SAR EVALUATION REPORT

FCC 47 CFR § 2.1093
IEEE Std 1528-2013

For
Tablet Device

FCC ID: BCGA1671
Model Name: A1671, A1821

Report Number: 16U23816-S1V6
Issue Date: 5/11/2017

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Date	Revisions	Revised By
V1	2/22/2017	Initial Issue	--
V2	3/9/2017	Report revised based on reviewer's comments: 1. Sec. 6.1.: Added Hotspot mode operation to description. 2. Sec. 12.: Added notes under Simultaneous Transmission Conditions table.	Ray Su
V3	3/24/2017	Report revised based on reviewer's comments: 1. Sec. 2.: Updated detect mode statement 2. Sec. 6.3.: Added statement. 3. Sec. 6.3. & 9: Updated nomenclature from "Body Power" to "Reduced Power" 4. Sec. 6.2.: Updated table 5. Sec. 9.5.: Updated	Kenneth Mak
V4	4/13/2017	Report revised based on reviewer's comments: 1. Sec. 10.: Added notes for LTE SAR tables 2. Sec. 10.21 & 10.22.: Updated tables	Kenneth Mak
V5	5/9/2017	Report revised based on reviewer's comments: 1. Sec. 10.: Updated notes for LTE SAR tables	Kenneth Mak
V6	5/11/2017	Report revised based on reviewer's comments: 1. Sec. 2.: Updated detect mode statement	Kenneth Mak

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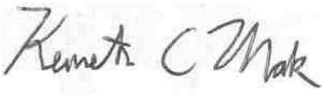
1. Attestation of Test Results

Applicant Name	APPLE, INC.			
FCC ID	BCGA1671			
Model Name	A1671, A1821			
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
Standalone	1.19	1.17	1.19	1.16
Simultaneous TX	1.45	1.30	1.45	1.45
Date Tested	12/19/2016 to 1/27/2017; 2/21/2017			
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:
	
Bobby Bayani Senior Engineer UL Verification Services Inc.	Kenneth C. Mak Laboratory Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

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

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 616217 D04 SAR for laptop and tablets v01r02
- 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 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: 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 Se. 10.
- Detect Mode – KDB guidance related to SAR testing for proprietary detection mode used to determine proximity to body and set power accordingly for Cellular Transmitters. When the device is held or on the human body, this mechanism will result in the device operating only at the reduced output power values provided in section 6.3.

3. Facilities and Accreditation

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

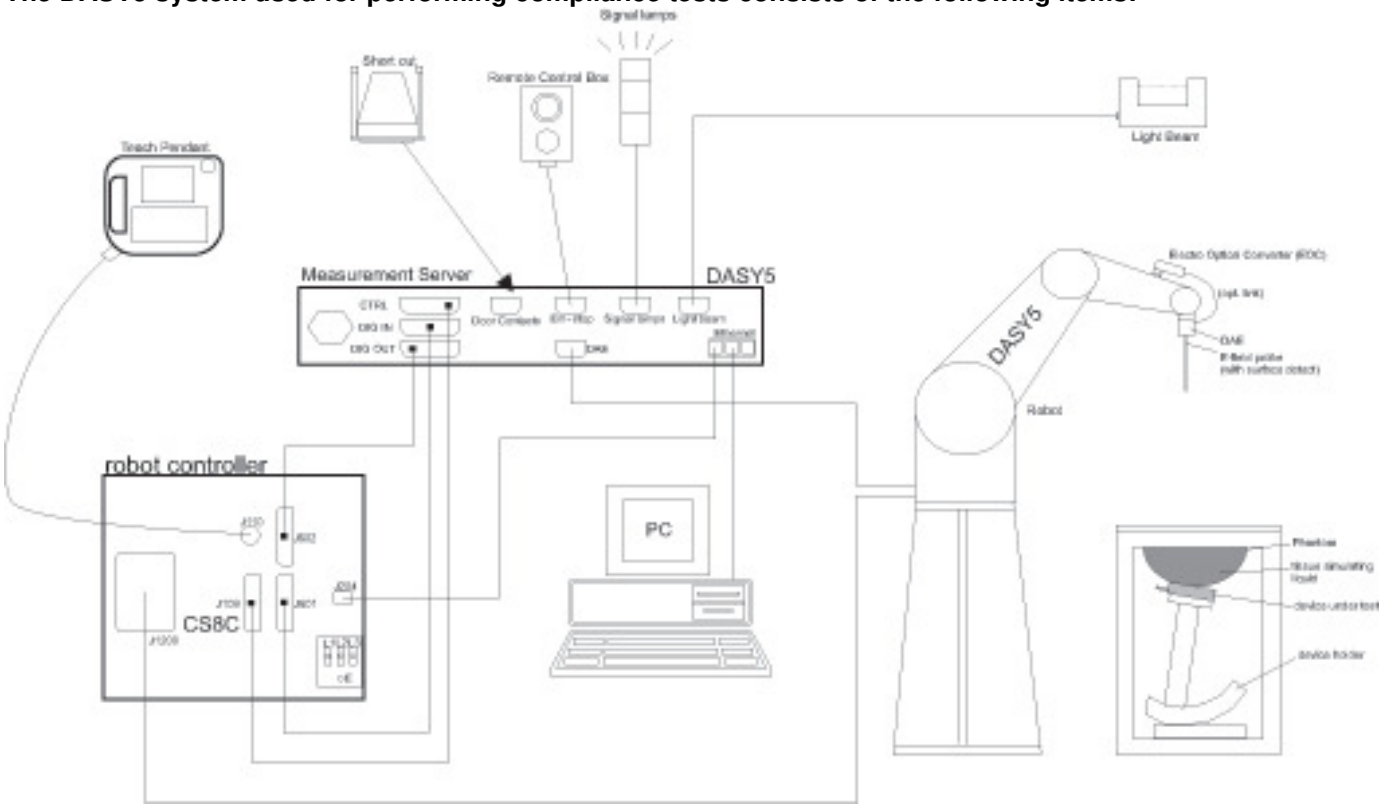
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	
SAR Lab F	
SAR Lab G	
SAR Lab H	

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

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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



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

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

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

Step 3: Zoom Scan

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

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

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

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

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

Step 4: Power drift measurement

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

Step 5: Z-Scan (FCC only)

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

4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	8753ES	MY40000980	4/27/2017
Dielectric Probe kit	SPEAG	DAK-3.5	1103	2/23/2017
Dielectric Probe kit	SPEAG	DAK-3.5	1087	11/8/2017
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Traceable Calibration Control Co.	4242	140493798	8/9/2017

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Synthesized Signal Generator	Agilent	N5181A	MY50140610	5/9/2017
Power Meter	Keysight	N1912A	MY55196008	5/3/2017
Power Sensor	Agilent	N1912A	MY52200012	10/17/2017
Power Sensor	Agilent	E9323A	MY53070009	6/13/2017
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795093	N/A
Directional coupler	Werlatone	C8060-102	2149	N/A
DC Power Supply	BK PRECISION	1161	215-02292	N/A
Synthesized Signal Generator	Agilent	N5181A	MY50140630	5/9/2017
Power Meter	Keysight	N1912A	MY55196009	5/3/2017
Power Sensor	Agilent	N1912A	MY53260001	10/17/2017
Power Sensor	Agilent	E9323A	MY53070002	3/22/2017
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1795092	N/A
Directional coupler	Werlatone	C8060-102	2141	N/A
DC Power Supply	HP	6296A	2841A-05955	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	E3610A	KR24104150	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab A)	SPEAG	EX3DV4	3885	9/20/2017
E-Field Probe (SAR Lab B)	SPEAG	EX3DV4	3991	5/12/2017
E-Field Probe (SAR Lab C)	SPEAG	EX3DV4	3902	5/17/2017
E-Field Probe (SAR Lab D)	SPEAG	EX3DV4	3936	7/26/2017
E-Field Probe (SAR Lab E)	SPEAG	EX3DV4	7335	3/22/2017
E-Field Probe (SAR Lab F)	SPEAG	EX3DV4	3686	8/25/2017
E-Field Probe (SAR Lab G)	SPEAG	EX3DV4	3990	3/22/2017
E-Field Probe (SAR Lab H)	SPEAG	EX3DV4	3929	3/22/2017
Data Acquisition Electronics (SAR Lab A)	SPEAG	DAE4	1439	7/25/2017
Data Acquisition Electronics (SAR Lab B)	SPEAG	DAE4	1257	9/15/2017
Data Acquisition Electronics (SAR Lab C)	SPEAG	DAE3	500	5/19/2017
Data Acquisition Electronics (SAR Lab D)	SPEAG	DAE4	1433	3/17/2017
Data Acquisition Electronics (SAR Lab E)	SPEAG	DAE4	1472	3/24/2017
Data Acquisition Electronics (SAR Lab F)	SPEAG	DAE4	1377	9/14/2017
Data Acquisition Electronics (SAR Lab G)	SPEAG	DAE4	1380	7/25/2017
Data Acquisition Electronics (SAR Lab H)	SPEAG	DAE4	1434	4/15/2017
System Validation Dipole	SPEAG	D750V3	1019	3/16/2017
System Validation Dipole	SPEAG	D835V2	4d002	11/8/2017
System Validation Dipole	SPEAG	D835V2	4d142	9/22/2017
System Validation Dipole	SPEAG	D1750V2	1050	4/13/2017
System Validation Dipole	SPEAG	D1900V2	5d140	4/12/2017
System Validation Dipole	SPEAG	D1900V2	5d043	11/9/2017
System Validation Dipole	SPEAG	D1900V2	5d163	9/19/2017
System Validation Dipole	SPEAG	D2450V2	706	5/10/2017
System Validation Dipole	SPEAG	D2450V2	899	3/15/2017
System Validation Dipole	SPEAG	D2600V2	1036	3/18/2017
System Validation Dipole	SPEAG	D2600V2	1006	9/13/2017
System Validation Dipole	SPEAG	D5GHzV2	1003	2/25/2017
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	Serial No.	Cal. Due Date
Power Meter	Keysight	N1912A	MY55196004	7/8/2017
Power Sensor	Agilent	N1921A	MY53020038	3/22/2017
Power Sensor	Agilent	N1921A	MY53260010	8/23/2017
Power Meter	Keysight	N1912A	My55196007	7/8/2017
Power Sensor	Agilent	N1921A	MY55200002	3/22/2017
Power Sensor	Agilent	N1921A	MY52200012	10/17/2017
Base Station Simulator	R & S	CMW500	134851	3/2/2017
Base Station Simulator	R & S	CMW500	135390	4/13/2017
Base Station Simulator	R & S	CMW500	137875	7/1/2017
Base Station Simulator	R & S	CMW500	134855	5/26/2017
Base Station Simulator	R & S	CMW500	134852	5/26/2017
Base Station Simulator	R & S	CMW500	135393	3/21/2017
Base Station Simulator	R & S	CMW500	147543	4/15/2017
Base Station Simulator	R & S	CMW500	104245	1/28/2017
Base Station Simulator	R & S	CMW500	124593	7/26/2017

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 extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

6. Device Under Test (DUT) Information

6.1. DUT Description

Model A1671, A1821 is a tablet with multimedia functions (music, application support, and video)

Cellular GSM/GPRS/EGPRS/CDMA2000 1xRTT/1xAdvanced/EVDO Rev.A/WCDMA/HSPA+/DC-HSDPA/LTE FDD/TDD/TD-SCDMA radio

IEEE 802.11a/b/g/n/ac radio (MIMO 2x2) and Bluetooth radio

The device has multiple Wi-Fi / Bluetooth antennas; Wi-Fi transmits out of two antennas, Antenna A and Antenna B, while Bluetooth transmits just out of Antenna A.

There are two suppliers of the Wi-Fi/Bluetooth radio modules to support the production volumes of the device. The two variants are referenced in this report as:

Variant 1 = Wi-Fi/BT module supplier 1

Variant 2 = Wi-Fi/BT module supplier 2

The Wi-Fi/Bluetooth radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

Complete SAR evaluation is performed on the device with one Wi-Fi/Bluetooth radio module, and then the test is repeated on the device with the other Wi-Fi/Bluetooth module at the highest SAR value.

Both Model A1671 and A1821 have identical PCB layout, design and functionality, except that A1671 supports second electronic-UICC based SIM or “soft SIM” (called eSIM) beside the regular UICC based SIM and A1821 will come with eSIM removed. RF and electromagnetic characteristic are independent of the eSIM element. Both Models have exactly same technology and band support. Model A1671 is used for SAR Testing and that data will be used for both Models.

Device Dimension	Overall (Length x Width): 305.7 mm x 220.6 mm Overall Diagonal: 368.9 mm Display Diagonal: 327.66 mm
Back Cover	☒ The rechargeable battery is not user accessible.
Battery Options	☒ The rechargeable battery is not user accessible.
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☐ Mobile Hotspot (Wi-Fi 5 GHz)
AirPlay	AirPlay mode enabled devices transfer data directly between each other ☒ AirPlay (Wi-Fi 2.4 GHz) ☒ AirPlay (Wi-Fi 5 GHz)

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☒ Class 10 - 2 Up, 4 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
CDMA (CDMA2000)	BC0 BC1 BC10	1xRTT (Voice & Data) 1xEV-DO Rel. 0 1xEV-DO Rev. A 1xAdvanced		100%
	Does this device support SV-DO (1xRTT-1xEVDO)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7)		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 FDD Band 27 FDD Band 30 TDD Band 41	QPSK 16QAM ☒ Rel. 11 Carrier Aggregation (2 Uplinks and 3 Downlinks), UE Category 10		100% (FDD) 63.3% (TDD)
	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? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	Version 4.2 LE		77.5% (DH5)

6.3. Nominal and Maximum Output Power from Tune-up Procedure

KDB 447498 sec.4.1.(3) 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.

The selection between max and reduced output power is based on the body-detect mechanism as described in the Manufacturer KDB Inquiry – Detect Mode (It is also fully described in the Operational Description).

RF Air interface	Mode	Max. RF Output Power (dBm)				Reduced RF Output Power (dBm)			
		Antenna C		Antenna D		Antenna C		Antenna D	
		Burst	Frame	Burst	Frame	Burst	Frame	Burst	Frame
GSM850	Voice/GPRS (1 slot)	33.5	24.5	32.0	23.0	28.0	19.0	27.0	18.0
	GPRS 2 slots	32.5	26.5	31.0	25.0	25.0	19.0	24.0	18.0
	EGPRS 1 slot	29.0	20.0	27.0	18.0	28.0	19.0	27.0	18.0
	EGPRS 2 slots	29.0	23.0	27.0	21.0	25.0	19.0	24.0	18.0
GSM1900	Voice/GPRS (1 slot)	29.5	20.5	27.5	18.5	22.0	13.0	23.8	14.8
	GPRS 2 slots	29.5	23.5	26.5	20.5	19.0	13.0	20.8	14.8
	EGPRS 1 slot	28.0	19.0	25.0	16.0	22.0	13.0	23.8	14.8
	EGPRS 2 slots	28.0	22.0	22.6	16.6	19.0	13.0	20.8	14.8

RF Air interface	Mode	Max. RF Output Power (dBm)		Reduced RF Output Power (dBm)	
		Antenna C	Antenna D	Antenna C	Antenna D
W-CDMA Band II	R99	25.5	24.5	12.6	14.2
	HSDPA	25.5	24.5	12.6	14.2
	HSUPA	25.5	24.5	12.6	14.2
	DC-HSDPA	25.5	24.5	12.6	14.2
W-CDMA Band IV	R99	25.5	25.5	13.0	13.7
	HSDPA	25.5	25.5	13.0	13.7
	HSUPA	25.5	25.5	13.0	13.7
	DC-HSDPA	25.5	25.5	13.0	13.7
W-CDMA Band V	R99	25.5	25.0	18.8	17.2
	HSDPA	25.5	25.0	18.8	17.2
	HSUPA	25.5	25.0	18.8	17.2
	DC-HSDPA	25.5	25.0	18.8	17.2
CDMA BC0	1xRTT	24.5	24.0	18.8	17.2
	1xAdvanced	24.5	24.0	18.8	17.2
	1xEVDO Rel. 0	24.5	24.0	18.8	17.2
	1xEVDO Rev. A	24.5	24.0	18.8	17.2
CDMA BC1	1xRTT	26.0	23.5	12.6	14.2
	1xAdvanced	26.0	23.5	12.6	14.2
	1xEVDO Rel. 0	26.0	23.5	12.6	14.2
	1xEVDO Rev. A	26.0	23.5	12.6	14.2
CDMA BC10	1xRTT	26.0	24.0	18.5	17.2
	1xAdvanced	26.0	24.0	18.5	17.2
	1xEVDO Rel. 0	26.0	24.0	18.5	17.2
	1xEVDO Rev. A	26.0	24.0	18.5	17.2
LTE Band 2	QPSK	25.0	22.5	12.6	14.2
LTE Band 4	QPSK	25.0	23.5	13.0	13.7
LTE Band 5	QPSK	25.0	24.0	18.8	18.5
LTE Band 7	QPSK	25.0	23.5	13.0	13.7
LTE Band 12	QPSK	25.0	23.0	20.2	18.0
LTE Band 13	QPSK	24.5	23.0	19.2	18.0
LTE Band 17	QPSK	25.0	23.0	20.2	18.0
LTE Band 25	QPSK	25.0	22.5	12.6	14.2
LTE Band 26	QPSK	25.0	24.0	18.8	18.5
LTE Band 27	QPSK	24.0	22.0	18.5	18.5
LTE Band 30	QPSK	22.5	22.0	13.5	12.8
LTE Band 41	QPSK	23.0	22.0	14.7	14.5
LTE-2CA Band 7	QPSK	23.0	21.0	11.0	11.2
LTE-2CA Band 41	QPSK	21.5	21.0	13.2	13.5

6.3.1. WLAN SISO

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
2.4	802.11b	1 Tx	1	2412	16.0	16.0	Yes
			6	2437	16.0	16.0	
			11	2462	16.0	16.0	
			12	2467	16.0	16.0	
			13	2472	14.5	14.5	
	802.11g	1 Tx	1	2412	16.0	16.0	No
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	13.5	13.5	
			12	2467	11.5	11.5	
			13	2472	1.5	1.5	
	802.11n	1 Tx HT20	1	2412	16.0	16.0	No
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	13.5	13.5	
			12	2467	11.5	11.5	
			13	2472	1.5	1.5	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.2	802.11a	1 Tx	36	5180	16.0	16.0	No
			40	5200	17.0	16.0	
			44	5220	17.0	16.0	
			48	5240	17.0	16.0	
	802.11n	1 Tx HT20	36	5180	16.0	16.0	No
			40	5200	17.0	16.0	
			44	5220	17.0	16.0	
			48	5240	17.0	16.0	
		1 Tx HT40	38	5190	14.0	14.0	Yes
			46	5230	17.0	16.0	
	802.11ac	1 Tx VHT20	36	5180	16.0	16.0	No
			40	5200	17.0	16.0	
			44	5220	17.0	16.0	
			48	5240	17.0	16.0	
		1 Tx VHT40	38	5190	14.0	14.0	No
			46	5230	17.0	16.0	
		1 Tx VHT80	42	5210	13.5	13.5	No

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.3	802.11a	1 Tx	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	16.0	16.0	
	802.11n	1 Tx HT20	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	16.0	16.0	
		1 Tx HT40	54	5270	16.0	16.0	Yes
			62	5310	14.0	14.0	
	802.11ac	1 Tx VHT20	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	16.0	16.0	
		1 Tx VHT40	54	5270	16.0	16.0	No
			62	5310	14.0	14.0	
		1 Tx VHT80	58	5290	13.5	13.5	No

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	802.11a	1 Tx	100	5500	15.0	15.0	No
			104	5520	15.0	15.0	
			108	5540	15.0	15.0	
			112	5560	15.0	15.0	
			116	5580	15.0	15.0	
			120	5600	15.0	15.0	
			124	5620	15.0	15.0	
			128	5640	15.0	15.0	
			132	5660	15.0	15.0	
			136	5680	15.0	15.0	
			140	5700	15.0	15.0	
			144	5720	15.0	15.0	
	802.11n	1 Tx HT20	100	5500	15.0	15.0	No
			104	5520	15.0	15.0	
			108	5540	15.0	15.0	
			112	5560	15.0	15.0	
			116	5580	15.0	15.0	
			120	5600	15.0	15.0	
			124	5620	15.0	15.0	
			128	5640	15.0	15.0	
			132	5660	15.0	15.0	
			136	5680	15.0	15.0	
			140	5700	15.0	15.0	
			144	5720	15.0	15.0	
		1 Tx HT40	102	5510	14.5	14.5	No
			110	5550	15.0	15.0	
			118	5590	15.0	15.0	
			126	5630	15.0	15.0	
			134	5670	15.0	15.0	
			142	5710	15.0	15.0	
	802.11ac	1 Tx VHT20	100	5500	15.0	15.0	No
			104	5520	15.0	15.0	
			108	5540	15.0	15.0	
			112	5560	15.0	15.0	
			116	5580	15.0	15.0	
			120	5600	15.0	15.0	
			124	5620	15.0	15.0	
			128	5640	15.0	15.0	
			132	5660	15.0	15.0	
			136	5680	15.0	15.0	
			140	5700	15.0	15.0	
			144	5720	15.0	15.0	
		1 Tx VHT40	102	5510	14.5	14.5	No
			110	5550	15.0	15.0	
			118	5590	15.0	15.0	
			126	5630	15.0	15.0	
			134	5670	15.0	15.0	
			142	5710	15.0	15.0	
		1 Tx VHT80	106	5530	13.0	13.0	Yes
			122	5610	15.0	15.0	
			138	5690	15.0	15.0	

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.8	802.11a	1 Tx	149	5745	15.0	15.5	No
			153	5765	15.0	15.5	
			157	5785	15.0	15.5	
			161	5805	15.0	15.5	
			165	5825	15.0	15.5	
	802.11n	1 Tx HT20	149	5745	15.0	15.5	No
			153	5765	15.0	15.5	
			157	5785	15.0	15.5	
			161	5805	15.0	15.5	
			165	5825	15.0	15.5	
		1 Tx HT40	151	5755	15.0	15.5	No
			159	5795	15.0	15.5	
	802.11ac	1 Tx VHT20	149	5745	15.0	15.5	No
			153	5765	15.0	15.5	
			157	5785	15.0	15.5	
			161	5805	15.0	15.5	
			165	5825	15.0	15.5	
		1 Tx VHT40	151	5755	15.0	15.5	No
			159	5795	15.0	15.5	
		1 Tx VHT80	155	5775	15.0	15.5	Yes

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

6.3.2. WLAN MIMO

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
2.4	802.11g	2 Tx CDD	1	2412	14.0	14.0	Yes
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	12.5	12.5	
			12	2467	10.0	10.0	
			13	2472	0.0	0.0	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	1	2412	14.0	14.0	No
			2	2417	16.0	16.0	
			6	2437	16.0	16.0	
			10	2457	16.0	16.0	
			11	2462	12.5	12.5	
			12	2467	10.0	10.0	
			13	2472	0.0	0.0	

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.2	802.11a	2 Tx CDD	36	5180	15.0	15.0	No
			40	5200	15.5	15.5	
			44	5220	15.5	15.5	
			48	5240	15.5	15.5	
	802.11n	2 Tx HT20 CDD	36	5180	15.0	15.0	No
			40	5200	15.5	15.5	
			44	5220	15.5	15.5	
			48	5240	15.5	15.5	
		2 Tx HT20 STBC/ SDM	36	5180	15.0	15.0	No
			40	5200	17.0	16.0	
			44	5220	17.0	16.0	
			48	5240	17.0	16.0	
		2 Tx HT40 CDD/STBC/SDM	38	5190	13.0	13.0	Yes
			46	5230	17.0	16.0	
	802.11ac	2 Tx VHT20 CDD	36	5180	15.0	15.0	No
			40	5200	15.5	15.5	
			44	5220	15.5	15.5	
			48	5240	15.5	15.5	
		2 Tx VHT20 STBC/ SDM	36	5180	15.0	15.0	No
			40	5200	17.0	16.0	
			44	5220	17.0	16.0	
			48	5240	17.0	16.0	
		2 Tx VHT40 CDD/STBC/SDM	38	5190	13.0	13.0	No
			46	5230	17.0	16.0	
		2 Tx VHT80 CDD/STBC/SDM	42	5210	12.0	12.0	No

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.3	802.11a	2 Tx CDD	52	5260	15.0	15.0	No
			56	5280	15.0	15.0	
			60	5300	15.0	15.0	
			64	5320	14.5	14.5	
	802.11n	2 Tx HT20 CDD	52	5260	15.0	15.0	No
			56	5280	15.0	15.0	
			60	5300	15.0	15.0	
			64	5320	14.5	14.5	
		2 Tx HT20 STBC/ SDM	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	14.5	14.5	
		2 Tx HT40 CDD/STBC/SDM	54	5270	16.0	16.0	No
			62	5310	13.5	13.5	
	802.11ac	2 Tx VHT20 CDD	52	5260	15.0	15.0	No
			56	5280	15.0	15.0	
			60	5300	15.0	15.0	
			64	5320	14.5	14.5	
		2 Tx VHT20 STBC/ SDM	52	5260	16.0	16.0	No
			56	5280	16.0	16.0	
			60	5300	16.0	16.0	
			64	5320	14.5	14.5	
		2 Tx VHT40 CDD/STBC/SDM	54	5270	16.0	16.0	No
			62	5310	13.5	13.5	
		2 Tx VHT80 CDD/STBC/SDM	58	5290	11.5	11.5	No

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	802.11a	2 Tx CDD	100	5500	14.0	14.0	No
			104	5520	14.0	14.0	
			108	5540	14.0	14.0	
			112	5560	14.0	14.0	
			116	5580	14.0	14.0	
			120	5600	14.0	14.0	
			124	5620	14.0	14.0	
			128	5640	14.0	14.0	
			132	5660	14.0	14.0	
			136	5680	14.0	14.0	
			140	5700	14.0	14.0	
			144	5720	14.0	14.0	
	802.11n	2 Tx HT20 CDD	100	5500	14.0	14.0	No
			104	5520	14.0	14.0	
			108	5540	14.0	14.0	
			112	5560	14.0	14.0	
			116	5580	14.0	14.0	
			120	5600	14.0	14.0	
			124	5620	14.0	14.0	
			128	5640	14.0	14.0	
			132	5660	14.0	14.0	
			136	5680	14.0	14.0	
			140	5700	14.0	14.0	
			144	5720	14.0	14.0	
		2 Tx HT20 STBC/ SDM	100	5500	15.0	15.0	No
			104	5520	15.0	15.0	
			108	5540	15.0	15.0	
			112	5560	15.0	15.0	
			116	5580	15.0	15.0	
			120	5600	15.0	15.0	
			124	5620	15.0	15.0	
			128	5640	15.0	15.0	
			132	5660	15.0	15.0	
			136	5680	15.0	15.0	
			140	5700	14.0	14.0	
			144	5720	15.0	15.0	
		2 Tx HT40 CDD/STBC/ SDM	102	5510	13.5	13.5	No
			110	5550	15.0	15.0	
			118	5590	15.0	15.0	
			126	5630	15.0	15.0	
			134	5670	15.0	15.0	
			142	5710	15.0	15.0	

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.5	802.11ac	2 Tx VHT20 CDD	100	5500	14.0	14.0	No
			104	5520	14.0	14.0	
			108	5540	14.0	14.0	
			112	5560	14.0	14.0	
			116	5580	14.0	14.0	
			120	5600	14.0	14.0	
			124	5620	14.0	14.0	
			128	5640	14.0	14.0	
			132	5660	14.0	14.0	
			136	5680	14.0	14.0	
			140	5700	14.0	14.0	
			144	5720	14.0	14.0	
		2 Tx VHT20 STBC/ SDM	100	5500	15.0	15.0	No
			104	5520	15.0	15.0	
			108	5540	15.0	15.0	
			112	5560	15.0	15.0	
			116	5580	15.0	15.0	
			120	5600	15.0	15.0	
			124	5620	15.0	15.0	
			128	5640	15.0	15.0	
			132	5660	15.0	15.0	
			136	5680	15.0	15.0	
			140	5700	14.0	14.0	
			144	5720	15.0	15.0	
		2 Tx VHT40 CDD/STBC/ SDM	102	5510	13.5	13.5	No
			110	5550	15.0	15.0	
			118	5590	15.0	15.0	
			126	5630	15.0	15.0	
			134	5670	15.0	15.0	
			142	5710	15.0	15.0	
		2 Tx VHT80 CDD/STBC/ SDM	106	5530	11.5	11.5	Yes
			122	5610	15.0	15.0	
			138	5690	15.0	15.0	

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max RF Output Power (dBm)		SAR Test (Yes/No)
					Antenna A	Antenna B	
5.8	802.11a	2 Tx CDD	149	5745	15.0	15.5	No
			153	5765	15.0	15.5	
			157	5785	15.0	15.5	
			161	5805	15.0	15.5	
			165	5825	15.0	15.5	
	802.11n	2 Tx HT20 CDD/STBC/ SDM	149	5745	15.0	15.5	No
			153	5765	15.0	15.5	
			157	5785	15.0	15.5	
			161	5805	15.0	15.5	
			165	5825	15.0	15.5	
		2 Tx HT40 CDD/STBC/SDM	151	5755	15.0	15.5	No
			159	5795	15.0	15.5	
	802.11ac	2 Tx VHT20 CDD/STBC/ SDM	149	5745	15.0	15.5	No
			153	5765	15.0	15.5	
			157	5785	15.0	15.5	
			161	5805	15.0	15.5	
			165	5825	15.0	15.5	
		2 Tx VHT40 CDD/STBC/SDM	151	5755	15.0	15.5	No
			159	5795	15.0	15.5	
		2 Tx VHT80 CDD/STBC/SDM	155	5775	15.0	15.5	Yes

Note(s):

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR test reduction was applied from KDB 248227 guidance, Se. 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 802.11 a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

6.3.3. Bluetooth

RF Air Interface	Mode	Max RF Output Power (dBm)	
		Antenna A	
		P_{High}	P_{Low}
Bluetooth	GFSK	17.0	10.5

Note(s):

1. Bluetooth P_{low} is triggered when 5 GHz Wi-Fi is on. Functional description of this mode is provided in technical description documents.

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						

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 27	Frequency range: 814 - 824 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				27135/ 816.5	27125/ 815.5	27117/ 814.7
	Mid			27160/ 819	27160/ 819	27160/ 819	27160/ 819
	High				27185/ 821.5	27195/ 822.5	27203/ 823.3
	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					
LTE transmitter and antenna implementation	LTE has two Tx/Rx antennas.						

<table>
<tr><td>Maximum power reduction (MPR)</td><td>
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (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>
</table>
MPR Built-in by design. The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values.
A-MPR (additional MPR) was disabled during SAR testing
</td></tr>
<tr><td>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).

6.5. LTE (TDD) Considerations

According to KDB 941225 D05 SAR for LTE Devices v02r02, 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

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

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

7. RF Exposure Conditions (Test Configurations)

WWAN antenna is located near the upper left and right corners of the device. WLAN antennas are located near the lower left and right corners of the device.

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

7.1. Standalone SAR Test Exclusion Considerations

Since the *Dedicated Host Approach* is applied, the standalone SAR test exclusion procedure in KDB 447498 § 4.3.1 is applied in conjunction with KDB 616217 § 4.3 to determine the minimum test separation distance:

- When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
- When the separation distance from the antenna to an adjacent edge is > 5 mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion.

SAR Test Exclusion Calculations for WWAN

Antennas < 50mm to adjacent edges

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna C																
Cellular	GPRS 2 Slots	848.8	25.0	79	4.78	3.38	52.42	290.87	122.96		14.6 -MEASURE-	14.6 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	GPRS 2 Slots	1909.8	19.0	20	4.78	3.38	52.42	290.87	122.96		5.5 -MEASURE-	5.5 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	W-CDMA 2	1907.6	12.6	18	4.78	3.38	52.42	290.87	122.96		5 -MEASURE-	5 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	W-CDMA 4	1752.6	13.0	20	4.78	3.38	52.42	290.87	122.96		5.3 -MEASURE-	5.3 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	W-CDMA 5	846.6	18.8	76	4.78	3.38	52.42	290.87	122.96		14 -MEASURE-	14 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	CDMA BC0	848.3	18.8	76	4.78	3.38	52.42	290.87	122.96		14 -MEASURE-	14 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	CDMA BC1	1908.8	12.6	18	4.78	3.38	52.42	290.87	122.96		5 -MEASURE-	5 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	CDMA BC10	823.1	18.5	71	4.78	3.38	52.42	290.87	122.96		12.9 -MEASURE-	12.9 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 2	1900.0	12.6	18	4.78	3.38	52.42	290.87	122.96		5 -MEASURE-	5 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 4	1754.3	13.0	20	4.78	3.38	52.42	290.87	122.96		5.3 -MEASURE-	5.3 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 5	844.0	18.8	76	4.78	3.38	52.42	290.87	122.96		14 -MEASURE-	14 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 7	2560.0	13.0	20	4.78	3.38	52.42	290.87	122.96		6.4 -MEASURE-	6.4 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 12	711.0	20.2	105	4.78	3.38	52.42	290.87	122.96		17.7 -MEASURE-	17.7 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 13	782.0	19.2	83	4.78	3.38	52.42	290.87	122.96		14.7 -MEASURE-	14.7 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 17	710.0	20.2	105	4.78	3.38	52.42	290.87	122.96		17.7 -MEASURE-	17.7 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 25	1905.0	12.6	18	4.78	3.38	52.42	290.87	122.96		5 -MEASURE-	5 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 26	841.4	18.8	76	4.78	3.38	52.42	290.87	122.96		13.9 -MEASURE-	13.9 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 27	815.5	18.5	71	4.78	3.38	52.42	290.87	122.96		12.8 -MEASURE-	12.8 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 30	2310.0	13.5	22	4.78	3.38	52.42	290.87	122.96		6.7 -MEASURE-	6.7 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 41	2680.0	14.7	30	4.78	3.38	52.42	290.87	122.96		9.8 -MEASURE-	9.8 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Antenna D																
Cellular	GPRS 2 Slots	848.8	24.0	63	4.78	3.38	122.96	290.87	52.42		11.6 -MEASURE-	11.6 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	GPRS 2 Slots	1909.8	20.8	30	4.78	3.38	122.96	290.87	52.42		8.3 -MEASURE-	8.3 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	W-CDMA 2	1907.6	14.2	26	4.78	3.38	122.96	290.87	52.42		7.2 -MEASURE-	7.2 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	W-CDMA 4	1752.6	13.7	23	4.78	3.38	122.96	290.87	52.42		6.1 -MEASURE-	6.1 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	W-CDMA 5	846.6	17.2	52	4.78	3.38	122.96	290.87	52.42		9.6 -MEASURE-	9.6 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	CDMA BC0	848.3	17.2	52	4.78	3.38	122.96	290.87	52.42		9.6 -MEASURE-	9.6 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	CDMA BC1	1908.8	14.2	26	4.78	3.38	122.96	290.87	52.42		7.2 -MEASURE-	7.2 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	CDMA BC10	823.1	17.2	52	4.78	3.38	122.96	290.87	52.42		9.4 -MEASURE-	9.4 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 2	1900.0	14.2	26	4.78	3.38	122.96	290.87	52.42		7.2 -MEASURE-	7.2 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 4	1754.3	13.7	23	4.78	3.38	122.96	290.87	52.42		6.1 -MEASURE-	6.1 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 5	844.0	18.5	71	4.78	3.38	122.96	290.87	52.42		13 -MEASURE-	13 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 7	2560.0	13.7	23	4.78	3.38	122.96	290.87	52.42		7.4 -MEASURE-	7.4 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 12	711.0	18.0	63	4.78	3.38	122.96	290.87	52.42		10.6 -MEASURE-	10.6 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 13	782.0	18.0	63	4.78	3.38	122.96	290.87	52.42		11.1 -MEASURE-	11.1 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 17	710.0	18.0	63	4.78	3.38	122.96	290.87	52.42		10.6 -MEASURE-	10.6 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 25	1905.0	14.2	26	4.78	3.38	122.96	290.87	52.42		7.2 -MEASURE-	7.2 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 26	841.4	18.5	71	4.78	3.38	122.96	290.87	52.42		13 -MEASURE-	13 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 27	815.5	18.5	71	4.78	3.38	122.96	290.87	52.42		12.8 -MEASURE-	12.8 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 30	2310.0	12.8	19	4.78	3.38	122.96	290.87	52.42		5.8 -MEASURE-	5.8 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	
Cellular	LTE Band 41	2680.0	14.5	28	4.78	3.38	122.96	290.87	52.42		9.2 -MEASURE-	9.2 -MEASURE-	> 50 mm	> 50 mm	> 50 mm	

Note(s):

According to KDB 447498, if the calculated threshold value is >3 then SAR testing is required.

