



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

**SAR EVALUATION REPORT
(Part 1 : Test in Static Transmission Condition)**

FOR

WCDMA/LTE/5G NR Tablet + BT/BLE, DTS/UNII a/b/g/n/ac/ax, and NFC

MODEL NUMBER: SM-T638U

FCC ID: A3LSMT638U

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Prepared for
**SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA**

Prepared by
**UL Korea, Ltd.
26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea**

**Suwon Test Site: UL Korea, Ltd. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16675, Korea
TEL: (031) 337-9902
FAX: (031) 213-5433**



Testing Laboratory

TL-637

Revision History

Rev.	Date	Revisions	Revised By
V1	8/11/2022	Initial Issue	--
V2	8/22/2022	Added new cal.due date of some equipments in Section.4.3. Revised "DSI and Corresponding Exposure Scenarios" table in Sec 6.5. Revised 802.11g_Ch.1 output power in MIMO mode in Sec.9.4. Revised LTE Band's 256 QAM MPR level (1 >> 0 dB) in (DSI = 1) of LTE B5, 14, 26, 71 in Sec.9.2. Revised NR Band's MPR level (All = 0 dB) in (DSI = 0) of NR Bn41 and n77 in Sec.9.3.	Sunghoon.Kim

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1. Attestation of Test Results

Applicant Name	SAMSUNG ELECTRONICS CO.,LTD.					
FCC ID	A3LSMT638U					
Model Number	SM-T638U					
Applicable Standards	FCC 47 CFR § 2.1093 IEEE Std 1528-2013 Published RF exposure KDB procedures					
Exposure Category	SAR Limits (W/Kg)					
	Peak spatial-average (1g of tissue)					
General population / Uncontrolled exposure	1.6					
RF Exposure Conditions	Equipment Class - The Highest Reported SAR (W/kg)					
	PCB	CBE	DTS	NII	DSS	NFC
Standalone	1.13	0.44	0.85	1.17	0.77	< 0.10
Simultaneous TX	1.59	1.59	1.59	1.59	1.59	1.59
Date Tested	6/27/2022 to 8/8/2022					
Test Results	Pass					

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

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

Approved & Released By:	Prepared By:
	
Justin Park Operations Leader UL Korea, Ltd. Suwon Laboratory	Sunghoon Kim Senior Laboratory Engineer UL Korea, Ltd. Suwon Laboratory

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

Equipment Class	Band	Antenna	The Highest Reported SAR (W/kg)
			1g of tissue
			Standalone
PCB	WCDMA Band II	Main.1	0.792
	WCDMA Band IV	Main.1	0.948
	WCDMA Band V	Main.1	0.698
	LTE Band 2	Main.1	N/A
	LTE Band 4	Main.1	N/A
	LTE Band 5	Main.1	0.632
	LTE Band 7	Main.2	1.087
	LTE Band 12	Main.1	0.327
	LTE Band 13	Main.1	0.647
	LTE Band 14	Main.1	0.618
	LTE Band 25	Main.1	1.132
	LTE Band 26	Main.1	0.660
	LTE Band 41	Main.2	1.041
	LTE Band 66	Main.1	1.116
	LTE Band 71	Main.1	0.430
	NR Band n2	Main.1	N/A
	NR Band n5	Main.1	0.575
	NR Band n25	Main.1	1.039
	NR Band n41	Main.2	0.879
	NR Band n66	Main.1	1.015
	NR Band n71	Main.1	0.404
NR Band n77	Main.2	0.874	
	Sub.4	1.092	
	Sub.3	0.314	
	Sub.2	1.015	
NR Band n78	Main.2	N/A	
CBE	LTE Band 48	Main.2	0.438
DTS	2.4GHz WLAN	WiFi/BT Ant.	0.845
UNII	5GHZ WLAN	WiFi/BT Ant.	1.170
DSS	Bluetooth	WiFi/BT Ant.	0.773
NFC	13.56 MHz	NFC Ant.	0.075

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, IEC_ IEEE STD 62209-1528 : 2020, ANSI C63.26-2015 the following FCC Published RF exposure [KDB](#) procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D04 Interim General RF Exposure Guidance v01
- 616217 D04 SAR for laptop and tablets v01r02
- 690783 D01 SAR Listings on Grants v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- 941225 D06 Hotspot Mode v02r01
- 971168 D01 Power Meas License Digital System v03r01

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

- [TCB workshop](#) October, 2014; RF Exposure Procedures Update (Overlapping LTE Bands)
- [TCB workshop](#) October, 2014; RF Exposure Procedures Update (Other LTE Considerations)
- [TCB workshop](#) October, 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- [TCB workshop](#) October, 2016; RF Exposure Procedures (DUT Holder Perturbations)
- [TCB workshop](#) May, 2017; RF Exposure Procedures (LTE Test Conditions)
- [TCB workshop](#) May, 2017; RF Exposure Procedures (LTE Band 41 Power Class 2)
- [TCB workshop](#) November, 2017; RF Exposure Procedures (LTE UL/DL Carrier Aggregation SAR)
- [TCB workshop](#) April, 2018; RF Exposure Procedures (LTE DL CA SAR Test Exclusion Update)
- [TCB workshop](#) April, 2019; RF Exposure Procedures (Tissue Simulating Liquids (TSL))
- [TCB workshop](#) November, 2019 Page 5, RF Exposure Procedures (SPLSR Hotspot Combination)
- [TCB workshop](#) April, 2022; RF Exposure Procedures (5G NR FR1 Measurement)
- [TCB workshop](#) April, 2022; RF Exposure Procedures (Sum-Peak Location Separation Ratio)

3. Facilities and Accreditation

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

Suwon
SAR 1 Room
SAR 2 Room
SAR 3 Room
SAR 4 Room
SAR 5 Room
SAR 9 Room

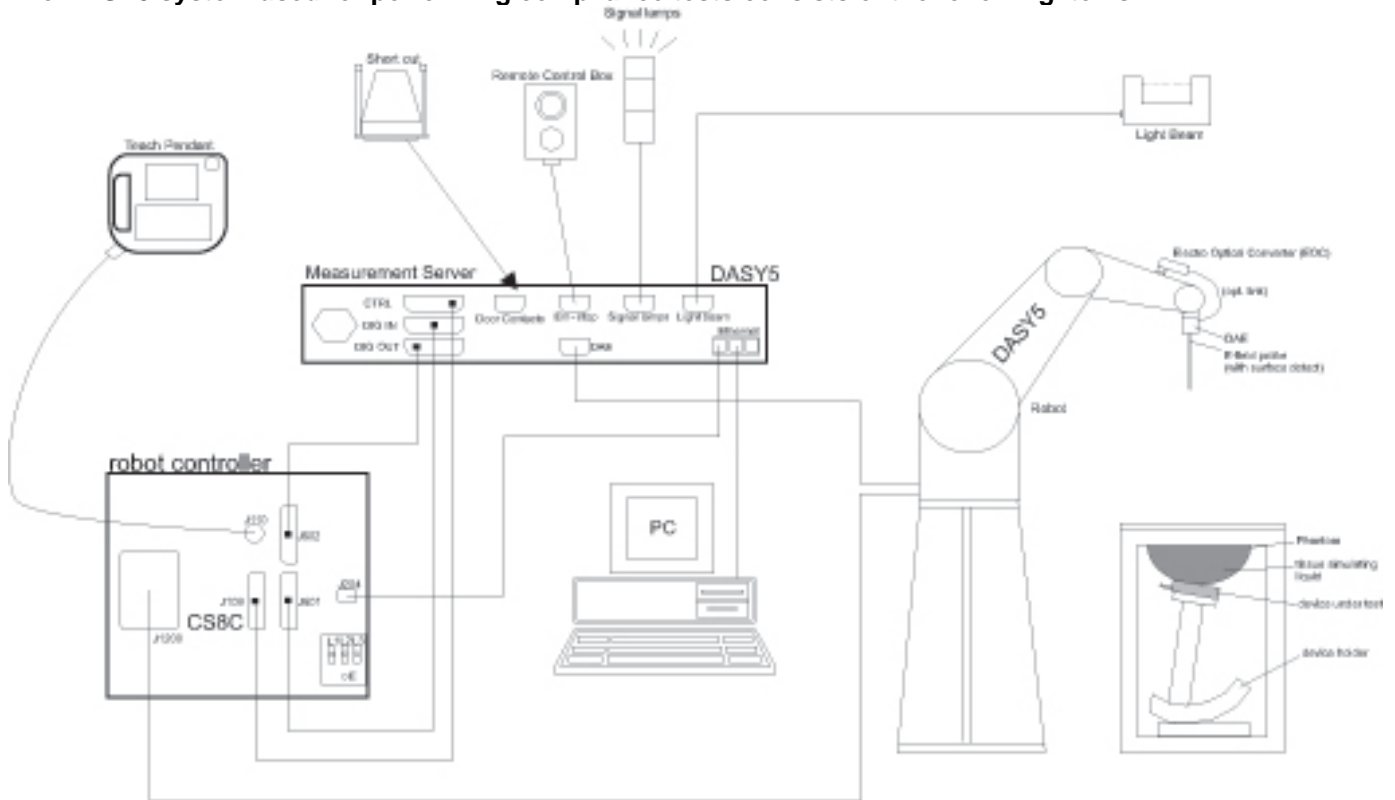
UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637.

The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. SAR Measurement System & Test Equipment

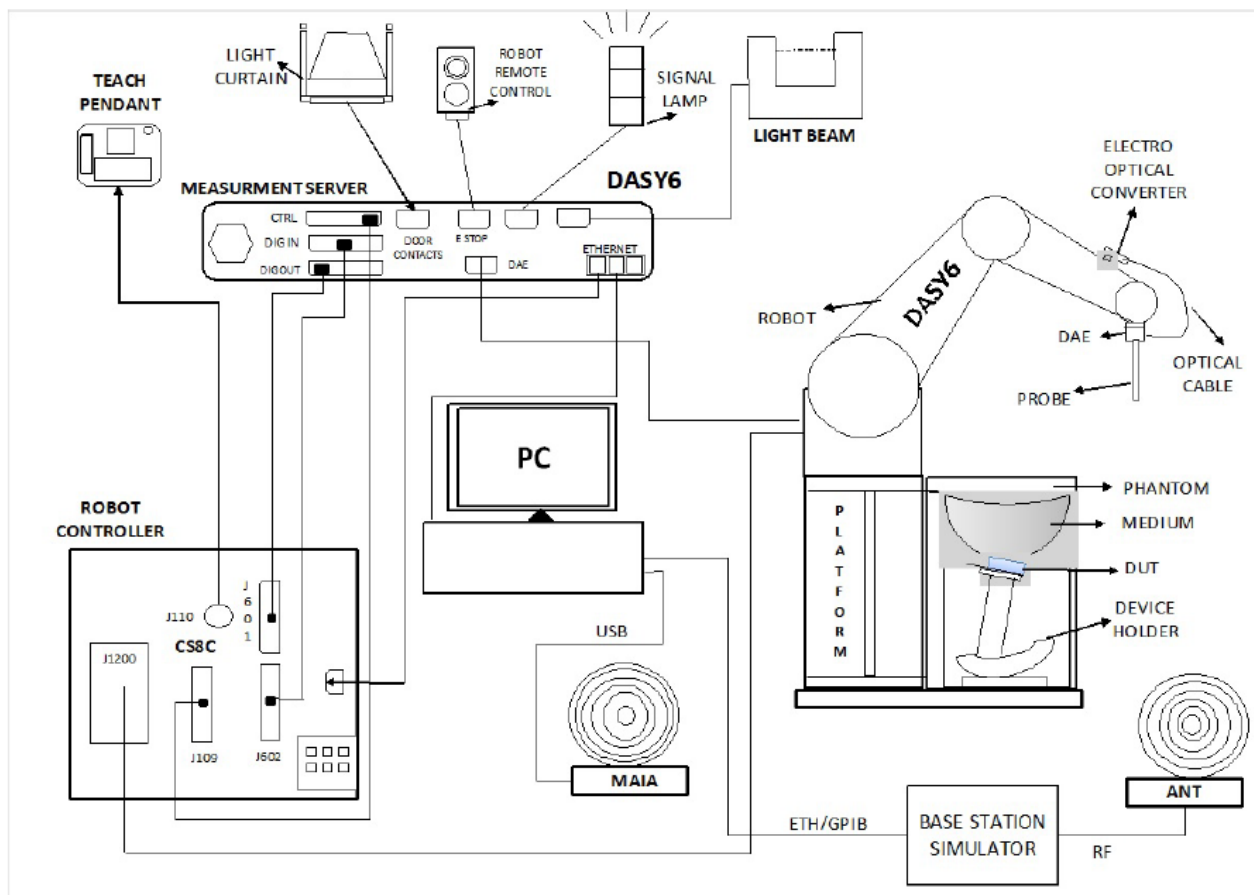
4.1. SAR Measurement System

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



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

The DASY6 & 8 system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win10 and the DASY6 or 8 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

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

Step 3: Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$			≤ 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 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm	
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

Step 4: Power drift measurement

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

4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	E5071C	MY46522054	8/6/2022
				8/5/2023
Network Analyzer	ROHDE & SCHWARZ	ZNB 20	102256	8/6/2022
				8/5/2023
Dielectric Assessment Kit	SPEAG	DAK-3.5	1158	10/20/2022
Dielectric Assessment Kit	SPEAG	DAKS-3.5	1133	3/28/2023
Dielectric Assessment Kit	SPEAG	DAKS_VNA R140	0060221	4/22/2023
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	LKM	DTM3000	3851	8/4/2022
				8/3/2023
Thermometer	LKM	DTM3000	3862	8/4/2022
				8/3/2023

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
MXG Analog Signal Generator	Agilent	N5181A	MY50145882	8/4/2022
				8/4/2023
MXG Analog Signal Generator	Keysight	N5181B	MY59100587	8/4/2022
				8/4/2023
MXG Analog Signal Generator	Keysight	N5173B	MY59101083	8/4/2022
				8/4/2023
Power Sensor	Keysight	U2000A	MY60180020	8/4/2022
				8/3/2023
Power Sensor	Agilent	U2000A	MY54260007	8/4/2022
				8/3/2023
Power Sensor	Keysight	U2000A	MY60490008	8/4/2022
				8/3/2023
Power Sensor	Keysight	U2000A	MY61060004	8/4/2022
				8/3/2023
Power Sensor	Keysight	U2000A	MY61010006	8/4/2022
				8/3/2023
Power Sensor	Keysight	U2000A	MY61010010	8/4/2022
				8/3/2023
Power Amplifier	EXODUS	AMP2027ADB	10002	3/30/2023
Directional Coupler	Agilent	772D	MY52180193	8/3/2022
				8/3/2023
Directional Coupler	H.P	778D	16133	8/3/2022
				8/3/2023
Directional Coupler	MINI-CIRCUITS	ZUDC20-183+	N/A	8/3/2022
				8/3/2023
Directional Coupler	MINI-CIRCUITS	ZUDC20-183+	N/A	8/3/2022
				8/3/2023
Low Pass Filter	MICROLAB	LA-15N	3943	8/3/2022
				8/3/2023
Low Pass Filter	FILTRON	L14012FL	1410003S	8/3/2022
				8/3/2023
Low Pass Filter	MICROLAB	LA-60N	3942	8/3/2022
				8/3/2023
Low Pass Filter	MINI-CIRCUITS	NLP-1200	VUU19301915	8/4/2022
				8/2/2023
Attenuator	KEYSIGHT	8491B/003	VE2017A0283	8/4/2022
				8/3/2023
Attenuator	KEYSIGHT	8491B/010	MY39271981	8/4/2022
				8/3/2023
Attenuator	KEYSIGHT	8491B/010	MY39272011	8/4/2022
				8/2/2023
Attenuator	KEYSIGHT	8491B/020	MY39271973	8/4/2022
				8/3/2023

Test Equipment (Continued)

E-Field Probe	SPEAG	EX3DV4	7651	5/30/2023
E-Field Probe	SPEAG	EX3DV4	7313	3/2/2023
E-Field Probe	SPEAG	EX3DV4	7314	5/31/2023
E-Field Probe	SPEAG	EX3DV4	7652	4/28/2023
E-Field Probe	SPEAG	EX3DV4	7376	7/30/2022
E-Field Probe	SPEAG	EX3DV4	7645	4/29/2023
E-Field Probe	SPEAG	EX3DV4	7646	3/29/2023
E-Field Probe	SPEAG	EX3DV4	7330	1/28/2023
Data Acquisition Electronics	SPEAG	DAE4	1343	8/23/2022
Data Acquisition Electronics	SPEAG	DAE4	1671	5/31/2023
Data Acquisition Electronics	SPEAG	DAE4	1670	6/7/2023
Data Acquisition Electronics	SPEAG	DAE4	1447	3/25/2023
Data Acquisition Electronics	SPEAG	DAE4	1668	4/27/2023
System Validation Dipole	SPEAG	CLA-13	1015	10/12/2022
System Validation Dipole	SPEAG	D750V3	1205	4/27/2023
System Validation Dipole	SPEAG	D835V2	4d194	3/24/2023
System Validation Dipole	SPEAG	D1750V2	1125	2/24/2023
System Validation Dipole	SPEAG	D1900V2	5d190	11/24/2022
System Validation Dipole	SPEAG	D2450V2	939	7/21/2022
System Validation Dipole	SPEAG	D2450V2	960	3/24/2023
System Validation Dipole	SPEAG	D2600V2	1178	4/23/2023
System Validation Dipole	SPEAG	D3500V2	1121	4/21/2023
System Validation Dipole	SPEAG	D3700V2	1036	5/21/2023
System Validation Dipole	SPEAG	D3900V2	1069	4/21/2023
System Validation Dipole	SPEAG	D5GHzV2	1209	11/24/2022
Thermometer	Lutron	MHB-382SD	AH.91463	8/4/2022
Thermometer	Lutron	MHB-382SD	AH.50215	8/4/2023
Thermometer	Lutron	MHB-382SD	AH.50213	8/3/2022
Thermometer	Lutron	MHB-382SD	AH.50213	8/4/2023
Thermometer	Lutron	MHB-382SD	AH.45903	8/3/2022
Thermometer	Lutron	MHB-382SD	AK.18789	8/4/2022
Thermometer	Lutron	MHB-382SD	AK.12102	8/4/2022

Others

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Base Station Simulator	R & S	CMW500	150313	8/3/2022
				8/2/2023
Base Station Simulator	R & S	CMW500	150314	8/4/2022
				8/2/2023
Base Station Simulator	R & S	CMW500	162790	8/3/2022
				8/2/2023
Base Station Simulator	R & S	CMW500	169803	5/27/2023
Base Station Simulator	R & S	CMW500	169799	8/3/2022
				8/2/2023
Base Station Simulator	R & S	CMW500	169800	8/2/2023
Base Station Simulator	R & S	CMW500	169797	8/3/2022
				8/2/2023
Base Station Simulator	R & S	CMW500	169798	8/3/2022
				8/2/2023
UXM 5G Wireless Test Platform	Keysight	E7515B	MY59150850	12/13/2022
UXM 5G Wireless Test Platform	Keysight	E7515B	MY57510596	8/6/2022
				8/5/2023
Radio Communication Test Station	Anritsu	MT8000A	6272398203	6/17/2023

Note(s):

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

5. Measurement Uncertainty

Measurement Uncertainty of 100MHz to 6GHz

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

Measurement Uncertainty of 4MHz to 30MHz

Measurement uncertainty for 4 MHz to 30 MHz

(According to IEEE 62209-1528)

a	b	c		d	e f(d,k)	f	g	h = cx/e	l = cxg/e	k
Uncertainty component	Reference	Tol. 1 g ($\pm\%$)	Tol. 10 g ($\pm\%$)	Prob. Dist.	Div.	c_i (1 g)	c_i (10 g)	1 g u_i ($\pm\%$)	10 g u_i ($\pm\%$)	v_i
Measurement System Errors										
Probe Calibration	8.4.1.1	13.3		Normal	2	1	1	6.7	6.7	∞
Probe Calibration Drift	8.4.1.2	1.7		Rectangular	1.732	1	1	1.0	1.0	∞
Probe Linearity	8.4.1.3	4.7		Rectangular	1.732	1	1	2.7	2.7	∞
Broadband Signal	8.4.1.4	0.8		Rectangular	1.732	1	1	0.5	0.5	∞
Probe Isotropy	8.4.1.5	7.6		Rectangular	1.732	1	1	4.4	4.4	∞
Data Acquisition	8.4.1.6	0.3		Normal	1	1	1	0.3	0.3	∞
RF Ambient	8.4.1.7	1.8		Normal	1	1	1	1.8	1.8	∞
Probe Positioning	8.4.1.8	0.006		Normal	1	0.14	0.14	0.10	0.10	∞
Data Processing	8.4.1.9	1.2		Normal	1	1	1	1.2	1.2	∞
Phantom and Device Errors										
Conductivity (meas.)DAK	8.4.2.1	2.5		Normal	1	0.78	0.71	2.0	1.8	∞
Conductivity (temp.)BB	8.4.2.2	5.4		Rectangular	1.732	0.78	0.71	2.4	2.2	∞
Phantom Permittivity	8.4.2.3	14.0		Rectangular	1.732	0	0	0.0	0.0	∞
Distance DUT -TSL	8.4.2.4	2.0		Normal	1	2	2	4.0	4.0	∞
Device Positioning	8.4.2.5	0.5	0.6	Normal	1	1	1	0.5	0.6	40
Device Holder	8.4.2.6	3.6		Normal	1	1	1	3.6	3.6	∞
DUT Modulation	8.4.2.7	2.4		Rectangular	1.732	1	1	1.4	1.4	∞
Time-average SAR	8.4.2.8	1.7		Rectangular	1.732	1	1	1.0	1.0	∞
DUT drift	8.4.2.9	5.0		Normal	1	1	1	5.0	5.0	∞
Correction to the SAR results										
Deviation to Target	8.4.3.1	1.9		Normal	1	1	0.84	1.9	1.6	∞
Combined Standard Uncertainty $U_c(y) =$								RSS	12.13	12.02
Expanded Uncertainty U , Coverage Factor = 2, > 95 % Confidence =									24.26	24.05

5.1. DECISION RULE

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

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	Refer to Appendix A.					
Back Cover	<input checked="" type="checkbox"/> Normal Battery cover					
Battery Options	<input checked="" type="checkbox"/> Standard – Li-ion battery, Rating 3.8 V, 28.88Wh					
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. <input checked="" type="checkbox"/> Mobile Hotspot (Wi-Fi 2.4 GHz) <input checked="" type="checkbox"/> Mobile Hotspot (Wi-Fi 5.8 GHz)					
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other <input checked="" type="checkbox"/> Wi-Fi Direct (Wi-Fi 2.4 GHz) <input checked="" type="checkbox"/> Wi-Fi Direct (Wi-Fi 5.2 GHz_UNII-1, Wi-Fi 5.8 GHz_UNII-3)					
Test Sample Information	No.	S/N	Notes	No.	S/N	Notes
	1	R32T60009KA	Conducted	13	R32T6000DCA	SAR
	2	R32T6000LTV	Conducted	14	R32T6000MHA	SAR
	3	65235ee0fc357ece	Conducted	15	R32T6000CTD	SAR
	4	65235ee1d6357ece	Conducted	16	R2T6001DWM	SAR
	5	R32T6001DGZ	Conducted	17	R32T6001BCL	SAR
	6	R32T6001ESX	Conducted	18	R32T60019LN	SAR
	7	R32T6001DVV	Conducted	19	R32T600146D	SAR
	8	65236e9490357ece	Conducted	20	R32T60014HY	SAR
	9	R32T60009HN	SAR	21	R32T60012TE	SAR
	10	R32T6000L1R	SAR			
	11	R32T6000LRK	SAR			
	12	R32T6000DXD	SAR			

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Category 24) HSUPA (Category 6) DC-HSDPA (Category 24) HSPA+ (DL only)	100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 14 FDD Band 25 FDD Band 26 TDD Band 41 – Power Class 2 TDD Band 41 – Power Class 3 TDD Band 48 – Power Class 3 FDD Band 66 FDD Band 71	QPSK 16QAM 64QAM 256QAM Rel. 16 Carrier Aggregation (2 Uplinks and 4 Downlinks) <u>Uplink inter-band</u> <u>Carrier Aggregation(2CC)</u> CA_41C	100% (FDD) 63.3% (TDD) <small>Power Class 3</small> 43.3% (TDD) <small>Power Class 2</small>
Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
5G NR (Sub 6)	FDD Band n2 FDD Band n5 FDD Band n25 FDD Band n66 FDD Band n71 TDD Band n41– Power Class 2 TDD Band n41– Power Class 3 TDD Band n77– Power Class 2 TDD Band n77– Power Class 3 TDD Band n78– Power Class 3	DFT-s-ODFM: ■ $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-ODFM: ■ QPSK, 16QAM, 64QAM, 256QAM	100%
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20) 802.11ax	SISO : 99.4% (802.11b) MIMO : 96.4% (802.11g)
	5 GHz	802.11a 802.11n (HT20) & (HT40) 802.11ac (VHT20) & (VHT40) & (VHT80) 802.11ax (HE20) & (HE40) & (HE80)	SISO & MIMO : 96.7% (802.11a) 94.5% (802.11ac (VHT80))
	Does this device support bands 5.60 ~ 5.65 GHz? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Does this device support Band gap channel(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Bluetooth	2.4 GHz	Version 5.2 LE	76.7% (DH5)
NFC	13.56 MHz	Type A/B/F	100%

Notes

- The Bluetooth protocol is considered source-based averaging. Bluetooth GFSK (DH5) was verified to have the highest duty cycle of 76.7% and was considered and used for SAR Testing.
- Duty cycle for Wi-Fi is referenced from the DTS and UNII report.
- This device supports Power Class 2(HPUE) and Power Class 3 for LTE Band 41 & NR Band n41 & NR Band n77
- NR TDD Band n77 has support SRS(0,1,2,3) modes.
- This device supports LTE Band 41-PC3 UL CA intra-band Contiguous.

6.3. Time-Averaging feature

The equipment under test (EUT) contains the Qualcomm modems supporting 3G/4G technologies and 5G NR bands. these modem is enabled with Qualcomm Smart Transmit feature to control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is in compliance with the FCC requirement. Refer to Compliance Summary document for detailed description of Qualcomm Smart Transmit feature.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_{design_target} , below the predefined time-average power limit, for each characterized technology and band.

Smart Transmit allows the device to transmit at higher power instantaneously as high as P_{max} , when needed, but enforces power limiting to maintain time-averaged transmit power to P_{Limit} . Below table shows P_{Limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (DSI Device State Index).

The maximum time-averaged output power (dBm) for any 3G/4G/5G NR WWAN technology band, and DSI = minimum of " P_{Limit} EFS" and "Maximum tune up output power P_{max} " + 1 dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB 447498 D01.

The purpose of this report (Part 1 test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

Exposure condition		Standalone (Proximity Sensor Off)	Standalone (Proximity Sensor On)	Pmax (Maximum tune-up Power) (dBm)
Averaging Volume		1g	1g	
test distance		18/17/0 mm - Main.1, 16/12/0 mm - Main.2 0 mm - Sub4, Sub3, Sub2	0 mm	
DSI:		0	1	
RF Air Interface	Antenna	Plimit corresponding to 1.0 W/kg (SAR_design_target)	Plimit corresponding to 1.0 W/kg (SAR_design_target)	
WCDMA Band II	Main.1	23.51	10.00	21.50
WCDMA Band IV	Main.1	23.43	11.00	22.00
WCDMA Band V	Main.1	26.56	14.00	24.00
LTE Band 5	Main.1	27.00	15.00	24.00
LTE Band 7	Main.2	24.83	12.50	22.50
LTE Band 12	Main.1	29.86	14.00	24.00
LTE Band 13	Main.1	26.89	14.00	24.00
LTE Band 14	Main.1	27.09	16.00	24.00
LTE Band 25/2	Main.1	22.96	12.00	22.50
LTE Band 26	Main.1	26.80	16.00	24.00
LTE Band 41-PC3	Main.2	25.39	11.00	21.00
LTE Band 41-PC2	Main.2	26.26	11.40	22.40
LTE Band 48	Main.2	26.89	12.00	19.70
LTE Band 66/4	Main.1	23.99	11.50	22.50
LTE Band 71	Main.1	28.67	16.00	24.00
NR Band n5	Main.1	27.46	15.00	24.00
NR Band n25/n2	Main.1	23.87	11.00	22.50
NR Band n66	Main.1	23.45	11.00	22.00
NR Band n71	Main.1	28.94	16.00	24.00
NR Band n41-PC3	Main.2	20.00	11.00	23.50
NR Band n41-PC2	Main.2	20.00	11.00	26.50
NR Band n77(SRS0)/n78-PC3	Main.2	18.30	8.50	24.30
NR Band n77(SRS1)-PC3	Sub.4	11.00	11.00	21.00
NR Band n77(SRS2)-PC3	Sub.3	9.50	9.50	19.50
NR Band n77(SRS3)-PC3	Sub.2	9.50	9.50	21.00
NR Band n77(SRS0)-PC2	Main.2	18.30	8.50	26.50
NR Band n77(SRS1)-PC2	Sub.4	11.00	11.00	22.00
NR Band n77(SRS2)-PC2	Sub.3	9.50	9.50	21.00
NR Band n77(SRS3)-PC2	Sub.2	9.50	9.50	21.50

Notes:

- All P_{Limit} EFS and maximum tune up output P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of LTE TDD modulation schemes.
- Maximum tune up output power P_{max} is used to configure EUT during RF tune up procedures. The maximum allowed output power is equal to maximum tune up output power + 1dB device design uncertainty.
- Measurement Condition : All conducted power and SAR measurements in this report (Part 1 test) were performed by setting *Reserve_power_margin* (Smart Transmit EFS entry) to 0 dB.
- If P_{Limit} is higher than P_{max} for some modes / bands, The modes/bands will operate at a power level up to P_{max} .

6.4. Maximum Allowed Output power

Maximum allowed output power means that Pmax or PLimit + 1dB device uncertainty for each DSI.

RF Air interface	Antenna	Mode	Maximum allowed output power (dBm)		
			Pmax	PLimit	
				DSI = 0 (Proximity Sensor Off)	DSI = 1 (Proximity sensor On)
W-CDMA Band V	Main.1 Ant.	R99	25.00	25.00	15.00
		HSDPA	24.00	24.00	14.00
		HSUPA	24.00	24.00	14.00
		DC-HSDPA	24.00	24.00	14.00
W-CDMA Band IV	Main.1 Ant.	R99	23.00	23.00	12.00
		HSDPA	22.50	22.50	12.00
		HSUPA	22.50	22.50	12.00
		DC-HSDPA	22.50	22.50	12.00
W-CDMA Band II	Main.1 Ant.	R99	22.50	22.50	11.00
		HSDPA	22.00	22.00	11.00
		HSUPA	22.00	22.00	11.00
		DC-HSDPA	22.00	22.00	11.00

RF Air interface	Antenna	Mode	Maximum allowed output power (dBm)		
			Pmax	PLimit	
				DSI = 0 (Proximity sensor Off)	DSI = 1 (Proximity sensor On)
LTE Band 2	Main.1 Ant.	QPSK	23.50	23.50	13.00
LTE Band 4	Main.1 Ant.	QPSK	23.50	23.50	12.50
LTE Band 5	Main.1 Ant.	QPSK	25.00	25.00	16.00
LTE Band 7	Main.2 Ant.	QPSK	23.50	23.50	13.50
LTE Band 12	Main.1 Ant.	QPSK	25.00	25.00	15.00
LTE Band 13	Main.1 Ant.	QPSK	25.00	25.00	15.00
LTE Band 14	Main.1 Ant.	QPSK	25.00	25.00	17.00
LTE Band 25	Main.1 Ant.	QPSK	23.50	23.50	13.00
LTE Band 26	Main.1 Ant.	QPSK	25.00	25.00	17.00
LTE Band 41 (Power Class 3)	Main.2 Ant.	QPSK	24.00	24.00	14.00
LTE Band 41 (Power Class 2)	Main.2 Ant.	QPSK	27.00	27.00	16.00
LTE Band 48	Main.2 Ant.	QPSK	22.70	22.70	15.00
LTE Band 66	Main.1 Ant.	QPSK	23.50	23.50	12.50
LTE Band 71	Main.1 Ant.	QPSK	25.00	25.00	17.00

Note(s):

1. Detail of DSI(Device State Index) conditions, please refer to Sec.6.5.
2. LTE Band 41-PC3 has support UL CA intra-band-continues mode with same target power in each standalone LTE bands. Details of configuration are refer to Appendix.H.

RF Air interface	Antenna	Mode	Maximum allowed output power (dBm)		
			Pmax	Plimit	
				DSI = 0 (Proximity sensor Off)	DSI = 1 (Proximity sensor On)
NR Band n2	Main.1 Ant.	DFT-s-OFDM QPSK	23.50	23.50	12.00
NR Band n5	Main.1 Ant.	DFT-s-OFDM QPSK	25.00	25.00	16.00
NR Band n25	Main.1 Ant.	DFT-s-OFDM QPSK	23.50	23.50	12.00
NR Band n66	Main.1 Ant.	DFT-s-OFDM QPSK	23.00	23.00	12.00
NR Band n71	Main.1 Ant.	DFT-s-OFDM QPSK	25.00	25.00	17.00
NR Band n41 (Power Class 2)	Main.2 Ant.	DFT-s-OFDM QPSK	27.50	21.00	12.00
NR Band n41 (Power Class 3)	Main.2 Ant.	DFT-s-OFDM QPSK	24.50	21.00	12.00
NR Band n77-Voice/Data/SRS0 (Power Class 2)	Main.2 Ant.	DFT-s-OFDM QPSK	27.50	19.30	9.50
NR Band n77-SRS1 (Power Class 2)	Sub.4 Ant.	SRS CW	23.00	12.00	12.00
NR Band n77-SRS2 (Power Class 2)	Sub.3 Ant.	SRS CW	22.00	10.50	10.50
NR Band n77-SRS3 (Power Class 2)	Sub.2 Ant.	SRS CW	22.50	10.50	10.50
NR Band n77-Voice/Data/SRS0 (Power Class 3)	Main.2 Ant.	DFT-s-OFDM QPSK	25.30	19.30	9.50
NR Band n77-SRS1 (Power Class 3)	Sub.4 Ant.	SRS CW	22.00	12.00	12.00
NR Band n77-SRS2 (Power Class 3)	Sub.3 Ant.	SRS CW	20.50	10.50	10.50
NR Band n77-SRS3 (Power Class 3)	Sub.2 Ant.	SRS CW	22.00	10.50	10.50
NR Band n78 (Power Class 3)	Main.2 Ant.	DFT-s-OFDM QPSK	23.00	19.30	9.50

Note(s):

1. Detail of DSI(Device State Index) conditions, please refer to Sec.6.5.
2. NR Bands support SA and NSA mode as same target power.

