	22.9	1	22.9	22.9	22.9	1	23.7	23.8	23.8	1	23.7	23.8	23.8
			1	8	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.8	23.7	1	23.7	23.8	23.7
			1	14	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.7	23.7	1	23.7	23.7	23.7
			8	0	2	21.9	22.0	21.9	2	21.9	22.0	21.9	2	22.7	22.7	22.8	2	22.7	22.7	22.8
			8	4	2	22.0	22.0	22.0	2	22.0	22.0	22.0	2	22.7	22.7	22.8	2	22.7	22.7	22.8
			8	7	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.7	22.7	22.6	2	22.7	22.7	22.6
			15	0	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.8	22.8	22.8	2	22.8	22.8	22.8
		64QAM	1	0	2	21.9	21.9	21.9	2	21.9	21.9	21.9	2	22.7	22.7	22.7	2	22.7	22.7	22.7
			1	8	2	22.0	22.0	21.9	2	22.0	22.0	21.9	2	22.7	22.8	22.8	2	22.7	22.8	22.8
			1	14	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.7	22.7	22.6	2	22.7	22.7	22.6
			8	0	3	21.0	20.9	21.0	3	21.0	20.9	21.0	3	21.6	21.8	21.7	3	21.6	21.8	21.7
			8	4	3	21.0	20.9	20.9	3	21.0	20.9	20.9	3	21.7	21.8	21.7	3	21.7	21.8	21.7
			8	7	3	21.0	20.9	21.0	3	21.0	20.9	21.0	3	21.8	21.8	21.8	3	21.8	21.8	21.8
			15	0	3	20.9	21.0	21.0	3	20.9	21.0	21.0	3	21.7	21.8	21.7	3	21.7	21.8	21.7

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz
LTE Band 12	1.4	QPSK	1	0	0	23.9	24.0	24.0	0	23.9	24.0	24.0	0	24.8	24.6	24.7	0	24.8	24.6	24.7
			1	2	0	24.0	23.9	24.0	0	24.0	23.9	24.0	0	24.8	24.5	24.7	0	24.8	24.5	24.7
			1	5	0	23.9	23.9	24.0	0	23.9	23.9	24.0	0	24.7	24.8	24.7	0	24.7	24.8	24.7
			3	0	0	23.0	22.9	23.0	0	23.0	22.9	23.0	0	23.7	23.7	23.6	0	23.7	23.7	23.6
			3	1	0	23.0	23.0	23.0	0	23.0	23.0	23.0	0	23.8	23.8	23.7	0	23.8	23.8	23.7
			3	2	0	22.9	22.9	23.0	0	22.9	22.9	23.0	0	23.8	23.7	23.7	0	23.8	23.7	23.7
			6	0	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.6	23.5	1	23.7	23.6	23.5
		16QAM	1	0	1	22.9	23.0	22.9	1	22.9	23.0	22.9	1	23.8	23.8	23.7	1	23.8	23.8	23.7
			1	2	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.8	23.7	23.7	1	23.8	23.7	23.7
			1	5	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.7	23.7	1	23.7	23.7	23.7
			3	0	1	21.9	22.0	21.9	1	21.9	22.0	21.9	1	22.7	22.8	22.7	1	22.7	22.8	22.7
			3	1	1	22.0	22.0	22.0	1	22.0	22.0	22.0	1	22.7	22.8	22.7	1	22.7	22.8	22.7
			3	2	1	22.0	21.9	22.0	1	22.0	21.9	22.0	1	22.7	22.6	22.7	1	22.7	22.6	22.7
			6	0	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.8	22.8	22.8	2	22.8	22.8	22.8
		64QAM	1	0	2	21.9	21.9	21.9	2	21.9	21.9	21.9	2	22.7	22.7	22.7	2	22.7	22.7	22.7
			1	2	2	21.9	22.0	22.0	2	21.9	22.0	22.0	2	22.8	22.8	22.7	2	22.8	22.8	22.7
			1	5	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.7	22.6	22.7	2	22.7	22.6	22.7
			3	0	2	21.9	21.9	21.9	2	21.9	21.9	21.9	2	22.7	22.7	22.7	2	22.7	22.7	22.7
			3	1	2	21.9	22.0	22.0	2	21.9	22.0	22.0	2	22.8	22.8	22.7	2	22.8	22.8	22.7
			3	2	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.7	22.6	22.7	2	22.7	22.6	22.7
			6	0	3	21.0	21.0	20.9	3	21.0	21.0	20.9	3	21.8	21.7	21.7	3	21.8	21.7	21.7

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LTE Band 13 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A				MODE B			
					Target MPR	UAT 1	Target MPR	LAT 1	Target MPR	UAT 1	Target MPR	LAT 1
						782 MHz		782 MHz		782 MHz		782 MHz
	Max Power (dBm)					**24.0**		**24.0**		**24.8**		**24.8**
LTE Band 13	10	QPSK	1	0	0	23.9	0	23.9	0	24.8	0	24.8
			1	24	0	24.0	0	24.0	0	24.8	0	24.8
			1	49	0	24.0	0	24.0	0	24.7	0	24.7
			25	0	1	23.0	1	23.0	1	23.7	1	23.7
			25	12	1	23.0	1	23.0	1	23.8	1	23.8
			25	24	1	23.0	1	23.0	1	23.8	1	23.8
			50	0	1	22.8	1	22.8	1	23.8	1	23.8
		16QAM	1	0	1	22.9	1	22.9	1	23.8	1	23.8
			1	24	1	23.0	1	23.0	1	23.8	1	23.8
			1	49	1	22.9	1	22.9	1	23.7	1	23.7
			25	0	2	22.0	2	22.0	2	22.8	2	22.8
			25	12	2	21.9	2	21.9	2	22.8	2	22.8
			25	24	2	22.0	2	22.0	2	22.7	2	22.7
			50	0	2	22.0	2	22.0	2	22.8	2	22.8
		64QAM	1	0	2	22.0	2	22.0	2	22.7	2	22.7
			1	24	2	21.9	2	21.9	2	22.8	2	22.8
			1	49	2	22.0	2	22.0	2	22.8	2	22.8
			25	0	3	21.0	3	21.0	3	21.8	3	21.8
			25	12	3	21.0	3	21.0	3	21.8	3	21.8
			25	24	3	21.0	3	21.0	3	21.8	3	21.8
			50	0	3	21.0	3	21.0	3	21.7	3	21.7

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A				MODE B			
					Target MPR	UAT 1	Target MPR	LAT 1	Target MPR	UAT 1	Target MPR	LAT 1
						782 MHz		782 MHz		782 MHz		782 MHz
LTE Band 13	5	QPSK	1	0	0	23.9	0	23.9	0	24.8	0	24.8
			1	12	0	24.0	0	24.0	0	24.8	0	24.8
			1	24	0	24.0	0	24.0	0	24.7	0	24.7
			12	0	1	23.0	1	23.0	1	23.7	1	23.7
			12	7	1	22.9	1	22.9	1	23.8	1	23.8
			12	13	1	23.0	1	23.0	1	23.8	1	23.8
			25	0	1	22.8	1	22.8	1	23.8	1	23.8
		16QAM	1	0	1	22.9	1	22.9	1	23.8	1	23.8
			1	12	1	23.0	1	23.0	1	23.8	1	23.8
			1	24	1	22.9	1	22.9	1	23.7	1	23.7
			12	0	2	22.0	2	22.0	2	22.8	2	22.8
			12	7	2	21.9	2	21.9	2	22.8	2	22.8
			12	13	2	22.0	2	22.0	2	22.7	2	22.7
			25	0	2	22.0	2	22.0	2	22.7	2	22.7
		64QAM	1	0	2	22.0	2	22.0	2	22.8	2	22.8
			1	12	2	22.0	2	22.0	2	22.8	2	22.8
			1	24	2	22.0	2	22.0	2	22.8	2	22.8
			12	0	3	21.0	3	21.0	3	21.8	3	21.8
			12	7	3	21.0	3	21.0	3	21.7	3	21.7
			12	13	3	21.0	3	21.0	3	21.7	3	21.7
			25	0	3	21.0	3	21.0	3	21.8	3	21.8

Note(s):

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

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LTE Band 17 Average Power (dBm) Measured Results

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

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LTE Band 25 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz		1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	**Max Power (dBm)**				**20.3**				**20.8**				**25.3**				**22.5**			
	20	QPSK	1	0	0.0	20.2	20.1	20.0	0.0	20.6	20.6	20.6	0.0	25.3	25.2	25.2	0.0	22.4	22.5	22.4
			1	49	0.0	20.1	20.3	19.9	0.0	20.6	20.4	20.6	0.0	25.2	25.3	25.0	0.0	22.5	22.4	22.2
			1	99	0.0	20.3	20.0	20.1	0.0	20.6	20.6	20.6	0.0	25.2	25.2	25.1	0.0	22.5	22.5	22.3
			50	0	0.5	19.8	19.7	19.7	1.0	19.7	19.7	19.7	1.0	24.3	24.2	24.3	0.0	22.4	22.5	22.5
			50	24	0.5	19.6	19.5	19.5	1.0	19.7	19.5	19.7	1.0	24.1	24.3	24.1	0.0	22.5	22.2	22.3
			50	49	0.5	19.7	19.5	19.6	1.0	19.7	19.7	19.7	1.0	24.3	24.2	24.0	0.0	22.4	22.3	22.4
			100	0	0.5	19.7	19.7	19.8	1.0	19.7	19.7	19.7	1.0	24.3	24.1	24.3	0.0	22.5	22.2	22.3
		16QAM	1	0	0.5	19.6	19.5	19.5	1.0	19.7	19.7	19.7	1.0	24.2	24.3	24.2	0.0	22.4	22.4	22.3
			1	49	0.5	19.8	19.7	19.6	1.0	19.7	19.7	19.7	1.0	24.3	24.2	24.0	0.0	22.5	22.5	22.4
			1	99	0.5	19.7	19.8	19.8	1.0	19.7	19.7	19.7	1.0	24.3	24.1	24.3	0.0	22.3	22.4	22.3
			50	0	1.5	18.8	18.7	18.7	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.4	22.4
			50	24	1.5	18.7	18.7	18.8	2.0	18.8	18.8	18.8	2.0	23.2	23.3	23.2	0.0	22.5	22.5	22.4
			50	49	1.5	18.8	18.8	18.8	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.5
			100	0	1.5	18.7	18.6	18.7	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.4	22.5	22.5
		64QAM	1	0	1.5	18.8	18.7	18.7	2.0	18.8	18.8	18.8	2.0	23.2	23.3	23.2	0.0	22.5	22.2	22.3
			1	49	1.5	18.7	18.7	18.8	2.0	18.8	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.4	22.3	22.4
			1	99	1.5	18.7	18.6	18.7	2.0	18.8	18.7	18.7	2.0	23.2	23.3	23.2	0.0	22.5	22.2	22.3
			50	0	2.5	17.8	17.7	17.8	3.0	17.7	17.8	17.8	3.0	22.2	22.3	22.3	0.2	22.1	22.2	22.1
			50	24	2.5	17.8	17.8	17.8	3.0	17.8	17.7	17.7	3.0	22.1	22.3	22.2	0.2	22.2	22.2	22.0
			50	49	2.5	17.7	17.7	17.7	3.0	17.7	17.8	17.8	3.0	22.3	22.2	22.3	0.2	22.0	22.0	22.3
			100	0	2.5	17.8	17.6	17.7	3.0	17.7	17.8	17.7	3.0	22.2	22.3	22.2	0.2	22.1	22.1	22.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz
LTE Band 25	15	QPSK	1	0	0.0	20.0	20.2	20.1	0.0	20.6	20.6	20.6	0.0	25.2	25.3	25.2	0.0	22.4	22.4	22.5
			1	36	0.0	19.9	20.3	20.0	0.0	20.6	20.6	20.6	0.0	25.1	25.2	25.0	0.0	22.2	22.5	22.4
			1	74	0.0	20.1	20.3	20.0	0.0	20.6	20.6	20.6	0.0	25.2	25.2	25.1	0.0	22.3	22.5	22.5
			36	0	0.5	19.7	19.8	19.7	1.0	19.8	19.8	19.7	1.0	24.2	24.3	24.3	0.0	22.5	22.4	22.5
			36	18	0.5	19.5	19.6	19.5	1.0	19.7	19.8	19.7	1.0	24.0	24.1	24.1	0.0	22.3	22.5	22.2
			36	37	0.5	19.6	19.7	19.5	1.0	19.8	19.7	19.8	1.0	24.2	24.3	24.0	0.0	22.4	22.4	22.3
			75	0	0.5	19.8	19.7	19.7	1.0	19.7	19.8	19.7	1.0	24.1	24.3	24.3	0.0	22.3	22.5	22.2
		16QAM	1	0	0.5	19.5	19.6	19.5	1.0	19.8	19.8	19.8	1.0	24.3	24.2	24.2	0.0	22.3	22.4	22.4
			1	36	0.5	19.6	19.8	19.7	1.0	19.8	19.7	19.8	1.0	24.2	24.3	24.0	0.0	22.4	22.5	22.5
			1	74	0.5	19.8	19.7	19.8	1.0	19.7	19.8	19.7	1.0	24.1	24.3	24.3	0.0	22.3	22.3	22.4
			36	0	1.5	18.7	18.8	18.7	2.0	18.7	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.4	22.5	22.4
			36	18	1.5	18.8	18.7	18.7	2.0	18.8	18.8	18.8	2.0	23.3	23.2	23.2	0.0	22.4	22.5	22.5
			36	37	1.5	18.8	18.8	18.8	2.0	18.7	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.5
			75	0	1.5	18.7	18.7	18.6	2.0	18.7	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.5	22.4	22.5
		64QAM	1	0	1.5	18.7	18.8	18.7	2.0	18.8	18.8	18.8	2.0	23.3	23.2	23.2	0.0	22.3	22.5	22.2
			1	36	1.5	18.8	18.7	18.7	2.0	18.7	18.8	18.8	2.0	23.3	23.3	23.3	0.0	22.4	22.4	22.3
			1	74	1.5	18.7	18.7	18.6	2.0	18.7	18.7	18.8	2.0	23.3	23.2	23.2	0.0	22.3	22.5	22.2
			36	0	2.5	17.8	17.8	17.7	3.0	17.8	17.8	17.7	3.0	22.3	22.2	22.3	0.2	22.1	22.2	22.2
			36	18	2.5	17.8	17.8	17.8	3.0	17.7	17.7	17.8	3.0	22.3	22.1	22.2	0.2	22.1	22.3	22.2
			36	37	2.5	17.7	17.7	17.7	3.0	17.8	17.8	17.7	3.0	22.2	22.3	22.3	0.2	22.3	22.1	22.2
			75	0	2.5	17.7	17.8	17.6	3.0	17.8	17.7	17.7	3.0	22.3	22.2	22.2	0.2	22.1	22.0	22.2

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz		1855 MHz	1882.5 MHz	1910 MHz
LTE Band 25	10	QPSK	1	0	0.0	20.1	20.0	20.2	0.0	20.6	20.6	20.6	0.0	25.2	25.2	25.3	0.0	22.5	22.4	22.4
			1	24	0.0	20.0	19.9	20.3	0.0	20.6	20.6	20.6	0.0	25.0	25.1	25.2	0.0	22.4	22.2	22.5
			1	49	0.0	20.0	20.1	20.3	0.0	20.6	20.6	20.6	0.0	25.1	25.2	25.2	0.0	22.5	22.3	22.5
			25	0	0.5	19.7	19.7	19.8	1.0	19.7	19.8	19.8	1.0	24.3	24.2	24.3	0.0	22.5	22.5	22.4
			25	12	0.5	19.5	19.5	19.6	1.0	19.7	19.7	19.8	1.0	24.1	24.0	24.1	0.0	22.2	22.3	22.5
			25	24	0.5	19.5	19.6	19.7	1.0	19.8	19.8	19.7	1.0	24.0	24.2	24.3	0.0	22.3	22.4	22.4
			50	0	0.5	19.7	19.8	19.7	1.0	19.7	19.7	19.8	1.0	24.3	24.1	24.3	0.0	22.2	22.3	22.5
		16QAM	1	0	0.5	19.5	19.5	19.6	1.0	19.8	19.8	19.8	1.0	24.2	24.3	24.2	0.0	22.4	22.3	22.4
			1	24	0.5	19.7	19.6	19.8	1.0	19.8	19.8	19.7	1.0	24.0	24.2	24.3	0.0	22.5	22.4	22.5
			1	49	0.5	19.8	19.8	19.7	1.0	19.7	19.7	19.8	1.0	24.3	24.1	24.3	0.0	22.4	22.3	22.3
			25	0	1.5	18.7	18.7	18.8	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.4	22.4	22.5
			25	12	1.5	18.7	18.8	18.7	2.0	18.8	18.8	18.8	2.0	23.2	23.3	23.2	0.0	22.5	22.4	22.5
			25	24	1.5	18.8	18.8	18.8	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.5
			50	0	1.5	18.6	18.7	18.7	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.4
		64QAM	1	0	1.5	18.7	18.7	18.8	2.0	18.8	18.8	18.8	2.0	23.2	23.3	23.2	0.0	22.2	22.3	22.5
			1	24	1.5	18.7	18.8	18.7	2.0	18.8	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.3	22.4	22.4
			1	49	1.5	18.6	18.7	18.7	2.0	18.8	18.7	18.7	2.0	23.2	23.3	23.2	0.0	22.2	22.3	22.5
			25	0	2.5	17.7	17.8	17.8	3.0	17.7	17.8	17.8	3.0	22.3	22.3	22.2	0.2	22.0	22.3	22.1
			25	12	2.5	17.8	17.8	17.8	3.0	17.8	17.7	17.7	3.0	22.2	22.3	22.1	0.2	22.3	22.2	22.2
			25	24	2.5	17.7	17.7	17.7	3.0	17.7	17.8	17.8	3.0	22.3	22.2	22.3	0.2	22.3	22.2	22.1
			50	0	2.5	17.6	17.7	17.8	3.0	17.7	17.8	17.7	3.0	22.2	22.3	22.2	0.2	22.3	22.1	22.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz
LTE Band 25	5	QPSK	1	0	0.0	20.0	20.2	20.1	0.0	20.8	20.7	20.7	0.0	25.2	25.3	25.2	0.0	22.4	22.4	22.5
			1	12	0.0	19.9	20.3	20.0	0.0	20.8	20.8	20.7	0.0	25.0	25.2	25.1	0.0	22.2	22.5	22.4
			1	24	0.0	20.1	20.3	20.0	0.0	20.7	20.8	20.7	0.0	25.1	25.2	25.2	0.0	22.3	22.5	22.5
			12	0	0.5	19.7	19.8	19.7	1.0	19.7	19.8	19.8	1.0	24.3	24.3	24.2	0.0	22.5	22.4	22.5
			12	7	0.5	19.5	19.6	19.5	1.0	19.7	19.7	19.8	1.0	24.1	24.1	24.0	0.0	22.3	22.5	22.2
			12	13	0.5	19.6	19.7	19.5	1.0	19.8	19.8	19.7	1.0	24.0	24.3	24.2	0.0	22.4	22.4	22.3
			25	0	0.5	19.8	19.7	19.7	1.0	19.7	19.7	19.8	1.0	24.2	24.3	24.1	0.0	22.3	22.5	22.2
		16QAM	1	0	0.5	19.5	19.6	19.5	1.0	19.8	19.8	19.8	1.0	24.3	24.2	24.3	0.0	22.3	22.4	22.4
			1	12	0.5	19.6	19.8	19.7	1.0	19.8	19.8	19.7	1.0	24.0	24.3	24.2	0.0	22.4	22.5	22.5
			1	24	0.5	19.8	19.7	19.8	1.0	19.7	19.7	19.8	1.0	24.3	24.3	24.1	0.0	22.3	22.3	22.4
			12	0	1.5	18.7	18.8	18.7	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.4	22.5	22.4
			12	7	1.5	18.8	18.7	18.7	2.0	18.8	18.8	18.8	2.0	23.2	23.2	23.3	0.0	22.4	22.5	22.5
			12	13	1.5	18.8	18.8	18.8	2.0	18.8	18.7	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.5
			25	0	1.5	18.7	18.7	18.6	2.0	18.8	18.7	18.7	2.0	22.2	23.3	23.3	0.0	22.5	22.4	22.5
		64QAM	1	0	1.5	18.7	18.8	18.7	2.0	18.8	18.8	18.8	2.0	23.2	23.2	23.3	0.0	22.3	22.5	22.2
			1	12	1.5	18.8	18.7	18.7	2.0	18.8	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.4	22.4	22.3
			1	24	1.5	18.7	18.7	18.6	2.0	18.8	18.7	18.7	2.0	23.2	23.2	23.3	0.0	22.3	22.5	22.2
			12	0	2.5	17.8	17.8	17.7	3.0	17.7	17.8	17.8	3.0	22.3	22.2	22.3	0.2	22.3	22.3	22.2
			12	7	2.5	17.8	17.8	17.8	3.0	17.8	17.7	17.7	3.0	22.2	22.1	22.3	0.2	22.2	22.3	22.2
			12	13	2.5	17.7	17.7	17.7	3.0	17.7	17.8	17.8	3.0	22.3	22.3	22.2	0.2	22.2	22.0	22.2
			25	0	2.5	17.7	17.8	17.6	3.0	17.7	17.8	17.7	3.0	22.2	22.2	22.3	0.2	22.0	22.2	22.2

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz
LTE Band 25	3	QPSK	1	0	0.0	20.2	20.1	20.0	0.0	20.6	20.6	20.6	0.0	25.2	25.2	25.3	0.0	22.5	22.4	22.4
			1	8	0.0	20.3	20.0	19.9	0.0	20.6	20.6	20.6	0.0	25.1	25.0	25.2	0.0	22.4	22.2	22.5
			1	14	0.0	20.3	20.0	20.1	0.0	20.6	20.6	20.6	0.0	25.2	25.1	25.2	0.0	22.5	22.3	22.5
			8	0	0.5	19.8	19.7	19.7	1.0	19.8	19.7	19.8	1.0	24.2	24.3	24.3	0.0	22.5	22.5	22.4
			8	4	0.5	19.6	19.5	19.5	1.0	19.8	19.7	19.7	1.0	24.0	24.1	24.1	0.0	22.2	22.3	22.5
			8	7	0.5	19.7	19.5	19.6	1.0	19.7	19.8	19.8	1.0	24.2	24.0	24.3	0.0	22.3	22.4	22.4
			15	0	0.5	19.7	19.7	19.8	1.0	19.8	19.7	19.7	1.0	24.1	24.3	24.3	0.0	22.2	22.3	22.5
		16QAM	1	0	0.5	19.6	19.5	19.5	1.0	19.8	19.8	19.8	1.0	24.3	24.2	24.2	0.0	22.4	22.3	22.4
			1	8	0.5	19.8	19.7	19.6	1.0	19.7	19.8	19.8	1.0	24.2	24.0	24.3	0.0	22.5	22.4	22.5
			1	14	0.5	19.7	19.8	19.8	1.0	19.8	19.7	19.7	1.0	24.1	24.3	24.3	0.0	22.4	22.3	22.3
			8	0	1.5	18.8	18.7	18.7	2.0	18.7	18.8	18.7	2.0	23.3	23.3	23.3	0.0	22.4	22.4	22.5
			8	4	1.5	18.7	18.7	18.8	2.0	18.8	18.8	18.8	2.0	23.3	23.2	23.2	0.0	22.5	22.4	22.5
			8	7	1.5	18.8	18.8	18.8	2.0	18.7	18.8	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.5
			15	0	1.5	18.7	18.6	18.7	2.0	18.7	18.8	18.7	2.0	23.3	23.3	23.3	0.0	22.5	22.5	22.4
		64QAM	1	0	1.5	18.8	18.7	18.7	2.0	18.8	18.8	18.8	2.0	23.3	23.2	23.2	0.0	22.2	22.3	22.5
			1	8	1.5	18.7	18.7	18.8	2.0	18.8	18.8	18.7	2.0	23.3	23.3	23.3	0.0	22.3	22.4	22.4
			1	14	1.5	18.7	18.6	18.7	2.0	18.7	18.8	18.7	2.0	23.3	23.2	23.2	0.0	22.2	22.3	22.5
			8	0	2.5	17.8	17.7	17.8	3.0	17.8	17.7	17.8	3.0	22.3	22.3	22.2	0.2	22.1	22.2	22.2
			8	4	2.5	17.8	17.8	17.8	3.0	17.7	17.8	17.7	3.0	22.3	22.2	22.1	0.2	22.1	22.0	22.1
			8	7	2.5	17.7	17.7	17.7	3.0	17.8	17.7	17.8	3.0	22.2	22.3	22.3	0.2	22.3	22.2	22.0
			15	0	2.5	17.8	17.6	17.7	3.0	17.7	17.7	17.8	3.0	22.3	22.2	22.2	0.2	22.1	22.0	22.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz
LTE Band 25	1.4	QPSK	1	0	0.0	20.1	20.0	20.2	0.0	20.6	20.6	20.6	0.0	25.3	25.2	25.2	0.0	22.4	22.4	22.5
			1	3	0.0	20.0	19.9	20.3	0.0	20.5	20.5	20.5	0.0	25.2	25.1	25.0	0.0	22.5	22.2	22.4
			1	5	0.0	20.0	20.1	20.3	0.0	20.6	20.6	20.6	0.0	25.2	25.2	25.1	0.0	22.5	22.3	22.5
			3	0	0.0	20.0	19.9	20.3	0.0	20.6	20.6	20.6	0.0	24.3	24.2	24.3	0.0	22.4	22.5	22.5
			3	1	0.0	20.0	20.1	20.3	0.0	20.6	20.6	20.5	0.0	24.1	24.0	24.1	0.0	22.5	22.3	22.2
			3	3	0.0	20.1	20.0	20.2	0.0	20.5	20.5	20.5	0.0	24.3	24.2	24.0	0.0	22.4	22.4	22.3
			6	0	0.5	19.7	19.8	19.7	1.0	19.7	19.7	19.7	1.0	24.3	24.1	24.3	0.0	22.5	22.3	22.2
		16QAM	1	0	0.5	19.5	19.5	19.6	1.0	19.8	19.8	19.8	1.0	24.2	24.3	24.2	0.0	22.4	22.3	22.4
			1	3	0.5	19.7	19.6	19.8	1.0	19.8	19.8	19.8	1.0	24.3	24.2	24.0	0.0	22.5	22.4	22.5
			1	5	0.5	19.8	19.8	19.7	1.0	19.7	19.7	19.7	1.0	24.3	24.1	24.3	0.0	22.3	22.3	22.4
			3	0	0.5	19.7	19.6	19.8	1.0	19.7	19.7	19.7	1.0	23.3	23.3	23.3	0.0	22.5	22.4	22.4
			3	1	0.5	19.8	19.8	19.7	1.0	19.8	19.8	19.8	1.0	23.2	23.3	23.2	0.0	22.5	22.4	22.5
			3	3	0.5	19.5	19.5	19.6	1.0	19.8	19.8	19.8	1.0	23.3	23.3	23.3	0.0	22.5	22.5	22.5
			6	0	1.5	18.6	18.7	18.7	2.0	18.7	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.4	22.5	22.5
		64QAM	1	0	1.5	18.7	18.7	18.8	2.0	18.8	18.8	18.8	2.0	23.2	23.3	23.2	0.0	22.5	22.3	22.2
			1	3	1.5	18.7	18.8	18.7	2.0	18.7	18.7	18.8	2.0	23.3	23.3	23.3	0.0	22.4	22.4	22.3
			1	5	1.5	18.6	18.7	18.7	2.0	18.7	18.7	18.8	2.0	23.2	23.3	23.2	0.0	22.5	22.3	22.2
			3	0	1.5	18.6	18.7	18.7	2.0	18.7	18.7	18.8	2.0	22.2	22.3	22.3	0.0	22.4	22.3	22.4
			3	1	1.5	18.7	18.7	18.8	2.0	18.8	18.8	18.8	2.0	22.1	22.3	22.2	0.0	22.5	22.4	22.5
			3	3	1.5	18.7	18.8	18.7	2.0	18.7	18.7	18.8	2.0	22.3	22.2	22.3	0.0	22.3	22.3	22.4
			6	0	2.5	17.6	17.7	17.8	3.0	17.8	17.8	17.7	3.0	22.2	22.3	22.2	0.2	22.3	22.2	22.2

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LTE Band 26 (Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz		819 MHz	831.5 MHz	844 MHz
LTE Band 26	**Max Power (dBm)**				**24.0**				**24.0**				**24.8**				**24.8**			
	10	QPSK	1	0	0	23.9	23.8	23.6	0	23.9	23.8	23.6	0	24.4	24.6	24.8	0	24.4	24.6	24.8
			1	24	0	23.9	24.0	23.6	0	23.9	24.0	23.6	0	24.4	24.8	24.8	0	24.4	24.8	24.8
			1	49	0	23.9	23.8	23.6	0	23.9	23.8	23.6	0	24.4	24.6	24.8	0	24.4	24.6	24.8
			25	0	1	22.9	22.9	22.9	1	22.9	22.9	22.9	1	23.6	23.6	23.6	1	23.6	23.6	23.6
			25	12	1	22.9	23.0	22.9	1	22.9	23.0	22.9	1	23.6	23.8	23.6	1	23.6	23.8	23.6
			25	24	1	22.9	22.9	22.9	1	22.9	22.9	22.9	1	23.6	23.6	23.6	1	23.6	23.6	23.6
			50	0	1	23.0	23.0	23.0	1	23.0	23.0	23.0	1	23.6	23.6	23.6	1	23.6	23.6	23.6
		16QAM	1	0	1	22.8	22.8	22.9	1	22.8	22.8	22.9	1	23.6	23.7	23.7	1	23.6	23.7	23.7
			1	24	1	22.8	23.0	22.9	1	22.8	23.0	22.9	1	23.6	23.7	23.6	1	23.6	23.7	23.6
			1	49	1	23.0	22.8	23.0	1	23.0	22.8	23.0	1	23.7	23.6	23.8	1	23.7	23.6	23.8
			25	0	2	21.8	22.0	21.9	2	21.8	22.0	21.9	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			25	12	2	21.8	21.9	21.8	2	21.8	21.9	21.8	2	22.8	22.6	22.8	2	22.8	22.6	22.8
			25	24	2	21.9	22.0	21.9	2	21.9	22.0	21.9	2	22.8	22.7	22.6	2	22.8	22.7	22.6
			50	0	2	21.8	21.9	21.9	2	21.8	21.9	21.9	2	22.6	22.6	22.6	2	22.6	22.6	22.6
		64QAM	1	0	2	21.9	21.9	21.9	2	21.9	21.9	21.9	2	22.7	22.7	22.8	2	22.7	22.7	22.8
			1	24	2	21.9	21.9	21.8	2	21.9	21.9	21.8	2	22.6	22.8	22.7	2	22.6	22.8	22.7
			1	49	2	21.9	21.8	22.0	2	21.9	21.8	22.0	2	22.6	22.6	22.6	2	22.6	22.6	22.6
			25	0	3	20.8	20.8	20.9	3	20.8	20.8	20.9	3	21.6	21.7	21.6	3	21.6	21.7	21.6
			25	12	3	20.9	20.9	20.9	3	20.9	20.9	20.9	3	21.7	21.7	21.7	3	21.7	21.7	21.7
			25	24	3	21.0	20.8	20.8	3	21.0	20.8	20.8	3	21.6	21.7	21.7	3	21.6	21.7	21.7
			50	0	3	20.9	20.8	20.8	3	20.9	20.8	20.8	3	21.6	21.7	21.7	3	21.6	21.7	21.7