Antennas > 50mm to adjacent edges

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna C																
Cellular	GPRS 2 Slots	848.8	25.0	79	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	176.5 mW -EXEMPT-	1525.8 mW -EXEMPT-	575.7 mW -EXEMPT-	
Cellular	GPRS 2 Slots	1909.8	19.0	20	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	132.7 mW -EXEMPT-	2517.2 mW -EXEMPT-	838.1mW -EXEMPT-	
Cellular	W-CDMA 2	1907.6	12.6	18	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	132.8 mW -EXEMPT-	2517.3 mW -EXEMPT-	838.2 mW -EXEMPT-	
Cellular	W-CDMA 4	1752.6	13.0	20	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	137.5 mW -EXEMPT-	2522 mW -EXEMPT-	842.9 mW -EXEMPT-	
Cellular	W-CDMA 5	846.6	18.8	76	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	176.7 mW -EXEMPT-	1522.5 mW -EXEMPT-	574.8 mW -EXEMPT-	
Cellular	CDMA BC0	848.3	18.8	76	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	176.5 mW -EXEMPT-	1525.1mW -EXEMPT-	575.5 mW -EXEMPT-	
Cellular	CDMA BC1	1908.8	12.6	18	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	132.8 mW -EXEMPT-	2517.3 mW -EXEMPT-	838.2 mW -EXEMPT-	
Cellular	CDMA BC10	823.1	18.5	71	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	178.6 mW -EXEMPT-	1487.1mW -EXEMPT-	565.7 mW -EXEMPT-	
Cellular	LTE Band 2	1900.0	12.6	18	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	133 mW -EXEMPT-	2517.5 mW -EXEMPT-	838.4 mW -EXEMPT-	
Cellular	LTE Band 4	1754.3	13.0	20	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	137.5 mW -EXEMPT-	2522 mW -EXEMPT-	842.9 mW -EXEMPT-	
Cellular	LTE Band 5	844.0	18.8	76	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	176.9 mW -EXEMPT-	1518.6 mW -EXEMPT-	573.8 mW -EXEMPT-	
Cellular	LTE Band 7	2560.0	13.0	20	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	118 mW -EXEMPT-	2502.5 mW -EXEMPT-	823.4 mW -EXEMPT-	
Cellular	LTE Band 12	711.0	20.2	105	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	189.4 mW -EXEMPT-	1319.6 mW -EXEMPT-	523.7 mW -EXEMPT-	
Cellular	LTE Band 13	782.0	19.2	83	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	182.2 mW -EXEMPT-	1425.4 mW -EXEMPT-	550 mW -EXEMPT-	
Cellular	LTE Band 17	710.0	20.2	105	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	189.5 mW -EXEMPT-	1318.1mW -EXEMPT-	523.4 mW -EXEMPT-	
Cellular	LTE Band 25	1905.0	12.6	18	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	132.9 mW -EXEMPT-	2517.4 mW -EXEMPT-	838.3 mW -EXEMPT-	
Cellular	LTE Band 26	841.4	18.8	76	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	177.1mW -EXEMPT-	1514.6 mW -EXEMPT-	572.8 mW -EXEMPT-	
Cellular	LTE Band 27	815.5	18.5	71	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	179.3 mW -EXEMPT-	1475.6 mW -EXEMPT-	562.8 mW -EXEMPT-	
Cellular	LTE Band 30	2310.0	13.5	22	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	122.9 mW -EXEMPT-	2507.4 mW -EXEMPT-	828.3 mW -EXEMPT-	
Cellular	LTE Band 41	2680.0	14.7	30	4.78	3.38	52.42	290.87	122.96		< 50 mm	< 50 mm	115.8 mW -EXEMPT-	2500.3 mW -EXEMPT-	821.2 mW -EXEMPT-	
Antenna D																
Cellular	GPRS 2 Slots	848.8	24.0	63	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	575.7 mW -EXEMPT-	1525.8 mW -EXEMPT-	176.5 mW -EXEMPT-	
Cellular	GPRS 2 Slots	1909.8	20.8	30	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	838.1mW -EXEMPT-	2517.2 mW -EXEMPT-	132.7 mW -EXEMPT-	
Cellular	W-CDMA 2	1907.6	14.2	26	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	838.2 mW -EXEMPT-	2517.3 mW -EXEMPT-	132.8 mW -EXEMPT-	
Cellular	W-CDMA 4	1752.6	13.7	23	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	842.9 mW -EXEMPT-	2522 mW -EXEMPT-	137.5 mW -EXEMPT-	
Cellular	W-CDMA 5	846.6	17.2	52	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	574.8 mW -EXEMPT-	1522.5 mW -EXEMPT-	176.7 mW -EXEMPT-	
Cellular	CDMA BC0	848.3	17.2	52	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	575.5 mW -EXEMPT-	1525.1mW -EXEMPT-	176.5 mW -EXEMPT-	
Cellular	CDMA BC1	1908.8	14.2	26	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	838.2 mW -EXEMPT-	2517.3 mW -EXEMPT-	132.8 mW -EXEMPT-	
Cellular	CDMA BC10	823.1	17.2	52	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	565.7 mW -EXEMPT-	1487.1mW -EXEMPT-	178.6 mW -EXEMPT-	
Cellular	LTE Band 2	1900.0	14.2	26	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	838.4 mW -EXEMPT-	2517.5 mW -EXEMPT-	133 mW -EXEMPT-	
Cellular	LTE Band 4	1754.3	13.7	23	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	842.9 mW -EXEMPT-	2522 mW -EXEMPT-	137.5 mW -EXEMPT-	
Cellular	LTE Band 5	844.0	18.5	71	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	573.8 mW -EXEMPT-	1518.6 mW -EXEMPT-	176.9 mW -EXEMPT-	
Cellular	LTE Band 7	2560.0	13.7	23	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	823.4 mW -EXEMPT-	2502.5 mW -EXEMPT-	118 mW -EXEMPT-	
Cellular	LTE Band 12	711.0	18.0	63	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	523.7 mW -EXEMPT-	1319.6 mW -EXEMPT-	189.4 mW -EXEMPT-	
Cellular	LTE Band 13	782.0	18.0	63	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	550 mW -EXEMPT-	1425.4 mW -EXEMPT-	182.2 mW -EXEMPT-	
Cellular	LTE Band 17	710.0	18.0	63	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	523.4 mW -EXEMPT-	1318.1mW -EXEMPT-	189.5 mW -EXEMPT-	
Cellular	LTE Band 25	1905.0	14.2	26	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	838.3 mW -EXEMPT-	2517.4 mW -EXEMPT-	132.9 mW -EXEMPT-	
Cellular	LTE Band 26	841.4	18.5	71	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	572.8 mW -EXEMPT-	1514.6 mW -EXEMPT-	177.1mW -EXEMPT-	
Cellular	LTE Band 27	815.5	18.5	71	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	562.8 mW -EXEMPT-	1475.6 mW -EXEMPT-	179.3 mW -EXEMPT-	
Cellular	LTE Band 30	2310.0	12.8	19	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	828.3 mW -EXEMPT-	2507.4 mW -EXEMPT-	122.9 mW -EXEMPT-	
Cellular	LTE Band 41	2680.0	14.5	28	4.78	3.38	122.96	290.87	52.42		< 50 mm	< 50 mm	821.2 mW -EXEMPT-	2500.3 mW -EXEMPT-	115.8 mW -EXEMPT-	

Note(s):

According to KDB 447498, if the calculated Power threshold is less than the output power then SAR testing is required.

SAR Test Exclusion Calculations for WLAN

Antennas < 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.00	40	6.09	293.66	129.69	3.45	46.38		10.5 -MEASURE-	> 50 mm	> 50 mm	12.6 -MEASURE-	1.4 -EXEMPT-	
Wi-Fi 5.2 GHz	5240	17.00	50	6.09	293.66	129.69	3.45	46.38		19.1 -MEASURE-	> 50 mm	> 50 mm	22.9 -MEASURE-	2.5 -EXEMPT-	
Wi-Fi 5.3 GHz	5320	16.00	40	6.09	293.66	129.69	3.45	46.38		15.4 -MEASURE-	> 50 mm	> 50 mm	18.5 -MEASURE-	2 -EXEMPT-	
Wi-Fi 5.5 GHz	5700	15.00	32	6.09	293.66	129.69	3.45	46.38		12.7 -MEASURE-	> 50 mm	> 50 mm	15.3 -MEASURE-	1.7 -EXEMPT-	
Wi-Fi 5.8 GHz	5825	15.00	32	6.09	293.66	129.69	3.45	46.38		12.9 -MEASURE-	> 50 mm	> 50 mm	15.4 -MEASURE-	1.7 -EXEMPT-	
Bluetooth	2480	20.00	100	6.09	293.66	129.69	3.45	46.38		26.2 -MEASURE-	> 50 mm	> 50 mm	31.5 -MEASURE-	3.4 -MEASURE-	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.00	40	6.09	293.66	46.38	3.45	129.69		10.5 -MEASURE-	> 50 mm	1.4 -EXEMPT-	12.6 -MEASURE-	> 50 mm	
Wi-Fi 5.2 GHz	5240	16.00	40	6.09	293.66	46.38	3.45	129.69		15.3 -MEASURE-	> 50 mm	2 -EXEMPT-	18.3 -MEASURE-	> 50 mm	
Wi-Fi 5.3 GHz	5320	16.00	40	6.09	293.66	46.38	3.45	129.69		15.4 -MEASURE-	> 50 mm	2 -EXEMPT-	18.5 -MEASURE-	> 50 mm	
Wi-Fi 5.5 GHz	5700	15.00	32	6.09	293.66	46.38	3.45	129.69		12.7 -MEASURE-	> 50 mm	1.7 -EXEMPT-	15.3 -MEASURE-	> 50 mm	
Wi-Fi 5.8 GHz	5825	15.50	35	6.09	293.66	46.38	3.45	129.69		14.1 -MEASURE-	> 50 mm	1.8 -EXEMPT-	16.9 -MEASURE-	> 50 mm	

Note(s):

1. According to KDB 447498, if the calculated Power threshold is less than the output power then SAR testing is required.
2. With power levels similar to SISO on each chain, MIMO test requirement was determined by the combined requirements of Antenna A and Antenna B SISO.

Antennas > 50mm to adjacent edges

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.00	40	6.09	293.66	129.69	3.45	46.38		< 50 mm	2532.2 mW -EXEMPT-	892.5 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.2 GHz	5240	17.00	50	6.09	293.66	129.69	3.45	46.38		< 50 mm	2502.1mW -EXEMPT-	862.4 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.3 GHz	5320	16.00	40	6.09	293.66	129.69	3.45	46.38		< 50 mm	2501.6 mW -EXEMPT-	861.9 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.5 GHz	5700	15.00	32	6.09	293.66	129.69	3.45	46.38		< 50 mm	2499.4 mW -EXEMPT-	859.7 mW -EXEMPT-	< 50 mm	< 50 mm	
Wi-Fi 5.8 GHz	5825	15.00	32	6.09	293.66	129.69	3.45	46.38		< 50 mm	2498.8 mW -EXEMPT-	859.1mW -EXEMPT-	< 50 mm	< 50 mm	
Bluetooth	2480	20.00	100	6.09	293.66	129.69	3.45	46.38		< 50 mm	2531.9 mW -EXEMPT-	892.2 mW -EXEMPT-	< 50 mm	< 50 mm	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.00	40	6.09	293.66	46.38	3.45	129.69		< 50 mm	2532.2 mW -EXEMPT-	< 50 mm	< 50 mm	892.5 mW -EXEMPT-	
Wi-Fi 5.2 GHz	5240	16.00	40	6.09	293.66	46.38	3.45	129.69		< 50 mm	2502.1mW -EXEMPT-	< 50 mm	< 50 mm	862.4 mW -EXEMPT-	
Wi-Fi 5.3 GHz	5320	16.00	40	6.09	293.66	46.38	3.45	129.69		< 50 mm	2501.6 mW -EXEMPT-	< 50 mm	< 50 mm	861.9 mW -EXEMPT-	
Wi-Fi 5.5 GHz	5700	15.00	32	6.09	293.66	46.38	3.45	129.69		< 50 mm	2499.4 mW -EXEMPT-	< 50 mm	< 50 mm	859.7 mW -EXEMPT-	
Wi-Fi 5.8 GHz	5825	15.50	35	6.09	293.66	46.38	3.45	129.69		< 50 mm	2498.8 mW -EXEMPT-	< 50 mm	< 50 mm	859.1mW -EXEMPT-	

Note(s):

1. According to KDB 447498, if the calculated Power threshold is less than the output power then SAR testing is required.
2. With power levels similar to SISO on each chain, MIMO test requirement was determined by the combined requirements of Antenna A and Antenna B SISO.

7.2. Required Test Configurations

The table below identifies the standalone test configurations required for this device according to the findings in Section 7.1:

WWAN

Test Configurations	Antenna C					Antenna D				
	Rear	Edge 1 (Top Edge)	Edge 2 (Right Edge)	Edge 3 (Bottom Edge)	Edge 4 (Left Edge)	Rear	Edge 1 (Top Edge)	Edge 2 (Right Edge)	Edge 3 (Bottom Edge)	Edge 4 (Left Edge)
GSM850	Yes	Yes	No	No	No	Yes	Yes	No	No	No
GSM1900	Yes	Yes	No	No	No	Yes	Yes	No	No	No
W-CDMA Band 2	Yes	Yes	No	No	No	Yes	Yes	No	No	No
W-CDMA Band 4	Yes	Yes	No	No	No	Yes	Yes	No	No	No
W-CDMA Band 5	Yes	Yes	No	No	No	Yes	Yes	No	No	No
CDMA BC0	Yes	Yes	No	No	No	Yes	Yes	No	No	No
CDMA BC1	Yes	Yes	No	No	No	Yes	Yes	No	No	No
CDMA BC10	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 2	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 4	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 5	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 7	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 12	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 13	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 17	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 25	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 26	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 27	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 30	Yes	Yes	No	No	No	Yes	Yes	No	No	No
LTE Band 41	Yes	Yes	No	No	No	Yes	Yes	No	No	No

WLAN

Test Configurations	Rear	Edge 1 (Top Edge)	Edge 2 (Right Edge)	Edge 3 (Bottom Edge)	Edge 4 (Left Edge)
Wi-Fi 2.4 GHz SISO (Antenna A)	Yes	No	No	Yes	No
Wi-Fi 2.4 GHz SISO (Antenna B)	Yes	No	No	Yes	No
Wi-Fi 2.4 GHz MIMO	Yes	No	No	Yes	No
Wi-Fi 5 GHz SISO (Antenna A)	Yes	No	No	Yes	No
Wi-Fi 5 GHz SISO (Antenna B)	Yes	No	No	Yes	No
Wi-Fi 5 GHz MIMO	Yes	No	No	Yes	No
Bluetooth	Yes	No	No	Yes	Yes

Note(s):

Yes = Testing is required.

No = Testing is not required.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.
The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.
Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.
The dielectric constant (εr) and conductivity (σ) of typical tissue-equivalent media recipes are expected to be within ± 5% of the required target values; but for SAR measurement systems that have implemented the SAR error compensation algorithms documented in IEEE Std 1528-2013, to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters, the tolerance for εr and σ may be relaxed to ± 10%. This is limited to frequencies ≤ 3 GHz.

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

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

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
A	12/27/2016	5600	Body	5600	46.61	48.48	-3.85	5.95	5.76	3.26
				5500	46.77	48.61	-3.79	5.81	5.64	2.95
				5725	46.41	48.31	-3.93	6.12	5.91	3.66
A	1/17/2017	750	Body	750	53.73	55.55	-3.27	0.97	0.96	0.84
				695	54.33	55.76	-2.56	0.92	0.96	-4.54
				790	53.23	55.39	-3.90	1.01	0.97	4.75
B	1/17/2017	2600	Body	2600	51.74	52.51	-1.47	2.10	2.16	-2.58
				2495	51.94	52.64	-1.34	1.98	2.01	-1.50
				2690	51.55	52.40	-1.62	2.21	2.29	-3.38
B	1/23/2017	2600	Body	2600	50.59	52.51	-3.66	2.21	2.16	2.18
				2495	50.92	52.64	-3.27	2.08	2.01	3.27
				2690	50.31	52.40	-3.98	2.32	2.29	1.47
C	1/26/2017	1900	Body	1900	51.25	53.30	-3.85	1.55	1.52	1.71
				1850	51.37	53.30	-3.62	1.50	1.52	-1.58
				1920	51.17	53.30	-4.00	1.57	1.52	3.22
D	1/9/2017	2450	Body	2450	52.44	52.70	-0.49	1.92	1.95	-1.64
				2400	52.62	52.77	-0.29	1.86	1.90	-1.95
				2480	52.34	52.66	-0.61	1.96	1.99	-1.77
D	1/13/2017	2300	Body	2300	53.93	52.90	1.94	1.82	1.80	0.97
				2350	53.72	52.84	1.67	1.90	1.85	2.44
				2400	53.52	52.77	1.42	1.97	1.90	3.74
D	1/17/2017	2300	Body	2300	52.09	52.90	-1.54	1.78	1.80	-1.14
				2350	51.90	52.84	-1.78	1.84	1.85	-0.37
				2400	51.71	52.77	-2.01	1.91	1.90	0.47
D	1/17/2017	2600	Body	2600	50.56	52.51	-3.72	2.25	2.16	4.31
				2495	50.98	52.64	-3.16	2.10	2.01	4.51
				2690	50.20	52.40	-4.19	2.39	2.29	4.40
D	2/21/2017	2600	Body	2600	52.79	52.51	0.53	2.21	2.16	2.46
				2495	53.10	52.64	0.87	2.09	2.01	3.81
				2690	52.52	52.40	0.23	2.32	2.29	1.30

Dielectric Property Measurements Results:

SAR Lab	Date	Tissue Type	Band (MHz)	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
E	12/22/2016	5800	Body	5800	48.75	48.20	1.14	6.19	6.00	3.20
				5700	48.85	48.34	1.05	6.04	5.88	2.83
				5850	48.69	48.20	1.02	6.26	6.00	4.38
E	12/27/2016	5800	Body	5800	49.08	48.20	1.83	6.06	6.00	0.93
				5700	49.15	48.34	1.67	5.95	5.88	1.20
				5850	48.93	48.20	1.51	6.15	6.00	2.55
E	1/17/2017	835	Body	835	53.40	55.20	-3.26	0.99	0.97	2.00
				805	53.72	55.33	-2.92	0.96	0.97	-1.10
				905	52.62	55.00	-4.33	1.06	1.05	0.52
E	1/23/2017	835	Body	835	53.75	55.20	-2.63	0.99	0.97	1.86
				805	54.07	55.33	-2.29	0.96	0.97	-1.15
				905	52.98	55.00	-3.67	1.06	1.05	0.33
F	1/11/2017	1900	Body	1900	51.13	53.30	-4.07	1.55	1.52	1.78
				1850	51.27	53.30	-3.82	1.51	1.52	-0.92
				1920	51.06	53.30	-4.20	1.56	1.52	2.89
F	1/17/2017	1900	Body	1900	50.74	53.30	-4.80	1.58	1.52	3.68
				1850	50.83	53.30	-4.63	1.53	1.52	0.86
				1920	50.69	53.30	-4.90	1.59	1.52	4.87
F	1/19/2017	835	Body	835	53.48	55.20	-3.12	1.01	0.97	3.92
				805	53.81	55.33	-2.76	0.98	0.97	1.10
				905	52.70	55.00	-4.18	1.08	1.05	2.42
G	1/9/2017	1750	Body	1750	52.44	53.44	-1.87	1.53	1.49	2.75
				1710	52.55	53.54	-1.86	1.49	1.46	1.95
				1755	52.42	53.43	-1.89	1.53	1.49	2.80
G	1/12/2017	1750	Body	1750	52.82	53.44	-1.16	1.52	1.49	1.94
				1710	53.05	53.54	-0.92	1.48	1.46	1.13
				1755	52.74	53.43	-1.29	1.52	1.49	1.80
H	12/22/2016	5200	Body	5200	47.27	49.02	-3.57	5.45	5.29	2.86
				5150	47.42	49.09	-3.40	5.38	5.24	2.68
				5350	47.03	48.82	-3.66	5.64	5.47	3.10
H	12/27/2016	5200	Body	5200	48.38	49.02	-1.30	5.41	5.29	2.20
				5150	48.47	49.09	-1.26	5.34	5.24	1.94
				5350	48.12	48.82	-1.43	5.61	5.47	2.60
H	1/3/2017	5800	Body	5800	48.08	48.20	-0.25	6.11	6.00	1.82
				5700	48.18	48.34	-0.34	5.95	5.88	1.27
				5850	47.94	48.20	-0.54	6.17	6.00	2.77
H	1/17/2017	835	Body	835	53.65	55.20	-2.81	1.00	0.97	3.40
				805	54.00	55.33	-2.41	0.97	0.97	0.27
				905	52.88	55.00	-3.85	1.07	1.05	1.76

8.2. System Check

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

System Performance Check Measurement Conditions:

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

System Check Results

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

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
A	12/27/2016	Body	D5GHzV2 SN:1003 (5.6 GHz)	2/25/2017	8.260	82.60	79.80	3.51	2.270	22.70	22.40	1.34	1,2
A	1/17/2017	Body	D750V3 SN:1019	3/16/2017	0.891	8.91	8.56	4.09	0.593	5.93	5.68	4.40	3,4
B	1/17/2017	Body	D2600V2 SN:1006	9/13/2017	5.570	55.70	54.20	2.77	2.410	24.10	24.30	-0.82	
B	1/23/2017	Body	D2600V2 SN:1006	9/13/2017	5.900	59.00	54.20	8.86	2.570	25.70	24.30	5.76	5,6
C	1/26/2017	Body	D1900V2 SN:5d140	4/12/2017	3.800	38.00	39.30	-3.31	1.970	19.70	20.80	-5.29	7,8
D	1/9/2017	Body	D2450V2 SN:899	3/15/2017	4.930	49.30	49.60	-0.60	2.240	22.40	23.40	-4.27	9,10
D	1/13/2017	Body	D2300V2 SN:1002	3/18/2017	4.780	47.80	47.50	0.63	2.280	22.80	23.10	-1.30	
D	1/17/2017	Body	D2300V2 SN:1002	3/18/2017	4.620	46.20	47.50	-2.74	2.170	21.70	23.10	-6.06	11,12
D	1/17/2017	Body	D2600V2 SN:1006	9/13/2017	5.530	55.30	54.20	2.03	2.360	23.60	24.30	-2.88	13,14
D	2/21/2017	Body	D2600V2 SN:1036	3/18/2017	5.760	57.60	53.40	7.87	2.500	25.00	23.80	5.04	15,16
E	12/22/2016	Body	D5GHzV2 SN:1138 (5.8 GHz)	9/22/2017	7.130	71.30	75.70	-5.81	2.010	20.10	21.10	-4.74	
E	12/27/2016	Body	D5GHzV2 SN:1138 (5.8 GHz)	9/22/2017	7.040	70.40	75.70	-7.00	1.960	19.60	21.10	-7.11	17,18
E	1/17/2017	Body	D835V2 SN:4d142	9/22/2017	0.983	9.83	9.32	5.47	0.648	6.48	6.18	4.85	
E	1/23/2017	Body	D835V2 SN:4d142	9/22/2017	1.010	10.10	9.32	8.37	0.666	6.66	6.18	7.77	19,20
F	1/11/2017	Body	D1900V2 SN:5d043	11/9/2017	4.020	40.20	39.10	2.81	2.080	20.80	20.70	0.48	
F	1/17/2017	Body	D1900V2 SN:5d043	11/9/2017	4.110	41.10	39.10	5.12	2.110	21.10	20.70	1.93	21,22
F	1/19/2017	Body	D835V2 SN:4d002	11/8/2017	0.940	9.40	9.55	-1.57	0.619	6.19	6.33	-2.21	23,24
G	1/9/2017	Body	D1750V2 SN:1050	4/13/2017	3.810	38.10	36.20	5.25	2.000	20.00	19.30	3.63	
G	1/12/2017	Body	D1750V2 SN:1050	4/13/2017	3.920	39.20	36.20	8.29	2.060	20.60	19.30	6.74	25,26
H	12/22/2016	Body	D5GHzV2 SN:1138 (5.2 GHz)	9/22/2017	7.890	78.90	74.20	6.33	2.200	22.00	20.90	5.26	27,28
H	12/27/2016	Body	D5GHzV2 SN:1168 (5.2 GHz)	11/14/2017	7.560	75.60	73.60	2.72	2.120	21.20	20.50	3.41	29,30
H	1/3/2017	Body	D5GHzV2 SN:1168 (5.8 GHz)	11/14/2017	7.120	71.20	73.90	-3.65	1.990	19.90	20.50	-2.93	31,32
H	1/17/2017	Body	D835V2 SN:4d002	11/8/2017	1.030	10.30	9.55	7.85	0.676	6.76	6.33	6.79	33,34

9. Conducted Output Power Measurements

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

GSM850 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Max. Power				Reduced Power			
					Antenna C		Antenna D		Antenna C		Antenna D	
					Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)
GPRS (GMSK)	CS1	1	128	824.2	33.4	24.4	32.0	23.0	27.9	18.9	26.9	17.9
			190	836.6	33.5	24.5	31.9	22.9	28.0	19.0	27.0	18.0
			251	848.8	33.4	24.4	31.9	22.9	28.0	19.0	27.0	18.0
		2	128	824.2	32.4	26.4	31.0	25.0	25.0	19.0	24.0	18.0
			190	836.6	32.5	26.5	30.9	24.9	25.0	19.0	24.0	18.0
			251	848.8	32.4	26.4	30.9	24.9	25.0	19.0	24.0	18.0
EGPRS (8PSK)	MCS5	1	128	824.2	27.9	18.9	26.0	17.0	27.5	18.5	26.8	17.8
			190	836.6	27.9	18.9	25.8	16.8	27.6	18.6	26.9	17.9
			251	848.8	28.0	19.0	25.9	16.9	27.5	18.5	26.8	17.8
		2	128	824.2	27.8	21.8	25.9	19.9	24.9	18.9	24.0	18.0
			190	836.6	27.8	21.8	25.8	19.8	24.8	18.8	24.0	18.0
			251	848.8	27.8	21.8	25.8	19.8	24.8	18.8	24.0	18.0

Notes:

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

- GMSK (GPRS) mode with 2 time slots for Reduced power based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the Reduced power and tune-up limit is ≤ 1/4db higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is ≤ 1.2W/kg.

GSM1900 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Max. Power				Reduced Power			
					Antenna C		Antenna D		Antenna C		Antenna D	
					Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)
GPRS (GMSK)	CS1	1	512	1850.2	29.4	20.4	27.5	18.5	21.7	12.7	23.8	14.8
			661	1880.0	29.4	20.4	27.4	18.4	21.7	12.7	23.7	14.7
			810	1909.8	29.5	20.5	27.3	18.3	21.7	12.7	23.8	14.8
		2	512	1850.2	29.3	23.3	26.5	20.5	18.8	12.8	20.8	14.8
			661	1880.0	29.3	23.3	26.4	20.4	18.7	12.7	20.7	14.7
			810	1909.8	29.4	23.4	26.4	20.4	18.8	12.8	20.8	14.8
EGPRS (8PSK)	MCS5	1	512	1850.2	27.0	18.0	24.0	15.0	21.8	12.8	23.6	14.6
			661	1880.0	26.9	17.9	23.9	14.9	21.8	12.8	23.4	14.4
			810	1909.8	26.8	17.8	23.8	14.8	21.8	12.8	23.3	14.3
		2	512	1850.2	26.8	20.8	21.6	15.6	18.8	12.8	20.8	14.8
			661	1880.0	26.8	20.8	21.5	15.5	18.8	12.8	20.6	14.6
			810	1909.8	26.7	20.7	21.5	15.5	18.8	12.8	20.6	14.6

Notes:

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

- GMSK (GPRS) mode with 2 time slots for Reduced power based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the Reduced power and tune-up limit is ≤ 1/4db higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is ≤ 1.2W/kg.

9.2. W-CDMA

Release 99 Setup Procedures used to establish the test signals

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

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

HSDPA Setup Procedures used to establish the test signals

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

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

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

The following 5 Sub-tests were completed according to Release 6 procedures in 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

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.		

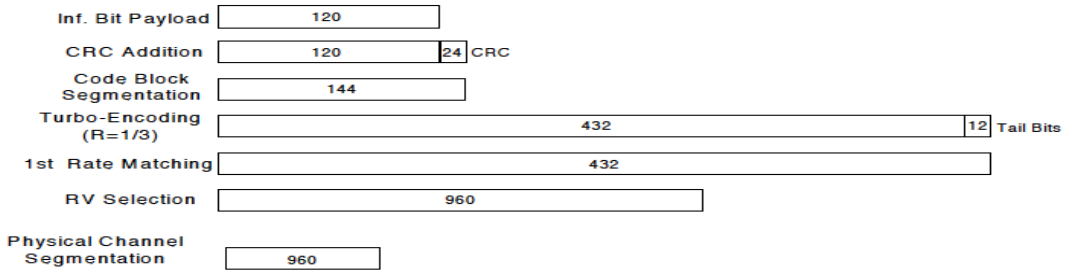


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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			

HSPA+

Since 16QAM is not used for uplink, the uplink Category and release is same as HSUPA, i.e., Rel. 7 Therefore, the RF conducted power is not measured.