2.4GHz WLAN max & reduced output power

RF Air interface	Band	Ch.	Max. RF Output Power (dBm)							
			802.11 mode							
			SISO : Antenna 1 & Antenna 2				MIMO : Antenna 1 + Antenna 2			
			b	g	n	ax	b	g	n	ax
WiFi 2.4 GHz	DTS	Ch.1 - 11	20.0	Ch.1 : 17	18.0	18.0		Ch.1 : 20	21.0	21.0
				19.0				Ch.11 : 19		
				Ch.11 : 16	Ch.11 : 15	Ch.11 : 15		Ch.11 : 18	Ch.11 : 18	

RF Air interface	Band	Ch.	Reduced. RF Output Power (dBm)							
			802.11 mode							
			SISO : Antenna 1 & Antenna 2				MIMO : Antenna 1 + Antenna 2			
			b	g	n	ax	b	g	n	ax
WiFi 2.4 GHz	DTS	Ch.1 - 11	11.0	11.0	11.0	11.0		14.0	14.0	14.0

5GHz WLAN max & reduced output power

RF Air interface	Band	Max. RF Output Power (dBm)							
		802.11 mode							
		SISO : Antenna 1 & Antenna 2				MIMO : Antenna 1 + Antenna 2			
		a	n	ac	ax	a	n	ac	ax
WiFi 5 GHz (BW : 20MHz)	UNII-1	18.0	17.0	17.0	17.0	21.0	20.0	20.0	20.0
	UNII-2A	18.0	17.0	17.0	17.0	21.0	20.0	20.0	20.0
	UNII-2C	18.0	17.0	17.0	17.0	21.0	20.0	20.0	20.0
	UNII-3	18.0	17.0	17.0	17.0	21.0	20.0	20.0	20.0
WiFi 5 GHz (BW : 40MHz)	UNII-1		17.0	15.0	17.0		20.0	18.0	20.0
	UNII-2A		17.0	15.0	17.0		20.0	18.0	20.0
	UNII-2C		17.0	15.0	17.0		20.0	18.0	20.0
	UNII-3		17.0	15.0	17.0		20.0	18.0	20.0
WiFi 5 GHz (BW : 80MHz)	UNII-1			14.0	15.0			17.0	18.0
	UNII-2A			14.0	16.0			17.0	19.0
	UNII-2C			14.0	16.0			17.0	19.0
	UNII-3			14.0	16.0			17.0	19.0

RF Air interface	Band	Reduced. RF Output Power (dBm)							
		802.11 mode							
		SISO : Antenna 1 & Antenna 2				MIMO : Antenna 1 + Antenna 2			
		a	n	ac	ax	a	n	ac	ax
WiFi 5 GHz (BW : 20MHz)	UNII-1	8.0	8.0	8.0	8.0	11.0	11.0	11.0	11.0
	UNII-2A	8.0	8.0	8.0	8.0	11.0	11.0	11.0	11.0
	UNII-2C	8.0	8.0	8.0	8.0	11.0	11.0	11.0	11.0
	UNII-3	8.0	8.0	8.0	8.0	11.0	11.0	11.0	11.0
WiFi 5 GHz (BW : 40MHz)	UNII-1		8.0	8.0	8.0		11.0	11.0	11.0
	UNII-2A		8.0	8.0	8.0		11.0	11.0	11.0
	UNII-2C		8.0	8.0	8.0		11.0	11.0	11.0
	UNII-3		8.0	8.0	8.0		11.0	11.0	11.0
WiFi 5 GHz (BW : 80MHz)	UNII-1			8.0	8.0			11.0	11.0
	UNII-2A			8.0	8.0			11.0	11.0
	UNII-2C			8.0	8.0			11.0	11.0
	UNII-3			8.0	8.0			11.0	11.0

Bluetooth max & reduced output power

RF Air interface	Band	Max. RF Output Power (dBm)					
		BT Antenna 1			BT Antenna 2		
		BDR	EDR	LE	BDR	EDR	LE
Bluetooth	DSS	19.0	17.5	9.5	19.0	17.5	

RF Air interface	Band	Reduced. RF Output Power (dBm)					
		BT Antenna 1			BT Antenna 2		
		BDR	EDR	LE	BDR	EDR	LE
Bluetooth	DSS	8.5	9.5	9.5	8.5	9.5	

Notes:

1. This device uses an independent fixed level power reduction mechanism for WLAN & Bluetooth operations during Proximity sensor active.
2. BLE is not support in BT Ant.2

6.5. Power Back-off Operation

This device supports power back-off modes using triggering proximity sensor. For full details on how power back-off mode operates, refer to the Operational Description.

Antenna	Technologies Supported	Proximity sensor	Power Back-off mode	Standalone Exposure Conditions				
				Rear	Edge 1	Edge 2	Edge 3	Edge 4
Main 1 Ant.	3G/LTE/NR	Proximity sensor.3	Proximity sensor triggering	○	○			
Main 2 Ant.	LTE/NR	Proximity sensor.2	Proximity sensor triggering	○	○			
Sub 4 Ant.	NR-SRS	N/A.						
Sub 3 Ant.	NR-SRS	N/A.						
Sub 2 Ant.	NR-SRS	N/A.						
WiFi/BT Ant.1	Wi-Fi 2.4GHz	Proximity sensor.1	Proximity sensor triggering	○	○			
	Wi-Fi 5GHz							
	Bluetooth							
WiFi/BT Ant.2	Wi-Fi 2.4GHz	Proximity sensor.4	Proximity sensor triggering	○			○	
	Wi-Fi 5GHz							
	Bluetooth							

Note(s):

Please refer to Section.9 for all power measurements, and Proximity sensor verification is mentioned at Appendix G.

DSI and Corresponding Exposure Scenarios

RF exposure Scenarios	DSI No.	Description	KDB guide For SAR test
Standalone exposure Without triggering sensor	0	Proximity sensor is not triggered even if Device was touched to user's body or hands. Proximity sensor is not triggered due to triggering distance.	KDB 616217 D04
Standalone exposure With triggering sensor	1	Proximity sensor is triggered, when Device was touched to user's body or hands.	KDB 616217 D04

6.6. 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			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5	
High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3	
Band 13	Frequency range: 777 - 787 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low				23205/ 779.5			
Mid			23230/ 782	23230/ 782			
High				23255/ 784.5			
Band 14	Frequency range: 788 - 798 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low				23305/ 790.5			
Mid			23330/ 793	23330/ 793			
High				23355/ 795.5			

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 25	Frequency range: 1850 - 1915 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7	
Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	
High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5	26683/ 1914.3	
Band 26	Frequency range: 814 - 849 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low		26765/ 821.5	26740/ 819	26715/ 816.5	26705/ 815.5	26697/ 814.7	
Mid		26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5	
High		26965/ 841.5	26990/ 844	27015/ 846.5	27025/ 847.5	27033/ 848.3	
Band 41	Frequency range: 2496 - 2690 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low	39750 / 2506.0						
Low-Mid	40185 / 2549.5						
Mid	40620 / 2593.0						
Mid-High	41055 / 2636.5						
High	41490 / 2680.0						
Band 48	Frequency range: 3550 - 3700 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low	55340/ 3560	55315/ 3557.5	55290/ 3555	55265/ 3552.5			
Mid	55990/ 3625	55990/ 3625	55990/ 3625	55990/ 3625			
High	56640/ 3690	56665/ 3692.5	56690/ 3695	56715/ 3697.5			
Band 66	Frequency range: 1710 - 1780 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low	132072/ 1720	132047/ 1717.5	132022/ 1715	131997/ 1712.5	131987/ 1711.5	131979/ 1710.7	
Mid	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	
High	132572/ 1770	132597/ 1772.5	132622/ 1775	132647/ 1777.5	132657/ 1778.5	132665/ 1779.3	
Band 71	Frequency range: 663 - 698 MHz						
	Channel Bandwidth						
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz	
Low	133222/ 673	133197/ 670.5	133172/ 668	133147/ 665.5			
Mid	133297/ 680.5	133297/ 680.5	133297/ 680.5	133297/ 680.5			
High	133372/ 688	133397/ 690.5	133422/ 693	133447/ 695.5			

General LTE SAR Test and Reporting Considerations (Continued)

1.

LTE transmitter and antenna implementation	Refer to Appendix A.																																																														
Maximum power reduction (MPR)	<p align="center">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6" style="text-align: center;">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table> <p>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</p>	Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)																																																								
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																									
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																								
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																								
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																								
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																								
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																								
256 QAM	≥ 1						≤ 5																																																								
Power reduction	Yes																																																														
Spectrum plots for RB configurations	A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																														

Notes:

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

6.7. LTE (TDD) Considerations

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

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

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

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

Calculated Duty Cycle

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

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

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

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

where

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

Note(s):

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

6.8. NR (Sub 6GHz) SAR Test and Reporting Considerations

Item	Description														
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band n2	Frequency range: 1850 - 1910 MHz													
		Channel Bandwidth (MHz)													
		100	90	80	70	60	50	40	30	25	20	15	10	5	
	Low										372000 /1860	371500 /1857.5	371000/ 1855	370500 /1852.5	
	Mid										376000 /1880	376000 /1880	376000/ 1880	376000 /1880	
	High										380000 /1900	380500 /1902.5	381000/ 1905	381500 /1907.5	
	Band n5	Frequency range: 824 - 849 MHz													
		Channel Bandwidth (MHz)													
		100	90	80	70	60	50	40	30	25	20	15	10	5	
	Low										166800 /834	166300 /831.5	165800/ 829	165300 /826.5	
	Mid										167300 /836.5	167300 /836.5	167300/ 836.5	167300 /836.5	
	High										167800 /839	168300 /841.5	168800/ 844	169300 /846.5	
	Band n25	Frequency range: 1850 - 1915 MHz													
		Channel Bandwidth (MHz)													
		100	90	80	70	60	50	40	30	25	20	15	10	5	
	Low										372000 /1860	371500 /1857.5	371000 /1855	370500 /1852.5	
	Mid										376500 /1882.5	376500 /1882.5	376500 /1882.5	376500 /1882.5	
	High										381000 /1905	381500 /1907.5	382000/1 910	382500 /1912.5	
	Band n41	Frequency range: 2496 - 2690 MHz													
		Channel Bandwidth (MHz)													
		100	90	80	70	60	50	40	30	25	20	15	10	5	
Low										501204 /2506.02					
Low-Mid	509202 /2546.01	508200 /2541	507204 /2536.02		505200 /2526	504204 /2512.02	503202 /2516.01	522200 /2511							
Mid	518598 /2592.99				518598 /2592.99	518598 /2592.99		518598 /2592.99		518598 /2592.99					
Mid-High							523734 /2618.67	526800 /2634		527298 /2636.49					
High	528000 /2640	528996 /2644.98	529998 /2649.99		532998 /2664.99	523734 /2618.67		534000 /2670	534996 /2674.98		535998 /2679.99				
Band n66	Frequency range: 1710 - 1780 MHz														
	Channel Bandwidth (MHz)														
	100	90	80	70	60	50	40	30	25	20	15	10	5		
Low										344000 /1720	343500 /1717.5	343000 /1715	342500 /1712.5		
Mid										349000 /1745	349000 /1745	349000 /1745	349000 /1745		
High										354000 /1770	354500 /1772.5	355000 /1775	355500 /1777.5		
Band n71	Frequency range: 663 - 698 MHz														
	Channel Bandwidth (MHz)														
	100	90	80	70	60	50	40	30	25	20	15	10	5		
Low										134600 /673	134100 /670.5	133600 /668	133147 /665.5		
Mid										136100 /680.5	136100 /680.5	136100 /680.5	136100 /680.5		
High										137600 /688	138100 /690.5	138600 /693	133447 /695.5		

NR (Sub 6GHz) SAR Test and Reporting Considerations

Frequency range, Channel Bandwidth, Numbers and Frequencies	Band n77 -Lower Band-	Frequency range: 3450 - 3550 MHz												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low							631334 /3470.01	631000 /3465		630668 /3460.02			
	Mid	633334 /3500.01		633334 /3500.01		633334 /3500.01			633334 /3500.01		633334 /3500.01			
	High							635332 /3529.98	635666 /3534.99		636000 /3540			
	Band n77 -Upper Band-	Frequency range: 3700 - 3980 MHz												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low	650000 /3750		649334 /3740.01		648668 /3730.02		648000 /3720	647668 /3715.02		647334 /3710.01			
	Low-Mid					653556 /3803.34		651200 /3768	651000 /3765		650800 /3762			
	Mid-A			656000 /3840				654400 /3816	654334 /3815.01		654266 /3813.99			
	Mid-B							657600 /3864	657666 /3864.99		657734 /3866.01			
	Mid-High	662000 /3930		662666 /3939.99		658444 /3875.66		660800 /3912	661000 /3915		661200 /3918			
	High					663332 /3949.98		664000 /3960	664332 /3964.98		664666 /3969.99			
Band n78 -Lower Band-	Frequency range: 3450 - 3550 MHz													
	Channel Bandwidth (MHz)													
	100	90	80	70	60	50	40	30	25	20	15	10	5	
Low							631668 /3475.02	631334 /3470.01	631000 /3465		630668 /3460.02			
Mid	633334 /3500.01	633334 /3500.01	633334 /3500.01	633334 /3500.01	633334 /3500.01			633334 /3500.01		633334 /3500.01				
High							635000 /3525	635332 /3529.98	635666 /3534.99		636000 /3540			
Band n78 -Upper Band-	Frequency range: 3700 - 3800 MHz													
	Channel Bandwidth (MHz)													
	100	90	80	70	60	50	40	30	25	20	15	10	5	
Low								647668 /3715.02		647334 /3710.01				
Mid	650000 /3750	650000 /3750	650000 /3750	650000 /3750	650000 /3750	650000 /3750	650000 /3750	650000 /3750		650000 /3750				
High								652332 /3784.98		652666 /3789.99				
SCS	NR FDD Bands : 15 kHz, NR TDD Bands : 30 kHz													
Modulations Supported in UL	DFT-s-OFDM: $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM													
A-MPR (Additional MPR) disabled for SAR Testing?	Yes													
EN-DC Carrier Aggregation Possible Combinations														
LTE Anchor Bands for NR Band n2	LTE Band 2 / 5 / 12 / 13 / 14 / 71													
LTE Anchor Bands for NR Band n5	LTE Band 2 / 7 / 48 / 66													
LTE Anchor Bands for NR Band n25	LTE Band 12 / 48													
LTE Anchor Bands for NR Band n41	LTE Band 2 / 4 / 12 / 25 / 66 / 71													
LTE Anchor Bands for NR Band n66	LTE Band 5 / 12 / 13 / 14 / 48 / 71													
LTE Anchor Bands for NR Band n71	LTE Band 2 / 7 / 66													
LTE Anchor Bands for NR Band n77	LTE Band 2 / 5 / 7 / 12 / 13 / 14 / 66													
LTE Anchor Bands for NR Band n78	LTE Band 2 / 4 / 5 / 7 / 12 / 13 / 66 / 71													

Notes:

- SAR test for NR bands and LTE anchor Bands were performed separately due to limitations in SAR probe calibration factors. And, Due to test setup limitations, SAR testing for NR was performed using test mode software to establish the connection.
- NR configurations of SAR test were determined according to Section 5.2 of KDB 941225 D05.

7. RF Exposure Conditions (Test Configurations)

Refer to Appendix A for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

7.1. Standalone SAR Test Exclusion Considerations

Tablet device's each positions (Rear/Edge1/Edge2/Edge3/Edge4) consider SAR test exclusion according to Appendix B.4 of KDB 447498 D04 Interim General RF exposure guide.

If Each antenna operate to between 0.3GHz to 6GHz, and Antenna to DUT surface's distance are within 20 cm to 40cm, then below Formula can use for SAR test exclusion;

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).
The example values shown in Table B.2 are for illustration only.

7.2. Estimated SAR

When an antenna qualifies for test exemption in single transmitter/antenna mode of each test positions, its actual SAR value may not be available, because it was not required to be measured. In this case, the SAR contribution of that antenna to simultaneous transmission must be estimated relative to the SAR based exemption criteria, by multiplying the corresponding ratio by the SAR limit of 1.6 W/kg for 1-g SAR. This is referred to as estimated SAR.

For instance, a given antenna may qualify for a SAR-based exemption according to Appendix B.4 of KDB 447498 D04, with $P_{ant} < P_{th}$, where P_{ant} is maximum time-averaged power, and P_{th} is defined in Section 7.1. Then, per the preceding paragraph, the estimated SAR is computed as $SAR_{est} = 1.6 * P_{ant} / P_{th}$ [W/kg].

SAR Test Exclusion Calculation 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
Full Power, Proximity Sensor Off. A sensor triggering of 14 mm is included for both Rear and Edge 1																
Main 1	W-CDMA 2	1907.6	22.50	178	16	16	0	156	185		-Measure-	-Measure-	-Measure-	0.147	0.107	
Main 1	W-CDMA 4	1752.6	23.00	200	16	16	0	156	185		-Measure-	-Measure-	-Measure-	0.165	0.121	
Main 1	W-CDMA 5	846.6	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	LTE Band 5	849	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 2	LTE Band 7	2570	23.50	224	14	11	0	156	185		-Measure-	-Measure-	Measure	0.188	0.136	
Main 1	LTE Band 12	716	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	LTE Band 13	787	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	LTE Band 14	798	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	LTE Band 25/2	1915	23.50	224	16	16	0	156	185		-Measure-	-Measure-	-Measure-	0.185	0.135	
Main 1	LTE Band 26	849	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	LTE Band 66/4	1780	23.50	224	16	16	0	156	185		-Measure-	-Measure-	-Measure-	0.185	0.135	
Main 2	LTE Band 41 (PC2 & PC3)	2690	27.00	501	14	11	0	0	0		-Measure-	-Measure-	Measure	-Measure-	-Measure-	
Main 2	LTE Band 48	3700	22.70	186	14	11	0	156	185		-Measure-	-Measure-	Measure	0.160	0.114	
Main 1	LTE Band 71	698	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	NR Band n25/2	1910	23.50	224	16	16	0	156	185		-Measure-	-Measure-	-Measure-	0.185	0.135	
Main 1	NR Band n5	849	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 1	NR Band n66	1780	23.00	200	16	16	0	156	185		-Measure-	-Measure-	-Measure-	0.165	0.121	
Main 1	NR Band n71	698	25.00	316	16	16	0	0	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Main 2	NR Band n41 (PC2 & PC3)	2690	21.00	126	14	11	0	156	185		-Measure-	-Measure-	Measure	0.106	0.077	
Main 2	NR Band n77/n78 (PC2 & PC3)	3980	19.30	85	14	11	0	156	185		-Measure-	-Measure-	Measure	0.073	0.052	
Sub.4	NR Band n77-SRS1 (PC2 & PC3)	3980	12.00	16	0	133	0	0	227		-Measure-	0.019	Measure	-Measure-	0.006	
Sub.3	NR Band n77-SRS2 (PC2 & PC3)	3980	10.50	11	0	0	140	172	0		-Measure-	-Measure-	Measure	0.008	-Measure-	
Sub.2	NR Band n77-SRS3 (PC2 & PC3)	3980	10.50	11	0	160	25	0	215		-Measure-	0.009	0.374	-Measure-	0.005	

Second Stage Power Back-off, Proximity Sensor On																
Antenna	Tx Interface	Frequency (MHz)	dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Main 1	W-CDMA 2	1907.6	11.00	13	0	0					-Measure-	-Measure-				
Main 1	W-CDMA 4	1752.6	12.00	16	0	0					-Measure-	-Measure-				
Main 1	W-CDMA 5	846.6	15.00	32	0	0					-Measure-	-Measure-				
Main 1	LTE Band 5	849	16.00	40	0	0					-Measure-	-Measure-				
Main 2	LTE Band 7	2570	13.50	22	0	0					-Measure-	-Measure-				
Main 1	LTE Band 12	716	15.00	32	0	0					-Measure-	-Measure-				
Main 1	LTE Band 13	787	15.00	32	0	0					-Measure-	-Measure-				
Main 1	LTE Band 14	798	17.00	50	0	0					-Measure-	-Measure-				
Main 1	LTE Band 25/2	1915	13.00	20	0	0					-Measure-	-Measure-				
Main 1	LTE Band 26	849	17.00	50	0	0					-Measure-	-Measure-				
Main 1	LTE Band 66/4	1780	12.50	18	0	0					-Measure-	-Measure-				
Main 2	LTE Band 41 (PC2 & PC3)	2690	16.00	40	0	0					-Measure-	-Measure-				
Main 2	LTE Band 48	3700	15.00	32	0	0					-Measure-	-Measure-				
Main 1	LTE Band 71	698	17.00	50	0	0					-Measure-	-Measure-				
Main 1	NR Band n25/2	1910	12.00	16	0	0					-Measure-	-Measure-				
Main 1	NR Band n5	849	16.00	40	0	0					-Measure-	-Measure-				
Main 1	NR Band n66	1780	12.00	16	0	0					-Measure-	-Measure-				
Main 1	NR Band n71	698	17.00	50	0	0					-Measure-	-Measure-				
Main 2	NR Band n41 (PC2 & PC3)	2690	12.00	16	0	0					-Measure-	-Measure-				
Main 2	NR Band n77/n78 (PC2 & PC3)	3980	9.50	9	0	0					-Measure-	-Measure-				

Note(s):

When some device surfaces (Rear/Edge1/Edge2/Edge3/Edge4) has Standalone SAR test Exclusion according to Section 7.1, Estimated SAR were calculated to the surfaces according to Section 7.2.

SAR Test Exclusion Calculation for WLAN/BT

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
Full Power, Proximity Sensor Off. A sensor triggering of 14 mm is included for both Rear and Edge 1																
Ant.1	Bluetooth	2480	18.50	71	14	16	198	160	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.1	Wi-Fi 2.4 GHz	2462	20.00	100	14	16	198	160	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.1	Wi-Fi 5.2 GHz	5240	18.00	63	14	16	198	160	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.1	Wi-Fi 5.3 GHz	5320	18.00	63	14	16	198	160	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.1	Wi-Fi 5.5 GHz	5720	18.00	63	14	16	198	160	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.1	Wi-Fi 5.8 GHz	5825	18.00	63	14	16	198	160	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.2	Bluetooth	2480	18.50	71	14	157	201	13	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.2	Wi-Fi 2.4 GHz	2462	20.00	100	14	157	201	13	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.2	Wi-Fi 5.2 GHz	5240	18.00	63	14	157	201	13	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.2	Wi-Fi 5.3 GHz	5320	18.00	63	14	157	201	13	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.2	Wi-Fi 5.5 GHz	5720	18.00	63	14	157	201	13	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
Ant.2	Wi-Fi 5.8 GHz	5825	18.00	63	14	157	201	13	0		-Measure-	-Measure-	-Measure-	-Measure-	-Measure-	
MIMO	Wi-Fi 2.4 GHz	2462	19.00	79	14	16	198	13	0		-Measure-	-Measure-	0.042	-Measure-	-Measure-	
MIMO	Wi-Fi 5.2 GHz	5240	18.00	63	14	16	198	13	0		-Measure-	-Measure-	0.034	-Measure-	-Measure-	
MIMO	Wi-Fi 5.3 GHz	5320	18.00	63	14	16	198	13	0		-Measure-	-Measure-	0.034	-Measure-	-Measure-	
MIMO	Wi-Fi 5.5 GHz	5720	18.00	63	14	16	198	13	0		-Measure-	-Measure-	0.034	-Measure-	-Measure-	
MIMO	Wi-Fi 5.8 GHz	5825	18.00	63	14	16	198	13	0		-Measure-	-Measure-	0.034	-Measure-	-Measure-	

Second Stage Power Back-off, Proximity Sensor On																
Antenna	Tx Interface	Frequency (MHz)	dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Front
Ant.1	Bluetooth	2480	10.00	10	0	0					-Measure-	-Measure-				
Ant.1	Wi-Fi 2.4 GHz	2462	11.00	13	0	0					-Measure-	-Measure-				
Ant.1	Wi-Fi 5.2 GHz	5240	9.00	8	0	0					-Measure-	-Measure-				
Ant.1	Wi-Fi 5.3 GHz	5320	9.00	8	0	0					-Measure-	-Measure-				
Ant.1	Wi-Fi 5.5 GHz	5720	9.00	8	0	0					-Measure-	-Measure-				
Ant.1	Wi-Fi 5.8 GHz	5825	9.00	8	0	0					-Measure-	-Measure-				
Ant.2	Bluetooth	2480	10.00	10	0			0			-Measure-			-Measure-		
Ant.2	Wi-Fi 2.4 GHz	2462	11.00	13	0			0			-Measure-			-Measure-		
Ant.2	Wi-Fi 5.2 GHz	5240	9.00	8	0			0			-Measure-			-Measure-		
Ant.2	Wi-Fi 5.3 GHz	5320	9.00	8	0			0			-Measure-			-Measure-		
Ant.2	Wi-Fi 5.5 GHz	5720	9.00	8	0			0			-Measure-			-Measure-		
Ant.2	Wi-Fi 5.8 GHz	5825	9.00	8	0			0			-Measure-			-Measure-		
MIMO	Wi-Fi 2.4 GHz	2462	11.00	13	0	0		0			-Measure-	-Measure-		-Measure-		
MIMO	Wi-Fi 5.2 GHz	5240	9.00	8	0	0		0			-Measure-	-Measure-		-Measure-		
MIMO	Wi-Fi 5.3 GHz	5320	9.00	8	0	0		0			-Measure-	-Measure-		-Measure-		
MIMO	Wi-Fi 5.5 GHz	5720	9.00	8	0	0		0			-Measure-	-Measure-		-Measure-		
MIMO	Wi-Fi 5.8 GHz	5825	9.00	8	0	0		0			-Measure-	-Measure-		-Measure-		

Note(s):

- When some device surfaces (Rear/Edge1/Edge2/Edge3/Edge4) has Standalone SAR test Exclusion according to Section 7.1, Estimated SAR were calculated to the surfaces according to Section 7.2.
- For Ant.1 & Ant.2 of BT/2.4G WiFi/5G WiFi, Standalone SAR additionally tested in all test positions for satisfy simultaneous transmission analysis.

7.3. Required Test configurations

The table below identifies the standalone test configurations required for this device accordant to the findings in SAR Test Exclusion Calculation table.

Antenna	Tx Interface	Proximity sensor (On/Off)	Rear	Edge 1	Edge 2	Edge 3	Edge 4
				(Top Edge)	(Right Edge)	(Bottom Edge)	(Left Edge)
Main 1	WCDMA II, IV LTE B25(2), 66(4), NR Bn25(n2), n66	OFF	Yes	Yes	Yes	No	No
		ON	Yes	Yes			
Main 1	WCDMA V LTE B5, 12, 13, 14, 26, 71 NR Bn5, n71	OFF	Yes	Yes	Yes	Yes	Yes
		ON	Yes	Yes			
Main 2	LTE B7, 48 NR Bn41, n77	OFF	Yes	Yes	Yes	No	No
		ON	Yes	Yes			
Main 2	LTE B41	OFF	Yes	Yes	Yes	Yes	Yes
		ON	Yes	Yes			
2.4GHz Ant.1	DTS & BT	OFF	Yes	Yes	Yes	Yes	Yes
		ON	Yes	Yes			
2.4GHz Ant.2	DTS & BT	OFF	Yes	Yes	Yes	Yes	Yes
		ON	Yes			Yes	
5GHz Ant.1	UNII	OFF	Yes	Yes	Yes	Yes	Yes
		ON	Yes	Yes			
5GHz Ant.2	UNII	OFF	Yes	Yes	Yes	Yes	Yes
		ON	Yes			Yes	
2.4GHz MIMO	DTS	OFF	Yes	Yes	No	Yes	Yes
		ON	Yes	Yes		Yes	
5GHz MIMO	UNII	OFF	Yes	Yes	No	Yes	Yes
		ON	Yes	Yes		Yes	
Sub Ant.4	NR-SRS1	N/A	Yes	No	Yes	Yes	No
Sub Ant.3	NR-SRS2	N/A	Yes	Yes	Yes	No	Yes
Sub Ant.2	NR-SRS3	N/A	Yes	No	No	Yes	No
NFC Ant.	NFC	N/A	Yes	Yes	Yes	Yes	Yes

Note(s):

1. Yes = Testing is required. No = Testing is not required.
2. NFC SAR test is considered in all test positions.
3. Additional SAR test considered for some test positions of each bands due to satisfy simultaneous transmission analysis.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within $\pm 2^\circ\text{C}$ of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The Tissue Dielectric parameters (100MHz to 6GHz) 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.

For The Tissue Dielectric parameters (4MHz to 30MHz). The parameters must be measured before 24 hours.

1. Tissue Dielectric Parameters (100MHz to 6GHz)

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

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

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

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

2. Tissue Dielectric Parameters (4MHz to 30MHz)

Target Frequency (MHz)	Head	
	ϵ_r	σ (S/m)
4	55.0	0.75
13	55.0	0.75
30	55.0	0.75

IEC_ IEEE Std 62209-1528 : 2020

Refer to Table 2 within the IEC_ IEEE Std 62209-1528 : 2020.

Dielectric Property Measurements Results:

SAR 1 Room

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
7-11-2022	Head 1750	e'	38.5800	Relative Permittivity (ϵ_r):	38.58	40.08	-3.75	5
		e"	13.9400	Conductivity (σ):	1.36	1.37	-0.92	5
	Head 1710	e'	38.6400	Relative Permittivity (ϵ_r):	38.64	40.15	-3.75	5
		e"	14.0700	Conductivity (σ):	1.34	1.35	-0.64	5
	Head 1755	e'	38.5700	Relative Permittivity (ϵ_r):	38.57	40.08	-3.76	5
		e"	13.9300	Conductivity (σ):	1.36	1.37	-0.91	5

SAR 2 Room

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)		
7/19/2022	Head 5250	e'	36.3700	Relative Permittivity (ϵ_r):	36.37	35.93	1.22	5	
		e"	16.4100	Conductivity (σ):	4.79	4.70	1.88	5	
	Head 5260	e'	36.4000	Relative Permittivity (ϵ_r):	36.40	35.92	1.33	5	
		e"	16.4600	Conductivity (σ):	4.81	4.71	2.16	5	
	Head 5600	e'	35.6700	Relative Permittivity (ϵ_r):	35.67	35.53	0.38	5	
		e"	16.3300	Conductivity (σ):	5.08	5.06	0.49	5	
	Head 5800	e'	35.5200	Relative Permittivity (ϵ_r):	35.52	35.30	0.62	5	
		e"	16.2800	Conductivity (σ):	5.25	5.27	-0.37	5	
	Head 5825	e'	35.5400	Relative Permittivity (ϵ_r):	35.54	35.30	0.68	5	
		e"	16.2200	Conductivity (σ):	5.25	5.27	-0.31	5	
	7/25/2022	Head 5250	e'	35.5800	Relative Permittivity (ϵ_r):	35.58	35.93	-0.98	5
			e"	15.7000	Conductivity (σ):	4.58	4.70	-2.53	5
Head 5260		e'	35.5000	Relative Permittivity (ϵ_r):	35.50	35.92	-1.17	5	
		e"	15.8200	Conductivity (σ):	4.63	4.71	-1.81	5	
Head 5600		e'	34.8900	Relative Permittivity (ϵ_r):	34.89	35.53	-1.81	5	
		e"	15.7800	Conductivity (σ):	4.91	5.06	-2.90	5	
Head 5800		e'	34.5700	Relative Permittivity (ϵ_r):	34.57	35.30	-2.07	5	
		e"	15.9300	Conductivity (σ):	5.14	5.27	-2.52	5	
Head 5825		e'	34.4300	Relative Permittivity (ϵ_r):	34.43	35.30	-2.46	5	
		e"	15.8500	Conductivity (σ):	5.13	5.27	-2.59	5	
7/27/2022		Head 3500	e'	38.6700	Relative Permittivity (ϵ_r):	38.67	37.93	1.95	5
			e"	14.7900	Conductivity (σ):	2.88	2.91	-1.14	5
	Head 3560	e'	38.5600	Relative Permittivity (ϵ_r):	38.56	37.86	1.85	5	
		e"	14.8400	Conductivity (σ):	2.94	2.97	-1.19	5	
	Head 3600	e'	38.4900	Relative Permittivity (ϵ_r):	38.49	37.82	1.78	5	
		e"	14.8500	Conductivity (σ):	2.97	3.01	-1.37	5	
	Head 3690	e'	38.3500	Relative Permittivity (ϵ_r):	38.35	37.71	1.69	5	
		e"	14.9200	Conductivity (σ):	3.06	3.11	-1.44	5	
	Head 3700	e'	38.3300	Relative Permittivity (ϵ_r):	38.33	37.70	1.67	5	
		e"	14.9200	Conductivity (σ):	3.07	3.12	-1.50	5	
	7/27/2022	Head 3600	e'	38.4900	Relative Permittivity (ϵ_r):	38.49	37.82	1.78	5
			e"	14.8500	Conductivity (σ):	2.97	3.01	-1.37	5
Head 3650		e'	38.4000	Relative Permittivity (ϵ_r):	38.40	37.76	1.70	5	
		e"	14.9000	Conductivity (σ):	3.02	3.07	-1.34	5	
Head 3700		e'	38.3300	Relative Permittivity (ϵ_r):	38.33	37.70	1.67	5	
		e"	14.9200	Conductivity (σ):	3.07	3.12	-1.50	5	
Head 3750		e'	38.2300	Relative Permittivity (ϵ_r):	38.23	37.64	1.56	5	
		e"	14.9700	Conductivity (σ):	3.12	3.17	-1.45	5	
Head 3800		e'	38.1900	Relative Permittivity (ϵ_r):	38.19	37.59	1.60	5	
		e"	15.0000	Conductivity (σ):	3.17	3.22	-1.53	5	

SAR 2 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
7-27-2022	Head 3750	e'	38.2300	Relative Permittivity (ϵ_r):	38.23	37.64	1.56	5
		e"	14.9700	Conductivity (σ):	3.12	3.17	-1.45	5
	Head 3800	e'	38.1900	Relative Permittivity (ϵ_r):	38.19	37.59	1.60	5
		e"	15.0000	Conductivity (σ):	3.17	3.22	-1.53	5
	Head 3900	e'	38.0300	Relative Permittivity (ϵ_r):	38.03	37.47	1.49	5
		e"	15.0400	Conductivity (σ):	3.26	3.32	-1.79	5
	Head 3930	e'	37.9700	Relative Permittivity (ϵ_r):	37.97	37.44	1.42	5
		e"	15.0500	Conductivity (σ):	3.29	3.35	-1.87	5
	Head 3950	e'	37.9200	Relative Permittivity (ϵ_r):	37.92	37.42	1.35	5
		e"	15.0700	Conductivity (σ):	3.31	3.37	-1.84	5
8-1-2022	Head 3500	e'	39.1800	Relative Permittivity (ϵ_r):	39.18	37.93	3.30	5
		e"	15.0500	Conductivity (σ):	2.93	2.91	0.59	5
	Head 3560	e'	39.1500	Relative Permittivity (ϵ_r):	39.15	37.86	3.40	5
		e"	15.1200	Conductivity (σ):	2.99	2.97	0.67	5
	Head 3600	e'	39.1100	Relative Permittivity (ϵ_r):	39.11	37.82	3.42	5
		e"	15.1500	Conductivity (σ):	3.03	3.01	0.62	5
	Head 3690	e'	38.9900	Relative Permittivity (ϵ_r):	38.99	37.71	3.39	5
		e"	15.2500	Conductivity (σ):	3.13	3.11	0.74	5
	Head 3700	e'	38.9800	Relative Permittivity (ϵ_r):	38.98	37.70	3.39	5
		e"	15.2500	Conductivity (σ):	3.14	3.12	0.68	5
8-1-2022	Head 3600	e'	39.1100	Relative Permittivity (ϵ_r):	39.11	37.82	3.42	5
		e"	15.1500	Conductivity (σ):	3.03	3.01	0.62	5
	Head 3650	e'	39.0300	Relative Permittivity (ϵ_r):	39.03	37.76	3.37	5
		e"	15.2100	Conductivity (σ):	3.09	3.07	0.71	5
	Head 3700	e'	38.9800	Relative Permittivity (ϵ_r):	38.98	37.70	3.39	5
		e"	15.2500	Conductivity (σ):	3.14	3.12	0.68	5
	Head 3750	e'	38.8800	Relative Permittivity (ϵ_r):	38.88	37.64	3.28	5
		e"	15.3000	Conductivity (σ):	3.19	3.17	0.72	5
	Head 3800	e'	38.8100	Relative Permittivity (ϵ_r):	38.81	37.59	3.25	5
		e"	15.3500	Conductivity (σ):	3.24	3.22	0.77	5
8-1-2022	Head 3750	e'	38.8800	Relative Permittivity (ϵ_r):	38.88	37.64	3.28	5
		e"	15.3000	Conductivity (σ):	3.19	3.17	0.72	5
	Head 3800	e'	38.8100	Relative Permittivity (ϵ_r):	38.81	37.59	3.25	5
		e"	15.3500	Conductivity (σ):	3.24	3.22	0.77	5
	Head 3900	e'	38.6200	Relative Permittivity (ϵ_r):	38.62	37.47	3.06	5
		e"	15.4600	Conductivity (σ):	3.35	3.32	0.95	5
	Head 3930	e'	38.5400	Relative Permittivity (ϵ_r):	38.54	37.44	2.94	5
		e"	15.4900	Conductivity (σ):	3.38	3.35	0.99	5
	Head 3950	e'	38.4900	Relative Permittivity (ϵ_r):	38.49	37.42	2.87	5
		e"	15.5200	Conductivity (σ):	3.41	3.37	1.09	5