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz
LTE Band 26	5	QPSK	1	0	0	24.0	23.9	23.8	0	24.0	23.9	23.8	0	24.8	24.8	24.8	0	24.8	24.8	24.8
			1	12	0	24.0	23.9	24.0	0	24.0	23.9	24.0	0	24.8	24.6	24.8	0	24.8	24.6	24.8
			1	24	0	23.8	24.0	23.9	0	23.8	24.0	23.9	0	24.6	24.6	24.6	0	24.6	24.6	24.6
			12	0	1	22.8	23.0	22.9	1	22.8	23.0	22.9	1	23.8	23.8	23.7	1	23.8	23.8	23.7
			12	7	1	23.0	22.9	22.8	1	23.0	22.9	22.8	1	23.7	23.6	23.6	1	23.7	23.6	23.6
			12	13	1	23.0	22.9	22.9	1	23.0	22.9	22.9	1	23.7	23.7	23.8	1	23.7	23.7	23.8
			25	0	1	22.9	22.8	22.8	1	22.9	22.8	22.8	1	23.6	23.8	23.8	1	23.6	23.8	23.8
		16QAM	1	0	1	22.9	22.9	23.0	1	22.9	22.9	23.0	1	23.7	23.8	23.7	1	23.7	23.8	23.7
			1	12	1	23.0	23.0	22.8	1	23.0	23.0	22.8	1	23.7	23.6	23.8	1	23.7	23.6	23.8
			1	24	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.7	23.8	1	23.7	23.7	23.8
			12	0	2	21.9	21.8	21.9	2	21.9	21.8	21.9	2	22.7	22.6	22.6	2	22.7	22.6	22.6
			12	7	2	21.9	21.8	22.0	2	21.9	21.8	22.0	2	22.8	22.6	22.7	2	22.8	22.6	22.7
			12	13	2	22.0	22.0	21.9	2	22.0	22.0	21.9	2	22.6	22.8	22.8	2	22.6	22.8	22.8
			25	0	2	22.0	21.8	22.0	2	22.0	21.8	22.0	2	22.7	22.7	22.6	2	22.7	22.7	22.6
		64QAM	1	0	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.6	22.6	22.8	2	22.6	22.6	22.8
			1	12	2	22.0	22.0	22.0	2	22.0	22.0	22.0	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			1	24	2	21.9	21.9	22.0	2	21.9	21.9	22.0	2	22.8	22.7	22.8	2	22.8	22.7	22.8
			12	0	3	20.9	20.8	20.8	3	20.9	20.8	20.8	3	21.7	21.8	21.7	3	21.7	21.8	21.7
			12	7	3	20.8	21.0	21.0	3	20.8	21.0	21.0	3	21.6	21.8	21.8	3	21.6	21.8	21.8
			12	13	3	20.9	21.0	20.8	3	20.9	21.0	20.8	3	21.7	21.8	21.7	3	21.7	21.8	21.7
			25	0	3	20.9	20.8	20.8	3	20.9	20.8	20.8	3	21.7	21.6	21.6	3	21.7	21.6	21.6

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz
LTE Band 26	3	QPSK	1	0	0	24.0	23.9	23.8	0	24.0	23.9	23.8	0	24.8	24.8	24.8	0	24.8	24.8	24.8
			1	8	0	24.0	23.9	24.0	0	24.0	23.9	24.0	0	24.8	24.6	24.8	0	24.8	24.6	24.8
			1	14	0	23.8	24.0	23.9	0	23.8	24.0	23.9	0	24.6	24.6	24.6	0	24.6	24.6	24.6
			8	0	1	22.8	23.0	22.9	1	22.8	23.0	22.9	1	23.8	23.8	23.7	1	23.8	23.8	23.7
			8	4	1	23.0	22.9	22.8	1	23.0	22.9	22.8	1	23.7	23.6	23.6	1	23.7	23.6	23.6
			8	7	1	23.0	22.9	22.9	1	23.0	22.9	22.9	1	23.7	23.7	23.8	1	23.7	23.7	23.8
			15	0	1	22.9	22.8	22.8	1	22.9	22.8	22.8	1	23.6	23.8	23.8	1	23.6	23.8	23.8
		16QAM	1	0	1	22.9	22.9	23.0	1	22.9	22.9	23.0	1	23.7	23.8	23.7	1	23.7	23.8	23.7
			1	8	1	23.0	23.0	22.8	1	23.0	23.0	22.8	1	23.7	23.6	23.8	1	23.7	23.6	23.8
			1	14	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.7	23.8	1	23.7	23.7	23.8
			8	0	2	21.9	21.8	21.9	2	21.9	21.8	21.9	2	22.7	22.6	22.6	2	22.7	22.6	22.6
			8	4	2	21.9	21.8	22.0	2	21.9	21.8	22.0	2	22.8	22.6	22.7	2	22.8	22.6	22.7
			8	7	2	22.0	22.0	21.9	2	22.0	22.0	21.9	2	22.6	22.8	22.8	2	22.6	22.8	22.8
			15	0	2	22.0	21.8	22.0	2	22.0	21.8	22.0	2	22.7	22.7	22.6	2	22.7	22.7	22.6
		64QAM	1	0	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.6	22.6	22.8	2	22.6	22.6	22.8
			1	8	2	22.0	22.0	22.0	2	22.0	22.0	22.0	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			1	14	2	21.9	21.9	22.0	2	21.9	21.9	22.0	2	22.8	22.7	22.8	2	22.8	22.7	22.8
			8	0	3	20.9	20.8	20.8	3	20.9	20.8	20.8	3	21.7	21.8	21.7	3	21.7	21.8	21.7
			8	4	3	20.8	21.0	21.0	3	20.8	21.0	21.0	3	21.6	21.8	21.8	3	21.6	21.8	21.8
			8	7	3	20.9	21.0	20.8	3	20.9	21.0	20.8	3	21.7	21.8	21.7	3	21.7	21.8	21.7
			15	0	3	20.9	20.8	20.8	3	20.9	20.8	20.8	3	21.7	21.6	21.6	3	21.7	21.6	21.6

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz
LTE Band 26	1.4	QPSK	1	0	0	24.0	23.9	23.8	0	24.0	23.9	23.8	0	24.8	24.8	24.8	0	24.8	24.8	24.8
			1	3	0	24.0	23.9	24.0	0	24.0	23.9	24.0	0	24.8	24.6	24.8	0	24.8	24.6	24.8
			1	5	0	23.8	24.0	23.9	0	23.8	24.0	23.9	0	24.6	24.6	24.6	0	24.6	24.6	24.6
			3	0	0	24.0	23.9	24.0	0	24.0	23.9	24.0	0	24.8	24.8	24.8	0	24.8	24.8	24.8
			3	1	0	23.8	24.0	23.9	0	23.8	24.0	23.9	0	24.8	24.6	24.8	0	24.8	24.6	24.8
			3	3	0	24.0	23.9	23.8	0	24.0	23.9	23.8	0	24.6	24.6	24.6	0	24.6	24.6	24.6
			6	0	1	22.9	22.8	22.8	1	22.9	22.8	22.8	1	23.6	23.8	23.8	1	23.6	23.8	23.8
		16QAM	1	0	1	22.9	22.9	23.0	1	22.9	22.9	23.0	1	23.7	23.8	23.7	1	23.7	23.8	23.7
			1	3	1	23.0	23.0	22.8	1	23.0	23.0	22.8	1	23.7	23.6	23.8	1	23.7	23.6	23.8
			1	5	1	23.0	22.9	23.0	1	23.0	22.9	23.0	1	23.7	23.7	23.8	1	23.7	23.7	23.8
			3	0	1	22.9	22.8	22.8	1	22.9	22.8	22.8	1	23.6	23.8	23.8	1	23.6	23.8	23.8
			3	1	1	22.9	22.9	23.0	1	22.9	22.9	23.0	1	23.7	23.8	23.7	1	23.7	23.8	23.7
			3	3	1	23.0	23.0	22.8	1	23.0	23.0	22.8	1	23.7	23.6	23.8	1	23.7	23.6	23.8
			6	0	2	22.0	21.8	22.0	2	22.0	21.8	22.0	2	22.7	22.7	22.6	2	22.7	22.7	22.6
		64QAM	1	0	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.6	22.6	22.8	2	22.6	22.6	22.8
			1	3	2	22.0	22.0	22.0	2	22.0	22.0	22.0	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			1	5	2	21.9	21.9	22.0	2	21.9	21.9	22.0	2	22.8	22.7	22.8	2	22.8	22.7	22.8
			3	0	2	22.0	21.8	22.0	2	22.0	21.8	22.0	2	22.7	22.7	22.6	2	22.7	22.7	22.6
			3	1	2	22.0	21.9	22.0	2	22.0	21.9	22.0	2	22.6	22.6	22.8	2	22.6	22.6	22.8
			3	3	2	22.0	22.0	22.0	2	22.0	22.0	22.0	2	22.7	22.8	22.7	2	22.7	22.8	22.7
			6	0	3	20.9	20.8	20.8	3	20.9	20.8	20.8	3	21.7	21.6	21.6	3	21.7	21.6	21.6

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LTE Band 30 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A				MODE B			
					Target MPR	UAT 1	Target MPR	LAT 1	Target MPR	UAT 1	Target MPR	LAT 1
						2310 MHz		2310 MHz		2310 MHz		2310 MHz
	Max Power (dBm)					**20.3**		**20.3**		**23.8**		**21.5**
LTE Band 30	10	QPSK	1	0	0.0	20.2	0.0	20.2	0.0	23.8	0.0	21.5
			1	24	0.0	20.2	0.0	20.2	0.0	23.8	0.0	21.5
			1	49	0.0	20.2	0.0	20.2	0.0	23.8	0.0	21.5
			25	0	0.0	20.3	0.0	20.3	1.0	22.5	0.0	21.5
			25	12	0.0	20.3	0.0	20.3	1.0	22.8	0.0	21.5
			25	24	0.0	20.3	0.0	20.3	1.0	22.5	0.0	21.5
			50	0	0.0	20.0	0.0	20.0	1.0	22.5	0.0	21.5
		16QAM	1	0	0.0	20.3	0.0	20.3	1.0	22.7	0.0	21.4
			1	24	0.0	20.2	0.0	20.2	1.0	22.7	0.0	21.3
			1	49	0.0	20.3	0.0	20.3	1.0	22.8	0.0	21.4
			25	0	1.0	19.2	1.0	19.2	2.0	21.7	0.0	21.5
			25	12	1.0	19.3	1.0	19.3	2.0	21.7	0.0	21.4
			25	24	1.0	19.2	1.0	19.2	2.0	21.8	0.0	21.3
			50	0	1.0	19.3	1.0	19.3	2.0	21.8	0.0	21.4
		64QAM	1	0	1.0	19.2	1.0	19.2	2.0	21.7	0.0	21.4
			1	24	1.0	19.2	1.0	19.2	2.0	21.7	0.0	21.4
			1	49	1.0	19.1	1.0	19.1	2.0	21.8	0.0	21.3
			25	0	2.0	18.1	2.0	18.1	3.0	20.8	0.7	20.6
			25	12	2.0	18.3	2.0	18.3	3.0	20.7	0.7	20.7
			25	24	2.0	18.1	2.0	18.1	3.0	20.8	0.7	20.8
			50	0	2.0	18.3	2.0	18.3	3.0	20.7	0.7	20.8

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A				MODE B			
					Target MPR	UAT 1	Target MPR	LAT 1	Target MPR	UAT 1	Target MPR	LAT 1
						2310 MHz		2310 MHz		2310 MHz		2310 MHz
LTE Band 30	5	QPSK	1	0	0.0	20.1	0.0	20.1	0.0	23.8	0.0	21.4
			1	12	0.0	20.3	0.0	20.3	0.0	23.8	0.0	21.3
			1	24	0.0	20.1	0.0	20.1	0.0	23.8	0.0	21.4
			12	0	0.0	20.2	0.0	20.2	1.0	22.7	0.0	21.5
			12	7	0.0	20.2	0.0	20.2	1.0	22.7	0.0	21.4
			12	13	0.0	20.2	0.0	20.2	1.0	22.8	0.0	21.3
			25	0	0.0	20.2	0.0	20.2	1.0	22.7	0.0	21.3
		16QAM	1	0	0.0	20.2	0.0	20.2	1.0	22.8	0.0	21.3
			1	12	0.0	20.2	0.0	20.2	1.0	22.7	0.0	21.5
			1	24	0.0	20.1	0.0	20.1	1.0	22.8	0.0	21.5
			12	0	1.0	19.1	1.0	19.1	2.0	21.8	0.0	21.5
			12	7	1.0	19.3	1.0	19.3	2.0	21.7	0.0	21.4
			12	13	1.0	19.1	1.0	19.1	2.0	21.8	0.0	21.4
			25	0	1.0	19.2	1.0	19.2	2.0	21.8	0.0	21.4
		64QAM	1	0	1.0	19.1	1.0	19.1	2.0	21.8	0.0	21.3
			1	12	1.0	19.1	1.0	19.1	2.0	21.8	0.0	21.5
			1	24	1.0	19.3	1.0	19.3	2.0	21.7	0.0	21.3
			12	0	2.0	18.1	2.0	18.1	3.0	20.8	0.7	20.6
			12	7	2.0	18.1	2.0	18.1	3.0	20.7	0.7	20.6
			12	13	2.0	18.2	2.0	18.2	3.0	20.7	0.7	20.8
			25	0	2.0	18.1	2.0	18.1	3.0	20.8	0.7	20.8

Note(s):

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

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LTE Band 66 Average Power (dBm) Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz
	Max Power (dBm)				**22.2**				**22.2**				**25.3**				**24.3**			
LTE Band 66	20	QPSK	1	0	0.0	22.2	22.2	22.2	0.0	22.2	22.2	22.2	0.0	25.1	25.2	25.1	0.0	24.0	24.1	24.2
			1	49	0.0	22.2	22.2	22.2	0.0	22.2	22.2	22.2	0.0	25.1	25.3	25.1	0.0	24.0	24.1	24.2
			1	99	0.0	22.2	22.2	22.2	0.0	22.2	22.2	22.2	0.0	25.1	25.2	25.1	0.0	24.0	24.1	24.2
			50	0	1.0	21.1	21.2	21.2	1.0	21.1	21.2	21.2	1.0	24.3	24.3	24.3	0.0	24.3	24.2	24.3
			50	24	1.0	21.1	21.2	21.2	1.0	21.1	21.1	21.2	1.0	24.3	24.2	24.3	0.0	24.3	24.3	24.3
			50	49	1.0	21.1	21.2	21.2	1.0	21.1	21.2	21.2	1.0	24.3	24.2	24.3	0.0	24.3	24.2	24.3
			100	0	1.0	21.2	21.2	21.2	1.0	21.2	21.2	21.2	1.0	24.2	24.2	24.2	0.0	24.2	24.2	24.2
		16QAM	1	0	1.0	21.2	21.2	21.2	1.0	21.2	21.2	21.2	1.0	24.2	24.2	24.3	0.0	24.3	24.2	24.1
			1	49	1.0	21.1	21.2	21.2	1.0	21.1	21.2	21.2	1.0	24.2	24.3	24.1	0.0	24.2	24.3	24.1
			1	99	1.0	21.2	21.0	21.1	1.0	21.2	21.0	21.1	1.0	24.1	24.3	24.1	0.0	24.1	24.1	24.2
			50	0	2.0	20.1	20.1	20.2	2.0	20.1	20.1	20.2	2.0	23.3	23.3	23.2	1.0	23.2	23.0	23.2
			50	24	2.0	20.1	20.0	20.0	2.0	20.1	20.0	20.0	2.0	23.3	23.3	23.3	1.0	23.2	23.2	23.2
			50	49	2.0	20.0	20.2	20.1	2.0	20.0	20.2	20.1	2.0	23.3	23.1	23.2	1.0	23.2	23.2	23.0
			100	0	2.0	20.2	20.2	20.0	2.0	20.2	20.2	20.0	2.0	23.3	23.2	23.1	1.0	23.0	23.2	23.0
		64QAM	1	0	2.0	20.2	20.0	20.2	2.0	20.2	20.0	20.2	2.0	23.3	23.1	23.1	1.0	23.2	23.0	23.2
			1	49	2.0	20.0	20.0	20.2	2.0	20.0	20.0	20.2	2.0	23.3	23.2	23.3	1.0	23.2	23.0	23.2
			1	99	2.0	20.1	20.1	20.0	2.0	20.1	20.1	20.0	2.0	23.2	23.3	23.1	1.0	23.3	23.3	23.1
			50	0	3.0	19.0	19.2	19.2	3.0	19.0	19.2	19.2	3.0	22.3	22.3	22.2	2.0	22.1	22.2	22.1
			50	24	3.0	19.1	19.1	19.2	3.0	19.1	19.1	19.2	3.0	22.3	22.2	22.2	2.0	22.1	22.3	22.3
			50	49	3.0	19.2	19.2	19.2	3.0	19.2	19.2	19.2	3.0	22.2	22.1	22.1	2.0	22.1	22.0	22.0
			100	0	3.0	19.0	19.1	19.2	3.0	19.0	19.1	19.2	3.0	22.2	22.2	22.1	2.0	22.0	22.1	22.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1717.5 MHz	1745 MHz	1772.5 MHz		1717.5 MHz	1745 MHz	1772.5 MHz		1717.5 MHz	1745 MHz	1772.5 MHz		1717.5 MHz	1745 MHz	1772.5 MHz
LTE Band 66	15	QPSK	1	0	0.0	22.1	22.0	22.0	0.0	22.1	22.0	22.0	0.0	25.3	25.2	25.1	0.0	24.2	24.1	24.3
			1	36	0.0	22.0	22.0	22.1	0.0	22.0	22.0	22.1	0.0	25.3	25.3	25.2	0.0	24.1	24.3	24.2
			1	74	0.0	22.1	22.1	22.1	0.0	22.1	22.1	22.1	0.0	25.1	25.1	25.1	0.0	24.3	24.1	24.2
			36	0	1.0	21.0	21.2	21.2	1.0	21.0	21.2	21.2	1.0	24.3	24.1	24.1	0.0	24.2	24.1	24.1
			36	18	1.0	21.1	21.0	21.1	1.0	21.1	21.0	21.1	1.0	24.1	24.2	24.2	0.0	24.2	24.3	24.3
			36	37	1.0	21.2	21.1	21.2	1.0	21.2	21.1	21.2	1.0	24.1	24.2	24.3	0.0	24.3	24.2	24.1
			75	0	1.0	21.0	21.0	21.1	1.0	21.0	21.0	21.1	1.0	24.1	24.3	24.2	0.0	24.3	24.3	24.2
		16QAM	1	0	1.0	21.0	21.2	21.2	1.0	21.0	21.2	21.2	1.0	24.2	24.1	24.2	0.0	24.1	24.3	24.3
			1	36	1.0	21.1	21.0	21.0	1.0	21.1	21.0	21.0	1.0	24.1	24.2	24.1	0.0	24.3	24.2	24.2
			1	74	1.0	21.1	21.1	21.0	1.0	21.1	21.1	21.0	1.0	24.3	24.1	24.3	0.0	24.1	24.3	24.1
			36	0	2.0	20.2	20.0	20.2	2.0	20.2	20.0	20.2	2.0	23.2	23.2	23.1	1.0	23.1	23.2	23.2
			36	18	2.0	20.0	20.1	20.0	2.0	20.0	20.1	20.0	2.0	23.2	23.3	23.3	1.0	23.1	23.1	23.2
			36	37	2.0	20.1	20.0	20.1	2.0	20.1	20.0	20.1	2.0	23.2	23.3	23.2	1.0	23.3	23.3	23.1
			75	0	2.0	20.2	20.1	20.0	2.0	20.2	20.1	20.0	2.0	23.2	23.2	23.1	1.0	23.1	23.2	23.1
		64QAM	1	0	2.0	20.0	20.1	20.2	2.0	20.0	20.1	20.2	2.0	23.3	23.3	23.3	1.0	23.1	23.2	23.2
			1	36	2.0	20.0	20.0	20.1	2.0	20.0	20.0	20.1	2.0	23.2	23.3	23.3	1.0	23.2	23.3	23.2
			1	74	2.0	20.0	20.1	20.1	2.0	20.0	20.1	20.1	2.0	23.2	23.2	23.3	1.0	23.3	23.3	23.3
			36	0	3.0	19.1	19.2	19.1	3.0	19.1	19.2	19.1	3.0	22.2	22.2	22.3	2.0	22.3	22.2	22.1
			36	18	3.0	19.1	19.1	19.0	3.0	19.1	19.1	19.0	3.0	22.2	22.1	22.2	2.0	22.3	22.3	22.1
			36	37	3.0	19.0	19.2	19.0	3.0	19.0	19.2	19.0	3.0	22.1	22.3	22.1	2.0	22.2	22.1	22.2
			75	0	3.0	19.1	19.0	19.1	3.0	19.1	19.0	19.1	3.0	22.2	22.3	22.1	2.0	22.2	22.1	22.2

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

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1715 MHz	1745 MHz	1775 MHz		1715 MHz	1745 MHz	1775 MHz		1715 MHz	1745 MHz	1775 MHz		1715 MHz	1745 MHz	1775 MHz
LTE Band 66	10	QPSK	1	0	0.0	22.1	22.2	22.0	0.0	22.1	22.2	22.0	0.0	25.1	25.3	25.3	0.0	24.3	24.2	24.1
			1	24	0.0	22.2	22.1	22.0	0.0	22.2	22.1	22.0	0.0	25.1	25.3	25.1	0.0	24.3	24.3	24.3
			1	49	0.0	22.2	22.1	22.1	0.0	22.2	22.1	22.1	0.0	25.2	25.2	25.1	0.0	24.3	24.3	24.3
			25	0	1.0	21.0	21.0	21.0	1.0	21.0	21.0	21.0	1.0	24.3	24.3	24.2	0.0	24.3	24.3	24.1
			25	12	1.0	21.2	21.2	21.0	1.0	21.2	21.2	21.0	1.0	24.1	24.2	24.3	0.0	24.2	24.1	24.1
			25	24	1.0	21.0	21.1	21.0	1.0	21.0	21.1	21.0	1.0	24.1	24.1	24.1	0.0	24.3	24.2	24.3
			50	0	1.0	21.2	21.1	21.2	1.0	21.2	21.1	21.2	1.0	24.2	24.2	24.3	0.0	24.2	24.2	24.1
		16QAM	1	0	1.0	21.2	21.0	21.0	1.0	21.2	21.0	21.0	1.0	24.3	24.3	24.2	0.0	24.1	24.3	24.3
			1	24	1.0	21.2	21.1	21.0	1.0	21.2	21.1	21.0	1.0	24.1	24.1	24.3	0.0	24.1	24.1	24.1
			1	49	1.0	21.2	21.0	21.1	1.0	21.2	21.0	21.1	1.0	24.3	24.2	24.3	0.0	24.1	24.3	24.2
			25	0	2.0	20.0	20.2	20.0	2.0	20.0	20.2	20.0	2.0	23.1	23.2	23.2	1.0	23.3	23.3	23.2
			25	12	2.0	20.2	20.1	20.1	2.0	20.2	20.1	20.1	2.0	23.3	23.3	23.2	1.0	23.1	23.1	23.2
			25	24	2.0	20.2	20.0	20.0	2.0	20.2	20.0	20.0	2.0	23.3	23.1	23.3	1.0	23.3	23.2	23.2
			50	0	2.0	20.1	20.2	20.1	2.0	20.1	20.2	20.1	2.0	23.2	23.1	23.1	1.0	23.2	23.1	23.1
		64QAM	1	0	2.0	20.2	20.2	20.1	2.0	20.2	20.2	20.1	2.0	23.2	23.3	23.2	1.0	23.2	23.1	23.3
			1	24	2.0	20.1	20.2	20.2	2.0	20.1	20.2	20.2	2.0	23.1	23.1	23.1	1.0	23.3	23.2	23.2
			1	49	2.0	20.0	20.2	20.1	2.0	20.0	20.2	20.1	2.0	23.1	23.3	23.1	1.0	23.3	23.1	23.3
			25	0	3.0	19.2	19.1	19.0	3.0	19.2	19.1	19.0	3.0	22.3	22.3	22.3	2.0	22.2	22.1	22.1
			25	12	3.0	19.2	19.2	19.0	3.0	19.2	19.2	19.0	3.0	22.1	22.3	22.2	2.0	22.3	22.3	22.1
			25	24	3.0	19.1	19.1	19.1	3.0	19.1	19.1	19.1	3.0	22.1	22.2	22.2	2.0	22.2	22.3	22.1
			50	0	3.0	19.0	19.1	19.1	3.0	19.0	19.1	19.1	3.0	22.1	22.3	22.1	2.0	22.1	22.1	22.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A								MODE B							
					Target MPR	UAT 1			Target MPR	LAT 1			Target MPR	UAT 1			Target MPR	LAT 1		
						1712.5 MHz	1745 MHz	1777.5 MHz		1712.5 MHz	1745 MHz	1777.5 MHz		1712.5 MHz	1745 MHz	1777.5 MHz		1712.5 MHz	1745 MHz	1777.5 MHz
LTE Band 66	5	QPSK	1	0	0.0	22.2	22.2	22.0	0.0	22.2	22.2	22.0	0.0	25.3	25.2	25.1	0.0	24.2	24.3	24.2
			1	12	0.0	22.2	22.0	22.0	0.0	22.2	22.0	22.0	0.0	25.2	25.3	25.1	0.0	24.3	24.2	24.2
			1	24	0.0	22.2	22.1	22.1	0.0	22.2	22.1	22.1	0.0	25.3	25.3	25.2	0.0	24.3	24.3	24.2
			12	0	1.0	21.0	21.1	21.0	1.0	21.0	21.1	21.0	1.0	24.1	24.3	24.3	0.0	24.3	24.2	24.2
			12	7	1.0	21.0	21.1	21.1	1.0	21.0	21.1	21.1	1.0	24.3	24.2	24.3	0.0	24.2	24.1	24.3
			12	13	1.0	21.1	21.1	21.1	1.0	21.1	21.1	21.1	1.0	24.2	24.2	24.2	0.0	24.3	24.3	24.3
			25	0	1.0	21.0	21.0	21.0	1.0	21.0	21.0	21.0	1.0	24.3	24.1	24.3	0.0	24.3	24.3	24.2
		16QAM	1	0	1.0	21.2	21.2	21.1	1.0	21.2	21.2	21.1	1.0	24.1	24.3	24.3	0.0	24.1	24.1	24.1
			1	12	1.0	21.2	21.1	21.2	1.0	21.2	21.1	21.2	1.0	24.1	24.1	24.3	0.0	24.1	24.1	24.1
			1	24	1.0	21.1	21.2	21.1	1.0	21.1	21.2	21.1	1.0	24.2	24.1	24.3	0.0	24.1	24.2	24.3
			12	0	2.0	20.2	20.2	20.1	2.0	20.2	20.2	20.1	2.0	23.1	23.3	23.1	1.0	23.2	23.2	23.1
			12	7	2.0	20.1	20.0	20.2	2.0	20.1	20.0	20.2	2.0	23.3	23.2	23.1	1.0	23.3	23.2	23.2
			12	13	2.0	20.1	20.0	20.2	2.0	20.1	20.0	20.2	2.0	23.2	23.3	23.3	1.0	23.3	23.1	23.3
			25	0	2.0	20.2	20.1	20.0	2.0	20.2	20.1	20.0	2.0	23.3	23.2	23.2	1.0	23.3	23.2	23.2
		64QAM	1	0	2.0	20.0	20.0	20.1	2.0	20.0	20.0	20.1	2.0	23.2	23.3	23.1	1.0	23.1	23.1	23.2
			1	12	2.0	20.2	20.2	20.2	2.0	20.2	20.2	20.2	2.0	23.3	23.1	23.2	1.0	23.3	23.3	23.2
			1	24	2.0	20.2	20.0	20.2	2.0	20.2	20.0	20.2	2.0	23.3	23.3	23.3	1.0	23.3	23.3	23.2
			12	0	3.0	19.2	19.1	19.0	3.0	19.2	19.1	19.0	3.0	22.2	22.3	22.3	2.0	22.1	22.1	22.1
			12	7	3.0	19.2	19.1	19.0	3.0	19.2	19.1	19.0	3.0	22.3	22.3	22.3	2.0	22.3	22.2	22.1
			12	13	3.0	19.2	19.1	19.0	3.0	19.2	19.1	19.0	3.0	22.2	22.3	22.3	2.0	22.2	22.3	22.3
			25	0	3.0	19.2	19.0	19.1	3.0	19.2	19.0	19.1	3.0	22.1	22.2	22.1	2.0	22.2	22.3	22.1

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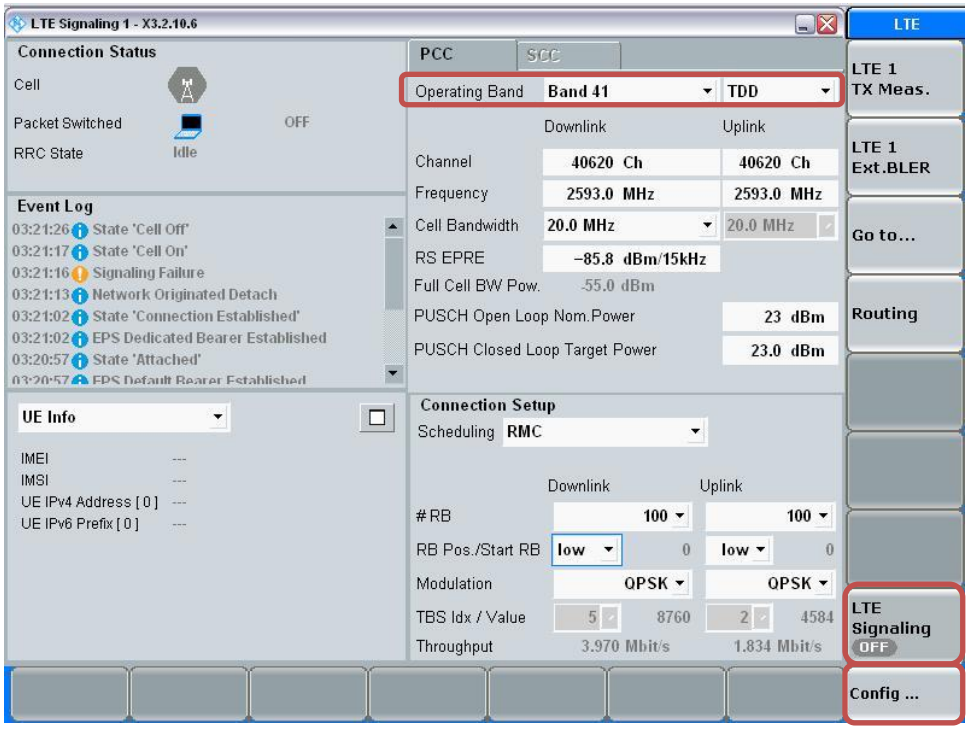
LTE Band TDD Measured Results

Procedure used to establish SAR test signal for LTE TDD Bands

Set to CMW-500 with following parameters:

- Turn the LTE Signaling off using “ON | OFF” key
- Operating Band: Select Band 41 and TDD
- Go to “Config….”