W-CDMA Band II Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Max. Power		Reduced Power	
						Antenna C Pwr (dBm)	Antenna D Pwr (dBm)	Antenna C Pwr (dBm)	Antenna D Pwr (dBm)
W-CDMA Band II	Rel 99	RMC, 12.2 kbps	9262	1852.4	N/A	25.4	23.9	12.3	13.8
			9400	1880.0	N/A	25.4	24.0	12.3	14.0
			9538	1907.6	N/A	25.5	23.9	12.3	13.8
	HSDPA	Subtest 1	9262	1852.4	0.0	24.5	23.0	12.3	14.0
			9400	1880.0	0.0	24.6	22.9	12.3	14.0
			9538	1907.6	0.0	24.4	22.8	12.3	14.0
		Subtest 2	9262	1852.4	0.0	24.4	23.0	12.3	14.0
			9400	1880.0	0.0	24.4	22.8	12.3	14.0
			9538	1907.6	0.0	24.4	22.8	12.3	14.0
		Subtest 3	9262	1852.4	0.5	24.0	22.6	11.8	13.5
			9400	1880.0	0.5	24.0	22.5	11.7	13.5
			9538	1907.6	0.5	23.9	22.5	11.8	13.5
		Subtest 4	9262	1852.4	0.5	23.9	22.5	11.7	13.5
			9400	1880.0	0.5	24.0	22.4	11.7	13.5
			9538	1907.6	0.5	23.9	22.5	11.8	13.4
	HSUPA	Subtest 1	9262	1852.4	0.0	24.5	22.9	11.7	13.9
			9400	1880.0	0.0	24.4	23.0	11.5	13.9
			9538	1907.6	0.0	24.6	22.9	11.7	13.9
		Subtest 2	9262	1852.4	2.0	22.6	21.0	10.3	12.0
			9400	1880.0	2.0	22.5	21.1	10.2	11.9
			9538	1907.6	2.0	22.5	21.1	10.3	11.9
		Subtest 3	9262	1852.4	1.0	23.6	22.1	11.2	13.0
			9400	1880.0	1.0	23.5	22.1	11.2	12.9
			9538	1907.6	1.0	23.5	22.0	11.2	12.9
		Subtest 4	9262	1852.4	2.0	22.4	21.0	10.3	11.9
			9400	1880.0	2.0	22.5	21.0	10.3	11.8
			9538	1907.6	2.0	22.5	21.0	10.2	11.9
		Subtest 5	9262	1852.4	0.0	24.5	22.9	12.3	13.9
			9400	1880.0	0.0	24.4	22.9	12.2	13.8
			9538	1907.6	0.0	24.5	22.9	12.3	13.8
	DC-HSDPA	Subtest 1	9262	1852.4	0.0	24.5	23.0	12.3	14.0
			9400	1880.0	0.0	24.4	22.9	12.3	14.0
			9538	1907.6	0.0	24.5	22.9	12.3	14.0
		Subtest 2	9262	1852.4	0.0	24.4	22.9	12.3	14.0
			9400	1880.0	0.0	24.4	22.9	12.3	14.0
			9538	1907.6	0.0	24.5	22.8	12.3	14.0
		Subtest 3	9262	1852.4	0.5	24.0	22.5	11.7	13.5
			9400	1880.0	0.5	24.0	22.6	11.7	13.5
			9538	1907.6	0.5	24.0	22.6	11.8	13.4
		Subtest 4	9262	1852.4	0.5	23.9	22.5	11.7	13.5
			9400	1880.0	0.5	23.9	22.4	11.7	13.5
			9538	1907.6	0.5	24.0	22.5	11.8	13.4

W-CDMA Band IV Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Max. Power		Reduced Power	
						Antenna C Pwr (dBm)	Antenna D Pwr (dBm)	Antenna C Pwr (dBm)	Antenna D Pwr (dBm)
W-CDMA Band IV	Rel 99	RMC, 12.2 kbps	1312	1712.4	N/A	25.5	25.5	13.0	13.3
			1413	1732.6	N/A	25.5	25.4	13.0	13.2
			1513	1752.6	N/A	25.4	25.4	13.0	13.2
	HSDPA	Subtest 1	1312	1712.4	0	24.5	24.5	13.0	13.3
			1413	1732.6	0	24.6	24.3	13.0	13.3
			1513	1752.6	0	24.4	24.4	13.0	13.2
		Subtest 2	1312	1712.4	0	24.5	24.5	13.0	13.3
			1413	1732.6	0	24.5	24.4	13.0	13.3
			1513	1752.6	0	24.4	24.4	13.0	13.3
		Subtest 3	1312	1712.4	0.5	24.0	24.0	12.5	12.8
			1413	1732.6	0.5	24.0	24.0	12.5	12.8
			1513	1752.6	0.5	24.0	24.0	12.4	12.7
		Subtest 4	1312	1712.4	0.5	23.8	24.0	12.5	12.8
			1413	1732.6	0.5	23.9	24.0	12.5	12.8
			1513	1752.6	0.5	24.0	23.9	12.5	12.7
	HSUPA	Subtest 1	1312	1712.4	0	24.5	24.5	13.0	13.2
			1413	1732.6	0	24.4	24.4	13.0	13.3
			1513	1752.6	0	24.4	24.4	13.0	13.3
		Subtest 2	1312	1712.4	2	22.4	22.5	11.0	11.3
			1413	1732.6	2	22.5	22.6	11.0	11.2
			1513	1752.6	2	22.4	22.4	11.0	11.3
		Subtest 3	1312	1712.4	1	23.4	23.5	12.0	12.3
			1413	1732.6	1	23.5	23.4	12.0	12.3
			1513	1752.6	1	23.4	23.5	12.0	12.2
		Subtest 4	1312	1712.4	2	22.4	22.4	11.0	11.3
			1413	1732.6	2	22.4	22.5	11.0	11.2
			1513	1752.6	2	22.4	22.5	11.0	11.2
		Subtest 5	1312	1712.4	0	24.4	24.4	13.0	13.3
			1413	1732.6	0	24.4	24.4	13.0	13.3
			1513	1752.6	0	24.4	24.4	13.0	13.3
	DC-HSDPA	Subtest 1	1312	1712.4	0	24.4	24.5	13.0	13.3
			1413	1732.6	0	24.5	24.3	13.0	13.3
			1513	1752.6	0	24.5	24.4	13.0	13.2
		Subtest 2	1312	1712.4	0	24.4	24.4	12.9	13.3
			1413	1732.6	0	24.4	24.3	13.0	13.3
			1513	1752.6	0	24.5	24.4	12.9	13.3
		Subtest 3	1312	1712.4	1	24.0	24.0	12.5	12.8
			1413	1732.6	1	24.0	24.0	12.4	12.8
			1513	1752.6	1	24.0	23.9	12.4	12.7
		Subtest 4	1312	1712.4	1	24.0	24.0	12.5	12.8
			1413	1732.6	1	23.9	23.9	12.5	12.8
			1513	1752.6	1	23.9	24.0	12.5	12.7

W-CDMA Band V Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Max. Power		Reduced Power	
						Antenna C Pwr (dBm)	Antenna D Pwr (dBm)	Antenna C Pwr (dBm)	Antenna D Pwr (dBm)
W-CDMA Band V	Rel 99	RMC, 12.2 kbps	4132	826.4	N/A	25.5	24.9	18.5	17.0
			4183	836.6	N/A	25.5	25.0	18.5	17.0
			4233	846.6	N/A	25.4	24.9	18.5	17.0
	HSDPA	Subtest 1	4132	826.4	0.0	24.5	24.0	18.3	17.0
			4183	836.6	0.0	24.4	23.8	18.2	17.0
			4233	846.6	0.0	24.4	23.9	18.3	17.0
		Subtest 2	4132	826.4	0.0	24.5	24.0	18.3	17.0
			4183	836.6	0.0	24.4	23.9	18.2	17.0
			4233	846.6	0.0	24.4	24.0	18.3	16.9
		Subtest 3	4132	826.4	0.5	24.0	23.5	17.8	16.5
			4183	836.6	0.5	23.9	23.4	17.8	16.5
			4233	846.6	0.5	23.9	23.4	17.8	16.5
		Subtest 4	4132	826.4	0.5	24.0	23.6	17.7	16.4
			4183	836.6	0.5	24.0	23.5	17.7	16.5
			4233	846.6	0.5	23.9	23.5	17.7	16.4
	HSUPA	Subtest 1	4132	826.4	0.0	24.4	24.0	18.3	17.0
			4183	836.6	0.0	24.5	23.9	18.3	17.0
			4233	846.6	0.0	24.4	23.9	18.3	16.9
		Subtest 2	4132	826.4	2.0	22.5	22.0	16.3	14.9
			4183	836.6	2.0	22.4	21.9	16.3	15.0
			4233	846.6	2.0	22.5	22.0	16.3	15.0
		Subtest 3	4132	826.4	1.0	23.5	23.0	17.2	15.9
			4183	836.6	1.0	23.6	23.0	17.2	15.9
			4233	846.6	1.0	23.5	23.1	17.2	15.9
		Subtest 4	4132	826.4	2.0	22.4	22.0	16.3	14.9
			4183	836.6	2.0	22.5	21.9	16.3	14.9
			4233	846.6	2.0	22.5	22.4	16.3	15.0
		Subtest 5	4132	826.4	0.0	24.4	23.9	18.2	17.0
			4183	836.6	0.0	24.4	23.9	18.2	16.9
			4233	846.6	0.0	24.4	23.9	18.2	17.0
	DC-HSDPA	Subtest 1	4132	826.4	0.0	24.4	23.9	18.2	17.0
			4183	836.6	0.0	24.5	24.0	18.2	17.0
			4233	846.6	0.0	24.4	23.9	18.2	17.0
		Subtest 2	4132	826.4	0.0	24.4	23.9	18.3	17.0
			4183	836.6	0.0	24.4	23.9	18.3	17.0
			4233	846.6	0.0	24.4	23.8	18.2	17.0
		Subtest 3	4132	826.4	0.5	24.0	23.5	17.8	16.5
			4183	836.6	0.5	24.0	23.4	17.7	16.5
			4233	846.6	0.5	23.9	23.4	17.8	16.4
		Subtest 4	4132	826.4	0.5	24.0	23.5	17.8	16.5
			4183	836.6	0.5	24.0	23.4	17.8	16.5
			4233	846.6	0.5	23.9	23.4	17.7	16.4

9.3. CDMA

1x Advanced Setup Procedures used to establish the test signals

Call box setup procedure

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

CDMA BC0 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Power		Reduced Power	
					Antenna C Pwr (dBm)	Antenna D Pwr (dBm)	Antenna C Pwr (dBm)	Antenna D Pwr (dBm)
BC 0	1xRTT	RC1 SO55 (Loopback)	1013	824.7	24.4	24.0	18.3	16.9
			384	836.5	24.5	23.9	18.4	16.9
			777	848.3	24.5	23.9	18.2	17.0
		RC3 SO55 (Loopback)	1013	824.7	24.5	23.9	18.4	16.8
			384	836.5	24.4	23.9	18.4	16.9
			777	848.3	24.5	23.8	18.3	17.0
		RC3 SO32 (+F-SCH)	1013	824.7	24.3	23.9	18.4	17.0
			384	836.5	24.4	23.8	18.4	17.0
			777	848.3	24.4	23.7	18.4	17.0
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	1013	824.7	24.4	23.9	18.4	16.9
			384	836.5	24.4	23.9	18.4	17.0
			777	848.3	24.4	23.7	18.3	17.0
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	1013	824.7	24.3	24.0	18.6	17.0
			384	836.5	24.5	23.9	18.5	17.0
			777	848.3	24.4	23.9	18.4	17.0
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	1013	824.7	24.4	23.9	18.4	17.0
			384	836.5	24.5	24.0	18.2	16.8
			777	848.3	24.5	23.9	18.2	17.0

CDMA BC1 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Power		Reduced Power	
					Antenna C Pwr (dBm)	Antenna D Pwr (dBm)	Antenna C Pwr (dBm)	Antenna D Pwr (dBm)
BC 1	1xRTT	RC1 SO55 (Loopback)	25	1851.3	25.8	23.3	12.2	13.9
			600	1880.0	25.8	23.3	12.2	13.8
			1175	1908.8	25.9	23.3	12.1	13.8
		RC3 SO55 (Loopback)	25	1851.3	25.9	23.2	12.2	13.9
			600	1880.0	25.8	23.3	12.2	13.8
			1175	1908.8	26.0	23.2	12.1	13.9
		RC3 SO32 (+F-SCH)	25	1851.3	25.9	23.3	12.1	14.0
			600	1880.0	25.8	23.3	12.3	14.0
			1175	1908.8	26.0	23.3	12.3	14.0
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	25	1851.3	25.8	23.3	12.2	13.9
			600	1880.0	25.8	23.3	12.2	13.8
			1175	1908.8	26.0	23.3	12.1	13.8
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	25	1851.3	25.9	23.4	12.3	14.0
			600	1880.0	25.9	23.3	12.3	14.0
			1175	1908.8	25.8	23.3	12.3	14.0
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	25	1851.3	25.9	23.4	12.2	13.9
			600	1880.0	26.0	23.5	12.2	14.0
			1175	1908.8	25.9	23.5	12.1	14.0

CDMA BC10 Measured Results

Band	Mode		Ch No.	Freq. (MHz)	Max. Power		Reduced Power	
					Antenna C Pwr (dBm)	Antenna D Pwr (dBm)	Antenna C Pwr (dBm)	Antenna D Pwr (dBm)
BC 10	1xRTT	RC1 SO55 (Loopback)	476	817.9	25.9	23.9	18.5	16.9
			580	820.5	25.8	23.9	18.4	16.9
			670	822.8	25.7	23.9	18.4	16.8
		RC3 SO55 (Loopback)	476	817.9	25.8	23.9	18.4	16.9
			580	820.5	25.9	23.9	18.4	16.9
			670	822.8	25.9	23.8	18.4	16.8
		RC3 SO32 (+F-SCH)	476	817.9	25.8	23.9	18.5	16.8
			580	820.5	25.8	23.8	18.5	17.0
			670	822.8	25.9	23.9	18.5	17.0
	1xAdvanced	Fwd11/Rvs8 SO75 (Loopback)	476	817.9	25.8	23.8	18.3	17.0
			580	820.5	25.9	23.9	18.3	17.0
			670	822.8	25.9	23.9	18.5	16.9
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK) RTAP Rate: 153.6 kbps	476	817.9	25.8	23.9	18.5	17.0
			580	820.5	25.9	23.8	18.5	16.9
			670	822.8	25.9	23.8	18.4	17.0
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK RETAP: 4096	476	817.9	26.0	24.0	18.3	16.9
			580	820.5	25.9	23.9	18.3	17.0
			670	822.8	25.9	23.9	18.4	16.9

9.4. LTE

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

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

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

Modulation	Channel bandwidth / Transmission bandwidth (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

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 (sub-clause)	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	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
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	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	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.					

LTE Band 2 Measured Results

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

LTE Band 4 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz		1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0	24.9	24.9	24.8	0	23.4	23.5	23.4	0	12.9	12.9	12.9	0	13.3	13.2	13.2
			1	49	0	24.6	24.7	24.6	0	22.6	22.7	22.8	0	13.0	12.9	12.9	0	13.3	13.2	13.3
			1	99	0	24.7	24.8	24.7	0	22.9	23.0	23.1	0	12.9	13.0	12.9	0	13.1	13.2	13.3
			50	0	1	24.9	24.8	24.8	1	21.9	22.0	22.0	0	12.8	12.9	12.9	0	13.2	13.2	13.3
			50	24	1	24.7	24.8	24.7	1	21.7	21.8	21.9	0	12.9	13.0	13.0	0	13.3	13.3	13.3
			50	49	1	24.7	24.8	24.7	1	21.8	21.8	22.0	0	13.0	13.0	12.9	0	13.3	13.2	13.2
			100	0	1	24.8	24.8	24.7	1	21.8	21.9	22.0	0	13.0	12.9	12.9	0	13.2	13.3	13.3
		16QAM	1	0	1	24.9	24.9	25.0	1	22.8	23.0	22.9	0	13.0	13.0	13.0	0	13.3	13.3	13.3
			1	49	1	24.9	24.9	24.9	1	22.0	22.3	22.1	0	13.0	13.0	13.0	0	13.1	13.1	13.3
			1	99	1	25.0	25.0	25.0	1	22.3	22.6	22.4	0	13.0	13.0	13.0	0	13.3	13.3	13.3
			50	0	2	23.7	23.7	23.7	2	20.9	21.0	21.0	0	13.0	13.0	12.9	0	13.2	13.3	13.2
			50	24	2	23.7	23.8	23.7	2	20.7	20.8	20.9	0	13.0	13.0	12.9	0	13.1	13.2	13.1
			50	49	2	23.7	23.8	23.7	2	20.8	20.8	21.0	0	13.0	13.0	12.9	0	13.1	13.2	13.2
			100	0	2	23.8	23.8	23.7	2	20.8	20.9	20.9	0	13.0	13.0	12.9	0	13.3	13.3	13.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz
LTE Band 4	15	QPSK	1	0	0	24.9	24.8	24.9	0	23.3	23.4	23.5	0	12.9	13.0	13.0	0	13.2	13.3	13.1
			1	36	0	24.5	24.6	24.3	0	22.9	22.8	22.9	0	13.0	12.9	12.8	0	13.3	13.1	13.1
			1	74	0	24.6	24.7	24.6	0	23.1	23.1	23.3	0	12.9	12.8	12.9	0	13.1	13.2	13.1
			36	0	1	24.8	24.7	24.7	1	22.1	22.2	22.2	0	12.8	12.8	13.0	0	13.1	13.1	13.2
			36	18	1	24.7	24.7	24.6	1	22.0	22.1	22.1	0	12.9	13.0	13.0	0	13.1	13.2	13.1
			36	37	1	24.7	24.7	24.7	1	22.0	22.1	22.2	0	13.0	12.8	13.0	0	13.1	13.3	13.1
			75	0	1	24.7	24.7	24.6	1	22.0	22.1	22.2	0	12.8	13.0	13.0	0	13.1	13.3	13.1
		16QAM	1	0	1	25.0	24.7	25.0	1	22.7	22.2	22.9	0	13.0	12.9	13.0	0	13.2	13.2	13.3
			1	36	1	24.9	24.5	24.9	1	22.2	21.8	22.4	0	12.9	12.8	12.9	0	13.1	13.3	13.3
			1	74	1	25.0	24.6	25.0	1	22.5	21.9	22.6	0	13.0	12.9	13.0	0	13.3	13.3	13.3
			36	0	2	23.7	23.7	23.7	2	21.1	21.1	21.3	0	12.9	12.9	12.9	0	13.1	13.1	13.3
			36	18	2	23.7	23.7	23.7	2	21.0	21.1	21.1	0	12.9	13.0	12.9	0	13.1	13.3	13.2
			36	37	2	23.7	23.7	23.7	2	21.0	21.1	21.2	0	12.9	12.8	12.9	0	13.2	13.3	13.3
			75	0	2	23.7	23.8	23.7	2	21.1	21.1	21.2	0	13.0	13.0	13.0	0	13.1	13.3	13.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz		1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0	24.9	24.8	24.8	0	23.1	23.1	23.5	0	12.9	13.0	12.8	0	13.2	13.3	13.3
			1	24	0	24.7	24.6	24.6	0	22.9	22.9	23.2	0	12.8	12.8	12.8	0	13.1	13.2	13.1
			1	49	0	24.8	24.8	24.7	0	22.9	23.1	23.3	0	12.9	12.8	12.9	0	13.3	13.1	13.2
			25	0	1	24.8	24.7	24.7	1	21.9	21.9	22.2	0	12.9	12.8	12.9	0	13.1	13.1	13.1
			25	12	1	24.8	24.8	24.7	1	21.9	22.0	22.3	0	12.8	12.9	12.9	0	13.1	13.3	13.1
			25	24	1	24.7	24.7	24.6	1	21.9	22.0	22.2	0	12.8	12.8	12.8	0	13.1	13.3	13.1
			50	0	1	24.7	24.8	24.7	1	21.9	22.1	22.3	0	12.8	13.0	12.9	0	13.1	13.3	13.2
		16QAM	1	0	1	24.9	24.8	25.0	1	22.1	22.0	22.8	0	13.0	12.9	13.0	0	13.2	13.3	13.3
			1	24	1	24.6	24.6	24.9	1	21.8	21.9	22.6	0	13.0	12.8	12.8	0	13.1	13.2	13.1
			1	49	1	24.7	24.7	24.9	1	21.9	21.9	22.7	0	12.9	12.8	12.9	0	13.3	13.1	13.2
			25	0	2	23.7	23.7	23.7	2	21.0	21.0	21.2	0	12.9	13.0	12.8	0	13.2	13.1	13.1
			25	12	2	23.8	23.8	23.7	2	21.0	21.0	21.3	0	12.9	12.9	12.8	0	13.2	13.2	13.1
			25	24	2	23.8	23.8	23.7	2	21.0	21.0	21.3	0	12.9	12.9	12.8	0	13.2	13.2	13.1
			50	0	2	23.8	23.8	23.7	2	21.0	21.0	21.3	0	12.9	13.0	12.9	0	13.2	13.2	13.2

LTE Band 4 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz
LTE Band 4	5	QPSK	1	0	0	24.7	24.6	24.6	0	23.1	23.2	23.4	0	12.9	12.9	12.8	0	13.1	13.2	13.2
			1	12	0	24.6	24.7	24.6	0	23.1	23.3	23.4	0	13.0	12.9	12.8	0	13.2	13.2	13.2
			1	24	0	24.7	24.7	24.6	0	23.2	23.2	23.4	0	13.0	12.9	12.8	0	13.1	13.1	13.1
			12	0	1	24.7	24.6	24.6	1	22.2	22.1	22.4	0	13.0	12.8	12.8	0	13.1	13.1	13.1
			12	7	1	24.7	24.7	24.6	1	22.2	22.3	22.5	0	13.0	12.9	12.8	0	13.1	13.1	13.1
			12	13	1	24.7	24.7	24.6	1	22.2	22.2	22.5	0	13.0	12.9	12.8	0	13.1	13.1	13.1
			25	0	1	24.7	24.7	24.6	1	22.1	22.2	22.4	0	12.9	12.9	12.8	0	13.1	13.1	13.1
		16QAM	1	0	1	24.8	24.8	24.8	1	22.3	22.3	23.0	0	12.9	12.9	12.9	0	13.3	13.3	13.3
			1	12	1	24.7	24.9	24.8	1	22.3	22.4	22.9	0	12.9	12.9	13.0	0	13.3	13.2	13.3
			1	24	1	24.7	24.9	24.8	1	22.3	22.5	23.0	0	12.9	13.0	12.9	0	13.3	13.3	13.3
			12	0	2	23.7	23.7	23.8	2	21.3	21.2	21.5	0	12.9	12.8	12.8	0	13.3	13.2	13.1
			12	7	2	23.7	23.8	23.7	2	21.3	21.4	21.6	0	12.9	12.9	12.8	0	13.3	13.2	13.1
			12	13	2	23.7	23.8	23.8	2	21.2	21.4	21.6	0	13.0	12.9	12.8	0	13.3	13.2	13.1
			25	0	2	23.7	23.7	23.7	2	21.2	21.3	21.5	0	12.9	12.8	12.8	0	13.3	13.1	13.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	3	QPSK	1	0	0	24.6	24.5	24.5	0	23.4	23.1	23.4	0	13.0	13.0	12.8	0	13.3	13.1	13.1
			1	8	0	24.7	24.7	24.7	0	23.4	23.3	23.5	0	13.0	12.9	12.8	0	13.3	13.1	13.1
			1	14	0	24.6	24.6	24.5	0	23.3	23.2	23.4	0	13.0	13.0	12.9	0	13.3	13.1	13.1
			8	0	1	24.7	24.7	24.6	1	22.2	22.2	22.4	0	13.0	12.9	12.9	0	13.3	13.1	13.2
			8	4	1	24.7	24.7	24.6	1	22.0	22.3	22.5	0	12.9	13.0	12.9	0	13.3	13.1	13.2
			8	7	1	24.7	24.7	24.6	1	22.3	22.3	22.5	0	13.0	13.0	12.8	0	13.3	13.1	13.2
			15	0	1	24.6	24.7	24.6	1	22.2	22.2	22.4	0	13.0	13.0	12.8	0	13.3	13.1	13.1
		16QAM	1	0	1	24.6	24.5	24.9	1	22.3	22.0	22.7	0	12.8	12.9	13.0	0	13.3	13.1	13.2
			1	8	1	24.7	24.7	25.0	1	22.4	22.2	22.9	0	12.9	12.9	12.9	0	13.3	13.1	13.2
			1	14	1	24.6	24.6	25.0	1	22.3	22.1	22.8	0	12.8	12.9	13.0	0	13.3	13.1	13.2
			8	0	2	23.8	23.8	23.5	2	21.3	21.4	21.3	0	13.0	13.0	12.8	0	13.3	13.1	13.2
			8	4	2	23.8	23.8	23.5	2	21.5	21.3	21.3	0	13.0	13.0	12.9	0	13.3	13.2	13.2
			8	7	2	23.8	23.8	23.5	2	21.5	21.4	21.4	0	12.9	12.8	12.8	0	13.2	13.1	13.2
			15	0	2	23.6	23.7	23.6	2	21.3	21.3	21.4	0	13.0	12.9	12.9	0	13.2	13.1	13.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.6	24.5	24.5	0	23.1	23.3	23.4	0	12.9	12.9	12.9	0	13.3	13.1	13.1
			1	3	0	24.6	24.7	24.5	0	23.1	23.3	23.5	0	12.9	12.9	12.9	0	13.3	13.2	13.2
			1	5	0	24.6	24.6	24.5	0	23.1	23.2	23.4	0	12.8	12.8	12.9	0	13.3	13.1	13.1
			3	0	0	24.7	24.7	24.6	0	23.3	23.3	23.5	0	13.0	12.9	12.9	0	13.3	13.1	13.2
			3	1	0	24.7	24.7	24.6	0	23.4	23.4	23.4	0	12.9	12.8	12.9	0	13.3	13.1	13.1
			3	3	0	24.7	24.7	24.6	0	23.4	23.4	23.5	0	12.9	12.8	12.8	0	13.2	13.1	13.1
			6	0	1	24.6	24.6	24.5	1	22.3	22.3	22.5	0	12.9	12.8	12.9	0	13.3	13.1	13.1
		16QAM	1	0	1	24.6	24.7	24.9	1	22.2	22.4	22.8	0	13.0	13.0	12.9	0	13.3	13.2	13.3
			1	3	1	24.6	24.8	24.9	1	22.3	22.4	22.9	0	12.8	12.9	13.0	0	13.3	13.2	13.3
			1	5	1	24.6	24.7	24.8	1	22.2	22.4	22.8	0	13.0	13.0	12.9	0	13.3	13.2	13.3
			3	0	1	24.7	24.8	24.7	1	22.4	22.4	22.7	0	12.9	13.0	12.9	0	13.3	13.3	13.3
			3	1	1	24.7	24.8	24.8	1	22.5	22.5	22.7	0	12.9	12.9	12.9	0	13.3	13.3	13.2
			3	3	1	24.7	24.8	24.8	1	22.5	22.5	22.7	0	12.9	13.0	12.9	0	13.3	13.2	13.2
			6	0	2	23.7	23.8	23.4	2	21.4	21.4	21.4	0	13.0	13.0	12.8	0	13.2	13.2	13.2

LTE Band 5 Measured Results

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

LTE Band 7 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz		2510 MHz	2535 MHz	2560 MHz
LTE Band 7	20	QPSK	1	0	0	24.8	24.8	24.9	0	23.5	23.4	23.5	0	12.5	12.5	12.4	0	13.3	13.3	13.2
			1	49	0	24.7	24.6	24.7	0	23.3	23.2	23.3	0	12.5	12.4	12.4	0	13.3	13.3	13.2
			1	99	0	24.4	24.3	24.5	0	23.0	23.0	23.2	0	12.3	12.4	12.3	0	13.3	13.3	13.2
			50	0	1	24.8	24.7	24.8	1	22.4	22.3	22.4	0	12.3	12.3	12.4	0	13.3	13.3	13.3
			50	24	1	24.7	24.6	24.7	1	22.3	22.2	22.3	0	12.5	12.4	12.5	0	13.3	13.3	13.3
			50	49	1	24.6	24.5	24.6	1	22.1	22.1	22.3	0	12.3	12.4	12.3	0	13.3	13.3	13.3
			100	0	1	24.7	24.6	24.7	1	22.3	22.2	22.3	0	12.5	12.5	12.5	0	13.3	13.3	13.3
		16QAM	1	0	1	24.9	24.9	24.9	1	22.8	22.9	22.9	0	12.5	12.4	12.5	0	13.2	13.3	13.3
			1	49	1	24.8	24.7	24.8	1	22.7	22.7	22.6	0	12.4	12.3	12.3	0	13.2	13.3	13.3
			1	99	1	24.5	24.7	24.6	1	22.4	22.5	22.5	0	12.3	12.3	12.4	0	13.2	13.3	13.3
			50	0	2	23.8	23.6	23.8	2	21.3	21.4	21.4	0	12.3	12.3	12.4	0	13.3	13.3	13.3
			50	24	2	23.7	23.6	23.7	2	21.3	21.3	21.3	0	12.4	12.4	12.3	0	13.3	13.3	13.3
			50	49	2	23.6	23.4	23.6	2	21.1	21.2	21.3	0	12.3	12.3	12.4	0	13.3	13.3	13.3
			100	0	2	23.7	23.6	23.7	2	21.3	21.3	21.3	0	12.4	12.4	12.3	0	13.2	13.2	13.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.8	24.6	24.7	0	23.5	23.4	23.3	0	12.3	12.4	12.4	0	13.3	13.3	13.2
			1	36	0	24.3	24.4	24.5	0	23.1	23.0	23.5	0	12.3	12.4	12.4	0	13.3	13.3	13.2
			1	74	0	24.4	24.3	24.6	0	23.1	23.0	23.1	0	12.4	12.4	12.4	0	13.3	13.3	13.2
			36	0	1	24.8	24.7	24.8	1	22.4	22.4	22.4	0	12.3	12.5	12.4	0	13.2	13.3	13.3
			36	18	1	24.7	24.6	24.7	1	22.4	22.2	22.4	0	12.4	12.3	12.3	0	13.3	13.3	13.3
			36	37	1	24.6	24.5	24.6	1	22.3	22.1	22.3	0	12.4	12.3	12.4	0	13.3	13.3	13.3
			75	0	1	24.7	24.6	24.7	1	22.3	22.2	22.4	0	12.5	12.4	12.5	0	13.3	13.3	13.3
		16QAM	1	0	1	25.0	25.0	24.6	1	22.8	22.7	22.2	0	12.4	12.4	12.4	0	13.2	13.3	13.3
			1	36	1	24.9	24.9	24.5	1	22.7	22.5	22.2	0	12.4	12.5	12.5	0	13.2	13.3	13.3
			1	74	1	24.8	24.6	24.3	1	22.4	22.4	22.0	0	12.3	12.3	12.4	0	13.2	13.3	13.3
			36	0	2	23.8	23.6	23.8	2	21.4	21.3	21.3	0	12.4	12.5	12.3	0	13.3	13.3	13.3
			36	18	2	23.7	23.6	23.7	2	21.4	21.2	21.5	0	12.3	12.4	12.5	0	13.3	13.3	13.3
			36	37	2	23.7	23.5	23.6	2	21.3	21.2	21.4	0	12.3	12.3	12.4	0	13.3	13.3	13.3
			75	0	2	23.7	23.6	23.6	2	21.4	21.3	21.4	0	12.4	12.3	12.4	0	13.2	13.2	13.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.8	24.8	24.8	0	23.4	23.1	23.5	0	12.4	12.5	12.4	0	13.3	13.3	13.2
			1	24	0	24.6	24.6	24.7	0	23.2	23.0	23.3	0	12.3	12.3	12.4	0	13.3	13.3	13.2
			1	49	0	24.6	24.6	24.7	0	23.2	22.9	23.2	0	12.3	12.3	12.4	0	13.3	13.3	13.2
			25	0	1	24.7	24.7	24.7	1	22.2	22.2	22.4	0	12.4	12.5	12.3	0	13.3	13.3	13.3
			25	12	1	24.7	24.7	24.8	1	22.2	22.1	22.4	0	12.3	12.4	12.3	0	13.3	13.3	13.3
			25	24	1	24.6	24.6	24.7	1	22.1	22.0	22.3	0	12.3	12.3	12.4	0	13.3	13.3	13.3
			50	0	1	24.7	24.7	24.8	1	22.3	22.1	22.4	0	12.4	12.4	12.3	0	13.3	13.3	13.3
		16QAM	1	0	1	24.9	24.7	24.8	1	22.2	22.6	22.5	0	12.5	12.3	12.4	0	13.2	13.3	13.3
			1	24	1	24.7	24.6	24.7	1	22.1	22.4	22.3	0	12.3	12.4	12.3	0	13.2	13.3	13.3
			1	49	1	24.7	24.5	24.6	1	22.0	22.3	22.2	0	12.3	12.3	12.3	0	13.2	13.3	13.3
			25	0	2	23.8	23.7	23.8	2	21.2	21.2	21.5	0	12.5	12.4	12.5	0	13.3	13.3	13.3
			25	12	2	23.7	23.8	23.8	2	21.2	21.2	21.4	0	12.4	12.4	12.4	0	13.3	13.3	13.3
			25	24	2	23.7	23.7	23.7	2	21.1	21.1	21.4	0	12.5	12.4	12.4	0	13.3	13.3	13.3
			50	0	2	23.7	23.7	23.7	2	21.2	21.1	21.4	0	12.5	12.5	12.5	0	13.2	13.2	13.2

LTE Band 7 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.8	24.7	24.9	0	23.4	23.3	23.5	0	12.3	12.4	12.3	0	13.3	13.3	13.2
			1	12	0	24.7	24.7	24.7	0	23.4	23.2	23.3	0	12.3	12.3	12.3	0	13.3	13.3	13.2
			1	24	0	24.6	24.6	24.8	0	23.4	23.1	23.4	0	12.3	12.3	12.3	0	13.3	13.3	13.2
			12	0	1	24.6	24.7	24.8	1	22.4	22.2	22.5	0	12.3	12.4	12.3	0	13.3	13.3	13.3
			12	7	1	24.7	24.7	24.8	1	22.3	22.2	22.5	0	12.3	12.3	12.3	0	13.3	13.3	13.3
			12	13	1	24.6	24.6	24.8	1	22.3	22.3	22.5	0	12.5	12.3	12.4	0	13.3	13.3	13.3
			25	0	1	24.6	24.6	24.7	1	22.2	22.2	22.4	0	12.5	12.3	12.4	0	13.3	13.3	13.3
		16QAM	1	0	1	24.9	25.0	24.9	1	22.5	22.9	22.6	0	12.5	12.4	12.4	0	13.2	13.3	13.3
			1	12	1	24.8	25.0	24.9	1	22.4	22.7	22.5	0	12.4	12.3	12.5	0	13.2	13.3	13.3
			1	24	1	24.8	25.0	24.9	1	22.4	22.6	22.5	0	12.4	12.4	12.5	0	13.2	13.3	13.3
			12	0	2	23.8	23.9	23.8	2	21.4	21.5	21.6	0	12.3	12.4	12.4	0	13.3	13.3	13.3
			12	7	2	23.8	23.8	23.8	2	21.3	21.4	21.6	0	12.3	12.3	12.3	0	13.3	13.3	13.3
			12	13	2	23.7	23.8	23.8	2	21.4	21.4	21.6	0	12.4	12.4	12.4	0	13.3	13.3	13.3
			25	0	2	23.6	23.7	23.7	2	21.3	21.3	21.5	0	12.3	12.4	12.4	0	13.2	13.2	13.2

LTE Band 12 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
							707.5 MHz				707.5 MHz			704 MHz	707.5 MHz	711 MHz		704 MHz	707.5 MHz	711 MHz
LTE Band 12	10	QPSK	1	0	0		24.3		0		23.0		0		20.20		0		17.9	
			1	24	0		24.4		0		22.9		0		20.20		0		18.0	
			1	49	0		24.3		0		22.9		0		20.10		0		17.9	
			25	0	1		24.3		1		22.0		0		20.20		0		18.0	
			25	12	1		24.4		1		22.0		0		20.20		0		18.0	
			25	24	1		24.4		1		21.9		0		20.20		0		18.0	
			50	0	1		24.4		1		22.1		0		20.20		0		18.0	
		16QAM	1	0	1		24.3		1		21.9		0		20.20		0		18.0	
			1	24	1		24.4		1		21.9		0		20.20		0		17.9	
			1	49	1		24.3		1		21.8		0		20.20		0		17.9	
			25	0	2		23.5		2		21.0		0		20.20		0		18.0	
			25	12	2		23.4		2		20.9		0		20.20		0		18.0	
			25	24	2		23.5		2		20.9		0		20.20		0		18.0	
			50	0	2		23.4		2		20.9		0		20.10		0		18.0	

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.5	24.4	24.5	0	23.0	22.8	22.8	0	20.2	20.2	20.1	0	17.9	17.8	17.9
			1	12	0	24.4	24.4	24.3	0	22.8	22.8	22.7	0	20.1	20.1	20.1	0	17.9	17.8	17.8
			1	24	0	24.4	24.5	24.4	0	22.8	22.8	22.7	0	20.2	20.2	20.1	0	17.9	17.8	17.8
			12	0	1	24.4	24.4	24.4	1	21.8	21.7	21.7	0	20.1	20.2	20.1	0	17.9	17.8	17.8
			12	7	1	24.4	24.4	24.4	1	21.9	21.8	21.7	0	20.1	20.2	20.1	0	17.8	17.9	17.8
			12	13	1	24.3	24.4	24.4	1	21.8	21.6	21.7	0	20.1	20.1	20.1	0	17.8	17.8	17.8
			25	0	1	24.4	24.4	24.4	1	21.8	21.7	21.7	0	20.1	20.1	20.2	0	17.9	17.8	17.8
		16QAM	1	0	1	24.6	24.5	25.0	1	22.4	22.0	21.9	0	20.2	20.2	20.2	0	17.9	17.8	18.0
			1	12	1	24.5	24.5	25.0	1	22.3	21.9	21.8	0	20.2	20.2	20.2	0	17.8	17.8	18.0
			1	24	1	24.5	24.6	25.0	1	22.5	21.9	21.9	0	20.2	20.2	20.2	0	17.8	17.8	18.0
			12	0	2	23.4	23.5	23.5	2	21.0	20.8	20.8	0	20.2	20.1	20.1	0	18.0	17.8	17.8
			12	7	2	23.6	23.6	23.5	2	21.0	20.8	20.8	0	20.2	20.2	20.1	0	18.0	17.9	17.8
			12	13	2	23.4	23.5	23.5	2	21.0	20.7	20.8	0	20.2	20.1	20.1	0	18.0	17.8	17.8
			25	0	2	23.4	23.4	23.4	2	21.0	20.7	20.7	0	20.2	20.2	20.2	0	18.0	18.0	17.8