SAR 3 Room

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
6-27-2022	Head 835	e'	41.5000	Relative Permittivity (ε _r):	41.50	41.50	0.00	5
		e''	19.4800	Conductivity (σ):	0.90	0.90	0.49	5
	Head 820	e'	41.5300	Relative Permittivity (ε _r):	41.53	41.60	-0.17	5
		e''	19.7000	Conductivity (σ):	0.90	0.90	-0.03	5
	Head 850	e'	41.4700	Relative Permittivity (ε _r):	41.47	41.50	-0.07	5
		e''	19.2700	Conductivity (σ):	0.91	0.92	-0.46	5
7-5-2022	Head 835	e'	41.7100	Relative Permittivity (ε _r):	41.71	41.50	0.51	5
		e''	20.1900	Conductivity (σ):	0.94	0.90	4.15	5
	Head 820	e'	41.7600	Relative Permittivity (ε _r):	41.76	41.60	0.38	5
		e''	20.4300	Conductivity (σ):	0.93	0.90	3.68	5
	Head 850	e'	41.6800	Relative Permittivity (ε _r):	41.68	41.50	0.43	5
		e''	19.9600	Conductivity (σ):	0.94	0.92	3.10	5
7-6-2022	Head 2600	e'	40.2300	Relative Permittivity (ε _r):	40.23	39.01	3.13	5
		e''	13.3500	Conductivity (σ):	1.93	1.96	-1.64	5
	Head 2500	e'	39.9700	Relative Permittivity (ε _r):	39.97	39.14	2.13	5
		e''	13.1200	Conductivity (σ):	1.82	1.85	-1.63	5
	Head 2700	e'	40.4700	Relative Permittivity (ε _r):	40.47	38.88	4.08	5
		e''	13.5200	Conductivity (σ):	2.03	2.07	-1.96	5
7-11-2022	Head 835	e'	40.7800	Relative Permittivity (ε _r):	40.78	41.50	-1.73	5
		e''	19.8200	Conductivity (σ):	0.92	0.90	2.25	5
	Head 820	e'	40.8200	Relative Permittivity (ε _r):	40.82	41.60	-1.88	5
		e''	20.0700	Conductivity (σ):	0.92	0.90	1.85	5
	Head 850	e'	40.7400	Relative Permittivity (ε _r):	40.74	41.50	-1.83	5
		e''	19.5800	Conductivity (σ):	0.93	0.92	1.14	5
7-11-2022	Head 1900	e'	38.7000	Relative Permittivity (ε _r):	38.70	40.00	-3.25	5
		e''	13.7700	Conductivity (σ):	1.45	1.40	3.91	5
	Head 1850	e'	38.7500	Relative Permittivity (ε _r):	38.75	40.00	-3.13	5
		e''	13.8200	Conductivity (σ):	1.42	1.40	1.54	5
	Head 1910	e'	38.7000	Relative Permittivity (ε _r):	38.70	40.00	-3.25	5
		e''	13.7600	Conductivity (σ):	1.46	1.40	4.38	5
7-14-2022	Head 1900	e'	38.6600	Relative Permittivity (ε _r):	38.66	40.00	-3.35	5
		e''	13.4200	Conductivity (σ):	1.42	1.40	1.27	5
	Head 1850	e'	38.6800	Relative Permittivity (ε _r):	38.68	40.00	-3.30	5
		e''	13.4700	Conductivity (σ):	1.39	1.40	-1.03	5
	Head 1910	e'	38.6500	Relative Permittivity (ε _r):	38.65	40.00	-3.38	5
		e''	13.4100	Conductivity (σ):	1.42	1.40	1.73	5
7-19-2022	Head 1750	e'	40.3800	Relative Permittivity (ε _r):	40.38	40.08	0.74	5
		e''	14.6700	Conductivity (σ):	1.43	1.37	4.27	5
	Head 1710	e'	40.5000	Relative Permittivity (ε _r):	40.50	40.15	0.88	5
		e''	14.7900	Conductivity (σ):	1.41	1.35	4.44	5
	Head 1755	e'	40.3600	Relative Permittivity (ε _r):	40.36	40.08	0.71	5
		e''	14.6500	Conductivity (σ):	1.43	1.37	4.21	5
7-20-2022	Head 2600	e'	38.4900	Relative Permittivity (ε _r):	38.49	39.01	-1.34	5
		e''	13.4500	Conductivity (σ):	1.94	1.96	-0.90	5
	Head 2500	e'	38.6400	Relative Permittivity (ε _r):	38.64	39.14	-1.27	5
		e''	13.3900	Conductivity (σ):	1.86	1.85	0.39	5
	Head 2700	e'	38.0400	Relative Permittivity (ε _r):	38.04	38.88	-2.17	5
		e''	13.3100	Conductivity (σ):	2.00	2.07	-3.48	5
7-21-2022	Head 1900	e'	39.0300	Relative Permittivity (ε _r):	39.03	40.00	-2.43	5
		e''	13.6100	Conductivity (σ):	1.44	1.40	2.70	5
	Head 1850	e'	38.8200	Relative Permittivity (ε _r):	38.82	40.00	-2.95	5
		e''	13.6400	Conductivity (σ):	1.40	1.40	0.22	5
	Head 1910	e'	39.1000	Relative Permittivity (ε _r):	39.10	40.00	-2.25	5
		e''	13.6100	Conductivity (σ):	1.45	1.40	3.24	5
7-22-2022	Head 1750	e'	40.3200	Relative Permittivity (ε _r):	40.32	40.08	0.59	5
		e''	13.8600	Conductivity (σ):	1.35	1.37	-1.48	5
	Head 1710	e'	40.4000	Relative Permittivity (ε _r):	40.40	40.15	0.63	5
		e''	13.9600	Conductivity (σ):	1.33	1.35	-1.42	5
	Head 1755	e'	40.3100	Relative Permittivity (ε _r):	40.31	40.08	0.58	5
		e''	13.8400	Conductivity (σ):	1.35	1.37	-1.55	5
7-25-2022	Head 1750	e'	38.9400	Relative Permittivity (ε _r):	38.94	40.08	-2.86	5
		e''	13.8500	Conductivity (σ):	1.35	1.37	-1.56	5
	Head 1710	e'	39.0200	Relative Permittivity (ε _r):	39.02	40.15	-2.81	5
		e''	13.8600	Conductivity (σ):	1.32	1.35	-2.12	5
	Head 1755	e'	38.9200	Relative Permittivity (ε _r):	38.92	40.08	-2.89	5
		e''	13.8400	Conductivity (σ):	1.35	1.37	-1.55	5
7-25-2022	Head 1900	e'	38.5000	Relative Permittivity (ε _r):	38.50	40.00	-3.75	5
		e''	13.5300	Conductivity (σ):	1.43	1.40	2.10	5
	Head 1850	e'	38.6000	Relative Permittivity (ε _r):	38.60	40.00	-3.50	5
		e''	13.6000	Conductivity (σ):	1.40	1.40	-0.07	5
	Head 1910	e'	38.4800	Relative Permittivity (ε _r):	38.48	40.00	-3.80	5
		e''	13.5200	Conductivity (σ):	1.44	1.40	2.56	5

SAR 3 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
7-28-2022	Head 1750	e'	39.0700	Relative Permittivity (ϵ_r):	39.07	40.08	-2.53	5
		e"	14.0600	Conductivity (σ):	1.37	1.37	-0.06	5
	Head 1710	e'	39.0900	Relative Permittivity (ϵ_r):	39.09	40.15	-2.63	5
		e"	14.1800	Conductivity (σ):	1.35	1.35	0.14	5
	Head 1755	e'	39.0700	Relative Permittivity (ϵ_r):	39.07	40.08	-2.51	5
		e"	14.0400	Conductivity (σ):	1.37	1.37	-0.13	5
7-29-2022	Head 835	e'	41.9500	Relative Permittivity (ϵ_r):	41.95	41.50	1.08	5
		e"	19.3600	Conductivity (σ):	0.90	0.90	-0.13	5
	Head 820	e'	41.9900	Relative Permittivity (ϵ_r):	41.99	41.60	0.93	5
		e"	19.6200	Conductivity (σ):	0.89	0.90	-0.43	5
	Head 850	e'	41.9100	Relative Permittivity (ϵ_r):	41.91	41.50	0.99	5
		e"	19.1200	Conductivity (σ):	0.90	0.92	-1.24	5
8-1-2022	Head 750	e'	41.9600	Relative Permittivity (ϵ_r):	41.96	41.96	0.00	5
		e"	21.4700	Conductivity (σ):	0.90	0.89	0.25	5
	Head 700	e'	42.0800	Relative Permittivity (ϵ_r):	42.08	42.22	-0.33	5
		e"	22.5300	Conductivity (σ):	0.88	0.89	-1.38	5
	Head 790	e'	41.8000	Relative Permittivity (ϵ_r):	41.80	41.76	0.10	5
		e"	20.6700	Conductivity (σ):	0.91	0.90	1.32	5

SAR 4 Room

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
6/29/2022	Head 2450	e'	38.9400	Relative Permittivity (ϵ_r):	38.94	39.20	-0.66	5
		e"	13.4000	Conductivity (σ):	1.83	1.80	1.41	5
	Head 2400	e'	38.9500	Relative Permittivity (ϵ_r):	38.95	39.30	-0.88	5
		e"	13.3900	Conductivity (σ):	1.79	1.75	2.01	5
	Head 2480	e'	38.9000	Relative Permittivity (ϵ_r):	38.90	39.16	-0.67	5
		e"	13.4100	Conductivity (σ):	1.85	1.83	0.91	5
6/29/2022	Head 2600	e'	38.6500	Relative Permittivity (ϵ_r):	38.65	39.01	-0.92	5
		e"	13.4900	Conductivity (σ):	1.95	1.96	-0.61	5
	Head 2500	e'	38.8700	Relative Permittivity (ϵ_r):	38.87	39.14	-0.68	5
		e"	13.4300	Conductivity (σ):	1.87	1.85	0.69	5
	Head 2700	e'	38.4400	Relative Permittivity (ϵ_r):	38.44	38.88	-1.14	5
		e"	13.5200	Conductivity (σ):	2.03	2.07	-1.96	5
7/5/2022	Head 2450	e'	40.1100	Relative Permittivity (ϵ_r):	40.11	39.20	2.32	5
		e"	13.1500	Conductivity (σ):	1.79	1.80	-0.48	5
	Head 2400	e'	40.2900	Relative Permittivity (ϵ_r):	40.29	39.30	2.53	5
		e"	13.2400	Conductivity (σ):	1.77	1.75	0.87	5
	Head 2480	e'	40.0400	Relative Permittivity (ϵ_r):	40.04	39.16	2.24	5
		e"	13.1900	Conductivity (σ):	1.82	1.83	-0.74	5
7/11/2022	Head 2600	e'	38.1200	Relative Permittivity (ϵ_r):	38.12	39.01	-2.28	5
		e"	13.3800	Conductivity (σ):	1.93	1.96	-1.42	5
	Head 2500	e'	38.2600	Relative Permittivity (ϵ_r):	38.26	39.14	-2.24	5
		e"	13.2600	Conductivity (σ):	1.84	1.85	-0.58	5
	Head 2700	e'	37.8100	Relative Permittivity (ϵ_r):	37.81	38.88	-2.76	5
		e"	13.3000	Conductivity (σ):	2.00	2.07	-3.55	5
7/13/2022	Head 3500	e'	38.9600	Relative Permittivity (ϵ_r):	38.96	37.93	2.72	5
		e"	14.7600	Conductivity (σ):	2.87	2.91	-1.34	5
	Head 3560	e'	38.8900	Relative Permittivity (ϵ_r):	38.89	37.86	2.72	5
		e"	14.8000	Conductivity (σ):	2.93	2.97	-1.46	5
	Head 3600	e'	38.8300	Relative Permittivity (ϵ_r):	38.83	37.82	2.68	5
		e"	14.8500	Conductivity (σ):	2.97	3.01	-1.37	5
	Head 3690	e'	38.6600	Relative Permittivity (ϵ_r):	38.66	37.71	2.51	5
		e"	14.9400	Conductivity (σ):	3.07	3.11	-1.31	5
	Head 3700	e'	38.6400	Relative Permittivity (ϵ_r):	38.64	37.70	2.49	5
		e"	14.9500	Conductivity (σ):	3.08	3.12	-1.30	5
7/13/2022	Head 3600	e'	38.8300	Relative Permittivity (ϵ_r):	38.83	37.82	2.68	5
		e"	14.8500	Conductivity (σ):	2.97	3.01	-1.37	5
	Head 3650	e'	38.7300	Relative Permittivity (ϵ_r):	38.73	37.76	2.57	5
		e"	14.9100	Conductivity (σ):	3.03	3.07	-1.27	5
	Head 3700	e'	38.6400	Relative Permittivity (ϵ_r):	38.64	37.70	2.49	5
		e"	14.9500	Conductivity (σ):	3.08	3.12	-1.30	5
	Head 3750	e'	38.5200	Relative Permittivity (ϵ_r):	38.52	37.64	2.33	5
		e"	15.0100	Conductivity (σ):	3.13	3.17	-1.19	5
	Head 3800	e'	38.4500	Relative Permittivity (ϵ_r):	38.45	37.59	2.30	5
		e"	15.0600	Conductivity (σ):	3.18	3.22	-1.13	5
7/13/2022	Head 3750	e'	38.5200	Relative Permittivity (ϵ_r):	38.52	37.64	2.33	5
		e"	15.0100	Conductivity (σ):	3.13	3.17	-1.19	5
	Head 3800	e'	38.4500	Relative Permittivity (ϵ_r):	38.45	37.59	2.30	5
		e"	15.0600	Conductivity (σ):	3.18	3.22	-1.13	5
	Head 3900	e'	38.2700	Relative Permittivity (ϵ_r):	38.27	37.47	2.13	5
		e"	15.1600	Conductivity (σ):	3.29	3.32	-1.01	5
	Head 3930	e'	38.2100	Relative Permittivity (ϵ_r):	38.21	37.44	2.06	5
		e"	15.1800	Conductivity (σ):	3.32	3.35	-1.03	5
	Head 3950	e'	38.1600	Relative Permittivity (ϵ_r):	38.16	37.42	1.99	5
		e"	15.2200	Conductivity (σ):	3.34	3.37	-0.87	5

SAR 4 Room (Continued)

Date	Freq. (MHz)		Liquid Parameters	Measured	Target	Delta (%)	Limit ±(%)		
2022-07-15	Head 750	e'	41.8600	Relative Permittivity (ϵ_r):	41.86	41.96	-0.24	5	
		e''	21.2500	Conductivity (σ):	0.89	0.89	-0.77	5	
	Head 700	e'	42.0500	Relative Permittivity (ϵ_r):	42.05	42.22	-0.40	5	
		e''	22.3300	Conductivity (σ):	0.87	0.89	-2.26	5	
	Head 790	e'	41.7200	Relative Permittivity (ϵ_r):	41.72	41.76	-0.09	5	
		e''	20.4800	Conductivity (σ):	0.90	0.90	0.39	5	
2022-07-18	Head 2450	e'	39.2100	Relative Permittivity (ϵ_r):	39.21	39.20	0.03	5	
		e''	12.8800	Conductivity (σ):	1.75	1.80	-2.52	5	
	Head 2400	e'	39.3000	Relative Permittivity (ϵ_r):	39.30	39.30	0.01	5	
		e''	12.8800	Conductivity (σ):	1.72	1.75	-1.88	5	
	Head 2480	e'	39.1600	Relative Permittivity (ϵ_r):	39.16	39.16	-0.01	5	
		e''	12.8900	Conductivity (σ):	1.78	1.83	-3.00	5	
2022-07-22	Head 2450	e'	38.2400	Relative Permittivity (ϵ_r):	38.24	39.20	-2.45	5	
		e''	13.3500	Conductivity (σ):	1.82	1.80	1.04	5	
	Head 2400	e'	38.3600	Relative Permittivity (ϵ_r):	38.36	39.30	-2.38	5	
		e''	13.3400	Conductivity (σ):	1.78	1.75	1.63	5	
	Head 2480	e'	38.1900	Relative Permittivity (ϵ_r):	38.19	39.16	-2.48	5	
		e''	13.3700	Conductivity (σ):	1.84	1.83	0.61	5	
2022-07-25	Head 3500	e'	37.4100	Relative Permittivity (ϵ_r):	37.41	37.93	-1.37	5	
		e''	15.0600	Conductivity (σ):	2.93	2.91	0.66	5	
	Head 3560	e'	37.3100	Relative Permittivity (ϵ_r):	37.31	37.86	-1.46	5	
		e''	15.1000	Conductivity (σ):	2.99	2.97	0.54	5	
	Head 3600	e'	37.2400	Relative Permittivity (ϵ_r):	37.24	37.82	-1.52	5	
		e''	15.1300	Conductivity (σ):	3.03	3.01	0.49	5	
	Head 3690	e'	37.0800	Relative Permittivity (ϵ_r):	37.08	37.71	-1.68	5	
		e''	15.1900	Conductivity (σ):	3.12	3.11	0.34	5	
	Head 3700	e'	37.0600	Relative Permittivity (ϵ_r):	37.06	37.70	-1.70	5	
		e''	15.2000	Conductivity (σ):	3.13	3.12	0.35	5	
	2022-07-25	Head 3600	e'	37.2400	Relative Permittivity (ϵ_r):	37.24	37.82	-1.52	5
			e''	15.1300	Conductivity (σ):	3.03	3.01	0.49	5
Head 3650		e'	37.1500	Relative Permittivity (ϵ_r):	37.15	37.76	-1.61	5	
		e''	15.1600	Conductivity (σ):	3.08	3.07	0.38	5	
Head 3700		e'	37.0600	Relative Permittivity (ϵ_r):	37.06	37.70	-1.70	5	
		e''	15.2000	Conductivity (σ):	3.13	3.12	0.35	5	
Head 3750		e'	36.9800	Relative Permittivity (ϵ_r):	36.98	37.64	-1.76	5	
		e''	15.2500	Conductivity (σ):	3.18	3.17	0.39	5	
Head 3800		e'	36.8800	Relative Permittivity (ϵ_r):	36.88	37.59	-1.88	5	
		e''	15.2900	Conductivity (σ):	3.23	3.22	0.38	5	
2022-07-25		Head 3750	e'	36.9800	Relative Permittivity (ϵ_r):	36.98	37.64	-1.76	5
			e''	15.2500	Conductivity (σ):	3.18	3.17	0.39	5
	Head 3800	e'	36.8800	Relative Permittivity (ϵ_r):	36.88	37.59	-1.88	5	
		e''	15.2900	Conductivity (σ):	3.23	3.22	0.38	5	
	Head 3900	e'	36.7000	Relative Permittivity (ϵ_r):	36.70	37.47	-2.06	5	
		e''	15.4000	Conductivity (σ):	3.34	3.32	0.56	5	
	Head 3930	e'	36.6300	Relative Permittivity (ϵ_r):	36.63	37.44	-2.16	5	
		e''	15.4200	Conductivity (σ):	3.37	3.35	0.54	5	
	Head 3950	e'	36.5900	Relative Permittivity (ϵ_r):	36.59	37.42	-2.21	5	
		e''	15.4500	Conductivity (σ):	3.39	3.37	0.63	5	
	2022-08-01	Head 3500	e'	36.8900	Relative Permittivity (ϵ_r):	36.89	37.93	-2.74	5
			e''	15.0900	Conductivity (σ):	2.94	2.91	0.86	5
Head 3560		e'	36.4100	Relative Permittivity (ϵ_r):	36.41	37.86	-3.83	5	
		e''	14.9000	Conductivity (σ):	2.95	2.97	-0.79	5	
Head 3600		e'	36.1700	Relative Permittivity (ϵ_r):	36.17	37.82	-4.35	5	
		e''	14.8100	Conductivity (σ):	2.96	3.01	-1.64	5	
Head 3690		e'	36.1400	Relative Permittivity (ϵ_r):	36.14	37.71	-4.17	5	
		e''	14.8500	Conductivity (σ):	3.05	3.11	-1.90	5	
Head 3700		e'	36.1700	Relative Permittivity (ϵ_r):	36.17	37.70	-4.06	5	
		e''	14.8600	Conductivity (σ):	3.06	3.12	-1.89	5	
2022-08-01		Head 3600	e'	36.1700	Relative Permittivity (ϵ_r):	36.17	37.82	-4.35	5
			e''	14.8100	Conductivity (σ):	2.96	3.01	-1.64	5
	Head 3650	e'	36.0500	Relative Permittivity (ϵ_r):	36.05	37.76	-4.52	5	
		e''	14.7900	Conductivity (σ):	3.00	3.07	-2.07	5	
	Head 3700	e'	36.1700	Relative Permittivity (ϵ_r):	36.17	37.70	-4.06	5	
		e''	14.8600	Conductivity (σ):	3.06	3.12	-1.89	5	
	Head 3750	e'	36.2800	Relative Permittivity (ϵ_r):	36.28	37.64	-3.62	5	
		e''	14.9700	Conductivity (σ):	3.12	3.17	-1.45	5	
	Head 3800	e'	36.2900	Relative Permittivity (ϵ_r):	36.29	37.59	-3.45	5	
		e''	15.0200	Conductivity (σ):	3.17	3.22	-1.40	5	
	2022-08-01	Head 3750	e'	36.2800	Relative Permittivity (ϵ_r):	36.28	37.64	-3.62	5
			e''	14.9700	Conductivity (σ):	3.12	3.17	-1.45	5
Head 3800		e'	36.2900	Relative Permittivity (ϵ_r):	36.29	37.59	-3.45	5	
		e''	15.0200	Conductivity (σ):	3.17	3.22	-1.40	5	
Head 3900		e'	36.9300	Relative Permittivity (ϵ_r):	36.93	37.47	-1.45	5	
		e''	15.3900	Conductivity (σ):	3.34	3.32	0.50	5	
Head 3930		e'	37.1700	Relative Permittivity (ϵ_r):	37.17	37.44	-0.72	5	
		e''	15.5300	Conductivity (σ):	3.39	3.35	1.26	5	
Head 3950		e'	37.3300	Relative Permittivity (ϵ_r):	37.33	37.42	-0.23	5	
		e''	15.6300	Conductivity (σ):	3.43	3.37	1.80	5	

SAR 4 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
2022-08-05	Head 3500	e'	38.2600	Relative Permittivity (ϵ_r):	38.26	37.93	0.87	5
		e''	14.9200	Conductivity (σ):	2.90	2.91	-0.27	5
	Head 3560	e'	38.1900	Relative Permittivity (ϵ_r):	38.19	37.86	0.87	5
		e''	15.0000	Conductivity (σ):	2.97	2.97	-0.13	5
	Head 3600	e'	38.0600	Relative Permittivity (ϵ_r):	38.06	37.82	0.65	5
		e''	15.0500	Conductivity (σ):	3.01	3.01	-0.04	5
	Head 3690	e'	37.8400	Relative Permittivity (ϵ_r):	37.84	37.71	0.34	5
		e''	15.2400	Conductivity (σ):	3.13	3.11	0.67	5
	Head 3700	e'	37.8200	Relative Permittivity (ϵ_r):	37.82	37.70	0.31	5
		e''	15.2500	Conductivity (σ):	3.14	3.12	0.68	5
2022-08-05	Head 3600	e'	38.0600	Relative Permittivity (ϵ_r):	38.06	37.82	0.65	5
		e''	15.0500	Conductivity (σ):	3.01	3.01	-0.04	5
	Head 3650	e'	37.9100	Relative Permittivity (ϵ_r):	37.91	37.76	0.40	5
		e''	15.1600	Conductivity (σ):	3.08	3.07	0.38	5
	Head 3700	e'	37.8200	Relative Permittivity (ϵ_r):	37.82	37.70	0.31	5
		e''	15.2500	Conductivity (σ):	3.14	3.12	0.68	5
	Head 3750	e'	37.7300	Relative Permittivity (ϵ_r):	37.73	37.64	0.23	5
		e''	15.3100	Conductivity (σ):	3.19	3.17	0.79	5
	Head 3800	e'	37.7000	Relative Permittivity (ϵ_r):	37.70	37.59	0.30	5
		e''	15.3400	Conductivity (σ):	3.24	3.22	0.70	5
2022-08-05	Head 3750	e'	37.7300	Relative Permittivity (ϵ_r):	37.73	37.64	0.23	5
		e''	15.3100	Conductivity (σ):	3.19	3.17	0.79	5
	Head 3800	e'	37.7000	Relative Permittivity (ϵ_r):	37.70	37.59	0.30	5
		e''	15.3400	Conductivity (σ):	3.24	3.22	0.70	5
	Head 3900	e'	37.5600	Relative Permittivity (ϵ_r):	37.56	37.47	0.23	5
		e''	15.3200	Conductivity (σ):	3.32	3.32	0.04	5
	Head 3930	e'	37.4700	Relative Permittivity (ϵ_r):	37.47	37.44	0.08	5
		e''	15.3000	Conductivity (σ):	3.34	3.35	-0.24	5
	Head 3950	e'	37.4000	Relative Permittivity (ϵ_r):	37.40	37.42	-0.04	5
		e''	15.3100	Conductivity (σ):	3.36	3.37	-0.28	5
2022-08-08	Head 3500	e'	38.7400	Relative Permittivity (ϵ_r):	38.74	37.93	2.14	5
		e''	14.8500	Conductivity (σ):	2.89	2.91	-0.74	5
	Head 3560	e'	38.6600	Relative Permittivity (ϵ_r):	38.66	37.86	2.11	5
		e''	14.9200	Conductivity (σ):	2.95	2.97	-0.66	5
	Head 3600	e'	38.5400	Relative Permittivity (ϵ_r):	38.54	37.82	1.92	5
		e''	14.9300	Conductivity (σ):	2.99	3.01	-0.84	5
	Head 3690	e'	38.3300	Relative Permittivity (ϵ_r):	38.33	37.71	1.64	5
		e''	15.0500	Conductivity (σ):	3.09	3.11	-0.58	5
	Head 3700	e'	38.3100	Relative Permittivity (ϵ_r):	38.31	37.70	1.61	5
		e''	15.0500	Conductivity (σ):	3.10	3.12	-0.64	5
2022-08-08	Head 3600	e'	38.5400	Relative Permittivity (ϵ_r):	38.54	37.82	1.92	5
		e''	14.9300	Conductivity (σ):	2.99	3.01	-0.84	5
	Head 3650	e'	38.4100	Relative Permittivity (ϵ_r):	38.41	37.76	1.73	5
		e''	14.9900	Conductivity (σ):	3.04	3.07	-0.74	5
	Head 3700	e'	38.3100	Relative Permittivity (ϵ_r):	38.31	37.70	1.61	5
		e''	15.0500	Conductivity (σ):	3.10	3.12	-0.64	5
	Head 3750	e'	38.2500	Relative Permittivity (ϵ_r):	38.25	37.64	1.61	5
		e''	15.0700	Conductivity (σ):	3.14	3.17	-0.79	5
	Head 3800	e'	38.2000	Relative Permittivity (ϵ_r):	38.20	37.59	1.63	5
		e''	15.0900	Conductivity (σ):	3.19	3.22	-0.94	5
2022-08-08	Head 3750	e'	38.2500	Relative Permittivity (ϵ_r):	38.25	37.64	1.61	5
		e''	15.0700	Conductivity (σ):	3.14	3.17	-0.79	5
	Head 3800	e'	38.2000	Relative Permittivity (ϵ_r):	38.20	37.59	1.63	5
		e''	15.0900	Conductivity (σ):	3.19	3.22	-0.94	5
	Head 3900	e'	38.0700	Relative Permittivity (ϵ_r):	38.07	37.47	1.59	5
		e''	15.0700	Conductivity (σ):	3.27	3.32	-1.59	5
	Head 3930	e'	38.0100	Relative Permittivity (ϵ_r):	38.01	37.44	1.53	5
		e''	15.0400	Conductivity (σ):	3.29	3.35	-1.94	5
	Head 3950	e'	37.9500	Relative Permittivity (ϵ_r):	37.95	37.42	1.43	5
		e''	15.0500	Conductivity (σ):	3.31	3.37	-1.97	5

SAR 5 Room

Date	Freq. (MHz)		Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)
6/28/2022	Head 750	e'	43.1100	Relative Permittivity (ε _r):	43.11	41.96	2.74	5
		e''	21.1900	Conductivity (σ):	0.88	0.89	-1.05	5
	Head 700	e'	43.3000	Relative Permittivity (ε _r):	43.30	42.22	2.56	5
		e''	22.2200	Conductivity (σ):	0.86	0.89	-2.74	5
	Head 790	e'	42.9600	Relative Permittivity (ε _r):	42.96	41.76	2.88	5
		e''	20.4300	Conductivity (σ):	0.90	0.90	0.14	5
7/5/2022	Head 750	e'	43.6300	Relative Permittivity (ε _r):	43.63	41.96	3.98	5
		e''	21.1700	Conductivity (σ):	0.88	0.89	-1.15	5
	Head 680	e'	43.9400	Relative Permittivity (ε _r):	43.94	42.32	3.83	5
		e''	22.6800	Conductivity (σ):	0.86	0.89	-3.40	5
	Head 790	e'	43.4800	Relative Permittivity (ε _r):	43.48	41.76	4.13	5
		e''	20.4000	Conductivity (σ):	0.90	0.90	-0.01	5
7/5/2022	Head 835	e'	43.3200	Relative Permittivity (ε _r):	43.32	41.50	4.39	5
		e''	19.6200	Conductivity (σ):	0.91	0.90	1.21	5
	Head 820	e'	43.3700	Relative Permittivity (ε _r):	43.37	41.60	4.25	5
		e''	19.8700	Conductivity (σ):	0.91	0.90	0.84	5
	Head 850	e'	43.2900	Relative Permittivity (ε _r):	43.29	41.50	4.31	5
		e''	19.3800	Conductivity (σ):	0.92	0.92	0.10	5
7/11/2022	Head 750	e'	41.7100	Relative Permittivity (ε _r):	41.71	41.96	-0.60	5
		e''	21.2600	Conductivity (σ):	0.89	0.89	-0.73	5
	Head 680	e'	41.9100	Relative Permittivity (ε _r):	41.91	42.32	-0.97	5
		e''	22.7900	Conductivity (σ):	0.86	0.89	-2.93	5
	Head 790	e'	41.5600	Relative Permittivity (ε _r):	41.56	41.76	-0.47	5
		e''	20.4800	Conductivity (σ):	0.90	0.90	0.39	5
7/13/2022	Head 835	e'	41.3300	Relative Permittivity (ε _r):	41.33	41.50	-0.41	5
		e''	19.6700	Conductivity (σ):	0.91	0.90	1.47	5
	Head 820	e'	41.3800	Relative Permittivity (ε _r):	41.38	41.60	-0.53	5
		e''	19.9100	Conductivity (σ):	0.91	0.90	1.04	5
	Head 850	e'	41.2900	Relative Permittivity (ε _r):	41.29	41.50	-0.51	5
		e''	19.4500	Conductivity (σ):	0.92	0.92	0.47	5
7/14/2022	Head 5250	e'	35.5800	Relative Permittivity (ε _r):	35.58	35.93	-0.98	5
		e''	15.9700	Conductivity (σ):	4.66	4.70	-0.86	5
	Head 5260	e'	35.6000	Relative Permittivity (ε _r):	35.60	35.92	-0.90	5
		e''	16.0100	Conductivity (σ):	4.68	4.71	-0.63	5
	Head 5600	e'	35.0300	Relative Permittivity (ε _r):	35.03	35.53	-1.42	5
		e''	16.2500	Conductivity (σ):	5.06	5.06	-0.01	5
Head 5800	e'	34.7900	Relative Permittivity (ε _r):	34.79	35.30	-1.44	5	
	e''	16.4200	Conductivity (σ):	5.30	5.27	0.48	5	
7/18/2022	Head 5250	e'	35.0700	Relative Permittivity (ε _r):	35.07	35.93	-2.40	5
		e''	15.7100	Conductivity (σ):	4.59	4.70	-2.47	5
	Head 5260	e'	35.0300	Relative Permittivity (ε _r):	35.03	35.92	-2.48	5
		e''	15.7900	Conductivity (σ):	4.62	4.71	-2.00	5
	Head 5600	e'	34.6800	Relative Permittivity (ε _r):	34.68	35.53	-2.40	5
		e''	15.9600	Conductivity (σ):	4.97	5.06	-1.79	5
Head 5800	e'	34.2500	Relative Permittivity (ε _r):	34.25	35.30	-2.97	5	
	e''	16.1700	Conductivity (σ):	5.21	5.27	-1.05	5	
7/22/2022	Head 5250	e'	35.3500	Relative Permittivity (ε _r):	35.35	35.93	-1.62	5
		e''	15.8800	Conductivity (σ):	4.64	4.70	-1.41	5
	Head 5260	e'	35.3200	Relative Permittivity (ε _r):	35.32	35.92	-1.68	5
		e''	15.9100	Conductivity (σ):	4.65	4.71	-1.25	5
	Head 5600	e'	34.6900	Relative Permittivity (ε _r):	34.69	35.53	-2.37	5
		e''	16.1800	Conductivity (σ):	5.04	5.06	-0.44	5
Head 5800	e'	34.7300	Relative Permittivity (ε _r):	34.73	35.30	-1.61	5	
	e''	16.0000	Conductivity (σ):	5.16	5.27	-2.09	5	
7/25/2022	Head 2450	e'	37.6400	Relative Permittivity (ε _r):	37.64	39.20	-3.98	5
		e''	13.4400	Conductivity (σ):	1.83	1.80	1.72	5
	Head 2400	e'	37.7600	Relative Permittivity (ε _r):	37.76	39.30	-3.91	5
		e''	13.4000	Conductivity (σ):	1.79	1.75	2.09	5
	Head 2480	e'	37.5700	Relative Permittivity (ε _r):	37.57	39.16	-4.07	5
		e''	13.4600	Conductivity (σ):	1.86	1.83	1.29	5
7/25/2022	Head 2600	e'	37.3400	Relative Permittivity (ε _r):	37.34	39.01	-4.28	5
		e''	13.4800	Conductivity (σ):	1.95	1.96	-0.68	5
	Head 2500	e'	37.5500	Relative Permittivity (ε _r):	37.55	39.14	-4.05	5
		e''	13.4900	Conductivity (σ):	1.88	1.85	1.14	5
	Head 2700	e'	37.1400	Relative Permittivity (ε _r):	37.14	38.88	-4.49	5
		e''	13.5200	Conductivity (σ):	2.03	2.07	-1.96	5
7/27/2022	Head 5250	e'	35.7000	Relative Permittivity (ε _r):	35.70	35.93	-0.65	5
		e''	15.8300	Conductivity (σ):	4.62	4.70	-1.72	5
	Head 5260	e'	35.7100	Relative Permittivity (ε _r):	35.71	35.92	-0.59	5
		e''	15.8300	Conductivity (σ):	4.63	4.71	-1.75	5
	Head 5600	e'	35.1700	Relative Permittivity (ε _r):	35.17	35.53	-1.02	5
		e''	16.0600	Conductivity (σ):	5.00	5.06	-1.18	5
Head 5800	e'	35.2000	Relative Permittivity (ε _r):	35.20	35.30	-0.28	5	
	e''	16.0600	Conductivity (σ):	5.18	5.27	-1.72	5	
Head 5825	e'	35.2400	Relative Permittivity (ε _r):	35.24	35.30	-0.17	5	
	e''	16.0400	Conductivity (σ):	5.20	5.27	-1.42	5	

SAR 5 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
2022-07-29	Head 2450	e'	38.7500	Relative Permittivity (ϵ_r):	38.75	39.20	-1.15	5
		e"	13.7400	Conductivity (σ):	1.87	1.80	3.99	5
	Head 2400	e'	38.8400	Relative Permittivity (ϵ_r):	38.84	39.30	-1.16	5
		e"	13.7200	Conductivity (σ):	1.83	1.75	4.52	5
	Head 2480	e'	38.7300	Relative Permittivity (ϵ_r):	38.73	39.16	-1.10	5
		e"	13.7800	Conductivity (σ):	1.90	1.83	3.70	5
2022-08-01	Head 2450	e'	38.3200	Relative Permittivity (ϵ_r):	38.32	39.20	-2.24	5
		e"	13.6300	Conductivity (σ):	1.86	1.80	3.15	5
	Head 2400	e'	38.4200	Relative Permittivity (ϵ_r):	38.42	39.30	-2.23	5
		e"	13.5900	Conductivity (σ):	1.81	1.75	3.53	5
	Head 2480	e'	38.2700	Relative Permittivity (ϵ_r):	38.27	39.16	-2.28	5
		e"	13.7000	Conductivity (σ):	1.89	1.83	3.10	5
2022-08-01	Head 2600	e'	38.0000	Relative Permittivity (ϵ_r):	38.00	39.01	-2.59	5
		e"	13.8100	Conductivity (σ):	2.00	1.96	1.75	5
	Head 2500	e'	38.2500	Relative Permittivity (ϵ_r):	38.25	39.14	-2.27	5
		e"	13.7400	Conductivity (σ):	1.91	1.85	3.02	5
	Head 2700	e'	37.8100	Relative Permittivity (ϵ_r):	37.81	38.88	-2.76	5
		e"	13.9200	Conductivity (σ):	2.09	2.07	0.94	5
2022-08-01	Head 5250	e'	34.5400	Relative Permittivity (ϵ_r):	34.54	35.93	-3.88	5
		e"	16.1300	Conductivity (σ):	4.71	4.70	0.14	5
	Head 5260	e'	34.5200	Relative Permittivity (ϵ_r):	34.52	35.92	-3.90	5
		e"	16.1200	Conductivity (σ):	4.71	4.71	0.05	5
	Head 5600	e'	34.3100	Relative Permittivity (ϵ_r):	34.31	35.53	-3.44	5
		e"	16.4300	Conductivity (σ):	5.12	5.06	1.10	5
	Head 5800	e'	34.1200	Relative Permittivity (ϵ_r):	34.12	35.30	-3.34	5
		e"	16.7300	Conductivity (σ):	5.40	5.27	2.38	5
	Head 5825	e'	34.2100	Relative Permittivity (ϵ_r):	34.21	35.30	-3.09	5
		e"	16.6300	Conductivity (σ):	5.39	5.27	2.21	5
2022-08-02	Head 3500	e'	38.5500	Relative Permittivity (ϵ_r):	38.55	37.93	1.64	5
		e"	14.9700	Conductivity (σ):	2.91	2.91	0.06	5
	Head 3560	e'	38.4600	Relative Permittivity (ϵ_r):	38.46	37.86	1.58	5
		e"	15.0200	Conductivity (σ):	2.97	2.97	0.01	5
	Head 3600	e'	38.4100	Relative Permittivity (ϵ_r):	38.41	37.82	1.57	5
		e"	15.0200	Conductivity (σ):	3.01	3.01	-0.24	5
	Head 3690	e'	38.2700	Relative Permittivity (ϵ_r):	38.27	37.71	1.48	5
		e"	15.0700	Conductivity (σ):	3.09	3.11	-0.45	5
	Head 3700	e'	38.2500	Relative Permittivity (ϵ_r):	38.25	37.70	1.46	5
		e"	15.0800	Conductivity (σ):	3.10	3.12	-0.44	5
2022-08-05	Head 750	e'	42.6100	Relative Permittivity (ϵ_r):	42.61	41.96	1.55	5
		e"	21.3600	Conductivity (σ):	0.89	0.89	-0.26	5
	Head 700	e'	42.6500	Relative Permittivity (ϵ_r):	42.65	42.22	1.02	5
		e"	22.4800	Conductivity (σ):	0.87	0.89	-1.60	5
	Head 790	e'	42.5400	Relative Permittivity (ϵ_r):	42.54	41.76	1.88	5
		e"	20.6000	Conductivity (σ):	0.90	0.90	0.97	5

SAR 9 Room

Date	Freq. (MHz)	Liquid Parameters		Measured	Target	Delta (%)	Limit ±(%)	
2022/07/14	Head 13	e'	53.71	Relative Permittivity (ϵ_r):	53.71	55.00	-2.35	5
		e"	1046.77	Conductivity (σ):	0.76	0.75	0.89	5
	Head 12	e'	53.77	Relative Permittivity (ϵ_r):	53.77	55.00	-2.24	5
		e"	1133.87	Conductivity (σ):	0.76	0.75	0.87	5
	Head 14	e'	53.59	Relative Permittivity (ϵ_r):	53.59	55.00	-2.56	5
		e"	971.99	Conductivity (σ):	0.76	0.75	0.89	5
2022/07/15	Head 13	e'	54.05	Relative Permittivity (ϵ_r):	54.05	55.00	-1.73	5
		e"	1048.17	Conductivity (σ):	0.76	0.75	1.02	5
	Head 12	e'	54.08	Relative Permittivity (ϵ_r):	54.08	55.00	-1.67	5
		e"	1134.89	Conductivity (σ):	0.76	0.75	0.97	5
	Head 14	e'	53.97	Relative Permittivity (ϵ_r):	53.97	55.00	-1.87	5
		e"	973.07	Conductivity (σ):	0.76	0.75	1.00	5
7/18/2022	Head 13	e'	53.7400	Relative Permittivity (ϵ_r):	53.74	55	-2.29	5
		e"	1033.6000	Conductivity (σ):	0.75	0.75	-0.38	5
	Head 12	e'	53.6800	Relative Permittivity (ϵ_r):	53.68	55	-2.40	5
		e"	1119.4800	Conductivity (σ):	0.75	0.75	-0.41	5
	Head 14	e'	53.6900	Relative Permittivity (ϵ_r):	53.69	55	-2.38	5
		e"	960.0300	Conductivity (σ):	0.75	0.75	-0.36	5

8.2. System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification of 100MHz to 6GHz frequency range 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. For The System verification of 4MHz to 30MHz frequency range, The System verification must be performed before 24 hours.