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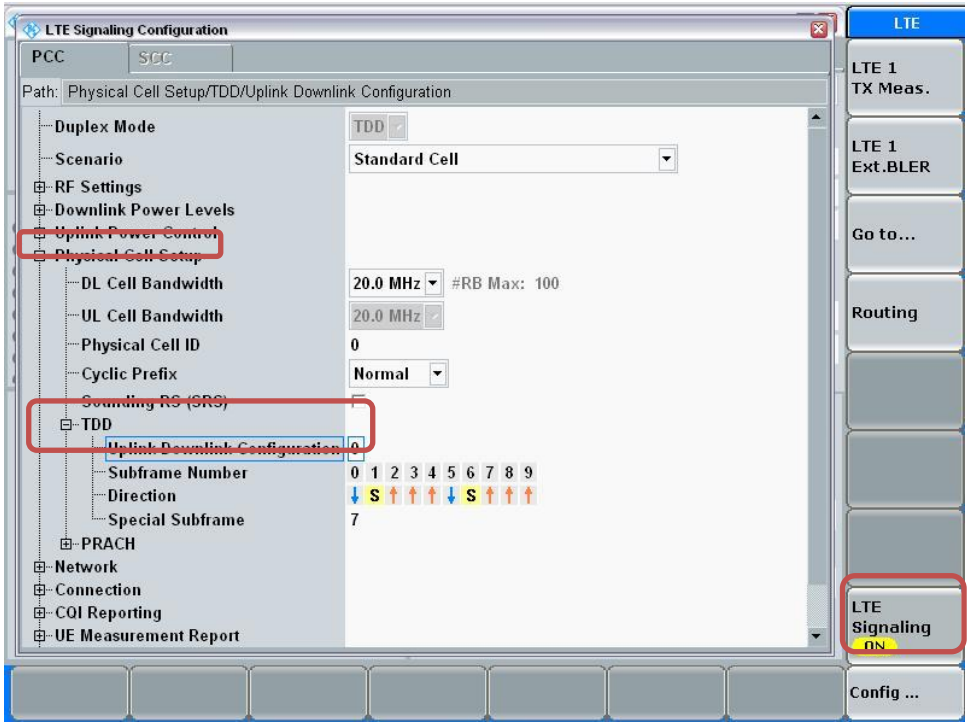
- Go to “Physical Cell Setup”
- Select “TDD” and Set “Uplink Downlink Configuration” to “0”
- Turn the cell on using “ON | OFF” key



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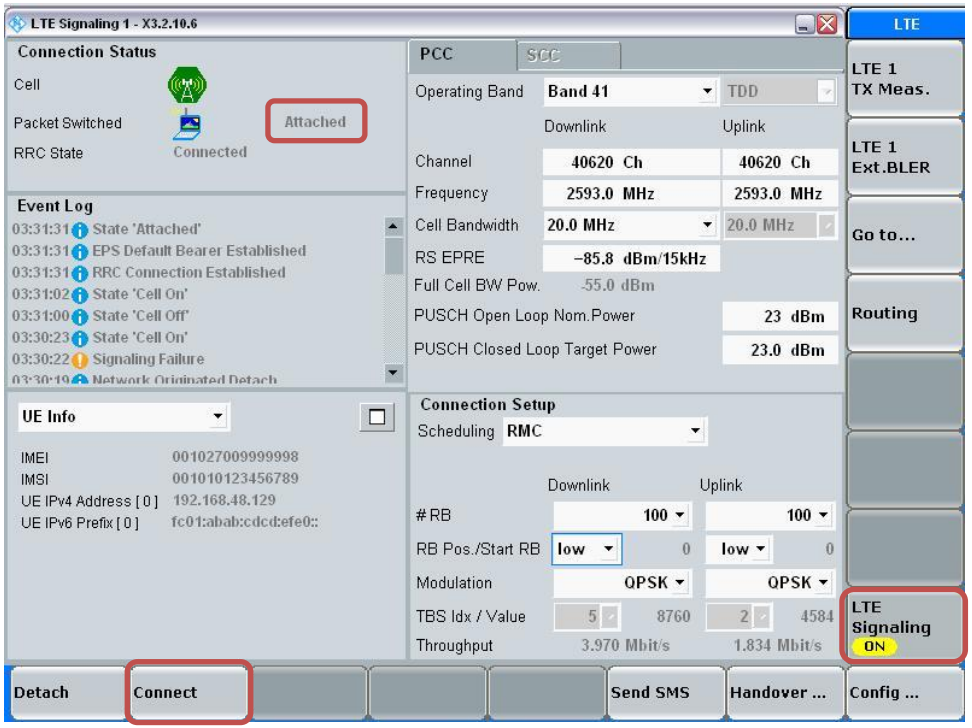
Connect to EUT

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



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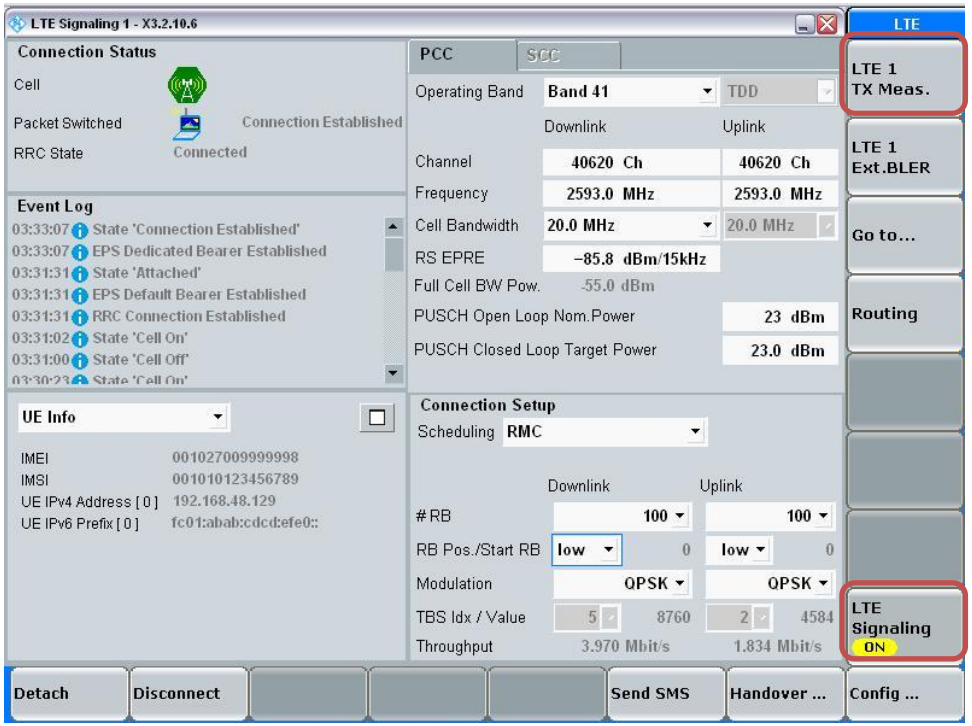
Max Power Setting

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



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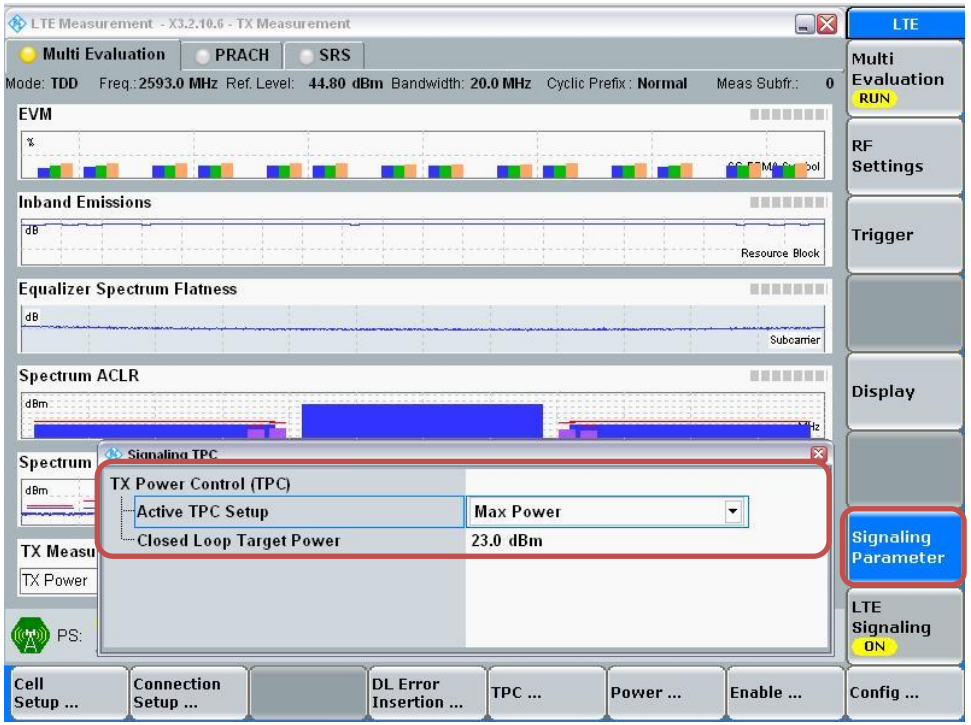
- Select “Signaling Parameter”
- Select “TX Power Control (TPC)” > Select “Active TPC Setup” to “Max Power” > Set “Closed Loop Target Power” to “23 dBm”



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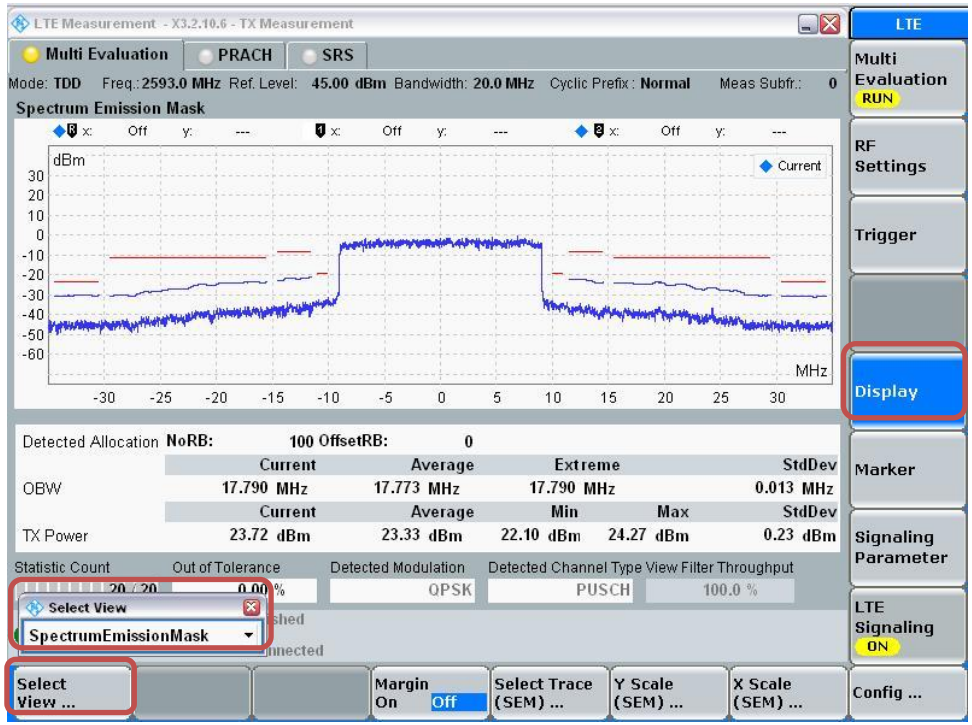
View TX Power

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



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LTE Band 41 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A												MODE B											
					Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	Max Power (dBm)				21.0						21.4						24.5						23.8					
	20	QPSK	1	0	0.0	20.9	20.9	20.9	21.0	21.0	0.0	21.4	21.4	21.4	21.4	21.2	0.0	24.5	24.5	24.5	24.5	24.5	0.0	23.7	23.6	23.8	23.6	23.8
			1	49	0.0	21.0	21.0	21.0	21.0	21.0	0.0	21.4	21.4	21.4	21.4	21.2	0.0	24.5	24.5	24.5	24.5	24.5	0.0	23.7	23.6	23.8	23.6	23.8
			1	99	0.0	20.9	20.9	20.9	21.0	21.0	0.0	21.4	21.4	21.4	21.4	21.2	0.0	24.5	24.5	24.5	24.5	24.5	0.0	23.7	23.6	23.8	23.6	23.8
			50	0	0.8	20.0	20.0	20.1	20.1	20.1	1.0	20.0	20.0	20.1	20.0	20.1	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.8	23.8	23.7	23.7
			50	24	0.8	20.3	20.4	20.2	20.2	20.1	1.0	20.0	20.0	20.1	20.0	20.1	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.8	23.8	23.7	23.7
			50	49	0.8	20.0	20.0	20.1	20.1	20.1	1.0	20.0	20.0	20.1	20.0	20.1	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.8	23.8	23.7	23.7
			100	0	0.8	20.2	20.2	20.1	20.0	20.2	1.0	20.2	20.2	20.2	20.2	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.6	23.6	23.7	23.6	23.7
		16QAM	1	0	0.8	20.2	20.2	20.1	20.2	20.0	1.0	20.3	20.2	20.2	20.2	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.8	23.8
			1	49	0.8	20.2	20.1	20.0	20.0	20.0	1.0	20.3	20.4	20.3	20.4	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.8	23.8	23.7
			1	99	0.8	20.1	20.2	20.0	20.1	20.0	1.0	20.4	20.4	20.3	20.2	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.8	23.7
			50	0	1.8	19.1	19.1	19.2	19.0	19.2	2.0	19.2	19.3	19.4	19.4	19.3	1.2	23.2	23.1	23.2	23.2	23.3	0.5	23.2	23.3	23.3	23.1	23.2
			50	24	1.8	19.2	19.2	19.1	19.0	19.2	2.0	19.2	19.3	19.4	19.4	19.3	1.2	23.1	23.3	23.2	23.1	23.1	0.5	23.1	23.1	23.3	23.1	23.3
			50	49	1.8	19.2	19.0	19.2	19.0	19.1	2.0	19.3	19.4	19.2	19.2	19.2	1.2	23.2	23.2	23.2	23.3	23.1	0.5	23.3	23.2	23.3	23.1	23.1
			100	0	1.8	19.1	19.1	19.1	19.1	19.0	2.0	19.2	19.4	19.4	19.2	19.3	1.2	23.1	23.3	23.3	23.3	23.2	0.5	23.3	23.3	23.3	23.1	23.3
		64QAM	1	0	1.8	19.1	19.0	19.1	19.2	19.1	2.0	19.2	19.4	19.3	19.3	19.2	1.2	23.3	23.3	23.3	23.1	23.1	0.5	23.3	23.3	23.3	23.3	23.1
			1	49	1.8	19.1	19.1	19.1	19.1	19.1	2.0	19.2	19.3	19.3	19.4	19.4	1.2	23.1	23.3	23.1	23.3	23.2	0.5	23.2	23.1	23.3	23.2	23.1
			1	99	1.8	19.1	19.2	19.1	19.2	19.2	2.0	19.2	19.4	19.3	19.4	19.3	1.2	23.3	23.2	23.2	23.3	23.3	0.5	23.2	23.1	23.1	23.1	23.2
			50	0	2.8	18.2	18.0	18.2	18.2	18.1	3.0	18.3	18.3	18.3	18.4	18.4	2.2	22.0	22.2	22.1	22.1	22.2	1.5	22.1	22.1	22.1	22.2	22.1
			50	24	2.8	18.2	18.2	18.2	18.1	18.0	3.0	18.4	18.4	18.2	18.3	18.4	2.2	22.2	22.0	22.2	22.3	22.3	1.5	22.3	22.2	22.3	22.1	22.3
			50	49	2.8	18.2	18.0	18.2	18.2	18.1	3.0	18.2	18.3	18.4	18.2	18.2	2.2	22.3	22.3	22.3	22.1	22.3	1.5	22.1	22.3	22.3	22.2	22.1
			100	0	2.8	18.1	18.1	18.1	18.1	18.0	3.0	18.3	18.2	18.2	18.3	18.2	2.2	22.1	22.3	22.1	22.2	22.1	1.5	22.1	22.1	22.2	22.3	22.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A												MODE B											
					Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	15	QPSK	1	0	0.0	21.0	20.9	20.9	21.0	20.9	0.0	21.4	21.2	21.3	21.3	21.2	0.0	24.3	24.4	24.5	24.3	24.5	0.0	23.7	23.8	23.8	23.8	23.7
			1	36	0.0	20.9	21.0	21.0	21.0	21.0	0.0	21.2	21.4	21.4	21.3	21.3	0.0	24.3	24.5	24.5	24.4	24.3	0.0	23.7	23.7	23.7	23.8	23.7
			1	74	0.0	21.0	20.9	21.0	21.0	21.0	0.0	21.2	21.4	21.3	21.2	21.4	0.0	24.3	24.3	24.3	24.4	24.4	0.0	23.7	23.7	23.8	23.7	23.8
			36	0	0.8	20.2	20.0	20.0	20.2	20.2	1.0	20.2	20.4	20.2	20.4	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.8	23.7	23.8	23.8
			36	18	0.8	20.1	20.0	20.0	20.0	20.2	1.0	20.3	20.3	20.3	20.4	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.8	23.8	23.7
			36	37	0.8	20.2	20.0	20.1	20.0	20.2	1.0	20.2	20.3	20.2	20.3	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.7	23.8
			75	0	0.8	20.0	20.0	20.1	20.0	20.2	1.0	20.3	20.4	20.4	20.4	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.8	23.8	23.7	23.8
		16QAM	1	0	0.8	20.0	20.1	20.1	20.0	20.1	1.0	20.2	20.2	20.3	20.4	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.7	23.8	23.8
			1	36	0.8	20.0	20.1	20.2	20.2	20.1	1.0	20.4	20.2	20.2	20.4	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.8	23.7	23.8	23.8
			1	74	0.8	20.1	20.0	20.2	20.1	20.1	1.0	20.2	20.4	20.4	20.2	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.7	23.8	23.7
			36	0	1.8	19.1	19.0	19.2	19.0	19.0	2.0	19.3	19.2	19.3	19.2	19.3	1.2	23.3	23.3	23.3	23.1	23.3	0.5	23.3	23.3	23.3	23.2	23.1
			36	18	1.8	19.2	19.0	19.1	19.1	19.1	2.0	19.2	19.4	19.2	19.4	19.4	1.2	23.2	23.2	23.3	23.2	23.1	0.5	23.3	23.2	23.2	23.2	23.3
			36	37	1.8	19.0	19.1	19.2	19.2	19.0	2.0	19.3	19.3	19.2	19.4	19.2	1.2	23.1	23.3	23.2	23.3	23.1	0.5	23.2	23.3	23.2	23.3	23.2
			75	0	1.8	19.0	19.1	19.1	19.2	19.2	2.0	19.3	19.3	19.3	19.2	19.4	1.2	23.2	23.3	23.2	23.2	23.3	0.5	23.1	23.2	23.2	23.3	23.2
		64QAM	1	0	1.8	19.1	19.1	19.2	19.0	19.0	2.0	19.2	19.4	19.2	19.2	19.3	1.2	23.2	23.2	23.1	23.2	23.3	0.5	23.1	23.3	23.1	23.1	23.2
			1	36	1.8	19.0	19.0	19.2	19.0	19.1	2.0	19.4	19.4	19.3	19.4	19.3	1.2	23.3	23.1	23.1	23.1	23.2	0.5	23.1	23.3	23.1	23.1	23.1
			1	74	1.8	19.1	19.0	19.1	19.1	19.0	2.0	19.2	19.4	19.4	19.2	19.3	1.2	23.1	23.1	23.2	23.2	23.3	0.5	23.1	23.3	23.3	23.1	23.3
			36	0	2.8	18.1	18.0	18.1	18.0	18.2	3.0	18.2	18.4	18.4	18.3	18.4	2.2	22.0	22.3	22.0	22.1	22.0	1.5	22.3	22.2	22.2	22.2	22.2
			36	18	2.8	18.2	18.0	18.1	18.2	18.1	3.0	18.2	18.3	18.3	18.3	18.2	2.2	22.2	22.0	22.0	22.2	22.0	1.5	22.2	22.1	22.1	22.3	22.1
			36	37	2.8	18.0	18.1	18.0	18.2	18.1	3.0	18.4	18.3	18.3	18.3	18.2	2.2	22.2	22.2	22.0	22.2	22.2	1.5	22.1	22.3	22.2	22.2	22.1
			75	0	2.8	18.1	18.0	18.0	18.2	18.0	3.0	18.4	18.4	18.2	18.2	18.2	2.2	22.2	22.0	22.2	22.0	22.3	1.5	22.1	22.1	22.2	22.3	22.1

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LTE Band 41 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A												MODE B											
					Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	10	QPSK	1	0	0.0	21.0	20.9	21.0	21.0	20.9	0.0	21.4	21.3	21.2	21.2	21.4	0.0	24.3	24.5	24.3	24.3	24.3	0.0	23.7	23.8	23.8	23.7	23.7
			1	24	0.0	20.9	21.0	20.9	20.9	21.0	0.0	21.4	21.4	21.3	21.2	21.2	0.0	24.5	24.5	24.5	24.4	24.4	0.0	23.7	23.7	23.7	23.8	23.7
			1	49	0.0	21.0	20.9	20.9	20.9	21.0	0.0	21.3	21.3	21.4	21.2	21.4	0.0	24.3	24.5	24.3	24.4	24.4	0.0	23.8	23.7	23.8	23.7	23.8
			25	0	0.8	20.2	20.2	20.2	20.1	20.0	1.0	20.2	20.3	20.4	20.4	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.7	23.7	23.7
			25	12	0.8	20.1	20.0	20.0	20.1	20.0	1.0	20.4	20.3	20.2	20.3	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.8	23.7
			25	24	0.8	20.1	20.1	20.2	20.1	20.0	1.0	20.3	20.3	20.3	20.2	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.8	23.8	23.7
			50	0	0.8	20.2	20.2	20.2	20.0	20.1	1.0	20.2	20.2	20.4	20.3	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.8	23.7	23.8
		16QAM	1	0	0.8	20.0	20.0	20.1	20.0	20.2	1.0	20.4	20.4	20.3	20.2	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.8	23.8	23.8
			1	24	0.8	20.2	20.0	20.0	20.2	20.2	1.0	20.4	20.2	20.4	20.2	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.8	23.7	23.8	23.8
			1	49	0.8	20.2	20.1	20.0	20.1	20.1	1.0	20.3	20.3	20.4	20.2	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.8	23.8
			25	0	1.8	19.2	19.1	19.0	19.0	19.1	2.0	19.2	19.2	19.4	19.3	19.3	1.2	23.2	23.2	23.3	23.2	23.3	0.5	23.2	23.2	23.3	23.2	23.2
			25	12	1.8	19.0	19.0	19.2	19.0	19.0	2.0	19.2	19.2	19.4	19.3	19.3	1.2	23.1	23.2	23.3	23.3	23.1	0.5	23.1	23.3	23.3	23.3	23.3
			25	24	1.8	19.1	19.0	19.1	19.2	19.2	2.0	19.4	19.4	19.2	19.4	19.3	1.2	23.1	23.3	23.2	23.2	23.1	0.5	23.3	23.1	23.1	23.3	23.2
			50	0	1.8	19.1	19.1	19.2	19.0	19.1	2.0	19.3	19.3	19.3	19.4	19.3	1.2	23.2	23.2	23.3	23.2	23.1	0.5	23.1	23.1	23.3	23.1	23.3
		64QAM	1	0	1.8	19.0	19.0	19.0	19.1	19.1	2.0	19.2	19.3	19.2	19.3	19.3	1.2	23.2	23.3	23.3	23.3	23.2	0.5	23.3	23.1	23.2	23.2	23.2
			1	24	1.8	19.1	19.1	19.2	19.0	19.2	2.0	19.3	19.4	19.2	19.4	19.3	1.2	23.2	23.1	23.3	23.2	23.2	0.5	23.2	23.3	23.3	23.2	23.1
			1	49	1.8	19.0	19.1	19.2	19.1	19.0	2.0	19.3	19.3	19.3	19.4	19.2	1.2	23.2	23.1	23.2	23.3	23.1	0.5	23.2	23.2	23.3	23.1	23.3
			25	0	2.8	18.0	18.0	18.0	18.2	18.2	3.0	18.4	18.2	18.2	18.2	18.4	2.2	22.0	22.2	22.0	22.2	22.3	1.5	22.3	22.2	22.3	22.2	22.1
			25	12	2.8	18.1	18.1	18.0	18.1	18.1	3.0	18.3	18.2	18.4	18.3	18.4	2.2	22.0	22.3	22.2	22.2	22.1	1.5	22.3	22.1	22.1	22.3	22.3
			25	24	2.8	18.2	18.1	18.0	18.1	18.0	3.0	18.4	18.4	18.2	18.4	18.2	2.2	22.0	22.1	22.0	22.2	22.0	1.5	22.3	22.1	22.3	22.3	22.2
			50	0	2.8	18.0	18.2	18.2	18.1	18.1	3.0	18.3	18.2	18.2	18.4	18.2	2.2	22.3	22.1	22.0	22.0	22.3	1.5	22.3	22.1	22.3	22.2	22.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MODE A												MODE B											
					Target MPR	UAT 1					Target MPR	LAT 1					Target MPR	UAT 1					Target MPR	LAT 1				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	5	QPSK	1	0	0.0	21.0	21.0	21.0	21.0	20.9	0.0	21.2	21.3	21.3	21.2	21.4	0.0	24.3	24.4	24.4	24.3	24.3	0.0	23.8	23.8	23.7	23.7	23.8
			1	12	0.0	21.0	21.0	21.0	20.9	21.0	0.0	21.3	21.2	21.2	21.4	21.3	0.0	24.5	24.5	24.4	24.4	24.4	0.0	23.7	23.8	23.7	23.7	23.8
			1	24	0.0	20.9	21.0	20.9	20.9	21.0	0.0	21.3	21.3	21.2	21.3	21.2	0.0	24.3	24.3	24.4	24.3	24.3	0.0	23.8	23.8	23.7	23.8	23.8
			12	0	0.8	20.0	20.1	20.2	20.0	20.1	1.0	20.4	20.4	20.2	20.4	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.8	23.8	23.7	23.7
			12	7	0.8	20.0	20.2	20.0	20.1	20.2	1.0	20.3	20.3	20.2	20.2	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.7	23.7
			12	13	0.8	20.1	20.0	20.0	20.2	20.1	1.0	20.4	20.3	20.2	20.4	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.7	23.8
			25	0	0.8	20.2	20.1	20.1	20.0	20.1	1.0	20.2	20.2	20.2	20.3	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.7	23.7	23.7	23.8
		16QAM	1	0	0.8	20.2	20.2	20.0	20.0	20.1	1.0	20.3	20.2	20.4	20.4	20.2	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.8	23.7	23.7
			1	12	0.8	20.1	20.1	20.1	20.0	20.0	1.0	20.3	20.3	20.2	20.4	20.4	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.8	23.7	23.7	23.7	23.7
			1	24	0.8	20.0	20.0	20.1	20.2	20.0	1.0	20.3	20.4	20.3	20.3	20.3	0.2	24.3	24.3	24.3	24.3	24.3	0.0	23.7	23.8	23.7	23.8	23.7
			12	0	1.8	19.0	19.0	19.0	19.0	19.0	2.0	19.3	19.3	19.3	19.3	19.2	1.2	23.3	23.2	23.2	23.2	23.1	0.5	23.2	23.2	23.3	23.3	23.2
			12	7	1.8	19.2	19.1	19.1	19.0	19.0	2.0	19.4	19.2	19.3	19.3	19.4	1.2	23.1	23.1	23.2	23.1	23.2	0.5	23.1	23.2	23.1	23.1	23.3
			12	13	1.8	19.1	19.2	19.2	19.2	19.1	2.0	19.4	19.2	19.2	19.2	19.2	1.2	23.3	23.3	23.1	23.1	23.1	0.5	23.3	23.1	23.1	23.2	23.1
			25	0	1.8	19.0	19.2	19.0	19.1	19.2	2.0	19.3	19.3	19.2	19.3	19.2	1.2	23.1	23.2	23.2	23.1	23.3	0.5	23.1	23.1	23.1	23.2	23.1
		64QAM	1	0	1.8	19.0	19.0	19.2	19.1	19.0	2.0	19.3	19.4	19.4	19.3	19.4	1.2	23.3	23.3	23.1	23.1	23.3	0.5	23.2	23.3	23.1	23.3	23.1
			1	12	1.8	19.2	19.0	19.1	19.1	19.2	2.0	19.2	19.4	19.2	19.3	19.2	1.2	23.3	23.3	23.1	23.1	23.2	0.5	23.2	23.1	23.2	23.3	23.2
			1	24	1.8	19.1	19.1	19.1	19.2	19.2	2.0	19.4	19.3	19.2	19.4	19.3	1.2	23.1	23.3	23.1	23.2	23.2	0.5	23.2	23.3	23.3	23.2	23.2
			12	0	2.8	18.0	18.0	18.1	18.2	18.0	3.0	18.2	18.4	18.4	18.3	18.2	2.2	22.2	22.0	22.0	22.3	22.1	1.5	22.2	22.1	22.3	22.3	22.1
			12	7	2.8	18.2	18.0	18.0	18.1	18.1	3.0	18.3	18.4	18.4	18.2	18.4	2.2	22.1	22.1	22.0	22.1	22.1	1.5	22.2	22.2	22.2	22.1	22.3
			12	13	2.8	18.1	18.2	18.2	18.0	18.2	3.0	18.4	18.3	18.2	18.3	18.2	2.2	22.0	22.2	22.0	22.0	22.1	1.5	22.1	22.2	22.1	22.1	22.2
			25	0	2.8	18.2	18.2	18.2	18.1	18.1	3.0	18.3	18.3	18.2	18.2	18.3	2.2	22.3	22.2	22.2	22.3	22.3	1.5	22.2	22.2	22.1	22.1	22.2

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9.4. LTE Rel. 11 Carrier Aggregation

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

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

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

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

Modulation	CA bandwidth Class B and C / Smallest Component Carrier Transmission Bandwidth Configuration				MPR (dB)
	25 RB	50 RB	75 RB	100 RB	
QPSK	> 8 and ≤ 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.