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.4	24.4	24.4	0	23.0	22.7	22.7	0	20.2	20.2	20.2	0	18.0	17.9	17.8
			1	8	0	24.4	24.4	24.5	0	22.9	22.9	22.7	0	20.1	20.1	20.2	0	18.0	17.9	17.8
			1	14	0	24.3	24.3	24.4	0	22.8	22.7	22.6	0	20.1	20.2	20.2	0	17.9	18.0	17.8
			8	0	1	24.4	24.4	24.4	1	21.9	21.7	21.7	0	20.1	20.1	20.2	0	18.0	17.9	17.9
			8	4	1	24.3	24.3	24.4	1	21.8	21.7	21.7	0	20.2	20.2	20.2	0	18.0	18.0	18.0
			8	7	1	24.3	24.4	24.3	1	21.9	21.7	21.7	0	20.1	20.1	20.2	0	18.0	18.0	17.9
			15	0	1	24.4	24.4	24.4	1	21.8	21.7	21.7	0	20.1	20.1	20.2	0	18.0	17.9	17.9
		16QAM	1	0	1	24.4	24.3	24.8	1	22.2	21.8	21.6	0	20.2	20.2	20.2	0	17.9	18.0	17.8
			1	8	1	24.5	24.4	24.9	1	22.3	21.9	21.6	0	20.2	20.2	20.2	0	17.9	18.0	17.8
			1	14	1	24.3	24.4	24.7	1	22.2	21.7	21.6	0	20.2	20.2	20.2	0	17.8	18.0	17.8
			8	0	2	23.4	23.4	23.4	2	20.8	20.9	20.8	0	20.2	20.1	20.1	0	18.0	17.9	17.9
			8	4	2	23.4	23.4	23.4	2	20.8	20.9	20.8	0	20.2	20.1	20.1	0	18.0	18.0	18.0
			8	7	2	23.4	23.4	23.4	2	20.8	20.9	20.8	0	20.1	20.1	20.2	0	18.0	18.0	17.9
			15	0	2	23.3	23.5	23.4	2	21.0	20.7	20.7	0	20.2	20.1	20.1	0	18.0	17.9	18.0

LTE Band 12 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna D			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.3	24.3	24.3	0	22.8	22.6	22.6	0	20.2	20.2	20.2	0	17.8	17.8	17.8
			1	2	0	24.3	24.4	24.4	0	22.9	22.7	22.7	0	20.2	20.2	20.1	0	17.9	17.9	17.9
			1	5	0	24.3	24.3	24.3	0	22.8	22.7	22.6	0	20.2	20.1	20.1	0	17.8	17.8	17.8
			3	0	0	24.4	24.4	24.5	0	22.9	22.7	22.7	0	20.2	20.2	20.1	0	17.9	17.8	17.8
			3	1	0	24.4	24.5	24.5	0	23.0	22.8	22.8	0	20.2	20.2	20.1	0	17.9	17.8	17.8
			3	2	0	24.4	24.4	24.5	0	22.9	22.7	22.8	0	20.2	20.2	20.1	0	17.9	17.8	17.8
			6	0	1	24.3	24.4	24.4	1	21.8	21.7	21.6	0	20.2	20.2	20.1	0	17.8	17.8	17.8
		16QAM	1	0	1	24.4	24.7	24.4	1	21.9	21.8	22.0	0	20.2	20.2	20.2	0	18.0	17.9	17.9
			1	2	1	24.5	24.8	24.4	1	21.9	21.8	22.1	0	20.2	20.1	20.2	0	18.0	18.0	18.0
			1	5	1	24.4	24.7	24.4	1	21.9	21.8	22.0	0	20.2	20.2	20.2	0	17.9	17.9	17.9
			3	0	1	24.5	24.6	24.5	1	22.0	21.8	21.8	0	20.2	20.2	20.2	0	18.0	17.9	18.0
			3	1	1	24.5	24.7	24.6	1	22.1	21.8	21.9	0	20.2	20.2	20.1	0	18.0	17.9	18.0
			3	2	1	24.5	24.6	24.6	1	22.0	21.8	21.8	0	20.2	20.2	20.2	0	18.0	17.9	18.0
			6	0	2	23.5	23.3	23.5	2	21.0	20.8	20.5	0	20.2	20.2	20.2	0	17.9	17.8	17.9

Note(s):

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

LTE Band 13 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C	MPR	Max Power Antenna D	MPR	Reduced Power Antenna C	MPR	Reduced Power Antenna D
						782 MHz		782 MHz		782 MHz		782 MHz
LTE Band 13	10	QPSK	1	0	0	24.2	0	22.3	0	19.2	0	17.8
			1	24	0	24.3	0	22.4	0	19.2	0	18.0
			1	49	0	24.4	0	22.7	0	19.1	0	17.8
			25	0	1	24.0	1	22.8	0	19.2	0	17.8
			25	12	1	24.0	1	21.9	0	19.2	0	18.0
			25	24	1	23.9	1	21.8	0	19.2	0	17.8
			50	0	1	24.0	1	21.8	0	19.2	0	18.0
		16QAM	1	0	1	23.2	1	21.9	0	19.0	0	17.8
			1	24	1	23.8	1	21.4	0	19.1	0	17.9
			1	49	1	23.5	1	21.8	0	19.0	0	17.8
			25	0	2	23.0	2	21.8	0	19.2	0	17.8
			25	12	2	22.9	2	20.9	0	19.2	0	17.8
			25	24	2	22.9	2	20.9	0	19.0	0	17.8
			50	0	2	23.1	2	20.9	0	19.2	0	17.8

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C	MPR	Max Power Antenna D	MPR	Reduced Power Antenna C	MPR	Reduced Power Antenna D
						782 MHz		782 MHz		782 MHz		782 MHz
LTE Band 13	5	QPSK	1	0	0	24.5	0	22.8	0	19.2	0	17.9
			1	12	0	24.4	0	22.7	0	19.1	0	17.8
			1	24	0	24.4	0	22.8	0	19.1	0	17.8
			12	0	1	24.0	1	21.8	0	19.1	0	17.8
			12	7	1	24.0	1	21.8	0	19.1	0	17.9
			12	13	1	24.0	1	21.9	0	19.1	0	17.8
			25	0	1	23.9	1	21.8	0	19.1	0	17.8
		16QAM	1	0	1	24.1	1	22.3	0	19.2	0	18.0
			1	12	1	24.0	1	22.3	0	19.2	0	17.9
			1	24	1	24.0	1	22.4	0	19.2	0	17.9
			12	0	2	23.1	2	21.0	0	19.1	0	17.8
			12	7	2	23.0	2	20.9	0	19.2	0	17.8
			12	13	2	23.0	2	21.0	0	19.2	0	17.9
			25	0	2	23.0	2	20.9	0	19.1	0	17.8

Note(s):

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

LTE Band 17 Measured Results

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

LTE Band 25 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	20	QPSK	1	0	0	24.4	24.3	24.3	0	22.4	22.4	22.1	0	12.2	12.2	12.2	0	14.0	14.0	13.9
			1	49	0	24.6	24.5	24.5	0	22.5	22.3	22.2	0	12.3	12.3	12.2	0	14.0	13.9	14.0
			1	99	0	24.3	24.2	24.2	0	22.2	22.0	21.9	0	12.1	12.1	12.1	0	14.0	14.0	13.9
			50	0	1	24.5	24.5	24.5	1	21.4	21.4	21.2	0	12.3	12.2	12.3	0	14.0	14.0	13.9
			50	24	1	24.6	24.5	24.5	1	21.5	21.4	21.2	0	12.3	12.3	12.3	0	14.0	14.0	14.0
			50	49	1	24.6	24.5	24.4	1	21.4	21.2	21.1	0	12.1	12.2	12.2	0	14.0	14.0	13.9
			100	0	1	24.5	24.4	24.4	1	21.4	21.3	21.2	0	12.3	12.3	12.2	0	14.0	14.0	14.0
		16QAM	1	0	1	24.8	24.7	24.8	1	21.8	21.8	21.7	0	12.3	12.1	12.2	0	14.0	14.0	14.0
			1	49	1	25.0	24.9	24.9	1	21.9	21.7	21.8	0	12.2	12.2	12.2	0	14.0	14.0	14.0
			1	99	1	24.6	24.6	24.6	1	21.6	21.5	21.4	0	12.2	12.2	12.1	0	14.0	14.0	14.0
			50	0	2	23.5	23.5	23.4	2	20.4	20.4	20.2	0	12.1	12.2	12.2	0	14.0	13.8	14.0
			50	24	2	23.6	23.6	23.5	2	20.5	20.4	20.2	0	12.1	12.2	12.1	0	14.0	13.8	14.0
			50	49	2	23.5	23.5	23.4	2	20.4	20.3	20.2	0	12.2	12.3	12.1	0	14.0	13.8	14.0
			100	0	2	23.5	23.4	23.4	2	20.4	20.3	20.2	0	12.1	12.2	12.2	0	13.9	13.9	13.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.4	24.3	24.2	0	22.4	22.4	22.2	0	12.2	12.2	12.2	0	14.0	14.0	13.9
			1	36	0	24.3	24.4	24.3	0	22.2	22.1	22.1	0	12.2	12.3	12.2	0	14.0	14.0	13.9
			1	74	0	24.3	24.3	24.2	0	22.3	22.3	22.0	0	12.1	12.1	12.1	0	14.0	14.0	13.9
			36	0	1	24.6	24.5	24.5	1	21.5	21.4	21.3	0	12.3	12.1	12.3	0	14.0	14.0	13.9
			36	18	1	24.6	24.5	24.5	1	21.5	21.5	21.3	0	12.3	12.3	12.2	0	14.0	14.0	14.0
			36	37	1	24.5	24.5	24.3	1	21.6	21.4	21.2	0	12.3	12.2	12.2	0	14.0	14.0	13.9
			75	0	1	24.5	24.5	24.4	1	21.5	21.4	21.2	0	12.2	12.2	12.3	0	14.0	14.0	14.0
		16QAM	1	0	1	24.7	24.7	24.0	1	21.3	21.7	21.6	0	12.2	12.3	12.2	0	14.0	14.0	14.0
			1	36	1	25.0	24.9	24.2	1	21.3	21.8	21.6	0	12.2	12.2	12.3	0	14.0	14.0	14.0
			1	74	1	24.6	24.7	23.9	1	21.1	21.6	21.3	0	12.2	12.1	12.1	0	14.0	14.0	14.0
			36	0	2	23.6	23.5	23.4	2	20.5	20.4	20.3	0	12.1	12.1	12.3	0	14.0	13.8	14.0
			36	18	2	23.7	23.5	23.5	2	20.5	20.5	20.2	0	12.1	12.2	12.2	0	14.0	13.8	14.0
			36	37	2	23.6	23.5	23.4	2	20.5	20.4	20.2	0	12.2	12.1	12.2	0	14.0	13.8	14.0
			75	0	2	23.6	23.5	23.5	2	20.5	20.4	20.2	0	12.2	12.1	12.2	0	13.9	13.9	13.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.6	24.5	24.5	0	22.5	22.5	22.3	0	12.3	12.2	12.2	0	14.0	14.0	13.9
			1	24	0	24.6	24.5	24.4	0	22.5	22.4	22.2	0	12.2	12.1	12.2	0	14.0	14.0	13.9
			1	49	0	24.5	24.5	24.4	0	22.4	22.3	21.8	0	12.2	12.1	12.2	0	14.0	14.0	13.9
			25	0	1	24.5	24.6	24.3	1	21.6	21.4	21.3	0	12.3	12.2	12.1	0	14.0	14.0	13.9
			25	12	1	24.7	24.6	24.3	1	21.6	21.5	21.3	0	12.3	12.2	12.1	0	14.0	14.0	14.0
			25	24	1	24.5	24.5	24.1	1	21.4	21.4	21.2	0	12.2	12.2	12.1	0	14.0	14.0	13.9
			50	0	1	24.6	24.5	24.2	1	21.6	21.4	21.3	0	12.3	12.2	12.1	0	14.0	14.0	14.0
		16QAM	1	0	1	24.4	24.5	24.1	1	21.9	21.5	21.2	0	12.3	12.1	12.3	0	14.0	14.0	14.0
			1	24	1	25.0	24.5	24.2	1	21.9	21.4	21.1	0	12.2	12.2	12.2	0	14.0	14.0	14.0
			1	49	1	24.8	24.5	23.6	1	21.8	21.3	20.7	0	12.2	12.2	12.1	0	14.0	14.0	14.0
			25	0	2	23.5	23.6	23.4	2	20.6	20.5	20.3	0	12.2	12.2	12.1	0	14.0	13.8	14.0
			25	12	2	23.7	23.7	23.3	2	20.6	20.5	20.3	0	12.2	12.2	12.2	0	14.0	13.8	14.0
			25	24	2	23.6	23.6	23.2	2	20.5	20.4	20.3	0	12.1	12.1	12.2	0	14.0	13.8	14.0
			50	0	2	23.6	23.5	23.3	2	20.5	20.5	20.3	0	12.2	12.1	12.3	0	13.9	13.9	13.9

LTE Band 25 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.6	24.5	24.5	0	22.5	22.4	22.3	0	12.2	12.1	12.2	0	14.0	14.0	13.9
			1	12	0	24.7	24.5	24.5	0	22.5	22.4	22.2	0	12.2	12.1	12.2	0	14.0	14.0	13.9
			1	24	0	24.6	24.5	24.5	0	22.5	22.3	21.7	0	12.2	12.1	12.2	0	14.0	14.0	13.9
			12	0	1	24.3	24.6	24.2	1	21.5	21.4	21.2	0	12.2	12.1	12.2	0	14.0	14.0	13.9
			12	7	1	24.5	24.5	24.2	1	21.5	21.4	21.2	0	12.2	12.1	12.2	0	14.0	14.0	14.0
			12	13	1	24.6	24.6	24.1	1	21.5	21.3	21.2	0	12.2	12.1	12.1	0	14.0	14.0	13.9
			25	0	1	24.4	24.5	24.1	1	21.5	21.4	21.2	0	12.2	12.1	12.1	0	14.0	14.0	14.0
		16QAM	1	0	1	24.5	24.6	24.4	1	22.1	21.6	21.4	0	12.2	12.2	12.3	0	14.0	14.0	14.0
			1	12	1	25.0	24.6	24.2	1	22.0	21.5	21.4	0	12.2	12.3	12.3	0	14.0	14.0	14.0
			1	24	1	25.0	24.6	23.9	1	22.0	21.5	21.0	0	12.1	12.2	12.2	0	14.0	14.0	14.0
			12	0	2	23.4	23.6	23.3	2	20.7	20.4	20.3	0	12.3	12.2	12.1	0	14.0	13.8	14.0
			12	7	2	23.6	23.6	23.3	2	20.7	20.5	20.4	0	12.3	12.2	12.1	0	14.0	13.8	14.0
			12	13	2	23.7	23.6	23.2	2	20.7	20.4	20.3	0	12.3	12.2	12.1	0	14.0	13.8	14.0
			25	0	2	23.5	23.5	23.2	2	20.6	20.4	20.3	0	12.2	12.2	12.1	0	13.9	13.9	13.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.6	24.6	24.5	0	22.5	22.4	22.3	0	12.2	12.3	12.1	0	14.0	14.0	13.9
			1	8	0	24.7	24.5	24.5	0	22.5	22.4	22.1	0	12.2	12.1	12.1	0	14.0	14.0	13.9
			1	14	0	24.6	24.4	24.4	0	22.4	22.2	21.8	0	12.2	12.2	12.1	0	14.0	14.0	13.9
			8	0	1	24.2	24.5	24.1	1	21.5	21.5	21.3	0	12.3	12.2	12.3	0	14.0	14.0	13.9
			8	4	1	24.3	24.5	24.1	1	21.5	21.4	21.3	0	12.3	12.2	12.2	0	14.0	14.0	14.0
			8	7	1	24.3	24.5	24.0	1	21.5	21.4	21.3	0	12.2	12.3	12.2	0	14.0	14.0	13.9
			15	0	1	24.3	24.5	24.0	1	21.5	21.4	21.2	0	12.2	12.2	12.2	0	14.0	14.0	14.0
		16QAM	1	0	1	24.4	24.6	24.0	1	21.5	21.3	21.6	0	12.2	12.3	12.2	0	14.0	14.0	14.0
			1	8	1	24.7	24.6	23.9	1	21.6	21.4	21.6	0	12.2	12.2	12.2	0	14.0	14.0	14.0
			1	14	1	24.9	24.5	23.6	1	21.4	21.2	21.2	0	12.2	12.2	12.2	0	14.0	14.0	14.0
			8	0	2	23.1	23.8	23.2	2	20.7	20.5	20.2	0	12.2	12.3	12.3	0	14.0	13.8	14.0
			8	4	2	23.2	23.7	23.3	2	20.7	20.5	20.2	0	12.2	12.3	12.3	0	14.0	13.8	14.0
			8	7	2	23.2	23.7	23.2	2	20.7	20.5	20.2	0	12.1	12.3	12.3	0	14.0	13.8	14.0
			15	0	2	23.4	23.4	23.1	2	20.4	20.4	20.3	0	12.2	12.2	12.3	0	13.9	13.9	13.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.5	24.4	24.4	0	22.5	22.3	22.1	0	12.2	12.2	12.1	0	14.0	14.0	13.9
			1	3	0	24.5	24.5	24.5	0	22.4	22.3	22.0	0	12.3	12.1	12.2	0	14.0	14.0	13.9
			1	5	0	24.5	24.4	24.4	0	22.3	22.3	21.7	0	12.2	12.1	12.1	0	14.0	14.0	13.9
			3	0	0	24.6	24.5	24.6	0	22.3	22.4	22.0	0	12.3	12.2	12.2	0	14.0	14.0	13.9
			3	1	0	24.6	24.5	24.6	0	22.5	22.4	21.9	0	12.2	12.2	12.2	0	14.0	14.0	14.0
			3	3	0	24.7	24.5	24.5	0	22.5	22.4	21.8	0	12.2	12.1	12.1	0	14.0	14.0	13.9
			6	0	1	24.1	24.4	23.9	1	21.4	21.3	21.0	0	12.2	12.1	12.1	0	14.0	14.0	14.0
		16QAM	1	0	1	24.1	24.8	23.9	1	21.5	21.7	21.0	0	12.2	12.1	12.1	0	14.0	14.0	14.0
			1	3	1	24.2	24.9	23.9	1	21.5	21.8	21.0	0	12.3	12.2	12.1	0	14.0	14.0	14.0
			1	5	1	24.3	24.7	23.8	1	21.5	21.6	20.8	0	12.2	12.1	12.1	0	14.0	14.0	14.0
			3	0	1	24.0	24.6	24.0	1	21.6	21.6	21.1	0	12.3	12.2	12.2	0	14.0	13.8	14.0
			3	1	1	24.1	24.6	24.1	1	21.6	21.6	21.2	0	12.3	12.2	12.1	0	14.0	13.8	14.0
			3	3	1	24.2	24.6	24.0	1	21.6	21.6	21.1	0	12.2	12.1	12.1	0	14.0	13.8	14.0
			6	0	2	23.3	23.4	23.1	2	20.6	20.2	20.2	0	12.2	12.3	12.3	0	13.9	13.9	13.9

LTE Band 26 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	10	QPSK	1	0	0	24.4	24.5	24.4	0	24.0	23.8	23.7	0	18.5	18.4	18.3	0	18.3	18.3	18.2
			1	24	0	24.5	24.5	24.3	0	24.0	23.7	23.4	0	18.4	18.4	18.5	0	18.3	18.3	18.2
			1	49	0	24.3	24.4	24.2	0	23.9	23.7	23.2	0	18.4	18.3	18.3	0	18.3	18.3	18.2
			25	0	1	24.5	23.6	23.5	1	23.0	22.8	22.5	0	18.5	18.3	18.4	0	18.3	18.3	18.3
			25	12	1	24.5	23.6	23.5	1	23.0	22.8	22.6	0	18.5	18.4	18.5	0	18.3	18.3	18.3
			25	24	1	24.5	23.5	23.4	1	23.0	22.7	22.5	0	18.5	18.3	18.3	0	18.3	18.3	18.3
			50	0	1	24.5	23.6	23.5	1	23.0	22.7	22.6	0	18.5	18.4	18.5	0	18.3	18.3	18.3
		16QAM	1	0	1	24.5	23.9	23.3	1	23.0	23.0	22.8	0	18.3	18.4	18.5	0	18.3	18.3	18.3
			1	24	1	24.4	23.9	23.3	1	23.0	22.8	22.7	0	18.4	18.4	18.5	0	18.3	18.3	18.3
			1	49	1	24.3	23.9	23.3	1	22.9	22.9	22.4	0	18.3	18.3	18.4	0	18.3	18.3	18.3
			25	0	2	23.6	22.5	22.9	2	22.0	21.8	21.7	0	18.4	18.3	18.4	0	18.3	18.3	18.1
			25	12	2	23.6	22.5	22.9	2	22.0	21.8	21.6	0	18.5	18.3	18.3	0	18.3	18.3	18.1
			25	24	2	23.5	22.4	22.9	2	22.0	21.8	21.6	0	18.4	18.4	18.3	0	18.3	18.3	18.1
			50	0	2	23.5	22.5	22.9	2	22.0	21.7	21.5	0	18.4	18.3	18.4	0	18.3	18.2	18.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.6	24.4	24.3	0	24.0	23.8	23.7	0	18.4	18.3	18.4	0	18.3	18.3	18.2
			1	12	0	24.5	24.4	24.2	0	23.9	23.7	23.4	0	18.4	18.4	18.3	0	18.3	18.3	18.2
			1	24	0	24.6	24.3	24.2	0	24.0	23.7	23.2	0	18.4	18.5	18.3	0	18.3	18.3	18.2
			12	0	1	24.5	24.4	24.2	1	23.0	22.8	22.5	0	18.4	18.3	18.4	0	18.3	18.3	18.3
			12	7	1	24.5	24.4	24.2	1	22.9	22.8	22.6	0	18.4	18.3	18.3	0	18.3	18.3	18.3
			12	13	1	24.5	24.3	24.2	1	22.9	22.7	22.5	0	18.4	18.3	18.3	0	18.3	18.3	18.3
			25	0	1	24.5	24.4	24.2	1	22.9	22.7	22.6	0	18.3	18.3	18.3	0	18.3	18.3	18.3
		16QAM	1	0	1	24.7	24.6	24.8	1	23.0	23.0	22.8	0	18.4	18.3	18.3	0	18.3	18.3	18.3
			1	12	1	24.6	24.5	24.8	1	23.0	22.8	22.7	0	18.3	18.1	18.3	0	18.3	18.3	18.3
			1	24	1	24.6	24.5	24.8	1	23.0	22.9	22.4	0	18.3	18.3	18.4	0	18.3	18.3	18.3
			12	0	2	23.6	23.5	23.4	2	22.0	21.8	21.7	0	18.5	18.5	18.4	0	18.3	18.2	18.2
			12	7	2	23.6	23.5	23.3	2	22.0	21.8	21.6	0	18.5	18.5	18.4	0	18.3	18.2	18.2
			12	13	2	23.6	23.4	23.4	2	22.0	21.8	21.6	0	18.5	18.4	18.4	0	18.3	18.3	18.1
			25	0	2	23.5	23.4	23.3	2	22.0	21.7	21.5	0	18.4	18.5	18.3	0	18.3	18.2	18.2

LTE Band 26 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.5	24.3	24.2	0	24.0	23.7	23.6	0	18.4	18.3	18.3	0	18.3	18.3	18.2
			1	8	0	24.6	24.3	24.2	0	24.0	23.8	23.6	0	18.4	18.3	18.3	0	18.3	18.3	18.2
			1	14	0	24.5	24.2	24.1	0	23.9	23.7	23.1	0	18.4	18.3	18.3	0	18.3	18.3	18.2
			8	0	1	24.5	24.3	24.2	1	22.9	22.7	22.6	1	18.4	18.3	18.4	0	18.3	18.3	18.3
			8	4	1	24.5	24.3	24.2	1	22.9	22.7	22.5	1	18.5	18.3	18.3	0	18.3	18.3	18.3
			8	7	1	24.5	24.3	24.2	1	22.9	22.7	22.6	1	18.4	18.3	18.3	0	18.3	18.3	18.3
			15	0	1	24.5	24.3	24.2	1	22.9	22.8	22.6	1	18.4	18.3	18.3	0	18.3	18.3	18.3
		16QAM	1	0	1	24.5	24.3	24.6	1	23.0	22.8	22.4	1	18.3	18.3	18.4	0	18.3	18.3	18.3
			1	8	1	24.6	24.4	24.7	1	23.0	22.8	22.4	1	18.3	18.3	18.3	0	18.3	18.3	18.3
			1	14	1	24.5	24.2	24.6	1	23.0	22.7	22.1	1	18.3	18.3	18.3	0	18.3	18.3	18.3
			8	0	2	23.7	23.5	23.1	2	21.8	21.9	21.6	2	18.4	18.3	18.4	0	18.3	18.3	18.2
			8	4	2	23.7	23.4	23.1	2	21.8	21.9	21.6	2	18.5	18.3	18.3	0	18.3	18.3	18.2
			8	7	2	23.7	23.4	23.1	2	21.8	21.9	21.6	2	18.4	18.3	18.3	0	18.3	18.3	18.2
			15	0	2	23.5	23.4	23.3	2	22.0	21.7	21.6	2	18.5	18.3	18.3	0	18.3	18.2	18.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C			MPR	Max Power Antenna D			MPR	Reduced Power Antenna C			MPR	Reduced Power Antenna D		
						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	24.5	24.3	24.0	0	23.8	23.6	23.4	0	18.5	18.4	18.4	0	18.3	18.3	18.2
			1	3	0	24.4	24.3	24.1	0	23.9	23.6	23.3	0	18.1	18.5	18.5	0	18.3	18.3	18.2
			1	5	0	24.4	24.2	24.0	0	23.8	23.6	23.0	0	18.5	18.4	18.4	0	18.3	18.3	18.2
			3	0	0	24.5	24.3	24.2	0	24.0	23.7	23.3	0	18.5	18.5	18.3	0	18.3	18.3	18.3
			3	1	0	24.5	24.4	24.2	0	24.0	23.7	23.3	0	18.5	18.5	18.3	0	18.3	18.3	18.3
			3	3	0	24.5	24.3	24.2	0	24.0	23.7	23.2	0	18.4	18.5	18.3	0	18.3	18.3	18.3
			6	0	1	24.4	24.3	24.1	1	22.8	22.6	22.4	1	18.4	18.4	18.4	0	18.3	18.3	18.3
		16QAM	1	0	1	24.5	24.6	24.1	1	22.8	22.7	22.8	1	18.3	18.3	18.5	0	18.3	18.3	18.3
			1	3	1	24.6	24.7	24.2	1	22.8	22.8	22.8	1	18.4	18.4	18.5	0	18.3	18.3	18.3
			1	5	1	24.6	24.6	24.1	1	22.8	22.7	22.5	1	18.3	18.3	18.5	0	18.3	18.3	18.3
			3	0	1	24.6	24.5	24.3	1	23.0	22.7	22.6	1	18.4	18.4	18.5	0	18.3	18.3	18.2
			3	1	1	24.6	24.5	24.3	1	23.0	22.8	22.6	1	18.4	18.4	18.4	0	18.3	18.3	18.2
			3	3	1	24.6	24.5	24.3	1	23.0	22.8	22.5	1	18.4	18.4	18.4	0	18.3	18.3	18.1
			6	0	2	23.6	23.2	23.3	2	22.0	21.7	21.4	2	18.3	18.4	18.4	0	18.3	18.2	18.2

LTE Band 27 Measured Results

SAR for LTE Band 27 (Frequency range: 814 – 824 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same or lower maximum tune-up limit and same channel bandwidth.

LTE Band 30 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C	MPR	Max Power Antenna D	MPR	Reduced Power Antenna C	MPR	Reduced Power Antenna D
						2310 MHz		2310 MHz		2310 MHz		2310 MHz
LTE Band 30	10	QPSK	1	0	0	22.5	0	22.0	0	13.5	0	12.7
			1	24	0	22.3	0	21.8	0	13.5	0	12.8
			1	49	0	22.4	0	21.9	0	13.4	0	12.6
			25	0	1	21.5	1	21.0	0	13.4	0	12.6
			25	12	1	21.4	1	20.9	0	13.5	0	12.7
			25	24	1	21.3	1	20.8	0	13.4	0	12.7
			50	0	1	21.5	1	20.9	0	13.5	0	12.8
		16QAM	1	0	1	21.5	1	21.0	0	13.5	0	12.7
			1	24	1	21.3	1	20.8	0	13.4	0	12.7
			1	49	1	21.4	1	20.9	0	13.4	0	12.8
			25	0	2	20.5	2	20.0	0	13.4	0	12.8
			25	12	2	20.5	2	20.0	0	13.4	0	12.7
			25	24	2	20.4	2	19.9	0	13.4	0	12.6
			50	0	2	20.5	2	20.0	0	13.5	0	12.7

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C	MPR	Max Power Antenna D	MPR	Reduced Power Antenna C	MPR	Reduced Power Antenna D
						2310 MHz		2310 MHz		2310 MHz		2310 MHz
LTE Band 30	5	QPSK	1	0	0	22.5	0	22.0	0	13.5	0	12.8
			1	12	0	22.5	0	21.9	0	13.5	0	12.7
			1	24	0	22.4	0	21.9	0	13.5	0	12.7
			12	0	1	21.5	1	20.9	0	13.3	0	12.8
			12	7	1	21.5	1	20.8	0	13.3	0	12.7
			12	13	1	21.5	1	20.9	0	13.4	0	12.6
			25	0	1	21.4	1	20.9	0	13.3	0	12.7
		16QAM	1	0	1	22.1	1	21.1	0	13.5	0	12.8
			1	12	1	22.0	1	21.0	0	13.4	0	12.6
			1	24	1	21.9	1	21.0	0	13.3	0	12.6
			12	0	2	20.6	2	20.0	0	13.5	0	12.7
			12	7	2	20.6	2	20.0	0	13.5	0	12.6
			12	13	2	20.6	2	20.0	0	13.4	0	12.8
			25	0	2	20.5	2	19.9	0	13.5	0	12.8

Note(s):

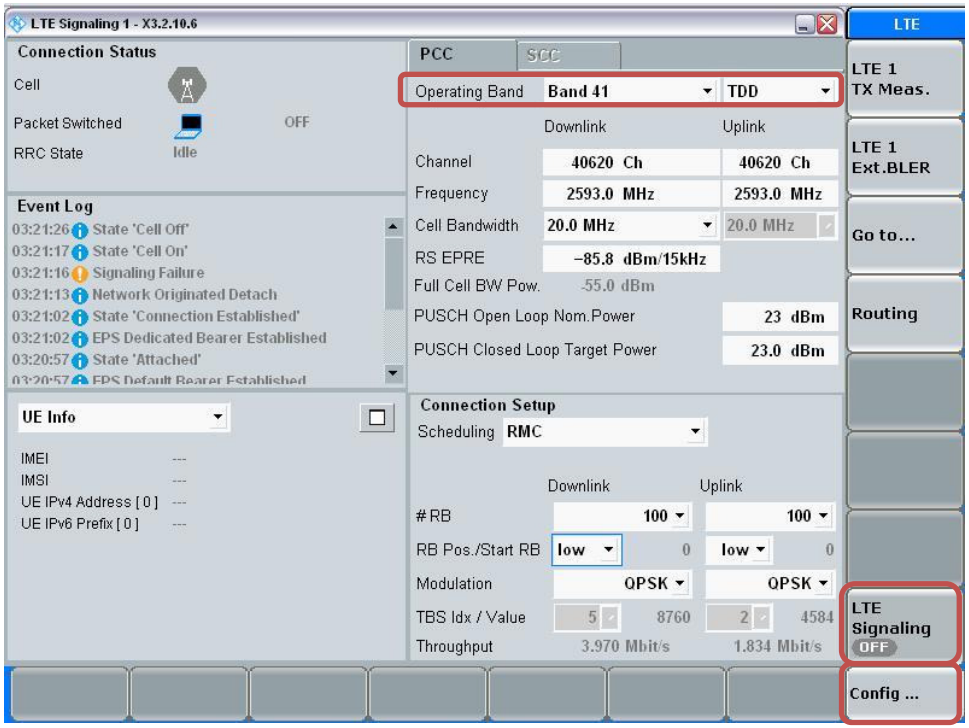
10 MHz Bandwidth does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05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

LTE Band 41 Average Power (dBm) Measured Results

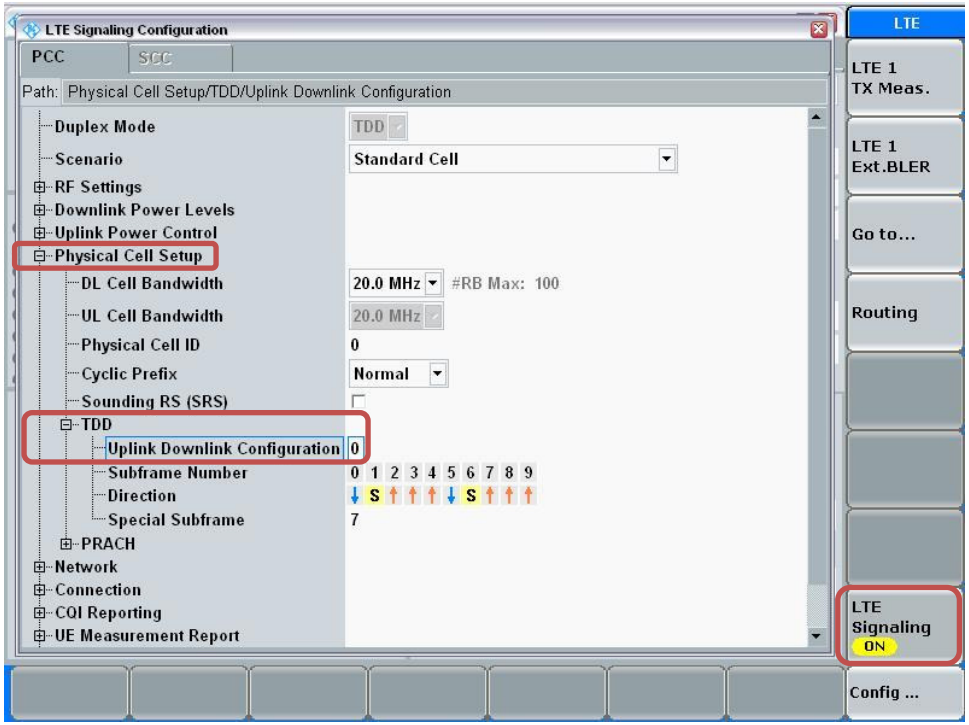
Procedure used to establish SAR test signal for LTE TDD Band 41

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….”