System Performance Check Measurement Conditions (100MHz to 6GHz):

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 \pm 0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be \geq 15.0 cm for SAR measurements \leq 3 GHz and \geq 10.0 cm for measurements $>$ 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 2.5 mm.
For 5 GHz band - Distance between probe sensors and phantom surface was set to 1.4 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

System Performance Check Measurement Conditions (4MHz to 30MHz):

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 \pm 0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be \geq 15.0 cm for SAR measurements
- The DASY system with an E-Field Probe was used for the measurements.
- The CLA(Confined Loop Antennas) was mounted on the small tripod so that the CLA feed point was positioned below the center marking of the flat phantom section and the CLA was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 0 mm separation distance from CLA center to the Phantom surface.
- The CLA input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

Reference Target SAR Values

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

System Dipole	Serial No.	Cal. Date	Cal. Due Date	Target SAR Values (W/kg)	
				1g/10g	Head
D750V3	1205	4-27-2021	4-27-2023	1g	8.66
				10g	5.65
D835V2	4d174	3-17-2021	3-17-2023	1g	9.70
				10g	6.29
D835V2	4d194	3-24-2022	3-24-2023	1g	9.77
				10g	6.39
D1750V2	1125	2-24-2022	2-24-2023	1g	36.80
				10g	19.40
D1900V2	5d190	11-24-2020	11-24-2022	1g	40.10
				10g	20.70
D2450V2	939	7-21-2021	7-21-2023	1g	53.00
				10g	24.70
D2450V2	960	3-24-2022	3-24-2023	1g	51.90
				10g	24.00
D2600V2	1178	4-23-2021	4-23-2023	1g	56.60
				10g	25.40
D5GHzV2	1184	12-3-2020	12-3-2022	1g	79.10
				10g	22.70
				1g	82.40
				10g	23.30
				1g	79.90
				10g	22.60
D5GHzV2	1209	11-24-2021	11-24-2022	1g	78.00
				10g	22.40
				1g	80.90
				10g	23.10
				1g	79.00
				10g	22.40
CLA-13 (13MHz)	1015	10-12-2021	10-12-2022	1g	0.54
				10g	0.34

Note(s):

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

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 1 Room

Date Tested	System Dipole		T.S. Liquid	Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.	
	Type	Serial #		Zoom Scan to 100 mW	Normalize to 1 W				
2022-07-11	D1750V2	1125	Head	1g	3.72	37.2	36.80	1.09	1
				10g	1.96	19.6	19.40	1.03	

SAR 2 Room

Date Tested	System Dipole		T.S. Liquid	Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.	
	Type	Serial #		Zoom Scan to 100 mW	Normalize to 1 W				
2022-07-19	D5GHzV2 (5250)	1209	Head	1g	8.28	82.8	78.00	6.15	
				10g	2.42	24.2	22.40	8.04	
2022-07-19	D5GHzV2 (5600)	1209	Head	1g	8.72	87.2	80.90	7.79	
				10g	2.51	25.1	23.10	8.66	
2022-07-19	D5GHzV2 (5800)	1209	Head	1g	8.01	80.1	79.00	1.39	
				10g	2.29	22.9	22.40	2.23	
2022-07-25	D5GHzV2 (5250)	1209	Head	1g	7.43	74.3	78.00	-4.74	
				10g	2.17	21.7	22.40	-3.13	
2022-07-25	D5GHzV2 (5600)	1209	Head	1g	7.71	77.1	80.90	-4.70	
				10g	2.24	22.4	23.10	-3.03	
2022-07-25	D5GHzV2 (5800)	1209	Head	1g	8.01	80.1	79.00	1.39	
				10g	2.29	22.9	22.40	2.23	
2022-07-27	D3500V2	1121	Head	1g	6.21	62.1	66.30	-6.33	2
				10g	2.42	24.2	25.00	-3.20	
2022-07-27	D3700V2	1036	Head	1g	6.43	64.3	67.90	-5.30	3
				10g	2.44	24.4	24.30	0.41	
2022-07-27	D3900V2	1069	Head	1g	6.51	65.1	70.10	-7.13	4
				10g	2.38	23.8	24.30	-2.06	
2022-08-01	D3500V2	1121	Head	1g	6.64	66.4	66.30	0.15	
				10g	2.57	25.7	25.00	2.80	
2022-08-01	D3700V2	1036	Head	1g	6.56	65.6	67.90	-3.39	
				10g	2.46	24.6	24.30	1.23	
2022-08-01	D3900V2	1069	Head	1g	6.96	69.6	70.10	-0.71	
				10g	2.54	25.4	24.30	4.53	

SAR 3 Room

Date Tested	System Dipole		T.S. Liquid	Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.	
	Type	Serial #		Zoom Scan to 100 mW	Normalize to 1 W				
2022-06-27	D835V2	4d194	Head	1g	0.97	9.7	9.77	-0.92	
				10g	0.63	6.3	6.39	-0.94	
2022-07-05	D835V2	4d194	Head	1g	1.02	10.2	9.77	4.40	5
				10g	0.68	6.8	6.39	6.10	
2022-07-06	D2600V2	1178	Head	1g	5.86	58.6	56.60	3.53	
				10g	2.65	26.5	25.40	4.33	
2022-07-11	D835V2	4d194	Head	1g	1.02	10.2	9.77	4.40	
				10g	0.66	6.6	6.39	3.13	
2022-07-11	D1900V2	5d190	Head	1g	4.09	40.9	40.10	2.00	
				10g	2.10	21.0	20.70	1.45	
2022-07-14	D1900V2	5d190	Head	1g	3.73	37.3	40.10	-6.96	6
				10g	1.92	19.2	20.70	-7.25	
2022-07-19	D1750V2	1125	Head	1g	3.62	36.2	36.80	-1.63	
				10g	1.93	19.3	19.40	-0.52	
2022-07-20	D2600V2	1178	Head	1g	5.61	56.1	56.60	-0.88	
				10g	2.51	25.1	25.40	-1.18	
2022-07-21	D1900V2	5d190	Head	1g	3.86	38.6	40.10	-3.74	
				10g	2.00	20.0	20.70	-3.38	
2022-07-22	D1750V2	1125	Head	1g	3.51	35.1	36.80	-4.62	
				10g	1.86	18.6	19.40	-4.12	
2022-07-25	D1750V2	1125	Head	1g	3.50	35.0	36.80	-4.89	
				10g	1.86	18.6	19.40	-4.12	
2022-07-25	D1900V2	5d190	Head	1g	3.84	38.4	40.10	-4.24	
				10g	1.99	19.9	20.70	-3.86	
2022-07-28	D1750V2	1125	Head	1g	3.45	34.5	36.80	-6.25	7
				10g	1.83	18.3	19.40	-5.67	
2022-07-29	D835V2	4d194	Head	1g	0.97	9.7	9.77	-0.41	
				10g	0.64	6.4	6.39	-0.63	
2022-08-01	D750V3	1205	Head	1g	0.80	8.0	8.66	-7.39	
				10g	0.53	5.3	5.65	-6.90	

SAR 4 Room

Date Tested	System Dipole		T.S. Liquid	Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.	
	Type	Serial #		Zoom Scan to 100 mW	Normalize to 1 W				
2022-06-29	D2450V2	939	Head	1g	5.37	53.7	53.00	1.32	
				10g	2.51	25.1	24.70	1.62	
2022-06-29	D2600V2	1178	Head	1g	5.59	55.9	56.60	-1.24	
				10g	2.51	25.1	25.40	-1.18	
2022-07-05	D2450V2	939	Head	1g	5.06	50.6	53.00	-4.53	
				10g	2.37	23.7	24.70	-4.05	
2022-07-11	D2600V2	1178	Head	1g	5.49	54.9	56.60	-3.00	
				10g	2.49	24.9	25.40	-1.97	
2022-07-13	D3500V2	1121	Head	1g	6.11	61.1	66.30	-7.84	
				10g	2.40	24.0	25.00	-4.00	
2022-07-13	D3700V2	1036	Head	1g	6.18	61.8	67.90	-8.98	
				10g	2.34	23.4	24.30	-3.70	
2022-07-13	D3900V2	1069	Head	1g	6.51	65.1	70.10	-7.13	
				10g	2.41	24.1	24.30	-0.82	
2022-07-15	D750V3	1205	Head	1g	0.89	8.9	8.66	2.31	
				10g	0.58	5.8	5.65	2.65	
2022-07-18	D2450V2	960	Head	1g	5.14	51.4	51.90	-0.96	
				10g	2.43	24.3	24.00	1.25	
2022-07-22	D2450V2	939	Head	1g	5.21	52.1	53.00	-1.70	
				10g	2.48	24.8	24.70	0.40	
2022-07-25	D3500V2	1121	Head	1g	6.76	67.6	66.30	1.96	
				10g	2.66	26.6	25.00	6.40	
2022-07-25	D3700V2	1036	Head	1g	6.75	67.5	67.90	-0.59	
				10g	2.56	25.6	24.30	5.35	
2022-07-25	D3900V2	1069	Head	1g	7.05	70.5	70.10	0.57	
				10g	2.57	25.7	24.30	5.76	
2022-08-01	D3500V2	1121	Head	1g	6.42	64.2	66.30	-3.17	
				10g	2.55	25.5	25.00	2.00	
2022-08-01	D3700V2	1036	Head	1g	6.61	66.1	67.90	-2.65	
				10g	2.56	25.6	24.30	5.35	
2022-08-01	D3900V2	1069	Head	1g	7.09	70.9	70.10	1.14	
				10g	2.64	26.4	24.30	8.64	
2022-08-05	D3500V2	1121	Head	1g	6.48	64.8	66.30	-2.26	
				10g	2.64	26.4	25.00	5.60	
2022-08-05	D3700V2	1036	Head	1g	6.50	65.0	67.90	-4.27	
				10g	2.55	25.5	24.30	4.94	
2022-08-05	D3900V2	1069	Head	1g	6.59	65.9	70.10	-5.99	8
				10g	2.50	25.0	24.30	2.88	
2022-08-08	D3500V2	1121	Head	1g	6.43	64.3	66.30	-3.02	
				10g	2.62	26.2	25.00	4.80	
2022-08-08	D3700V2	1036	Head	1g	6.57	65.7	67.90	-3.24	
				10g	2.59	25.9	24.30	6.58	
2022-08-08	D3900V2	1069	Head	1g	6.88	68.8	70.10	-1.85	
				10g	2.60	26.0	24.30	7.00	

SAR 5 Room

Date Tested	System Dipole		T.S. Liquid	Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.	
	Type	Serial #		Zoom Scan to 100 mW	Normalize to 1 W				
2022-06-28	D750V3	1205	Head	1g	0.89	8.9	8.66	3.00	
				10g	0.60	6.0	5.65	5.66	
2022-07-05	D750V3	1205	Head	1g	0.80	8.0	8.66	-7.74	9
				10g	0.53	5.3	5.65	-6.55	
2022-07-05	D835V2	4d194	Head	1g	0.98	9.8	9.77	-0.10	
				10g	0.65	6.5	6.39	2.03	
2022-07-11	D750V3	1205	Head	1g	0.86	8.6	8.66	-0.69	
				10g	0.56	5.6	5.65	-0.53	
2022-07-13	D835V2	4d194	Head	1g	0.97	9.7	9.77	-1.13	
				10g	0.62	6.2	6.39	-2.66	
2022-07-14	D5GHzV2 (5250)	1209	Head	1g	7.32	73.2	78.00	-6.15	
				10g	2.10	21.0	22.40	-6.25	
2022-07-14	D5GHzV2 (5600)	1209	Head	1g	8.80	88.0	80.90	8.78	10
				10g	2.47	24.7	23.10	6.93	
2022-07-14	D5GHzV2 (5800)	1209	Head	1g	8.44	84.4	79.00	6.84	
				10g	2.39	23.9	22.40	6.70	
2022-07-18	D5GHzV2 (5250)	1209	Head	1g	7.71	77.1	78.00	-1.15	
				10g	2.22	22.2	22.40	-0.89	
2022-07-18	D5GHzV2 (5600)	1209	Head	1g	8.44	84.4	80.90	4.33	
				10g	2.38	23.8	23.10	3.03	
2022-07-18	D5GHzV2 (5800)	1209	Head	1g	8.35	83.5	79.00	5.70	
				10g	2.36	23.6	22.40	5.36	
2022-07-22	D5GHzV2 (5250)	1209	Head	1g	7.82	78.2	78.00	0.26	
				10g	2.24	22.4	22.40	0.00	
2022-07-22	D5GHzV2 (5600)	1209	Head	1g	8.79	87.9	80.90	8.65	
				10g	2.46	24.6	23.10	6.49	
2022-07-22	D5GHzV2 (5800)	1209	Head	1g	8.05	80.5	79.00	1.90	
				10g	2.28	22.8	22.40	1.79	
2022-07-25	D2450V2	939	Head	1g	4.94	49.4	53.00	-6.79	11
				10g	2.28	22.8	24.70	-7.69	
2022-07-25	D2600V2	1178	Head	1g	5.32	53.2	56.60	-6.01	12
				10g	2.36	23.6	25.40	-7.09	
2022-07-27	D5GHzV2 (5250)	1209	Head	1g	8.00	80.0	78.00	2.56	
				10g	2.29	22.9	22.40	2.23	
2022-07-27	D5GHzV2 (5600)	1209	Head	1g	8.21	82.1	80.90	1.48	
				10g	2.31	23.1	23.10	0.00	
2022-07-27	D5GHzV2 (5800)	1209	Head	1g	8.55	85.5	79.00	8.23	
				10g	2.42	24.2	22.40	8.04	
2022-07-29	D2450V2	939	Head	1g	5.33	53.3	53.00	0.57	
				10g	2.45	24.5	24.70	-0.81	
2022-08-01	D2450V2	939	Head	1g	4.99	49.9	53.00	-5.85	
				10g	2.33	23.3	24.70	-5.67	
2022-08-01	D2600V2	1178	Head	1g	5.41	54.1	56.60	-4.42	
				10g	2.41	24.1	25.40	-5.12	
2022-08-01	D5GHzV2	1209	Head	1g	7.92	79.2	80.90	-2.10	
				10g	2.14	21.4	23.10	-7.36	
2022-08-02	D3500V2	1121	Head	1g	6.54	65.4	66.30	-1.36	
				10g	2.42	24.2	25.00	-3.20	
2022-08-05	D750V3	1205	Head	1g	0.85	8.5	8.66	-1.85	
				10g	0.56	5.6	5.65	-0.18	

SAR 9 Room

Date Tested	System Dipole		T.S. Liquid	Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.	
	Type	Serial #		Zoom Scan to 100 mW	Normalize to 1 W				
2022-07-14	CLA-13	1013	Head	1g	0.050	0.5	0.54	-7.92	13
				10g	0.031	0.3	0.34	-8.01	
2022-07-15	CLA-13	1013	Head	1g	0.053	0.5	0.54	-2.39	
				10g	0.033	0.3	0.34	-2.08	
2022-07-18	CLA-13	1015	Head	1g	0.053	0.5	0.54	-2.39	
				10g	0.033	0.3	0.34	-2.08	

9. Conducted Output Power Measurements

9.1. W-CDMA

Release 99 Setup Procedures used to establish the test signals

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

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

HSDPA Setup Procedures used to establish the test signals

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

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 1			
	Power Control Algorithm	Algorithm 2			
	β_c	2/15	11/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	11/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
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			
A _{hs} = β_{hs}/β_c	30/15				

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

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

	Mode	HSPA				
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2 kbps RMC				
	HSDPA FRC	H-Set 1				
	HSUPA Test	HSPA				
	Power Control Algorithm	Algorithm 2				Algorithm 1
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{hs}	22/15	12/15	30/15	4/15	5/15
	β_{ed}	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				
	A _{hs} = β_{hs}/β_c	30/15				
HSUPA Specific Settings	E-DPDCH	6	8	8	5	0
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	12
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	67
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	5	5	2	5	1
	Reference E-TFCI	11	11	11	11	67
	Reference E-TFCI PO	4	4	4	4	18
	Reference E-TFCI	67	67	92	67	67
	Reference E-TFCI PO	18	18	18	18	18
	Reference E-TFCI	71	71	71	71	71
	Reference E-TFCI PO	23	23	23	23	23
	Reference E-TFCI	75	75	75	75	75
	Reference E-TFCI PO	26	26	26	26	26
	Reference E-TFCI	81	81	81	81	81
Reference E-TFCI PO	27	27	27	27	27	
Maximum Channelization Codes	2xSF2				SF4	

DC-HSDPA Setup Procedures used to establish the test signals

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

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

Table E.5.0: Levels for HSDPA connection setup

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

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

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

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

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

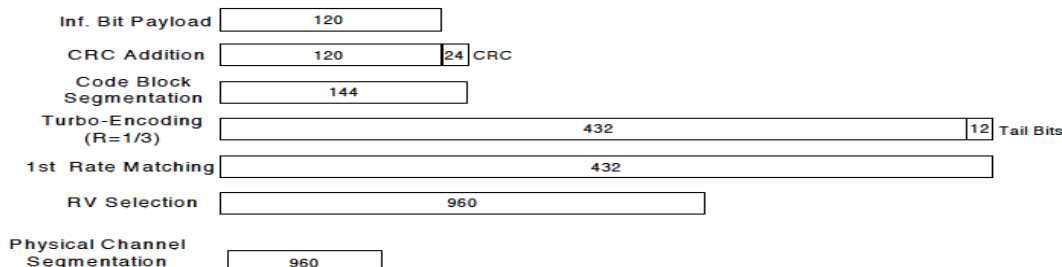


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

Mode	HSDPA	HSDPA	HSDPA	HSDPA
Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode			
	Test Mode 1			
	Rel99 RMC			
	12.2kbps RMC			
	HSDPA FRC			
	H-Set 12			
	Power Control Algorithm			
	Algorithm2			
	β_c	2/15	11/15	15/15
β_d	15/15	15/15	8/15	4/15
β_d (SF)	64			
β_c/β_d	2/15	11/15	15/8	15/4
β_{hs}	4/15	24/15	30/15	30/15
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				
$A_{hs} = \beta_{hs} / \beta_c$				
30/15				

HSPA+

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

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Allowed Average Power (dBm)					
				DSI = 0			DSI = 1		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	21.97	N/A	22.50	10.72	N/A	11.00
		9400	1880.0	22.10			10.82		
		9538	1907.6	22.04			10.68		
HSDPA	Subtest 1	9262	1852.4	21.47	0	22.00	10.24	0	10.50
		9400	1880.0	21.59			10.34		
		9538	1907.6	21.54			10.20		
	Subtest 2	9262	1852.4	21.47	0	22.00	10.25	0	10.50
		9400	1880.0	21.59			10.28		
		9538	1907.6	21.53			10.17		
	Subtest 3	9262	1852.4	20.46	0.5	21.50	9.24	0.5	10.00
		9400	1880.0	20.57			9.27		
		9538	1907.6	20.56			9.17		
	Subtest 4	9262	1852.4	20.44	0.5	21.50	9.25	0.5	10.00
		9400	1880.0	20.58			9.25		
		9538	1907.6	20.54			9.16		
HSUPA	Subtest 1	9262	1852.4	20.94	0	22.00	10.22	0	10.50
		9400	1880.0	21.09			10.33		
		9538	1907.6	21.04			10.19		
	Subtest 2	9262	1852.4	18.97	2	20.00	7.77	2	8.50
		9400	1880.0	19.10			7.81		
		9538	1907.6	19.05			7.68		
	Subtest 3	9262	1852.4	19.11	1	21.00	7.71	1	9.50
		9400	1880.0	19.08			7.72		
		9538	1907.6	19.02			7.66		
	Subtest 4	9262	1852.4	18.92	2	20.00	7.77	2	8.50
		9400	1880.0	19.08			7.80		
		9538	1907.6	19.02			7.68		
	Subtest 5	9262	1852.4	21.42	0	22.00	9.34	0	10.50
		9400	1880.0	21.58			9.45		
		9538	1907.6	21.54			9.32		
DC-HSDPA	Subtest 1	9262	1852.4	21.47	0	22.00	10.27	0	10.50
		9400	1880.0	21.60			10.32		
		9538	1907.6	21.60			10.21		
	Subtest 2	9262	1852.4	21.43	0	22.00	10.25	0	10.50
		9400	1880.0	21.58			10.28		
		9538	1907.6	21.56			10.17		
	Subtest 3	9262	1852.4	20.45	0.5	21.50	9.25	0.5	10.00
		9400	1880.0	20.61			9.30		
		9538	1907.6	20.56			9.19		
	Subtest 4	9262	1852.4	20.47	0.5	21.50	9.25	0.5	10.00
		9400	1880.0	20.59			9.29		
		9538	1907.6	20.56			9.19		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Allowed Average Power (dBm)					
				DSI = 0			DSI = 1		
				Measured Pw r	MPR	Tune-up Limit	Measured Pw r	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.11	N/A	23.00	11.71	N/A	12.00
		1413	1732.6	22.16			11.65		
		1513	1752.6	22.27			11.59		
HSDPA	Subtest 1	1312	1712.4	21.64	0	22.50	11.20	0	11.50
		1413	1732.6	21.63			11.08		
		1513	1752.6	21.78			11.03		
	Subtest 2	1312	1712.4	21.59	0	22.50	11.23	0	11.50
		1413	1732.6	21.63			11.09		
		1513	1752.6	21.75			11.02		
	Subtest 3	1312	1712.4	20.61	0.5	22.00	10.19	0.5	11.00
		1413	1732.6	20.61			10.13		
		1513	1752.6	20.76			10.08		
	Subtest 4	1312	1712.4	20.63	0.5	22.00	10.17	0.5	11.00
		1413	1732.6	20.63			10.11		
		1513	1752.6	20.77			10.07		
HSUPA	Subtest 1	1312	1712.4	21.59	0	22.50	11.16	0	11.50
		1413	1732.6	21.66			11.08		
		1513	1752.6	21.81			11.03		
	Subtest 2	1312	1712.4	19.10	2	20.50	8.67	2	9.50
		1413	1732.6	19.16			8.64		
		1513	1752.6	19.33			8.59		
	Subtest 3	1312	1712.4	19.07	1	21.50	8.73	1	10.50
		1413	1732.6	19.11			8.61		
		1513	1752.6	19.28			8.57		
	Subtest 4	1312	1712.4	19.08	2	20.50	8.64	2	9.50
		1413	1732.6	19.16			8.65		
		1513	1752.6	19.29			8.61		
	Subtest 5	1312	1712.4	21.61	0	22.50	10.28	0	11.50
		1413	1732.6	21.67			10.23		
		1513	1752.6	21.80			10.21		
DC-HSDPA	Subtest 1	1312	1712.4	21.60	0	22.50	11.16	0	11.50
		1413	1732.6	21.67			11.11		
		1513	1752.6	21.80			11.03		
	Subtest 2	1312	1712.4	21.64	0	22.50	11.23	0	11.50
		1413	1732.6	21.66			11.11		
		1513	1752.6	21.78			11.08		
	Subtest 3	1312	1712.4	20.59	0.5	22.00	10.21	0.5	11.00
		1413	1732.6	20.63			10.15		
		1513	1752.6	20.79			10.07		
	Subtest 4	1312	1712.4	20.65	0.5	22.00	10.20	0.5	11.00
		1413	1732.6	20.65			10.15		
		1513	1752.6	20.78			10.08		

W-CDMA Band V Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Allowed Average Power (dBm)					
				DSI = 0			DSI = 1		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.90	N/A	25.00	13.89	N/A	15.00
		4183	836.6	23.63			13.80		
		4233	846.6	23.58			13.85		
HSDPA	Subtest 1	4132	826.4	22.90	0	24.00	12.90	0	14.00
		4183	836.6	22.63			12.85		
		4233	846.6	22.60			12.79		
	Subtest 2	4132	826.4	22.82	0	24.00	12.86	0	14.00
		4183	836.6	22.63			12.84		
		4233	846.6	22.59			12.81		
	Subtest 3	4132	826.4	22.36	0.5	23.50	12.38	0.5	13.50
		4183	836.6	22.10			12.35		
		4233	846.6	22.06			12.33		
	Subtest 4	4132	826.4	22.40	0.5	23.50	12.40	0.5	13.50
		4183	836.6	22.12			12.33		
		4233	846.6	22.00			12.32		
HSUPA	Subtest 1	4132	826.4	22.89	0	24.00	12.88	0	14.00
		4183	836.6	22.62			12.83		
		4233	846.6	22.59			12.82		
	Subtest 2	4132	826.4	20.91	2	22.00	10.87	2	12.00
		4183	836.6	20.62			10.84		
		4233	846.6	20.59			10.84		
	Subtest 3	4132	826.4	21.86	1	23.00	11.82	1	13.00
		4183	836.6	21.63			11.82		
		4233	846.6	21.60			11.79		
	Subtest 4	4132	826.4	20.92	2	22.00	10.89	2	12.00
		4183	836.6	20.64			10.88		
		4233	846.6	20.60			10.79		
	Subtest 5	4132	826.4	22.47	0	24.00	12.87	0	14.00
		4183	836.6	22.20			12.84		
		4233	846.6	22.16			12.81		
DC-HSDPA	Subtest 1	4132	826.4	22.92	0	24.00	12.87	0	14.00
		4183	836.6	22.65			12.88		
		4233	846.6	22.61			12.78		
	Subtest 2	4132	826.4	22.90	0	24.00	12.89	0	14.00
		4183	836.6	22.62			12.86		
		4233	846.6	22.61			12.74		
	Subtest 3	4132	826.4	22.45	0.5	23.50	12.37	0.5	13.50
		4183	836.6	22.14			12.37		
		4233	846.6	22.13			12.32		
	Subtest 4	4132	826.4	22.42	0.5	23.50	12.37	0.5	13.50
		4183	836.6	22.13			12.37		
		4233	846.6	22.10			12.27		

9.2. LTE

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

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

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

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

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

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

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

Maximum Output Power (Tune-up Limit) for LTE

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

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

Maximum bandwidth does not support at least three non-overlapping channels in certain channel bandwidths.

When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

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

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

LTE Band 5 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
				DSI = 0					DSI = 1					
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				23095	707.5 MHz				23095	707.5 MHz				
10 MHz	QPSK	1	0		23.42		0.0	25.0		14.73		0.0	16.0	
		1	25		23.31		0.0	25.0		14.71		0.0	16.0	
		1	49		23.30		0.0	25.0		14.70		0.0	16.0	
		25	0		22.34		1.0	24.0		14.79		0.0	16.0	
		25	12		22.41		1.0	24.0		14.86		0.0	16.0	
		25	25		22.37		1.0	24.0		14.82		0.0	16.0	
	16QAM	50	0		22.36		1.0	24.0		14.66		0.0	16.0	
		1	0		22.40		1.0	24.0		14.71		0.0	16.0	
		1	25		22.32		1.0	24.0		14.68		0.0	16.0	
		1	49		22.27		1.0	24.0		14.65		0.0	16.0	
		25	0		21.38		2.0	23.0		14.78		0.0	16.0	
		25	12		21.47		2.0	23.0		14.75		0.0	16.0	
	64QAM	25	25		21.41		2.0	23.0		14.81		0.0	16.0	
		50	0		21.34		2.0	23.0		14.63		0.0	16.0	
		1	0		21.87		2.0	23.0		15.04		0.0	16.0	
		1	25		21.79		2.0	23.0		15.06		0.0	16.0	
		1	49		21.70		2.0	23.0		15.06		0.0	16.0	
		25	0		20.40		3.0	22.0		14.84		0.0	16.0	
	256QAM	25	12		20.50		3.0	22.0		14.88		0.0	16.0	
		25	25		20.43		3.0	22.0		14.90		0.0	16.0	
		50	0		20.38		3.0	22.0		14.71		0.0	16.0	
		1	0		18.73		5.0	20.0		14.98		0.0	16.0	
		1	25		18.88		5.0	20.0		15.26		0.0	16.0	
		1	49		18.67		5.0	20.0		15.03		0.0	16.0	
5 MHz	QPSK	25	0		18.39		5.0	20.0		14.73		0.0	16.0	
		25	12		18.52		5.0	20.0		14.81		0.0	16.0	
		25	25		18.43		5.0	20.0		14.81		0.0	16.0	
		50	0		18.43		5.0	20.0		14.73		0.0	16.0	
		1	0		23.60	23.25	23.36	0.0	25.0	14.71	14.82	14.71	0.0	16.0
		1	12		23.67	23.30	23.37	0.0	25.0	14.81	14.80	14.68	0.0	16.0
	16QAM	1	24		23.49	23.29	23.33	0.0	25.0	14.72	14.81	14.71	0.0	16.0
		12	0		22.62	22.32	22.30	1.0	24.0	14.73	14.75	14.69	0.0	16.0
		12	7		22.67	22.47	22.34	1.0	24.0	14.86	14.87	14.83	0.0	16.0
		12	13		22.56	22.40	22.40	1.0	24.0	14.83	14.82	14.78	0.0	16.0
		25	0		22.62	22.39	22.32	1.0	24.0	14.80	14.83	14.77	0.0	16.0
		1	0		22.74	22.89	22.45	1.0	24.0	14.82	14.88	15.29	0.0	16.0
	64QAM	1	12		22.74	22.93	22.44	1.0	24.0	14.83	14.91	15.28	0.0	16.0
		1	24		22.63	22.83	22.50	1.0	24.0	14.82	14.89	15.27	0.0	16.0
		12	0		21.72	21.47	21.31	2.0	23.0	14.71	14.77	14.82	0.0	16.0
		12	7		21.76	21.62	21.37	2.0	23.0	14.85	14.84	14.86	0.0	16.0
		12	13		21.64	21.55	21.42	2.0	23.0	14.79	14.90	14.92	0.0	16.0
		25	0		21.66	21.47	21.25	2.0	23.0	14.71	14.71	14.71	0.0	16.0
	256QAM	1	0		21.94	21.51	21.30	2.0	23.0	14.90	14.82	14.98	0.0	16.0
		1	12		21.94	21.66	21.38	2.0	23.0	15.11	15.01	15.09	0.0	16.0
		1	24		21.82	21.58	21.30	2.0	23.0	15.00	14.87	15.03	0.0	16.0
		12	0		20.62	20.36	20.35	3.0	22.0	14.70	14.89	14.65	0.0	16.0
		12	7		20.65	20.49	20.38	3.0	22.0	14.84	14.94	14.70	0.0	16.0
		12	13		20.52	20.49	20.43	3.0	22.0	14.80	14.99	14.74	0.0	16.0
256QAM	25	0		20.56	20.40	20.29	3.0	22.0	14.79	14.78	14.69	0.0	16.0	
	1	0		18.77	18.42	18.05	5.0	20.0	14.76	14.76	14.40	0.0	16.0	
	1	12		18.78	18.50	18.22	5.0	20.0	14.87	14.93	14.57	0.0	16.0	
	1	24		18.60	18.45	18.07	5.0	20.0	14.85	14.79	14.46	0.0	16.0	
	12	0		18.66	18.38	18.33	5.0	20.0	14.71	14.75	14.71	0.0	16.0	
	12	7		18.72	18.53	18.38	5.0	20.0	14.82	14.81	14.75	0.0	16.0	
256QAM	12	13		18.60	18.44	18.41	5.0	20.0	14.80	14.84	14.78	0.0	16.0	
	25	0		18.64	18.46	18.36	5.0	20.0	14.73	14.74	14.76	0.0	16.0	
	25	0		18.64	18.46	18.36	5.0	20.0	14.73	14.74	14.76	0.0	16.0	