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

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

Where M_A is defined as follows

$M_A =$	8.2	;$0 \le A < 0.025$
	9.2 – 40A	;$0.025 \le A < 0.05$
	8 – 16A	;$0.05 \le A < 0.25$
	4.83 – 3.33A	;$0.25 \le A \le 0.4$
	3.83 – 0.83A	;$0.4 \le A \le 1$

and M_{IM5} is defined as follows

$M_{IM5} =$	4.5	; $\Delta_{IM5} < 1.5 * BW_{Channel_CA}$
	6.0	; $1.5 * BW_{Channel_CA} \le \Delta_{IM5} < BW_{Channel_CA}/2 + \Delta f_{ooB}$
	M_A	; $\Delta_{IM5} \ge BW_{Channel_CA}/2 + \Delta f_{ooB}$

Where

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

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

CEIL{$M_{A,}$ 0.5} means rounding upwards to closest 0.5dB, i.e. MPR $\in$ [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 tfor those E-UTRA bands where maximum possible $W_{GAP} \le 42.2$ MHz as follows

$$MPR = CEIL\{M_{A,}\ 0.5\}$$

Where M_N is defined as follows

$M_N =$	-0.125N + 18.25	; $2 \le N \le 50$
	-0.0333 N + 13.67	; $50 < N \le 200$

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.

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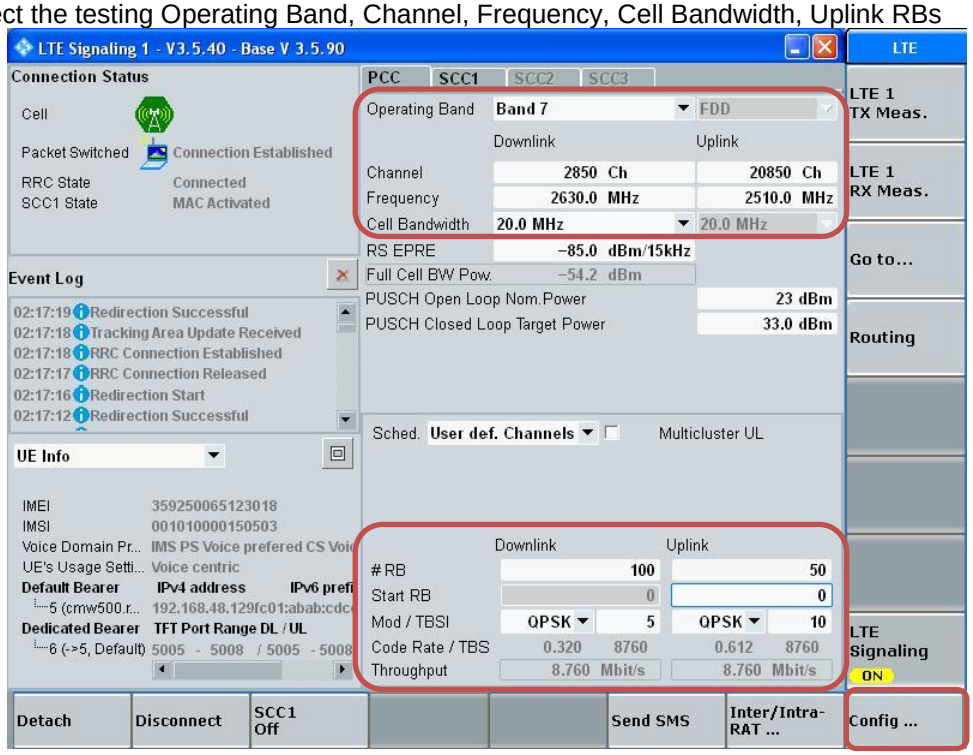
LTE Carrier Aggregation Test Signal Set-up Procedure
(Use normal LTE set-up procedure in addition with the following steps)

Set to CMW-500 with following parameters:

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

- Go to "Config…."

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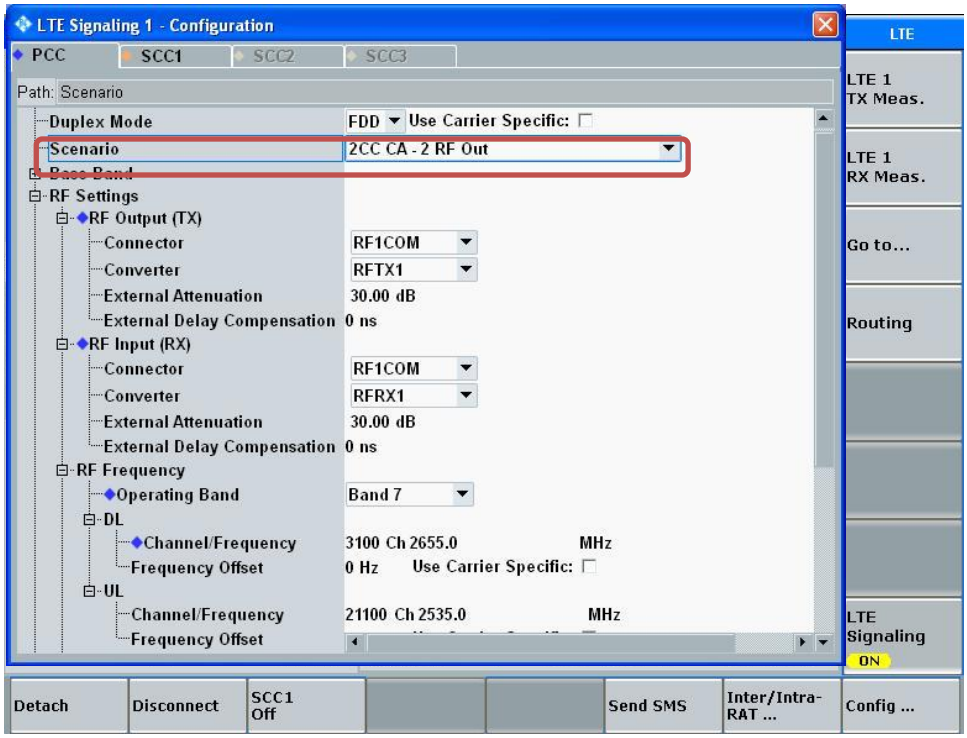
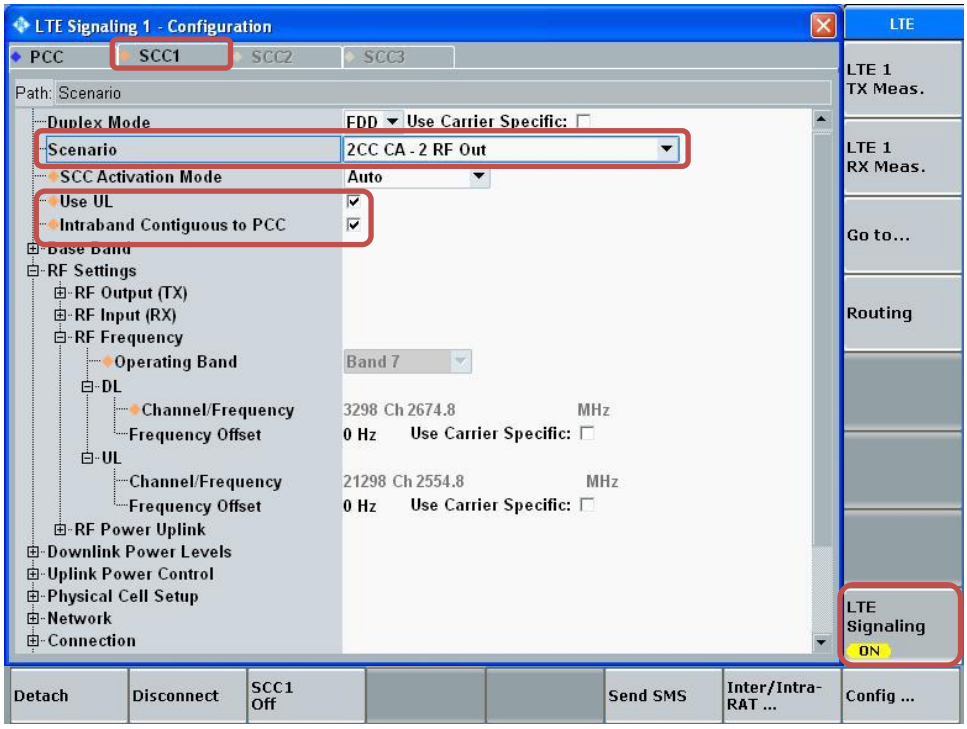
- Go to “Scenario”
- Set to “2CC CA – 2 RF Out”



- 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



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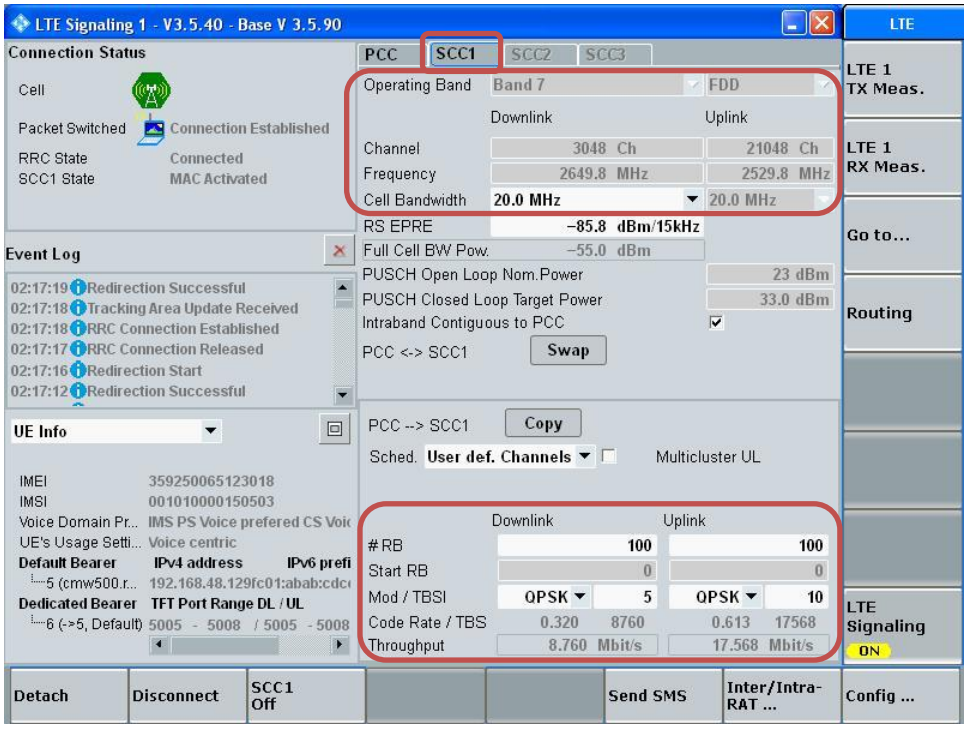
- Select “SCC1” tab
  - Select the testing Cell Bandwidth, Uplink RBs



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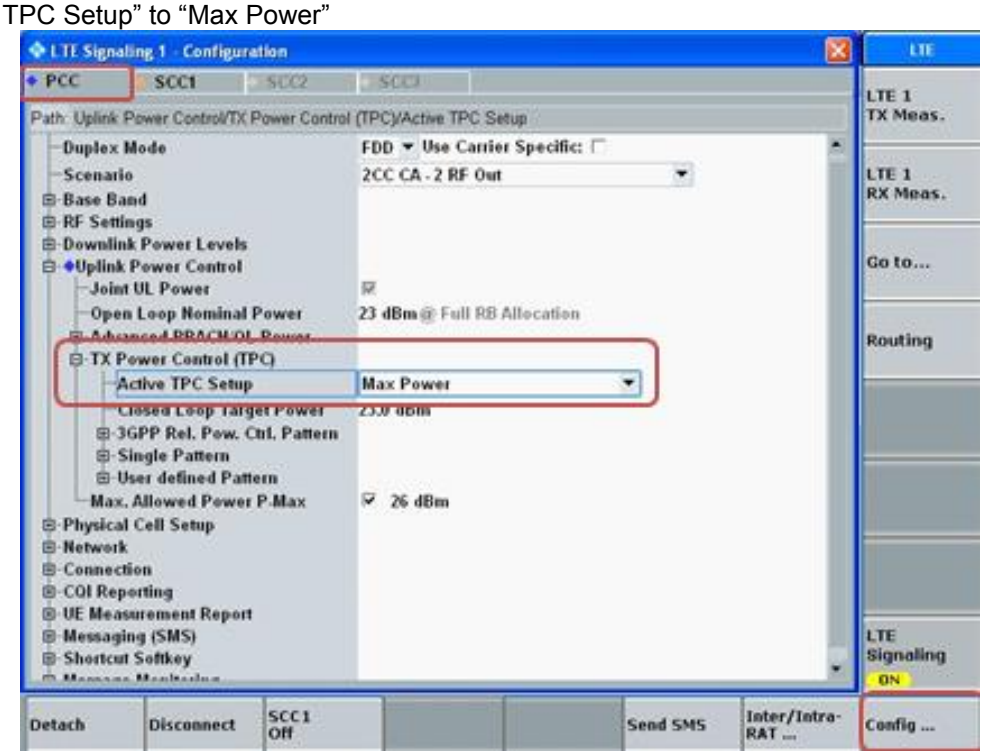
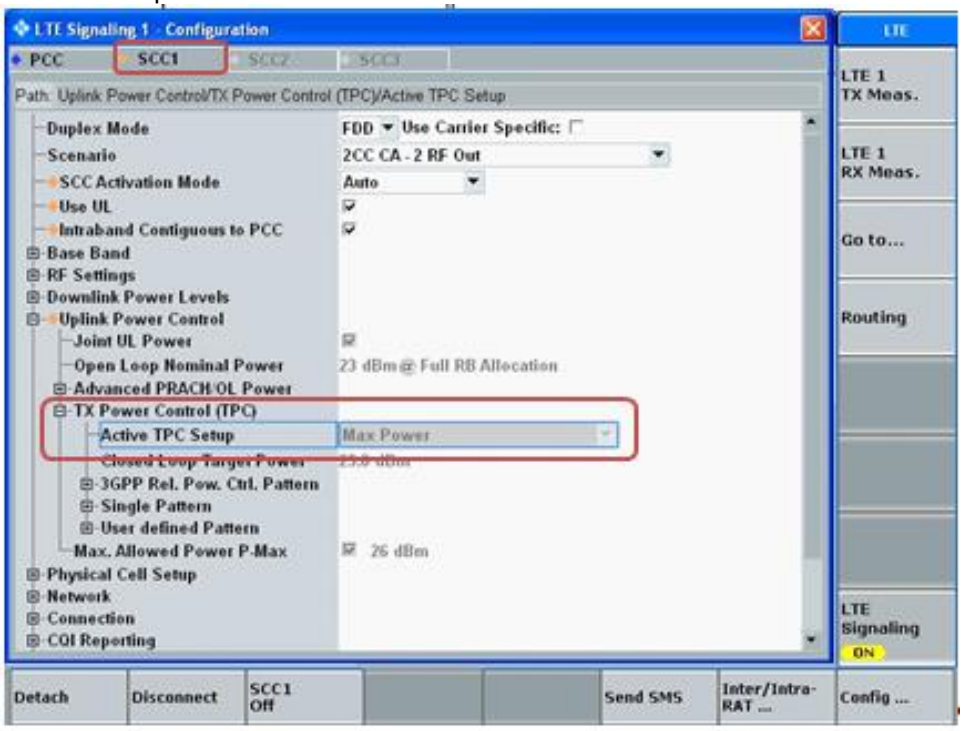
Max Power Setting

- 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”



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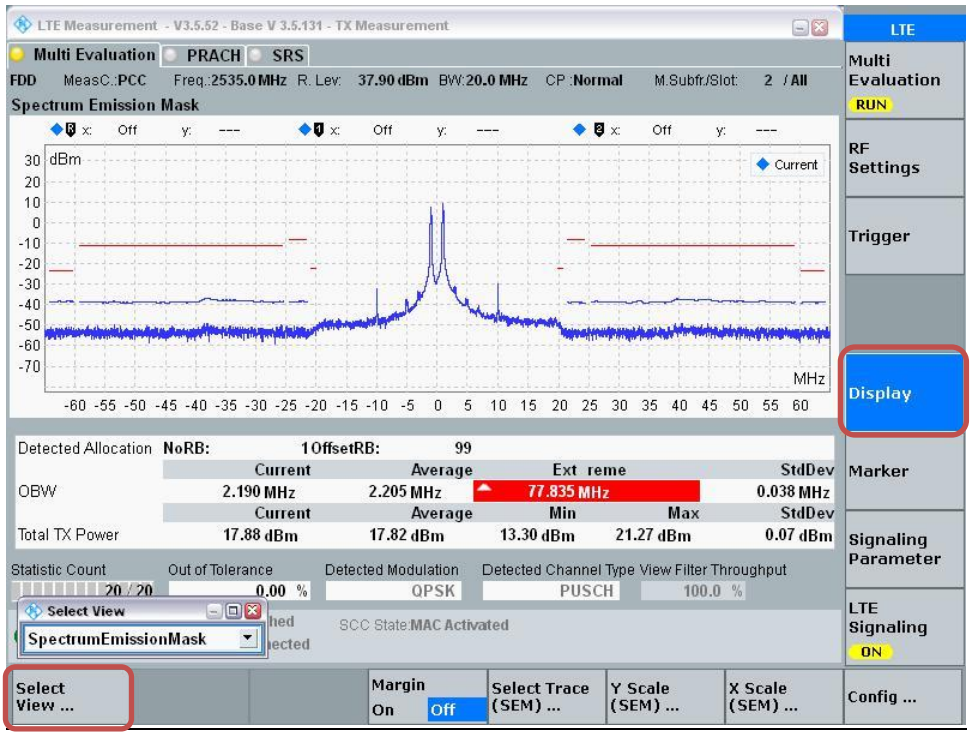
View TX Power

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



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LTE Advanced Carrier Aggregation Combinations:

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

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

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_2A-2A-5A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 5			Yes	Yes			
CA_2A-2A-12A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 12			Yes	Yes			
CA_2A-2A-13A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 13				Yes			
CA_2A-2A-29A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 29			Yes	Yes			
CA_2A-2A-30A (0)	Band 2	See CA_2A-2A (0)						50 MHz
	Band 30			Yes	Yes			
CA-2A-4A (0) (1) (2)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 2			Yes	Yes			20 MHz
	Band 4			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 4			Yes	Yes	Yes	Yes	
CA_2A-5A (0) (1)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 5			Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 5			Yes	Yes			
CA_2C-5A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 5			Yes	Yes			
CA_2A-12A (0) (1) (2)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 12		Yes	Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 12			Yes	Yes			
CA_2C-12A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 12			Yes	Yes			

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CA-2A-12B (0)	Band 2			Yes	Yes	Yes	Yes	35 MHz
	Band 12	See CA_12B (0)						
CA_2A-13A (0) (1)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 13				Yes			
	Band 2			Yes	Yes			20 MHz
	Band 13				Yes			
CA_2A-17A (0)	Band 2			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA-2A-29A (0) (1) (2)	Band 2			Yes	Yes			20 MHz
	Band 29		Yes	Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 29			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 29			Yes	Yes			
CA-2C-29A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 29			Yes	Yes			
CA_2A-30A (0)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 30			Yes	Yes			
CA_2C-30A (0)	Band 2	See CA_2C (0)						50 MHz
	Band 30			Yes	Yes			
CA_2A-66A (0) (1) (2)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 2			Yes	Yes			20 MHz
	Band 66			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_2A-66B (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 66	See CA_66B (0)						
CA-2A-66C (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 66	See CA_66C (0)						
CA_4A-4A-5A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 5			Yes	Yes			
CA_4A-4A-7A (0) (1)	Band 4			Yes	Yes			40 MHz
	Band 4			Yes	Yes			
	Band 7			Yes	Yes	Yes	Yes	
	Band 4			Yes	Yes	Yes	Yes	60 MHz

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	Band 4			Yes	Yes	Yes	Yes	
	Band 7			Yes	Yes	Yes	Yes	
CA_4A-4A-12A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 12			Yes	Yes			
CA_4A-4A_13A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 13				Yes			
CA_4A-4A-29A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 29			Yes	Yes			
CA_4A-4A-30A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 30			Yes	Yes			
CA_4A-5A (0) (1)	Band 4			Yes	Yes			20 MHz
	Band 5			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 5			Yes	Yes			
CA_4A-7A (0) (1)	Band 4			Yes	Yes			30 MHz
	Band 7			Yes	Yes	Yes	Yes	
	Band 4			Yes	Yes	Yes	Yes	40 MHz
	Band 7			Yes	Yes	Yes	Yes	
CA_4A-12A (0) (1) (2) (3) (4) (5)	Band 4	Yes	Yes	Yes	Yes			20 MHz
	Band 12			Yes	Yes			
	Band 4	Yes	Yes	Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 12		Yes	Yes	Yes			
	Band 4			Yes	Yes			20 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes		20 MHz
	Band 12			Yes				
CA_4A-12B (0)	Band 4			Yes	Yes	Yes	Yes	35 MHz
	Band 12	See CA_12B (0)						
CA_4A-13A (0) (1)	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 13				Yes			
	Band 4			Yes	Yes			20 MHz

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	Band 13				Yes			
CA_4A-17A (0)	Band 4			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA_4A-29A (0) (1) (2)	Band 4			Yes	Yes			20 MHz
	Band 29		Yes	Yes	Yes			
	Band 4			Yes	Yes			20 MHz
	Band 29			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 29			Yes	Yes			
CA_4A-30A (0)	Band 4			Yes	Yes	Yes	Yes	20 MHz
	Band 30			Yes	Yes			
CA_5A-7A (0) (1)	Band 5	Yes	Yes	Yes	Yes			30 MHz
	Band 7				Yes	Yes	Yes	
	Band 5			Yes	Yes			30 MHz
	Band 7				Yes	Yes	Yes	
CA_5A-25A (0)	Band 5			Yes	Yes			30 MHz
	Band 25			Yes	Yes	Yes	Yes	
CA_5A-30A (0)	Band 5			Yes	Yes			20 MHz
	Band 30			Yes	Yes			
CA_5A-66A (0)	Band 5			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_7A-12A (0)	Band 7			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
CA_12A-30A (0)	Band 12			Yes	Yes			20 MHz
	Band 30			Yes	Yes			
CA_12A-66A (0) (1) (2) (3) (4) (5)	Band 12			Yes	Yes			20 MHz
	Band 66	Yes	Yes	Yes	Yes			
	Band 12			Yes	Yes			30 MHz
	Band 66	Yes	Yes	Yes	Yes	Yes	Yes	
	Band 12		Yes	Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			20 MHz
	Band 66			Yes	Yes			
	Band 12			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	

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	Band 12			Yes				20 MHz
	Band 66			Yes	Yes	Yes		
CA_12A-66A-66A (0)	Band 12			Yes	Yes			50 MHz
	Band 66	See CA_66A-66A (0)						
CA_12A_66C (0)	Band 12			Yes	Yes			50 MHz
	Band 66	See CA_66C (0)						
CA_13A-66A (0)	Band 13			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_25A-26A (0) (1) (2)	Band 25		Yes	Yes	Yes	Yes	Yes	35 MHz
	Band 26	Yes	Yes	Yes	Yes	Yes		
	Band 25		Yes	Yes	Yes			20 MHz
	Band 26		Yes	Yes	Yes			
	Band 25			Yes	Yes			20 MHz
	Band 26			Yes	Yes			
CA_29A-30A (0)	Band 29			Yes	Yes			20 MHz
	Band 30			Yes	Yes			
CA_30A-66A (0)	Band 30			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	

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

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_2A-2A-5A-30A (0)	Band 2	See CA_2A-2A (0)						60 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-2A-12A-30A (0)	Band 2	See CA_2A-2A (0)						60 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-2A-29A-30A (0)	Band 2	See CA_2A-2A (0)						60 MHz
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_2C-29A-30A (0)	Band 2	See CA_2C (0)						60 MHz
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-4A-5A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	

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

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

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	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	

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

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_2A-4A-5A-30A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
CA2A-4A-12A-30A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-4A-29A-30A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 29			Yes	Yes			
	Band 30			Yes	Yes			
CA_2A-5A-30A-66A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 5			Yes	Yes			
	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	
CA_2A-12A-30A-66A (0)	Band 2			Yes	Yes	Yes	Yes	60 MHz
	Band 12			Yes	Yes			
	Band 30			Yes	Yes			
	Band 66			Yes	Yes	Yes	Yes	

DL Intra-Band Non-Contiguous

E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)			Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	
CA_2A-2A (0)	Band 2	5, 10, 15, 20	5, 10, 15, 20		40 MHz
CA_4A-4A (0) (1)	Band 4	5, 10, 15, 20	5, 10, 15, 20		40 MHz
		5, 10	5, 10		20 MHz
CA_7A-7A (0) (1) (2) (3)	Band 7	5	15		40 MHz
		10	10, 15		
		15	15, 20		
		20	20		
		5, 10, 15, 20	5, 10, 15, 20		40 MHz
		5, 10, 15, 20	5, 10		30 MHz

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		10, 15, 20	10, 15, 20		40 MHz
CA_25A-25A (0) (1)	Band 25	5, 10	5, 10		20 MHz
		5, 10, 15, 20	5, 10, 15, 20		40 MHz
CA_41A-41A (0) (1)	Band 41	10, 15, 20	10, 15, 20		40 MHz
		5, 10, 15, 20	5, 10, 15, 20		40 MHz
CA_41A-41C (0)	Band 41	5, 10, 15, 20	See CA_41C (1)		60 MHz
CA_41C_41A (0)	Band 41	See CA_41C (1)	5, 10, 15, 20		60 MHz
CA_66A-66A (0)	Band 66	5, 10, 15, 20	5, 10, 15, 20		40 MHz

DL Intra-Band Contiguous

E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)			Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	
CA_2C (0)	Band 2	5	20		40 MHz
		10	15, 20		
		15	10, 15, 20		
		20	5, 10 15, 20		
CA_7B (0)	Band 7	15	5		20 MHz
CA_7C (0) (1) (2)	Band 7	15	15		40 MHz
		20	20		
		10	20		40 Mhz
		15	15, 20		
		20	10, 15, 20		
		15	10, 15		40 MHz
		20	15, 20		
CA_12B (0)	Band 12	5	5, 10		15 MHz
CA_41C (0) (1) (2) (3)	Band 41	10	20		40 MHz
		15	15, 20		
		20	10, 15, 20		
		5, 10	20		40 MHz
		15	15, 20		
		20	5, 10, 15, 20		
		10	15, 20		40 MHz
		15	10, 15, 20		
		20	10, 15, 20		
		10	20		40 MHz
		20	20		

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

UL Intra-Band Contiguous

E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)			Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	
CA_7C (0) (1) (2)	Band 7	15	15		40 MHz
		20	20		
		10	20		40 MHz
		15	15, 20		
		20	10, 15, 20		
		15	10, 15		40 MHz
		20	15, 20		
CA_41C (0) (1) (2) (3)	Band 41	10	20		40 MHz
		15	15, 20		
		20	10, 15, 20		
		5, 10	20		40 MHz
		15	15, 20		
		20	5, 10, 15, 20		
		10	15, 20		40 MHz
		15	10, 15, 20		
		20	10, 15, 20		
		10	20		40 MHz
		20	20		

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Carrier Aggregation Power Measurements:

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

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

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

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

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2C-5A (0)	2C	2C	5A		20	1960	900	20	1980	1100	10	881.5	2525				QPSK	1	49	20	1880	18900	50	0	25.3	25.2	-0.1	13
	5A	2C	2C		10	881.5	2525	20	1960	900	20	1980	1100				QPSK	1	24	10	836.5	20525	50	0	24.8	24.8	0.0	13
CA_2C-12A (0)	2C	2C	12A		20	1960	900	20	1980	1100	10	737.5	5095				QPSK	1	49	20	1880	18900	50	0	25.3	25.2	-0.1	13
	12A	2C	2C		10	737.5	5095	20	1960	900	20	1980	1100				QPSK	1	24	10	707.5	23095	50	0	24.8	24.8	0.0	13
CA-2A-12B (0)	2A	12B	12B		20	1960	900	10	737.5	5095	5	745	5170				QPSK	1	49	20	1880	18900	35	0	25.3	25.2	-0.1	12
	12B	12B	2A		10	737.5	5095	5	745	5170	20	1960	900				QPSK	1	24	10	707.5	23095	35	0	24.8	24.7	-0.1	12
CA_2A-17A (0)	2A	17A			20	1960	900	10	740	5790							QPSK	1	49	20	1880	18900	20	0	25.3	25.2	-0.1	11
	17A	2A			10	740	5790	20	1960	900							QPSK	1	24	10	710	23790	20	0	24.8	24.7	-0.1	11
CA_2C-30A (0)	2C	2C	30A		20	1960	900	20	1980	1100	10	2355	9820				QPSK	1	49	20	1880	18900	50	0	25.3	25.2	-0.1	13
	30A	2C	2C		10	2355	9820	20	1960	900	20	1980	1100				QPSK	1	24	10	2310	27710	50	0	23.8	23.8	0.0	13
CA_2A-66B (0)	2A	66B	66B		20	1960	900	15	2145	66786	5	2155	66866				QPSK	1	49	20	1880	18900	40	0	25.3	25.2	-0.1	14
	66B	66B	2A		15	2145	66786	5	2155	66866	20	1960	900				QPSK	1	49	15	1745	132322	40	0	25.3	25.3	0.0	14
CA-2A-66C (0)	2A	66C	66C		20	1960	900	20	2145	66786	20	2165	66986				QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	14
	66C	66C	2A		20	2145	66786	20	2165	66986	20	1960	900				QPSK	1	49	20	1745	132322	60	0	25.3	25.3	0.0	14
CA_4A-4A-7A (0) (1)	4A	4A	7A		20	2132.5	2175	20	2132.5	2175	20	2655	3100				QPSK	1	49	20	1732.5	20175	40	0	25.3	25.2	-0.1	13
	7A	4A	4A		20	2655	3100	20	2132.5	2175	20	2132.5	2175				QPSK	1	49	20	2535	21100	40	0	25.3	25.3	0.0	13
CA_4A-4A_13A (0)	4A	4A	13A		20	2132.5	2175	20	2132.5	2175	10	751	5230				QPSK	1	49	20	1732.5	20175	50	0	25.3	25.2	-0.1	12
	13A	4A	4A		10	751	5230	20	2132.5	2175	20	2132.5	2175				QPSK	1	24	10	782	23230	50	0	24.8	24.8	0.0	12
CA_4A-12B (0)	4A	12B	12B		20	2132.5	2175	10	737.5	5095	5A	745	5170				QPSK	1	49	20	1732.5	20175	35	0	25.3	25.2	-0.1	12
	12B	12B	4A		10	737.5	5095	5	745	5170	20	2132.5	2175				QPSK	1	24	10	707.5	23095	35	0	24.8	24.7	-0.1	12
CA_4A-17A (0)	4A	17A			20	2132.5	2175	10	740	5790							QPSK	1	49	20	1732.5	20175	20	0	25.3	25.2	-0.1	11
	17A	4A			10	740	5790	20	2132.5	2175							QPSK	1	24	10	710	23790	20	0	24.8	24.7	-0.1	11
CA_5A-7A (0) (1)	5A	7A			10	881.5	2525	20	2655	3100							QPSK	1	24	10	836.5	20525	30	0	24.8	24.8	0.0	13
	7A	5A			20	2655	3100	10	881.5	2525							QPSK	1	49	20	2535	21100	30	0	25.3	25.3	0.0	13
CA_5A-25A (0)	5A	25A			10	881.5	2525	20	1962.5	8365							QPSK	1	24	10	836.5	20525	30	0	24.8	24.8	0.0	12
	25A	5A			20	1962.5	8365	10	881.5	2525							QPSK	1	49	20	1882.5	26365	30	0	25.3	25.2	-0.1	12
CA_7A-12A (0)	7A	12A			20	2655	3100	10	737.5	5095							QPSK	1	49	20	2535	21100	30	0	25.3	25.3	0.0	12
	12A	7A			10	737.5	5095	20	2655	3100							QPSK	1	24	10	707.5	23095	30	0	24.8	24.7	-0.1	12
CA_12A_66C (0)	12A	66C	66C		10	737.5	5095	20	2145	66786	20	2165	66986				QPSK	1	24	10	707.5	23095	50	0	24.8	24.7	-0.1	14
	66C	66C	12A		20	2145	66786	20	2165	66986	10	737.5	5095				QPSK	1	49	20	1745	132322	50	0	25.3	25.3	0.0	14
CA_13A-66A (0)	13A	66A			10	751	5230	20	2145	66786							QPSK	1	24	10	782	23230	30	0	24.8	24.8	0.0	14
	66A	13A			20	2145	66786	10	751	5230							QPSK	1	49	20	1745	132322	30	0	25.3	25.3	0.0	14
CA_25A-26A (0) (1) (2)	25A	26A			20	1962.5	8365	10	876.5	8865							QPSK	1	49	20	1882.5	26365	35	0	25.3	25.2	-0.1	13
	26A	25A			10	876.5	8865	20	1962.5	8365							QPSK	1	24	10	831.5	26865	35	0	24.8	24.8	0.0	13

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

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2A-4A-13A (0)	2A	4A	13A		20	1960	900	20	2132.5	2175	10	751	5230				QPSK	1	49	20	1880	18900	50	0	25.3	25.2	-0.1	12
	4A	13A	2A		20	2132.5	2175	10	751	5230	20	1960	900				QPSK	1	49	20	1732.5	20175	50	0	25.3	25.2	-0.1	12
	13A	2A	4A		10	751	5230	20	1960	900	20	2132.5	2175				QPSK	1	24	10	782	23230	50	0	24.8	24.8	0.0	12
CA_2C-5A-30A (0)	2C	2C	5A	30A	20	1960	900	20	1980	1100	10	881.5	2525	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	25.3	25.3	0.0	13
	5A	30A	2C	2C	10	881.5	2525	10	2355	9820	20	1960	900	20	1980	1100	QPSK	1	24	10	836.5	20525	60	0	24.8	24.8	0.0	13
	30A	2C	2C	5A	10	2355	9820	20	1960	900	20	1980	1100	10	881.5	2525	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	13
CA_2C-12A-30A (0)	2C	2C	12A	30A	20	1960	900	20	1980	1100	10	737.5	5095	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	13
	12A	30A	2C	2C	10	737.5	5095	10	2355	9820	20	1960	900	20	1980	1100	QPSK	1	24	10	707.5	23095	60	0	24.8	24.8	0.0	13
	30A	2C	2C	12A	10	2355	9820	20	1960	900	20	1980	1100	10	737.5	5095	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	13
CA_2A-13A-66A (0)	2A	13A	66A		20	1960	900	10	751	5230	20	2145	66786				QPSK	1	49	20	1880	18900	50	0	25.3	25.2	-0.1	14
	13A	66A	2A		10	751	5230	20	2145	66786	20	1960	900				QPSK	1	24	10	782	23230	50	0	24.8	24.8	0.0	14
	66A	2A	13A		20	2145	66786	20	1960	900	10	751	5230				QPSK	1	49	20	1745	132322	50	0	25.3	25.2	-0.1	14
CA_2C_29A-30A (0)	2C	2C	29A	30A	20	1960	900	20	1980	1100	10	722.5	9715	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	13
	29A	30A	2C	2C	10	722.5	9715	10	2355	9820	20	1960	900	20	1980	1100	QPSK	1	24	10	DL Only	DL Only	60	0	DL Only	DL Only	DL Only	13
	30A	2C	2C	29A	10	2355	9820	20	1960	900	20	1980	1100	10	722.5	9715	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	13
CA_4A-7A-12A (0) (1)	4A	7A	12A		20	2132.5	2175	20	2655	3100	10	737.5	5095				QPSK	1	49	20	1732.5	20175	50	0	25.3	25.2	-0.1	13
	7A	12A	4A		20	2655	3100	10	737.5	5095	20	2132.5	2175				QPSK	1	49	20	2535	21100	50	0	25.3	25.2	-0.1	13
	12A	4A	7A		10	737.5	5095	20	2132.5	2175	20	2655	3100				QPSK	1	24	10	707.5	23095	50	0	24.8	24.8	0.0	13
CA_5A-30A-66A (0)	5A	30A	66A		10	881.5	2525	10	2355	9820	20	2145	66786				QPSK	1	24	10	836.5	20525	40	0	24.8	24.8	0.0	14
	30A	66A	5A		10	2355	9820	20	2145	66786	10	881.5	2525				QPSK	1	24	10	2310	27710	40	0	23.8	23.8	0.0	14
	66A	5A	30A		20	2145	66786	10	881.5	2525	10	2355	9820				QPSK	1	49	20	1745	132322	40	0	25.3	25.2	-0.1	14

DL Inter-Band (4 Bands, 4CC)

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2A-4A-5A-30A (0)	2A	4A	5A	30A	20	1960	900	20	2132.5	2175	10	881.5	2525	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	13
	4A	5A	30A	2A	20	2132.5	2175	10	881.5	2525	10	2355	9820	20	1960	900	QPSK	1	49	20	1732.5	20175	60	0	25.3	25.2	-0.1	13
	5A	30A	2A	4A	10	881.5	2525	10	2355	9820	20	1960	900	20	2132.5	2175	QPSK	1	24	10	836.5	20525	60	0	24.8	24.8	0.0	13
	30A	2A	4A	5A	10	2355	9820	20	1960	900	20	2132.5	2175	10	881.5	2525	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	13
CA2A-4A-12A-30A (0)	2A	4A	12A	30A	20	1960	900	20	2132.5	2175	10	737.5	5095	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	13
	4A	12A	30A	2A	20	2132.5	2175	10	737.5	5095	10	2355	9820	20	1960	900	QPSK	1	49	20	1732.5	20175	60	0	25.3	25.2	-0.1	13
	12A	30A	2A	4A	10	737.5	5095	10	2355	9820	20	1960	900	20	2132.5	2175	QPSK	1	24	10	707.5	23095	60	0	24.8	24.8	0.0	13
	30A	2A	4A	12A	10	2355	9820	20	1960	900	20	2132.5	2175	10	737.5	5095	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	13
CA_2A-4A-29A-30A (0)	2A	4A	29A	30A	20	1960	900	20	2132.5	2175	10	722.5	9715	10	2355	9820	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	13
	4A	29A	30A	2A	20	2132.5	2175	10	722.5	9715	10	2355	9820	20	1960	900	QPSK	1	49	20	1732.5	20175	60	0	25.3	25.2	-0.1	13
	29A	30A	2A	4A	10	722.5	9715	10	2355	9820	20	1960	900	20	2132.5	2175	QPSK	1	24	10	DL Only	DL Only	60	0	DL Only	DL Only	DL Only	13
	30A	2A	4A	29A	10	2355	9820	20	1960	900	20	2132.5	2175	10	722.5	9715	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	13
CA_2A-5A-30A-66A (0)	2A	5A	30A	66A	20	1960	900	10	881.5	2525	10	2355	9820	20	2145	66786	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	14
	5A	30A	66A	2A	10	881.5	2525	10	2355	9820	20	2145	66786	20	1960	900	QPSK	1	24	10	836.5	20525	60	0	24.8	24.8	0.0	14
	30A	66A	2A	5A	10	2355	9820	20	2145	66786	20	1960	900	10	881.5	2525	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	14
	66A	2A	5A	30A	20	2145	66786	20	1960	900	10	881.5	2525	10	2355	9820	QPSK	1	49	20	1745	132322	60	0	25.3	25.2	-0.1	14
CA_2A-12A-30A-66A (0)	2A	12A	30A	66A	20	1960	900	10	737.5	5095	10	2355	9820	20	2145	66786	QPSK	1	49	20	1880	18900	60	0	25.3	25.2	-0.1	14
	12A	30A	66A	2A	10	737.5	5095	10	2355	9820	20	2145	66786	20	1960	900	QPSK	1	24	10	707.5	23095	60	0	24.8	24.8	0.0	14
	30A	66A	2A	12A	10	2355	9820	20	2145	66786	20	1960	900	10	737.5	5095	QPSK	1	24	10	2310	27710	60	0	23.8	23.8	0.0	14
	66A	2A	12A	30A	20	2145	66786	20	1960	900	10	737.5	5095	10	2355	9820	QPSK	1	49	20	1745	132322	60	0	25.3	25.2	-0.1	14

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

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

DL Intra-Band Non-Contiguous

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2A-2A (0)	2A	2A			20	1940	700	20	1980	1100							QPSK	1	49	20	1860	18700	40	0	25.2	25.2	0.0	12
CA_4A_4A (0) (1)	4A	4A			20	2120	2050	20	2145	2300							QPSK	1	49	20	1720	20050	40	0	24.0	24.0	0.0	12
CA_7A_7A (0) (1) (2) (3)	7A	7A			20	2630	2850	20	2680	3350							QPSK	1	49	20	2510	20850	40	0	25.1	25.0	-0.1	12
CA_25A_25A (0) (1)	25A	25A			20	1940	8140	20	1985	8590							QPSK	1	49	20	1860	26140	40	0	25.2	25.2	0.0	12
CA_41A-41A (0) (1)	41A	41A			20	2506	39750	20	2680	41490							QPSK	1	49	20	2506	39750	40	0	24.5	24.4	-0.1	12
CA_41A-41C (0)	41A	41C	41C		20	2506	39750	20	2660	41290	20	2680	41490				QPSK	1	49	20	2506	39750	60	0	24.5	24.4	-0.1	12
CA_41C_41A (0)	41C	41C	41A		20	2506	39750	20	2526	39950	20	2680	41490				QPSK	1	49	20	2506	39750	60	0	24.5	24.4	-0.1	12
CA_66A-66A (0)	66A	66A			20	2120	66536	20	2170	67035							QPSK	1	49	20	1720	132072	40	0	25.1	25.0	-0.1	13

DL Intra-Band Contiguous

E-UTRA CA configuration (BCS)	Bands				DL												UL											
	PCC	SCC	TCC	QCC	PCC			SCC			TCC			QCC			PCC											
	1st	2nd	3rd	4th	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Aggregated BW	MPR	CA Inactive	CA Active	Delta	3GPP Rel. #
CA_2C (0)	2C	2C			20	1960	900	20	1980	1100							QPSK	1	49	20	1880	18900	40	0	25.3	25.2	-0.1	12
CA_7B (0)	7B	7B			15	2655	3100	5	2665	3200							QPSK	1	36	15	2535	21100	20	0	25.1	25.0	-0.1	13
CA_7C (0) (1) (2)	7C	7C			20	2655	3100	20	2675	3300							QPSK	1	49	20	2535	21100	40	0	25.3	25.3	0.0	13
CA_12B (0)	12B	12B			10	737.5	5095	5	745	5170							QPSK	1	24	10	707.5	23095	15	0	24.8	24.8	0.0	12
CA_41C (0) (1) (2) (3)	41C	41C			20	2593	40620	20	2613	40820							QPSK	1	49	20	2593	40620	40	0	24.5	24.5	0.0	13
CA_41D (0)	41D	41D	41D		20	2593	40620	20	2613	40820	20	2633	41020				QPSK	1	49	20	2593	40620	60	0	24.5	24.5	0.0	12
CA_66B (0)	66B	66B			15	2145	66786	5	2155	66886							QPSK	1	49	20	1745	132322	20	0	25.3	25.2	-0.1	13
CA_66C (0)	66C	66C			20	2145	66786	20	2165	66986							QPSK	1	49	20	1745	132322	40	0	25.3	25.2	-0.1	13

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

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

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

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

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

RF Exposure Conditions	Antenna	E-UTRA CA configuration (BCS)	Bands		DL						UL																				
			PCC	SCC	PCC			SCC			PCC						SCC						MPR	Standalone		PCC+SCC					
			1st	2nd	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch		PCC CA Inactive	SCC CA Inactive	Aggregated BW	MPR	Tune-Up Limit	CA Power (Total PCC+SCC)	Delta	3GPP Rel. #
Head	UAT 1	CA_7C (0) (1) (2)	7C	7C	20	2630	2850	20	2649.8	3048	QPSK	1	99	20	2510	20850	QPSK	1	0	20	2529.8	21048	0	19.0	19.0	40	0	19.0	18.9	-0.1	13
Head	UAT 1	CA_7C (0) (1) (2)	7C	7C	20	2655	3100	20	2674.8	3298	QPSK	1	99	20	2535	21100	QPSK	1	0	20	2554.8	21298	0	19.0	19.0	40	0	19.0	19.0	0.0	13
Head	UAT 1	CA_7C (0) (1) (2)	7C	7C	20	2680	3350	20	2660.2	3152	QPSK	1	0	20	2560	21350	QPSK	1	99	20	2540.2	21152	0	19.0	19.0	40	0	19.0	19.0	0.0	13
Body	LAT 1	CA_7C (0) (1) (2)	7C	7C	20	2630	2850	20	2649.8	3048	QPSK	1	99	20	2510	20850	QPSK	1	0	20	2529.8	21048	0	22.2	22.2	40	0	22.3	22.2	0.0	13
Body	LAT 1	CA_7C (0) (1) (2)	7C	7C	20	2655	3100	20	2674.8	3298	QPSK	1	99	20	2535	21100	QPSK	1	0	20	2554.8	21298	0	22.2	22.2	40	0	22.3	22.2	0.0	13
Body	LAT 1	CA_7C (0) (1) (2)	7C	7C	20	2680	3350	20	2660.2	3152	QPSK	1	0	20	2560	21350	QPSK	1	99	20	2540.2	21152	0	22.3	22.3	40	0	22.3	22.3	0.0	13

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

RF Exposure Conditions	Antenna	E-UTRA CA configuration (BCS)	Bands		DL						UL																				
			PCC	SCC	PCC			SCC			PCC						SCC						MPR	Standalone		PCC+SCC					
			1st	2nd	BW	Freq	Ch	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch	Modulatio	RB	Offset	BW	Freq	Ch		PCC CA Inactive	SCC CA Inactive	Aggregated BW	MPR	Tune-Up Limit	CA Power (Total PCC+SCC)	Delta	3GPP Rel. #
Head	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2506	39750	20	2525.8	39948	QPSK	1	99	20	2506	39750	QPSK	1	0	20	2525.8	39948	0	20.9	20.9	40	0	19.9	19.8	-1.1	13
Head	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2549.5	40185	20	2569.3	40383	QPSK	1	99	20	2549.5	40185	QPSK	1	0	20	2569.3	40383	0	20.9	20.9	40	0	19.9	19.9	-1.0	13
Head	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2593	40620	20	2612.8	40818	QPSK	1	99	20	2593	40620	QPSK	1	0	20	2612.8	40818	0	20.9	20.9	40	0	19.9	19.8	-1.1	13
Head	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2636.5	41055	20	2656.3	41253	QPSK	1	99	20	2636.5	41055	QPSK	1	0	20	2656.3	41253	0	21.0	21.0	40	0	19.9	19.8	-1.2	13
Head	UAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2680	41490	20	2660.2	41292	QPSK	1	0	20	2680	41490	QPSK	1	99	20	2660.2	41292	0	21.0	21.0	40	0	19.9	19.7	-1.3	13
Body	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2506	39750	20	2525.8	39948	QPSK	1	99	20	2506	39750	QPSK	1	0	20	2525.8	39948	0	23.7	23.7	40	0	23.8	23.5	-0.2	13
Body	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2549.5	40185	20	2569.3	40383	QPSK	1	99	20	2549.5	40185	QPSK	1	0	20	2569.3	40383	0	23.6	23.6	40	0	23.8	23.5	-0.1	13
Body	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2593	40620	20	2612.8	40818	QPSK	1	99	20	2593	40620	QPSK	1	0	20	2612.8	40818	0	23.8	23.8	40	0	23.8	23.5	-0.3	13
Body	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2636.5	41055	20	2656.3	41253	QPSK	1	0	20	2636.5	41055	QPSK	1	99	20	2616.7	40857	0	23.6	23.6	40	0	23.8	23.6	0.0	13
Body	LAT 1	CA_41C (0) (1) (2) (3)	41C	41C	20	2680	41490	20	2660.2	41292	QPSK	1	0	20	2680	41490	QPSK	1	99	20	2660.2	41292	0	23.8	23.8	40	0	23.8	23.6	-0.2	13

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9.5. WLAN SISO (P_{Cell_ON})

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

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

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

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11b	1 Tx	1	2412	**13.0**	13.0	**20.5**	20.5	**15.5**	15.5	**15.5**	15.5
			2	2417	**13.0**	13.0	**22.0**	22.0	**15.5**	15.5	**15.5**	15.5
			6	2437	**13.0**	13.0	**22.0**	22.0	**15.5**	15.5	**15.5**	15.5
			11	2462	**13.0**	13.0	**22.0**	22.0	**15.5**	15.5	**15.5**	15.5

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.3	802.11a	1 Tx	52	5260	**Not Required**	Not Required	**21.0**	21.0	**Not Required**	Not Required	**Not Required**	Not Required
			56	5280			**21.0**	21.0				
			60	5300			**21.0**	21.0				
			64	5320			**19.0**	19.0				
	802.11ac	1 Tx VHT80	58	5290	**15.0**	15.0	Not Required	Not Required	**11.0**	11.0	**11.3**	11.3
5.5	802.11a	1 Tx	104	5520	**Not Required**	Not Required	**21.0**	21.0	**Not Required**	Not Required	**Not Required**	Not Required
			120	5600			**21.0**	21.0				
			144	5720			**21.0**	21.0				
5.5	802.11ac	1 Tx VHT80	106	5530	**16.0**	16.0	**Not Required**	Not Required	**10.5**	10.5	**12.5**	12.5
			122	5610	**16.0**	16.0			**10.5**	10.5	**12.5**	12.5
			138	5690	**16.0**	16.0			**10.5**	10.5	**12.5**	12.5
5.8	802.11a	1 Tx	149	5745	**Not Required**	Not Required	**21.5**	21.5	**Not Required**	Not Required	**Not Required**	Not Required
			157	5785			**21.5**	21.5				
			165	5825			**21.5**	21.5				
	802.11ac	1 Tx VHT80	155	5775	**16.0**	16.0	Not Required	Not Required	**10.5**	10.5	**12.0**	12.0

Note(s):

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

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9.6. WLAN MIMO (P_{Cell_ON})

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

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11g	2 Tx CDD	1	2412	**13.0**	13.0	**16.5**	16.5	**15.5**	15.5	**15.5**	15.5
			4	2427	**13.0**	13.0	**21.5**	21.5	**15.5**	15.5	**15.5**	15.5
			6	2437	**13.0**	13.0	**21.5**	21.5	**15.5**	15.5	**15.5**	15.5
			8	2447	**13.0**	13.0	**21.5**	21.5	**15.5**	15.5	**15.5**	15.5
			11	2462	**13.0**	13.0	**16.5**	16.5	**15.5**	15.5	**15.5**	15.5

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.3	802.11n	2 Tx HT40 CDD/STBC/SDM	54	5270	**15.0**	15.0	**19.5**	19.5	**Not required**	Not required	**Not required**	Not required
			62	5310	**15.0**	15.0	**17.0**	17.0				
	802.11ac	2 Tx VHT 80 CDD/STBC/SDM	58	5290	**Not required**	Not required	**Not required**	Not required	**11.0**	11.0	**11.3**	11.3
5.5	802.11ac	2 Tx VHT80 CDD/STBC/SDM	106	5530	**16.0**	16.0	**16.5**	16.5	**10.5**	10.5	**12.5**	12.5
			122	5610	**16.0**	16.0	**19.5**	19.5	**10.5**	10.5	**12.5**	12.5
			138	5690	**16.0**	16.0	**19.5**	19.5	**10.5**	10.5	**12.5**	12.5
5.8	802.11a	2 Tx	153	5765	**16.0**	16.0	**21.5**	21.5	**Not required**	Not required	**Not required**	Not required
			157	5785	**16.0**	16.0	**21.5**	21.5				
			161	5805	**16.0**	16.0	**21.5**	21.5				
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	155	5775	**Not required**	Not required	**Not required**	Not required	**10.5**	10.5	**12.0**	12.0

Note(s):

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

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9.7. WLAN SISO (P_{Cell_OFF})

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

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11b	1 Tx	1	2412	**18.3**	18.3	**20.5**	20.5	**18.8**	18.8	**20.5**	20.5
			2	2417	**18.3**	18.3	**22.0**	22.0	**18.8**	18.8	**20.8**	20.8
			6	2437	**18.3**	18.3	**22.0**	22.0	**18.8**	18.8	**20.8**	20.8
			11	2462	**18.3**	18.3	**22.0**	22.0	**18.8**	18.8	**20.8**	20.8

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.3	802.11a	1 Tx	52	5260	**21.0**	20.9	**21.0**	21.0	**Not required**	Not required	**Not required**	Not required
			56	5280	**21.0**	20.9	**21.0**	21.0				
			60	5300	**21.0**	20.9	**21.0**	21.0				
			64	5320	**19.0**	19.0	**19.0**	19.0				
	802.11n	1 Tx HT40	54	5270	**Not required**	Not required	**Not required**	Not required	**Not required**	Not required	**18.0**	18.0
			62	5310							**18.0**	18.0
	802.11ac	1 Tx VHT80	58	5290	**Not required**	Not required	**Not required**	Not required	**15.3**	15.2	**Not required**	Not required
5.5	802.11a	1 Tx	104	5520	**21.0**	21.0	**21.0**	21.0	**Not required**	Not required	**Not required**	Not required
			120	5600	**21.0**	21.0	**21.0**	21.0				
			144	5720	**21.0**	21.0	**21.0**	21.0				
	802.11ac	1 Tx VHT80	106	5530	**Not required**	Not required	**Not required**	Not required	**14.8**	14.8	**17.5**	17.5
			122	5610					**14.8**	14.8	**19.3**	19.3
			138	5690					**14.8**	14.8	**19.3**	19.3
5.8	802.11a	1 Tx	149	5745	**21.0**	21.0	**21.5**	21.5	**Not required**	Not required	**Not required**	Not required
			157	5785	**21.0**	21.0	**21.5**	21.5				
			165	5825	**21.0**	21.0	**21.5**	21.5				
	802.11ac	1 Tx VHT80	155	5775	**Not required**	Not required	**Not required**	Not required	**14.8**	14.8	**18.8**	18.8

Note(s):

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

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9.8. WLAN MIMO (P_{Cell_OFF})

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

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

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

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 1		LAT 3		UAT 1		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
2.4	802.11g	2 Tx CDD	1	2412	**16.5**	16.5	**16.5**	16.5	**16.5**	16.5	**16.5**	16.5
			4	2427	**18.3**	18.1	**21.5**	21.5	**18.8**	18.8	**20.8**	20.8
			6	2437	**18.3**	18.1	**21.5**	21.5	**18.8**	18.8	**20.8**	20.8
			8	2447	**18.3**	18.1	**21.5**	21.5	**18.8**	18.8	**20.8**	20.5
			11	2462	**16.5**	16.5	**16.5**	16.5	**16.5**	16.5	**16.5**	16.5

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	MODE A				MODE B			
					UAT 2		LAT 3		UAT 2		LAT 3	
					Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)	Max. Power Limit (dBm)	Measured Results (dBm)
5.3	802.11n	2 Tx HT40 CDD/STBC/SDM	54	5270	**19.5**	19.5	**19.5**	19.5	**15.3**	15.3	**18.0**	18.0
			62	5310	**17.0**	17.0	**17.0**	17.0	**15.3**	15.2	**17.0**	16.9
5.5	802.11ac	2 Tx VHT80 CDD/STBC/SDM	106	5530	**16.5**	16.5	**16.5**	16.5	**14.8**	14.8	**16.5**	16.5
			122	5610	**19.5**	19.5	**19.5**	19.5	**14.8**	14.8	**19.3**	19.3
			138	5690	**19.5**	19.5	**19.5**	19.5	**14.8**	14.8	**19.3**	19.3
5.8	802.11a	2 Tx CDD	149	5745	**21.0**	21.0	**21.5**	21.5	**Not Required**	Not Required	**Not Required**	Not Required
			157	5785	**21.0**	21.0	**21.5**	21.5				
			165	5825	**21.0**	21.0	**21.5**	21.5				
	802.11ac	2 Tx VHT80 CDD/STBC/SDM	155	5775	**Not Required**	Not Required	**Not Required**	Not Required	**14.8**	14.8	**18.8**	18.8

Note(s):

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

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9.9. Bluetooth

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

P_{low}

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

P_{High}

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

$P_{standalone}$

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

Notes:

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

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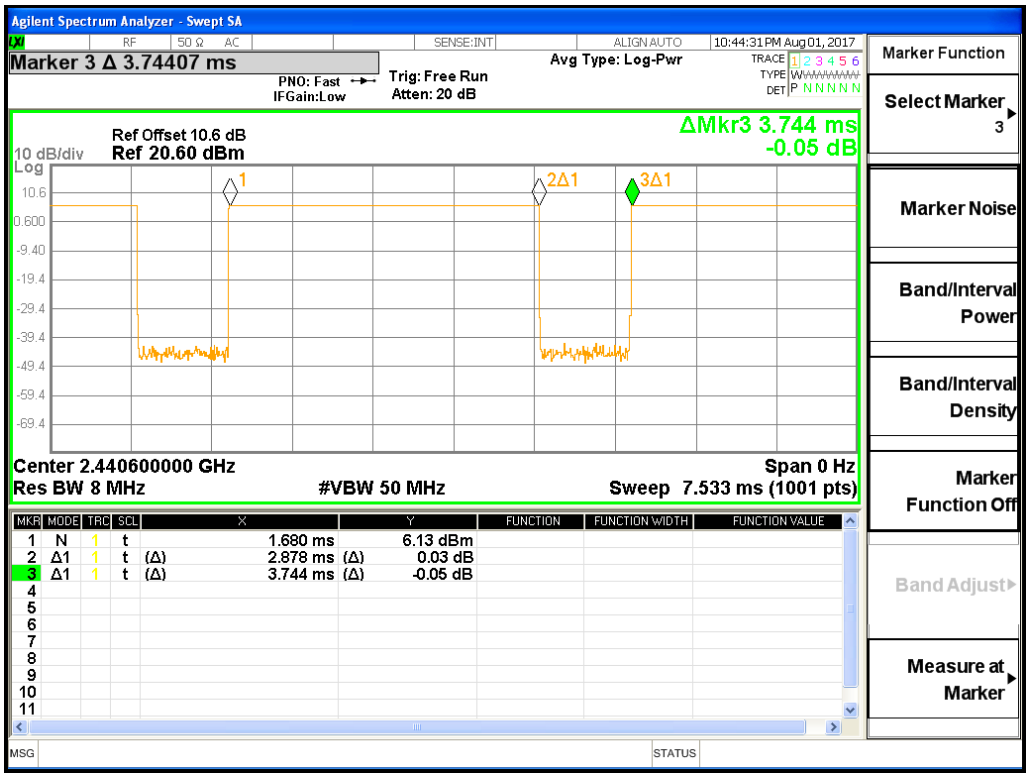
Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.878	3.744	76.87%	1.30

GFSK Duty Cycle plot



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10. Measured and Reported (Scaled) SAR Results

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

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

GENERAL:

1. **Reference from KDB 447498 D01 General RF Exposure Guidance:**
   Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

2. **Reference from KDB 648474 D04 Handset SAR:**
   With headset attached, when the reported SAR for body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

WIRELESS TECHNOLOGY:

3. **Reference KDB 941225 D01 SAR test for 3G devices:**
   When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

4. **Reference from KDB 941225 D05 SAR for LTE Devices:**
   SAR test reduction is applied using the following criteria:
   a) Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
   b) When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
   c) Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
   d) Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
   e) Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
   f) For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

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5. Reference from KDB 248227 D01 SAR meas for 802.11:

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

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

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported* SAR is ≤ 0.8 W/kg or all required test positions are tested.