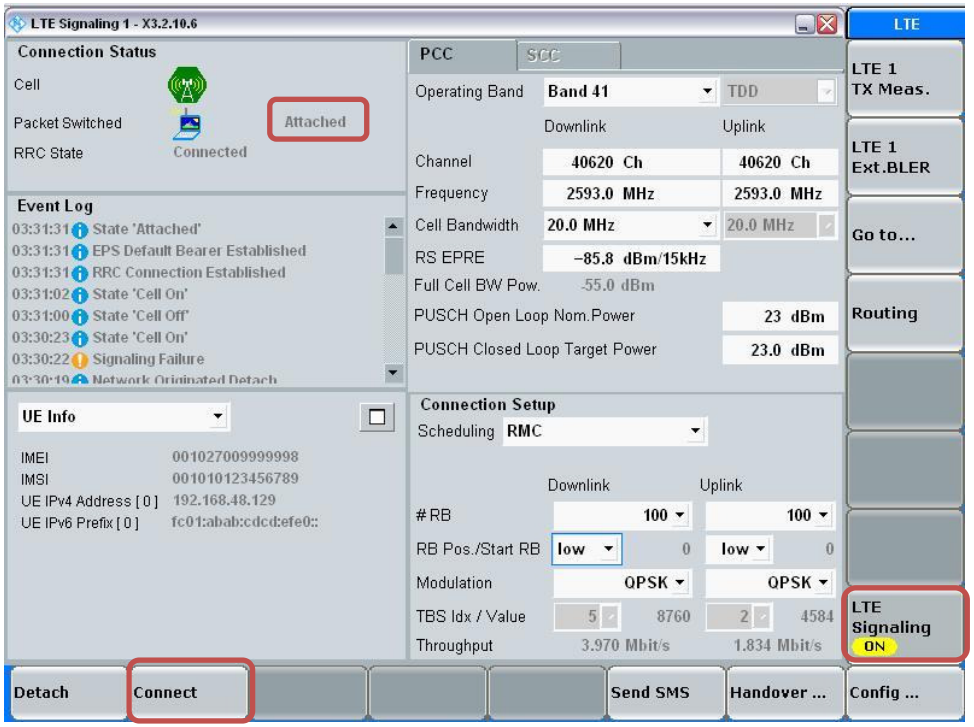


- Go to “Physical Cell Setup”
- Select “TDD” and Set “Uplink Downlink Configuration” to “0”
- Turn the cell on using “ON | OFF” key



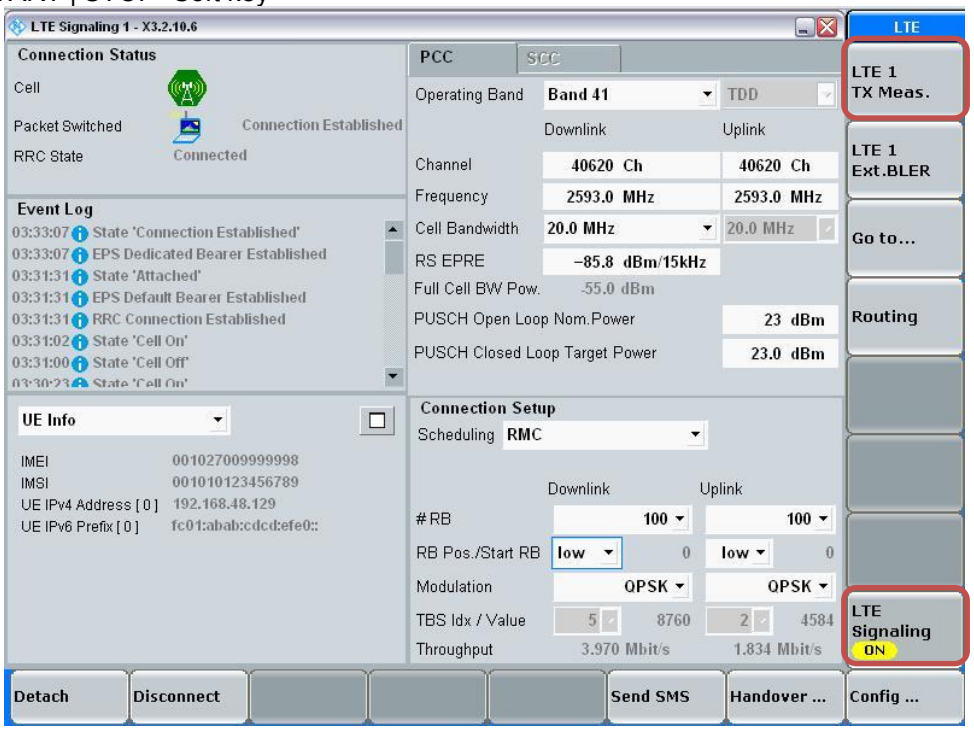
Connect to EUT

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

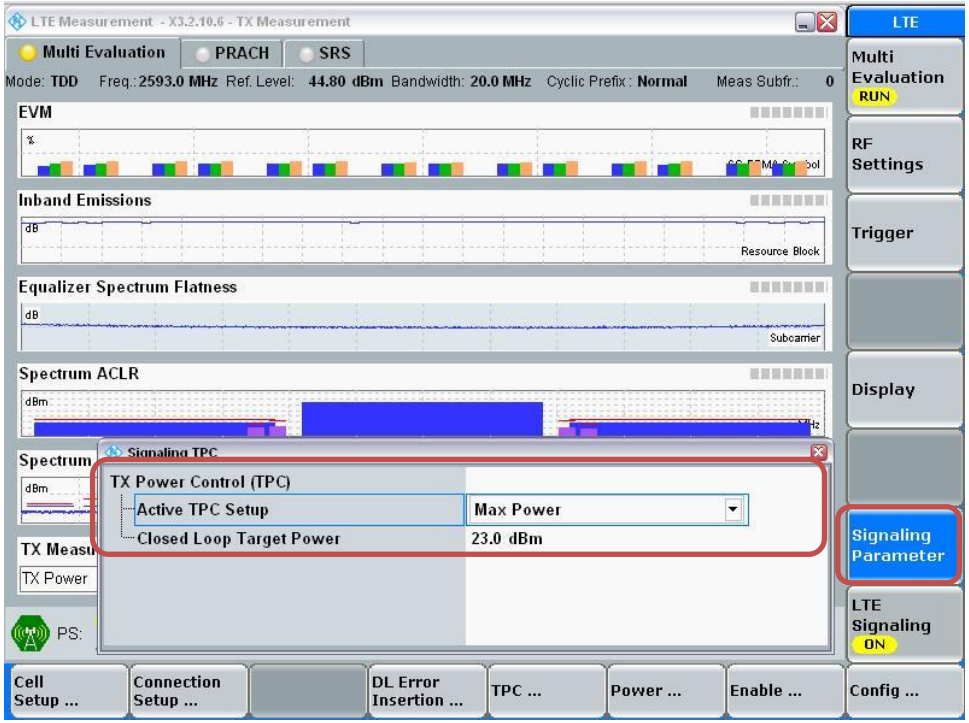


Max Power Setting

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



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



View TX Power

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

LTE Band 41 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C					MPR	Max Power Antenna D					MPR	Reduced Power Antenna C					MPR	Reduced Power Antenna D				
						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	20	QPSK	1	0	0	23.0	23.0	23.0	22.0	23.0	0	20.6	20.6	21.0	21.1	20.7	0	14.1	14.1	14.1	14.1	14.1	0	14.5	14.5	14.5	14.5	14.5
			1	49	0	23.0	22.8	22.8	22.3	22.2	0	20.6	20.5	20.6	20.7	20.5	0	14.1	14.1	14.2	14.1	14.1	0	14.5	14.5	14.5	14.5	14.5
			1	99	0	22.9	22.8	22.8	22.9	21.9	0	20.6	20.6	20.3	20.5	20.3	0	14.1	14.1	14.1	14.1	14.1	0	14.4	14.3	14.3	14.4	14.3
			50	0	1	22.0	22.0	22.0	21.2	21.7	1	19.6	19.6	19.9	19.9	19.5	0	14.1	14.1	14.1	14.1	14.1	0	14.5	14.5	14.3	14.4	14.4
			50	24	1	22.0	22.0	22.0	21.4	21.4	1	19.6	19.5	19.6	19.8	19.5	0	14.2	14.1	14.1	14.2	14.2	0	14.5	14.5	14.5	14.5	14.5
			50	49	1	21.9	21.9	21.8	21.7	21.1	1	19.4	19.5	19.5	19.6	19.3	0	14.1	14.1	14.1	14.1	14.1	0	14.3	14.3	14.4	14.5	14.3
			100	0	1	22.0	21.9	22.0	21.4	21.4	1	19.4	19.5	19.6	19.8	19.5	0	14.1	14.2	14.1	14.1	14.1	0	14.5	14.5	14.5	14.5	14.5
		16QAM	1	0	1	22.0	22.0	22.0	21.0	22.0	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.2	0	14.5	14.4	14.4	14.5	14.3
			1	49	1	22.0	21.8	21.8	21.3	21.3	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.3	14.4	14.5	14.4
			1	99	1	22.0	21.8	22.0	22.0	21.0	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.3	14.4	14.3
			50	0	2	21.0	20.9	20.9	20.2	20.7	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.5	14.5	14.3	14.4	14.4
			50	24	2	21.0	20.9	20.9	20.4	20.4	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.5	14.4	14.3	14.3	14.4
			50	49	2	20.9	20.8	20.9	20.7	20.1	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.3	14.4	14.5	14.4
			100	0	2	21.0	20.9	20.9	20.4	20.4	2	18.5	18.5	18.6	18.8	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.5	14.5	14.3	14.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C					MPR	Max Power Antenna D					MPR	Reduced Power Antenna C					MPR	Reduced Power Antenna D				
						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	23.0	23.0	22.9	22.1	22.9	0	20.6	20.6	21.0	21.1	20.7	0	14.2	14.2	14.2	14.2	14.2	0	14.5	14.4	14.5	14.5	14.5
			1	36	0	22.8	22.8	22.8	22.4	22.3	0	20.6	20.5	20.6	20.7	20.5	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.3	14.3	14.5
			1	74	0	22.8	22.9	23.0	22.8	22.0	0	20.6	20.6	20.3	20.5	20.3	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.4	14.5	14.3
			36	0	1	22.0	21.9	21.9	21.2	21.6	1	19.6	19.6	19.9	19.9	19.5	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.3	14.4	14.4	14.5
			36	18	1	21.9	21.8	21.9	21.4	21.4	1	19.6	19.5	19.6	19.8	19.5	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.5	14.3	14.4
			36	37	1	21.8	21.9	22.0	21.6	21.1	1	19.4	19.5	19.5	19.6	19.3	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.4	14.3	14.3
			75	0	1	21.9	21.8	22.0	21.4	21.3	1	19.4	19.5	19.6	19.8	19.5	0	14.2	14.2	14.1	14.2	14.1	0	14.3	14.4	14.5	14.3	14.3
		16QAM	1	0	1	22.0	21.9	22.0	21.3	21.8	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.1	0	14.4	14.3	14.5	14.5	14.5
			1	36	1	22.0	22.0	21.8	21.5	21.2	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.1	0	14.4	14.3	14.5	14.4	14.4
			1	74	1	21.8	21.9	21.8	21.9	20.9	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.1	0	14.3	14.3	14.4	14.3	14.4
			36	0	2	20.9	20.9	20.8	20.2	20.7	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.5	14.4	14.3	14.5
			36	18	2	20.9	20.8	20.8	20.4	20.4	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.5	14.5	14.3	14.4
			36	37	2	20.8	21.0	21.0	20.6	20.2	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.5	14.3	14.4
			75	0	2	20.8	20.8	20.8	20.4	20.4	2	18.5	18.5	18.6	18.8	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.4	14.5	14.3	14.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C					MPR	Max Power Antenna D					MPR	Reduced Power Antenna C					MPR	Reduced Power Antenna D				
						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	22.9	23.0	22.8	22.0	22.6	0	20.6	20.6	21.0	21.1	20.7	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.5	14.4	14.4	14.4
			1	24	0	22.9	22.9	22.9	22.4	22.3	0	20.6	20.5	20.6	20.7	20.5	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.5	14.4	14.4	14.5
			1	49	0	22.9	23.0	22.9	22.5	22.0	0	20.6	20.6	20.3	20.5	20.3	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.5	14.4	14.5	14.4
			25	0	1	21.9	22.0	21.9	21.2	21.5	1	19.6	19.6	19.9	19.9	19.5	0	14.1	14.2	14.2	14.2	14.2	0	14.4	14.4	14.5	14.4	14.5
			25	12	1	22.0	22.0	21.8	21.4	21.4	1	19.6	19.5	19.6	19.8	19.5	0	14.1	14.2	14.2	14.2	14.2	0	14.3	14.5	14.4	14.5	14.4
			25	24	1	21.9	22.0	21.9	21.5	21.1	1	19.4	19.5	19.5	19.6	19.3	0	14.1	14.2	14.2	14.2	14.2	0	14.4	14.5	14.3	14.4	14.3
			50	0	1	22.0	22.0	21.8	21.3	21.3	1	19.4	19.5	19.6	19.8	19.5	0	14.2	14.1	14.2	14.2	14.1	0	14.4	14.5	14.4	14.5	14.4
		16QAM	1	0	1	22.0	22.0	21.8	21.2	21.5	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.1	14.2	0	14.3	14.5	14.5	14.4	14.4
			1	24	1	22.0	21.8	21.8	21.5	21.2	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.1	14.2	0	14.4	14.3	14.4	14.4	14.5
			1	49	1	22.0	21.8	21.7	21.7	20.9	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.1	14.2	0	14.4	14.3	14.4	14.4	14.5
			25	0	2	20.9	21.0	20.8	20.1	20.5	2	18.6	18.7	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.5	14.4	14.4	14.5
			25	12	2	20.1	20.9	20.7	20.4	20.4	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.5	14.4	14.5	14.4
			25	24	2	20.9	20.9	20.8	20.4	20.1	2	18.6	18.6	18.8	18.9	18.4	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.4	14.3	14.3	14.3
			50	0	2	20.9	21.0	20.8	20.3	20.3	2	18.5	18.5	18.6	18.8	18.4	0	14.2	14.2	14.2	14.2	14.1	0	14.3	14.5	14.4	14.5	14.4

LTE Band 41 Measured Results (continued)

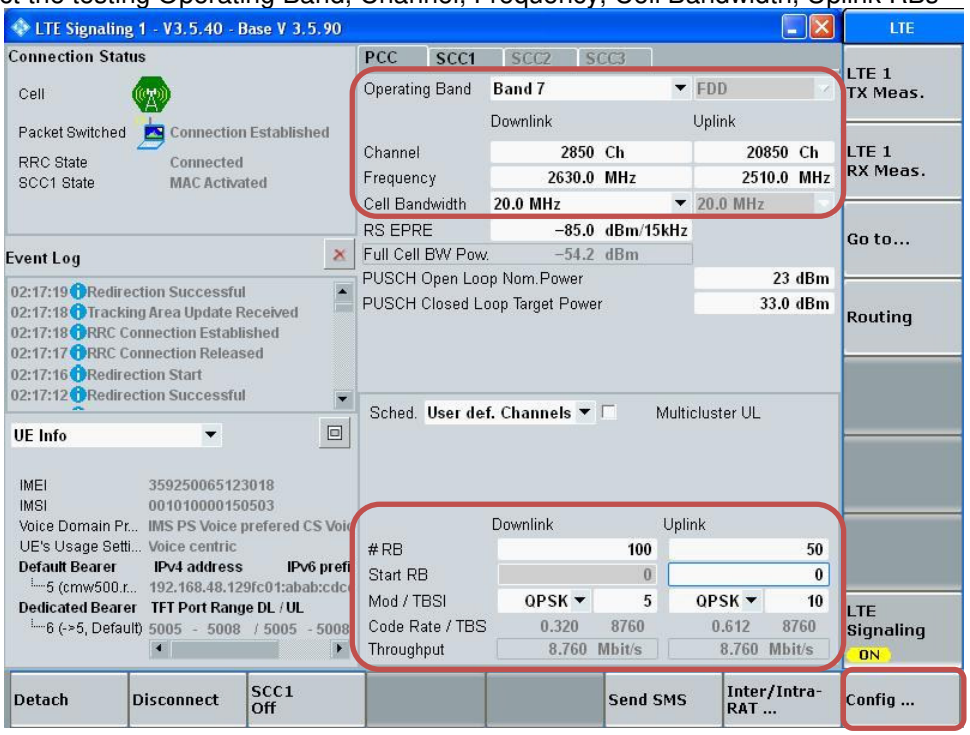
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max Power Antenna C					MPR	Max Power Antenna D					MPR	Reduced Power Antenna C					MPR	Reduced Power Antenna D				
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	5	QPSK	1	0	0	22.8	22.8	22.9	22.2	22.4	0	20.6	20.6	21.0	21.1	20.7	0	14.2	14.1	14.2	14.2	14.2	0	14.3	14.3	14.4	14.4	14.4
			1	12	0	22.9	22.5	22.9	22.3	22.3	0	20.6	20.5	20.6	20.7	20.5	0	14.2	14.1	14.2	14.2	14.2	0	14.3	14.3	14.3	14.3	14.3
			1	24	0	22.9	22.3	22.9	22.4	22.1	0	20.6	20.6	20.3	20.5	20.3	0	14.2	14.1	14.2	14.2	14.2	0	14.4	14.3	14.3	14.3	14.4
			12	0	1	22.0	22.0	22.0	21.3	21.4	1	19.6	19.6	19.9	19.9	19.5	0	14.2	14.2	14.1	14.2	14.2	0	14.5	14.4	14.4	14.3	14.5
			12	7	1	22.0	22.0	21.9	21.3	21.4	1	19.6	19.5	19.6	19.8	19.5	0	14.2	14.2	14.1	14.2	14.2	0	14.5	14.3	14.3	14.4	14.4
			12	13	1	22.0	22.0	21.9	21.4	21.3	1	19.4	19.5	19.5	19.6	19.3	0	14.2	14.2	14.1	14.2	14.2	0	14.4	14.3	14.3	14.4	14.4
			25	0	1	22.0	22.0	21.9	21.4	21.3	1	19.4	19.5	19.6	19.8	19.5	0	14.1	14.1	14.2	14.1	14.1	0	14.5	14.3	14.3	14.4	14.4
		16QAM	1	0	1	22.0	22.0	22.0	21.2	21.5	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.4	14.5	14.5	14.5
			1	12	1	22.0	22.0	22.0	21.3	21.3	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.2	0	14.3	14.3	14.4	14.4	14.3
			1	24	1	21.9	22.0	22.0	21.5	21.2	1	19.7	19.4	20.0	20.0	19.6	0	14.2	14.2	14.2	14.2	14.2	0	14.4	14.4	14.4	14.5	14.3
			12	0	2	20.9	20.8	20.9	20.2	20.4	2	18.6	18.5	18.8	18.9	18.4	0	14.1	14.2	14.2	14.2	14.2	0	14.4	14.3	14.3	14.5	14.4
			12	7	2	20.9	20.8	20.9	20.3	20.3	2	18.6	18.6	18.8	18.9	18.4	0	14.1	14.2	14.2	14.2	14.2	0	14.5	14.4	14.3	14.4	14.4
			12	13	2	20.8	20.8	20.8	20.4	20.2	2	18.6	18.6	18.8	18.9	18.4	0	14.1	14.2	14.2	14.2	14.2	0	14.4	14.3	14.3	14.4	14.3
			25	0	2	20.8	20.8	21.0	20.3	20.3	2	18.5	18.5	18.6	18.8	18.4	0	14.2	14.1	14.1	14.1	14.1	0	14.5	14.3	14.4	14.4	14.3

9.5. LTE Rel. 11 Carrier Aggregation

LTE Carrier Aggregation Test Signal Set-up Procedure

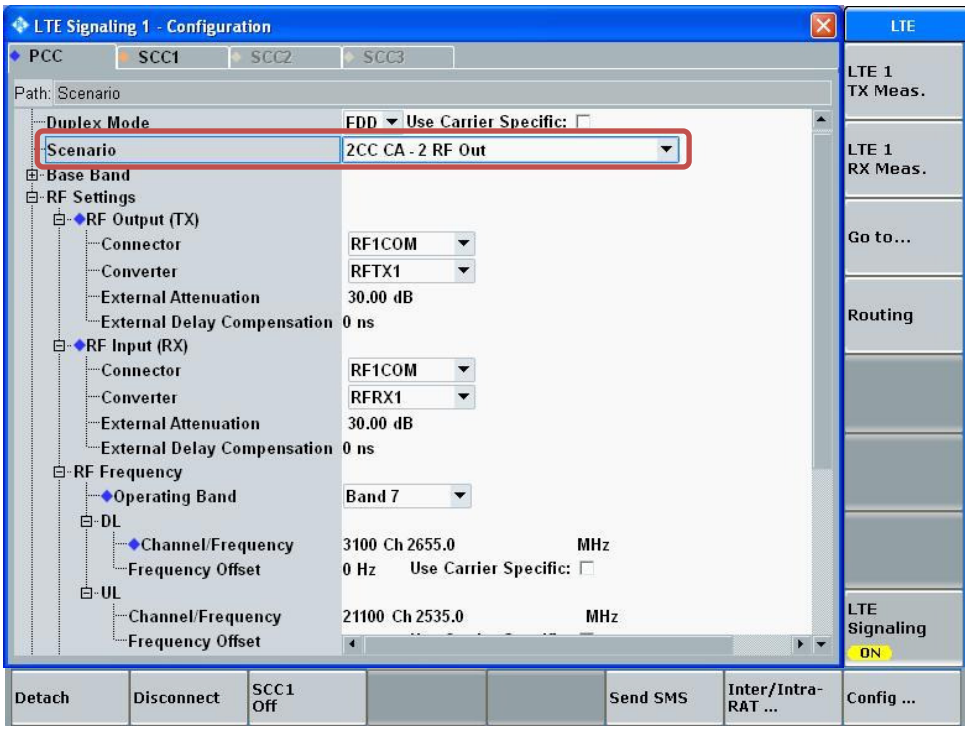
(Use normal LTE set-up procedure in addition with the following steps)

Set to CMW-500 with following parameters:

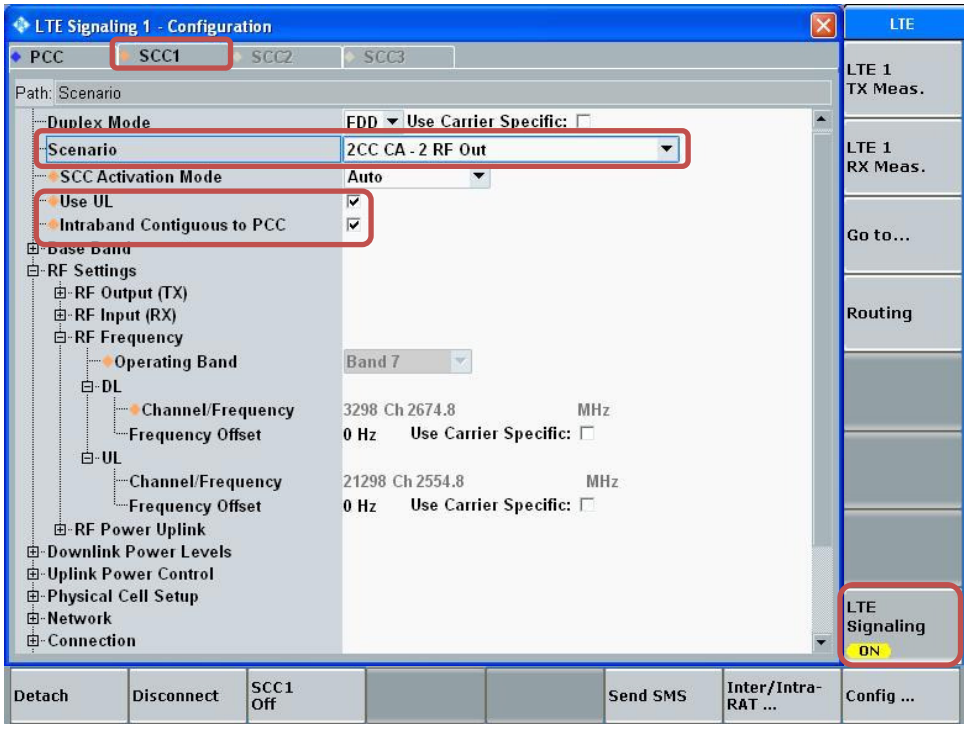
- PCC tab:
  - Select the testing Operating Band, Channel, Frequency, Cell Bandwidth, Uplink RBs
  - 

- Go to “Config….”

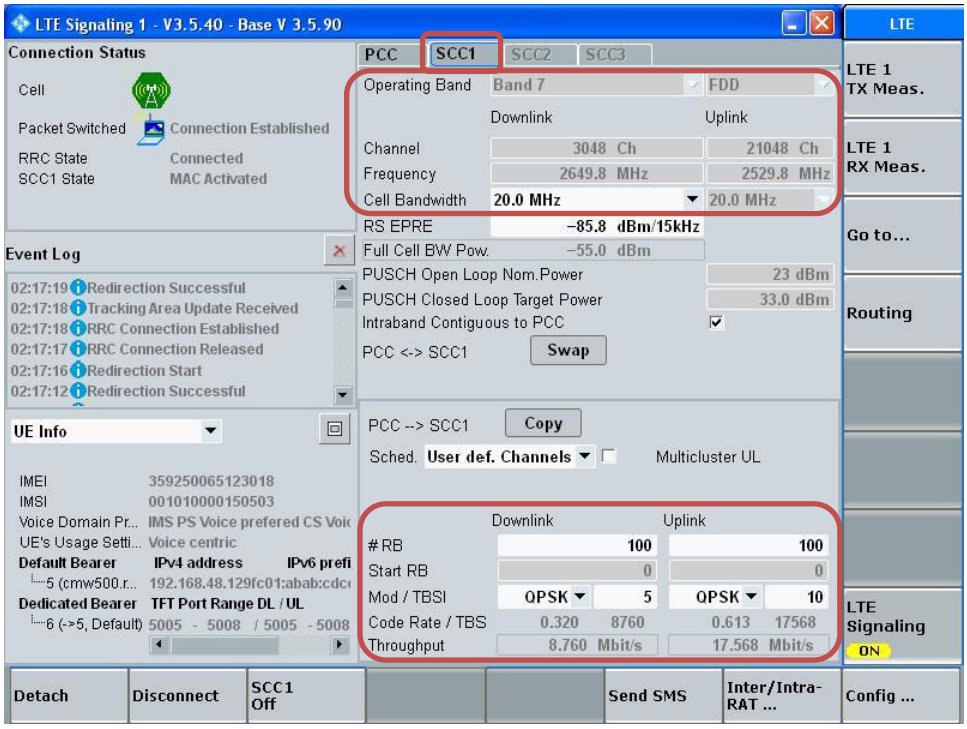
- Go to “Scenario”
- Set to “2CC CA – 2 RF Out”



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

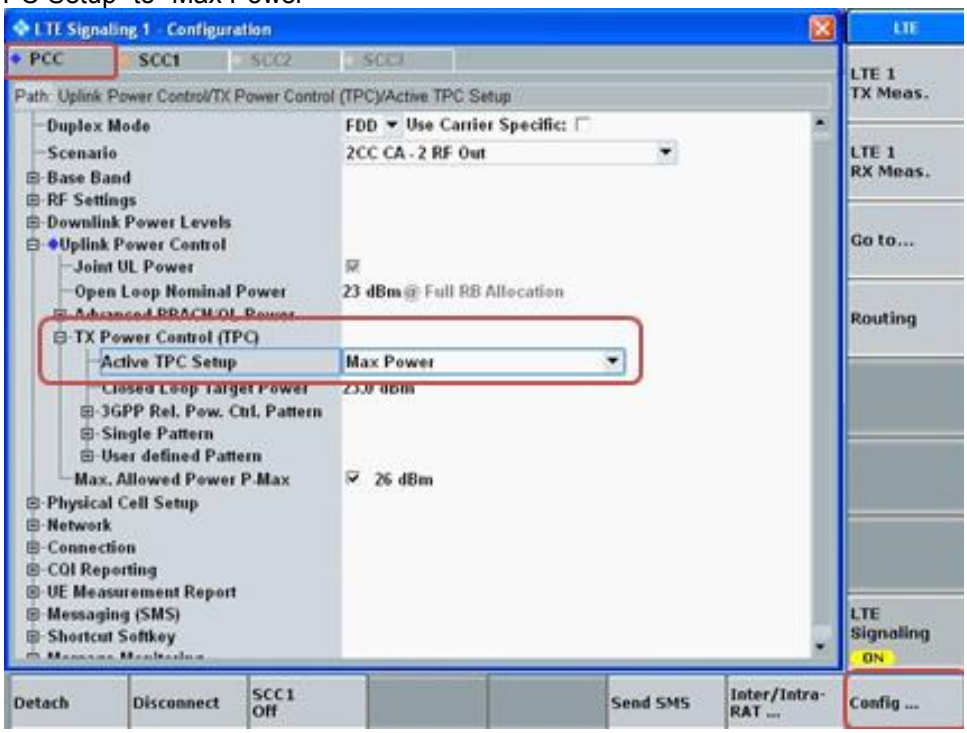


- Select “SCC1” tab
  - Select the testing Cell Bandwidth, Uplink RBs

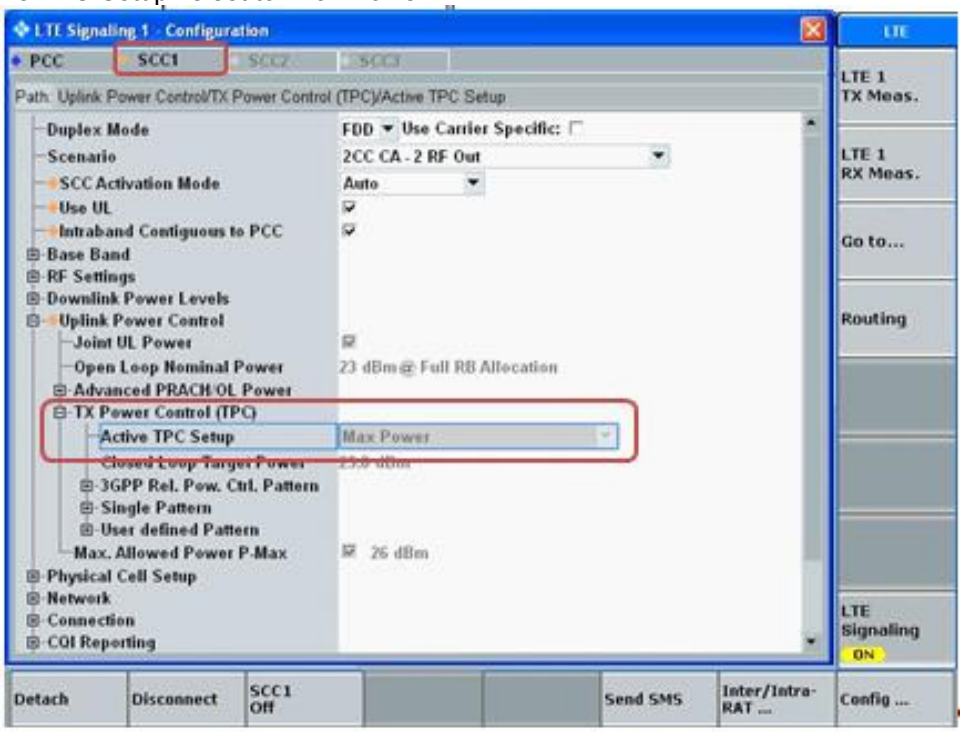


Max Power Setting

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

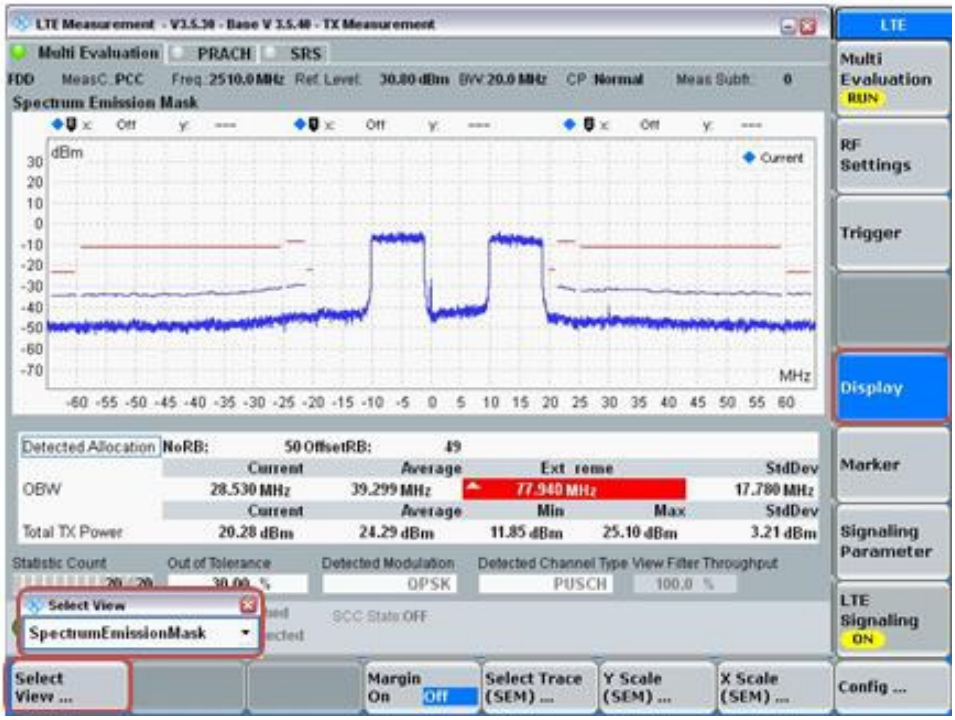


- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



View TX Power

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



LTE Carrier Aggregation: Device supports LTE Advanced Rel-11, UE Category 10 Carrier Aggregation (CA) on downlink for Inter and Intra band. Uplink CA is supported for Intra band only.