LTE Band 5 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				20415	20525	20635			20415	20525	20635			
				825.5 MHz	836.5 MHz	847.5 MHz			825.5 MHz	836.5 MHz	847.5 MHz			
3 MHz	QPSK	1	0	23.55	23.35	23.27	0.0	25.0	14.70	14.68	14.68	0.0	16.0	
		1	8	23.59	23.34	23.20	0.0	25.0	14.66	14.72	14.72	0.0	16.0	
		1	14	23.51	23.37	23.26	0.0	25.0	14.72	14.80	14.70	0.0	16.0	
		8	0	22.65	22.32	22.26	1.0	24.0	14.70	14.74	14.67	0.0	16.0	
		8	4	22.57	22.46	22.40	1.0	24.0	14.83	14.87	14.78	0.0	16.0	
		8	7	22.61	22.48	22.40	1.0	24.0	14.83	14.89	14.79	0.0	16.0	
	16QAM	15	0	22.57	22.43	22.29	1.0	24.0	14.81	14.83	14.78	0.0	16.0	
		1	0	22.57	22.78	22.38	1.0	24.0	14.72	14.62	15.04	0.0	16.0	
		1	8	22.47	22.75	22.36	1.0	24.0	14.74	14.66	15.06	0.0	16.0	
		1	14	22.48	22.79	22.36	1.0	24.0	14.75	14.67	15.07	0.0	16.0	
		8	0	21.76	21.40	21.32	2.0	23.0	14.72	14.84	14.70	0.0	16.0	
		8	4	21.72	21.55	21.46	2.0	23.0	14.80	14.90	14.88	0.0	16.0	
		8	7	21.71	21.54	21.50	2.0	23.0	14.89	14.97	14.85	0.0	16.0	
		15	0	21.63	21.44	21.29	2.0	23.0	14.72	14.77	14.81	0.0	16.0	
		64QAM	1	0	21.92	21.74	21.37	2.0	23.0	14.53	14.99	14.66	0.0	16.0
			1	8	21.80	21.90	21.42	2.0	23.0	14.61	15.05	14.76	0.0	16.0
	1		14	21.82	21.84	21.41	2.0	23.0	14.62	15.07	14.77	0.0	16.0	
	8		0	20.59	20.39	20.33	3.0	22.0	14.75	14.92	14.78	0.0	16.0	
	8		4	20.55	20.53	20.43	3.0	22.0	14.87	14.93	14.86	0.0	16.0	
	8		7	20.55	20.53	20.42	3.0	22.0	14.87	15.01	14.87	0.0	16.0	
	256QAM	15	0	20.62	20.43	20.37	3.0	22.0	14.81	14.76	14.91	0.0	16.0	
		1	0	18.66	18.72	18.13	5.0	20.0	14.67	14.87	14.53	0.0	16.0	
		1	8	18.67	18.86	18.22	5.0	20.0	14.81	14.92	14.60	0.0	16.0	
		1	14	18.54	18.85	18.18	5.0	20.0	14.75	14.93	14.60	0.0	16.0	
		8	0	18.80	18.47	18.23	5.0	20.0	14.77	14.84	14.60	0.0	16.0	
		8	4	18.79	18.54	18.38	5.0	20.0	14.91	14.82	14.76	0.0	16.0	
		8	7	18.77	18.55	18.36	5.0	20.0	14.95	14.90	14.76	0.0	16.0	
	15	0	18.65	18.49	18.39	5.0	20.0	14.85	14.76	14.86	0.0	16.0		
	1.4 MHz	QPSK	1	0	23.58	23.23	23.18	0.0	25.0	14.66	14.67	14.55	0.0	16.0
			1	3	23.66	23.31	23.25	0.0	25.0	14.75	14.71	14.61	0.0	16.0
1			5	23.58	23.27	23.19	0.0	25.0	14.67	14.70	14.60	0.0	16.0	
3			0	23.55	23.27	23.18	0.0	25.0	14.62	14.72	14.57	0.0	16.0	
3			1	23.56	23.31	23.22	0.0	25.0	14.67	14.74	14.63	0.0	16.0	
3			3	23.58	23.33	23.21	0.0	25.0	14.66	14.78	14.58	0.0	16.0	
16QAM		6	0	22.57	22.37	22.31	1.0	24.0	14.71	14.76	14.66	0.0	16.0	
		1	0	22.72	22.71	22.28	1.0	24.0	14.73	15.03	14.64	0.0	16.0	
		1	3	22.80	22.77	22.35	1.0	24.0	14.84	15.09	14.75	0.0	16.0	
		1	5	22.72	22.76	22.29	1.0	24.0	14.78	15.04	14.70	0.0	16.0	
		3	0	22.55	22.51	22.46	1.0	24.0	14.72	14.91	14.85	0.0	16.0	
		3	1	22.59	22.50	22.53	1.0	24.0	14.78	14.90	14.91	0.0	16.0	
		3	3	22.66	22.51	22.52	1.0	24.0	14.78	14.93	14.92	0.0	16.0	
		6	0	21.75	21.21	21.48	2.0	23.0	14.80	14.54	14.89	0.0	16.0	
		64QAM	1	0	21.72	21.45	21.83	2.0	23.0	14.46	14.91	14.76	0.0	16.0
			1	3	21.78	21.65	21.81	2.0	23.0	14.55	15.09	14.84	0.0	16.0
1			5	21.69	21.58	21.79	2.0	23.0	14.58	14.95	14.72	0.0	16.0	
3			0	21.74	21.30	21.57	2.0	23.0	14.56	14.79	14.88	0.0	16.0	
3			1	21.79	21.32	21.68	2.0	23.0	14.58	14.86	15.01	0.0	16.0	
3			3	21.78	21.33	21.67	2.0	23.0	14.55	14.83	15.01	0.0	16.0	
256QAM		6	0	20.87	20.45	20.27	3.0	22.0	14.65	14.76	14.86	0.0	16.0	
		1	0	18.46	18.38	18.45	5.0	20.0	14.62	14.72	14.84	0.0	16.0	
		1	3	18.53	18.53	18.62	5.0	20.0	14.83	14.96	14.62	0.0	16.0	
		1	5	18.47	18.42	18.50	5.0	20.0	14.73	14.80	14.57	0.0	16.0	
		3	0	18.46	18.42	18.24	5.0	20.0	14.71	14.66	14.50	0.0	16.0	
		3	1	18.48	18.45	18.36	5.0	20.0	14.66	14.71	14.52	0.0	16.0	
		3	3	18.56	18.46	18.31	5.0	20.0	14.75	14.73	14.63	0.0	16.0	
6		0	18.72	18.45	18.23	5.0	20.0	14.76	14.61	14.71	0.0	16.0		

LTE Band 7 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)											
				DSI = 0					DSI = 1						
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit		
				20850	21100	21350			20850	21100	21350				
2510 MHz	2535 MHz	2560 MHz	2510 MHz	2535 MHz	2560 MHz										
20 MHz	QPSK	1	0	23.11	22.56	22.57	0.0	23.5	12.69	12.59	12.33	0.0	13.5		
		1	49	22.68	22.48	22.47	0.0	23.5	12.67	12.59	12.15	0.0	13.5		
		1	99	22.69	22.50	22.50	0.0	23.5	12.66	12.47	12.07	0.0	13.5		
		50	0	22.23	21.64	21.62	1.0	22.5	12.79	12.70	12.38	0.0	13.5		
		50	24	21.67	21.63	21.61	1.0	22.5	12.71	12.63	12.32	0.0	13.5		
		50	50	21.67	21.60	21.55	1.0	22.5	12.70	12.61	12.22	0.0	13.5		
	100	0	21.63	21.56	21.52	1.0	22.5	12.62	12.52	12.24	0.0	13.5			
	16QAM	1	0	22.30	22.26	22.00	1.0	22.5	13.10	13.00	12.91	0.0	13.5		
		1	49	22.27	22.06	21.90	1.0	22.5	13.07	12.96	12.75	0.0	13.5		
		1	99	22.26	22.03	21.91	1.0	22.5	13.04	12.85	12.67	0.0	13.5		
		50	0	20.78	20.66	20.60	2.0	21.5	12.79	12.63	12.40	0.0	13.5		
		50	24	20.73	20.65	20.61	2.0	21.5	12.71	12.57	12.33	0.0	13.5		
		50	50	20.69	20.63	20.58	2.0	21.5	12.69	12.55	12.24	0.0	13.5		
	100	0	20.64	20.58	20.56	2.0	21.5	12.59	12.50	12.28	0.0	13.5			
	64QAM	1	0	21.01	21.36	20.93	2.0	21.5	12.74	12.80	12.84	0.0	13.5		
		1	49	20.96	21.24	20.86	2.0	21.5	12.66	12.75	12.65	0.0	13.5		
		1	99	20.86	21.27	20.84	2.0	21.5	12.68	12.63	12.56	0.0	13.5		
		50	0	19.82	19.68	19.67	3.0	20.5	12.79	12.72	12.46	0.0	13.5		
		50	24	19.73	19.66	19.65	3.0	20.5	12.67	12.65	12.37	0.0	13.5		
		50	50	19.69	19.64	19.63	3.0	20.5	12.70	12.61	12.25	0.0	13.5		
100	0	19.66	19.55	19.57	3.0	20.5	12.56	12.55	12.25	0.0	13.5				
256QAM	1	0	17.36	17.60	17.60	5.0	18.5	12.46	12.25	12.40	0.0	13.5			
	1	49	17.73	17.77	17.76	5.0	18.5	12.84	12.55	12.44	0.0	13.5			
	1	99	17.43	17.64	17.34	5.0	18.5	12.62	12.22	11.92	0.0	13.5			
	50	0	17.69	17.59	17.58	5.0	18.5	12.60	12.56	12.31	0.0	13.5			
	50	24	17.74	17.68	17.60	5.0	18.5	12.73	12.64	12.28	0.0	13.5			
	50	50	17.72	17.62	17.49	5.0	18.5	12.68	12.55	12.04	0.0	13.5			
100	0	17.65	17.57	17.50	5.0	18.5	12.61	12.53	12.19	0.0	13.5				
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)				
				20825	21100	21375	20825	21100			21375				
				2507.5 MHz	2535 MHz	2562.5 MHz	2507.5 MHz	2535 MHz			2562.5 MHz				
15 MHz	QPSK	1	0	22.49	22.46	22.56	0.0	23.5	12.74	12.59	12.27	0.0	13.5		
		1	37	22.41	22.38	22.44	0.0	23.5	12.72	12.53	12.23	0.0	13.5		
		1	74	22.46	22.40	22.49	0.0	23.5	12.68	12.46	12.10	0.0	13.5		
		36	0	21.56	21.54	21.56	1.0	22.5	12.80	12.70	12.36	0.0	13.5		
		36	20	21.58	21.53	21.54	1.0	22.5	12.81	12.66	12.30	0.0	13.5		
		36	39	21.51	21.50	21.53	1.0	22.5	12.72	12.62	12.22	0.0	13.5		
		75	0	21.51	21.48	21.53	1.0	22.5	12.62	12.55	12.24	0.0	13.5		
	16QAM	1	0	21.50	21.50	21.94	1.0	22.5	12.94	12.53	12.72	0.0	13.5		
		1	37	21.46	21.45	21.89	1.0	22.5	12.84	12.50	12.68	0.0	13.5		
		1	74	21.44	21.45	21.85	1.0	22.5	12.90	12.45	12.56	0.0	13.5		
		36	0	20.56	20.56	20.63	2.0	21.5	12.73	12.69	12.42	0.0	13.5		
		36	20	20.54	20.56	20.60	2.0	21.5	12.74	12.59	12.35	0.0	13.5		
		36	39	20.55	20.52	20.58	2.0	21.5	12.65	12.58	12.25	0.0	13.5		
		75	0	20.50	20.52	20.53	2.0	21.5	12.63	12.52	12.27	0.0	13.5		
	64QAM	1	0	21.08	20.81	20.62	2.0	21.5	12.89	12.91	12.37	0.0	13.5		
		1	37	21.02	20.74	20.52	2.0	21.5	12.84	12.86	12.25	0.0	13.5		
		1	74	20.95	20.77	20.54	2.0	21.5	12.77	12.75	12.16	0.0	13.5		
		36	0	19.75	19.66	19.68	3.0	20.5	12.78	12.72	12.45	0.0	13.5		
		36	20	19.73	19.64	19.69	3.0	20.5	12.78	12.68	12.43	0.0	13.5		
		36	39	19.65	19.61	19.67	3.0	20.5	12.70	12.67	12.34	0.0	13.5		
75		0	19.72	19.54	19.57	3.0	20.5	12.65	12.56	12.30	0.0	13.5			
256QAM	1	0	17.81	17.88	17.32	5.0	18.5	12.77	12.80	11.95	0.0	13.5			
	1	37	17.99	17.94	17.42	5.0	18.5	13.00	12.98	12.06	0.0	13.5			
	1	74	17.86	17.83	17.33	5.0	18.5	12.93	12.78	11.90	0.0	13.5			
	36	0	17.68	17.59	17.58	5.0	18.5	12.61	12.60	12.30	0.0	13.5			
	36	20	17.77	17.65	17.59	5.0	18.5	12.73	12.64	12.28	0.0	13.5			
	36	39	17.68	17.58	17.56	5.0	18.5	12.69	12.55	12.15	0.0	13.5			
	75	0	17.73	17.56	17.56	5.0	18.5	12.66	12.57	12.22	0.0	13.5			

LTE Band 7 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				20800	21100	21400			20800	21100	21400			
				2505 MHz	2535 MHz	2565 MHz			2505 MHz	2535 MHz	2565 MHz			
10 MHz	QPSK	1	0	22.64	22.60	22.63	0.0	23.5	12.55	12.59	12.58	0.0	13.5	
		1	25	22.57	22.54	22.59	0.0	23.5	12.65	12.69	12.68	0.0	13.5	
		1	49	22.61	22.60	22.62	0.0	23.5	12.55	12.52	12.55	0.0	13.5	
		25	0	21.66	21.66	21.67	1.0	22.5	12.76	12.71	12.74	0.0	13.5	
		25	12	21.70	21.68	21.68	1.0	22.5	12.75	12.74	12.74	0.0	13.5	
		25	25	21.63	21.63	21.67	1.0	22.5	12.76	12.72	12.74	0.0	13.5	
	16QAM	50	0	21.61	21.61	21.62	1.0	22.5	12.75	12.71	12.73	0.0	13.5	
		1	0	21.60	21.62	22.00	1.0	22.5	13.11	13.12	13.12	0.0	13.5	
		1	25	21.58	21.55	21.99	1.0	22.5	13.18	13.17	13.18	0.0	13.5	
		1	49	21.57	21.56	22.03	1.0	22.5	13.07	13.07	13.07	0.0	13.5	
		25	0	20.68	20.72	20.69	2.0	21.5	12.75	12.77	12.77	0.0	13.5	
		25	12	20.71	20.73	20.73	2.0	21.5	12.78	12.76	12.77	0.0	13.5	
	64QAM	25	25	20.72	20.69	20.71	2.0	21.5	12.78	12.76	12.77	0.0	13.5	
		50	0	20.61	20.60	20.63	2.0	21.5	12.74	12.73	12.72	0.0	13.5	
		1	0	20.69	20.98	20.66	2.0	21.5	13.09	13.04	12.45	0.0	13.5	
		1	25	20.65	20.90	20.64	2.0	21.5	13.05	12.99	12.36	0.0	13.5	
		1	49	20.59	20.93	20.65	2.0	21.5	12.94	12.93	12.39	0.0	13.5	
		25	0	20.00	19.76	19.77	3.0	20.5	12.92	12.91	12.52	0.0	13.5	
	256QAM	25	12	19.89	19.80	19.75	3.0	20.5	12.85	12.86	12.48	0.0	13.5	
		25	25	19.89	19.76	19.77	3.0	20.5	12.84	12.80	12.48	0.0	13.5	
		50	0	19.74	19.65	19.61	3.0	20.5	12.70	12.67	12.35	0.0	13.5	
		1	0	17.66	17.96	17.30	5.0	18.5	12.42	12.53	11.96	0.0	13.5	
		1	25	17.92	18.15	17.50	5.0	18.5	12.56	12.57	12.12	0.0	13.5	
		1	49	17.60	18.02	17.26	5.0	18.5	12.55	12.76	11.90	0.0	13.5	
	256QAM	25	0	17.92	17.70	17.66	5.0	18.5	12.82	12.83	12.32	0.0	13.5	
25		12	17.93	17.79	17.76	5.0	18.5	12.83	12.84	12.39	0.0	13.5		
25		25	17.87	17.70	17.67	5.0	18.5	12.71	12.71	12.28	0.0	13.5		
50		0	17.81	17.70	17.62	5.0	18.5	12.71	12.68	12.26	0.0	13.5		
5 MHz		QPSK	1	0	22.71	22.69	22.71	0.0	23.5	12.55	12.59	12.58	0.0	13.5
			1	12	22.64	22.61	22.65	0.0	23.5	12.65	12.69	12.68	0.0	13.5
	1		24	22.68	22.66	22.65	0.0	23.5	12.55	12.52	12.55	0.0	13.5	
	12		0	21.64	21.60	21.61	1.0	22.5	12.76	12.71	12.74	0.0	13.5	
	12		7	21.68	21.68	21.71	1.0	22.5	12.75	12.74	12.74	0.0	13.5	
	12		13	21.67	21.63	21.64	1.0	22.5	12.76	12.72	12.74	0.0	13.5	
	16QAM	25	0	21.64	21.65	21.62	1.0	22.5	12.75	12.71	12.73	0.0	13.5	
		1	0	21.81	21.80	22.09	1.0	22.5	13.11	13.12	13.12	0.0	13.5	
		1	12	21.76	21.74	22.07	1.0	22.5	13.18	13.17	13.18	0.0	13.5	
		1	24	21.79	21.79	22.09	1.0	22.5	13.07	13.07	13.07	0.0	13.5	
		12	0	20.73	20.67	20.77	2.0	21.5	12.75	12.77	12.77	0.0	13.5	
		12	7	20.77	20.75	20.87	2.0	21.5	12.78	12.76	12.77	0.0	13.5	
	64QAM	12	13	20.74	20.73	20.80	2.0	21.5	12.78	12.76	12.77	0.0	13.5	
		25	0	20.68	20.68	20.68	2.0	21.5	12.74	12.73	12.72	0.0	13.5	
		1	0	21.08	20.96	20.94	2.0	21.5	13.04	13.09	12.70	0.0	13.5	
		1	12	21.08	21.01	21.02	2.0	21.5	13.11	13.14	12.82	0.0	13.5	
		1	24	21.02	20.98	20.92	2.0	21.5	13.07	13.00	12.70	0.0	13.5	
		12	0	19.99	19.60	19.63	3.0	20.5	13.00	12.70	12.32	0.0	13.5	
	256QAM	12	7	20.02	19.68	19.68	3.0	20.5	13.04	12.68	12.36	0.0	13.5	
		12	13	20.01	19.63	19.66	3.0	20.5	13.01	12.63	12.32	0.0	13.5	
		25	0	19.87	19.69	19.62	3.0	20.5	12.87	12.68	12.32	0.0	13.5	
		1	0	17.88	17.40	17.78	5.0	18.5	12.86	12.56	12.39	0.0	13.5	
		1	12	17.96	17.49	17.80	5.0	18.5	12.96	12.63	12.44	0.0	13.5	
		1	24	17.86	17.35	17.78	5.0	18.5	12.84	12.38	12.36	0.0	13.5	
	256QAM	12	0	17.89	17.71	17.67	5.0	18.5	12.84	12.80	12.30	0.0	13.5	
12		7	17.94	17.76	17.73	5.0	18.5	12.87	12.78	12.39	0.0	13.5		
12		13	17.91	17.75	17.70	5.0	18.5	12.83	12.76	12.31	0.0	13.5		
25		0	17.90	17.76	17.69	5.0	18.5	12.83	12.77	12.30	0.0	13.5		

LTE Band 7 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				20765	21100	21435			20765	21100	21435			
				2501.5 MHz	2535 MHz	2568.5 MHz			2501.5 MHz	2535 MHz	2568.5 MHz			
3 MHz	QPSK	1	0	21.54	22.49	22.47	0.0	23.5	12.64	12.72	12.79	0.0	13.5	
		1	8	22.56	22.55	22.55	0.0	23.5	12.67	12.67	12.64	0.0	13.5	
		1	14	22.59	22.52	22.52	0.0	23.5	12.77	12.73	12.54	0.0	13.5	
		8	0	21.48	21.46	21.48	1.0	22.5	12.71	12.70	12.61	0.0	13.5	
		8	4	21.50	21.49	21.50	1.0	22.5	12.72	12.72	12.62	0.0	13.5	
		8	7	21.53	21.48	21.48	1.0	22.5	12.73	12.70	12.62	0.0	13.5	
	16QAM	15	0	21.52	21.53	21.50	1.0	22.5	12.82	12.83	12.64	0.0	13.5	
		1	0	20.52	20.51	20.50	1.0	22.5	12.72	12.71	12.57	0.0	13.5	
		1	8	20.60	20.58	20.57	1.0	22.5	12.63	12.61	12.47	0.0	13.5	
		1	14	20.58	20.58	20.57	1.0	22.5	12.71	12.74	12.60	0.0	13.5	
		8	0	20.72	20.71	20.71	2.0	21.5	12.83	12.88	12.74	0.0	13.5	
		8	4	20.73	20.73	20.72	2.0	21.5	12.85	12.86	12.72	0.0	13.5	
		8	7	20.74	20.74	20.72	2.0	21.5	12.87	12.87	12.73	0.0	13.5	
		15	0	20.63	20.64	20.62	2.0	21.5	12.85	12.84	12.70	0.0	13.5	
		64QAM	1	0	20.04	20.01	20.03	2.0	21.5	12.49	12.93	12.87	0.0	13.5
			1	8	20.05	20.05	20.04	2.0	21.5	12.86	12.88	12.84	0.0	13.5
	1		14	19.97	19.92	19.97	2.0	21.5	12.92	12.94	12.84	0.0	13.5	
	8		0	19.63	19.61	19.60	3.0	20.5	12.66	12.68	12.69	0.0	13.5	
	8		4	19.65	19.64	19.65	3.0	20.5	12.66	12.69	12.69	0.0	13.5	
	8		7	19.66	19.66	19.63	3.0	20.5	12.67	12.69	12.71	0.0	13.5	
	256QAM	15	0	19.66	19.65	19.71	3.0	20.5	12.72	12.72	12.73	0.0	13.5	
		1	0	17.54	17.54	17.53	5.0	18.5	12.55	12.51	12.53	0.0	13.5	
		1	8	17.62	17.59	17.59	5.0	18.5	12.60	12.58	12.60	0.0	13.5	
		1	14	17.59	17.56	17.57	5.0	18.5	12.58	12.56	12.57	0.0	13.5	
		8	0	17.37	17.39	17.37	5.0	18.5	12.32	12.32	12.34	0.0	13.5	
		8	4	17.40	17.39	17.37	5.0	18.5	12.38	12.33	12.38	0.0	13.5	
		8	7	17.45	17.40	17.43	5.0	18.5	12.38	12.36	12.38	0.0	13.5	
	15	0	17.43	17.41	17.43	5.0	18.5	12.37	12.39	12.44	0.0	13.5		
	1.4 MHz	QPSK	1	0	21.65	22.63	22.66	0.0	23.5	12.54	12.62	12.60	0.0	13.5
			1	3	22.62	22.57	22.60	0.0	23.5	12.66	12.70	12.65	0.0	13.5
1			5	22.65	22.67	22.65	0.0	23.5	12.56	12.59	12.59	0.0	13.5	
3			0	21.68	21.66	21.65	1.0	22.5	12.66	12.67	12.68	0.0	13.5	
3			1	21.64	21.63	21.63	1.0	22.5	12.66	12.67	12.67	0.0	13.5	
3			3	21.65	21.65	21.65	1.0	22.5	12.64	12.66	12.65	0.0	13.5	
16QAM		6	0	21.60	21.62	21.59	1.0	22.5	12.60	12.64	12.61	0.0	13.5	
		1	0	20.61	20.63	20.60	1.0	22.5	13.11	13.13	13.12	0.0	13.5	
		1	3	20.57	20.59	20.58	1.0	22.5	12.94	12.77	12.76	0.0	13.5	
		1	5	20.67	20.67	20.64	1.0	22.5	13.11	13.12	13.11	0.0	13.5	
		3	0	21.04	21.03	21.03	2.0	21.5	12.84	12.85	12.87	0.0	13.5	
		3	1	21.04	21.01	21.01	2.0	21.5	12.81	12.82	12.83	0.0	13.5	
		3	3	21.04	21.02	21.02	2.0	21.5	12.78	12.84	12.84	0.0	13.5	
		6	0	20.86	20.86	20.81	2.0	21.5	12.76	12.80	12.80	0.0	13.5	
64QAM		1	0	20.10	19.46	20.54	2.0	21.5	12.53	12.84	12.82	0.0	13.5	
		1	3	20.08	19.57	19.85	2.0	21.5	12.77	12.74	12.72	0.0	13.5	
		1	5	19.99	19.47	19.84	2.0	21.5	12.70	12.84	12.75	0.0	13.5	
		3	0	19.93	19.40	19.79	3.0	20.5	12.94	12.76	12.74	0.0	13.5	
		3	1	19.94	19.40	19.80	3.0	20.5	12.94	12.94	12.84	0.0	13.5	
		3	3	19.89	19.36	19.77	3.0	20.5	12.92	12.89	12.92	0.0	13.5	
256QAM		6	0	19.82	19.38	19.78	3.0	20.5	12.85	12.84	12.86	0.0	13.5	
		1	0	17.60	17.02	17.90	5.0	18.5	12.52	12.50	12.53	0.0	13.5	
		1	3	17.66	17.09	17.86	5.0	18.5	12.58	12.57	12.61	0.0	13.5	
		1	5	17.56	17.01	17.91	5.0	18.5	12.54	12.52	12.55	0.0	13.5	
		3	0	17.22	17.18	17.72	5.0	18.5	12.52	12.53	12.54	0.0	13.5	
		3	1	17.23	17.59	17.71	5.0	18.5	12.56	12.49	12.59	0.0	13.5	
		3	3	17.17	17.60	17.70	5.0	18.5	12.52	12.53	12.57	0.0	13.5	
		6	0	17.06	17.53	17.61	5.0	18.5	12.48	12.44	12.52	0.0	13.5	

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
				DSI = 0					DSI = 1					
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				23060 704 MHz	23095 707.5 MHz	23130 711 MHz			23060 704 MHz	23095 707.5 MHz	23130 711 MHz			
10 MHz	QPSK	1	0		23.12		0.0	25.0		13.35		0.0	15.0	
		1	25		23.00		0.0	25.0		13.25		0.0	15.0	
		1	49		23.08		0.0	25.0		13.25		0.0	15.0	
		25	0		21.98		1.0	24.0		13.33		0.0	15.0	
		25	12		22.16		1.0	24.0		13.41		0.0	15.0	
		25	25		22.13		1.0	24.0		13.31		0.0	15.0	
	50	0		22.09		1.0	24.0		13.32		0.0	15.0		
	16QAM	1	0		22.03		1.0	24.0		13.35		0.0	15.0	
		1	25		22.07		1.0	24.0		13.21		0.0	15.0	
		1	49		22.12		1.0	24.0		13.19		0.0	15.0	
		25	0		21.04		2.0	23.0		13.32		0.0	15.0	
		25	12		21.22		2.0	23.0		13.42		0.0	15.0	
		25	25		21.16		2.0	23.0		13.31		0.0	15.0	
	50	0		21.12		2.0	23.0		13.29		0.0	15.0		
	64QAM	1	0		21.34		2.0	23.0		13.33		0.0	15.0	
		1	25		21.49		2.0	23.0		13.30		0.0	15.0	
		1	49		21.61		2.0	23.0		13.31		0.0	15.0	
		25	0		20.06		3.0	22.0		13.17		0.0	15.0	
		25	12		20.23		3.0	22.0		13.33		0.0	15.0	
		25	25		20.15		3.0	22.0		13.26		0.0	15.0	
50	0		20.11		3.0	22.0		13.24		0.0	15.0			
256QAM	1	0		18.31		5.0	20.0		13.37		0.0	15.0		
	1	25		18.61		5.0	20.0		13.64		0.0	15.0		
	1	49		18.60		5.0	20.0		13.52		0.0	15.0		
	25	0		18.10		5.0	20.0		13.16		0.0	15.0		
	25	12		18.25		5.0	20.0		13.29		0.0	15.0		
	25	25		18.21		5.0	20.0		13.22		0.0	15.0		
50	0		18.16		5.0	20.0		13.19		0.0	15.0			
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
23035 701.5 MHz	23095 707.5 MHz	23155 713.5 MHz	23035 701.5 MHz	23095 707.5 MHz	23155 713.5 MHz									
5 MHz	QPSK	1	0	23.13	23.08	23.35	0.0	25.0	13.49	13.35	13.25	0.0	15.0	
		1	12	23.11	23.17	23.30	0.0	25.0	13.42	13.27	13.21	0.0	15.0	
		1	24	23.08	23.13	23.28	0.0	25.0	13.30	13.33	13.23	0.0	15.0	
		12	0	22.09	22.13	22.30	1.0	24.0	13.50	13.35	13.30	0.0	15.0	
		12	7	22.17	22.22	22.33	1.0	24.0	13.50	13.35	13.40	0.0	15.0	
		12	13	22.13	22.20	22.37	1.0	24.0	13.45	13.32	13.33	0.0	15.0	
	25	0	22.15	22.18	22.29	1.0	24.0	13.34	13.33	13.36	0.0	15.0		
	16QAM	1	0	22.53	22.20	22.45	1.0	24.0	13.60	13.48	13.83	0.0	15.0	
		1	12	22.55	22.20	22.41	1.0	24.0	13.43	13.40	13.79	0.0	15.0	
		1	24	22.49	22.28	22.46	1.0	24.0	13.45	13.41	13.80	0.0	15.0	
		12	0	21.22	21.17	21.35	2.0	23.0	13.56	13.42	13.43	0.0	15.0	
		12	7	21.33	21.24	21.43	2.0	23.0	13.51	13.42	13.51	0.0	15.0	
		12	13	21.27	21.23	21.45	2.0	23.0	13.46	13.36	13.45	0.0	15.0	
	25	0	21.21	21.11	21.30	2.0	23.0	13.33	13.35	13.38	0.0	15.0		
	64QAM	1	0	21.49	21.33	21.22	2.0	23.0	13.55	13.18	13.47	0.0	15.0	
		1	12	21.52	21.40	21.34	2.0	23.0	13.51	13.19	13.50	0.0	15.0	
		1	24	21.45	21.38	21.27	2.0	23.0	13.45	13.12	13.45	0.0	15.0	
		12	0	20.11	20.22	20.36	3.0	22.0	13.40	13.26	13.17	0.0	15.0	
		12	7	20.19	20.24	20.36	3.0	22.0	13.37	13.33	13.26	0.0	15.0	
		12	13	20.15	20.27	20.41	3.0	22.0	13.33	13.26	13.22	0.0	15.0	
25	0	20.15	20.23	20.27	3.0	22.0	13.32	13.22	13.21	0.0	15.0			
256QAM	1	0	18.25	18.19	18.03	5.0	20.0	13.35	12.95	13.27	0.0	15.0		
	1	12	18.23	18.34	18.13	5.0	20.0	13.47	12.97	13.27	0.0	15.0		
	1	24	18.27	18.25	18.04	5.0	20.0	13.25	12.87	13.26	0.0	15.0		
	12	0	18.15	18.17	18.31	5.0	20.0	13.29	13.21	13.17	0.0	15.0		
	12	7	18.23	18.26	18.35	5.0	20.0	13.34	13.24	13.25	0.0	15.0		
	12	13	18.18	18.23	18.36	5.0	20.0	13.25	13.20	13.19	0.0	15.0		
25	0	18.16	18.26	18.37	5.0	20.0	13.26	13.26	13.23	0.0	15.0			

LTE Band 12 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23025	23095	23165			23025	23095	23165		
				700.5 MHz	707.5 MHz	714.5 MHz			700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	23.15	23.11	23.30	0.0	25.0	13.51	13.29	13.26	0.0	15.0
		1	8	23.03	22.98	23.19	0.0	25.0	13.36	13.15	13.14	0.0	15.0
		1	14	23.09	23.06	23.34	0.0	25.0	13.37	13.21	13.28	0.0	15.0
		8	0	22.05	22.10	22.30	1.0	24.0	13.49	13.35	13.24	0.0	15.0
		8	4	22.15	22.20	22.30	1.0	24.0	13.46	13.35	13.29	0.0	15.0
		8	7	22.14	22.17	22.42	1.0	24.0	13.45	13.34	13.36	0.0	15.0
	16QAM	15	0	22.14	22.17	22.40	1.0	24.0	13.46	13.34	13.27	0.0	15.0
		1	0	22.48	22.22	22.33	1.0	24.0	13.76	13.40	13.16	0.0	15.0
		1	8	22.38	22.15	22.18	1.0	24.0	13.67	13.28	13.11	0.0	15.0
		1	14	22.45	22.20	22.23	1.0	24.0	13.66	13.31	13.10	0.0	15.0
		8	0	21.10	21.10	21.43	2.0	23.0	13.47	13.31	13.34	0.0	15.0
		8	4	21.24	21.23	21.44	2.0	23.0	13.50	13.36	13.39	0.0	15.0
	64QAM	8	7	21.25	21.26	21.53	2.0	23.0	13.51	13.40	13.43	0.0	15.0
		15	0	21.17	21.13	21.42	2.0	23.0	13.48	13.28	13.25	0.0	15.0
		1	0	21.14	21.45	21.78	2.0	23.0	13.66	13.58	13.26	0.0	15.0
		1	8	21.14	21.41	21.92	2.0	23.0	13.51	13.67	13.27	0.0	15.0
		1	14	21.21	21.51	21.76	2.0	23.0	13.57	13.53	13.32	0.0	15.0
		8	0	20.10	20.04	20.40	3.0	22.0	13.30	13.30	13.22	0.0	15.0
	256QAM	8	4	20.20	20.13	20.46	3.0	22.0	13.26	13.36	13.23	0.0	15.0
		8	7	20.17	20.12	20.53	3.0	22.0	13.26	13.32	13.29	0.0	15.0
		15	0	20.16	20.21	20.43	3.0	22.0	13.37	13.25	13.16	0.0	15.0
		1	0	17.93	18.14	18.73	5.0	20.0	13.66	13.06	13.19	0.0	15.0
		1	8	17.92	18.24	18.76	5.0	20.0	13.53	13.01	13.28	0.0	15.0
		1	14	17.92	18.21	18.72	5.0	20.0	13.55	12.97	13.19	0.0	15.0
1.4 MHz	QPSK	8	0	18.03	18.22	18.37	5.0	20.0	13.41	13.17	13.23	0.0	15.0
		8	4	18.11	18.35	18.40	5.0	20.0	13.38	13.19	13.27	0.0	15.0
		8	7	18.13	18.37	18.47	5.0	20.0	13.40	13.20	13.37	0.0	15.0
		15	0	18.23	18.28	18.42	5.0	20.0	13.33	13.28	13.18	0.0	15.0
		1	0	22.93	23.06	23.12	0.0	25.0	13.31	13.25	13.16	0.0	15.0
		1	3	22.94	23.13	23.15	0.0	25.0	13.34	13.28	13.19	0.0	15.0
16QAM	1	5	22.96	23.07	23.14	0.0	25.0	13.28	13.23	13.17	0.0	15.0	
	3	0	22.94	23.00	23.21	0.0	25.0	13.29	13.16	13.18	0.0	15.0	
	3	1	22.99	23.04	23.28	0.0	25.0	13.33	13.20	13.27	0.0	15.0	
	3	3	22.99	23.04	23.27	0.0	25.0	13.30	13.22	13.25	0.0	15.0	
	6	0	22.07	22.04	22.32	1.0	24.0	13.39	13.24	13.24	0.0	15.0	
	1	0	21.91	22.18	22.72	1.0	24.0	13.33	13.36	13.54	0.0	15.0	
64QAM	1	3	22.02	22.30	22.78	1.0	24.0	13.40	13.46	13.60	0.0	15.0	
	1	5	21.97	22.23	22.74	1.0	24.0	13.34	13.33	13.55	0.0	15.0	
	3	0	22.17	22.11	22.42	1.0	24.0	13.55	13.30	13.42	0.0	15.0	
	3	1	22.20	22.11	22.45	1.0	24.0	13.54	13.29	13.40	0.0	15.0	
	3	3	22.22	22.21	22.41	1.0	24.0	13.60	13.37	13.42	0.0	15.0	
	6	0	21.21	21.21	21.22	2.0	23.0	13.56	13.38	13.10	0.0	15.0	
256QAM	1	0	21.51	21.09	21.39	2.0	23.0	13.35	13.53	13.49	0.0	15.0	
	1	3	21.53	21.23	21.53	2.0	23.0	13.49	13.49	13.49	0.0	15.0	
	1	5	21.55	21.16	21.48	2.0	23.0	13.67	13.66	13.63	0.0	15.0	
	3	0	21.26	21.17	21.19	2.0	23.0	13.49	13.49	13.48	0.0	15.0	
	3	1	21.35	21.27	21.26	2.0	23.0	13.42	13.45	13.43	0.0	15.0	
	3	3	21.34	21.27	21.25	2.0	23.0	13.43	13.44	13.42	0.0	15.0	
1.4 MHz	256QAM	6	0	20.03	20.41	20.39	3.0	22.0	13.30	13.30	13.25	0.0	15.0
		1	0	18.12	19.88	18.29	5.0	20.0	13.34	13.17	13.10	0.0	15.0
		1	3	18.25	17.98	18.46	5.0	20.0	13.40	13.33	13.30	0.0	15.0
		1	5	18.18	17.95	18.36	5.0	20.0	13.30	13.16	13.16	0.0	15.0
		3	0	17.94	17.94	18.30	5.0	20.0	13.22	13.06	13.02	0.0	15.0
		3	1	18.07	18.00	18.34	5.0	20.0	13.22	13.12	13.11	0.0	15.0
1.4 MHz	256QAM	3	3	18.00	18.04	18.35	5.0	20.0	13.19	13.06	13.03	0.0	15.0
		6	0	18.05	18.16	18.36	5.0	20.0	13.14	13.06	13.07	0.0	15.0