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

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

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10.1. GSM850

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	GPRS 2 Slots	0	Left Touch	190	836.6	29.8	29.7	0.454	0.465	0.336	0.344	1
			Left Tilt	190	836.6	29.8	29.7	0.426	0.436	0.218	0.223	
			Right Touch	190	836.6	29.8	29.7	0.384	0.393	0.254	0.260	
			Right Tilt	190	836.6	29.8	29.7	0.290	0.297	0.165	0.169	
Body-worn & Hotspot	GPRS 2 Slots	5	Rear	190	836.6	29.8	29.7	0.511	0.523	0.275	0.281	
			Front	190	836.6	29.8	29.7	0.298	0.305	0.168	0.172	
Hotspot			Edge 1	190	836.6	29.8	29.7	0.403	0.412	0.182	0.186	
			Edge 2	190	836.6	29.8	29.7	0.453	0.464	0.297	0.304	
			Edge 4	190	836.6	29.8	29.7	0.161	0.165	0.104	0.106	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	GPRS 2 Slots	0	Left Touch	190	836.6	32.3	32.3	0.240	0.240	0.182	0.182	
			Left Tilt	190	836.6	32.3	32.3	0.133	0.133	0.102	0.102	
			Right Touch	190	836.6	32.3	32.3	0.207	0.207	0.159	0.159	
			Right Tilt	190	836.6	32.3	32.3	0.126	0.126	0.098	0.098	
Body-worn & Hotspot	GPRS 2 Slots	5	Rear	190	836.6	32.3	32.3	0.705	0.705	0.434	0.434	2
			Front	190	836.6	32.3	32.3	0.370	0.370	0.291	0.291	
Hotspot			Edge 2	190	836.6	32.3	32.3	0.347	0.347	0.229	0.229	
			Edge 3	190	836.6	32.3	32.3	0.469	0.469	0.212	0.212	
			Edge 4	190	836.6	32.3	32.3	0.650	0.650	0.433	0.433	

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10.2. GSM1900

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head VoIP	GPRS 2 Slots	0	Left Touch	661	1880.0	26.5	26.2	0.213	0.228	0.119	0.128	
			Left Tilt	661	1880.0	26.5	26.2	0.195	0.209	0.099	0.106	
			Right Touch	661	1880.0	26.5	26.2	0.618	0.662	0.312	0.334	3
			Right Tilt	661	1880.0	26.5	26.2	0.567	0.608	0.258	0.276	
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	661	1880.0	26.3	26.2	0.706	0.722	0.336	0.344	
			Front	661	1880.0	26.3	26.2	0.423	0.433	0.205	0.210	
Hotspot			Edge 1	661	1880.0	26.3	26.2	0.580	0.594	0.231	0.236	
			Edge 2	661	1880.0	26.3	26.2	0.068	0.069	0.034	0.035	
			Edge 4	661	1880.0	26.3	26.2	0.390	0.399	0.211	0.216	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head VoIP	GPRS 2 Slots	0	Left Touch	661	1880.0	30.3	30.0	0.357	0.383	0.220	0.236	
			Left Tilt	661	1880.0	30.3	30.0	0.161	0.173	0.093	0.099	
			Right Touch	661	1880.0	30.3	30.0	0.250	0.268	0.157	0.168	
			Right Tilt	661	1880.0	30.3	30.0	0.215	0.230	0.124	0.133	
Body-worn(VoIP) & Hotspot	GPRS 2 Slots	5	Rear	512	1850.2	27.0	27.0	0.727	0.727	0.356	0.356	
				661	1880.0	27.0	27.0	0.832	0.832	0.399	0.399	
				810	1909.8	27.0	26.9	0.875	0.895	0.418	0.428	4
			Front	661	1880.0	27.0	27.0	0.389	0.389	0.207	0.207	
Hotspot			Edge 2	661	1880.0	27.0	27.0	0.294	0.294	0.151	0.151	
			Edge 3	661	1880.0	27.0	27.0	0.754	0.754	0.337	0.337	
			Edge 4	661	1880.0	27.0	27.0	0.247	0.247	0.134	0.134	

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10.3. W-CDMA Band V

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	4183	836.6	24.3	24.1	0.562	0.588	0.371	0.388	5
			Left Tilt	4183	836.6	24.3	24.1	0.551	0.577	0.282	0.295	
			Right Touch	4183	836.6	24.3	24.1	0.492	0.515	0.317	0.332	
			Right Tilt	4183	836.6	24.3	24.1	0.356	0.373	0.199	0.208	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	4183	836.6	24.3	24.1	0.424	0.444	0.236	0.247	6
			Front	4183	836.6	24.3	24.1	0.309	0.324	0.175	0.183	
Hotspot	Rel 99 RMC	5	Edge 1	4183	836.6	24.3	24.1	0.450	0.471	0.203	0.213	
			Edge 2	4183	836.6	24.3	24.1	0.534	0.559	0.348	0.364	7
			Edge 4	4183	836.6	24.3	24.1	0.137	0.143	0.089	0.093	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	4183	836.6	24.8	24.8	0.284	0.284	0.216	0.216	
			Left Tilt	4183	836.6	24.8	24.8	0.154	0.154	0.120	0.120	
			Right Touch	4183	836.6	24.8	24.8	0.251	0.251	0.192	0.192	
			Right Tilt	4183	836.6	24.8	24.8	0.165	0.165	0.129	0.129	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	4183	836.6	24.8	24.8	0.419	0.419	0.227	0.227	
			Front	4183	836.6	24.8	24.8	0.250	0.250	0.143	0.143	
Hotspot	Rel 99 RMC	5	Edge 2	4183	836.6	24.8	24.8	0.210	0.210	0.137	0.137	
			Edge 3	4183	836.6	24.8	24.8	0.260	0.260	0.120	0.120	
			Edge 4	4183	836.6	24.8	24.8	0.461	0.461	0.305	0.305	

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10.4. W-CDMA Band IV

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	1413	1732.6	22.7	22.6	0.237	0.243	0.142	0.145	
			Left Tilt	1413	1732.6	22.7	22.6	0.249	0.255	0.133	0.136	
			Right Touch	1413	1732.6	22.7	22.6	0.602	0.616	0.328	0.336	8
			Right Tilt	1413	1732.6	22.7	22.6	0.569	0.582	0.270	0.276	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	1413	1732.6	22.7	22.6	0.560	0.573	0.282	0.289	
			Front	1413	1732.6	22.7	22.6	0.306	0.313	0.163	0.167	
Hotspot	Rel 99 RMC	5	Edge 1	1413	1732.6	22.7	22.6	0.553	0.566	0.246	0.252	
			Edge 2	1413	1732.6	22.7	22.6	0.038	0.039	0.022	0.023	
			Edge 4	1413	1732.6	22.7	22.6	0.339	0.347	0.195	0.200	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	1413	1732.6	25.3	25.3	0.425	0.425	0.273	0.273	
			Left Tilt	1413	1732.6	25.3	25.3	0.180	0.180	0.118	0.118	
			Right Touch	1413	1732.6	25.3	25.3	0.222	0.222	0.153	0.153	
			Right Tilt	1413	1732.6	25.3	25.3	0.188	0.188	0.121	0.121	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	1312	1712.4	24.3	24.3	1.030	1.030	0.598	0.598	
				1413	1732.6	24.3	24.3	1.060	1.060	0.614	0.614	
				1513	1752.6	24.3	24.2	1.060	1.085	0.619	0.633	9
			Front	1413	1732.6	24.3	24.3	0.558	0.558	0.373	0.373	
Hotspot	Rel 99 RMC	5	Edge 2	1413	1732.6	24.3	24.3	0.143	0.143	0.008	0.008	
			Edge 3	1413	1732.6	24.3	24.3	0.591	0.591	0.273	0.273	
			Edge 4	1312	1712.4	24.3	24.3	0.942	0.942	0.549	0.549	
				1413	1732.6	24.3	24.3	0.903	0.903	0.508	0.508	
				1513	1752.6	24.3	24.2	1.030	1.054	0.601	0.615	

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10.5. W-CDMA Band II

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	9400	1880.0	20.3	20.3	0.238	0.238	0.123	0.123	
			Left Tilt	9400	1880.0	20.3	20.3	0.275	0.275	0.134	0.134	
			Right Touch	9262	1852.4	20.3	20.3	0.733	0.733	0.363	0.363	
				9400	1880.0	20.3	20.3	0.823	0.823	0.406	0.406	
				9538	1907.6	20.3	20.3	0.978	0.978	0.484	0.484	10
			Right Tilt	9400	1880.0	20.3	20.3	0.743	0.743	0.334	0.334	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	9400	1880.0	20.8	20.5	0.680	0.729	0.320	0.343	
			Front	9400	1880.0	20.8	20.5	0.416	0.446	0.199	0.213	
Hotspot	Rel 99 RMC	5	Edge 1	9400	1880.0	20.8	20.5	0.559	0.599	0.225	0.241	
			Edge 2	9400	1880.0	20.8	20.5	0.072	0.077	0.036	0.039	
			Edge 4	9400	1880.0	20.8	20.5	0.384	0.411	0.199	0.213	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	9400	1880.0	25.3	25.0	0.468	0.501	0.287	0.308	
			Left Tilt	9400	1880.0	25.3	25.0	0.240	0.257	0.138	0.148	
			Right Touch	9400	1880.0	25.3	25.0	0.373	0.400	0.234	0.251	
			Right Tilt	9400	1880.0	25.3	25.0	0.306	0.328	0.180	0.193	
Body-worn & Hotspot	Rel 99 RMC	5	Rear	9262	1852.4	22.5	22.5	1.010	1.010	0.490	0.490	11
				9400	1880.0	22.5	22.5	0.999	0.999	0.481	0.481	
				9538	1907.6	22.5	22.5	0.979	0.979	0.469	0.469	
			Front	9400	1880.0	22.5	22.5	0.633	0.633	0.339	0.339	
Hotspot	Rel 99 RMC	5	Edge 2	9400	1880.0	22.5	22.5	0.520	0.520	0.274	0.274	
			Edge 3	9262	1852.4	22.5	22.5	1.090	1.090	0.513	0.513	12
				9400	1880.0	22.5	22.5	1.030	1.030	0.470	0.470	
				9538	1907.6	22.5	22.5	1.030	1.030	0.465	0.465	
			Edge 4	9400	1880.0	22.5	22.5	0.352	0.352	0.192	0.192	

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10.6. LTE Band 2 (20MHz Bandwidth)

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

10.7. LTE Band 4 (20MHz Bandwidth)

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

10.8. LTE Band 5 (10MHz Bandwidth)

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

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10.9. LTE Band 7 (20MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	20850	2510.0	1	49	19.0	19.0	0.992	0.992	0.387	0.387	
						50	24	19.0	19.0	0.978	0.978	0.380	0.380	
				21100	2535.0	1	49	19.0	19.0	0.930	0.930	0.358	0.358	
						50	24	19.0	18.9	0.971	0.994	0.372	0.381	13
						100	0	19.0	18.9	0.956	0.978	0.366	0.375	
				21350	2560.0	1	49	19.0	19.0	0.959	0.959	0.364	0.364	
						50	24	19.0	19.0	0.960	0.960	0.364	0.364	
			Left Tilt	21100	2535.0	1	49	19.0	19.0	0.571	0.571	0.227	0.227	
						50	24	19.0	18.9	0.573	0.586	0.227	0.232	
			Right Touch	21100	2535.0	1	49	19.0	19.0	0.283	0.283	0.119	0.119	
						50	24	19.0	18.9	0.269	0.275	0.115	0.118	
			Right Tilt	21100	2535.0	1	49	19.0	19.0	0.340	0.340	0.142	0.142	
						50	24	19.0	18.9	0.339	0.347	0.142	0.145	
Body-worn & Hotspot	QPSK	5	Rear	20850	2510.0	1	49	19.5	19.5	0.809	0.809	0.329	0.329	
				21100	2535.0	1	49	19.5	19.5	0.880	0.880	0.353	0.353	
						50	24	19.5	19.4	0.737	0.754	0.298	0.305	
				21350	2560.0	1	49	19.5	19.5	0.842	0.842	0.337	0.337	
			Front	21100	2535.0	1	49	19.5	19.5	0.419	0.419	0.182	0.182	
						50	24	19.5	19.4	0.434	0.444	0.187	0.191	
Hotspot	QPSK	5	Edge 1	21100	2535.0	1	49	19.5	19.5	0.389	0.389	0.154	0.154	
						50	24	19.5	19.4	0.385	0.394	0.152	0.156	
			Edge 2	21100	2535.0	1	49	19.5	19.5	0.676	0.676	0.269	0.269	
						50	24	19.5	19.4	0.594	0.608	0.242	0.248	
			Edge 4	21100	2535.0	1	49	19.5	19.5	0.104	0.104	0.044	0.044	
						50	24	19.5	19.4	0.103	0.105	0.043	0.044	

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LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	21100	2535.0	1	49	25.3	25.3	0.571	0.571	0.302	0.302	
						50	24	24.3	24.3	0.455	0.455	0.240	0.240	
			Left Tilt	21100	2535.0	1	49	25.3	25.3	0.231	0.231	0.120	0.120	
						50	24	24.3	24.3	0.183	0.183	0.095	0.095	
			Right Touch	21100	2535.0	1	49	25.3	25.3	0.369	0.369	0.208	0.208	
						50	24	24.3	24.3	0.295	0.295	0.167	0.167	
			Right Tilt	21100	2535.0	1	49	25.3	25.3	0.362	0.362	0.179	0.179	
						50	24	24.3	24.3	0.301	0.301	0.152	0.152	
Body-worn & Hotspot	QPSK	5	Rear	20850	2510.0	1	49	22.3	22.3	0.863	0.863	0.352	0.352	
						50	24	22.3	22.2	0.897	0.918	0.363	0.371	
				21100	2535.0	1	49	22.3	22.2	1.010	1.034	0.416	0.426	
						50	24	22.3	22.2	0.985	1.008	0.406	0.415	
						100	0	22.3	22.2	0.984	1.007	0.406	0.415	
				21350	2560.0	1	49	22.3	22.3	1.000	1.000	0.416	0.416	
						50	24	22.3	22.3	1.010	1.010	0.408	0.408	
			Front	20850	2510.0	1	49	22.3	22.3	0.823	0.823	0.328	0.328	
						50	24	22.3	22.2	0.830	0.849	0.336	0.344	
				21100	2535.0	1	49	22.3	22.2	0.899	0.920	0.369	0.378	
						50	24	22.3	22.2	0.976	0.999	0.395	0.404	
						100	0	22.3	22.2	0.958	0.980	0.388	0.397	
				21350	2560.0	1	49	22.3	22.3	1.030	1.030	0.420	0.420	
						50	24	22.3	22.3	1.090	1.090	0.441	0.441	14
Hotspot	QPSK	5	Edge 2	21100	2535.0	1	49	22.3	22.2	0.284	0.291	0.133	0.136	
						50	24	22.3	22.2	0.306	0.313	0.141	0.144	
			Edge 3	20850	2510.0	1	49	22.3	22.3	0.811	0.811	0.272	0.272	
						50	24	22.3	22.2	0.717	0.734	0.241	0.247	
				21100	2535.0	1	49	22.3	22.2	0.895	0.916	0.297	0.304	
						50	24	22.3	22.2	0.816	0.835	0.275	0.281	
						100	0	22.3	22.2	0.910	0.931	0.300	0.307	
				21350	2560.0	1	49	22.3	22.3	0.945	0.945	0.318	0.318	
						50	24	22.3	22.3	1.090	1.090	0.355	0.355	
			Edge 4	21100	2535.0	1	49	22.3	22.2	0.618	0.632	0.279	0.285	
						50	24	22.3	22.2	0.688	0.704	0.307	0.314	

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10.10. LTE Band 12 (10MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23095	707.5	1	24	24.0	24.0	0.302	0.302	0.228	0.228	
						25	12	23.0	23.0	0.236	0.236	0.178	0.178	
			Left Tilt	23095	707.5	1	24	24.0	24.0	0.272	0.272	0.144	0.144	
						25	12	23.0	23.0	0.226	0.226	0.119	0.119	
			Right Touch	23095	707.5	1	24	24.0	24.0	0.316	0.316	0.199	0.199	15
						25	12	23.0	23.0	0.249	0.249	0.158	0.158	
			Right Tilt	23095	707.5	1	24	24.0	24.0	0.277	0.277	0.159	0.159	
						25	12	23.0	23.0	0.225	0.225	0.129	0.129	
Body-worn & Hotspot	QPSK	5	Rear	23095	707.5	1	24	24.0	24.0	0.227	0.227	0.144	0.144	
						25	12	23.0	23.0	0.178	0.178	0.113	0.113	
			Front	23095	707.5	1	24	24.0	24.0	0.183	0.183	0.115	0.115	
						25	12	23.0	23.0	0.148	0.148	0.093	0.093	
Hotspot	QPSK	5	Edge 1	23095	707.5	1	24	24.0	24.0	0.189	0.189	0.094	0.094	
						25	12	23.0	23.0	0.163	0.163	0.080	0.080	
			Edge 2	23095	707.5	1	24	24.0	24.0	0.337	0.337	0.232	0.232	
						25	12	23.0	23.0	0.266	0.266	0.183	0.183	
			Edge 4	23095	707.5	1	24	24.0	24.0	0.105	0.105	0.071	0.071	
						25	12	23.0	23.0	0.084	0.084	0.057	0.057	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23095	707.5	1	24	24.8	24.7	0.202	0.207	0.157	0.161	
						25	12	23.8	23.7	0.164	0.168	0.128	0.131	
			Left Tilt	23095	707.5	1	24	24.8	24.7	0.152	0.156	0.119	0.122	
						25	12	23.8	23.7	0.123	0.126	0.096	0.099	
			Right Touch	23095	707.5	1	24	24.8	24.7	0.190	0.194	0.148	0.151	
						25	12	23.8	23.7	0.156	0.160	0.118	0.121	
			Right Tilt	23095	707.5	1	24	24.8	24.7	0.159	0.163	0.124	0.127	
						25	12	23.8	23.7	0.128	0.131	0.101	0.103	
Body-worn & Hotspot	QPSK	5	Rear	23095	707.5	1	24	24.8	24.8	0.503	0.503	0.283	0.283	16
						25	12	23.8	23.8	0.417	0.417	0.234	0.234	
			Front	23095	707.5	1	24	24.8	24.8	0.271	0.271	0.211	0.211	
						25	12	23.8	23.8	0.219	0.219	0.169	0.169	
Hotspot	QPSK	5	Edge 2	23095	707.5	1	24	24.8	24.8	0.332	0.332	0.226	0.226	
						25	12	23.8	23.8	0.275	0.275	0.186	0.186	
			Edge 3	23095	707.5	1	24	24.8	24.8	0.297	0.297	0.143	0.143	
						25	12	23.8	23.8	0.243	0.243	0.117	0.117	
			Edge 4	23095	707.5	1	24	24.8	24.8	0.585	0.585	0.401	0.401	17
						25	12	23.8	23.8	0.480	0.480	0.328	0.328	

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10.11. LTE Band 13 (10MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23230	782.0	1	24	24.0	24.0	0.366	0.366	0.240	0.240	
						25	12	23.0	23.0	0.344	0.344	0.251	0.251	
			Left Tilt	23230	782.0	1	24	24.0	24.0	0.394	0.394	0.206	0.206	18
						25	12	23.0	23.0	0.322	0.322	0.168	0.168	
			Right Touch	23230	782.0	1	24	24.0	24.0	0.357	0.357	0.226	0.226	
						25	12	23.0	23.0	0.284	0.284	0.192	0.192	
			Right Tilt	23230	782.0	1	24	24.0	24.0	0.309	0.309	0.176	0.176	
						25	12	23.0	23.0	0.245	0.245	0.139	0.139	
Body-worn & Hotspot	QPSK	5	Rear	23230	782.0	1	24	24.0	24.0	0.348	0.348	0.203	0.203	
						25	12	23.0	23.0	0.277	0.277	0.161	0.161	
			Front	23230	782.0	1	24	24.0	24.0	0.262	0.262	0.151	0.151	
						25	12	23.0	23.0	0.191	0.191	0.116	0.116	
Hotspot	QPSK	5	Edge 1	23230	782.0	1	24	24.0	24.0	0.307	0.307	0.145	0.145	
						25	12	23.0	23.0	0.245	0.245	0.116	0.116	
			Edge 2	23230	782.0	1	24	24.0	24.0	0.484	0.484	0.324	0.324	
						25	12	23.0	23.0	0.384	0.384	0.257	0.257	
			Edge 4	23230	782.0	1	24	24.0	24.0	0.177	0.177	0.118	0.118	
						25	12	23.0	23.0	0.152	0.152	0.100	0.100	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	23230	782.0	1	24	24.8	24.8	0.258	0.258	0.200	0.200	
						25	12	23.8	23.8	0.205	0.205	0.160	0.160	
			Left Tilt	23230	782.0	1	24	24.8	24.8	0.196	0.196	0.156	0.156	
						25	12	23.8	23.8	0.158	0.158	0.125	0.125	
			Right Touch	23230	782.0	1	24	24.8	24.8	0.238	0.238	0.185	0.185	
						25	12	23.8	23.8	0.194	0.194	0.147	0.147	
			Right Tilt	23230	782.0	1	24	24.8	24.8	0.212	0.212	0.168	0.168	
						25	12	23.8	23.8	0.171	0.171	0.136	0.136	
Body-worn & Hotspot	QPSK	5	Rear	23230	782.0	1	24	24.8	24.8	0.602	0.602	0.352	0.352	19
						25	12	23.8	23.8	0.479	0.479	0.280	0.280	
			Front	23230	782.0	1	24	24.8	24.8	0.324	0.324	0.193	0.193	
						25	12	23.8	23.8	0.291	0.291	0.170	0.170	
Hotspot	QPSK	5	Edge 2	23230	782.0	1	24	24.8	24.8	0.278	0.278	0.186	0.186	
						25	12	23.8	23.8	0.224	0.224	0.150	0.150	
			Edge 3	23230	782.0	1	24	24.8	24.8	0.434	0.434	0.203	0.203	
						25	12	23.8	23.8	0.336	0.336	0.157	0.157	
			Edge 4	23230	782.0	1	24	24.8	24.8	0.597	0.597	0.403	0.403	
						25	12	23.8	23.8	0.481	0.481	0.325	0.325	

10.12. LTE Band 17 (10MHz Bandwidth)

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

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10.13. LTE Band 25 (20MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26365	1882.5	1	49	20.3	20.3	0.206	0.206	0.116	0.116	
						50	24	19.8	19.5	0.153	0.164	0.084	0.090	
			Left Tilt	26365	1882.5	1	49	20.3	20.3	0.290	0.290	0.146	0.146	
						50	24	19.8	19.5	0.222	0.238	0.111	0.119	
			Right Touch	26140	1860.0	1	49	20.3	20.1	0.762	0.798	0.389	0.407	
				26365	1882.5	1	49	20.3	20.3	0.897	0.897	0.449	0.449	
						50	24	19.8	19.5	0.718	0.769	0.358	0.384	
				26590	1905.0	1	49	20.3	19.9	0.950	1.042	0.469	0.514	20
			Right Tilt	26140	1860.0	1	49	20.3	20.1	0.731	0.765	0.326	0.341	
				26365	1882.5	1	49	20.3	20.3	0.898	0.898	0.409	0.409	
						50	24	19.8	19.5	0.706	0.756	0.320	0.343	
				26590	1905.0	1	49	20.3	19.9	0.943	1.034	0.411	0.451	
Body-worn & Hotspot	QPSK	5	Rear	26140	1860.0	1	49	20.8	20.6	0.823	0.862	0.393	0.412	
				26365	1882.5	1	49	20.8	20.4	0.759	0.832	0.366	0.401	
						50	24	19.8	19.5	0.601	0.644	0.284	0.304	
				26590	1905.0	1	49	20.8	20.6	0.815	0.853	0.383	0.401	
			Front	26365	1882.5	1	49	20.8	20.4	0.407	0.446	0.199	0.218	
						50	24	19.8	19.5	0.312	0.334	0.152	0.163	
Hotspot	QPSK	5	Edge 1	26365	1882.5	1	49	20.8	20.4	0.580	0.636	0.228	0.250	
						50	24	19.8	19.5	0.453	0.485	0.179	0.192	
			Edge 2	26365	1882.5	1	49	20.8	20.4	0.095	0.104	0.049	0.053	
						50	24	19.8	19.5	0.074	0.080	0.038	0.040	
			Edge 4	26365	1882.5	1	49	20.8	20.4	0.499	0.547	0.258	0.283	
						50	24	19.8	19.5	0.424	0.454	0.217	0.233	

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LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26365	1882.5	1	49	25.3	25.3	0.385	0.385	0.238	0.238	
						50	24	24.3	24.3	0.313	0.313	0.194	0.194	
			Left Tilt	26365	1882.5	1	49	25.3	25.3	0.195	0.195	0.119	0.119	
						50	24	24.3	24.3	0.159	0.159	0.097	0.097	
			Right Touch	26365	1882.5	1	49	25.3	25.3	0.337	0.337	0.215	0.215	
						50	24	24.3	24.3	0.270	0.270	0.173	0.173	
			Right Tilt	26365	1882.5	1	49	25.3	25.3	0.277	0.277	0.163	0.163	
						50	24	24.3	24.3	0.226	0.226	0.133	0.133	
Body-worn & Hotspot	QPSK	5	Rear	26140	1860.0	1	49	22.5	22.5	0.720	0.720	0.355	0.355	
						50	24	22.5	22.5	0.854	0.854	0.419	0.419	
				26365	1882.5	1	49	22.5	22.4	1.060	1.085	0.508	0.520	21
						50	24	22.5	22.2	0.981	1.051	0.477	0.511	
						100	0	22.5	22.2	0.749	0.803	0.366	0.392	
				26590	1905.0	1	49	22.5	22.2	0.850	0.911	0.411	0.440	
						50	24	22.5	22.3	1.010	1.058	0.485	0.508	
			Front	26365	1882.5	1	49	22.5	22.4	0.458	0.469	0.243	0.249	
						50	24	22.5	22.2	0.436	0.467	0.233	0.250	
Hotspot	QPSK	5	Edge 2	26365	1882.5	1	49	22.5	22.4	0.425	0.435	0.229	0.234	
						50	24	22.5	22.2	0.394	0.422	0.213	0.228	
			Edge 3	26140	1860.0	1	49	22.5	22.5	0.902	0.902	0.421	0.421	
						50	24	22.5	22.5	0.885	0.885	0.402	0.402	
				26365	1882.5	1	49	22.5	22.4	1.050	1.074	0.465	0.476	
						50	24	22.5	22.2	0.987	1.058	0.446	0.478	
						100	0	22.5	22.2	0.962	1.031	0.426	0.456	
				26590	1905.0	1	49	22.5	22.2	0.995	1.066	0.448	0.480	
						50	24	22.5	22.3	0.911	0.954	0.400	0.419	
			Edge 4	26365	1882.5	1	49	22.5	22.4	0.270	0.276	0.148	0.151	
						50	24	22.5	22.2	0.267	0.286	0.146	0.156	