2DL & 3DL CA Inter-Band

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth					
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
CA_2A_4A (0) (1) (2)	2	Yes	Yes	Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
	2			Yes	Yes		
	4			Yes	Yes		
	2			Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
CA_2A_5A (0)	2			Yes	Yes	Yes	Yes
	5			Yes	Yes		
CA_2A_12A (0) (1)	2			Yes	Yes	Yes	Yes
	12			Yes	Yes		
	2			Yes	Yes	Yes	Yes
	12		Yes	Yes	Yes		
CA_2A_12B (0) (1)	2			Yes	Yes	Yes	Yes
	12	See CA_12B (0)					
CA_2A_2A_12A (0)	2	See CA_2A_2A (0)					
	12			Yes	Yes		
CA_2A_13A (0) (1)	2			Yes	Yes	Yes	Yes
	13				Yes		
	2			Yes	Yes		
	13				Yes		
CA_2A_2A_13A (0)	2	See CA_2A_2A (0)					
	13				Yes		
CA_2A_17A (0)	2			Yes	Yes		
	17			Yes	Yes		
CA_20_29A (0) (1) (2)	2			Yes	Yes		
	29		Yes	Yes	Yes		
	2			Yes	Yes		
	29			Yes	Yes		
	2			Yes	Yes	Yes	Yes
	29			Yes	Yes		
CA_2A_30A (0)	2			Yes	Yes	Yes	Yes
	30			Yes	Yes		
CA_4A_5A (0) (1)	4			Yes	Yes		
	5			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	5			Yes	Yes		
CA_4A_7A (0)	4			Yes	Yes		
	7			Yes	Yes	Yes	Yes
CA_4A_12A (0) (1) (2) (3) (4)	4	Yes	Yes	Yes	Yes		
	12			Yes	Yes		
	4	Yes	Yes	Yes	Yes	Yes	Yes
	12			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	12		Yes	Yes	Yes		
	4			Yes	Yes		
	12			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	12			Yes	Yes		
CA_4A_4A_12A (0)	4	See CA_4A_4A (0)					
	12			Yes	Yes		
CA_4A_12B (0)	4			Yes	Yes	Yes	Yes
	12	See CA_12B (0)					

CA_4A_13A (0) (1)	4			Yes	Yes	Yes	Yes
	13				Yes		
	4			Yes	Yes		
	13				Yes		
CA_4A_4A_13A (0)	4	See CA_4A_4A (0)					
	13				Yes		
CA_4A_17A (0)	4			Yes	Yes		
	17			Yes	Yes		
CA_4A_29A (0) (1) (2)	4			Yes	Yes		
	29		Yes	Yes	Yes		
	4			Yes	Yes		
	29			Yes	Yes		
	4			Yes	Yes	Yes	Yes
	29			Yes	Yes		
CA_4A_30A (0)	4			Yes	Yes	Yes	Yes
	30			Yes	Yes		
CA_5A_7A (0)	5	Yes	Yes	Yes	Yes		
	7				Yes	Yes	Yes
CA_5A_30A (0)	5			Yes	Yes		
	30			Yes	Yes		
CA_12A_30A (0)	12			Yes	Yes		
	30			Yes	Yes		
CA_25A_26A (0)	25		Yes	Yes	Yes	Yes	Yes
	26		Yes	Yes	Yes	Yes	
CA_29A_30A (0)	29			Yes	Yes		
	30			Yes	Yes		
CA_2A_4A_12A (0)	2			Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
	12			Yes	Yes		
CA_2A_4A_13A (0)	2			Yes	Yes	Yes	Yes
	4			Yes	Yes	Yes	Yes
	13				Yes		
CA_2A_5A_30A (0)	2			Yes	Yes	Yes	Yes
	5			Yes	Yes		
	30			Yes	Yes		
CA_2A_12A_30A (0)	2			Yes	Yes	Yes	Yes
	12			Yes	Yes		
	30			Yes	Yes		
CA_2A_29A_30A (0)	2			Yes	Yes	Yes	Yes
	29			Yes	Yes		
	30			Yes	Yes		
CA_4A_5A_30A (0)	4			Yes	Yes	Yes	Yes
	5			Yes	Yes		
	30			Yes	Yes		
CA_4A_12A_30A (0)	4			Yes	Yes	Yes	Yes
	12			Yes	Yes		
	30			Yes	Yes		
CA_4A_29A_30A (0)	4			Yes	Yes	Yes	Yes
	29			Yes	Yes		
	30			Yes	Yes		

2DL CA Intra-Band Non-Contiguous

E-UTRA CA configuration (BCS)	Component carriers in order of increasing carrier frequency		
	Carrier 1	Carrier 2	Carrier 3
CA_2A_2A (0)	5, 10, 15, 20	5, 10, 15, 20	
CA_4A_4A (0)	5, 10, 15, 20	5, 10, 15, 20	
CA_7A_7A (0)	5	15	
	10	10, 15	
	15	15, 20	
	20	20	
CA_25A_25A (0) (1)	5, 10	5, 10	
	5, 10, 15, 20	5, 10, 15, 20	
CA_41A_41A (0) (1)	10, 15, 20	10, 15, 20	
	5, 10, 15, 20	5, 10, 15, 20	
CA_41A_41C (0)	5, 10, 15, 20	See CA_41C (1)	
CA_41C_41A (0)	See CA_41C (1)		5, 10, 15, 20

2DL & 3DL CA Intra-Band Contiguous

E-UTRA CA configuration (BCS)	Component carriers in order of increasing carrier frequency		
	Allowed channel bandwidths (MHz)		
	Carrier 1	Carrier 2	Carrier 3
CA_2C (0)	5	20	
	10	15, 20	
	15	10, 15, 20	
	20	5, 10, 15, 20	
CA_7B (0)	15	5	
CA_7C (0) (1)	15	15	
	20	20	
	10	20	
	15	15, 20	
	20	10, 15, 20	
CA_12B (0)	5	5, 10	
CA_41C (0) (1) (2) (3)	10	20	
	15	15, 20	
	20	10, 15, 20	
	5, 10	20	
	15	15, 20	
	20	5, 10, 15, 20	
	10	15, 20	
	15	10, 15, 20	
	20	10, 15, 20	
	10	20	
	20	20	
CA_41D (0)	10	20	15
	10	15, 20	20
	15	20	10, 15
	15	10, 15, 20	20
	20	15, 20	10
	20	10, 15, 20	15, 20

2UL CA Intra-Band Contiguous

E-UTRA CA configuration (BCS)	Component carriers in order of increasing carrier frequency		
	Allowed channel bandwidths (MHz)		
	Carrier 1	Carrier 2	Carrier 3
CA_7C (0) (1)	15	15	
	20	20	
	10	20	
	15	15, 20	
	20	10, 15, 20	
CA_41C (0) (1)	10	20	
	15	15, 20	
	20	10, 15, 20	
	5, 10	20	
	15	15, 20	
	20	5, 10, 15, 20	

Carrier Aggregation Power Measurements:

DL CA power measurements for max RF output power mode were performed on the primary cellular antenna (Antenna C) with QPSK modulation, since it has the highest maximum RF output power.

CA power measurements were made for all supported PCC bandwidths on the channel/RB combination resulting in the highest output power. SCCs were set to the highest BW possible for the combination. For Band 2, CA power measurements were made for all 2DL and 3DL CA combinations. For the remaining PCC bands, UL power measurements were made for only one 2DL and one 3DL CA combination.

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power) measured with an average power meter. In all cases the DL CA power is less than or equal to the standalone power.

2DL & 3DL CA Inter-Band

DL (Antenna C)									UL (Antenna C)							
PCC	SCC	TCC	PCC		SCC		TCC		PCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta
2	4		1.4	1960	20	2132.5			QPSK	1	3	1880	0	25.0	25.0	0
2	4		3	1960	20	2132.5			QPSK	1	8	1880	0	25.0	25.0	0
2	4		5	1960	20	2132.5			QPSK	1	12	1880	0	25.0	25.0	0
2	4		10	1960	20	2132.5			QPSK	1	24	1880	0	25.0	25.0	0
2	4		15	1960	20	2132.5			QPSK	1	36	1880	0	25.0	25.0	0
2	4		20	1960	20	2132.5			QPSK	1	49	1880	0	25.0	25.0	0
2	5		5	1960	10	881.5			QPSK	1	12	1880	0	25.0	25.0	0
2	5		10	1960	10	881.5			QPSK	1	24	1880	0	25.0	25.0	0
2	5		15	1960	10	881.5			QPSK	1	36	1880	0	25.0	25.0	0
2	5		20	1960	10	881.5			QPSK	1	49	1880	0	25.0	25.0	0
2	12		5	1960	10	737.5			QPSK	1	12	1880	0	25.0	25.0	0
2	12		10	1960	10	737.5			QPSK	1	24	1880	0	25.0	25.0	0
2	12		15	1960	10	737.5			QPSK	1	36	1880	0	25.0	25.0	0
2	12		20	1960	10	737.5			QPSK	1	49	1880	0	25.0	25.0	0
2	13		5	1960	10	751			QPSK	1	12	1880	0	25.0	25.0	0
2	13		10	1960	10	751			QPSK	1	24	1880	0	25.0	25.0	0
2	13		15	1960	10	751			QPSK	1	36	1880	0	25.0	25.0	0
2	13		20	1960	10	751			QPSK	1	49	1880	0	25.0	25.0	0
2	17		5	1960	10	740			QPSK	1	12	1880	0	25.0	25.0	0
2	17		10	1960	10	740			QPSK	1	24	1880	0	25.0	25.0	0
2	29		5	1960	10	722.5			QPSK	1	12	1880	0	25.0	25.0	0
2	29		10	1960	10	722.5			QPSK	1	24	1880	0	25.0	25.0	0
2	29		15	1960	10	722.5			QPSK	1	36	1880	0	25.0	25.0	0
2	29		20	1960	10	722.5			QPSK	1	49	1880	0	25.0	25.0	0
2	30		5	1960	10	2355			QPSK	1	12	1880	0	25.0	25.0	0
2	30		10	1960	10	2355			QPSK	1	24	1880	0	25.0	25.0	0
2	30		15	1960	10	2355			QPSK	1	36	1880	0	25.0	25.0	0
2	30		20	1960	10	2355			QPSK	1	49	1880	0	25.0	25.0	0

DL (Antenna C)									UL (Antenna C)							
PCC	SCC	TCC	PCC		SCC		TCC		PCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta
4	2		5	2132.5	20	1960			QPSK	1	12	1732.5	0	25.0	24.8	-0.2
4	2		10	2132.5	20	1960			QPSK	1	24	1732.5	0	25.0	24.8	-0.2
4	2		15	2132.5	20	1960			QPSK	1	36	1732.5	0	25.0	24.8	-0.2
4	2		20	2132.5	20	1960			QPSK	1	49	1732.5	0	25.0	24.8	-0.2
5	2		5	881.5	20	1960			QPSK	1	12	836.5	0	25.0	25.0	0
5	2		10	881.5	20	1960			QPSK	1	24	836.5	0	25.0	25.0	0
7	4		5	2655	10	2132.5			QPSK	1	12	2535	0	25.0	25.0	0
7	4		10	2655	10	2132.5			QPSK	1	24	2535	0	25.0	25.0	0
7	4		15	2655	10	2132.5			QPSK	1	36	2535	0	25.0	25.0	0
7	4		20	2655	10	2132.5			QPSK	1	49	2535	0	25.0	25.0	0
12	2		3	737.5	20	1960			QPSK	1	8	707.5	0	25.0	25.0	0
12	2		5	737.5	20	1960			QPSK	1	12	707.5	0	25.0	25.0	0
12	2		10	737.5	20	1960			QPSK	1	24	707.5	0	25.0	25.0	0
13	2		10	751	20	1960			QPSK	1	24	782	0	24.5	24.5	0
17	2		5	740	10	1960			QPSK	1	12	710	0	25.0	25.0	0
17	2		10	740	10	1960			QPSK	1	24	710	0	25.0	25.0	0
25	26		5	1962.5	10	876.5			QPSK	1	12	1882.5	0	25.0	25.0	0
25	26		10	1962.5	10	876.5			QPSK	1	24	1882.5	0	25.0	25.0	0
25	26		15	1962.5	10	876.5			QPSK	1	36	1882.5	0	25.0	25.0	0
25	26		20	1962.5	10	876.5			QPSK	1	49	1882.5	0	25.0	25.0	0
26	25		5	876.5	20	1962.5			QPSK	1	12	831.5	0	25.0	25.0	0
26	25		10	876.5	20	1962.5			QPSK	1	24	831.5	0	25.0	25.0	0
30	2		5	2355	20	1960			QPSK	1	12	2310	0	22.5	22.5	0
30	2		10	2355	20	1960			QPSK	1	24	2310	0	22.5	22.5	0
2	4	12	5	1960	20	2132.5	10	737.5	QPSK	1	12	1880	0	25.0	25.0	0
2	4	12	10	1960	20	2132.5	10	737.5	QPSK	1	24	1880	0	25.0	25.0	0
2	4	12	15	1960	20	2132.5	10	737.5	QPSK	1	36	1880	0	25.0	25.0	0
2	4	12	20	1960	20	2132.5	10	737.5	QPSK	1	49	1880	0	25.0	25.0	0
2	4	13	5	1960	20	2132.5	10	751	QPSK	1	12	1880	0	25.0	25.0	0
2	4	13	10	1960	20	2132.5	10	751	QPSK	1	24	1880	0	25.0	25.0	0
2	4	13	15	1960	20	2132.5	10	751	QPSK	1	36	1880	0	25.0	25.0	0
2	4	13	20	1960	20	2132.5	10	751	QPSK	1	49	1880	0	25.0	24.9	-0.1
2	5	30	5	1960	10	881.5	10	2355	QPSK	1	12	1880	0	25.0	25.0	0
2	5	30	10	1960	10	881.5	10	2355	QPSK	1	24	1880	0	25.0	25.0	0
2	5	30	15	1960	10	881.5	10	2355	QPSK	1	36	1880	0	25.0	25.0	0
2	5	30	20	1960	10	881.5	10	2355	QPSK	1	49	1880	0	25.0	24.9	-0.1
2	12	30	5	1960	10	737.5	10	2355	QPSK	1	12	1880	0	25.0	25.0	0
2	12	30	10	1960	10	737.5	10	2355	QPSK	1	24	1880	0	25.0	25.0	0
2	12	30	15	1960	10	737.5	10	2355	QPSK	1	36	1880	0	25.0	25.0	0
2	12	30	20	1960	10	737.5	10	2355	QPSK	1	49	1880	0	25.0	25.0	0
2	29	30	5	1960	10	722.5	10	2355	QPSK	1	12	1880	0	25.0	25.0	0
2	29	30	10	1960	10	722.5	10	2355	QPSK	1	24	1880	0	25.0	25.0	0
2	29	30	15	1960	10	722.5	10	2355	QPSK	1	36	1880	0	25.0	25.0	0
2	29	30	20	1960	10	722.5	10	2355	QPSK	1	49	1880	0	25.0	25.0	0

DL (Antenna C)									UL (Antenna C)							
PCC	SCC	TCC	PCC		SCC		TCC		PCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta
4	2	12	5	2132.5	20	1960	10	737.5	QPSK	1	12	1732.5	0	25.0	24.8	-0.2
4	2	12	10	2132.5	20	1960	10	737.5	QPSK	1	24	1732.5	0	25.0	24.8	-0.2
4	2	12	15	2132.5	20	1960	10	737.5	QPSK	1	36	1732.5	0	25.0	24.8	-0.2
4	2	12	20	2132.5	20	1960	10	737.5	QPSK	1	49	1732.5	0	25.0	24.8	-0.2
5	2	30	5	881.5	20	1960	10	2355	QPSK	1	12	836.5	0	25.0	24.9	-0.1
5	2	30	10	881.5	20	1960	10	2355	QPSK	1	24	836.5	0	25.0	25.0	0
12	2	4	5	737.5	20	1960	20	2132.5	QPSK	1	12	707.5	0	25.0	25.0	0
12	2	4	10	737.5	20	1960	20	2132.5	QPSK	1	24	707.5	0	25.0	25.0	0
13	2	4	10	751	20	1960	20	2132.5	QPSK	1	24	782	0	24.5	24.5	0
30	2	5	5	2355	20	1960	10	881.5	QPSK	1	12	2310	0	22.5	22.5	0
30	2	5	10	2355	20	1960	10	881.5	QPSK	1	24	2310	0	22.5	22.5	0
12A	2A	2A	5	737.5	20	1960	20	1980	QPSK	1	12	707.5	0	25.0	25.0	0
12A	2A	2A	10	737.5	20	1960	20	1980	QPSK	1	24	707.5	0	25.0	25.0	0
12B	2A	12B	5	731.5	20	1960	10	738.7	QPSK	1	12	701.5	0	25.0	24.9	-0.1
12B	2A	12B	10	734	20	1960	5	741.2	QPSK	1	24	704	0	25.0	24.9	-0.1
13A	2A	2A	10	751	20	1960	20	1980	QPSK	1	24	782	0	24.5	24.5	0
2A	12B	12B	5	1960	5	731.5	10	738.7	QPSK	1	12	1880	0	25.0	25.0	0
2A	12B	12B	10	1960	5	731.5	10	738.7	QPSK	1	24	1880	0	25.0	25.0	0
2A	12B	12B	15	1960	5	731.5	10	738.7	QPSK	1	36	1880	0	25.0	25.0	0
2A	12B	12B	20	1960	5	731.5	10	738.7	QPSK	1	49	1880	0	25.0	24.9	-0.1
2A	2A	12A	5	1960	20	1980	10	737.5	QPSK	1	12	1880	0	25.0	25.0	0
2A	2A	12A	10	1960	20	1980	10	737.5	QPSK	1	24	1880	0	25.0	24.9	-0.1
2A	2A	12A	15	1960	20	1980	10	737.5	QPSK	1	36	1880	0	25.0	25.0	0
2A	2A	12A	20	1960	20	1980	10	737.5	QPSK	1	49	1880	0	25.0	24.9	-0.1
4A	12B	12B	5	2132.5	5	731.5	10	738.7	QPSK	1	12	1732.5	0	25.0	25.0	0
4A	12B	12B	10	2132.5	5	731.5	10	738.7	QPSK	1	24	1732.5	0	25.0	25.0	0
4A	12B	12B	15	2132.5	5	731.5	10	738.7	QPSK	1	36	1732.5	0	25.0	25.0	0
4A	12B	12B	20	2132.5	5	731.5	10	738.7	QPSK	1	49	1732.5	0	25.0	25.0	0
4A	4A	12A	5	2112.5	20	2140	10	737.5	QPSK	1	12	1712.5	0	25.0	24.9	-0.1
4A	4A	12A	10	2115	20	2140	10	737.5	QPSK	1	24	1715	0	25.0	24.9	-0.1
4A	4A	12A	15	2117.5	20	2140	10	737.5	QPSK	1	36	1717.5	0	25.0	25.0	0
4A	4A	12A	20	2120	20	2140	10	737.5	QPSK	1	49	1720	0	25.0	24.9	-0.1

2DL CA Intra-Band Non-Contiguous

DL (Antenna C)									UL (Antenna C)							
PCC	SCC	TCC	PCC		SCC		TCC		PCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta
2	2		5	1932.5	20	1980			QPSK	1	12	1852.5	0	25.0	25.0	0
2	2		10	1935	20	1980			QPSK	1	24	1855	0	25.0	25.0	0
2	2		15	1937.5	20	1980			QPSK	1	36	1857.5	0	25.0	25.0	0
2	2		20	1940	20	1980			QPSK	1	49	1860	0	25.0	25.0	0
25	4		5	2112.5	20	2145			QPSK	1	12	1712.5	0	25.0	25.0	0
4	4		10	2115	20	2145			QPSK	1	24	1715	0	25.0	25.0	0
4	4		15	2117.5	20	2145			QPSK	1	36	1717.5	0	25.0	25.0	0
4	4		20	2120	20	2145			QPSK	1	49	1720	0	25.0	25.0	0
7	7		5	2622.5	15	2682.5			QPSK	1	12	2502.5	0	25.0	25.0	0
7	7		10	2625	10	2685			QPSK	1	24	2505	0	25.0	25.0	0
7	7		10	2625	15	2682.5			QPSK	1	24	2505	0	25.0	25.0	0
7	7		15	2627.5	15	2682.5			QPSK	1	36	2507.5	0	25.0	25.0	0
7	7		15	2627.5	20	2680			QPSK	1	36	2507.5	0	25.0	25.0	0
7	7		20	2630	20	2680			QPSK	1	49	2510	0	25.0	25.0	0
25	25		5	1932.5	20	1985			QPSK	1	12	1852.5	0	25.0	25.0	0
25	25		10	1935	20	1985			QPSK	1	24	1855	0	25.0	25.0	0
25	25		15	1937.5	20	1985			QPSK	1	36	1857.5	0	25.0	25.0	0
25	25		20	1940	20	1985			QPSK	1	49	1860	0	25.0	25.0	0
41	41		5	2498.5	20	2680			QPSK	1	12	2498.5	0	23.0	23.0	0
41	41		10	2501	20	2680			QPSK	1	24	2501	0	23.0	22.9	-0.1
41	41		15	2503.5	20	2680			QPSK	1	36	2503.5	0	23.0	23.0	0
41	41		20	2506	20	2680			QPSK	1	49	2506	0	23.0	23.0	0
41A	41C	41C	5	2498.5	20	2593	20	2680.0	QPSK	1	12	2498.5	0	23.0	23.0	0
41A	41C	41C	10	2501	20	2593	20	2680.0	QPSK	1	24	2501	0	23.0	22.9	-0.1
41A	41C	41C	15	2503.5	20	2593	20	2680.0	QPSK	1	36	2503.5	0	23.0	22.9	-0.1
41A	41C	41C	20	2506	20	2593	20	2680.0	QPSK	1	49	2506	0	23.0	22.9	-0.1
41C	41C	41A	5	2498.5	20	2593	20	2680.0	QPSK	1	12	2498.5	0	23.0	23.0	0
41C	41C	41A	10	2501	20	2593	20	2680.0	QPSK	1	24	2501	0	23.0	22.9	-0.1
41C	41C	41A	15	2503.5	20	2593	20	2680.0	QPSK	1	36	2503.5	0	23.0	22.9	-0.1
41C	41C	41A	20	2506	20	2593	20	2680.0	QPSK	1	49	2506	0	23.0	22.9	-0.1

2DL & 3DL CA Intra-Band Contiguous

DL (Antenna C)									UL (Antenna C)							
PCC	SCC	TCC	PCC		SCC		TCC		PCC							
Band	Band	Band	BW	Frequency	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	MPR	Standalone	CA Power	Delta
2C	2C		5	1960	20	1972.5			QPSK	1	12	1880	0	25.0	25.0	0
2C	2C		10	1960	20	1975			QPSK	1	24	1880	0	25.0	25.0	0
2C	2C		15	1960	20	1977.5			QPSK	1	36	1880	0	25.0	25.0	0
2C	2C		20	1960	20	1980			QPSK	1	49	1880	0	25.0	25.0	0
7B	7B		5	2655	15	2665			QPSK	1	12	2535	0	25.0	25.0	0
7B	7B		15	2655	5	2665			QPSK	1	36	2535	0	25.0	25.0	0
7C	7C		10	2655	20	2670			QPSK	1	24	2535	0	25.0	25.0	0
7C	7C		15	2655	20	2672.5			QPSK	1	36	2535	0	25.0	25.0	0
7C	7C		20	2655	20	2675			QPSK	1	49	2535	0	25.0	25.0	0
12B	12B		5	731.5	5	736.3			QPSK	1	12	701.5	0	25.0	25.0	0
12B	12B		5	731.5	10	738.7			QPSK	1	12	701.5	0	25.0	25.0	0
12B	12B		10	734	5	741.2			QPSK	1	24	704	0	25.0	25.0	0
41C	41C		5	2593	20	2605.5			QPSK	1	12	2593	0	23.0	23.0	0
41C	41C		10	2593	20	2608			QPSK	1	24	2593	0	23.0	23.0	0
41C	41C		15	2593	20	2610.5			QPSK	1	36	2593	0	23.0	23.0	0
41C	41C		20	2593	20	2613			QPSK	1	49	2593	0	23.0	23.0	0
41D	41D	41D	10	2593	20	2608	20	2627.8	QPSK	1	24	2593	0	23.0	23.0	0
41D	41D	41D	15	2593	20	2608	20	2630.3	QPSK	1	36	2593	0	23.0	23.0	0
41D	41D	41D	20	2593	20	2613	20	2633	QPSK	1	49	2593	0	23.0	23.0	0

UL CA power measurements were performed for both antennas (Antenna C & Antenna D) at max RF output power and Reduced RF output power with QPSK modulation. 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 same channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to the highest bandwidth possible for the combination because the maximum power ratings are the same across all bandwidths.

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.

2UL CA Intra-Band Contiguous

Antenna C (Max Power)

DL (Antenna C)						UL (Antenna C)											
PCC	SCC	PCC		SCC		PCC				SCC			PCC Standalone		PCC+SCC		
Band	Band	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	RB	Offset	Frequency	MPR	Standalone Power	MPR	CA Power (Total PCC+SCC)	Delta
7C	7C	10	2655	20	2669.4	QPSK	1	49	2535	1	0	2549.4	0	25.0	0	23.0	-2.0
7C	7C	15	2655	20	2672.1	QPSK	1	74	2535	1	0	2552.1	0	24.9	0	23.0	-1.9
7C	7C	20	2655	20	2674.8	QPSK	1	99	2535	1	0	2554.8	0	24.9	0	23.0	-1.9
41C	41C	5	2593	20	2604.7	QPSK	1	24	2593	1	0	2604.7	0	23.0	0	21.4	-1.6
41C	41C	10	2593	20	2607.4	QPSK	1	49	2593	1	0	2607.4	0	23.0	0	21.5	-1.5
41C	41C	15	2593	20	2610.1	QPSK	1	74	2593	1	0	2610.1	0	23.0	0	21.5	-1.5
41C	41C	20	2593	20	2612.8	QPSK	1	99	2593	1	0	2612.8	0	23.0	0	21.5	-1.5

Antenna C (Reduced Power)

DL (Antenna C)						UL (Antenna C)											
PCC	SCC	PCC		SCC		PCC				SCC			PCC Standalone		PCC+SCC		
Band	Band	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	RB	Offset	Frequency	MPR	Standalone Power	MPR	CA Power (Total PCC+SCC)	Delta
7C	7C	10	2655	20	2669.4	QPSK	1	49	2535	1	0	2549.4	0	13.0	0	10.8	-2.2
7C	7C	15	2655	20	2672.1	QPSK	1	74	2535	1	0	2552.1	0	12.9	0	10.8	-2.1
7C	7C	20	2655	20	2674.8	QPSK	1	99	2535	1	0	2554.8	0	13.0	0	10.7	-2.3
41C	41C	5	2593	20	2604.7	QPSK	1	24	2593	1	0	2604.7	0	14.7	0	13.0	-1.7
41C	41C	10	2593	20	2607.4	QPSK	1	49	2593	1	0	2607.4	0	14.7	0	13.0	-1.7
41C	41C	15	2593	20	2610.1	QPSK	1	74	2593	1	0	2610.1	0	14.7	0	13.1	-1.6
41C	41C	20	2593	20	2612.8	QPSK	1	99	2593	1	0	2612.8	0	14.6	0	13.1	-1.5

2UL CA Intra-Band Contiguous (continued)

Antenna D (Max Power)

DL (Antenna D)						UL (Antenna D)											
PCC	SCC	PCC		SCC		PCC				SCC			PCC Standalone		PCC+SCC		
Band	Band	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	RB	Offset	Frequency	MPR	Standalone Power	MPR	CA Power (Total PCC+SCC)	Delta
7C	7C	10	2655	20	2669.4	QPSK	1	49	2535	1	0	2549.4	0	22.9	0	20.7	-2.2
7C	7C	15	2655	20	2672.1	QPSK	1	74	2535	1	0	2552.1	0	23.0	0	20.7	-2.3
7C	7C	20	2655	20	2674.8	QPSK	1	99	2535	1	0	2554.8	0	23.0	0	21.0	-2.0
41C	41C	5	2593	20	2604.7	QPSK	1	24	2593	1	0	2604.7	0	21.8	0	21.0	-0.8
41C	41C	10	2593	20	2607.4	QPSK	1	49	2593	1	0	2607.4	0	21.7	0	20.8	-0.9
41C	41C	15	2593	20	2610.1	QPSK	1	74	2593	1	0	2610.1	0	21.6	0	20.9	-0.7
41C	41C	20	2593	20	2612.8	QPSK	1	99	2593	1	0	2612.8	0	21.3	0	20.9	-0.4

Antenna D (Reduced Power)

DL (Antenna D)						UL (Antenna D)											
PCC	SCC	PCC		SCC		PCC				SCC			PCC Standalone		PCC+SCC		
Band	Band	BW	Frequency	BW	Frequency	Modulation	RB	Offset	Frequency	RB	Offset	Frequency	MPR	Standalone Power	MPR	CA Power (Total PCC+SCC)	Delta
7C	7C	10	2655	20	2669.4	QPSK	1	49	2535	1	0	2549.4	0	13.6	0	10.9	-2.7
7C	7C	15	2655	20	2672.1	QPSK	1	74	2535	1	0	2552.1	0	13.5	0	10.9	-2.6
7C	7C	20	2655	20	2674.8	QPSK	1	99	2535	1	0	2554.8	0	13.7	0	10.9	-2.8
41C	41C	5	2593	20	2604.7	QPSK	1	24	2593	1	0	2604.7	0	14.5	0	13.4	-1.1
41C	41C	10	2593	20	2607.4	QPSK	1	49	2593	1	0	2607.4	0	14.4	0	13.4	-1.0
41C	41C	15	2593	20	2610.1	QPSK	1	74	2593	1	0	2610.1	0	14.5	0	13.4	-1.1
41C	41C	20	2593	20	2612.8	QPSK	1	99	2593	1	0	2612.8	0	14.5	0	13.5	-1.0

9.6. Wi-Fi SISO

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
2.4	802.11b	1 Tx	1	2412	16.0	16.0
			6	2437	16.0	16.0
			11	2462	16.0	16.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.2	802.11n HT40	1 Tx	38	5190	14.0	Not Required
			46	5230	17.0	
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.3	802.11n HT40	1 Tx	54	5270	Not Required	15.5
			62	5310		14.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.5	802.11ac VHT80	1 Tx	106	5530	13.0	13.0
			122	5610	15.0	15.0
			138	5690	15.0	15.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.8	802.11ac VHT80	1 Tx	155	5775	15.0	15.5

Note(s):

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

9.7. WLAN MIMO

Measured Results

Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
2.4	802.11g	2 Tx	2	2417	16.0	16.0
			6	2437	16.0	16.0
			10	2457	16.0	16.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.2	802.11n HT40 CDD	2 Tx	38	5190	13.0	13.0
			46	5230	17.0	16.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.5	802.11ac VHT80 CDD	2 Tx	106	5530	11.5	11.5
			122	5610	15.0	15.0
			138	5690	15.0	15.0
Band (GHz)	Mode	No. of Transmitters	Ch #	Freq. (MHz)	Max. Avg. RF Output Power (dBm)	
					Antenna A	Antenna B
5.8	802.11ac VHT80 CDD	2 Tx	155	5775	15.0	15.4

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.

9.8. Bluetooth

P_{High} Average Power Measured Results

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)
2.4	GFSK	0	2402	16.2
		39	2441	16.5
		78	2480	16.5

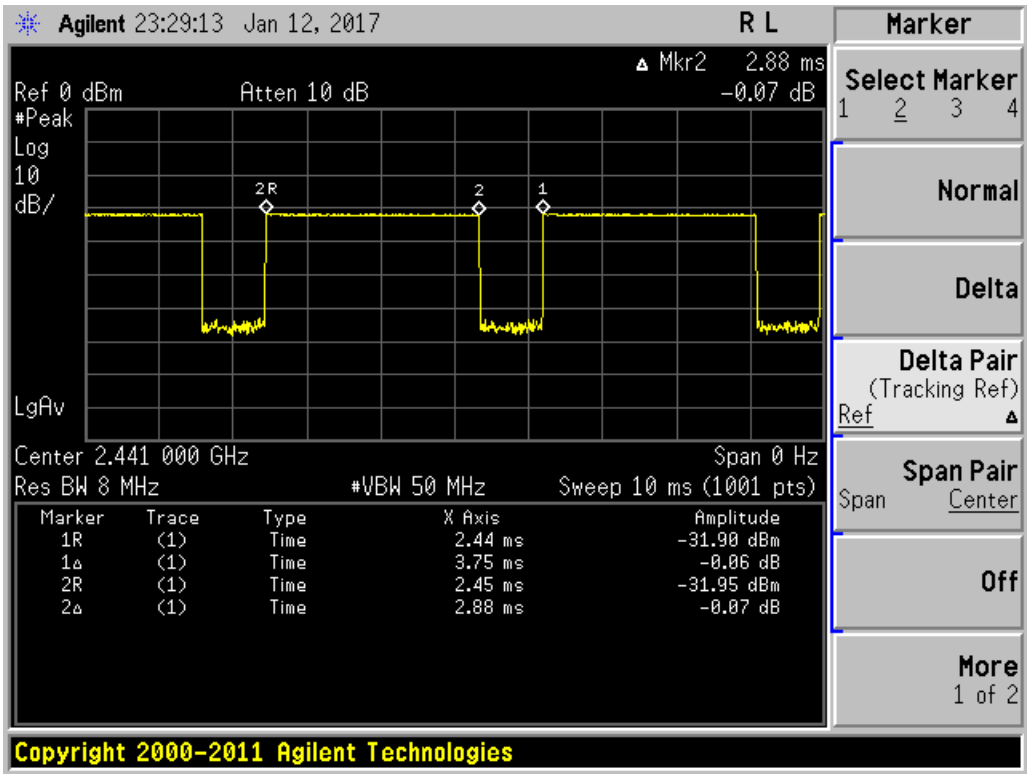
P_{Low} Average Power Measured Results

Band (GHz)	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)
2.4	GFSK	0	2402	9.5
		39	2441	9.6
		78	2480	9.4

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH1	2.88	3.75	76.80%	1.30
	DH3	2.88	3.75	76.80%	1.30
	DH5	2.88	3.75	76.80%	1.30

GFSK Duty Cycle plots



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

KDB 447498 D01 General RF Exposure Guidance:
Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

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

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

KDB 941225 D05 SAR for LTE Devices:
SAR test reduction is applied using the following criteria:

- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
- Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

KDB 248227 D01 SAR meas for 802.11:
SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

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

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

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

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

10.1. GSM850

Mode	Antenna	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	
GPRS 2 Slots	C	0	Rear	128	824.2	25.0	25.0	1.000	1.000	0.498	0.498	
				190	836.6	25.0	25.0	0.893	0.893	0.446	0.446	
				251	848.8	25.0	25.0	0.778	0.778	0.388	0.388	
			Edge 1	190	836.6	25.0	25.0	0.606	0.606	0.287	0.287	
			Edge 2	190	836.6	25.0	25.0	0.076	0.076	0.041	0.041	
			Edge 3	190	836.6	25.0	25.0	0.014	0.014	0.007	0.007	
GPRS 2 Slots	D	0	Rear	128	824.2	24.0	24.0	1.170	1.170	0.581	0.581	1
				190	836.6	24.0	24.0	1.060	1.060	0.479	0.479	
				251	848.8	24.0	24.0	0.967	0.967	0.433	0.433	
			Edge 1	190	836.6	24.0	24.0	0.748	0.748	0.358	0.358	
			Edge 3	190	836.6	24.0	24.0	0.006	0.006	0.003	0.003	
			Edge 4	190	836.6	24.0	24.0	0.046	0.046	0.023	0.023	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

10.2. GSM1900

Mode	Antenna	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	
GPRS 2 Slots	C	0	Rear	512	1850.2	19.0	18.8	0.884	0.926	0.396	0.415	
				661	1880.0	19.0	18.7	0.948	1.016	0.423	0.453	
				810	1909.8	19.0	18.8	1.070	1.120	0.471	0.493	
			Edge 1	661	1880.0	19.0	18.7	0.461	0.494	0.221	0.237	
			Edge 2	661	1880.0	19.0	18.7	0.082	0.088	0.040	0.043	
			Edge 3	661	1880.0	19.0	18.7	-	-	-	-	
GPRS 2 Slots	D	0	Rear	512	1850.2	20.8	20.8	1.110	1.110	0.509	0.509	
				661	1880.0	20.8	20.7	1.140	1.167	0.519	0.531	2
				810	1909.8	20.8	20.8	1.080	1.080	0.484	0.484	
			Edge 1	661	1880.0	20.8	20.7	0.578	0.591	0.279	0.285	
			Edge 3	661	1880.0	20.8	20.7	-	-	-	-	
			Edge 4	661	1880.0	20.8	20.7	0.069	0.071	0.033	0.034	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.