LTE Band 13 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)											
				DSI = 0				DSI = 1							
				Measured Pwr (dBm)			MFR	Tune-up Limit	Measured Pwr (dBm)			MFR	Tune-up Limit		
				23230	782 MHz				23230	782 MHz					
10 MHz	QPSK	1	0			23.80		0.0	25.0			13.87		0.0	15.0
		1	25			23.75		0.0	25.0			13.77		0.0	15.0
		1	49			23.64		0.0	25.0			13.69		0.0	15.0
		25	0			22.86		1.0	24.0			13.87		0.0	15.0
		25	12			22.85		1.0	24.0			13.86		0.0	15.0
		25	25			22.72		1.0	24.0			13.82		0.0	15.0
	50	0			22.81		1.0	24.0			13.83		0.0	15.0	
	16QAM	1	0			22.87		1.0	24.0			14.19		0.0	15.0
		1	25			22.81		1.0	24.0			14.18		0.0	15.0
		1	49			22.67		1.0	24.0			14.13		0.0	15.0
		25	0			21.97		2.0	23.0			13.93		0.0	15.0
		25	12			21.95		2.0	23.0			13.94		0.0	15.0
		25	25			21.82		2.0	23.0			13.88		0.0	15.0
	50	0			21.81		2.0	23.0			13.87		0.0	15.0	
	64QAM	1	0			22.26		2.0	23.0			13.90		0.0	15.0
		1	25			22.21		2.0	23.0			13.97		0.0	15.0
		1	49			22.04		2.0	23.0			13.97		0.0	15.0
		25	0			20.91		3.0	22.0			13.61		0.0	15.0
		25	12			20.89		3.0	22.0			13.65		0.0	15.0
		25	25			20.76		3.0	22.0			13.70		0.0	15.0
50	0			20.79		3.0	22.0			13.59		0.0	15.0		
256QAM	1	0			19.04		5.0	20.0			13.32		0.0	15.0	
	1	25			19.26		5.0	20.0			13.71		0.0	15.0	
	1	49			18.97		5.0	20.0			13.45		0.0	15.0	
	25	0			18.83		5.0	20.0			13.65		0.0	15.0	
	25	12			18.86		5.0	20.0			13.77		0.0	15.0	
	25	25			18.71		5.0	20.0			13.76		0.0	15.0	
50	0			18.81		5.0	20.0			13.66		0.0	15.0		
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)											
				23205	23230	23255	MFR	Tune-up Limit	23205	23230	23255	MFR	Tune-up Limit		
				779.5 MHz	782 MHz	784.5 MHz			779.5 MHz	782 MHz	784.5 MHz				
				Measured Pwr (dBm)			MFR	Tune-up Limit	Measured Pwr (dBm)			MFR	Tune-up Limit		
23205	23230	23255	779.5 MHz	782 MHz	784.5 MHz										
5 MHz	QPSK	1	0			23.84		0.0	25.0			13.73		0.0	15.0
		1	12			23.75		0.0	25.0			13.71		0.0	15.0
		1	24			23.71		0.0	25.0			13.71		0.0	15.0
		12	0			22.76		1.0	24.0			13.71		0.0	15.0
		12	7			22.85		1.0	24.0			13.77		0.0	15.0
		12	13			22.70		1.0	24.0			13.81		0.0	15.0
	25	0			22.80		1.0	24.0			13.81		0.0	15.0	
	16QAM	1	0			23.30		1.0	24.0			14.28		0.0	15.0
		1	12			23.34		1.0	24.0			14.29		0.0	15.0
		1	24			23.24		1.0	24.0			14.28		0.0	15.0
		12	0			21.94		2.0	23.0			13.89		0.0	15.0
		12	7			21.99		2.0	23.0			13.91		0.0	15.0
		12	13			21.84		2.0	23.0			13.97		0.0	15.0
	25	0			21.88		2.0	23.0			13.84		0.0	15.0	
	64QAM	1	0			21.81		2.0	23.0			13.88		0.0	15.0
		1	12			21.82		2.0	23.0			13.93		0.0	15.0
		1	24			21.65		2.0	23.0			13.91		0.0	15.0
		12	0			20.85		3.0	22.0			13.66		0.0	15.0
		12	7			20.90		3.0	22.0			13.72		0.0	15.0
		12	13			20.76		3.0	22.0			13.78		0.0	15.0
25	0			20.77		3.0	22.0			13.62		0.0	15.0		
256QAM	1	0			18.53		5.0	20.0			13.68		0.0	15.0	
	1	12			18.60		5.0	20.0			13.80		0.0	15.0	
	1	24			18.47		5.0	20.0			13.81		0.0	15.0	
	12	0			18.81		5.0	20.0			13.64		0.0	15.0	
	12	7			18.82		5.0	20.0			13.66		0.0	15.0	
	12	13			18.75		5.0	20.0			13.73		0.0	15.0	
25	0			18.89		5.0	20.0			13.62		0.0	15.0		

LTE Band 14 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23230	782 MHz				23230	782 MHz			
10 MHz	QPSK	1	0		23.63		0.0	25.0		15.72		0.0	17.0
		1	25		23.59		0.0	25.0		15.62		0.0	17.0
		1	49		23.49		0.0	25.0		15.51		0.0	17.0
		25	0		22.58		1.0	24.0		15.66		0.0	17.0
		25	12		22.61		1.0	24.0		15.70		0.0	17.0
	16QAM	25	25		22.46		1.0	24.0		15.56		0.0	17.0
		50	0		22.52		1.0	24.0		15.63		0.0	17.0
		1	0		22.63		1.0	24.0		15.83		0.0	17.0
		1	25		22.56		1.0	24.0		15.71		0.0	17.0
		1	49		22.43		1.0	24.0		15.58		0.0	17.0
	64QAM	25	0		21.65		2.0	23.0		15.78		0.0	17.0
		25	12		21.68		2.0	23.0		15.80		0.0	17.0
		25	25		21.58		2.0	23.0		15.67		0.0	17.0
		50	0		21.56		2.0	23.0		15.69		0.0	17.0
		1	0		22.00		2.0	23.0		15.89		0.0	17.0
	256QAM	1	25		22.02		2.0	23.0		15.74		0.0	17.0
		1	49		21.84		2.0	23.0		15.92		0.0	17.0
		25	0		20.65		3.0	22.0		15.76		0.0	17.0
		25	12		20.68		3.0	22.0		15.78		0.0	17.0
		25	25		20.56		3.0	22.0		15.68		0.0	17.0
10 MHz	256QAM	50	0		20.55		3.0	22.0		15.69		0.0	17.0
		1	0		18.83		5.0	20.0		15.88		0.0	17.0
		1	25		19.11		5.0	20.0		15.88		0.0	17.0
		1	49		18.82		5.0	20.0		15.90		0.0	17.0
		25	0		18.63		5.0	20.0		15.75		0.0	17.0
10 MHz	256QAM	25	12		18.67		5.0	20.0		15.81		0.0	17.0
		25	25		18.58		5.0	20.0		15.70		0.0	17.0
		50	0		18.60		5.0	20.0		15.67		0.0	17.0
		1	0		23.63		0.0	25.0		15.72		0.0	17.0
		1	25		23.59		0.0	25.0		15.62		0.0	17.0
5 MHz	QPSK	1	0		23.64		0.0	25.0		15.78		0.0	17.0
		1	12		23.55		0.0	25.0		15.75		0.0	17.0
		1	24		23.48		0.0	25.0		15.61		0.0	17.0
		12	0		22.58		1.0	24.0		15.75		0.0	17.0
		12	7		22.58		1.0	24.0		15.76		0.0	17.0
	16QAM	12	13		22.49		1.0	24.0		15.64		0.0	17.0
		25	0		22.54		1.0	24.0		15.67		0.0	17.0
		1	0		22.75		1.0	24.0		15.93		0.0	17.0
		1	12		22.68		1.0	24.0		15.77		0.0	17.0
		1	24		22.62		1.0	24.0		15.79		0.0	17.0
	64QAM	12	0		21.64		2.0	23.0		15.84		0.0	17.0
		12	7		21.71		2.0	23.0		15.79		0.0	17.0
		12	13		21.56		2.0	23.0		15.72		0.0	17.0
		25	0		21.58		2.0	23.0		15.67		0.0	17.0
		1	0		21.59		2.0	23.0		15.75		0.0	17.0
	256QAM	1	12		21.64		2.0	23.0		15.79		0.0	17.0
		1	24		21.44		2.0	23.0		15.59		0.0	17.0
		12	0		20.65		3.0	22.0		15.78		0.0	17.0
		12	7		20.63		3.0	22.0		15.75		0.0	17.0
		12	13		20.54		3.0	22.0		15.67		0.0	17.0
5 MHz	256QAM	25	0		20.55		3.0	22.0		15.69		0.0	17.0
		1	0		18.30		5.0	20.0		15.76		0.0	17.0
		1	12		18.46		5.0	20.0		15.94		0.0	17.0
		1	24		18.19		5.0	20.0		15.63		0.0	17.0
		12	0		18.64		5.0	20.0		15.77		0.0	17.0
5 MHz	256QAM	12	7		18.61		5.0	20.0		15.77		0.0	17.0
		12	13		18.52		5.0	20.0		15.69		0.0	17.0
		25	0		18.62		5.0	20.0		15.73		0.0	17.0
		1	0		23.63		0.0	25.0		15.72		0.0	17.0
		1	25		23.59		0.0	25.0		15.62		0.0	17.0

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26140 1860 MHz	26365 1882.5 MHz	26590 1905 MHz			26140 1860 MHz	26365 1882.5 MHz	26590 1905 MHz		
20 MHz	QPSK	1	0	22.64	22.65	22.62	0.0	23.5	11.84	11.96	11.91	0.0	13.0
		1	49	22.60	22.63	22.53	0.0	23.5	11.88	11.95	11.80	0.0	13.0
		1	99	22.63	22.68	22.51	0.0	23.5	11.92	12.12	11.78	0.0	13.0
		50	0	21.63	21.70	21.61	1.0	22.5	11.92	11.97	11.97	0.0	13.0
		50	24	21.70	21.70	21.59	1.0	22.5	11.99	11.98	11.96	0.0	13.0
		50	50	21.69	21.71	21.61	1.0	22.5	12.00	12.01	11.87	0.0	13.0
	16QAM	100	0	21.62	21.61	21.56	1.0	22.5	11.91	11.89	11.85	0.0	13.0
		1	0	22.15	22.12	22.04	1.0	22.5	12.29	12.39	12.44	0.0	13.0
		1	49	22.17	22.09	21.96	1.0	22.5	12.30	12.39	12.39	0.0	13.0
		1	99	22.20	22.13	21.92	1.0	22.5	12.35	12.37	12.35	0.0	13.0
		50	0	20.63	20.70	20.61	2.0	21.5	11.92	11.98	12.03	0.0	13.0
		50	24	20.71	20.74	20.62	2.0	21.5	11.99	11.97	11.98	0.0	13.0
	64QAM	50	50	20.71	20.69	20.60	2.0	21.5	12.00	11.96	11.91	0.0	13.0
		100	0	20.64	20.62	20.58	2.0	21.5	11.88	11.87	11.89	0.0	13.0
		1	0	20.03	20.53	20.27	2.0	21.5	12.12	12.26	12.49	0.0	13.0
		1	49	20.14	20.53	20.25	2.0	21.5	12.21	12.41	12.49	0.0	13.0
		1	99	20.17	20.66	20.26	2.0	21.5	12.26	12.35	12.43	0.0	13.0
		50	0	18.73	18.89	18.92	3.0	20.5	11.93	12.05	12.01	0.0	13.0
	256QAM	50	24	18.86	18.89	18.97	3.0	20.5	12.02	12.06	11.99	0.0	13.0
		50	50	18.86	18.97	18.92	3.0	20.5	12.03	12.06	11.91	0.0	13.0
		100	0	18.77	18.77	18.85	3.0	20.5	11.90	11.92	11.87	0.0	13.0
		1	0	16.25	16.63	16.63	5.0	18.5	11.41	11.75	11.74	0.0	13.0
		1	49	16.71	17.11	17.07	5.0	18.5	11.87	12.21	12.06	0.0	13.0
		1	99	16.57	16.89	16.82	5.0	18.5	11.70	11.86	11.74	0.0	13.0
20 MHz	256QAM	50	0	16.65	16.74	16.70	5.0	18.5	11.85	11.81	11.82	0.0	13.0
		50	24	16.90	16.92	16.87	5.0	18.5	12.07	11.98	11.97	0.0	13.0
		50	50	16.87	16.95	16.87	5.0	18.5	12.03	11.94	11.83	0.0	13.0
		100	0	16.78	16.79	16.81	5.0	18.5	11.94	11.88	11.85	0.0	13.0
		1	0	22.65	22.96	22.93	0.0	23.5	11.57	11.99	11.85	0.0	13.0
		1	37	22.97	22.94	22.85	0.0	23.5	11.88	12.00	11.78	0.0	13.0
15 MHz	QPSK	1	74	22.94	22.99	22.88	0.0	23.5	11.85	11.98	11.76	0.0	13.0
		36	0	21.85	21.92	21.82	1.0	22.5	11.79	11.86	11.81	0.0	13.0
		36	20	22.07	22.03	21.90	1.0	22.5	11.99	11.99	11.92	0.0	13.0
		36	39	22.04	22.10	21.91	1.0	22.5	11.97	11.99	11.92	0.0	13.0
		75	0	21.95	21.94	21.86	1.0	22.5	11.91	11.92	11.87	0.0	13.0
		1	0	22.08	22.00	22.46	1.0	22.5	11.99	12.44	11.82	0.0	13.0
	16QAM	1	37	22.45	21.98	22.40	1.0	22.5	12.29	12.47	11.78	0.0	13.0
		1	74	22.32	21.99	22.35	1.0	22.5	12.23	12.42	11.76	0.0	13.0
		36	0	20.92	20.92	20.81	2.0	21.5	11.81	11.87	11.81	0.0	13.0
		36	20	21.11	21.03	20.87	2.0	21.5	12.03	11.96	11.91	0.0	13.0
		36	39	21.11	21.11	20.88	2.0	21.5	12.04	11.94	11.90	0.0	13.0
		75	0	20.99	20.98	20.90	2.0	21.5	11.92	11.92	11.85	0.0	13.0
	64QAM	1	0	21.29	21.35	21.14	2.0	21.5	12.16	12.29	12.06	0.0	13.0
		1	37	21.35	21.37	21.07	2.0	21.5	12.51	12.32	11.94	0.0	13.0
		1	74	21.11	21.41	21.08	2.0	21.5	12.45	12.26	11.83	0.0	13.0
		36	0	19.87	20.00	19.99	3.0	20.5	11.79	11.92	11.90	0.0	13.0
		36	20	20.08	20.09	20.10	3.0	20.5	12.00	12.03	11.98	0.0	13.0
		36	39	20.05	20.17	20.04	3.0	20.5	11.98	12.03	11.97	0.0	13.0
	256QAM	75	0	20.05	19.99	19.99	3.0	20.5	11.98	11.92	11.91	0.0	13.0
		1	0	17.41	17.95	18.02	5.0	18.5	11.90	12.17	11.50	0.0	13.0
		1	37	17.76	18.28	18.23	5.0	18.5	12.25	12.43	11.66	0.0	13.0
		1	74	17.69	18.18	18.12	5.0	18.5	12.16	12.27	11.49	0.0	13.0
		36	0	17.72	17.77	17.80	5.0	18.5	11.78	11.89	11.86	0.0	13.0
		36	20	17.90	17.90	17.90	5.0	18.5	11.99	12.04	11.95	0.0	13.0
20 MHz	256QAM	36	39	17.91	17.96	17.87	5.0	18.5	12.00	12.01	11.94	0.0	13.0
		75	0	17.83	17.87	17.83	5.0	18.5	11.94	11.96	11.87	0.0	13.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26090	26365	26640			26090	26365	26640		
				1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	22.75	22.78	22.89	0.0	23.5	11.61	11.72	11.93	0.0	13.0
		1	25	22.99	23.02	22.85	0.0	23.5	11.89	12.02	11.90	0.0	13.0
		1	49	22.84	22.85	22.82	0.0	23.5	11.69	11.78	11.90	0.0	13.0
		25	0	21.93	21.96	21.92	1.0	22.5	11.85	11.95	11.92	0.0	13.0
		25	12	22.14	22.07	22.01	1.0	22.5	12.02	12.07	11.97	0.0	13.0
		25	25	22.10	22.14	21.96	1.0	22.5	12.01	12.01	11.93	0.0	13.0
		50	0	22.07	22.01	21.97	1.0	22.5	11.98	12.02	11.93	0.0	13.0
	16QAM	1	0	22.14	21.82	22.01	1.0	22.5	11.73	11.74	12.36	0.0	13.0
		1	25	22.45	22.03	21.96	1.0	22.5	11.97	12.00	12.34	0.0	13.0
		1	49	22.28	21.79	21.89	1.0	22.5	11.84	11.73	12.35	0.0	13.0
		25	0	20.99	21.00	21.02	2.0	21.5	11.96	11.98	11.92	0.0	13.0
		25	12	21.21	21.15	21.12	2.0	21.5	12.12	12.13	12.06	0.0	13.0
		25	25	21.15	21.17	21.07	2.0	21.5	12.08	12.03	12.00	0.0	13.0
		50	0	21.07	21.00	21.00	2.0	21.5	12.01	12.00	11.92	0.0	13.0
	64QAM	1	0	21.04	21.21	21.24	2.0	21.5	11.85	12.08	12.03	0.0	13.0
		1	25	21.35	21.35	21.22	2.0	21.5	12.18	12.48	11.99	0.0	13.0
		1	49	21.13	21.29	21.21	2.0	21.5	11.99	12.15	12.04	0.0	13.0
		25	0	20.05	20.03	20.05	3.0	20.5	12.00	12.03	12.00	0.0	13.0
		25	12	20.24	20.18	20.11	3.0	20.5	12.15	12.15	12.05	0.0	13.0
		25	25	20.18	20.18	20.11	3.0	20.5	12.07	12.06	12.00	0.0	13.0
		50	0	20.09	20.04	20.02	3.0	20.5	11.99	12.04	11.97	0.0	13.0
	256QAM	1	0	17.68	18.22	17.36	5.0	18.5	11.77	12.31	11.53	0.0	13.0
		1	25	18.05	18.44	17.73	5.0	18.5	12.07	12.58	11.69	0.0	13.0
		1	49	17.79	18.35	17.53	5.0	18.5	11.88	12.35	11.45	0.0	13.0
25		0	17.89	17.95	17.85	5.0	18.5	11.98	12.05	11.95	0.0	13.0	
25		12	18.10	18.02	17.95	5.0	18.5	12.21	12.16	12.08	0.0	13.0	
25		25	18.07	18.05	17.91	5.0	18.5	12.13	12.08	12.00	0.0	13.0	
	50	0	17.96	17.94	17.86	5.0	18.5	12.02	12.06	11.94	0.0	13.0	
5 MHz	QPSK	1	0	22.91	23.01	23.00	0.0	23.5	11.91	12.06	11.89	0.0	13.0
		1	12	22.94	23.08	22.91	0.0	23.5	12.00	12.12	11.85	0.0	13.0
		1	24	23.04	23.14	22.95	0.0	23.5	12.00	12.18	11.86	0.0	13.0
		12	0	22.08	22.04	21.95	1.0	22.5	12.03	12.00	11.93	0.0	13.0
		12	7	22.14	22.11	21.99	1.0	22.5	12.05	12.04	12.01	0.0	13.0
		12	13	22.12	22.18	22.01	1.0	22.5	12.07	12.16	11.96	0.0	13.0
		25	0	22.10	22.05	22.00	1.0	22.5	12.03	12.07	11.96	0.0	13.0
	16QAM	1	0	22.50	22.17	22.10	1.0	22.5	12.12	12.18	12.49	0.0	13.0
		1	12	22.44	22.18	22.01	1.0	22.5	12.15	12.26	12.46	0.0	13.0
		1	24	22.25	22.27	22.09	1.0	22.5	12.22	12.32	12.47	0.0	13.0
		12	0	21.23	21.06	21.04	2.0	21.5	12.02	12.08	12.11	0.0	13.0
		12	7	21.27	21.13	21.10	2.0	21.5	12.10	12.16	12.14	0.0	13.0
		12	13	21.26	21.19	21.10	2.0	21.5	12.09	12.22	12.12	0.0	13.0
		25	0	21.16	21.01	21.01	2.0	21.5	11.95	12.06	12.02	0.0	13.0
	64QAM	1	0	21.18	20.96	21.41	2.0	21.5	12.13	11.86	12.33	0.0	13.0
		1	12	21.33	21.10	21.43	2.0	21.5	12.27	12.12	12.35	0.0	13.0
		1	24	21.34	21.10	21.36	2.0	21.5	12.29	12.06	12.33	0.0	13.0
		12	0	20.18	20.10	20.00	3.0	20.5	12.07	12.08	11.92	0.0	13.0
		12	7	20.23	20.18	20.07	3.0	20.5	12.08	12.13	11.98	0.0	13.0
		12	13	20.20	20.23	20.06	3.0	20.5	12.11	12.21	11.98	0.0	13.0
		25	0	20.14	20.03	19.98	3.0	20.5	12.06	12.03	11.93	0.0	13.0
	256QAM	1	0	17.94	17.65	17.97	5.0	18.5	11.95	11.76	12.06	0.0	13.0
		1	12	18.07	17.81	18.02	5.0	18.5	12.13	11.94	12.09	0.0	13.0
		1	24	18.07	17.78	18.05	5.0	18.5	12.10	11.90	12.13	0.0	13.0
12		0	17.97	17.92	17.86	5.0	18.5	12.00	12.07	11.97	0.0	13.0	
12		7	18.03	17.96	17.93	5.0	18.5	12.07	12.11	12.04	0.0	13.0	
12		13	18.03	18.03	17.91	5.0	18.5	12.08	12.19	12.03	0.0	13.0	
	25	0	18.02	17.99	17.85	5.0	18.5	12.09	12.12	11.96	0.0	13.0	

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pw r (dBm)			MPR	Tune-up Limit	Measured Pw r (dBm)			MPR	Tune-up Limit	
				26055	26365	26675			26055	26365	26675			
				1851.5 MHz	1882.5 MHz	1913.5 MHz			1851.5 MHz	1882.5 MHz	1913.5 MHz			
3 MHz	QPSK	1	0	22.93	22.98	22.90	0.0	23.5	11.86	11.96	11.90	0.0	13.0	
		1	8	22.86	22.97	22.83	0.0	23.5	11.82	11.96	11.90	0.0	13.0	
		1	14	22.99	23.11	22.91	0.0	23.5	11.94	12.12	11.96	0.0	13.0	
		8	0	22.05	22.02	21.97	1.0	22.5	11.96	12.00	11.94	0.0	13.0	
		8	4	22.08	22.16	22.01	1.0	22.5	12.00	12.04	11.96	0.0	13.0	
		8	7	22.11	22.16	22.02	1.0	22.5	12.00	12.17	12.01	0.0	13.0	
	15	0	22.08	22.08	22.00	1.0	22.5	11.99	12.05	11.96	0.0	13.0		
	16QAM	1	0	22.09	21.95	21.93	1.0	22.5	12.04	11.91	12.30	0.0	13.0	
		1	8	22.07	22.01	21.94	1.0	22.5	12.03	12.03	12.31	0.0	13.0	
		1	14	22.11	22.03	22.00	1.0	22.5	12.07	12.00	12.38	0.0	13.0	
		8	0	21.06	21.15	20.99	2.0	21.5	11.97	12.15	11.92	0.0	13.0	
		8	4	21.17	21.27	21.09	2.0	21.5	12.11	12.21	12.03	0.0	13.0	
		8	7	21.21	21.31	21.12	2.0	21.5	12.11	12.31	12.07	0.0	13.0	
	15	0	21.04	21.11	20.99	2.0	21.5	12.02	12.11	12.02	0.0	13.0		
	64QAM	1	0	21.07	21.46	21.44	2.0	21.5	12.34	12.40	11.99	0.0	13.0	
		1	8	21.18	21.41	21.35	2.0	21.5	12.25	12.47	12.02	0.0	13.0	
		1	14	21.19	21.33	21.47	2.0	21.5	12.41	12.46	12.07	0.0	13.0	
		8	0	20.11	20.04	20.04	3.0	20.5	11.97	12.06	11.96	0.0	13.0	
		8	4	20.14	20.13	20.12	3.0	20.5	12.00	12.17	12.00	0.0	13.0	
		8	7	20.18	20.15	20.13	3.0	20.5	12.01	12.22	11.99	0.0	13.0	
	15	0	20.14	20.12	20.03	3.0	20.5	12.04	12.07	11.98	0.0	13.0		
256QAM	1	0	18.45	17.71	17.83	5.0	18.5	12.01	12.45	11.75	0.0	13.0		
	1	8	18.25	17.78	17.94	5.0	18.5	12.09	12.55	11.76	0.0	13.0		
	1	14	18.47	17.79	17.88	5.0	18.5	12.08	12.57	11.77	0.0	13.0		
	8	0	18.03	17.79	17.94	5.0	18.5	12.07	12.07	11.83	0.0	13.0		
	8	4	18.08	17.94	18.04	5.0	18.5	12.17	12.11	11.90	0.0	13.0		
	8	7	18.09	17.94	18.07	5.0	18.5	12.21	12.22	11.93	0.0	13.0		
15	0	18.07	18.00	18.00	5.0	18.5	12.10	12.09	12.02	0.0	13.0			
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pw r (dBm)			MPR	Tune-up Limit	Measured Pw r (dBm)			MPR	Tune-up Limit	
				26047	26365	26683			26047	26365	26683			
				1850.7 MHz	1882.5 MHz	1914.3 MHz			1850.7 MHz	1882.5 MHz	1914.3 MHz			
1.4 MHz	QPSK	1	0	22.91	23.03	22.76	0.0	23.5	11.84	11.91	11.84	0.0	13.0	
		1	3	22.99	23.04	22.80	0.0	23.5	11.86	11.96	11.91	0.0	13.0	
		1	5	22.93	23.04	22.75	0.0	23.5	11.86	11.91	11.87	0.0	13.0	
		3	0	22.91	22.90	22.79	0.0	23.5	11.85	11.88	11.78	0.0	13.0	
		3	1	22.94	22.99	22.85	0.0	23.5	11.91	11.94	11.85	0.0	13.0	
		3	3	22.91	23.02	22.87	0.0	23.5	11.91	11.95	11.81	0.0	13.0	
	16QAM	6	0	21.99	22.02	21.91	1.0	22.5	11.96	11.99	11.86	0.0	13.0	
		1	0	22.02	22.13	22.31	1.0	22.5	12.24	12.02	11.99	0.0	13.0	
		1	3	22.08	22.22	22.32	1.0	22.5	12.26	12.08	12.09	0.0	13.0	
		1	5	22.03	22.19	22.31	1.0	22.5	12.28	12.05	12.02	0.0	13.0	
		3	0	22.17	22.04	22.05	1.0	22.5	12.07	12.22	11.92	0.0	13.0	
		3	1	22.17	22.05	22.10	1.0	22.5	12.11	12.22	12.01	0.0	13.0	
	64QAM	3	3	22.23	22.10	22.04	1.0	22.5	12.09	12.27	12.01	0.0	13.0	
		6	0	21.18	21.19	20.78	2.0	21.5	11.78	12.18	12.00	0.0	13.0	
		1	0	21.32	21.09	21.15	2.0	21.5	12.02	12.21	12.37	0.0	13.0	
		1	3	21.46	21.17	21.24	2.0	21.5	12.08	12.33	12.49	0.0	13.0	
		1	5	21.35	21.10	21.19	2.0	21.5	12.03	12.30	12.38	0.0	13.0	
		3	0	21.32	21.13	20.90	2.0	21.5	12.02	11.98	12.16	0.0	13.0	
	256QAM	3	1	21.35	21.24	20.89	2.0	21.5	12.09	12.02	12.19	0.0	13.0	
		3	3	21.35	21.23	20.91	2.0	21.5	12.12	12.01	12.23	0.0	13.0	
		6	0	20.06	20.37	20.02	3.0	20.5	12.24	12.13	11.84	0.0	13.0	
		1	0	18.17	18.22	18.05	5.0	18.5	12.10	11.95	12.08	0.0	13.0	
		1	3	18.29	18.35	18.16	5.0	18.5	12.22	11.89	12.22	0.0	13.0	
		1	5	18.16	18.23	18.06	5.0	18.5	12.10	11.85	12.07	0.0	13.0	
	1.4 MHz	256QAM	3	0	17.84	17.93	17.75	5.0	18.5	11.86	11.80	11.83	0.0	13.0
			3	1	17.91	17.98	17.88	5.0	18.5	11.92	11.81	11.89	0.0	13.0
			3	3	17.86	17.95	17.78	5.0	18.5	11.89	11.83	11.91	0.0	13.0
6			0	17.86	17.92	17.80	5.0	18.5	11.88	11.77	11.84	0.0	13.0	

LTE Band 26 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
				DSI = 0				DSI = 1						
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				26765	26865	26965			26765	26865	26965			
	821.5 MHz	831.5 MHz	841.5 MHz		821.5 MHz	831.5 MHz	841.5 MHz							
15 MHz	QPSK	1	0		23.37		0.0	25.0		15.18		0.0	17.0	
		1	37		23.44		0.0	25.0		15.40		0.0	17.0	
		1	74		23.19		0.0	25.0		15.19		0.0	17.0	
		36	0		22.28		1.0	24.0		15.15		0.0	17.0	
		36	20		22.23		1.0	24.0		15.25		0.0	17.0	
		36	39		22.29		1.0	24.0		15.27		0.0	17.0	
	16QAM	75	0		22.25		1.0	24.0		15.18		0.0	17.0	
		1	0		22.77		1.0	24.0		15.65		0.0	17.0	
		1	37		22.67		1.0	24.0		15.69		0.0	17.0	
		1	74		22.63		1.0	24.0		15.60		0.0	17.0	
		36	0		21.30		2.0	23.0		15.22		0.0	17.0	
		36	20		21.31		2.0	23.0		15.29		0.0	17.0	
	64QAM	36	39		21.24		2.0	23.0		15.33		0.0	17.0	
		75	0		21.29		2.0	23.0		15.20		0.0	17.0	
		1	0		21.77		2.0	23.0		15.73		0.0	17.0	
		1	37		21.61		2.0	23.0		15.84		0.0	17.0	
		1	74		21.53		2.0	23.0		15.76		0.0	17.0	
		36	0		20.36		3.0	22.0		15.14		0.0	17.0	
	256QAM	36	20		20.39		3.0	22.0		15.22		0.0	17.0	
		36	39		20.34		3.0	22.0		15.26		0.0	17.0	
		75	0		20.30		3.0	22.0		15.18		0.0	17.0	
1		0		18.58		5.0	20.0		15.54		0.0	17.0		
1		37		18.65		5.0	20.0		15.63		0.0	17.0		
1		74		18.52		5.0	20.0		15.49		0.0	17.0		
10 MHz	QPSK	36	0		18.29		5.0	20.0		15.26		0.0	17.0	
		36	20		18.38		5.0	20.0		15.30		0.0	17.0	
		36	39		18.28		5.0	20.0		15.25		0.0	17.0	
		75	0		18.27		5.0	20.0		15.26		0.0	17.0	
		1	0		23.78	23.59	23.46	0.0	25.0	15.37	15.33	15.41	0.0	17.0
		1	25		23.69	23.45	23.36	0.0	25.0	15.27	15.35	15.33	0.0	17.0
	16QAM	1	49		23.60	23.48	23.29	0.0	25.0	15.30	15.39	15.28	0.0	17.0
		25	0		22.71	22.47	22.26	1.0	24.0	15.32	15.29	15.21	0.0	17.0
		25	12		22.82	22.59	22.37	1.0	24.0	15.43	15.42	15.31	0.0	17.0
		25	25		22.72	22.50	22.36	1.0	24.0	15.35	15.44	15.30	0.0	17.0
		50	0		22.73	22.51	22.29	1.0	24.0	15.37	15.35	15.22	0.0	17.0
		1	0		22.89	22.60	22.84	1.0	24.0	15.55	15.38	15.82	0.0	17.0
	64QAM	1	25		22.79	22.47	22.79	1.0	24.0	15.41	15.40	15.75	0.0	17.0
		1	49		22.65	22.43	22.74	1.0	24.0	15.41	15.38	15.72	0.0	17.0
		25	0		21.82	21.49	21.28	2.0	23.0	15.45	15.36	15.26	0.0	17.0
		25	12		21.94	21.62	21.38	2.0	23.0	15.53	15.49	15.36	0.0	17.0
		25	25		21.85	21.52	21.39	2.0	23.0	15.47	15.49	15.38	0.0	17.0
		50	0		21.76	21.49	21.25	2.0	23.0	15.39	15.37	15.25	0.0	17.0
	256QAM	1	0		22.25	21.95	22.01	2.0	23.0	15.62	15.62	15.68	0.0	17.0
		1	25		22.16	21.96	22.02	2.0	23.0	15.45	15.66	15.65	0.0	17.0
		1	49		22.11	21.99	21.92	2.0	23.0	15.53	15.62	15.60	0.0	17.0
25		0		20.76	20.75	20.70	3.0	22.0	15.40	15.40	15.24	0.0	17.0	
25		12		20.84	20.84	20.84	3.0	22.0	15.48	15.54	15.36	0.0	17.0	
25		25		20.75	20.85	20.82	3.0	22.0	15.39	15.52	15.36	0.0	17.0	
16QAM	50	0		20.73	20.74	20.60	3.0	22.0	15.37	15.35	15.21	0.0	17.0	
	1	0		18.34	18.84	18.57	5.0	20.0	15.39	15.64	15.40	0.0	17.0	
	1	25		18.59	19.04	18.41	5.0	20.0	15.64	15.62	15.62	0.0	17.0	
	1	49		18.36	18.91	18.23	5.0	20.0	15.41	15.28	15.40	0.0	17.0	
	25	0		18.61	18.57	18.54	5.0	20.0	15.61	15.54	15.62	0.0	17.0	
	25	12		18.69	18.67	18.70	5.0	20.0	15.72	15.68	15.73	0.0	17.0	
16QAM	25	25		18.62	18.57	18.59	5.0	20.0	15.62	15.67	15.63	0.0	17.0	
	50	0		18.54	18.57	18.55	5.0	20.0	15.57	15.53	15.57	0.0	17.0	

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26715	26865	27015			26715	26865	27015		
				816.5 MHz	831.5 MHz	846.5 MHz			816.5 MHz	831.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	23.75	23.57	23.40	0.0	25.0	15.39	15.54	15.32	0.0	17.0
		1	12	23.83	23.54	23.27	0.0	25.0	15.46	15.55	15.26	0.0	17.0
		1	24	23.74	23.54	23.27	0.0	25.0	15.35	15.53	15.25	0.0	17.0
		12	0	22.86	22.51	22.32	1.0	24.0	15.43	15.37	15.31	0.0	17.0
		12	7	22.91	22.57	22.40	1.0	24.0	15.51	15.43	15.40	0.0	17.0
		12	13	22.89	22.53	22.36	1.0	24.0	15.45	15.49	15.33	0.0	17.0
		25	0	22.83	22.54	22.32	1.0	24.0	15.44	15.39	15.31	0.0	17.0
	16QAM	1	0	22.82	22.72	22.88	1.0	24.0	15.56	15.67	15.80	0.0	17.0
		1	12	22.92	22.64	22.85	1.0	24.0	15.61	15.63	15.88	0.0	17.0
		1	24	22.87	22.69	22.85	1.0	24.0	15.57	15.68	15.85	0.0	17.0
		12	0	21.85	21.61	21.47	2.0	23.0	15.49	15.47	15.48	0.0	17.0
		12	7	21.92	21.69	21.52	2.0	23.0	15.58	15.55	15.56	0.0	17.0
		12	13	21.89	21.63	21.45	2.0	23.0	15.55	15.57	15.51	0.0	17.0
		25	0	21.79	21.56	21.38	2.0	23.0	15.43	15.43	15.36	0.0	17.0
	64QAM	1	0	21.74	22.16	22.03	2.0	23.0	15.68	15.66	15.32	0.0	17.0
		1	12	21.82	22.24	21.96	2.0	23.0	15.77	15.72	15.32	0.0	17.0
		1	24	21.71	22.24	21.93	2.0	23.0	15.63	15.71	15.22	0.0	17.0
		12	0	20.91	20.78	20.81	3.0	22.0	15.42	15.43	15.38	0.0	17.0
		12	7	20.95	20.81	20.80	3.0	22.0	15.42	15.48	15.43	0.0	17.0
		12	13	20.88	20.85	20.79	3.0	22.0	15.38	15.58	15.38	0.0	17.0
		25	0	20.81	20.70	20.73	3.0	22.0	15.39	15.39	15.31	0.0	17.0
	256QAM	1	0	18.66	18.64	18.56	5.0	20.0	15.67	15.65	15.67	0.0	17.0
		1	12	18.77	18.81	18.75	5.0	20.0	15.79	15.76	15.76	0.0	17.0
		1	24	18.65	18.77	18.62	5.0	20.0	15.64	15.60	15.62	0.0	17.0
		12	0	18.66	18.62	18.65	5.0	20.0	15.67	15.66	15.68	0.0	17.0
12		7	18.70	18.68	18.71	5.0	20.0	15.72	15.68	15.71	0.0	17.0	
12		13	18.64	18.73	18.63	5.0	20.0	15.67	15.65	15.67	0.0	17.0	
25		0	18.64	18.59	18.63	5.0	20.0	15.66	15.65	15.67	0.0	17.0	
3 MHz	QPSK	1	0	23.78	23.52	23.33	0.0	25.0	15.40	15.40	15.36	0.0	17.0
		1	8	23.69	23.39	23.28	0.0	25.0	15.40	15.33	15.26	0.0	17.0
		1	14	23.75	23.51	23.31	0.0	25.0	15.37	15.45	15.27	0.0	17.0
		8	0	22.85	22.50	22.30	1.0	24.0	15.48	15.42	15.30	0.0	17.0
		8	4	22.89	22.57	22.37	1.0	24.0	15.51	15.46	15.35	0.0	17.0
		8	7	22.88	22.57	22.36	1.0	24.0	15.51	15.55	15.37	0.0	17.0
		15	0	22.86	22.54	22.32	1.0	24.0	15.49	15.44	15.33	0.0	17.0
	16QAM	1	0	22.87	22.49	22.74	1.0	24.0	15.52	15.35	15.67	0.0	17.0
		1	8	22.81	22.41	22.65	1.0	24.0	15.49	15.38	15.61	0.0	17.0
		1	14	22.82	22.45	22.69	1.0	24.0	15.50	15.36	15.64	0.0	17.0
		8	0	21.88	21.62	21.32	2.0	23.0	15.52	15.53	15.33	0.0	17.0
		8	4	21.94	21.69	21.43	2.0	23.0	15.57	15.61	15.43	0.0	17.0
		8	7	21.97	21.72	21.42	2.0	23.0	15.60	15.71	15.49	0.0	17.0
		15	0	21.84	21.62	21.34	2.0	23.0	15.48	15.52	15.36	0.0	17.0
	64QAM	1	0	21.97	21.95	21.64	2.0	23.0	15.51	15.75	15.66	0.0	17.0
		1	8	21.89	22.11	21.62	2.0	23.0	15.54	15.66	15.75	0.0	17.0
		1	14	21.94	22.08	21.62	2.0	23.0	15.52	15.77	15.62	0.0	17.0
		8	0	20.62	20.64	20.58	3.0	22.0	15.51	15.41	15.38	0.0	17.0
		8	4	20.64	20.70	20.59	3.0	22.0	15.54	15.42	15.44	0.0	17.0
		8	7	20.65	20.77	20.59	3.0	22.0	15.55	15.51	15.43	0.0	17.0
		15	0	20.69	20.60	20.58	3.0	22.0	15.55	15.48	15.34	0.0	17.0
	256QAM	1	0	18.67	18.57	18.54	5.0	20.0	15.67	15.59	15.60	0.0	17.0
		1	8	18.71	18.73	18.70	5.0	20.0	15.76	15.75	15.78	0.0	17.0
		1	14	18.64	18.63	18.61	5.0	20.0	15.64	15.66	15.67	0.0	17.0
		8	0	18.76	18.77	18.65	5.0	20.0	15.78	15.78	15.79	0.0	17.0
8		4	18.84	18.85	18.81	5.0	20.0	15.82	15.83	15.84	0.0	17.0	
8		7	18.86	18.85	18.83	5.0	20.0	15.82	15.86	15.86	0.0	17.0	
15		0	18.73	18.71	18.70	5.0	20.0	15.73	15.76	15.75	0.0	17.0	