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10.14. LTE Band 26 (10MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26865	831.5	1	24	24.0	24.0	0.565	0.565	0.350	0.350	
						25	12	23.0	23.0	0.466	0.466	0.289	0.289	
			Left Tilt	26865	831.5	1	24	24.0	24.0	0.615	0.615	0.316	0.316	22
						25	12	23.0	23.0	0.517	0.517	0.264	0.264	
			Right Touch	26865	831.5	1	24	24.0	24.0	0.483	0.483	0.308	0.308	
						25	12	23.0	23.0	0.387	0.387	0.248	0.248	
			Right Tilt	26865	831.5	1	24	24.0	24.0	0.400	0.400	0.229	0.229	
						25	12	23.0	23.0	0.328	0.328	0.187	0.187	
Body-worn & Hotspot	QPSK	5	Rear	26865	831.5	1	24	24.0	24.0	0.482	0.482	0.260	0.260	23
						25	12	23.0	23.0	0.395	0.395	0.212	0.212	
			Front	26865	831.5	1	24	24.0	24.0	0.337	0.337	0.186	0.186	
						25	12	23.0	23.0	0.272	0.272	0.150	0.150	
Hotspot	QPSK	5	Edge 1	26865	831.5	1	24	24.0	24.0	0.387	0.387	0.177	0.177	
						25	12	23.0	23.0	0.341	0.341	0.153	0.153	
			Edge 2	26865	831.5	1	24	24.0	24.0	0.469	0.469	0.312	0.312	
						25	12	23.0	23.0	0.383	0.383	0.254	0.254	
			Edge 4	26865	831.5	1	24	24.0	24.0	0.171	0.171	0.111	0.111	
						25	12	23.0	23.0	0.139	0.139	0.091	0.091	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	26865	831.5	1	24	24.8	24.8	0.210	0.210	0.161	0.161	
						25	12	23.8	23.8	0.170	0.170	0.130	0.130	
			Left Tilt	26865	831.5	1	24	24.8	24.8	0.111	0.111	0.086	0.086	
						25	12	23.8	23.8	0.089	0.089	0.069	0.069	
			Right Touch	26865	831.5	1	24	24.8	24.8	0.202	0.202	0.154	0.154	
						25	12	23.8	23.8	0.161	0.161	0.122	0.122	
			Right Tilt	26865	831.5	1	24	24.8	24.8	0.116	0.116	0.090	0.090	
						25	12	23.8	23.8	0.092	0.092	0.072	0.072	
Body-worn & Hotspot	QPSK	5	Rear	26865	831.5	1	24	24.8	24.8	0.449	0.449	0.278	0.278	
						25	12	23.8	23.8	0.349	0.349	0.186	0.186	
			Front	26865	831.5	1	24	24.8	24.8	0.240	0.240	0.140	0.140	
						25	12	23.8	23.8	0.191	0.191	0.111	0.111	
Hotspot	QPSK	5	Edge 2	26865	831.5	1	24	24.8	24.8	0.226	0.226	0.148	0.148	
						25	12	23.8	23.8	0.180	0.180	0.118	0.118	
			Edge 3	26865	831.5	1	24	24.8	24.8	0.290	0.290	0.130	0.130	
						25	12	23.8	23.8	0.233	0.233	0.104	0.104	
			Edge 4	26865	831.5	1	24	24.8	24.8	0.230	0.230	0.152	0.152	
						25	12	23.8	23.8	0.235	0.235	0.155	0.155	

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10.15. LTE Band 30 (10MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	27710	2310.0	1	24	20.3	20.2	0.878	0.898	0.365	0.374	
						25	12	20.3	20.3	0.903	0.903	0.372	0.372	
						50	0	20.3	20.0	0.843	0.903	0.348	0.373	
			Left Tilt	27710	2310.0	1	24	20.3	20.2	0.926	0.948	0.355	0.363	
						25	12	20.3	20.3	0.934	0.934	0.361	0.361	
						50	0	20.3	20.0	0.857	0.918	0.320	0.343	
			Right Touch	27710	2310.0	1	24	20.3	20.2	0.806	0.825	0.330	0.338	
						25	12	20.3	20.3	0.990	0.990	0.395	0.395	
						50	0	20.3	20.0	0.854	0.915	0.343	0.368	
			Right Tilt	27710	2310.0	1	24	20.3	20.2	0.985	1.008	0.376	0.385	
						25	12	20.3	20.3	1.060	1.060	0.398	0.398	24
						50	0	20.3	20.0	0.978	1.048	0.364	0.390	
Body-worn & Hotspot	QPSK	5	Rear	27710	2310.0	1	24	20.3	20.2	0.712	0.729	0.290	0.297	
						25	12	20.3	20.3	0.814	0.814	0.327	0.327	
						50	0	20.3	20.0	0.767	0.822	0.307	0.329	
			Front	27710	2310.0	1	24	20.3	20.2	0.369	0.378	0.157	0.161	
						25	12	20.3	20.3	0.333	0.333	0.142	0.142	
Hotspot	QPSK	5	Edge 1	27710	2310.0	1	24	20.3	20.2	0.563	0.576	0.198	0.203	
						25	12	20.3	20.3	0.568	0.568	0.200	0.200	
			Edge 2	27710	2310.0	1	24	20.3	20.2	0.601	0.615	0.256	0.262	
						25	12	20.3	20.3	0.555	0.555	0.236	0.236	
			Edge 4	27710	2310.0	1	24	20.3	20.2	0.370	0.379	0.173	0.177	
						25	12	20.3	20.3	0.321	0.321	0.154	0.154	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	27710	2310.0	1	24	23.8	23.8	0.318	0.318	0.187	0.187	
						25	12	22.8	22.8	0.252	0.252	0.148	0.148	
			Left Tilt	27710	2310.0	1	24	23.8	23.8	0.250	0.250	0.132	0.132	
						25	12	22.8	22.8	0.190	0.190	0.100	0.100	
			Right Touch	27710	2310.0	1	24	23.8	23.8	0.532	0.532	0.300	0.300	
						25	12	22.8	22.8	0.373	0.373	0.213	0.213	
			Right Tilt	27710	2310.0	1	24	23.8	23.8	0.344	0.344	0.183	0.183	
						25	12	22.8	22.8	0.287	0.287	0.151	0.151	
Body-worn & Hotspot	QPSK	5	Rear	27710	2310.0	1	24	21.5	21.5	0.993	0.993	0.411	0.411	25
						25	12	21.5	21.5	0.959	0.959	0.396	0.396	
						50	0	21.5	21.5	0.865	0.865	0.362	0.362	
			Front	27710	2310.0	1	24	21.5	21.5	0.539	0.539	0.266	0.266	
						25	12	21.5	21.5	0.599	0.599	0.291	0.291	
Hotspot	QPSK	5	Edge 2	27710	2310.0	1	24	21.5	21.5	0.457	0.457	0.218	0.218	
						25	12	21.5	21.5	0.422	0.422	0.205	0.205	
			Edge 3	27710	2310.0	1	24	21.5	21.5	0.773	0.773	0.281	0.281	
						25	12	21.5	21.5	0.755	0.755	0.275	0.275	
			Edge 4	27710	2310.0	1	24	21.5	21.5	0.309	0.309	0.155	0.155	
						25	12	21.5	21.5	0.451	0.451	0.218	0.218	

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10.16. LTE Band 41 (20MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	39750	2506.0	1	49	21.0	21.0	0.971	0.971	0.388	0.388	
						50	24	20.4	20.3	0.827	0.846	0.318	0.325	
				40185	2549.5	1	49	21.0	21.0	1.070	1.070	0.403	0.403	26
						50	24	20.4	20.2	0.746	0.781	0.282	0.295	
				40620	2593.0	1	49	21.0	21.0	1.060	1.060	0.399	0.399	
						50	24	20.4	20.2	0.727	0.761	0.272	0.285	
						100	0	20.4	20.1	0.705	0.755	0.264	0.283	
				41055	2636.5	1	49	21.0	21.0	0.844	0.844	0.314	0.314	
						50	24	20.4	20.2	0.667	0.698	0.248	0.260	
				41490	2680.0	1	49	21.0	21.0	0.754	0.754	0.279	0.279	
						50	24	20.4	20.1	0.674	0.722	0.252	0.270	
			Left Tilt	40620	2593.0	1	49	21.0	21.0	0.435	0.435	0.182	0.182	
						50	24	20.4	20.2	0.360	0.377	0.150	0.157	
			Right Touch	40620	2593.0	1	49	21.0	21.0	0.317	0.317	0.138	0.138	
						50	24	20.4	20.2	0.257	0.269	0.114	0.119	
			Right Tilt	40620	2593.0	1	49	21.0	21.0	0.301	0.301	0.146	0.146	
						50	24	20.4	20.2	0.263	0.275	0.127	0.133	
Body-worn & Hotspot	QPSK	5	Rear	40620	2593.0	1	49	21.4	21.4	0.651	0.651	0.263	0.263	
						50	24	20.4	20.1	0.309	0.331	0.126	0.135	
			Front	40620	2593.0	1	49	21.4	21.4	0.307	0.307	0.131	0.131	
						50	24	20.4	20.1	0.189	0.203	0.079	0.085	
Hotspot	QPSK	5	Edge 1	40620	2593.0	1	49	21.4	21.4	0.344	0.344	0.141	0.141	
						50	24	20.4	20.1	0.274	0.294	0.111	0.119	
			Edge 2	40620	2593.0	1	49	21.4	21.4	0.339	0.339	0.134	0.134	
						50	24	20.4	20.1	0.249	0.267	0.095	0.102	
			Edge 4	40620	2593.0	1	49	21.4	21.4	0.247	0.247	0.104	0.104	
						50	24	20.4	20.1	0.129	0.138	0.056	0.060	

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LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	40620	2593.0	1	49	24.5	24.5	0.365	0.365	0.187	0.187	
						50	24	24.3	24.3	0.288	0.288	0.148	0.148	
			Left Tilt	40620	2593.0	1	49	24.5	24.5	0.142	0.142	0.070	0.070	
						50	24	24.3	24.3	0.109	0.109	0.054	0.054	
			Right Touch	40620	2593.0	1	49	24.5	24.5	0.184	0.184	0.100	0.100	
						50	24	24.3	24.3	0.142	0.142	0.077	0.077	
			Right Tilt	40620	2593.0	1	49	24.5	24.5	0.214	0.214	0.101	0.101	
						50	24	24.3	24.3	0.168	0.168	0.079	0.079	
Body-worn & Hotspot	QPSK	5	Rear	39750	2506.0	1	49	23.8	23.7	0.592	0.606	0.250	0.256	
						50	24	23.8	23.7	0.496	0.508	0.206	0.211	
				40185	2549.5	1	49	23.8	23.6	0.803	0.841	0.327	0.342	
						50	24	23.8	23.8	0.669	0.669	0.278	0.278	
				40620	2593.0	1	49	23.8	23.8	0.888	0.888	0.354	0.354	
						50	24	23.8	23.8	0.947	0.947	0.374	0.374	
						100	0	23.8	23.7	0.721	0.738	0.292	0.299	
				41055	2636.5	1	49	23.8	23.6	0.881	0.923	0.339	0.355	
						50	24	23.8	23.7	0.725	0.742	0.285	0.292	
				41490	2680.0	1	49	23.8	23.8	0.954	0.954	0.368	0.368	27
						50	24	23.8	23.7	0.846	0.866	0.329	0.337	
			Front	40620	2593.0	1	49	23.8	23.8	0.787	0.787	0.312	0.312	
						50	24	23.8	23.8	0.682	0.682	0.276	0.276	
Hotspot	QPSK	5	Edge 2	40620	2593.0	1	49	23.8	23.8	0.203	0.203	0.091	0.091	
						50	24	23.8	23.8	0.239	0.239	0.100	0.100	
			Edge 3	39750	2506.0	1	49	23.8	23.7	0.607	0.621	0.200	0.205	
						50	24	23.8	23.7	0.563	0.576	0.188	0.192	
				40185	2549.5	1	49	23.8	23.6	0.896	0.938	0.293	0.307	
						50	24	23.8	23.8	0.772	0.772	0.256	0.256	
				40620	2593.0	1	49	23.8	23.8	0.828	0.828	0.277	0.277	
						50	24	23.8	23.8	0.824	0.824	0.273	0.273	
						100	0	23.8	23.7	0.836	0.855	0.276	0.282	
				41055	2636.5	1	49	23.8	23.6	0.995	1.042	0.317	0.332	28
						50	24	23.8	23.7	0.846	0.866	0.274	0.280	
				41490	2680.0	1	49	23.8	23.8	0.972	0.972	0.314	0.314	
						50	24	23.8	23.7	0.975	0.998	0.313	0.320	
			Edge 4	40620	2593.0	1	49	23.8	23.8	0.700	0.700	0.308	0.308	
						50	24	23.8	23.8	0.599	0.599	0.267	0.267	

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10.17. LTE Band 66 (20MHz Bandwidth)

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

UAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	132322	1745.0	1	49	22.2	22.2	0.316	0.316	0.183	0.183	
						50	24	21.2	21.2	0.255	0.255	0.148	0.148	
			Left Tilt	132322	1745.0	1	49	22.2	22.2	0.247	0.247	0.141	0.141	
						50	24	21.2	21.2	0.201	0.201	0.114	0.114	
			Right Touch	132322	1745.0	1	49	22.2	22.2	0.649	0.649	0.351	0.351	29
						50	24	21.2	21.2	0.519	0.519	0.280	0.280	
			Right Tilt	132322	1745.0	1	49	22.2	22.2	0.602	0.602	0.294	0.294	
						50	24	21.2	21.2	0.480	0.480	0.235	0.235	
Body-worn & Hotspot	QPSK	5	Rear	132322	1745.0	1	49	22.2	22.2	0.700	0.700	0.342	0.342	
						50	24	21.2	21.1	0.564	0.577	0.275	0.281	
			Front	132322	1745.0	1	49	22.2	22.2	0.345	0.345	0.182	0.182	
						50	24	21.2	21.1	0.274	0.280	0.144	0.147	
Hotspot	QPSK	5	Edge 1	132322	1745.0	1	49	22.2	22.2	0.519	0.519	0.227	0.227	
						50	24	21.2	21.1	0.495	0.507	0.219	0.224	
			Edge 2	132322	1745.0	1	49	22.2	22.2	0.034	0.034	0.019	0.019	
						50	24	21.2	21.1	0.025	0.026	0.014	0.014	
			Edge 4	132322	1745.0	1	49	22.2	22.2	0.330	0.330	0.182	0.182	
						50	24	21.2	21.1	0.269	0.275	0.148	0.151	

LAT 1

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	QPSK	0	Left Touch	132322	1745.0	1	49	25.3	25.3	0.395	0.395	0.255	0.255	
						50	24	24.3	24.2	0.314	0.321	0.201	0.206	
			Left Tilt	132322	1745.0	1	49	25.3	25.3	0.181	0.181	0.111	0.111	
						50	24	24.3	24.2	0.170	0.174	0.104	0.106	
			Right Touch	132322	1745.0	1	49	25.3	25.3	0.203	0.203	0.136	0.136	
						50	24	24.3	24.2	0.157	0.161	0.105	0.107	
			Right Tilt	132322	1745.0	1	49	25.3	25.3	0.198	0.198	0.120	0.120	
						50	24	24.3	24.2	0.158	0.162	0.097	0.099	
Body-worn & Hotspot	QPSK	5	Rear	132072	1720.0	1	49	24.3	24.0	0.925	0.991	0.523	0.560	
						50	24	24.3	24.3	1.000	1.000	0.566	0.566	
				132322	1745.0	1	49	24.3	24.1	1.030	1.079	0.588	0.616	
						50	24	24.3	24.3	1.070	1.070	0.603	0.603	
						100	0	24.3	24.2	1.020	1.044	0.585	0.599	
				132572	1770.0	1	49	24.3	24.2	0.975	0.998	0.549	0.562	
						50	24	24.3	24.3	1.080	1.080	0.607	0.607	30
			Front	132322	1745.0	1	49	24.3	24.1	0.677	0.709	0.414	0.434	
						50	24	24.3	24.3	0.576	0.576	0.367	0.367	
Hotspot	QPSK	5	Edge 2	132322	1745.0	1	49	24.3	24.1	0.110	0.115	0.062	0.065	
						50	24	24.3	24.3	0.101	0.101	0.057	0.057	
			Edge 3	132322	1745.0	1	49	24.3	24.1	0.606	0.635	0.274	0.287	
						50	24	24.3	24.3	0.679	0.679	0.306	0.306	
			Edge 4	132072	1720.0	1	49	24.3	24.0	0.803	0.860	0.450	0.482	
						50	24	24.3	24.3	0.753	0.753	0.422	0.422	
				132322	1745.0	1	49	24.3	24.1	0.835	0.874	0.464	0.486	
						50	24	24.3	24.3	0.813	0.813	0.454	0.454	
						100	0	24.3	24.2	0.764	0.782	0.429	0.439	
				132572	1770.0	1	49	24.3	24.2	0.952	0.974	0.521	0.533	
						50	24	24.3	24.3	0.909	0.909	0.502	0.502	

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

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

RF Exposure Conditions	Power Mode	Mode	Antenna	Dist. (mm)	Test Position	PCC				SCC				Power (dBm)			1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	MPR	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	A	QPSK	UAT 1	0	Left Touch	21100	2535.0	1	0	20902	2515.2	1	99	0	19.0	19.0	0.883	0.883	0.349	0.349	
Body	B	QPSK	LAT 1	5	Front	21350	2560.0	1	0	21152	2540.2	1	99	0	22.3	22.3	0.912	0.912	0.380	0.380	31

Notes:

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

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

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

RF Exposure Conditions	Power Mode	Mode	Antenna	Dist. (mm)	Test Position	PCC				SCC				Power (dBm)			1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	MPR	Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
Head	A	QPSK	UAT 1	0	Left Touch	40185	2549.5	1	99	40383	2569.3	1	0	0	19.9	19.9	0.603	0.603	0.235	0.235	
Body	B	QPSK	LAT 1	5	Edge 3	41055	2636.5	1	99	41253	2656.3	1	0	0	23.8	23.8	0.636	0.636	0.210	0.210	32

Notes:

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

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10.20. Wi-Fi (DTS Band)

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

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 1		LAT 3			UAT 1				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
2.4 GHz	Head	802.11b 20MHz	0	1 Tx	Left Touch	6	2437	13.0	13.0			0.509	0.343	0.144	0.343	0.144					
					Left Tilt	6	2437	13.0	13.0			0.296									
					Right Touch	6	2437	13.0	13.0			0.249									
					Right Tilt	6	2437	13.0	13.0			0.342									
					Left Touch	6	2437			22.0	22.0	0.249					0.185	0.096	0.185	0.096	
					Left Tilt	6	2437			22.0	22.0	0.100									
					Right Touch	6	2437			22.0	22.0	0.146									
					Right Tilt	6	2437			22.0	22.0	0.138									
		802.11g 20MHz	0	2 Tx	Left Touch	6	2437	13.0	13.0	21.5	21.5	0.562	0.331	0.140	0.331	0.140	0.118	0.062	0.118	0.062	
					Left Tilt	6	2437	13.0	13.0	21.5	21.5	0.312									
					Right Touch	6	2437	13.0	13.0	21.5	21.5	0.231									
					Right Tilt	6	2437	13.0	13.0	21.5	21.5	0.288									
	Body-worn & Hotspot	802.11b 20MHz	5	1 Tx	Rear	6	2437	15.5	15.5			0.833	0.502	0.207	0.502	0.207					
					Front	6	2437	15.5	15.5			0.253									
					Edge 1	6	2437	15.5	15.5			0.328									
					Edge 2	6	2437	15.5	15.5			0.777	0.503	0.203	0.503	0.203					
					Edge 4	6	2437	15.5	15.5			0.123									
					Rear	6	2437			15.5	15.5	0.354					0.242	0.115	0.242	0.115	
					Front	6	2437			15.5	15.5	0.091									
					Edge 2	6	2437			15.5	15.5	0.012									
					Edge 3	6	2437			15.5	15.5	0.075									
					Edge 4	6	2437			15.5	15.5	0.157									
		802.11g 20MHz	5	2 Tx	Rear	6	2437	15.5	15.5	15.5	15.5	0.787	0.464	0.193	0.464	0.193	0.258	0.123	0.258	0.123	
					Front	6	2437	15.5	15.5	15.5	15.5	0.389									
					Edge 1	6	2437	15.5	15.5	15.5	15.5	0.449									
					Edge 2	6	2437	15.5	15.5	15.5	15.5	0.660	0.500	0.203	0.500	0.203	0.163	0.077	0.163	0.077	
					Edge 3	6	2437	15.5	15.5	15.5	15.5	0.084									
					Edge 4	6	2437	15.5	15.5	15.5	15.5	0.242									

Notes:

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

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Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 1		LAT 3			UAT 1				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
2.4 GHz	Head	802.11b 20MHz	0	1 Tx	Left Touch	6	2437	18.3	18.3			1.420	0.899	0.352	0.899	0.352					
						11	2462	18.3	18.3			1.710	1.080	0.419	1.080	0.419					33
					Left Tilt	6	2437	18.3	18.3			1.160	0.998	0.366	0.998	0.366					
						11	2462	18.3	18.3			0.995	0.823	0.314	0.823	0.314					
					Right Touch	6	2437	18.3	18.3			1.100	0.698	0.285	0.698	0.285					
					Right Tilt	6	2437	18.3	18.3			0.986									
					Left Touch	6	2437			22.0	22.0	0.249					0.185	0.096	0.185	0.096	
					Left Tilt	6	2437			22.0	22.0	0.100									
					Right Touch	6	2437			22.0	22.0	0.146									
					Right Tilt	6	2437			22.0	22.0	0.138									
		802.11g 20MHz	0	2 Tx	Left Touch	6	2437	18.3	18.1	21.5	21.5	1.340	0.890	0.373	0.932	0.391	0.187	0.101	0.187	0.101	
						8	2447	18.3	18.1	21.5	21.5	1.510	0.960	0.397	1.005	0.416	0.182	0.101	0.182	0.101	
					Left Tilt	6	2437	18.3	18.1	21.5	21.5	1.200	0.780	0.305	0.817	0.319	-	-	-	-	
						8	2447	18.3	18.1	21.5	21.5	1.080	0.735	0.268	0.770	0.281	-	-	-	-	
					Right Touch	6	2437	18.3	18.1	21.5	21.5	0.754									
					Right Tilt	6	2437	18.3	18.1	21.5	21.5	1.130	0.935	0.359	0.979	0.376	-	-	-	-	
	Body-worn & Hotspot	802.11b 20MHz	5	1 Tx	Rear	6	2437	18.8	18.8			1.640	1.170	0.486	1.170	0.486					34
						11	2462	18.8	18.8			1.520	0.928	0.385	0.928	0.385					
					Front	6	2437	18.8	18.8			0.939									
					Edge 1	6	2437	18.8	18.8			1.020	0.665	0.231	0.665	0.231					
					Edge 2	6	2437	18.8	18.8			1.020	1.130	0.469	1.130	0.469					
						11	2462	18.8	18.8			1.490	1.120	0.451	1.120	0.451					
					Edge 4	6	2437	18.8	18.8			0.470									
					Rear	6	2437			20.8	20.8	1.180					0.819	0.393	0.819	0.393	
						11	2462			20.8	20.8	1.150					0.793	0.376	0.793	0.376	
					Front	6	2437			20.8	20.8	0.117									
					Edge 2	6	2437			20.8	20.8	0.042									
					Edge 3	6	2437			20.8	20.8	0.221									
					Edge 4	6	2437			20.8	20.8	0.317					0.286	0.140	0.286	0.140	
		802.11g 20MHz	5	2 Tx	Rear	6	2437	18.8	18.8	20.8	20.8	1.130	0.875	0.378	0.875	0.378	0.658	0.290	0.658	0.290	
						8	2447	18.8	18.8	20.8	20.5	1.450	1.150	0.500	1.150	0.500	1.020	0.458	1.093	0.491	
					Front	6	2437	18.8	18.8	20.8	20.8	0.702									
					Edge 1	6	2437	18.8	18.8	20.8	20.8	0.789									
					Edge 2	6	2437	18.8	18.8	20.8	20.8	0.853	0.706	0.290	0.706	0.290	0.269	0.129	0.269	0.129	
					Edge 3	6	2437	18.8	18.8	20.8	20.8	0.083									
					Edge 4	6	2437	18.8	18.8	20.8	20.8	0.422									

Notes:

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

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

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

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.3 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	58	5290	15.0	15.0			0.154									
					Left Tilt	58	5290	15.0	15.0			0.194									
					Right Touch	58	5290	15.0	15.0			0.305	0.158	0.059	0.158	0.059					
					Right Tilt	58	5290	15.0	15.0			0.256									
5.3 GHz		802.11a	0	1 Tx	Left Touch	60	5300			21.0	21.0	0.101					0.056	0.025	0.056	0.025	
					Left Tilt	60	5300			21.0	21.0	0.033									
					Right Touch	60	5300			21.0	21.0	0.090									
					Right Tilt	60	5300			21.0	21.0	0.032									
5.3 GHz		802.11n HT40	0	2 Tx	Left Touch	54	5270	15.0	15.0	19.5	19.5	0.208									
					Left Tilt	54	5270	15.0	15.0	19.5	19.5	0.213									
					Right Touch	54	5270	15.0	15.0	19.5	19.5	0.321	0.165	0.059	0.165	0.059	-	-	-	-	
					Right Tilt	54	5270	15.0	15.0	19.5	19.5	0.231									
5.3 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	58	5290	11.0	11.0			0.630	0.370	0.093	0.370	0.093					
					Front	58	5290	11.0	11.0			0.044									
					Edge 1	58	5290	11.0	11.0			0.047									
					Edge 2	58	5290	11.0	11.0			0.011									
					Edge 4	58	5290	11.0	11.0			0.105	0.063	0.021	0.063	0.021					
5.3 GHz		802.11ac VHT80	5	1 Tx	Rear	58	5290			11.3	11.3	0.319					0.224	0.058	0.224	0.058	
					Front	58	5290			11.3	11.3	0.034									
					Edge 2	58	5290			11.3	11.3	0.124									
					Edge 3	58	5290			11.3	11.3	0.055									
					Edge 4	58	5290			11.3	11.3	0.026									
5.3 GHz		802.11ac VHT80	5	2 Tx	Rear	58	5290	11.0	11.0	11.3	11.3	0.973	0.399	0.101	0.399	0.101	0.183	0.045	0.183	0.045	
					Front	58	5290	11.0	11.0	11.3	11.3	0.062									
					Edge 1	58	5290	11.0	11.0	11.3	11.3	0.044									
					Edge 2	58	5290	11.0	11.0	11.3	11.3	0.011									
					Edge 3	58	5290	11.0	11.0	11.3	11.3	0.055									
					Edge 4	58	5290	11.0	11.0	11.3	11.3	0.122	0.102	0.024	0.102	0.024	-	-	-	-	

Notes:

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

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Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.3 GHz	Head	802.11a	0	1 Tx	Left Touch	60	5300	21.0	20.9			0.613									
					Left Tilt	60	5300	21.0	20.9			0.544									
					Right Touch	60	5300	21.0	20.9			1.310	0.577	0.172	0.590	0.176					
					Right Tilt	60	5300	21.0	20.9			1.160	0.607	0.218	0.621	0.223					35
5.3 GHz		802.11a	0	1 Tx	Left Touch	60	5300			21.0	21.0	0.101					0.056	0.025	0.056	0.025	
					Left Tilt	60	5300			21.0	21.0	0.033									
					Right Touch	60	5300			21.0	21.0	0.090									
					Right Tilt	60	5300			21.0	21.0	0.032									
5.3 GHz		802.11n HT40	0	2 Tx	Left Touch	54	5270	19.5	19.5	19.5	19.5	0.407									
					Left Tilt	54	5270	19.5	19.5	19.5	19.5	0.396									
					Right Touch	54	5270	19.5	19.5	19.5	19.5	0.724	0.398	0.145	0.398	0.145	-	-	-	-	
					Right Tilt	54	5270	19.5	19.5	19.5	19.5	0.659	0.372	0.125	0.372	0.125	-	-	-	-	
5.3 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	58	5290	15.3	15.2			1.360	0.807	0.212	0.826	0.217					
					Front	58	5290	15.3	15.2			0.075									
					Edge 1	58	5290	15.3	15.2			0.121									
					Edge 2	58	5290	15.3	15.2			0.033									
					Edge 4	58	5290	15.3	15.2			0.217	0.127	0.045	0.130	0.046					
5.3 GHz		802.11n HT40	5	1 Tx	Rear	62	5310			18.0	18.0	1.400					0.805	0.226	0.805	0.226	
					Front	62	5310			18.0	18.0	0.186									
					Edge 2	62	5310			18.0	18.0	0.046									
					Edge 3	62	5310			18.0	18.0	0.257					0.150	0.056	0.150	0.056	
					Edge 4	62	5310			18.0	18.0	0.099									
5.3 GHz		802.11n HT40	5	2 Tx	Rear	54	5270	15.3	15.3	18.0	18.0	1.750	1.060	0.270	1.060	0.270	0.897	0.266	0.897	0.266	36
						62	5310	15.3	15.2	17.0	16.9	1.990	0.799	0.199	0.818	0.204	0.489	0.145	0.500	0.148	
					Front	54	5270	15.3	15.3	18.0	18.0	0.205									
					Edge 1	54	5270	15.3	15.3	18.0	18.0	0.122									
					Edge 2	54	5270	15.3	15.3	18.0	18.0	0.055									
					Edge 3	54	5270	15.3	15.3	18.0	18.0	0.256									
					Edge 4	54	5270	15.3	15.3	18.0	18.0	0.259	0.111	0.039	0.111	0.039	0.085	0.030	0.085	0.030	

Notes:

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

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

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

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.5 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	122	5610	16.0	16.0			0.251									
					Left Tilt	122	5610	16.0	16.0			0.174									
					Right Touch	122	5610	16.0	16.0			0.302	0.192	0.061	0.192	0.061					
					Right Tilt	122	5610	16.0	16.0			0.298									
		802.11a	0	1 Tx	Left Touch	120	5600			21.0	21.0	0.040					0.027	0.010	0.027	0.010	
					Left Tilt	120	5600			21.0	21.0	0.013									
					Right Touch	120	5600			21.0	21.0	0.036									
					Right Tilt	120	5600			21.0	21.0	0.014									
		802.11ac VHT80	0	2 Tx	Left Touch	122	5610	16.0	16.0	19.5	19.5	0.155									
					Left Tilt	122	5610	16.0	16.0	19.5	19.5	0.152									
					Right Touch	122	5610	16.0	16.0	19.5	19.5	0.265	0.155	0.047	0.155	0.047	-	-	-	-	
					Right Tilt	122	5610	16.0	16.0	19.5	19.5	0.246									
5.5 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	122	5610	10.5	10.5			0.774	0.348	0.088	0.348	0.088					
					Front	122	5610	10.5	10.5			0.043									
					Edge 1	122	5610	10.5	10.5			0.078									
					Edge 2	122	5610	10.5	10.5			0.011									
					Edge 4	122	5610	10.5	10.5			0.082	0.056	0.015	0.056	0.015					
		802.11ac VHT80	5	1 Tx	Rear	122	5610			12.5	12.5	0.412					0.189	0.049	0.189	0.049	
					Front	122	5610			12.5	12.5	0.066									
					Edge 2	122	5610			12.5	12.5	0.013									
					Edge 3	122	5610			12.5	12.5	0.077									
					Edge 4	122	5610			12.5	12.5	0.026									
		802.11ac VHT80	5	2 Tx	Rear	122	5610	10.5	10.5	12.5	12.5	0.367	0.324	0.083	0.324	0.083	0.185	0.046	0.185	0.046	
					Front	122	5610	10.5	10.5	12.5	12.5	0.018									
					Edge 1	122	5610	10.5	10.5	12.5	12.5	0.077									
					Edge 2	122	5610	10.5	10.5	12.5	12.5	0.013									
					Edge 3	122	5610	10.5	10.5	12.5	12.5	0.077									
					Edge 4	122	5610	10.5	10.5	12.5	12.5	0.083	0.050	0.016	0.050	0.016	-	-	-	-	

Notes:

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

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Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.5 GHz	Head	802.11a	0	1 Tx	Left Touch	120	5600	21.0	21.0			0.198									
					Left Tilt	120	5600	21.0	21.0			0.270									
					Right Touch	120	5600	21.0	21.0			0.520									
					Right Tilt	120	5600	21.0	21.0			0.522	0.348	0.103	0.348	0.103					
		802.11a	0	1 Tx	Left Touch	120	5600			21.0	21.0	0.040					0.027	0.010	0.027	0.010	
					Left Tilt	120	5600			21.0	21.0	0.013									
					Right Touch	120	5600			21.0	21.0	0.036									
					Right Tilt	120	5600			21.0	21.0	0.014									
		802.11ac VHT80	0	2 Tx	Left Touch	122	5610	19.5	19.5	19.5	19.5	0.565									
					Left Tilt	122	5610	19.5	19.5	19.5	19.5	0.535									
					Right Touch	122	5610	19.5	19.5	19.5	19.5	0.872	0.534	0.168	0.534	0.168	-	-	-	-	37
					Right Tilt	122	5610	19.5	19.5	19.5	19.5	0.862	0.489	0.159	0.489	0.159	-	-	-	-	
5.5 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	122	5610	14.8	14.8			2.090	1.150	0.305	1.150	0.305					38
						138	5690	14.8	14.8			1.880	0.874	0.243	0.874	0.243					
					Front	122	5610	14.8	14.8			0.106									
					Edge 1	122	5610	14.8	14.8			0.227									
					Edge 2	122	5610	14.8	14.8			0.027									
					Edge 4	122	5610	14.8	14.8			0.299	0.149	0.049	0.149	0.049					
		802.11ac VHT80	5	1 Tx	Rear	122	5610			19.3	19.3	1.470					1.070	0.281	1.070	0.281	
						138	5690			19.3	19.3	1.170					0.788	0.214	0.788	0.214	
					Front	122	5610			19.3	19.3	0.367									
					Edge 2	122	5610			19.3	19.3	0.028									
					Edge 3	122	5610			19.3	19.3	0.509					0.254	0.089	0.254	0.089	
					Edge 4	122	5610			19.3	19.3	0.190									
		802.11ac VHT80	5	2 Tx	Rear	122	5610	14.8	14.8	19.3	19.3	1.690	0.894	0.231	0.894	0.231	0.945	0.244	0.945	0.244	
						138	5690	14.8	14.8	19.3	19.3	1.730	0.972	0.261	0.972	0.261	0.665	0.172	0.665	0.172	
					Front	122	5610	14.8	14.8	19.3	19.3	0.228									
					Edge 1	122	5610	14.8	14.8	19.3	19.3	0.208									
					Edge 2	122	5610	14.8	14.8	19.3	19.3	0.026									
					Edge 3	122	5610	14.8	14.8	19.3	19.3	0.436	-	-	-	-	0.213	0.074	0.213	0.074	
					Edge 4	122	5610	14.8	14.8	19.3	19.3	0.274									

Notes:

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

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

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

Cell On

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	Head	802.11ac VHT80	0	1 Tx	Left Touch	155	5775	16.0	16.0			0.140									
					Left Tilt	155	5775	16.0	16.0			0.140									
					Right Touch	155	5775	16.0	16.0			0.309	0.184	0.055	0.184	0.055					
					Right Tilt	155	5775	16.0	16.0			0.292									
		802.11a	0	1 Tx	Left Touch	157	5785			21.5	21.5	0.040					0.014	0.004	0.014	0.004	
					Left Tilt	157	5785			21.5	21.5	0.015									
					Right Touch	157	5785			21.5	21.5	0.022									
					Right Tilt	157	5785			21.5	21.5	0.017									
		802.11a	0	2 Tx	Left Touch	157	5785	16.0	16.0	21.5	21.5	0.124									
					Left Tilt	157	5785	16.0	16.0	21.5	21.5	0.204									
					Right Touch	157	5785	16.0	16.0	21.5	21.5	0.231	0.154	0.045	0.154	0.045	-	-	-	-	
					Right Tilt	157	5785	16.0	16.0	21.5	21.5	0.358	0.129	0.042	0.129	0.042	-	-	-	-	
5.8 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	155	5775	10.5	10.5			0.761	0.370	0.104	0.370	0.104					
					Front	155	5775	10.5	10.5			0.045									
					Edge 1	155	5775	10.5	10.5			0.082									
					Edge 2	155	5775	10.5	10.5			0.020									
					Edge 4	155	5775	10.5	10.5			0.164	0.067	0.024	0.067	0.024					
		802.11ac VHT80	5	1 Tx	Rear	155	5775			12.0	12.0	0.382					0.164	0.045	0.164	0.045	
					Front	155	5775			12.0	12.0	0.040									
					Edge 2	155	5775			12.0	12.0	0.014									
					Edge 3	155	5775			12.0	12.0	0.079									
					Edge 4	155	5775			12.0	12.0	0.031									
		802.11ac VHT80	5	2 Tx	Rear	155	5775	10.5	10.5	12.0	12.0	0.868	0.326	0.084	0.326	0.084	0.112	0.031	0.112	0.031	
					Front	155	5775	10.5	10.5	12.0	12.0	0.038									
					Edge 1	155	5775	10.5	10.5	12.0	12.0	0.115									
					Edge 2	155	5775	10.5	10.5	12.0	12.0	0.019									
					Edge 3	155	5775	10.5	10.5	12.0	12.0	0.062									
					Edge 4	155	5775	10.5	10.5	12.0	12.0	0.122									

Notes:

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

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Cell Off

Band	RF Exposure Condition	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				Area Scan Measured Peak	SAR (W/kg)								Plots
								UAT 2		LAT 3			UAT 2				LAT 3				
								Tune-up Limit	Measured	Tune-up Limit	Measured		Measured		Scaled		Measured		Scaled		
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.8 GHz	Head	802.11a	0	1 Tx	Left Touch	157	5785	21.0	21.0			0.467									
					Left Tilt	157	5785	21.0	21.0			0.349									
					Right Touch	157	5785	21.0	21.0			1.040	0.751	0.247	0.751	0.247					39
					Right Tilt	157	5785	21.0	21.0			0.912	0.451	0.138	0.451	0.138					
		802.11a	0	1 Tx	Left Touch	157	5785			21.5	21.5	0.040					0.014	0.004	0.014	0.004	
					Left Tilt	157	5785			21.5	21.5	0.015									
					Right Touch	157	5785			21.5	21.5	0.022									
					Right Tilt	157	5785			21.5	21.5	0.017									
		802.11a	0	2 Tx	Left Touch	157	5785	21.0	21.0	21.5	21.5	0.248									
					Left Tilt	157	5785	21.0	21.0	21.5	21.5	0.229									
					Right Touch	157	5785	21.0	21.0	21.5	21.5	1.050	0.425	0.137	0.425	0.137	-	-	-	-	
					Right Tilt	157	5785	21.0	21.0	21.5	21.5	0.510	0.249	0.076	0.249	0.076	-	-	-	-	
5.8 GHz	Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	155	5775	14.8	14.8			1.540	0.928	0.240	0.928	0.240					
					Front	155	5775	14.8	14.8			0.131									
					Edge 1	155	5775	14.8	14.8			0.197									
					Edge 2	155	5775	14.8	14.8			0.036									
					Edge 4	155	5775	14.8	14.8			0.331	0.147	0.053	0.147	0.053					
		802.11ac VHT80	5	1 Tx	Rear	155	5775			18.8	18.8	1.580					1.030	0.294	1.030	0.294	
					Front	155	5775			18.8	18.8	0.291									
					Edge 2	155	5775			18.8	18.8	0.045									
					Edge 3	155	5775			18.8	18.8	0.318					0.166	0.059	0.166	0.059	
					Edge 4	155	5775			18.8	18.8	0.100									
		802.11ac VHT80	5	2 Tx	Rear	155	5775	14.8	14.8	18.8	18.8	1.880	1.060	0.284	1.060	0.284	0.872	0.225	0.872	0.225	40
					Front	155	5775	14.8	14.8	18.8	18.8	0.352	0.107	0.038	0.107	0.038	0.180	0.057	0.180	0.057	
					Edge 1	155	5775	14.8	14.8	18.8	18.8	0.256									
					Edge 2	155	5775	14.8	14.8	18.8	18.8	0.037									
					Edge 3	155	5775	14.8	14.8	18.8	18.8	0.284									
					Edge 4	155	5775	14.8	14.8	18.8	18.8	0.327									

Notes:

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

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10.24. Wi-Fi Variant 2 Spot Check

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

Wi-Fi (DTS Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 1		LAT 3		UAT 1				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	2.4 GHz	Head	802.11b	0	1 Tx	Left Touch	11	2462	18.3	18.3			1.080	0.419	1.080	0.419				
		Body-worn & Hotspot	Front	5	1 Tx	Rear	6	2437	18.8	18.8			1.170	0.486	1.170	0.486				
Variant 2 Spot Check	2.4 GHz	Head	802.11b	0	1 Tx	Left Touch	11	2462	18.3	18.2			0.928	0.361	0.950	0.369				
		Body-worn & Hotspot	Front	5	1 Tx	Rear	6	2437	18.8	18.8			0.961	0.350	0.961	0.350				

Notes:

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

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

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 2		LAT 3		UAT 2				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.2 & 5.3 GHz	Head	802.11a	0	1 Tx	Right Tilt	60	5300	21.0	20.9			0.607	0.218	0.621	0.223				
		Body-worn & Hotspot	802.11n HT40	5	2 Tx	Rear	54	5270	15.3	15.3	18.0	18.0	1.060	0.270	1.060	0.270	0.897	0.266	0.897	0.266
Variant 2 Spot Check	5.2 & 5.3 GHz	Head	802.11a	0	1 Tx	Right Tilt	60	5300	21.0	21.0			0.613	0.196	0.613	0.196				
		Body-worn & Hotspot	802.11n HT40	5	2 Tx	Rear	54	5270	15.3	15.3	18.0	18.0	0.942	0.240	0.942	0.240	0.812	0.230	0.812	0.230

Notes:

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

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

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 2		LAT 3		UAT 2				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.5 GHz	Head	802.11ac VHT80	0	2 Tx	Right Touch	122	5610	19.5	19.5	19.5	19.5	0.534	0.168	0.534	0.168	-	-	-	-
		Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	122	5610	14.8	14.8			1.150	0.305	1.150	0.305				
Variant 2 Spot Check	5.5 GHz	Head	802.11ac VHT80	0	2 Tx	Right Touch	122	5610	19.5	19.5	19.5	19.5	0.453	0.146	0.453	0.146	-	-	-	-
		Body-worn & Hotspot	802.11ac VHT80	5	1 Tx	Rear	122	5610	14.8	14.8			1.030	0.271	1.030	0.271				

Notes:

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

Wi-Fi (U-NII-3 Band)

Vendor	Band	RF Exposure Conditions	Mode	Dist. (mm)	No. of Transmitters	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)							
									UAT 2		LAT 3		UAT 2				LAT 3			
									Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled	
													1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g
Variant 1 Highest Report SAR	5.8 GHz	Head	802.11a	0	1 Tx	Right Touch	155	5775	21.0	21.0			0.751	0.247	0.751	0.247				
		Body-worn & Hotspot	802.11ac VHT80	5	2 Tx	Rear	155	5775	14.8	14.8	18.8	18.8	1.060	0.284	1.060	0.284	0.872	0.225	0.872	0.225
Variant 2 Spot Check	5.8 GHz	Head	802.11a	0	1 Tx	Right Touch	155	5775	21.0	21.0			0.679	0.215	0.679	0.215				
		Body-worn & Hotspot	802.11ac VHT80	5	2 Tx	Rear	155	5775	14.8	14.8	18.8	18.8	1.020	0.286	1.020	0.286	0.710	0.215	0.710	0.215

Notes:

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

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10.25. Bluetooth

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

UAT 1

P_{low}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	10.0	10.0	0.126	0.126	0.053	0.053	
				Left Tilt	39	2441.0	10.0	10.0	0.134	0.134	0.056	0.056	
				Right Touch	39	2441.0	10.0	10.0	0.052	0.052	0.025	0.025	
				Right Tilt	39	2441.0	10.0	10.0	0.070	0.070	0.031	0.031	
	Body-worn	GFSK	5	Rear	39	2441.0	10.0	10.0	0.096	0.096	0.042	0.042	
				Front	39	2441.0	10.0	10.0	0.044	0.044	0.019	0.019	

P_{high}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	12.0	12.0	0.243	0.243	0.100	0.100	
				Left Tilt	39	2441.0	12.0	12.0	0.190	0.190	0.078	0.078	
				Right Touch	39	2441.0	12.0	12.0	0.092	0.092	0.040	0.040	
				Right Tilt	39	2441.0	12.0	12.0	0.100	0.100	0.043	0.043	
	Body-worn	GFSK	5	Rear	39	2441.0	13.5	13.5	0.226	0.226	0.095	0.095	
				Front	39	2441.0	13.5	13.5	0.121	0.121	0.056	0.056	

$P_{standalone}$

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	14.5	14.5	0.351	0.351	0.140	0.140	41
				Left Tilt	39	2441.0	14.5	14.5	0.267	0.267	0.104	0.104	
				Right Touch	39	2441.0	14.5	14.5	0.113	0.113	0.048	0.048	
				Right Tilt	39	2441.0	14.5	14.5	0.145	0.145	0.058	0.058	
	Body-worn	GFSK	5	Rear	39	2441.0	16.5	16.5	0.348	0.348	0.158	0.158	
				Front	39	2441.0	16.5	16.5	0.373	0.373	0.173	0.173	42

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LAT 3

P_{low}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	10.0	10.0	0.046	0.046	0.026	0.026	
				Left Tilt	39	2441.0	10.0	10.0	0.015	0.015	0.010	0.010	
				Right Touch	39	2441.0	10.0	10.0	0.025	0.025	0.015	0.015	
				Right Tilt	39	2441.0	10.0	10.0	0.027	0.027	0.015	0.015	
	Body-worn	GFSK	5	Rear	39	2441.0	10.0	10.0	0.063	0.063	0.030	0.030	
				Front	39	2441.0	10.0	10.0	0.021	0.021	0.013	0.013	

P_{high}

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	16.5	16.5	0.069	0.069	0.035	0.035	
				Left Tilt	39	2441.0	16.5	16.5	0.020	0.020	0.008	0.008	
				Right Touch	39	2441.0	16.5	16.5	0.035	0.035	0.018	0.018	
				Right Tilt	39	2441.0	16.5	16.5	0.028	0.028	0.014	0.014	
	Body-worn	GFSK	5	Rear	39	2441.0	13.5	13.5	0.224	0.224	0.104	0.104	
				Front	39	2441.0	13.5	13.5	0.050	0.050	0.027	0.027	

$P_{standalone}$

Frequency Band	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		10-g SAR (W/kg)		Plot No.
							Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled	
2.4 GHz	Head	GFSK	0	Left Touch	39	2441.0	19.5	19.5	0.203	0.203	0.112	0.112	
				Left Tilt	39	2441.0	19.5	19.5	0.056	0.056	0.029	0.029	
				Right Touch	39	2441.0	19.5	19.5	0.100	0.100	0.054	0.054	
				Right Tilt	39	2441.0	19.5	19.5	0.084	0.084	0.040	0.040	
	Body-worn	GFSK	5	Rear	39	2441.0	16.5	16.5	0.301	0.301	0.143	0.143	
				Front	39	2441.0	16.5	16.5	0.081	0.081	0.043	0.043	

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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		Second Repeated		Third Repeated
						Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)	Largest to Smallest SAR Ratio	Measured SAR (W/kg)
700	LTE Band 12	Hotspot	Edge 4	No	0.585	N/A	N/A	N/A	N/A	N/A
	LTE Band 13	Body & Hotspot	Rear	No	0.602	N/A	N/A	N/A	N/A	N/A
850	GSM 850	Body & Hotspot	Rear	No	0.705	N/A	N/A	N/A	N/A	N/A
	WCDMA Band V	Head	Left Touch	No	0.562	N/A	N/A	N/A	N/A	N/A
	LTE Band 26	Head	Left Tilt	No	0.615	N/A	N/A	N/A	N/A	N/A
1700	WCDMA Band IV	Body & Hotspot	Rear	No	1.060	N/A	N/A	N/A	N/A	N/A
	LTE Band 66	Body & Hotspot	Rear	Yes	1.080	1.090	1.01	N/A	N/A	N/A
1900	GSM 1900	Body & Hotspot	Rear	No	0.875	N/A	N/A	N/A	N/A	N/A
	WCDMA Band II	Hotspot	Edge 3	Yes	1.090	1.070	1.02	N/A	N/A	N/A
	LTE Band 25	Body & Hotspot	Rear	No	1.060	N/A	N/A	N/A	N/A	N/A
2300	LTE Band 30	Head	Right Tilt	Yes	1.060	1.020	1.04	N/A	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Body & Hotspot	Rear	Yes	1.170	1.050	1.11	N/A	N/A	N/A
	BT	Body	Front	No	0.373	N/A	N/A	N/A	N/A	N/A
2500	LTE Band 7	Body & Hotspot	Front	Yes	1.090	0.963	1.13	N/A	N/A	N/A
2600	LTE Band 41	Head	Left Touch	Yes	1.070	0.915	1.17	N/A	N/A	N/A
5300	Wi-Fi 802.11a/n/ac	Body & Hotspot	Rear	Yes	1.060	0.936	1.13	N/A	N/A	N/A
5500	Wi-Fi 802.11a/n/ac	Body & Hotspot	Rear	Yes	1.070	1.120	1.05	N/A	N/A	N/A
5800	Wi-Fi 802.11a/n/ac	Body & Hotspot	Rear	Yes	1.060	1.040	1.02	N/A	N/A	N/A

Note(s):

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

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12. Simultaneous Transmission SAR Analysis

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

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

Where:

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

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

Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$

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

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

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations			
Head Body Worn Accessory Hotspot	1	WWAN OFF (CELLULAR ANTENNAS OFF)	+ (UAT 2) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P_{High})
	2		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P_{High})
	3		+ Wi-Fi 5 GHz MIMO	+	(UAT 1) Bluetooth (P_{High})
	4		+ (UAT 2) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P_{High})
	5		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P_{High})
	6		+ Wi-Fi 5 GHz MIMO	+	(LAT 3) Bluetooth (P_{High})
	7	WWAN ON (CELLULAR ANTENNAS ON)	+ (UAT 1) Wi-Fi 2.4 GHz SISO		
	8		+ (LAT 3) Wi-Fi 2.4 GHz SISO		
	9		+ Wi-Fi 2.4 GHz MIMO		
	10			+	(UAT 1) Bluetooth (P_{High})
	11			+	(LAT 3) Bluetooth (P_{High})
	12		+ (UAT 2) Wi-Fi 5 GHz SISO		
	13		+ (LAT 3) Wi-Fi 5 GHz SISO		
	14		+ Wi-Fi 5 GHz MIMO		
	15		+ (UAT 2) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P_{low})
	16		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(UAT 1) Bluetooth (P_{low})
	17		+ Wi-Fi 5 GHz MIMO	+	(UAT 1) Bluetooth (P_{low})
	18		+ (UAT 2) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P_{low})
	19		+ (LAT 3) Wi-Fi 5 GHz SISO	+	(LAT 3) Bluetooth (P_{low})
	20		+ Wi-Fi 5 GHz MIMO	+	(LAT 3) Bluetooth (P_{low})

Notes:

1. Wi-Fi 2.4GHz & Bluetooth cannot transmit simultaneously.
2. Conditions 12, 13, and 14 are covered by conditions 15, 16, and 17, respectively.

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

RF Exposure Condition	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/g)					
		(E)	(F)	(G)	(H)	(J)	(E) + (H)	(F) + (H)	(G) + (H)	(E) + (J)	(F) + (J)	(G) + (J)
		U-NII UAT2	U-NII LAT3	U-NII MIMO	BT UAT1P-high	BT LAT3 P-high	U-NII + BT UAT2 + UAT1P-high	U-NII + BT LAT3 + UAT1P-high	U-NII + BT MIMO + UAT1P-high	U-NII + BT UAT2 + LAT3 P-high	U-NII + BT LAT3 + LAT3 P-high	U-NII + BT MIMO + LAT3 P-high
Head	Left Touch	0.751	0.056	0.534	0.243	0.069	0.994	0.299	0.777	0.820	0.125	0.603
	Left Tilt	0.751	0.056	0.534	0.190	0.020	0.941	0.246	0.724	0.771	0.076	0.554
	Right Touch	0.751	0.056	0.534	0.092	0.035	0.843	0.148	0.626	0.786	0.091	0.569
	Right Tilt	0.621	0.056	0.489	0.100	0.028	0.721	0.156	0.589	0.649	0.084	0.517
Body-worn Accessory & Hotspot	Rear	1.150	1.070	1.060	0.226	0.224	1.376	1.296	1.286	1.374	1.294	1.284
	Front	1.150	1.070	0.180	0.121	0.050	1.271	1.191	0.301	1.200	1.120	0.230
Hotspot	Edge 1	1.150	1.070	1.060			1.150	1.070	1.060	1.150	1.070	1.060
	Edge 2	1.150	1.070	1.060			1.150	1.070	1.060	1.150	1.070	1.060
	Edge 3	1.150	0.254	0.213			1.150	0.254	0.213	1.150	0.254	0.213
	Edge 4	0.149	1.070	0.111			0.149	1.070	0.111	0.149	1.070	0.111

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

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/g)				
		(A)	(B)	(C)	(D)	(H)	(J)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (J)
		WWAN UAT1	DTS UAT1	DTS LAT3	DTS MIMO	BT UAT1P-high	BT LAT3 P-high	WWAN + DTS UAT1+ UAT1	WWAN + DTS UAT1+ LAT3	WWAN + DTS UAT1+ MIMO	WWAN + BT UAT1+ UAT1P-high	WWAN + BT UAT1+ LAT3 P-high
Head	Left Touch	1.070	0.343	0.185	0.331	0.243	0.069	1.413	1.255	1.401	1.313	1.139
	Left Tilt	0.948	0.343	0.185	0.331	0.190	0.020	1.291	1.133	1.279	1.138	0.968
	Right Touch	1.042	0.343	0.185	0.331	0.092	0.035	1.385	1.227	1.373	1.134	1.077
	Right Tilt	1.060	0.343	0.185	0.331	0.100	0.028	1.403	1.245	1.391	1.160	1.088
Body-worn Accessory & Hotspot	Rear	0.880	0.502	0.242	0.464	0.226	0.224	1.382	1.122	1.344	1.106	1.104
	Front	0.446	0.503	0.242	0.500	0.121	0.050	0.949	0.688	0.946	0.567	0.496
Hotspot	Edge 1	0.636	0.503	0.242	0.500			1.139	0.878	1.136	0.636	0.636
	Edge 2	0.676	0.503	0.242	0.500			1.179	0.918	1.176	0.676	0.676
	Edge 4	0.547	0.503	0.242	0.500			1.050	0.789	1.047	0.547	0.547

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

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/g)					
		(A)	(E)	(F)	(G)	(I)	(K)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)	(A) + (E) + (K)	(A) + (F) + (K)	(A) + (G) + (K)
		WWAN UAT1	U-NII UAT2	U-NII LAT3	U-NII MIMO	BT UAT1P-low	BT LAT3 P-low	WWAN + U-NII + BT UAT1+ UAT2 + UAT1 P-low	WWAN + U-NII + BT UAT1+ LAT3 + UAT1P-low	WWAN + U-NII + BT UAT1+ MIMO + UAT1 P-low	WWAN + U-NII + BT UAT1+ UAT2 + LAT3 P-low	WWAN + U-NII + BT UAT1+ LAT3 + LAT3 P-low	WWAN + U-NII + BT UAT1+ MIMO + LAT3 P-low
Head	Left Touch	1.070	0.192	0.056	0.165	0.126	0.046	1.388	1.252	1.361	1.308	1.172	1.281
	Left Tilt	0.948	0.192	0.056	0.165	0.134	0.015	1.274	1.138	1.247	1.155	1.019	1.128
	Right Touch	1.042	0.192	0.056	0.165	0.052	0.025	1.286	1.150	1.259	1.259	1.123	1.232
	Right Tilt	1.060	0.192	0.056	0.129	0.070	0.027	1.322	1.186	1.259	1.279	1.143	1.216
Body-worn Accessory & Hotspot	Rear	0.880	0.370	0.224	0.399	0.096	0.063	1.346	1.200	1.375	1.313	1.167	1.342
	Front	0.446	0.370	0.224	0.399	0.044	0.021	0.860	0.714	0.889	0.837	0.691	0.866
Hotspot	Edge 1	0.636	0.370	0.224	0.399			1.006	0.860	1.035	1.006	0.860	1.035
	Edge 2	0.676	0.370	0.224	0.399			1.046	0.900	1.075	1.046	0.900	1.075
	Edge 4	0.547	0.067	0.224	0.102			0.614	0.771	0.649	0.614	0.771	0.649

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

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/g)				
		(A)	(B)	(C)	(D)	(H)	(J)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (J)
		WWAN LAT1	DTS UAT1	DTS LAT3	DTS MIMO	BT UAT1P-high	BT LAT3 P-high	WWAN + DTS LAT1+ UAT1	WWAN + DTS LAT1+ LAT3	WWAN + DTS LAT1+ MIMO	WWAN + BT LAT1+ UAT1P-high	WWAN + BT LAT1+ LAT3 P-high
Head	Left Touch	0.571	0.343	0.185	0.331	0.243	0.069	0.914	0.756	0.902	0.814	0.640
	Left Tilt	0.257	0.343	0.185	0.331	0.190	0.020	0.600	0.442	0.588	0.447	0.277
	Right Touch	0.532	0.343	0.185	0.331	0.092	0.035	0.875	0.717	0.863	0.624	0.567
	Right Tilt	0.362	0.343	0.185	0.331	0.100	0.028	0.705	0.547	0.693	0.462	0.390
Body-worn Accessory & Hotspot	Rear	1.085	0.502	0.242	0.464	0.226	0.224	1.587	1.327	1.549	1.311	1.309
	Front	1.090	0.503	0.242	0.500	0.121	0.050	1.593	1.332	1.590	1.211	1.140
Hotspot	Edge 2	0.520	0.503	0.242	0.500			1.023	0.762	1.020	0.520	0.520
	Edge 3	1.090	0.503	0.242	0.500			1.593	1.332	1.590	1.090	1.090
	Edge 4	1.054	0.503	0.242	0.500			1.557	1.296	1.554	1.054	1.054

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

RF Exposure Condition	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/g)					
		(A)	(E)	(F)	(G)	(I)	(K)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)	(A) + (E) + (K)	(A) + (F) + (K)	(A) + (G) + (K)
		WWAN LAT1	U-NII UAT2	U-NII LAT3	U-NII MIMO	BT UAT1P-low	BT LAT3 P-low	WWAN + U-NII + BT LAT1+ UAT2 + UAT1P-low	WWAN + U-NII + BT LAT1+ LAT3 + UAT1P-low	WWAN + U-NII + BT LAT1+ MIMO + UAT1 P-low	WWAN + U-NII + BT LAT1+ UAT2 + LAT3 P-low	WWAN + U-NII + BT LAT1+ LAT3 + LAT3 P-low	WWAN + U-NII + BT LAT1+ MIMO + LAT3 P-low
Head	Left Touch	0.571	0.192	0.056	0.165	0.126	0.046	0.889	0.753	0.862	0.809	0.673	0.782
	Left Tilt	0.257	0.192	0.056	0.165	0.134	0.015	0.583	0.447	0.556	0.464	0.328	0.437
	Right Touch	0.532	0.192	0.056	0.165	0.052	0.025	0.776	0.640	0.749	0.749	0.613	0.722
	Right Tilt	0.362	0.192	0.056	0.129	0.070	0.027	0.624	0.488	0.561	0.581	0.445	0.518
Body-worn Accessory & Hotspot	Rear	1.085	0.370	0.224	0.399	0.096	0.063	1.551	1.405	1.580	1.518	1.372	1.547
	Front	1.090	0.370	0.224	0.399	0.044	0.021	1.504	1.358	1.533	1.481	1.335	1.510
Hotspot	Edge 2	0.520	0.370	0.224	0.399			0.890	0.744	0.919	0.890	0.744	0.919
	Edge 3	1.090	0.370	0.224	0.399			1.460	1.314	1.489	1.460	1.314	1.489
	Edge 4	1.054	0.067	0.224	0.102			1.121	1.278	1.156	1.121	1.278	1.156

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Appendixes

Refer to separated files for the following appendixes.

11792137-S1V1 SAR_App A Setup Photos

11792137-S1V1 SAR_App B System Check Plots

11792137-S1V1 SAR_App C Highest Test Plots

11792137-S1V1 SAR_App D Tissue Ingredients

11792137-S1V1 SAR_App E Probe Cal. Certificates

11792137-S1V1 SAR_App F Dipole Cal. Certificates

END OF REPORT

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