10.3. W-CDMA Band II

Mode	Antenna	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	
Rel 99 RMC 12.2 kbps	C	0	Rear	9262	1852.4	12.6	12.3	0.889	0.953	0.404	0.433	
				9400	1880.0	12.6	12.3	1.020	1.093	0.451	0.484	3
				9538	1907.6	12.6	12.3	0.985	1.055	0.440	0.471	
			Edge 1	9400	1880.0	12.6	12.3	0.453	0.485	0.216	0.231	
			Edge 2	9400	1880.0	12.6	12.3	0.094	0.101	0.045	0.048	
			Edge 3	9400	1880.0	12.6	12.3	-	-	-	-	
Rel 99 RMC 12.2 kbps	D	0	Rear	9262	1852.4	14.2	13.8	0.953	1.045	0.428	0.469	
				9400	1880.0	14.2	14.0	0.925	0.969	0.422	0.442	
				9538	1907.6	14.2	13.8	0.890	0.976	0.403	0.442	
			Edge 1	9400	1880.0	14.2	14.0	0.513	0.537	0.243	0.254	
			Edge 3	9400	1880.0	14.2	14.0	-	-	-	-	
			Edge 4	9400	1880.0	14.2	14.0	0.049	0.051	0.024	0.025	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.

10.4. W-CDMA Band IV

Mode	Antenna	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	
Rel 99 RMC 12.2 kbps	C	0	Rear	1312	1712.4	13.0	13.0	1.060	1.060	0.471	0.471	
				1413	1732.6	13.0	13.0	1.080	1.080	0.479	0.479	
				1513	1752.6	13.0	13.0	1.140	1.140	0.500	0.500	4
			Edge 1	1413	1732.6	13.0	13.0	0.568	0.568	0.275	0.275	
			Edge 2	1413	1732.6	13.0	13.0	0.052	0.052	0.027	0.027	
			Edge 3	1413	1732.6	13.0	13.0	-	-	-	-	
Rel 99 RMC 12.2 kbps	D	0	Rear	1312	1712.4	13.7	13.3	1.020	1.118	0.459	0.503	
				1413	1732.6	13.7	13.2	1.010	1.133	0.455	0.511	
				1513	1752.6	13.7	13.2	1.000	1.122	0.448	0.503	
			Edge 1	1413	1732.6	13.7	13.2	0.529	0.594	0.256	0.287	
			Edge 3	1413	1732.6	13.7	13.2	-	-	-	-	
			Edge 4	1413	1732.6	13.7	13.2	0.065	0.073	0.032	0.036	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.

10.5. W-CDMA Band V

Mode	Antenna	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	
Rel 99 RMC 12.2 kbps	C	0	Rear	4132	826.4	18.8	18.5	0.801	0.858	0.410	0.439	
				4183	836.6	18.8	18.5	0.818	0.877	0.418	0.448	
				4233	846.6	18.8	18.5	0.885	0.948	0.454	0.486	
			Edge 1	4183	836.6	18.8	18.5	0.668	0.716	0.317	0.340	
			Edge 2	4183	836.6	18.8	18.5	0.110	0.118	0.060	0.064	
			Edge 3	4183	836.6	18.8	18.5	0.017	0.018	0.010	0.010	
Rel 99 RMC 12.2 kbps	D	0	Rear	4132	826.4	17.2	17.0	1.120	1.173	0.524	0.549	5
				4183	836.6	17.2	17.0	1.100	1.152	0.514	0.538	
				4233	846.6	17.2	17.0	1.040	1.089	0.487	0.510	
			Edge 1	4183	836.6	17.2	17.0	0.741	0.776	0.350	0.366	
			Edge 3	4183	836.6	17.2	17.0	0.009	0.009	0.006	0.006	
			Edge 4	4183	836.6	17.2	17.0	0.049	0.051	0.026	0.027	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

10.6. CDMA BC0

Mode	Antenna	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	
1xRTT (RC3 SO32)	C	0	Rear	1013	824.7	18.8	18.4	0.898	0.985	0.464	0.509	
				384	836.5	18.8	18.4	0.861	0.944	0.445	0.488	
				777	848.3	18.8	18.4	0.856	0.939	0.443	0.486	
			Edge 1	384	836.5	18.8	18.4	0.709	0.777	0.329	0.361	
			Edge 2	384	836.5	18.8	18.4	0.077	0.085	0.040	0.044	
			Edge 3	384	836.5	18.8	18.4	0.009	0.010	0.005	0.006	
1xEVDO (Rel. 0)	C	0	Rear	1013	824.7	18.8	18.6	0.922	0.965	0.481	0.504	
				384	836.5	18.8	18.5	0.885	0.948	0.462	0.495	
				777	848.3	18.8	18.4	0.858	0.941	0.447	0.490	
			Edge 1	384	836.5	18.8	18.5	0.688	0.737	0.330	0.354	
			Edge 2	384	836.5	18.8	18.5	0.078	0.083	0.041	0.044	
			Edge 3	384	836.5	18.8	18.5	0.008	0.009	0.005	0.005	
1xRTT (RC3 SO32)	D	0	Rear	1013	824.7	17.2	17.0	1.090	1.141	0.519	0.543	6
				384	836.5	17.2	17.0	0.984	1.030	0.469	0.491	
				777	848.3	17.2	17.0	0.963	1.008	0.461	0.483	
			Edge 1	384	836.5	17.2	17.0	0.676	0.708	0.321	0.336	
			Edge 3	384	836.5	17.2	17.0	0.007	0.008	0.004	0.004	
			Edge 4	384	836.5	17.2	17.0	0.048	0.050	0.026	0.027	
1xEVDO (Rel. 0)	D	0	Rear	1013	824.7	17.2	17.0	1.020	1.068	0.507	0.531	
				384	836.5	17.2	17.0	0.941	0.985	0.470	0.492	
				777	848.3	17.2	17.0	0.923	0.966	0.462	0.484	
			Edge 1	384	836.5	17.2	17.0	0.703	0.736	0.330	0.346	
			Edge 3	384	836.5	17.2	17.0	0.002	0.002	0.001	0.001	
			Edge 4	384	836.5	17.2	17.0	0.049	0.051	0.026	0.027	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

10.7. CDMA BC1

Mode	Antenna	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	
1xRTT (RC3 SO32)	C	0	Rear	25	1851.3	12.6	12.1	1.010	1.133	0.445	0.499	
				600	1880.0	12.6	12.3	0.996	1.067	0.439	0.470	
				1175	1908.8	12.6	12.3	0.925	0.991	0.413	0.443	
			Edge 1	600	1880.0	12.6	12.3	0.450	0.482	0.213	0.228	
			Edge 2	600	1880.0	12.6	12.3	0.070	0.075	0.035	0.038	
			Edge 3	600	1880.0	12.6	12.3	-	-	-	-	
1xEVDO (Rel. 0)	C	0	Rear	25	1851.3	12.6	12.3	0.988	1.059	0.439	0.470	
				600	1880.0	12.6	12.3	0.975	1.045	0.431	0.462	
				1175	1908.8	12.6	12.3	1.040	1.114	0.457	0.490	7
			Edge 1	600	1880.0	12.6	12.3	0.466	0.499	0.220	0.236	
			Edge 2	600	1880.0	12.6	12.3	0.088	0.094	0.043	0.046	
			Edge 3	600	1880.0	12.6	12.3	-	-	-	-	
1xRTT (RC3 SO32)	D	0	Rear	25	1851.3	14.2	14.0	1.020	1.068	0.457	0.479	
				600	1880.0	14.2	14.0	1.040	1.089	0.459	0.481	
				1175	1908.8	14.2	14.0	1.050	1.099	0.459	0.481	
			Edge 1	600	1880.0	14.2	14.0	0.513	0.537	0.244	0.255	
			Edge 3	600	1880.0	14.2	14.0	-	-	-	-	
			Edge 4	600	1880.0	14.2	14.0	0.051	0.053	0.025	0.026	
1xEVDO (Rel. 0)	D	0	Rear	25	1851.3	14.2	14.0	0.971	1.017	0.441	0.462	
				600	1880.0	14.2	14.0	0.964	1.009	0.438	0.459	
				1175	1908.8	14.2	14.0	0.980	1.026	0.441	0.462	
			Edge 1	600	1880.0	14.2	14.0	0.503	0.527	0.240	0.251	
			Edge 3	600	1880.0	14.2	14.0	-	-	-	-	
			Edge 4	600	1880.0	14.2	14.0	0.054	0.057	0.027	0.028	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.

10.8. CDMA BC10

Mode	Antenna	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	
1xRTT (RC3 SO32)	C	0	Rear	476	817.9	18.5	18.5	0.983	0.983	0.518	0.518	
				580	820.5	18.5	18.5	0.943	0.943	0.497	0.497	
				670	822.8	18.5	18.5	0.923	0.923	0.487	0.487	
			Edge 1	580	820.5	18.5	18.5	0.631	0.631	0.312	0.312	
			Edge 2	580	820.5	18.5	18.5	0.092	0.092	0.049	0.049	
			Edge 3	580	820.5	18.5	18.5	0.009	0.009	0.005	0.005	
1xEVDO (Rel. 0)	C	0	Rear	476	817.9	18.5	18.5	0.894	0.894	0.471	0.471	
				580	820.5	18.5	18.5	0.858	0.858	0.451	0.451	
				670	822.8	18.5	18.4	0.862	0.882	0.454	0.465	
			Edge 1	580	820.5	18.5	18.5	0.621	0.621	0.305	0.305	
			Edge 2	580	820.5	18.5	18.5	0.089	0.089	0.048	0.048	
			Edge 3	580	820.5	18.5	18.5	0.009	0.009	0.005	0.005	
1xRTT (RC3 SO32)	D	0	Rear	476	817.9	17.2	16.8	1.020	1.118	0.500	0.548	8
				580	820.5	17.2	17.0	1.030	1.079	0.507	0.531	
				670	822.8	17.2	17.0	1.040	1.089	0.510	0.534	
			Edge 1	580	820.5	17.2	17.0	0.685	0.717	0.322	0.337	
			Edge 3	580	820.5	17.2	17.0	0.010	0.010	0.006	0.006	
			Edge 4	580	820.5	17.2	17.0	0.056	0.059	0.032	0.033	
1xEVDO (Rel. 0)	D	0	Rear	476	817.9	17.2	17.0	1.050	1.099	0.526	0.551	
				580	820.5	17.2	16.9	1.000	1.072	0.507	0.543	
				670	822.8	17.2	17.0	0.988	1.035	0.501	0.525	
			Edge 1	580	820.5	17.2	16.9	0.682	0.731	0.319	0.342	
			Edge 3	580	820.5	17.2	16.9	0.011	0.012	0.007	0.007	
			Edge 4	580	820.5	17.2	16.9	0.052	0.056	0.030	0.032	

Note(s):

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

10.9. 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.

10.10. LTE Band 4 (20MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	20050	1720.0	1	49	13.0	13.0	1.070	1.070	0.482	0.482	
						50	24	13.0	12.9	1.030	1.054	0.465	0.476	
						100	0	13.0	13.0	1.050	1.050	0.478	0.478	
				20175	1732.5	1	49	13.0	12.9	1.070	1.095	0.482	0.493	
						50	24	13.0	13.0	1.090	1.090	0.489	0.489	
				20300	1745.0	1	49	13.0	12.9	1.080	1.105	0.485	0.496	
						50	24	13.0	13.0	1.110	1.110	0.496	0.496	
			Edge 1	20175	1732.5	1	49	13.0	12.9	0.541	0.554	0.268	0.274	
						50	24	13.0	13.0	0.536	0.536	0.264	0.264	
			Edge 2	20175	1732.5	1	49	13.0	12.9	0.051	0.052	0.026	0.027	
						50	24	13.0	13.0	0.052	0.052	0.026	0.026	
			Edge 3	20175	1732.5	1	49	13.0	12.9	-	-	-	-	
						50	24	13.0	13.0	-	-	-	-	
QPSK	D	0	Rear	20050	1720.0	1	49	13.7	13.3	0.953	1.045	0.443	0.486	
						50	24	13.7	13.3	0.973	1.067	0.451	0.495	
				20175	1732.5	1	49	13.7	13.2	0.976	1.095	0.445	0.499	
						50	24	13.7	13.3	0.980	1.075	0.452	0.496	
						100	0	13.7	13.3	0.989	1.084	0.452	0.496	
				20300	1745.0	1	49	13.7	13.3	1.020	1.118	0.465	0.510	9
						50	24	13.7	13.3	0.970	1.064	0.445	0.488	
			Edge 1	20175	1732.5	1	49	13.7	13.2	0.534	0.599	0.260	0.292	
						50	24	13.7	13.3	0.541	0.593	0.261	0.286	
			Edge 3	20175	1732.5	1	49	13.7	13.2	-	-	-	-	
						50	24	13.7	13.3	-	-	-	-	
			Edge 4	20175	1732.5	1	49	13.7	13.2	0.068	0.076	0.033	0.037	
						50	24	13.7	13.3	0.068	0.075	0.033	0.036	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.11. LTE Band 5 (10MHz Bandwidth)

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

10.12. LTE Band 7 (20MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	20850	2510.0	1	49	13.0	12.5	0.920	1.032	0.379	0.425	
						50	24	13.0	12.5	0.934	1.048	0.384	0.431	
				21100	2535.0	1	49	13.0	12.4	0.889	1.021	0.361	0.414	
						50	24	13.0	12.4	0.889	1.021	0.360	0.413	
						100	0	13.0	12.5	0.899	1.009	0.363	0.407	
				21350	2560.0	1	49	13.0	12.4	0.895	1.028	0.356	0.409	
						50	24	13.0	12.5	0.905	1.015	0.361	0.405	
			Edge 1	20850	2510.0	1	49	13.0	12.5	0.746	0.837	0.271	0.304	
						50	24	13.0	12.5	0.762	0.855	0.275	0.309	
				21100	2535.0	1	49	13.0	12.4	0.713	0.819	0.259	0.297	
						50	24	13.0	12.4	0.708	0.813	0.256	0.294	
						100	0	13.0	12.5	0.719	0.807	0.260	0.292	
				21350	2560.0	1	49	13.0	12.4	0.702	0.806	0.253	0.290	
						50	24	13.0	12.5	0.716	0.803	0.258	0.289	
			Edge 2	21100	2535.0	1	49	13.0	12.4	0.051	0.059	0.022	0.025	
						50	24	13.0	12.4	0.052	0.060	0.022	0.025	
			Edge 3	21100	2535.0	1	49	13.0	12.4	-	-	-	-	
						50	24	13.0	12.4	-	-	-	-	
QPSK	D	0	Rear	20850	2510.0	1	49	13.7	13.3	0.994	1.090	0.390	0.428	
						50	24	13.7	13.3	0.992	1.088	0.390	0.428	
				21100	2535.0	1	49	13.7	13.3	1.010	1.107	0.387	0.424	
						50	24	13.7	13.3	1.050	1.151	0.398	0.436	10
						100	0	13.7	13.3	1.010	1.107	0.387	0.424	
				21350	2560.0	1	49	13.7	13.2	0.960	1.077	0.364	0.408	
						50	24	13.7	13.3	0.972	1.066	0.369	0.405	
			Edge 1	20850	2510.0	1	49	13.7	13.3	0.860	0.943	0.310	0.340	
						50	24	13.7	13.3	0.829	0.909	0.298	0.327	
				21100	2535.0	1	49	13.7	13.3	0.791	0.867	0.284	0.311	
						50	24	13.7	13.3	0.803	0.880	0.288	0.316	
						100	0	13.7	13.3	0.836	0.917	0.299	0.328	
				21350	2560.0	1	49	13.7	13.2	0.835	0.937	0.299	0.335	
						50	24	13.7	13.3	0.855	0.937	0.307	0.337	
			Edge 3	21100	2535.0	1	49	13.7	13.3	-	-	-	-	
						50	24	13.7	13.3	-	-	-	-	
			Edge 4	21100	2535.0	1	49	13.7	13.3	0.041	0.045	0.019	0.021	
						50	24	13.7	13.3	0.043	0.047	0.019	0.020	

Note(s):

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.13. LTE Band 12 (10MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	23095	707.5	1	24	20.2	20.2	0.945	0.945	0.476	0.476	
						25	12	20.2	20.2	0.852	0.852	0.404	0.404	
						50	0	20.2	20.2	0.990	0.990	0.497	0.497	
			Edge 1	23095	707.5	1	24	20.2	20.2	0.771	0.771	0.391	0.391	
						25	12	20.2	20.2	0.765	0.765	0.399	0.399	
			Edge 2	23095	707.5	1	24	20.2	20.2	0.080	0.080	0.045	0.045	
						25	12	20.2	20.2	0.072	0.072	0.041	0.041	
			Edge 3	23095	707.5	1	24	20.2	20.2	0.009	0.009	0.005	0.005	
						25	12	20.2	20.2	0.009	0.009	0.006	0.006	
QPSK	D	0	Rear	23095	707.5	1	24	18.0	18.0	1.170	1.170	0.576	0.576	
						25	12	18.0	18.0	1.190	1.190	0.579	0.579	
						50	0	18.0	18.0	1.190	1.190	0.584	0.584	11
			Edge 1	23095	707.5	1	24	18.0	18.0	0.896	0.896	0.434	0.434	
						25	12	18.0	18.0	0.916	0.916	0.439	0.439	
						50	0	18.0	18.0	0.921	0.921	0.442	0.442	
			Edge 3	23095	707.5	1	24	18.0	18.0	0.021	0.021	0.011	0.011	
						25	12	18.0	18.0	0.021	0.021	0.011	0.011	
			Edge 4	23095	707.5	1	24	18.0	18.0	0.092	0.092	0.048	0.048	
						25	12	18.0	18.0	0.092	0.092	0.048	0.048	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.14. LTE Band 13 (10MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	23230	782.0	1	24	19.2	19.2	0.923	0.923	0.463	0.463	
						25	12	19.2	19.2	0.959	0.959	0.479	0.479	
						50	0	19.2	19.2	0.945	0.945	0.467	0.467	
			Edge 1	23230	782.0	1	24	19.2	19.2	0.694	0.694	0.326	0.326	
						25	12	19.2	19.2	0.721	0.721	0.338	0.338	
			Edge 2	23230	782.0	1	24	19.2	19.2	0.093	0.093	0.049	0.049	
						25	12	19.2	19.2	0.096	0.096	0.051	0.051	
			Edge 3	23230	782.0	1	24	19.2	19.2	0.017	0.017	0.009	0.009	
						25	12	19.2	19.2	0.017	0.017	0.009	0.009	
QPSK	D	0	Rear	23230	782.0	1	24	18.0	18.0	1.040	1.040	0.524	0.524	
						25	12	18.0	18.0	1.090	1.090	0.564	0.564	
						50	0	18.0	18.0	1.100	1.100	0.572	0.572	12
			Edge 1	23230	782.0	1	24	18.0	18.0	0.879	0.879	0.421	0.421	
						25	12	18.0	18.0	0.910	0.910	0.434	0.434	
						50	0	18.0	18.0	0.921	0.921	0.440	0.440	
			Edge 3	23230	782.0	1	24	18.0	18.0	0.018	0.018	0.009	0.009	
						25	12	18.0	18.0	0.019	0.019	0.010	0.010	
			Edge 4	23230	782.0	1	24	18.0	18.0	0.062	0.062	0.033	0.033	
						25	12	18.0	18.0	0.063	0.063	0.032	0.032	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.15. LTE Band 17 (10MHz Bandwidth)

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

10.16. LTE Band 25 (20MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	26140	1860.0	1	49	12.6	12.3	0.866	0.928	0.394	0.422	
						50	24	12.6	12.3	0.881	0.944	0.398	0.426	
				26365	1882.5	1	49	12.6	12.3	0.898	0.962	0.407	0.436	
						50	24	12.6	12.3	0.912	0.977	0.410	0.439	
						100	0	12.6	12.3	0.943	1.010	0.422	0.452	
				26590	1905.0	1	49	12.6	12.2	0.876	0.961	0.395	0.433	
						50	24	12.6	12.3	0.953	1.021	0.426	0.456	
			Edge 1	26365	1882.5	1	49	12.6	12.3	0.450	0.482	0.213	0.228	
						50	24	12.6	12.3	0.452	0.484	0.215	0.230	
			Edge 2	26365	1882.5	1	49	12.6	12.3	0.087	0.093	0.041	0.044	
						50	24	12.6	12.3	0.087	0.093	0.042	0.045	
			Edge 3	26365	1882.5	1	49	12.6	12.3	-	-	-	-	
						50	24	12.6	12.3	-	-	-	-	
QPSK	D	0	Rear	26140	1860.0	1	49	14.2	14.0	0.953	0.998	0.435	0.456	
						50	24	14.2	14.0	0.966	1.012	0.441	0.462	
				26365	1882.5	1	49	14.2	13.9	0.980	1.050	0.442	0.474	
						50	24	14.2	14.0	0.985	1.031	0.447	0.468	
						100	0	14.2	14.0	0.969	1.015	0.439	0.460	
				26590	1905.0	1	49	14.2	14.0	0.986	1.032	0.444	0.465	
						50	24	14.2	14.0	1.010	1.058	0.450	0.471	13
			Edge 1	26365	1882.5	1	49	14.2	13.9	0.488	0.523	0.231	0.248	
						50	24	14.2	14.0	0.499	0.523	0.236	0.247	
			Edge 3	26365	1882.5	1	49	14.2	13.9	-	-	-	-	
						50	24	14.2	14.0	-	-	-	-	
			Edge 4	26365	1882.5	1	49	14.2	13.9	0.047	0.050	0.022	0.024	
						50	24	14.2	14.0	0.048	0.051	0.024	0.025	

Note(s):

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.17. LTE Band 26 (10MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	26765	821.5	1	24	18.8	18.4	0.840	0.921	0.430	0.471	
						25	12	18.8	18.5	0.857	0.918	0.438	0.469	
				26865	831.5	1	24	18.8	18.4	0.827	0.907	0.422	0.463	
						25	12	18.8	18.4	0.808	0.886	0.412	0.452	
				26965	841.5	1	24	18.8	18.5	0.794	0.851	0.405	0.434	
						25	12	18.8	18.5	0.814	0.872	0.413	0.443	
						50	0	18.8	18.5	0.812	0.870	0.413	0.443	
			Edge 1	26865	831.5	1	24	18.8	18.4	0.639	0.701	0.306	0.336	
						25	12	18.8	18.4	0.630	0.691	0.297	0.326	
			Edge 2	26865	831.5	1	24	18.8	18.4	0.104	0.114	0.055	0.060	
						25	12	18.8	18.4	0.103	0.113	0.055	0.060	
			Edge 3	26865	831.5	1	24	18.8	18.4	0.013	0.014	0.007	0.008	
						25	12	18.8	18.4	0.015	0.016	0.009	0.010	
QPSK	D	0	Rear	26765	821.5	1	24	18.5	18.3	0.739	0.774	0.355	0.372	
						25	12	18.5	18.3	0.706	0.739	0.347	0.363	
				26865	831.5	1	24	18.5	18.3	0.733	0.768	0.350	0.366	
						25	12	18.5	18.3	0.820	0.859	0.421	0.441	
						50	0	18.5	18.3	0.828	0.867	0.426	0.446	
				26965	841.5	1	24	18.5	18.2	0.859	0.920	0.446	0.478	
						25	12	18.5	18.3	0.891	0.933	0.460	0.482	14
			Edge 1	26865	831.5	1	24	18.5	18.3	0.549	0.575	0.263	0.275	
						25	12	18.5	18.3	0.564	0.591	0.270	0.283	
			Edge 3	26865	831.5	1	24	18.5	18.3	0.016	0.017	0.010	0.010	
						25	12	18.5	18.3	0.017	0.017	0.010	0.010	
			Edge 4	26865	831.5	1	24	18.5	18.3	0.115	0.120	0.065	0.068	
						25	12	18.5	18.3	0.117	0.123	0.066	0.069	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.18. LTE Band 27 (10MHz Bandwidth)

SAR for LTE Band 27 (Frequency range: 814 – 824 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same or lower maximum tune-up limit and same channel
bandwidth.

10.19. LTE Band 30 (10MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	27710	2310.0	1	24	13.5	13.5	1.130	1.130	0.435	0.435	15
						25	12	13.5	13.5	1.110	1.110	0.428	0.428	
						50	0	13.5	13.5	1.120	1.120	0.432	0.432	
			Edge 1	27710	2310.0	1	24	13.5	13.5	0.811	0.811	0.297	0.297	
						25	12	13.5	13.5	0.799	0.799	0.293	0.293	
						50	0	13.5	13.5	0.804	0.804	0.294	0.294	
			Edge 2	27710	2310.0	1	24	13.5	13.5	0.101	0.101	0.045	0.045	
						25	12	13.5	13.5	0.108	0.108	0.049	0.049	
			Edge 3	27710	2310.0	1	24	13.5	13.5	-	-	-	-	
						25	12	13.5	13.5	-	-	-	-	
QPSK	D	0	Rear	27710	2310.0	1	24	12.8	12.8	1.110	1.110	0.473	0.473	
						25	12	12.8	12.7	1.030	1.054	0.438	0.448	
						50	0	12.8	12.8	1.040	1.040	0.445	0.445	
			Edge 1	27710	2310.0	1	24	12.8	12.8	0.842	0.842	0.316	0.316	
						25	12	12.8	12.7	0.818	0.837	0.306	0.313	
						50	0	12.8	12.8	0.828	0.828	0.310	0.310	
			Edge 3	27710	2310.0	1	24	12.8	12.8	-	-	-	-	
						25	12	12.8	12.7	-	-	-	-	
			Edge 4	27710	2310.0	1	24	12.8	12.8	0.078	0.078	0.033	0.033	
						25	12	12.8	12.7	0.070	0.072	0.029	0.030	

Note(s):
1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.20. LTE Band 41 (20MHz Bandwidth)

Mode	Antenna	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	
QPSK	C	0	Rear	39750	2506.0	1	49	14.7	14.1	0.974	1.118	0.383	0.440	
						50	24	14.7	14.2	0.983	1.103	0.386	0.433	
				40185	2549.5	1	49	14.7	14.1	1.000	1.148	0.383	0.440	
						50	24	14.7	14.1	1.010	1.160	0.385	0.442	
						100	0	14.7	14.2	1.010	1.133	0.386	0.433	
				40620	2593.0	1	49	14.7	14.2	0.949	1.065	0.350	0.393	
						50	24	14.7	14.1	0.965	1.108	0.356	0.409	
				41055	2636.5	1	49	14.7	14.1	0.937	1.076	0.337	0.387	
						50	24	14.7	14.2	0.967	1.085	0.347	0.389	
				41490	2680.0	1	49	14.7	14.1	0.920	1.056	0.325	0.373	
						50	24	14.7	14.2	0.923	1.036	0.327	0.367	
			Edge 1	40620	2593.0	1	49	14.7	14.2	0.674	0.756	0.236	0.265	
						50	24	14.7	14.1	0.685	0.786	0.238	0.273	
			Edge 2	40620	2593.0	1	49	14.7	14.2	0.041	0.046	0.017	0.019	
						50	24	14.7	14.1	0.044	0.051	0.018	0.021	
			Edge 3	40620	2593.0	1	49	14.7	14.2	-	-	-	-	
						50	24	14.7	14.1	-	-	-	-	
QPSK	D	0	Rear	39750	2506.0	1	49	14.5	14.5	0.862	0.862	0.346	0.346	
						50	24	14.5	14.5	0.873	0.873	0.350	0.350	
				40185	2549.5	1	49	14.5	14.5	0.894	0.894	0.351	0.351	
						50	24	14.5	14.5	0.907	0.907	0.355	0.355	
				40620	2593.0	1	49	14.5	14.5	0.837	0.837	0.339	0.339	
						50	24	14.5	14.5	0.882	0.882	0.337	0.337	
						100	0	14.5	14.5	0.859	0.859	0.347	0.347	
				41055	2636.5	1	49	14.5	14.5	0.847	0.847	0.316	0.316	
						50	24	14.5	14.5	0.869	0.869	0.325	0.325	
				41490	2680.0	1	49	14.5	14.5	1.170	1.170	0.471	0.471	16
						50	24	14.5	14.5	1.050	1.050	0.433	0.433	
			Edge 1	39750	2506.0	1	49	14.5	14.5	0.746	0.746	0.269	0.269	
						50	24	14.5	14.5	0.755	0.755	0.272	0.272	
				40185	2549.5	1	49	14.5	14.5	0.750	0.750	0.269	0.269	
						50	24	14.5	14.5	0.768	0.768	0.275	0.275	
				40620	2593.0	1	49	14.5	14.5	0.738	0.738	0.262	0.262	
						50	24	14.5	14.5	0.750	0.750	0.267	0.267	
						100	0	14.5	14.5	0.779	0.779	0.278	0.278	
				41055	2636.5	1	49	14.5	14.5	0.728	0.728	0.257	0.257	
						50	24	14.5	14.5	0.758	0.758	0.265	0.265	
				41490	2680.0	1	49	14.5	14.5	0.915	0.915	0.312	0.312	
						50	24	14.5	14.5	0.866	0.866	0.296	0.296	
			Edge 3	40620	2593.0	1	49	14.5	14.5	-	-	-	-	
						50	24	14.5	14.5	-	-	-	-	
			Edge 4	40620	2593.0	1	49	14.5	14.5	0.059	0.059	0.022	0.022	
						50	24	14.5	14.5	0.059	0.059	0.022	0.022	

Note(s):

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

RF Exposure Conditions	Mode	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	
QPSK	C	0	Rear	20850	2510.0	50	24	21048	2529.8	1	49	0	11.0	11.0	0.669	0.669	0.267	0.267	17
QPSK	D	0	Rear	21100	2535.0	50	24	20902	2515.2	1	49	0	11.2	11.2	0.651	0.651	0.262	0.262	

Notes:

1. From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allow both selections to have contiguous CA. Output power was measured and verified for these test cases.
2. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

RF Exposure Conditions	Mode	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	
QPSK	C	0	Rear	40185	2549.5	50	24	40383	2569.3	1	49	0	13.2	12.7	0.646	0.725	0.247	0.277	
QPSK	D	0	Rear	41490	2680.0	1	49	41292	2660.2	50	24	0	13.5	13.5	1.060	1.060	0.445	0.445	18

Notes:

1. From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allow both selections to have contiguous CA. Output power was measured and verified for these test cases.
2. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

10.23. Wi-Fi (DTS Band)

Variant 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	
2.4GHz	1 Tx	802.11b	0	Rear	6	2437	16.0	16.0			0.110	0.048	0.110	0.048					
				Edge 1	6	2437	16.0	16.0			0.004	0.001	0.004	0.001					
				Edge 3	6	2437	16.0	16.0			1.050	0.347	1.050	0.347					
					11	2462	16.0	16.0			0.986	0.327	0.986	0.327					
				Edge 4	6	2437	16.0	16.0			0.019	0.008	0.019	0.008					
2.4GHz	1 Tx	802.11b	0	Rear	6	2437			16.0	16.0					0.060	0.024	0.060	0.024	
				Edge 1	6	2437			16.0	16.0					-	-	-	-	
				Edge 2	6	2437			16.0	16.0					0.010	0.004	0.010	0.004	
				Edge 3	6	2437			16.0	16.0					0.875	0.291	0.875	0.291	
					11	2462			16.0	16.0					1.170	0.390	1.170	0.390	19
2.4GHz	2 Tx	802.11g CDD	0	Rear	6	2437	16.0	16.0	16.0	16.0	0.060	0.023	0.060	0.023	0.090	0.038	0.090	0.038	
				Edge 1	6	2437	16.0	16.0	16.0	16.0	0.003	0.001	0.003	0.001	0.005	0.002	0.005	0.002	
				Edge 1	6	2437	16.0	16.0	16.0	16.0	-	-	-	-	0.022	0.008	0.022	0.008	
				Edge 3	6	2437	16.0	16.0	16.0	16.0	1.100	0.367	1.100	0.367	0.884	0.297	0.884	0.297	
					10	2457	16.0	16.0	16.0	16.0	1.040	0.344	1.040	0.344	1.030	0.346	1.030	0.346	
				Edge 4	6	2437	16.0	16.0	16.0	16.0	0.023	0.010	0.023	0.010	-	-	-	-	

Variant 2 Spot Check

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	1 Tx	802.11b	0	Edge 3	11	2462			16.0	15.7					0.963	0.324	1.032	0.347	

Note(s):

1. Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

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

Variant 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	
5.2GHz	1 Tx	802.11n HT40	0	Rear	46	5230	17.0	17.0			0.144	0.057	0.144	0.057					
				Edge 1	46	5230	17.0	17.0			-	-	-	-					
				Edge 3	38	5180	14.0	14.0			0.611	0.201	0.611	0.201					
					46	5230	17.0	17.0			1.170	0.403	1.170	0.403					
				Edge 4	46	5230	17.0	17.0			0.000	0.000	0.000	0.000					
5.3 GHz	1 Tx	802.11n HT40	0	Rear	54	5270			16.0	15.5					0.015	0.002	0.017	0.002	
				Edge 1	54	5270			16.0	15.5					-	-	-	-	
				Edge 2	54	5270			16.0	15.5					-	-	-	-	
				Edge 3	54	5270			16.0	15.5					0.955	0.322	1.072	0.361	
					62	5310			14.0	14.0					0.729	0.222	0.729	0.222	
5.2GHz	2 Tx	802.11n HT40 CDD	0	Rear	46	5230	17.0	17.0	16.0	16.0	0.111	0.038	0.111	0.038	0.090	0.036	0.090	0.036	
				Edge 1	46	5230	17.0	17.0	16.0	16.0	-	-	-	-	-	-	-	-	
				Edge 2	46	5230	17.0	17.0	16.0	16.0	-	-	-	-	0.000	0.000	0.000	0.000	
				Edge 3	38	5180	13.0	13.0	13.0	13.0	0.417	0.133	0.417	0.133	0.443	0.141	0.443	0.141	
					46	5230	17.0	17.0	16.0	16.0	1.190	0.406	1.190	0.406	1.150	0.379	1.150	0.379	20
				Edge 4	46	5230	17.0	17.0	16.0	16.0	0.005	0.001	0.005	0.001	-	-	-	-	