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26697	26865	27033			26697	26865	27033		
				814.7 MHz	831.5 MHz	848.3 MHz			814.7 MHz	831.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	23.80	23.38	23.11	0.0	25.0	15.41	15.33	15.14	0.0	17.0
		1	3	23.85	23.42	23.18	0.0	25.0	15.42	15.37	15.19	0.0	17.0
		1	5	23.78	23.39	23.13	0.0	25.0	15.41	15.38	15.14	0.0	17.0
		3	0	23.71	23.44	23.11	0.0	25.0	15.35	15.34	15.14	0.0	17.0
		3	1	23.78	23.49	23.16	0.0	25.0	15.40	15.41	15.20	0.0	17.0
		3	3	23.78	23.48	23.16	0.0	25.0	15.35	15.44	15.17	0.0	17.0
		6	0	22.79	22.47	22.18	1.0	24.0	15.43	15.38	15.28	0.0	17.0
	16QAM	1	0	22.93	22.92	22.23	1.0	24.0	15.56	15.75	15.23	0.0	17.0
		1	3	22.98	22.94	22.32	1.0	24.0	15.66	15.78	15.29	0.0	17.0
		1	5	22.93	22.87	22.26	1.0	24.0	15.55	15.76	15.25	0.0	17.0
		3	0	22.79	22.65	22.42	1.0	24.0	15.50	15.62	15.40	0.0	17.0
		3	1	22.78	22.64	22.50	1.0	24.0	15.48	15.63	15.49	0.0	17.0
		3	3	22.88	22.63	22.49	1.0	24.0	15.53	15.65	15.49	0.0	17.0
		6	0	21.94	21.37	21.39	2.0	23.0	15.57	15.25	15.42	0.0	17.0
	64QAM	1	0	21.70	21.75	21.96	2.0	23.0	15.57	15.47	15.66	0.0	17.0
		1	3	21.74	21.92	21.96	2.0	23.0	15.64	15.61	15.77	0.0	17.0
		1	5	21.66	21.82	21.92	2.0	23.0	15.59	15.53	15.67	0.0	17.0
		3	0	21.71	21.49	21.75	2.0	23.0	15.39	15.44	15.56	0.0	17.0
		3	1	21.72	21.50	21.78	2.0	23.0	15.42	15.50	15.59	0.0	17.0
		3	3	21.78	21.61	21.76	2.0	23.0	15.42	15.60	15.58	0.0	17.0
		6	0	20.90	20.63	20.44	3.0	22.0	15.49	15.66	15.23	0.0	17.0
	256QAM	1	0	18.74	18.70	18.56	5.0	20.0	15.73	15.72	15.57	0.0	17.0
		1	3	18.92	18.94	18.86	5.0	20.0	15.83	15.83	15.82	0.0	17.0
		1	5	18.74	18.73	18.75	5.0	20.0	15.73	15.73	15.68	0.0	17.0
		3	0	18.56	18.48	18.49	5.0	20.0	15.56	15.52	15.51	0.0	17.0
		3	1	18.64	18.58	18.58	5.0	20.0	15.61	15.66	15.62	0.0	17.0
		3	3	18.60	18.61	18.63	5.0	20.0	15.60	15.63	15.56	0.0	17.0
		6	0	18.57	18.51	18.50	5.0	20.0	15.56	15.55	15.54	0.0	17.0

LTE Band 41 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)													
				DSI = 0							DSI = 1						
				Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750 MHz	40185 MHz	40620 MHz	41055 MHz	41490 MHz			39750 MHz	40185 MHz	40620 MHz	41055 MHz	41490 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								
20 MHz	QPSK	1	0	22.72	22.57	22.10	22.11	22.01	0.0	24.0	13.51	13.33	13.02	12.77	12.62	0.0	14.0
		1	49	22.61	22.50	22.41	22.37	22.40	0.0	24.0	13.47	13.18	13.05	13.00	13.01	0.0	14.0
		1	99	22.73	22.48	22.20	22.11	22.38	0.0	24.0	13.52	13.13	12.82	12.62	12.97	0.0	14.0
		50	0	21.74	21.54	21.37	21.33	21.32	1.0	23.0	13.57	13.28	13.00	12.96	12.89	0.0	14.0
		50	24	21.73	21.52	21.54	21.42	21.49	1.0	23.0	13.56	13.20	13.16	13.06	13.10	0.0	14.0
		50	50	21.75	21.45	21.47	21.30	21.49	1.0	23.0	13.63	13.11	13.10	12.95	12.99	0.0	14.0
	100	0	21.55	21.46	21.43	21.32	21.41	1.0	23.0	13.46	13.13	13.10	12.96	13.01	0.0	14.0	
	16QAM	1	0	21.62	21.43	21.18	21.12	21.35	1.0	23.0	13.44	13.15	13.10	12.73	12.57	0.0	14.0
		1	49	21.60	21.35	21.54	21.39	21.26	1.0	23.0	13.39	13.04	13.10	13.02	12.86	0.0	14.0
		1	99	21.59	21.35	21.33	21.25	21.24	1.0	23.0	13.43	12.99	13.10	12.58	12.81	0.0	14.0
		50	0	20.70	20.51	20.46	20.33	20.27	2.0	22.0	13.52	13.27	13.10	12.97	12.89	0.0	14.0
		50	24	20.67	20.51	20.56	20.40	20.50	2.0	22.0	13.52	13.20	13.10	13.01	13.08	0.0	14.0
		50	50	20.57	20.41	20.53	20.27	20.52	2.0	22.0	13.46	13.11	13.10	12.91	13.03	0.0	14.0
	100	0	20.53	20.41	20.43	20.33	20.42	2.0	22.0	13.44	13.12	13.10	12.93	12.98	0.0	14.0	
	64QAM	1	0	21.15	20.57	20.34	20.59	20.25	2.0	22.0	13.93	13.36	13.10	13.13	12.65	0.0	14.0
		1	49	21.08	20.40	20.67	20.80	20.36	2.0	22.0	13.91	13.21	13.10	13.36	13.00	0.0	14.0
		1	99	21.04	20.32	20.45	20.43	20.35	2.0	22.0	13.87	13.15	13.10	12.99	13.03	0.0	14.0
		50	0	19.75	19.53	19.46	19.40	19.31	3.0	21.0	13.60	13.26	13.10	13.01	12.95	0.0	14.0
		50	24	19.77	19.52	19.60	19.50	19.49	3.0	21.0	13.60	13.22	13.10	13.08	13.11	0.0	14.0
		50	50	19.66	19.45	19.55	19.33	19.55	3.0	21.0	13.53	13.13	13.10	12.96	13.06	0.0	14.0
	100	0	19.55	19.45	19.51	19.34	19.43	3.0	21.0	13.54	13.09	13.10	13.02	12.99	0.0	14.0	
	256QAM	1	0	17.42	17.27	17.66	17.26	17.25	5.0	19.0	13.57	13.01	13.10	13.13	12.66	0.0	14.0
		1	49	17.78	17.63	18.03	17.52	17.43	5.0	19.0	13.94	13.26	13.10	13.36	13.02	0.0	14.0
		1	99	17.52	17.15	17.80	17.12	17.41	5.0	19.0	13.67	12.78	13.10	12.99	12.97	0.0	14.0
50		0	17.62	17.45	17.44	17.36	17.33	5.0	19.0	13.47	13.13	13.10	12.99	12.89	0.0	14.0	
50		24	17.74	17.53	17.60	17.44	17.54	5.0	19.0	13.60	13.19	13.10	13.06	13.07	0.0	14.0	
50		50	17.66	17.35	17.54	17.34	17.54	5.0	19.0	13.50	13.00	13.10	12.92	13.03	0.0	14.0	
100	0	17.61	17.45	17.50	17.38	17.45	5.0	19.0	13.51	13.12	13.10	12.95	13.00	0.0	14.0		
15 MHz	QPSK	1	0	22.61	22.28	22.21	22.25	22.09	0.0	24.0	13.52	12.94	12.86	12.92	12.67	0.0	14.0
		1	37	22.54	22.42	22.40	22.33	22.31	0.0	24.0	13.46	13.09	13.04	12.98	12.89	0.0	14.0
		1	74	22.58	22.20	22.30	22.13	22.34	0.0	24.0	13.50	12.86	12.91	12.79	12.93	0.0	14.0
		36	0	21.65	21.45	21.41	21.35	21.32	1.0	23.0	13.59	13.21	13.07	13.01	12.97	0.0	14.0
		36	20	21.67	21.53	21.53	21.38	21.45	1.0	23.0	13.58	13.21	13.18	13.06	13.09	0.0	14.0
		36	39	21.65	21.37	21.53	21.32	21.48	1.0	23.0	13.59	13.10	13.18	13.00	13.02	0.0	14.0
	75	0	21.58	21.44	21.45	21.33	21.39	1.0	23.0	13.47	13.16	13.12	12.99	13.03	0.0	14.0	
	16QAM	1	0	21.74	21.44	21.41	21.40	21.23	1.0	23.0	13.68	12.99	12.92	13.02	12.71	0.0	14.0
		1	37	21.73	21.64	21.61	21.53	21.51	1.0	23.0	13.67	13.13	13.15	13.11	12.93	0.0	14.0
		1	74	21.74	21.40	21.49	21.29	21.52	1.0	23.0	13.65	12.88	13.02	12.90	12.97	0.0	14.0
		36	0	20.71	20.51	20.46	20.40	20.39	2.0	22.0	13.60	13.17	13.08	13.02	12.95	0.0	14.0
		36	20	20.75	20.57	20.58	20.44	20.51	2.0	22.0	13.60	13.22	13.16	13.08	13.07	0.0	14.0
		36	39	20.70	20.43	20.57	20.39	20.51	2.0	22.0	13.59	13.07	13.13	13.03	13.02	0.0	14.0
	75	0	20.61	20.45	20.44	20.32	20.37	2.0	22.0	13.53	13.17	13.12	13.01	13.02	0.0	14.0	
	64QAM	1	0	20.48	20.15	20.18	20.07	20.15	2.0	22.0	13.74	12.78	13.14	13.05	12.67	0.0	14.0
		1	37	20.54	20.38	20.39	20.28	20.28	2.0	22.0	13.70	13.07	13.35	13.15	12.86	0.0	14.0
		1	74	20.54	20.14	20.26	20.06	20.31	2.0	22.0	13.65	12.78	13.30	12.97	12.90	0.0	14.0
		36	0	19.73	19.54	19.49	19.44	19.40	3.0	21.0	13.61	13.21	13.08	13.05	13.03	0.0	14.0
		36	20	19.75	19.60	19.57	19.47	19.49	3.0	21.0	13.58	13.24	13.17	13.09	13.15	0.0	14.0
		36	39	19.73	19.47	19.59	19.42	19.52	3.0	21.0	13.54	13.14	13.17	13.02	13.18	0.0	14.0
	75	0	19.66	19.47	19.47	19.32	19.38	3.0	21.0	13.60	13.11	13.10	13.05	13.03	0.0	14.0	
	256QAM	1	0	17.54	17.39	17.36	17.32	17.20	5.0	19.0	13.49	13.11	12.64	13.00	12.82	0.0	14.0
		1	37	17.69	17.56	17.54	17.41	17.46	5.0	19.0	13.71	13.25	12.85	13.15	13.03	0.0	14.0
		1	74	17.65	17.30	17.45	17.23	17.51	5.0	19.0	13.54	12.96	12.77	12.90	13.06	0.0	14.0
36		0	17.65	17.53	17.42	17.40	17.33	5.0	19.0	13.45	13.21	13.05	12.97	12.94	0.0	14.0	
36		20	17.71	17.55	17.53	17.42	17.47	5.0	19.0	13.57	13.23	13.16	13.04	13.11	0.0	14.0	
36		39	17.73	17.43	17.55	17.37	17.49	5.0	19.0	13.48	13.07	13.16	12.97	13.12	0.0	14.0	
75	0	17.66	17.51	17.50	17.37	17.44	5.0	19.0	13.57	13.21	13.07	13.02	13.05	0.0	14.0		

LTE Band 41 Measured Results (Continued)

Table with columns: BW (MHz), Mode, RB Allocation, RB offset, Measured Pwr (dBm) (39750, 40185, 40620, 41055, 41490), MPR, Tune-up Limit, Measured Pwr (dBm) (39750, 40185, 40620, 41055, 41490), MPR, Tune-up Limit. Data is organized by bandwidth (10 MHz and 5 MHz) and mode (QPSK, 16QAM, 64QAM, 256QAM).

LTE Band 48 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)												
				DSI = 0						DSI = 1						
				Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)				MPR	Tune-up Limit	
				55340 3560 MHz	55773 3603.3 MHz	56207 3646.7 MHz	56640 3690 MHz			55340 3560 MHz	55773 3603.3 MHz	56207 3646.7 MHz	56640 3690 MHz			
20 MHz	QPSK	1	0	21.34	21.76	21.80	21.75	0.0	22.7	14.28	14.33	14.28	13.90	0.0	15.0	
		1	49	21.24	21.74	21.72	21.78	0.0	22.7	14.26	14.29	14.20	13.75	0.0	15.0	
		1	99	21.14	21.83	21.63	21.80	0.0	22.7	14.32	14.35	14.16	13.71	0.0	15.0	
		50	0	20.25	20.72	20.66	20.62	1.0	21.7	14.17	14.31	14.23	13.78	0.0	15.0	
		50	24	20.30	20.87	20.78	20.83	1.0	21.7	14.36	14.44	14.32	13.85	0.0	15.0	
		50	50	20.11	20.76	20.62	20.75	1.0	21.7	14.28	14.33	14.14	13.65	0.0	15.0	
	100	0	20.21	20.79	20.68	20.74	1.0	21.7	14.24	14.37	14.20	13.74	0.0	15.0		
	16QAM	1	0	20.45	20.72	20.93	20.89	1.0	21.7	14.33	14.24	14.28	13.72	0.0	15.0	
		1	49	20.33	20.75	20.85	20.89	1.0	21.7	14.30	14.24	14.19	13.62	0.0	15.0	
		1	99	20.30	20.78	20.78	20.93	1.0	21.7	14.37	14.31	14.15	13.56	0.0	15.0	
		50	0	19.30	19.74	19.73	19.68	2.0	20.7	14.11	14.20	14.12	13.71	0.0	15.0	
		50	24	19.35	19.88	19.85	19.88	2.0	20.7	14.31	14.37	14.20	13.78	0.0	15.0	
		50	50	19.18	19.75	19.65	19.80	2.0	20.7	14.23	14.24	14.03	13.55	0.0	15.0	
	100	0	19.23	19.80	19.67	19.72	2.0	20.7	14.17	14.26	14.12	13.69	0.0	15.0		
	64QAM	1	0	19.44	20.16	20.23	20.15	2.0	20.7	14.27	14.64	14.68	14.22	0.0	15.0	
		1	49	19.33	20.21	20.17	20.18	2.0	20.7	14.32	14.67	14.59	14.12	0.0	15.0	
		1	99	19.21	20.30	20.07	20.21	2.0	20.7	14.33	14.72	14.48	14.02	0.0	15.0	
		50	0	18.32	18.79	18.73	18.63	3.0	19.7	14.13	14.27	14.16	13.72	0.0	15.0	
		50	24	18.37	18.94	18.85	18.85	3.0	19.7	14.30	14.42	14.27	13.79	0.0	15.0	
		50	50	18.18	18.82	18.67	18.75	3.0	19.7	14.23	14.29	14.09	13.59	0.0	15.0	
	100	0	18.28	18.85	18.73	18.73	3.0	19.7	14.23	14.28	14.14	13.69	0.0	15.0		
	256QAM	1	0	16.36	16.61	16.49	16.44	5.0	17.7	14.13	14.09	13.93	13.56	0.0	15.0	
		1	49	16.59	16.87	16.80	16.82	5.0	17.7	14.55	14.32	14.24	13.76	0.0	15.0	
		1	99	16.12	16.56	16.37	16.64	5.0	17.7	14.32	14.04	13.81	13.33	0.0	15.0	
		50	0	16.29	16.81	16.70	16.67	5.0	17.7	14.12	14.25	14.16	13.73	0.0	15.0	
		50	24	16.36	16.95	16.82	16.85	5.0	17.7	14.28	14.40	14.28	13.78	0.0	15.0	
		50	50	16.18	16.86	16.67	16.79	5.0	17.7	14.24	14.29	14.08	13.58	0.0	15.0	
	100	0	16.28	16.85	16.74	16.76	5.0	17.7	14.23	14.31	14.15	13.70	0.0	15.0		
	BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)				MPR	Tune-up Limit
					55315 3557.5 MHz	55765 3602.5 MHz	56215 3647.5 MHz	56665 3692.5 MHz			55315 3557.5 MHz	55765 3602.5 MHz	56215 3647.5 MHz	56665 3692.5 MHz		
15 MHz	QPSK	1	0	21.46	21.44	21.68	21.75	0.0	22.7	13.95	13.97	14.26	14.35	0.0	15.0	
		1	37	21.46	21.48	21.65	21.69	0.0	22.7	13.90	13.98	14.24	14.34	0.0	15.0	
		1	74	21.50	21.53	21.68	21.70	0.0	22.7	13.99	14.04	14.30	14.34	0.0	15.0	
		36	0	20.53	20.55	20.58	20.72	1.0	21.7	13.98	14.06	14.16	14.30	0.0	15.0	
		36	20	20.62	20.64	20.69	20.75	1.0	21.7	14.04	14.19	14.28	14.35	0.0	15.0	
		36	39	20.57	20.62	20.66	20.78	1.0	21.7	14.00	14.14	14.32	14.40	0.0	15.0	
	16QAM	1	0	20.52	20.46	20.73	20.79	1.0	21.7	13.99	13.98	14.24	14.35	0.0	15.0	
		1	37	20.56	20.49	20.74	20.79	1.0	21.7	13.96	14.00	14.25	14.33	0.0	15.0	
		1	74	20.57	20.53	20.73	20.77	1.0	21.7	13.99	14.05	14.31	14.36	0.0	15.0	
		36	0	19.50	19.55	19.66	19.70	2.0	20.7	14.01	14.03	14.17	14.30	0.0	15.0	
		36	20	19.60	19.65	19.73	19.75	2.0	20.7	14.05	14.13	14.22	14.30	0.0	15.0	
		36	39	19.53	19.64	19.69	19.78	2.0	20.7	13.98	14.09	14.31	14.36	0.0	15.0	
	64QAM	1	0	19.54	19.62	19.65	19.73	2.0	20.7	13.96	14.10	14.22	14.28	0.0	15.0	
		1	37	19.10	19.76	19.57	19.35	2.0	20.7	13.77	13.45	14.36	14.45	0.0	15.0	
		1	74	19.11	19.82	19.64	19.37	2.0	20.7	13.78	13.52	14.41	14.51	0.0	15.0	
		36	0	18.60	18.63	18.60	18.80	3.0	19.7	13.90	14.00	14.11	14.24	0.0	15.0	
		36	20	18.66	18.74	18.69	18.86	3.0	19.7	13.94	14.10	14.16	14.28	0.0	15.0	
		36	39	18.63	18.72	18.66	18.89	3.0	19.7	13.92	14.05	14.16	14.32	0.0	15.0	
	256QAM	1	0	18.54	18.64	18.69	18.72	3.0	19.7	13.94	13.98	14.08	14.18	0.0	15.0	
		1	37	16.35	16.19	16.58	16.70	5.0	17.7	13.71	13.90	13.62	13.81	0.0	15.0	
		1	74	16.61	16.35	16.87	16.87	5.0	17.7	14.02	14.03	13.93	14.01	0.0	15.0	
		36	0	16.57	16.20	16.75	16.75	5.0	17.7	13.93	13.90	13.78	13.87	0.0	15.0	
		36	20	16.57	16.58	16.61	16.76	5.0	17.7	13.90	13.94	14.06	14.21	0.0	15.0	
		36	39	16.63	16.69	16.72	16.80	5.0	17.7	13.98	14.07	14.14	14.26	0.0	15.0	
	75	0	16.58	16.67	16.70	16.82	5.0	17.7	13.96	14.01	14.16	14.30	0.0	15.0		
	75	0	16.57	16.61	16.66	16.75	5.0	17.7	13.95	14.01	14.07	14.17	0.0	15.0		

LTE Band 48 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)				MPR	Tune-up Limit		
				55290	55757	56223	56690			55290	55757	56223	56690				
				3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz			3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz				
10 MHz	QPSK	1	0	21.59	21.68	21.80	21.89	0.0	22.7	14.08	14.21	14.40	14.48	0.0	15.0		
		1	25	21.57	21.66	21.77	21.82	0.0	22.7	14.03	14.33	14.44	14.55	0.0	15.0		
		1	49	21.61	21.76	21.81	21.85	0.0	22.7	14.13	14.31	14.43	14.52	0.0	15.0		
		25	0	20.61	20.67	20.65	20.76	1.0	21.7	14.02	14.14	14.30	14.33	0.0	15.0		
		25	12	20.71	20.84	20.80	20.99	1.0	21.7	14.17	14.34	14.47	14.57	0.0	15.0		
		25	25	20.65	20.75	20.85	20.92	1.0	21.7	14.12	14.33	14.47	14.53	0.0	15.0		
		50	0	20.64	20.74	20.74	20.80	1.0	21.7	14.09	14.26	14.31	14.39	0.0	15.0		
		1	0	20.62	20.66	20.83	20.95	1.0	21.7	14.10	14.30	14.58	14.50	0.0	15.0		
		1	25	20.60	20.70	20.84	20.89	1.0	21.7	14.05	14.30	14.58	14.51	0.0	15.0		
		1	49	20.66	20.78	20.90	20.99	1.0	21.7	14.14	14.35	14.61	14.59	0.0	15.0		
	16QAM	25	0	19.54	19.62	19.69	19.80	2.0	20.7	14.03	14.15	14.30	14.41	0.0	15.0		
		25	12	19.69	19.78	19.81	19.99	2.0	20.7	14.18	14.44	14.51	14.63	0.0	15.0		
		25	25	19.66	19.77	19.84	19.91	2.0	20.7	14.15	14.33	14.50	14.58	0.0	15.0		
		50	0	19.66	19.77	19.76	19.81	2.0	20.7	14.06	14.29	14.37	14.44	0.0	15.0		
		1	0	19.28	19.33	19.36	19.54	2.0	20.7	14.41	14.18	13.84	14.59	0.0	15.0		
		1	25	19.36	19.30	19.46	19.60	2.0	20.7	14.30	14.22	13.91	14.67	0.0	15.0		
		1	49	19.36	19.45	19.52	19.53	2.0	20.7	14.40	14.31	13.94	14.74	0.0	15.0		
		25	0	18.59	18.71	18.72	18.80	3.0	19.7	13.93	14.00	14.17	14.25	0.0	15.0		
		25	12	18.74	18.84	18.86	19.03	3.0	19.7	14.06	14.14	14.27	14.38	0.0	15.0		
		25	25	18.71	18.81	18.89	18.97	3.0	19.7	14.04	14.10	14.37	14.36	0.0	15.0		
	50	0	18.63	18.76	18.74	18.85	3.0	19.7	14.00	14.08	14.17	14.24	0.0	15.0			
	256QAM	1	0	16.47	16.56	16.70	16.73	5.0	17.7	13.43	13.77	14.07	13.80	0.0	15.0		
		1	25	16.76	16.97	17.06	17.16	5.0	17.7	13.78	14.15	14.49	14.14	0.0	15.0		
		1	49	16.68	16.89	16.88	17.00	5.0	17.7	13.73	14.01	14.31	13.95	0.0	15.0		
		25	0	16.60	16.73	16.71	16.79	5.0	17.7	14.03	14.03	14.14	14.30	0.0	15.0		
		25	12	16.75	16.90	16.84	17.04	5.0	17.7	14.17	14.19	14.27	14.51	0.0	15.0		
		25	25	16.71	16.88	16.93	17.03	5.0	17.7	14.14	14.18	14.35	14.50	0.0	15.0		
		50	0	16.69	16.84	16.86	16.92	5.0	17.7	14.05	14.13	14.23	14.26	0.0	15.0		
		5 MHz	QPSK	1	0	21.56	21.57	21.69	21.89	0.0	22.7	13.96	14.01	14.29	14.36	0.0	15.0
				1	12	21.66	21.75	21.86	22.03	0.0	22.7	14.07	14.17	14.42	14.50	0.0	15.0
1				24	21.67	21.75	21.82	22.02	0.0	22.7	14.03	14.15	14.44	14.45	0.0	15.0	
12	0			20.72	20.78	20.86	21.07	1.0	21.7	14.09	14.21	14.45	14.52	0.0	15.0		
12	7			20.80	20.86	21.05	21.15	1.0	21.7	14.21	14.34	14.55	14.61	0.0	15.0		
12	13			20.79	20.90	21.04	21.14	1.0	21.7	14.18	14.37	14.54	14.63	0.0	15.0		
25	0			20.75	20.81	20.91	21.08	1.0	21.7	14.13	14.31	14.45	14.56	0.0	15.0		
1	0			20.54	20.77	20.74	21.08	1.0	21.7	14.06	14.06	14.34	14.53	0.0	15.0		
1	12			20.69	20.96	20.87	21.16	1.0	21.7	14.18	14.19	14.46	14.67	0.0	15.0		
1	24			20.71	20.96	20.88	21.19	1.0	21.7	14.21	14.19	14.46	14.63	0.0	15.0		
16QAM	12		0	19.68	19.84	19.89	20.10	2.0	20.7	14.12	14.23	14.43	14.58	0.0	15.0		
	12		7	19.80	19.92	20.08	20.18	2.0	20.7	14.19	14.40	14.54	14.64	0.0	15.0		
	12		13	19.78	19.94	20.08	20.21	2.0	20.7	14.22	14.37	14.50	14.66	0.0	15.0		
	25		0	19.77	19.83	19.91	20.11	2.0	20.7	14.12	14.35	14.48	14.58	0.0	15.0		
	1		0	19.40	20.07	19.95	19.74	2.0	20.7	13.72	14.43	14.32	14.07	0.0	15.0		
	1		12	19.55	20.34	20.17	19.86	2.0	20.7	13.88	14.64	14.50	14.20	0.0	15.0		
	1		24	19.49	20.28	20.11	19.82	2.0	20.7	13.79	14.61	14.45	14.13	0.0	15.0		
	12		0	18.67	18.92	18.83	19.01	3.0	19.7	14.06	14.24	14.19	14.35	0.0	15.0		
	12		7	18.79	19.05	19.01	19.15	3.0	19.7	14.13	14.36	14.33	14.46	0.0	15.0		
	12		13	18.79	19.01	19.00	19.14	3.0	19.7	14.13	14.34	14.31	14.47	0.0	15.0		
256QAM	25		0	18.78	18.82	18.81	19.11	3.0	19.7	14.09	14.13	14.14	14.44	0.0	15.0		
	1		0	16.90	16.74	16.89	17.28	5.0	17.7	14.22	14.06	14.20	14.57	0.0	15.0		
	1		12	17.09	16.90	17.20	17.49	5.0	17.7	14.43	14.21	14.51	14.81	0.0	15.0		
	1		24	17.04	16.90	17.15	17.40	5.0	17.7	14.33	14.21	14.42	14.69	0.0	15.0		
	12		0	16.68	16.81	16.92	17.07	5.0	17.7	14.04	14.11	14.23	14.39	0.0	15.0		
	12		7	16.80	16.91	17.06	17.18	5.0	17.7	14.13	14.25	14.38	14.49	0.0	15.0		
	12		13	16.80	16.91	17.08	17.16	5.0	17.7	14.11	14.23	14.40	14.47	0.0	15.0		
	25		0	16.77	16.85	16.92	17.13	5.0	17.7	14.09	14.16	14.22	14.47	0.0	15.0		

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132072 1720 MHz	132322 1745 MHz	132572 1770 MHz			132072 1720 MHz	132322 1745 MHz	132572 1770 MHz		
20 MHz	QPSK	1	0	22.43	22.46	22.68	0.0	23.5	11.48	11.46	11.70	0.0	12.5
		1	49	22.72	22.63	22.63	0.0	23.5	11.72	11.67	11.65	0.0	12.5
		1	99	22.49	22.42	22.62	0.0	23.5	11.56	11.44	11.61	0.0	12.5
		50	0	21.81	21.74	21.61	1.0	22.5	11.82	11.74	11.63	0.0	12.5
		50	24	21.88	21.79	21.76	1.0	22.5	11.90	11.80	11.76	0.0	12.5
		50	50	21.77	21.69	21.66	1.0	22.5	11.80	11.68	11.67	0.0	12.5
	100	0	21.80	21.72	21.67	1.0	22.5	11.79	11.74	11.80	0.0	12.5	
	16QAM	1	0	21.96	21.83	22.28	1.0	22.5	12.06	11.92	12.15	0.0	12.5
		1	49	22.16	22.02	22.19	1.0	22.5	12.33	12.12	12.07	0.0	12.5
		1	99	22.05	21.84	22.20	1.0	22.5	12.12	11.90	12.07	0.0	12.5
		50	0	20.82	20.75	20.65	2.0	21.5	11.87	11.78	11.67	0.0	12.5
		50	24	20.91	20.77	20.79	2.0	21.5	11.93	11.83	11.80	0.0	12.5
		50	50	20.81	20.67	20.71	2.0	21.5	11.83	11.75	11.67	0.0	12.5
	64QAM	1	0	20.81	20.71	20.72	2.0	21.5	11.85	11.77	11.72	0.0	12.5
		1	0	19.65	20.24	20.23	2.0	21.5	11.78	11.83	12.31	0.0	12.5
		1	49	20.02	20.56	20.23	2.0	21.5	12.09	12.10	12.28	0.0	12.5
		1	99	19.85	20.25	20.20	2.0	21.5	11.86	11.87	12.29	0.0	12.5
		50	0	18.65	18.81	18.84	3.0	20.5	11.82	11.82	11.68	0.0	12.5
		50	24	18.82	18.87	18.99	3.0	20.5	11.90	11.86	11.82	0.0	12.5
	256QAM	50	50	18.73	18.86	18.86	3.0	20.5	11.80	11.75	11.69	0.0	12.5
		100	0	18.75	18.79	18.80	3.0	20.5	11.80	11.76	11.71	0.0	12.5
		1	0	16.78	16.71	16.66	5.0	18.5	11.53	11.71	11.54	0.0	12.5
		1	49	16.67	17.04	17.01	5.0	18.5	11.77	11.92	11.86	0.0	12.5
		1	99	16.52	16.82	16.80	5.0	18.5	11.54	11.70	11.64	0.0	12.5
50		0	16.70	16.80	16.76	5.0	18.5	11.87	11.74	11.66	0.0	12.5	
15 MHz	QPSK	50	24	16.85	16.87	16.91	5.0	18.5	11.92	11.80	11.79	0.0	12.5
		50	50	16.78	16.88	16.79	5.0	18.5	11.83	11.67	11.67	0.0	12.5
		100	0	16.75	16.79	16.74	5.0	18.5	11.85	11.71	11.68	0.0	12.5
		1	0	22.72	22.61	22.61	0.0	23.5	11.70	11.59	11.74	0.0	12.5
		1	37	22.73	22.68	22.57	0.0	23.5	11.78	11.60	11.69	0.0	12.5
		1	74	22.69	22.58	22.56	0.0	23.5	11.63	11.51	11.67	0.0	12.5
	16QAM	36	0	21.89	21.77	21.67	1.0	22.5	11.84	11.78	11.66	0.0	12.5
		36	20	21.90	21.80	21.77	1.0	22.5	11.86	11.78	11.80	0.0	12.5
		36	39	21.83	21.74	21.72	1.0	22.5	11.82	11.72	11.71	0.0	12.5
		75	0	21.85	21.76	21.72	1.0	22.5	11.79	11.73	11.75	0.0	12.5
		1	0	22.04	22.00	21.71	1.0	22.5	12.13	11.52	12.12	0.0	12.5
		1	37	22.24	22.16	21.65	1.0	22.5	12.19	11.62	12.17	0.0	12.5
	64QAM	1	74	22.05	22.07	21.60	1.0	22.5	12.03	11.47	12.10	0.0	12.5
		36	0	20.91	20.81	20.68	2.0	21.5	11.84	11.77	11.75	0.0	12.5
		36	20	20.93	20.79	20.76	2.0	21.5	11.83	11.82	11.85	0.0	12.5
		36	39	20.91	20.74	20.70	2.0	21.5	11.79	11.75	11.77	0.0	12.5
		75	0	20.84	20.77	20.76	2.0	21.5	11.82	11.78	11.75	0.0	12.5
		1	0	20.69	20.85	20.76	2.0	21.5	11.83	12.20	12.04	0.0	12.5
	256QAM	1	37	20.76	20.96	20.75	2.0	21.5	11.86	12.32	12.03	0.0	12.5
		1	74	20.53	20.85	20.72	2.0	21.5	11.77	12.17	11.99	0.0	12.5
		36	0	19.95	19.66	19.59	3.0	20.5	11.94	11.79	11.78	0.0	12.5
		36	20	19.90	19.69	19.67	3.0	20.5	11.93	11.77	11.85	0.0	12.5
		36	39	19.86	19.61	19.62	3.0	20.5	11.88	11.72	11.76	0.0	12.5
		75	0	19.78	19.65	19.60	3.0	20.5	11.83	11.79	11.76	0.0	12.5
256QAM	1	0	17.57	17.82	17.84	5.0	18.5	12.02	12.14	11.39	0.0	12.5	
	1	37	17.65	17.93	17.94	5.0	18.5	12.08	12.12	11.48	0.0	12.5	
	1	74	17.39	17.80	17.82	5.0	18.5	11.92	12.02	11.38	0.0	12.5	
	36	0	17.84	17.69	17.59	5.0	18.5	11.86	11.81	11.71	0.0	12.5	
	36	20	17.84	17.68	17.66	5.0	18.5	11.87	11.83	11.78	0.0	12.5	
	36	39	17.78	17.63	17.60	5.0	18.5	11.81	11.76	11.71	0.0	12.5	
75	0	17.79	17.67	17.64	5.0	18.5	11.83	11.79	11.74	0.0	12.5		
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
132047 1717.5 MHz	132322 1745 MHz	132597 1772.5 MHz	132047 1717.5 MHz	132322 1745 MHz	132597 1772.5 MHz								