Variant 2 Spot Check

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							Tune-up Limit	Measured	Tune-up Limit	Measured	Measured		Scaled		Measured		Scaled		
											1-g	10-g	1-g	10-g	1-g	10-g	1-g	10-g	
5.2 GHz	2 Tx	802.11n HT40 CDD	0	Edge 3	46	5230	17.0	16.8	16.0	16.0	1.010	0.343	1.058	0.359	1.000	0.327	1.000	0.327	

Note(s):

1. Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

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

Variant 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	
5.5GHz	1 Tx	802.11ac VHT80	0	Rear	122	5610	15.0	15.0			0.085	0.032	0.085	0.032					
				Edge 1	122	5610	15.0	15.0			0.019	0.008	0.019	0.008					
				Edge 3	122	5610	15.0	15.0			1.040	0.348	1.040	0.348					
					138	5690	15.0	15.0			1.140	0.358	1.140	0.358					
				Edge 4	122	5610	15.0	15.0			-	-	-	-					
5.5GHz	1 Tx	802.11ac VHT80	0	Rear	122	5610			15.0	15.0					0.079	0.031	0.079	0.031	
				Edge 1	122	5610			15.0	15.0					0.007	0.001	0.007	0.001	
				Edge 2	122	5610			15.0	15.0					-	-	-	-	
				Edge 3	122	5610			15.0	15.0					1.010	0.342	1.010	0.342	
					138	5690			15.0	15.0					0.999	0.332	0.999	0.332	
5.5GHz	1 Tx	802.11ac VHT80	0	Rear	122	5610	15.0	15.0	15.0	15.0	0.092	0.038	0.092	0.038	0.073	0.030	0.073	0.030	
				Edge 1	122	5610	15.0	15.0	15.0	15.0	0.023	0.009	0.023	0.009	0.029	0.012	0.029	0.012	
				Edge 2	122	5610	15.0	15.0	15.0	15.0	-	-	-	-	-	-	-	-	
				Edge 3	122	5610	15.0	15.0	15.0	15.0	1.150	0.359	1.150	0.359	1.120	0.346	1.120	0.346	
					138	5690	15.0	15.0	15.0	15.0	1.180	0.397	1.180	0.397	1.030	0.322	1.030	0.322	21
				Edge 4	122	5610	15.0	15.0	15.0	15.0	-	-	-	-	-	-	-	-	

Variant 2 Spot Check

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	2 Tx	802.11ac VHT80 CDD	0	Edge 3	138	5690	15.0	15.0	15.0	15.0	1.160	0.370	1.160	0.370	1.080	0.350	1.080	0.350	

Note(s):

1. Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

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

Variant 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	1 Tx	802.11ac VHT80	0	Rear	155	5775	15.0	15.0			0.111	0.049	0.111	0.049					
				Edge 1	155	5775	15.0	15.0			-	-	-	-					
				Edge 3	155	5775	15.0	15.0			1.170	0.388	1.170	0.388					22
				Edge 4	155	5775	15.0	15.0			0.004	0.001	0.004	0.001					
5.8 GHz	1 Tx	802.11ac VHT80	0	Rear	155	5775			15.5	15.5					0.089	0.036	0.089	0.036	
				Edge 1	155	5775			15.5	15.5					-	-	-	-	
				Edge 2	155	5775			15.5	15.5					0.006	0.001	0.006	0.001	
				Edge 3	155	5775			15.5	15.5					0.996	0.331	0.996	0.331	
5.8 GHz	2 Tx	802.11ac VHT80 CDD	0	Rear	155	5775	15.0	15.0	15.5	15.4	0.105	0.042	0.105	0.042	0.104	0.043	0.106	0.044	
				Edge 1	155	5775	15.0	15.0	15.5	15.4	0.021	0.012	0.021	0.012	0.017	0.008	0.018	0.009	
				Edge 2	155	5775	15.0	15.0	15.5	15.4	-	-	-	-	-	-	-	-	
				Edge 3	155	5775	15.0	15.0	15.5	15.4	1.150	0.383	1.150	0.383	1.070	0.358	1.095	0.366	
				Edge 4	155	5775	15.0	15.0	15.5	15.4	-	-	-	-	-	-	-	-	

Variant 2 Spot Check

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)				SAR (W/kg)								Plots
							Antenna A		Antenna B		Antenna A				Antenna B				
							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	1 Tx	802.11ac VHT80 CDD	0	Edge 3	155	5775	15.0	15.0			1.010	0.332	1.010	0.332					

Note(s):

1. Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

10.27. Bluetooth (P_{High})

Variant 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)		SAR (W/kg)				Plots
							Tune-up Limit	Measured	Measured		Scaled		
									1-g	10-g	1-g	10-g	
Bluetooth	1 Tx	GFSK	0	Rear	39	2441	17.0	16.5	0.115	0.049	0.129	0.055	
				Edge 1	39	2441	17.0	16.5	0.004	0.001	0.004	0.001	
				Edge 2	39	2441	17.0	16.5	0.008	0.002	0.009	0.002	
				Edge 3	0	2402	17.0	16.2	0.885	0.293	1.064	0.352	
					39	2441	17.0	16.5	1.030	0.342	1.156	0.384	23
					78	2480	17.0	16.5	0.987	0.328	1.107	0.368	
				Edge 4	39	2441	17.0	16.5	0.018	0.007	0.020	0.008	

Variant 2 Spot Check

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)		SAR (W/kg)				Plots
							Tune-up Limit	Measured	Measured		Scaled		
									1-g	10-g	1-g	10-g	
Bluetooth	1 Tx	GFSK	0	Edge 3	39	2441	17.0	16.7	1.040	0.348	1.114	0.373	

Note(s):

1. Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

10.28. Bluetooth (P_{Low})

Variant 1

Band	No. of Transmitters	Mode	Dist. (mm)	Position	Ch #.	Freq. (MHz)	Power (dBm)		SAR (W/kg)				Plots
							Tune-up Limit	Measured	Measured		Scaled		
									1-g	10-g	1-g	10-g	
Bluetooth	1 Tx	GFSK	0	Rear	39	2441	10.5	9.6	0.017	0.006	0.021	0.007	
				Edge 1	39	2441	10.5	9.6	-	-	-	-	
				Edge 3	39	2441	10.5	9.6	0.190	0.061	0.234	0.075	
				Edge 4	39	2441	10.5	9.6	-	-	-	-	

Note(s):

1. Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.
3. Bluetooth Plow is triggered when 5 GHz Wi-Fi is on. Functional description of this mode is provided in technical description documents.

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 3 (1-g or 10-g respectively) 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 or 3 (1-g or 10-g respectively).

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	Standalone	Rear	Yes	1.190	1.170	1.02	N/A	N/A	
	LTE Band 13	Standalone	Rear	No	1.100	N/A	N/A			
850	GSM 850	Standalone	Rear	Yes	1.170	1.150	1.02	N/A	N/A	
	CDMA BC0	Standalone	Rear	No	1.090	N/A	N/A			
	CDMA BC10	Standalone	Rear	No	1.050	N/A	N/A			
	WCDMA Band V	Standalone	Rear	No	1.120	N/A	N/A			
	LTE Band 26	Standalone	Rear	No	0.891	N/A	N/A			
1900	GSM 1900	Standalone	Rear	Yes	1.140	1.130	1.01	N/A	N/A	
	CDMA BC1	Standalone	Rear	No	1.050	N/A	N/A			
	WCDMA Band II	Standalone	Rear	No	1.020	N/A	N/A			
	LTE Band 25	Standalone	Rear	No	1.010	N/A	N/A			
1700	LTE Band 4	Standalone	Rear	No	1.110	N/A	N/A			
	WCDMA Band IV	Standalone	Rear	Yes	1.140	1.120	1.02	N/A	N/A	
2300	LTE Band 30	Standalone	Rear	Yes	1.130	1.060	1.07	N/A	N/A	
2400	Wi-Fi 802.11b/g/n	Standalone	Edge 3	Yes	1.170	1.120	1.04	N/A	N/A	
	BT	Standalone	Edge 3	No	1.030	N/A	N/A			
2600	LTE Band 7	Standalone	Rear	No	1.050	N/A	N/A			
	LTE Band 41	Standalone	Rear	Yes	1.170	1.120	1.04	N/A	N/A	
5200	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	1.190	1.100	1.08	N/A	N/A	
5300	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	0.955	0.88	1.09	N/A	N/A	
5500	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	1.180	1.180	1.00	N/A	N/A	
5800	Wi-Fi 802.11a/n/ac	Standalone	Edge 3	Yes	1.170	1.110	1.05	N/A	N/A	

Note(s):

Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20 or 3 (1-g or 10-g respectively).

12. Simultaneous Transmission SAR Analysis

According to KDB 447498 D01, when the sum of SAR exceeds the limit for a combination of simultaneously transmitting antennas, SAR test exclusion is determined by the SAR to peak location separation ratio (SPLSR) between pairs of antennas within the combination. SPLSR is determined by $(SAR_1 + SAR_2)^{1.5} / Ri$, where SAR_1 and SAR_2 are the highest reported or estimated SAR values for each antenna, and ***Ri*** is the separation distance between the SAR peak locations. SAR peak locations and ***Ri*** are to be determined differently depending on the SAR values involved- measured or estimated- and all coordinates must be clearly identified in the report.

To qualify for SAR test exclusion by way of SPLSR, each antenna in the combination must be evaluated one pair at a time, and the SPLSR for all pairs must be ≤ 0.04 and 0.10, respectively, for 1-g and 10-g SAR evaluation.

Simultaneous Transmission Conditions

RF Exposure Condition	Item	Capable Transmit Configurations		
Body	1	WWAN OFF	+ Antenna A Wi-Fi 5 GHz SISO	+ Bluetooth (P_{low})
	2		+ Antenna B Wi-Fi 5 GHz SISO	+ Bluetooth (P_{low})
	3		+ Wi-Fi 5 GHz MIMO	+ Bluetooth (P_{low})
	4	Antenna C WWAN ON	+ Antenna A Wi-Fi 2.4 GHz SISO	
	5		+ Antenna B Wi-Fi 2.4 GHz SISO	
	6		+ Wi-Fi 2.4 GHz MIMO	
	7			+ Bluetooth (P_{High})
	8			+ Bluetooth (P_{low})
	9		+ Antenna A Wi-Fi 5 GHz SISO	
	10		+ Antenna B Wi-Fi 5 GHz SISO	
	11		+ Wi-Fi 5 GHz MIMO	
	12		+ Antenna A Wi-Fi 5 GHz SISO	+ Bluetooth (P_{low})
	13		+ Antenna B Wi-Fi 5 GHz SISO	+ Bluetooth (P_{low})
	14		+ Wi-Fi 5 GHz MIMO	+ Bluetooth (P_{low})
	15	Antenna D WWAN ON	+ Antenna A Wi-Fi 2.4 GHz SISO	
	16		+ Antenna B Wi-Fi 2.4 GHz SISO	
	17		+ Wi-Fi 2.4 GHz MIMO	
	18			+ Bluetooth (P_{High})
	19			+ Bluetooth (P_{low})
	20		+ Antenna A Wi-Fi 5 GHz SISO	
	21		+ Antenna B Wi-Fi 5 GHz SISO	
	22		+ Wi-Fi 5 GHz MIMO	
	23		+ Antenna A Wi-Fi 5 GHz SISO	+ Bluetooth (P_{low})
	24		+ Antenna B Wi-Fi 5 GHz SISO	+ Bluetooth (P_{low})
	25		+ Wi-Fi 5 GHz MIMO	+ Bluetooth (P_{low})

Notes:

1. Wi-Fi 2.4GHz cannot transmit simultaneously with Bluetooth Radio.
2. Conditions 9, 10 and 11 are covered by conditions 12, 13 and 14, respectively.
3. Condition 8 is covered by conditions 12, 13 and 14.
4. Conditions 20, 21 and 22 are covered by conditions 23, 24 and 25, respectively.
5. Condition 19 is covered by conditions 23, 24 and 25.
6. Antenna C Hotspot Mode is covered by conditions 4, 5 and 6.
7. Antenna D Hotspot Mode is covered by conditions 15, 16 and 17.

Estimated SAR for Simultaneous Transmission SAR Analysis

Considerations for SAR estimation

1. When standalone SAR test exclusion applies, standalone SAR must also be estimated to determine simultaneous transmission SAR test exclusion.
2. Dedicated Host Approach criteria for SAR test exclusion is likewise applied to SAR estimation, with certain distinctions between test exclusion and SAR estimation:
   - When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied for SAR estimation; this is the same between test exclusion and SAR estimation calculations.
   - When the separation distance from the antenna to an adjacent edge is > 5 mm but ≤ 50 mm, the actual antenna-to-edge separation distance is applied for SAR estimation.
   - When the minimum test separation distance is > 50 mm, the estimated SAR value is 0.4 W/kg
3. Please refer to Estimated SAR Tables to see which test positions are inherently compliant as they consist of only estimated SAR values for all applicable transmitters and consequently will always have sum of SAR values < 1.2 W/kg. Simultaneous transmission SAR analysis was therefore not performed for these test positions.
4. For conditions where the estimated SAR is overly conservative for certain conditions, the test lab may choose to perform standalone SAR measurements and use the measured SAR to determine simultaneous transmission SAR test exclusion.

Estimated SAR for WWAN

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Estimated 1-g SAR Value (W/kg)					
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna C																
Cellular	GPRS 2 Slots	848.8	25.0	79	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	GPRS 2 Slots	1909.8	19.0	20	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	W-CDMA 2	1907.6	12.6	18	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	W-CDMA 4	1752.6	13.0	20	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	W-CDMA 5	846.6	18.8	76	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	CDMA BC0	848.3	18.8	76	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	CDMA BC1	1908.8	12.6	18	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	CDMA BC10	823.1	18.5	71	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 2	1900.0	12.6	18	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 4	1754.3	13.0	20	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 5	844.0	18.8	76	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 7	2560.0	13.0	20	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 12	711.0	20.2	105	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 13	782.0	19.2	83	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 17	710.0	20.2	105	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 25	1905.0	12.6	18	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 26	841.4	18.8	76	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 27	815.5	18.5	71	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 30	2310.0	13.5	22	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 41	2680.0	14.7	30	4.78	3.38	52.42	290.87	122.96		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Antenna D																
Cellular	GPRS 2 Slots	848.8	24.0	63	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	GPRS 2 Slots	1909.8	20.8	30	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	W-CDMA 2	1907.6	14.2	26	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	W-CDMA 4	1752.6	13.7	23	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	W-CDMA 5	846.6	17.2	52	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	CDMA BC0	848.3	17.2	52	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	CDMA BC1	1908.8	14.2	26	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	CDMA BC10	823.1	17.2	52	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 4	1754.3	13.7	23	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 5	844.0	18.5	71	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 7	2560.0	13.7	23	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 12	711.0	18.0	63	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 13	782.0	18.0	63	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 17	710.0	18.0	63	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 25	1905.0	14.2	26	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 26	841.4	18.5	71	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 27	815.5	18.5	71	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 30	2310.0	12.8	19	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	
Cellular	LTE Band 41	2680.0	14.5	28	4.78	3.38	122.96	290.87	52.42		-MEASURE-	-MEASURE-	0.400	0.400	0.400	

Estimated SAR for WLAN

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						Estimated 1-g SAR Value (W/kg)					
		dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Antenna A															
Wi-Fi 2.4 GHz	2462	16.00	40	6.09	293.66	129.69	3.45	46.38		-MEASURE-	0.400	0.400	-MEASURE-	0.182	
Wi-Fi 5.2 GHz	5240	17.00	50	6.09	293.66	129.69	3.45	46.38		-MEASURE-	0.400	0.400	-MEASURE-	0.332	
Wi-Fi 5.3 GHz	5320	16.00	40	6.09	293.66	129.69	3.45	46.38		-MEASURE-	0.400	0.400	-MEASURE-	0.267	
Wi-Fi 5.5 GHz	5700	15.00	32	6.09	293.66	129.69	3.45	46.38		-MEASURE-	0.400	0.400	-MEASURE-	0.221	
Wi-Fi 5.8 GHz	5825	15.00	32	6.09	293.66	129.69	3.45	46.38		-MEASURE-	0.400	0.400	-MEASURE-	0.224	
Bluetooth	2480	20.00	100	6.09	293.66	129.69	3.45	46.38		-MEASURE-	0.400	0.400	-MEASURE-	-MEASURE-	
Antenna B															
Wi-Fi 2.4 GHz	2462	16.00	40	6.09	293.66	46.38	3.45	129.69		-MEASURE-	0.400	0.182	-MEASURE-	0.400	
Wi-Fi 5.2 GHz	5240	16.00	40	6.09	293.66	46.38	3.45	129.69		-MEASURE-	0.400	0.265	-MEASURE-	0.400	
Wi-Fi 5.3 GHz	5320	16.00	40	6.09	293.66	46.38	3.45	129.69		-MEASURE-	0.400	0.267	-MEASURE-	0.400	
Wi-Fi 5.5 GHz	5700	15.00	32	6.09	293.66	46.38	3.45	129.69		-MEASURE-	0.400	0.221	-MEASURE-	0.400	
Wi-Fi 5.8 GHz	5825	15.50	35	6.09	293.66	46.38	3.45	129.69		-MEASURE-	0.400	0.245	-MEASURE-	0.400	

12.1. Sum of the SAR for Wi-Fi and BT(P_{low})

RF Exposure Condition	Test Position	Standalone SAR (W/kg)				∑1-g SAR (W/g		
		(E)	(F)	(G)	(H)	(E) + (H)	(F) + (H)	(G) + (H)
		U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-low	U-NII + BT Ant. A + P-low	U-NII + BT Ant. B + P-low	U-NII + BT MIMO + P-low
Body	Rear	0.144	0.089	0.111	0.021	0.165	0.110	0.132
	Edge 2	0.400	0.006	0.000	0.400	0.800	0.406	0.400
	Edge 3	1.170	1.072	1.190	0.234	1.404	1.306	1.424
	Edge 4	0.004	0.400	0.005	0.000	0.004	0.400	0.005

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.2. Sum of the SAR for GSM850 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	1.000	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.110	1.060	1.090	1.129	1.165	1.110	1.132
	Edge 1	0.606	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.610	0.606	0.611	0.610	0.625	0.613	0.635
	Edge 2	0.076	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.476	0.086	0.098	0.085	0.876	0.482	0.476
	Edge 3	0.014	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.064	1.184	1.054	1.170	1.418	1.320	1.438
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.3. Sum of the SAR for GSM850 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.170	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.280	1.230	1.260	1.299	1.335	1.280	1.302
	Edge 1	0.748	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.752	0.748	0.753	0.752	0.767	0.755	0.777
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.006	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.056	1.176	1.046	1.162	1.410	1.312	1.430
	Edge 4	0.046	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.065	0.446	0.069	0.066	0.050	0.446	0.051

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.4. Sum of the SAR for GSM1900 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	1.120	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.230	1.180	1.211	1.249	1.285	1.231	1.252
	Edge 1	0.494	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.498	0.494	0.499	0.498	0.513	0.501	0.523
	Edge 2	0.088	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.488	0.098	0.110	0.096	0.888	0.493	0.488
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.5. Sum of the SAR for GSM1900 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.167	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.277	1.227	1.257	1.296	1.331	1.277	1.298
	Edge 1	0.591	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.595	0.591	0.596	0.596	0.611	0.599	0.621
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.071	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.090	0.471	0.094	0.091	0.075	0.471	0.076

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.6. Sum of the SAR for W-CDMA Band II (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	1.093	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.203	1.153	1.183	1.222	1.258	1.203	1.225
	Edge 1	0.485	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.489	0.485	0.490	0.490	0.505	0.493	0.514
	Edge 2	0.101	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.501	0.112	0.123	0.110	0.901	0.507	0.501
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.7. Sum of the SAR for W-CDMA Band II (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.045	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.155	1.105	1.135	1.174	1.210	1.155	1.177
	Edge 1	0.537	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.541	0.537	0.542	0.541	0.556	0.544	0.566
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.051	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.070	0.451	0.074	0.072	0.055	0.451	0.056

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.8. Sum of the SAR for W-CDMA Band IV (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	1.140	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.250	1.200	1.230	1.269	1.305	1.250	1.272
	Edge 1	0.568	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.572	0.568	0.573	0.572	0.587	0.575	0.597
	Edge 2	0.052	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.452	0.062	0.074	0.061	0.852	0.458	0.452
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.9. Sum of the SAR for W-CDMA Band IV (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.133	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.243	1.193	1.223	1.262	1.298	1.243	1.265
	Edge 1	0.594	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.597	0.594	0.598	0.598	0.613	0.601	0.623
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.073	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.092	0.473	0.096	0.093	0.077	0.473	0.078

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.10. Sum of the SAR for W-CDMA Band V (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	0.885	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	0.995	0.945	0.975	1.014	1.050	0.995	1.017
	Edge 1	0.687	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.691	0.687	0.692	0.691	0.706	0.694	0.716
	Edge 2	0.110	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.510	0.120	0.132	0.119	0.910	0.516	0.510
	Edge 3	0.017	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.067	1.187	1.057	1.173	1.421	1.323	1.441
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.11. Sum of the SAR for W-CDMA Band V (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.173	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.283	1.233	1.263	1.302	1.338	1.283	1.305
	Edge 1	0.776	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.780	0.776	0.781	0.780	0.795	0.783	0.805
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.009	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.059	1.179	1.049	1.165	1.413	1.315	1.433
	Edge 4	0.051	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.070	0.451	0.074	0.071	0.055	0.451	0.056

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.12. Sum of the SAR for CDMA BC 0 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	0.985	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.095	1.045	1.075	1.114	1.150	1.095	1.117
	Edge 1	0.826	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.829	0.826	0.830	0.830	0.845	0.833	0.855
	Edge 2	0.085	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.485	0.095	0.107	0.093	0.885	0.490	0.485
	Edge 3	0.010	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.060	1.180	1.050	1.166	1.414	1.316	1.434
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.13. Sum of the SAR for CDMA BC 0 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.141	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.251	1.201	1.232	1.270	1.306	1.251	1.273
	Edge 1	0.736	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.740	0.736	0.741	0.740	0.755	0.743	0.765
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.008	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.058	1.178	1.048	1.163	1.411	1.313	1.431
	Edge 4	0.051	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.070	0.451	0.074	0.072	0.055	0.451	0.056

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.14. Sum of the SAR for CDMA BC 1 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	1.133	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.243	1.193	1.223	1.262	1.298	1.243	1.265
	Edge 1	0.499	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.503	0.499	0.504	0.504	0.519	0.507	0.528
	Edge 2	0.094	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.494	0.105	0.116	0.103	0.894	0.500	0.494
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.15. Sum of the SAR for CDMA BC 1 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.099	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.209	1.159	1.190	1.229	1.264	1.210	1.231
	Edge 1	0.537	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.541	0.537	0.542	0.541	0.556	0.544	0.566
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.057	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.076	0.457	0.080	0.077	0.060	0.457	0.062

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.16. Sum of the SAR for CDMA BC 10 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	0.983	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.093	1.043	1.073	1.112	1.148	1.093	1.115
	Edge 1	0.631	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.635	0.631	0.636	0.635	0.650	0.638	0.660
	Edge 2	0.092	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.492	0.102	0.114	0.101	0.892	0.498	0.492
	Edge 3	0.009	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.059	1.179	1.049	1.165	1.413	1.315	1.433
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.17. Sum of the SAR for CDMA BC 10 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.118	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.228	1.178	1.209	1.247	1.283	1.229	1.250
	Edge 1	0.731	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.735	0.731	0.735	0.735	0.750	0.738	0.760
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.012	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.062	1.182	1.052	1.167	1.416	1.318	1.436
	Edge 4	0.059	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.078	0.459	0.082	0.079	0.062	0.459	0.064

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.18. Sum of the SAR for LTE Band 2 (Antenna C), Wi-Fi and BT

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.

12.19. Sum of the SAR for LTE Band 2 (Antenna D), Wi-Fi and BT

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.

12.20. Sum of the SAR for LTE Band 4 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	1.110	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.220	1.170	1.200	1.239	1.275	1.220	1.242
	Edge 1	0.554	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.557	0.554	0.558	0.558	0.573	0.561	0.583
	Edge 2	0.052	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.452	0.063	0.074	0.061	0.852	0.458	0.453
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.21. Sum of the SAR for LTE Band 4 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.118	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.228	1.178	1.209	1.247	1.283	1.229	1.250
	Edge 1	0.599	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.603	0.599	0.604	0.603	0.618	0.606	0.628
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.076	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.095	0.476	0.099	0.096	0.079	0.476	0.081

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.22. Sum of the SAR for LTE Band 5 (Antenna C), Wi-Fi and BT

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

12.23. Sum of the SAR for LTE Band 5 (Antenna D), Wi-Fi and BT

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

12.24. Sum of the SAR for LTE Band 7 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	1.048	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.158	1.108	1.138	1.177	1.213	1.158	1.180
	Edge 1	0.855	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.859	0.855	0.860	0.859	0.874	0.862	0.884
	Edge 2	0.060	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.460	0.070	0.082	0.068	0.860	0.465	0.460
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.25. Sum of the SAR for LTE Band 7 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.151	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.261	1.211	1.242	1.280	1.316	1.261	1.283
	Edge 1	0.943	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.947	0.943	0.948	0.947	0.962	0.950	0.972
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.047	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.066	0.447	0.070	0.068	0.051	0.447	0.053

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.26. Sum of the SAR for LTE Band 12 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.C	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.C+Ant.A	WWAN+DTS Ant.C+Ant.B	WWAN+DTS Ant.C+MIMO	WWAN+BT Ant.C+P-high	WWAN+U-NII+BT Ant.C+Ant.A+P-low	WWAN+U-NII+BT Ant.C+Ant.B+P-low	WWAN+U-NII+BT Ant.C+MIMO+P-low
Body	Rear	0.990	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.100	1.050	1.080	1.119	1.155	1.100	1.122
	Edge 1	0.771	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.775	0.771	0.776	0.775	0.790	0.778	0.800
	Edge 2	0.080	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.480	0.090	0.102	0.089	0.880	0.486	0.480
	Edge 3	0.009	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.059	1.179	1.049	1.165	1.413	1.315	1.433
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.27. Sum of the SAR for LTE Band 12 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A)+(B)	(A)+(C)	(A)+(D)	(A)+(H)	(A)+(E)+(I)	(A)+(F)+(I)	(A)+(G)+(I)
		WWAN Ant.D	DTS Ant.A	DTS Ant.B	DTS MIMO	U-NII Ant.A	U-NII Ant.B	U-NII MIMO	BT P-high	BT P-low	WWAN+DTS Ant.D+Ant.A	WWAN+DTS Ant.D+Ant.B	WWAN+DTS Ant.D+MIMO	WWAN+BT Ant.D+P-high	WWAN+U-NII+BT Ant.D+Ant.A+P-low	WWAN+U-NII+BT Ant.D+Ant.B+P-low	WWAN+U-NII+BT Ant.D+MIMO+P-low
Body	Rear	1.190	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.300	1.250	1.280	1.319	1.355	1.300	1.322
	Edge 1	0.921	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.925	0.921	0.926	0.925	0.940	0.928	0.950
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.021	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.071	1.191	1.061	1.177	1.425	1.327	1.445
	Edge 4	0.092	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.111	0.492	0.115	0.112	0.096	0.492	0.097

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.28. Sum of the SAR for LTE Band 13 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	0.959	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.069	1.019	1.049	1.088	1.124	1.069	1.091
	Edge 1	0.721	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.725	0.721	0.726	0.725	0.740	0.728	0.750
	Edge 2	0.096	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.496	0.107	0.118	0.105	0.896	0.502	0.496
	Edge 3	0.017	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.067	1.187	1.057	1.172	1.421	1.323	1.441
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.29. Sum of the SAR for LTE Band 13 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.100	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.210	1.160	1.190	1.229	1.265	1.210	1.232
	Edge 1	0.921	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.925	0.921	0.926	0.925	0.940	0.928	0.950
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.019	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.069	1.189	1.059	1.175	1.423	1.325	1.443
	Edge 4	0.063	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.082	0.463	0.086	0.083	0.067	0.463	0.068

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.30. Sum of the SAR for LTE Band 17 (Antenna C), Wi-Fi and BT

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.

12.31. Sum of the SAR for LTE Band 17 (Antenna D), Wi-Fi and BT

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.

12.32. Sum of the SAR for LTE Band 25 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	1.021	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.131	1.081	1.111	1.150	1.186	1.131	1.153
	Edge 1	0.484	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.488	0.484	0.489	0.489	0.504	0.492	0.513
	Edge 2	0.093	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.493	0.104	0.115	0.102	0.893	0.499	0.493
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.33. Sum of the SAR for LTE Band 25 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.058	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.168	1.118	1.148	1.187	1.223	1.168	1.190
	Edge 1	0.523	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.527	0.523	0.528	0.527	0.542	0.530	0.552
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.051	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.070	0.451	0.074	0.071	0.054	0.451	0.056

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.34. Sum of the SAR for LTE Band 26 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	0.921	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.031	0.981	1.011	1.050	1.086	1.031	1.053
	Edge 1	0.701	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.704	0.701	0.705	0.705	0.720	0.708	0.730
	Edge 2	0.114	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.514	0.125	0.136	0.123	0.914	0.520	0.514
	Edge 3	0.016	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.066	1.186	1.056	1.172	1.420	1.322	1.440
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.35. Sum of the SAR for LTE Band 26 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	0.933	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.043	0.993	1.023	1.062	1.098	1.043	1.065
	Edge 1	0.591	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.594	0.591	0.595	0.595	0.610	0.598	0.620
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.017	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.067	1.187	1.057	1.173	1.421	1.323	1.441
	Edge 4	0.123	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.142	0.523	0.146	0.143	0.126	0.523	0.128

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.36. Sum of the SAR for LTE Band 27 (Antenna C), Wi-Fi and BT

SAR for LTE Band 27 (Frequency range: 814 – 824 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.

12.37. Sum of the SAR for LTE Band 27 (Antenna D), Wi-Fi and BT

SAR for LTE Band 27 (Frequency range: 814 – 824 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.

12.38. Sum of the SAR for LTE Band 30 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	1.130	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.240	1.190	1.220	1.259	1.295	1.240	1.262
	Edge 1	0.811	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.815	0.811	0.816	0.815	0.830	0.818	0.840
	Edge 2	0.108	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.508	0.118	0.130	0.117	0.908	0.514	0.508
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.39. Sum of the SAR for LTE Band 30 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.110	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.220	1.170	1.200	1.239	1.275	1.220	1.242
	Edge 1	0.842	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.846	0.842	0.847	0.846	0.861	0.849	0.871
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.078	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.097	0.478	0.101	0.098	0.082	0.478	0.083

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.40. Sum of the SAR for LTE Band 41 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	1.160	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.270	1.220	1.250	1.289	1.325	1.270	1.292
	Edge 1	0.786	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.790	0.786	0.791	0.791	0.806	0.794	0.816
	Edge 2	0.051	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.451	0.061	0.073	0.059	0.851	0.456	0.451
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.400	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.419	0.800	0.423	0.420	0.404	0.800	0.405

12.41. Sum of the SAR for LTE Band 41 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 1-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.170	0.110	0.060	0.090	0.144	0.089	0.111	0.129	0.021	1.280	1.230	1.260	1.299	1.335	1.280	1.302
	Edge 1	0.915	0.004	0.000	0.005	0.019	0.007	0.029	0.004	0.000	0.919	0.915	0.920	0.919	0.934	0.922	0.944
	Edge 2	0.400	0.400	0.010	0.022	0.400	0.006	0.000	0.009	0.400	0.800	0.410	0.422	0.409	1.200	0.806	0.800
	Edge 3	0.000	1.050	1.170	1.040	1.170	1.072	1.190	1.156	0.234	1.050	1.170	1.040	1.156	1.404	1.306	1.424
	Edge 4	0.059	0.019	0.400	0.023	0.004	0.400	0.005	0.020	0.000	0.078	0.459	0.082	0.079	0.063	0.459	0.064

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

12.42. Sum of the SAR for LTE-2CA Band 7 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 10-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	0.669	0.110	0.063	0.090	0.144	0.089	0.111	0.129	0.021	0.779	0.732	0.759	0.798	0.834	0.779	0.801

12.43. Sum of the SAR for LTE-2CA Band 7 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 10-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	0.651	0.110	0.063	0.090	0.144	0.089	0.111	0.129	0.021	0.761	0.714	0.741	0.780	0.816	0.761	0.783

12.44. Sum of the SAR for LTE-2CA Band 41 (Antenna C), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 10-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. C	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. C + Ant. A	WWAN + DTS Ant. C + Ant. B	WWAN + DTS Ant. C + MIMO	WWAN + BT Ant. C + P-high	WWAN + U-NII + BT Ant. C + Ant. A + P-low	WWAN + U-NII + BT Ant. C + Ant. B + P-low	WWAN + U-NII + BT Ant. C + MIMO + P-low
Body	Rear	0.725	0.110	0.063	0.090	0.144	0.089	0.111	0.129	0.021	0.835	0.788	0.815	0.854	0.890	0.835	0.857

12.45. Sum of the SAR for LTE-2CA Band 41 (Antenna D), Wi-Fi and BT

RF Exposure Condition	Test Position	Standalone SAR (W/kg)									∑ 10-g SAR (W/g						
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(A) + (B)	(A) + (C)	(A) + (D)	(A) + (H)	(A) + (E) + (I)	(A) + (F) + (I)	(A) + (G) + (I)
		WWAN Ant. D	DTS Ant. A	DTS Ant. B	DTS MIMO	U-NII Ant. A	U-NII Ant. B	U-NII MIMO	BT P-high	BT P-low	WWAN + DTS Ant. D + Ant. A	WWAN + DTS Ant. D + Ant. B	WWAN + DTS Ant. D + MIMO	WWAN + BT Ant. D + P-high	WWAN + U-NII + BT Ant. D + Ant. A + P-low	WWAN + U-NII + BT Ant. D + Ant. B + P-low	WWAN + U-NII + BT Ant. D + MIMO + P-low
Body	Rear	1.060	0.110	0.063	0.090	0.144	0.089	0.111	0.129	0.021	1.170	1.123	1.150	1.189	1.225	1.170	1.192

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

Appendixes

Refer to separated files for the following appendixes.

16U23816-S1V1 SAR_App A Setup Photos

16U23816-S1V1 SAR_App B System Check Plots

16U23816-S1V1 SAR_App C Highest Test Plots

16U23816-S1V1 SAR_App D Tissue Ingredients

16U23816-S1V1 SAR_App E Probe Cal. Certificates

16U23816-S1V1 SAR_App F Dipole Cal. Certificates

END OF REPORT