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				132022	132322	132622			132022	132322	132622			
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz			
10 MHz	QPSK	1	0	22.68	22.52	22.53	0.0	23.5	11.64	11.52	11.46	0.0	12.5	
		1	25	22.89	22.81	22.83	0.0	23.5	11.90	11.76	11.74	0.0	12.5	
		1	49	22.61	22.58	22.63	0.0	23.5	11.64	11.53	11.56	0.0	12.5	
		25	0	21.88	21.78	21.75	1.0	22.5	11.87	11.78	11.71	0.0	12.5	
		25	12	21.95	21.87	21.81	1.0	22.5	11.96	11.84	11.78	0.0	12.5	
		25	25	21.86	21.79	21.80	1.0	22.5	11.85	11.77	11.74	0.0	12.5	
	16QAM	50	0	21.89	21.81	21.70	1.0	22.5	11.89	11.80	11.69	0.0	12.5	
		1	0	21.71	21.65	21.94	1.0	22.5	12.03	11.66	11.46	0.0	12.5	
		1	25	22.01	21.94	22.26	1.0	22.5	12.31	11.84	11.71	0.0	12.5	
		1	49	21.67	21.54	22.05	1.0	22.5	12.11	11.59	11.50	0.0	12.5	
		25	0	21.02	20.87	20.74	2.0	21.5	11.93	11.86	11.74	0.0	12.5	
		25	12	21.08	20.95	20.86	2.0	21.5	12.04	11.97	11.82	0.0	12.5	
	64QAM	25	25	20.96	20.82	20.81	2.0	21.5	11.89	11.88	11.80	0.0	12.5	
		50	0	20.92	20.83	20.71	2.0	21.5	11.91	11.85	11.73	0.0	12.5	
		1	0	20.66	20.42	20.64	2.0	21.5	11.87	11.97	11.71	0.0	12.5	
		1	25	20.92	20.65	20.90	2.0	21.5	12.09	12.19	11.95	0.0	12.5	
		1	49	20.70	20.38	20.71	2.0	21.5	11.88	11.96	11.86	0.0	12.5	
		25	0	20.01	19.86	19.67	3.0	20.5	11.96	11.84	11.85	0.0	12.5	
	256QAM	25	12	20.01	19.90	19.73	3.0	20.5	12.01	11.93	11.89	0.0	12.5	
		25	25	19.91	19.78	19.69	3.0	20.5	11.91	11.85	11.90	0.0	12.5	
		50	0	19.90	19.75	19.60	3.0	20.5	11.89	11.82	11.78	0.0	12.5	
		1	0	17.56	17.56	17.96	5.0	18.5	11.58	11.71	12.10	0.0	12.5	
		1	25	17.77	17.82	18.21	5.0	18.5	11.76	11.91	12.32	0.0	12.5	
		1	49	17.56	17.61	18.05	5.0	18.5	11.56	11.69	12.16	0.0	12.5	
	5 MHz	QPSK	25	0	17.92	17.85	17.68	5.0	18.5	11.99	11.93	11.84	0.0	12.5
25			12	18.00	17.92	17.73	5.0	18.5	12.07	12.02	11.90	0.0	12.5	
25			25	17.90	17.79	17.70	5.0	18.5	11.96	11.90	11.84	0.0	12.5	
50			0	17.88	17.76	17.64	5.0	18.5	11.96	11.88	11.76	0.0	12.5	
16QAM			1	0	23.00	22.86	22.80	0.0	23.5	11.95	11.90	11.75	0.0	12.5
			1	12	22.95	22.77	22.83	0.0	23.5	11.96	11.85	11.78	0.0	12.5
		1	24	22.90	22.70	22.72	0.0	23.5	11.86	11.77	11.70	0.0	12.5	
		12	0	21.96	21.85	21.86	1.0	22.5	11.98	11.84	11.86	0.0	12.5	
		12	7	22.00	21.90	21.92	1.0	22.5	12.00	11.86	11.91	0.0	12.5	
		12	13	21.93	21.80	21.84	1.0	22.5	11.91	11.78	11.79	0.0	12.5	
		25	0	21.97	21.83	21.82	1.0	22.5	11.95	11.82	11.84	0.0	12.5	
		64QAM	1	0	22.10	22.31	21.94	1.0	22.5	12.13	12.00	12.31	0.0	12.5
			1	12	22.05	22.39	21.93	1.0	22.5	12.12	11.98	12.35	0.0	12.5
			1	24	22.00	22.24	21.90	1.0	22.5	12.03	11.88	12.30	0.0	12.5
12			0	21.03	21.03	20.89	2.0	21.5	11.99	11.93	12.06	0.0	12.5	
12			7	21.10	21.06	20.92	2.0	21.5	12.06	11.97	12.02	0.0	12.5	
256QAM		12	13	21.00	20.97	20.85	2.0	21.5	11.99	11.87	11.95	0.0	12.5	
		25	0	20.97	20.92	20.81	2.0	21.5	11.90	11.88	11.92	0.0	12.5	
		1	0	21.10	20.82	21.03	2.0	21.5	11.87	12.25	12.10	0.0	12.5	
		1	12	21.03	21.00	21.11	2.0	21.5	12.00	12.23	12.13	0.0	12.5	
		1	24	21.11	21.13	20.92	2.0	21.5	11.83	12.10	12.07	0.0	12.5	
		12	0	19.99	19.83	19.69	3.0	20.5	12.11	11.87	12.00	0.0	12.5	
16QAM		12	7	19.98	19.88	19.71	3.0	20.5	12.07	11.85	11.95	0.0	12.5	
		12	13	19.97	19.87	19.59	3.0	20.5	12.00	11.80	11.91	0.0	12.5	
		25	0	19.63	19.66	19.73	3.0	20.5	11.97	11.84	11.87	0.0	12.5	
	64QAM	1	0	17.66	17.62	17.50	5.0	18.5	11.79	12.07	11.92	0.0	12.5	
		1	12	17.82	17.79	17.51	5.0	18.5	11.84	12.03	11.99	0.0	12.5	
		1	24	17.93	17.92	17.39	5.0	18.5	11.67	11.97	11.83	0.0	12.5	
		12	0	17.60	17.60	17.82	5.0	18.5	12.10	11.97	11.91	0.0	12.5	
		12	7	17.67	17.65	17.80	5.0	18.5	12.11	11.99	11.93	0.0	12.5	
		12	13	17.72	17.72	17.74	5.0	18.5	12.01	11.89	11.84	0.0	12.5	
256QAM	25	0	17.64	17.61	17.82	5.0	18.5	12.10	11.90	11.89	0.0	12.5		

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
				131987	132322	132657			131987	132322	132657			
				1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz			
3 MHz	QPSK	1	0	22.88	22.78	22.68	0.0	23.5	11.89	11.78	11.74	0.0	12.5	
		1	8	22.75	22.64	22.50	0.0	23.5	11.75	11.65	11.65	0.0	12.5	
		1	14	22.78	22.63	22.54	0.0	23.5	11.79	11.69	11.70	0.0	12.5	
		8	0	21.88	21.79	21.62	1.0	22.5	11.97	11.87	11.78	0.0	12.5	
		8	4	21.88	21.79	21.67	1.0	22.5	11.95	11.87	11.79	0.0	12.5	
		8	7	21.90	21.79	21.68	1.0	22.5	11.93	11.85	11.86	0.0	12.5	
	16QAM	15	0	21.89	21.78	21.58	1.0	22.5	11.93	11.81	11.75	0.0	12.5	
		1	0	21.85	21.82	21.78	1.0	22.5	12.06	11.97	11.87	0.0	12.5	
		1	8	21.76	21.74	21.70	1.0	22.5	11.96	11.85	11.84	0.0	12.5	
		1	14	21.72	21.73	21.58	1.0	22.5	11.86	11.80	11.83	0.0	12.5	
		8	0	20.99	20.85	20.65	2.0	21.5	12.00	11.91	11.79	0.0	12.5	
		8	4	20.99	20.87	20.69	2.0	21.5	12.01	11.88	11.81	0.0	12.5	
	64QAM	8	7	21.02	20.86	20.77	2.0	21.5	12.02	11.92	11.94	0.0	12.5	
		15	0	20.91	20.74	20.61	2.0	21.5	11.93	11.85	11.77	0.0	12.5	
		1	0	21.43	21.36	20.89	2.0	21.5	12.38	11.79	12.08	0.0	12.5	
		1	8	21.09	21.07	20.99	2.0	21.5	12.22	11.72	12.14	0.0	12.5	
		1	14	21.05	20.95	20.83	2.0	21.5	12.12	11.70	12.06	0.0	12.5	
		8	0	20.05	19.95	19.84	3.0	20.5	12.12	11.97	11.94	0.0	12.5	
	256QAM	8	4	20.11	19.98	19.76	3.0	20.5	12.16	11.93	11.99	0.0	12.5	
		8	7	20.07	19.99	19.89	3.0	20.5	12.13	11.94	12.05	0.0	12.5	
		15	0	19.88	19.80	19.61	3.0	20.5	11.93	11.86	11.81	0.0	12.5	
		1	0	18.38	18.27	18.07	5.0	18.5	12.34	11.91	12.18	0.0	12.5	
		1	8	18.36	18.29	18.21	5.0	18.5	12.37	11.93	12.25	0.0	12.5	
		1	14	18.29	18.21	18.11	5.0	18.5	12.31	11.81	12.18	0.0	12.5	
	1.4 MHz	QPSK	8	0	18.03	17.93	17.79	5.0	18.5	12.08	11.99	11.91	0.0	12.5
			8	4	18.01	17.92	17.74	5.0	18.5	12.07	12.03	11.87	0.0	12.5
			8	7	18.01	17.89	17.81	5.0	18.5	12.04	12.01	11.93	0.0	12.5
15			0	17.98	17.88	17.70	5.0	18.5	12.01	11.94	11.83	0.0	12.5	
1			0	22.77	22.61	22.58	0.0	23.5	11.82	11.68	11.69	0.0	12.5	
1			3	22.80	22.67	22.57	0.0	23.5	11.86	11.68	11.70	0.0	12.5	
16QAM		1	5	22.70	22.57	22.50	0.0	23.5	11.76	11.64	11.66	0.0	12.5	
		3	0	22.72	22.59	22.51	0.0	23.5	11.74	11.73	11.72	0.0	12.5	
		3	1	22.75	22.64	22.58	0.0	23.5	11.81	11.75	11.73	0.0	12.5	
		3	3	22.72	22.60	22.53	0.0	23.5	11.77	11.75	11.74	0.0	12.5	
		6	0	21.76	21.65	21.63	1.0	22.5	11.82	11.76	11.75	0.0	12.5	
		1	0	21.80	21.68	21.60	1.0	22.5	11.99	12.09	12.09	0.0	12.5	
64QAM		1	3	21.86	21.72	21.69	1.0	22.5	12.03	12.12	12.08	0.0	12.5	
		1	5	21.75	21.63	21.60	1.0	22.5	11.98	12.07	12.04	0.0	12.5	
		3	0	22.02	21.91	21.80	1.0	22.5	11.89	11.97	12.01	0.0	12.5	
		3	1	22.06	21.86	21.82	1.0	22.5	11.99	11.96	11.95	0.0	12.5	
		3	3	22.05	21.90	21.84	1.0	22.5	11.93	11.91	11.94	0.0	12.5	
		6	0	20.97	20.81	20.81	2.0	21.5	11.99	11.70	11.64	0.0	12.5	
256QAM		1	0	20.69	20.66	20.88	2.0	21.5	11.93	11.59	12.05	0.0	12.5	
		1	3	20.81	20.65	20.92	2.0	21.5	12.00	11.62	12.08	0.0	12.5	
		1	5	20.70	20.61	20.80	2.0	21.5	11.85	11.69	11.95	0.0	12.5	
		3	0	20.71	20.57	20.67	2.0	21.5	12.05	11.62	11.86	0.0	12.5	
		3	1	20.70	20.56	20.74	2.0	21.5	12.13	11.60	11.94	0.0	12.5	
		3	3	20.76	20.50	20.74	2.0	21.5	12.12	11.70	11.86	0.0	12.5	
QPSK		6	0	19.77	19.68	19.68	3.0	20.5	12.01	11.74	11.85	0.0	12.5	
		1	0	17.85	17.79	17.83	5.0	18.5	11.94	11.87	11.92	0.0	12.5	
		1	3	17.97	17.86	17.98	5.0	18.5	11.76	11.98	12.06	0.0	12.5	
	1	5	17.89	17.73	17.78	5.0	18.5	11.70	11.85	11.87	0.0	12.5		
	3	0	17.94	17.81	17.54	5.0	18.5	11.78	11.82	11.75	0.0	12.5		
	3	1	17.94	17.82	17.67	5.0	18.5	11.78	11.93	11.82	0.0	12.5		
16QAM	3	3	17.95	17.74	17.60	5.0	18.5	11.80	11.92	11.74	0.0	12.5		
	6	0	17.89	17.76	17.63	5.0	18.5	11.96	11.83	11.73	0.0	12.5		

LTE Band 71 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0				DSI = 1					
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				133222 673 MHz	133297 680.5 MHz	133372 688 MHz			133222 673 MHz	133297 680.5 MHz	133372 688 MHz		
20 MHz	QPSK	1	0		23.20		0.0	25		15.42		0.0	17
		1	49		23.18		0.0	25		15.38		0.0	17
		1	99		23.04		0.0	25		15.21		0.0	17
		50	0		22.26		1.0	24		15.57		0.0	17
		50	24		22.22		1.0	24		15.47		0.0	17
		50	50		22.19		1.0	24		15.43		0.0	17
	16QAM	100	0		22.17		1.0	24		15.36		0.0	17
		1	0		22.62		1.0	24		16.02		0.0	17
		1	49		22.57		1.0	24		15.99		0.0	17
		1	99		22.48		1.0	24		15.80		0.0	17
		50	0		21.22		2.0	23		15.58		0.0	17
		50	24		21.21		2.0	23		15.48		0.0	17
	64QAM	50	50		21.20		2.0	23		15.51		0.0	17
		100	0		21.14		2.0	23		15.43		0.0	17
		1	0		21.63		2.0	23		15.72		0.0	17
		1	49		21.61		2.0	23		15.66		0.0	17
		1	99		21.51		2.0	23		15.51		0.0	17
		50	0		20.32		3.0	22		15.60		0.0	17
	256QAM	50	24		20.26		3.0	22		15.49		0.0	17
		50	50		20.26		3.0	22		15.50		0.0	17
		100	0		20.14		3.0	22		15.42		0.0	17
		1	0		18.08		5.0	20		15.08		0.0	17
		1	49		18.40		5.0	20		15.40		0.0	17
		1	99		18.13		5.0	20		15.11		0.0	17
15 MHz	QPSK	50	0		18.12		5.0	20		15.48		0.0	17
		50	24		18.19		5.0	20		15.52		0.0	17
		50	50		18.19		5.0	20		15.49		0.0	17
		100	0		18.10		5.0	20		15.43		0.0	17
		1	0		23.25		0.0	25		15.42		0.0	17
		1	37		23.21		0.0	25		15.42		0.0	17
	16QAM	1	74		23.11		0.0	25		15.28		0.0	17
		36	0		22.26		1.0	24		15.54		0.0	17
		36	20		22.23		1.0	24		15.51		0.0	17
		36	39		22.22		1.0	24		15.47		0.0	17
		75	0		22.14		1.0	24		15.42		0.0	17
		1	0		22.73		1.0	24		15.41		0.0	17
	64QAM	1	37		22.59		1.0	24		15.40		0.0	17
		1	74		22.57		1.0	24		15.27		0.0	17
		36	0		21.22		2.0	23		15.56		0.0	17
		36	20		21.18		2.0	23		15.54		0.0	17
		36	39		21.20		2.0	23		15.53		0.0	17
		75	0		21.14		2.0	23		15.43		0.0	17
	256QAM	1	0		21.77		2.0	23		15.65		0.0	17
		1	37		21.79		2.0	23		15.64		0.0	17
		1	74		21.68		2.0	23		16.01		0.0	17
		36	0		20.49		3.0	22		15.62		0.0	17
		36	20		20.49		3.0	22		15.58		0.0	17
		36	39		20.49		3.0	22		15.56		0.0	17
QPSK	75	0		20.40		3.0	22		15.53		0.0	17	
	1	0		18.57		5.0	20		15.53		0.0	17	
	1	37		18.80		5.0	20		15.78		0.0	17	
	1	74		18.62		5.0	20		15.61		0.0	17	
	36	0		18.42		5.0	20		15.45		0.0	17	
	36	20		18.51		5.0	20		15.55		0.0	17	
16QAM	36	39		18.54		5.0	20		15.56		0.0	17	
	75	0		18.46		5.0	20		15.46		0.0	17	

LTE Band 71 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				133172	133297	133422			133172	133297	133422		
				668 MHz	680.5 MHz	693 MHz			668 MHz	680.5 MHz	693 MHz		
10 MHz	QPSK	1	0	23.46	23.33	23.22	0.0	25	15.64	15.58	15.48	0.0	17
		1	25	23.37	23.24	23.15	0.0	25	15.51	15.52	15.38	0.0	17
		1	49	23.35	23.15	23.11	0.0	25	15.51	15.45	15.28	0.0	17
		25	0	22.33	22.33	22.19	1.0	24	15.68	15.62	15.48	0.0	17
		25	12	22.42	22.38	22.24	1.0	24	15.73	15.60	15.45	0.0	17
		25	25	22.39	22.30	22.18	1.0	24	15.68	15.56	15.39	0.0	17
	16QAM	50	0	22.33	22.28	22.17	1.0	24	15.62	15.47	15.41	0.0	17
		1	0	22.85	22.46	22.22	1.0	24	15.76	15.58	15.91	0.0	17
		1	25	22.78	22.32	22.16	1.0	24	15.64	15.50	15.83	0.0	17
		1	49	22.84	22.26	22.07	1.0	24	15.59	15.44	15.74	0.0	17
		25	0	21.46	21.39	21.21	2.0	23	15.82	15.67	15.49	0.0	17
		25	12	21.47	21.49	21.31	2.0	23	15.85	15.64	15.49	0.0	17
	64QAM	25	25	21.39	21.43	21.24	2.0	23	15.81	15.61	15.44	0.0	17
		50	0	21.40	21.33	21.18	2.0	23	15.70	15.49	15.44	0.0	17
		1	0	22.00	21.95	21.57	2.0	23	15.89	15.82	15.83	0.0	17
		1	25	21.77	21.92	21.56	2.0	23	15.71	15.78	15.80	0.0	17
		1	49	21.77	21.82	21.47	2.0	23	15.81	15.72	15.66	0.0	17
		25	0	20.61	20.54	20.45	3.0	22	15.79	15.70	15.60	0.0	17
	256QAM	25	12	20.70	20.52	20.36	3.0	22	15.84	15.69	15.54	0.0	17
		25	25	20.68	20.51	20.39	3.0	22	15.85	15.72	15.47	0.0	17
		50	0	20.58	20.42	20.38	3.0	22	15.73	15.50	15.47	0.0	17
		1	0	18.31	18.44	18.72	5.0	20	15.32	15.36	15.76	0.0	17
		1	25	18.41	18.72	18.91	5.0	20	15.35	15.63	15.95	0.0	17
		1	49	18.29	18.41	18.69	5.0	20	15.27	15.37	15.70	0.0	17
	5 MHz	QPSK	25	0	18.64	18.62	18.40	5.0	20	15.64	15.60	15.44	0.0
25			12	18.80	18.71	18.46	5.0	20	15.83	15.69	15.50	0.0	17
25			25	18.70	18.70	18.44	5.0	20	15.73	15.68	15.48	0.0	17
50			0	18.68	18.58	18.42	5.0	20	15.72	15.53	15.44	0.0	17
1			0	23.51	23.18	23.10	0.0	25	15.74	15.47	15.29	0.0	17
1			12	23.42	23.31	23.23	0.0	25	15.62	15.59	15.36	0.0	17
16QAM		1	24	23.40	23.30	23.12	0.0	25	15.62	15.54	15.30	0.0	17
		12	0	22.36	22.29	22.10	1.0	24	15.66	15.53	15.34	0.0	17
		12	7	22.43	22.34	22.16	1.0	24	15.70	15.63	15.42	0.0	17
		12	13	22.38	22.37	22.21	1.0	24	15.67	15.65	15.40	0.0	17
		25	0	22.43	22.32	22.09	1.0	24	15.71	15.59	15.34	0.0	17
		1	0	22.56	22.79	22.27	1.0	24	15.89	16.05	15.44	0.0	17
64QAM		1	12	22.51	22.89	22.25	1.0	24	15.82	16.00	15.40	0.0	17
		1	24	22.54	22.81	22.26	1.0	24	15.81	16.04	15.48	0.0	17
		12	0	21.48	21.42	21.13	2.0	23	15.78	15.71	15.36	0.0	17
		12	7	21.58	21.48	21.20	2.0	23	15.83	15.77	15.51	0.0	17
		12	13	21.49	21.54	21.23	2.0	23	15.77	15.81	15.47	0.0	17
		25	0	21.45	21.37	21.06	2.0	23	15.71	15.64	15.35	0.0	17
256QAM		1	0	21.54	21.84	21.41	2.0	23	15.96	15.47	15.53	0.0	17
		1	12	21.49	22.01	21.53	2.0	23	15.97	15.68	15.67	0.0	17
		1	24	21.48	21.89	21.49	2.0	23	15.97	15.59	15.58	0.0	17
		12	0	20.60	20.46	20.25	3.0	22	15.81	15.61	15.29	0.0	17
		12	7	20.68	20.53	20.37	3.0	22	15.84	15.63	15.43	0.0	17
		12	13	20.62	20.55	20.36	3.0	22	15.84	15.71	15.34	0.0	17
QPSK		25	0	20.54	20.47	20.32	3.0	22	15.79	15.56	15.38	0.0	17
	1	0	18.36	18.64	18.32	5.0	20	15.67	15.28	15.40	0.0	17	
	1	12	18.52	18.80	18.54	5.0	20	15.88	15.48	15.53	0.0	17	
	1	24	18.41	18.75	18.41	5.0	20	15.72	15.38	15.47	0.0	17	
	12	0	18.65	18.55	18.32	5.0	20	15.63	15.59	15.32	0.0	17	
	12	7	18.76	18.66	18.44	5.0	20	15.75	15.64	15.49	0.0	17	
16QAM	12	13	18.70	18.67	18.41	5.0	20	15.72	15.70	15.43	0.0	17	
	25	0	18.82	18.58	18.41	5.0	20	15.71	15.66	15.43	0.0	17	
	1	0	23.46	23.33	23.22	0.0	25	15.64	15.58	15.48	0.0	17	
	1	25	23.37	23.24	23.15	0.0	25	15.51	15.52	15.38	0.0	17	
	1	49	23.35	23.15	23.11	0.0	25	15.51	15.45	15.28	0.0	17	
	25	0	22.33	22.33	22.19	1.0	24	15.68	15.62	15.48	0.0	17	
64QAM	25	12	22.42	22.38	22.24	1.0	24	15.73	15.60	15.45	0.0	17	
	25	25	22.39	22.30	22.18	1.0	24	15.68	15.56	15.39	0.0	17	
	50	0	22.33	22.28	22.17	1.0	24	15.62	15.47	15.41	0.0	17	
	1	0	22.85	22.46	22.22	1.0	24	15.76	15.58	15.91	0.0	17	
	1	25	22.78	22.32	22.16	1.0	24	15.64	15.50	15.83	0.0	17	
	1	49	22.84	22.26	22.07	1.0	24	15.59	15.44	15.74	0.0	17	
256QAM	25	0	21.46	21.39	21.21	2.0	23	15.82	15.67	15.49	0.0	17	
	25	12	21.47	21.49	21.31	2.0	23	15.85	15.64	15.49	0.0	17	
	25	25	21.39	21.43	21.24	2.0	23	15.81	15.61	15.44	0.0	17	
	50	0	21.40	21.33	21.18	2.0	23	15.70	15.49	15.44	0.0	17	
	1	0	22.00	21.95	21.57	2.0	23	15.89	15.82	15.83	0.0	17	
	1	25	21.77	21.92	21.56	2.0	23	15.71	15.78	15.80	0.0	17	

9.3. NR (Sub 6GHz)

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS 138.521-1 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 TS138.521-1.

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

Modulation	MPR (dB)		
	Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM Pi/2 BPSK	≤ 3.5 ¹	≤ 1.2 ¹	≤ 0.2 ¹
DFT-s-OFDM QPSK		≤ 0.5 ²	0 ²
DFT-s-OFDM 16 QAM	≤ 1		0
DFT-s-OFDM 64 QAM	≤ 2		≤ 1
DFT-s-OFDM 256 QAM		≤ 2.5	
CP-OFDM QPSK		≤ 4.5	
CP-OFDM 16 QAM	≤ 3		≤ 1.5
CP-OFDM 64 QAM	≤ 3		≤ 2
CP-OFDM 256 QAM		≤ 3.5	
		≤ 6.5	

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0dB MPR is 26dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40% of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

The allowed A-MPR values specified below in Table 6.2.3.3.1-1 of 3GPP TS138.521-1 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 6.2.3.3.1-1: Additional maximum power reduction (A-MPR)

Network Signalling label	Requirements (subclause)	NR Band	Channel bandwidth (MHz)	Resources Blocks (N _{RB})	A-MPR (dB)
NS_01		Table 5.2-1	5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100	Table 5.3.2-1	N/A

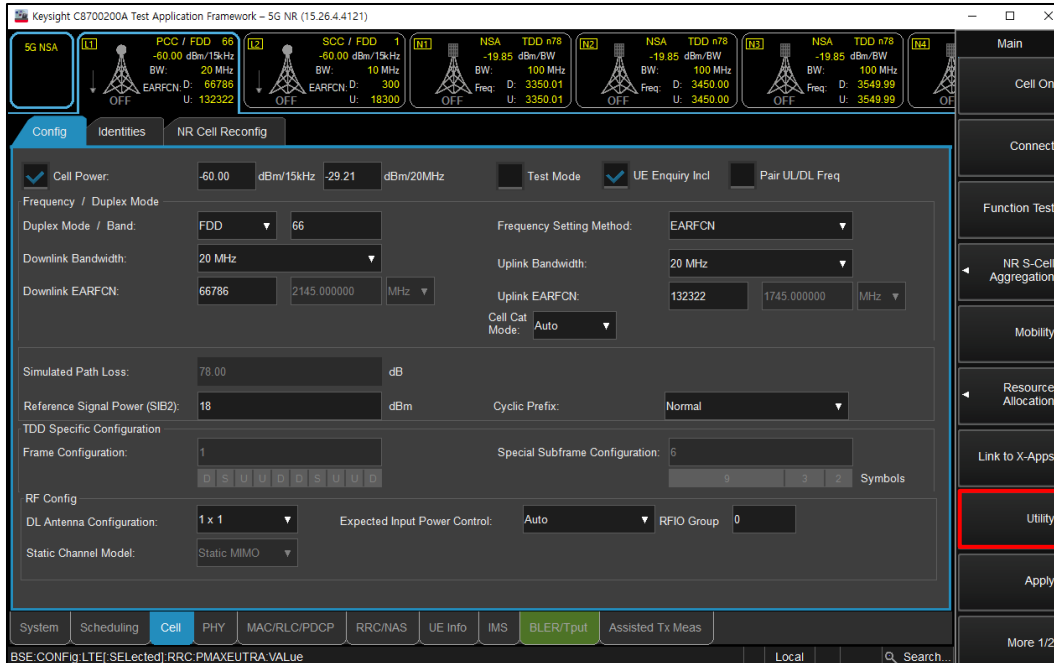
Uplink RB allocations were used to Table 6.1-1 of the 3GPP TS 138.521-1.

Channel Bandwidth	SCS(kHz)	OFDM	RB allocation							
			Edge_Full_Left	Edge_Full_Right	Edge_1RB_Left	Edge_1RB_Right	Outer_Full	Inner_Full	Inner_1RB_Left	Inner_1RB_Right
5MHz	15	DFT-s	2@0	2@23	1@0	1@24	25@0	12@6	1@1	1@23
		CP	2@0	2@23	1@0	1@24	25@0	13@6	1@1	1@23
	30	DFT-s	2@0	2@9	1@0	1@10	10@0	5@2 ¹	1@1	1@9
		CP	2@0	2@9	1@0	1@10	11@0	5@2 ¹	1@1	1@9
	60	DFT-s	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		CP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10MHz	15	DFT-s	2@0	2@50	1@0	1@51	50@0	25@12	1@1	1@50
		CP	2@0	2@50	1@0	1@51	52@0	26@13	1@1	1@50
	30	DFT-s	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22
		CP	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22
	60	DFT-s	2@0	2@9	1@0	1@10	10@0	5@2 ¹	1@1	1@9
		CP	2@0	2@9	1@0	1@10	11@0	5@2 ¹	1@1	1@9
15MHz	15	DFT-s	2@0	2@77	1@0	1@78	75@0	38@18	1@1	1@77
		CP	2@0	2@77	1@0	1@78	79@0	39@19 ¹	1@1	1@77
	30	DFT-s	2@0	2@36	1@0	1@37	38@0	19@9	1@1	1@36
		CP	2@0	2@36	1@0	1@37	38@0	19@9	1@1	1@36
	60	DFT-s	2@0	2@16	1@0	1@17	18@0	9@4	1@1	1@16
		CP	2@0	2@16	1@0	1@17	18@0	9@4	1@1	1@16
20MHz	15	DFT-s	2@0	2@104	1@0	1@105	106@0	53@26	1@1	1@104
		CP	2@0	2@104	1@0	1@105	106@0	53@26	1@1	1@104
	30	DFT-s	2@0	2@49	1@0	1@50	50@0	25@12	1@1	1@49
		CP	2@0	2@49	1@0	1@50	51@0	25@12 ¹	1@1	1@49
	60	DFT-s	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22
		CP	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22

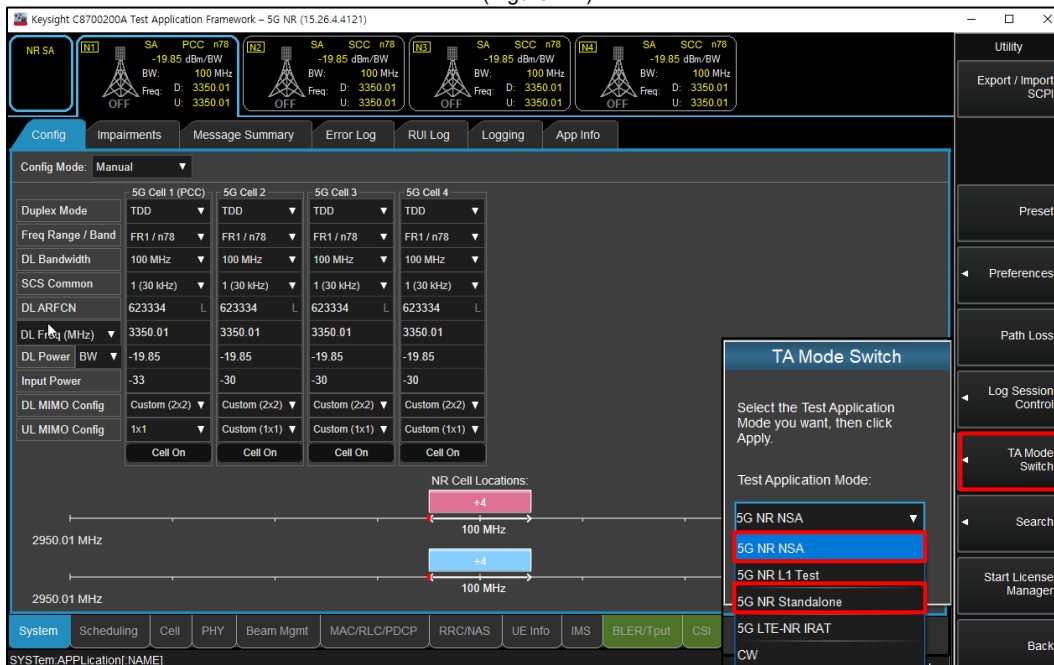
Procedures used to establish power measurement for NR Bands

Switching to NSA mode or SA mode

- Click the “Utility” button in the right of Test application screen
- Select “5G NR NSA” in the “TA Mode Switch” for NSA mode
- Select “5G NR Standalone” in the “TA Mode Switch” for SA mode



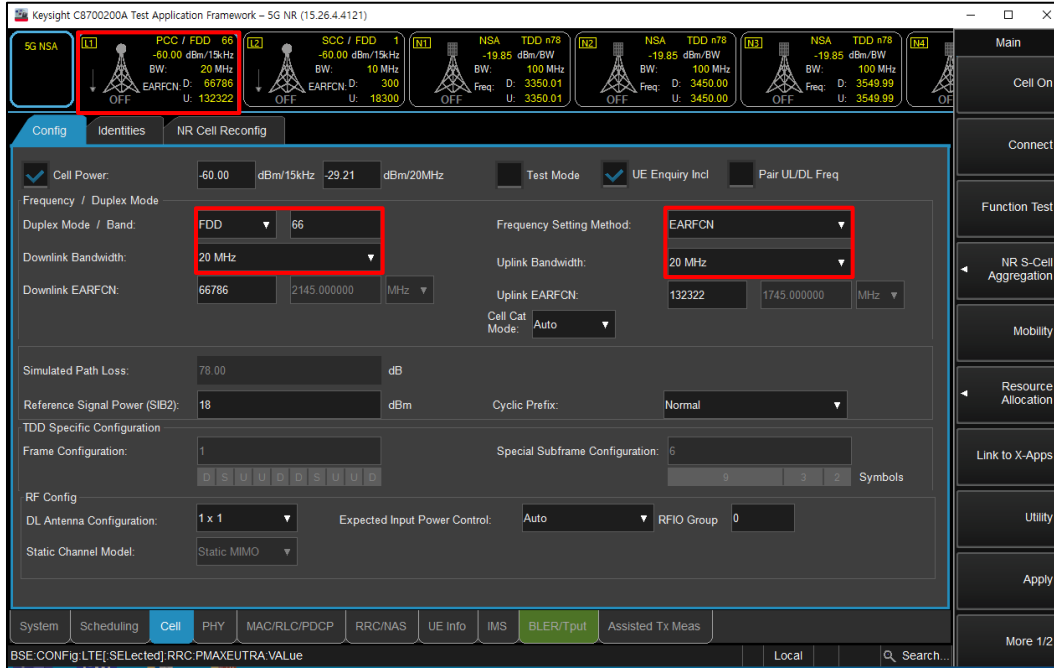
(Figure 1-1)



(Figure 1-2)

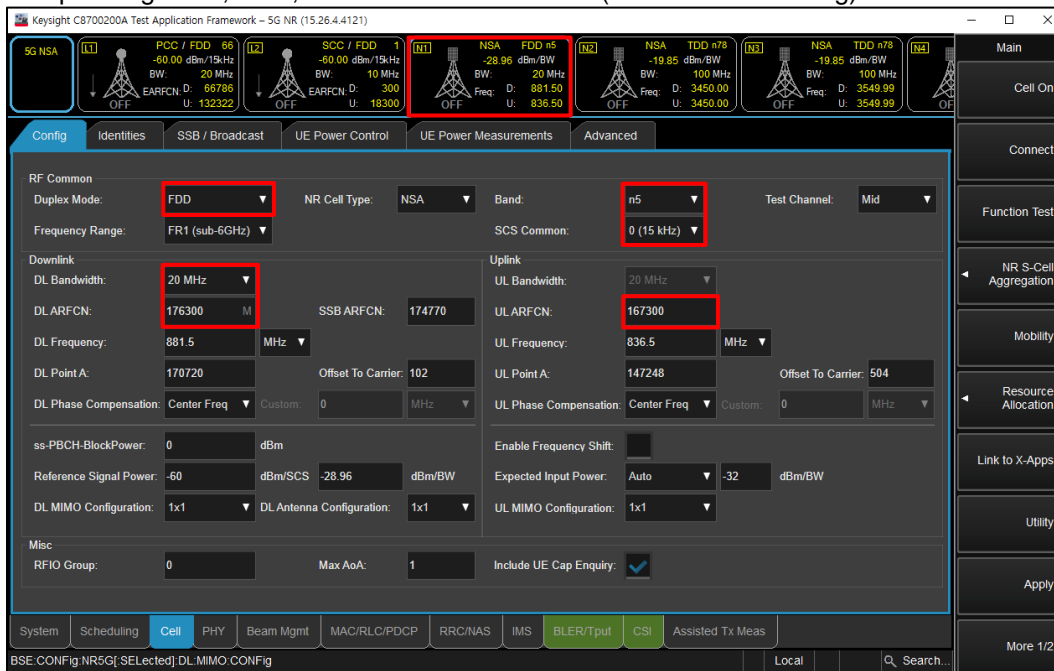
NSA Mode

- Select operating band, BW and Channel for LTE (LTE -> Cell -> Config)



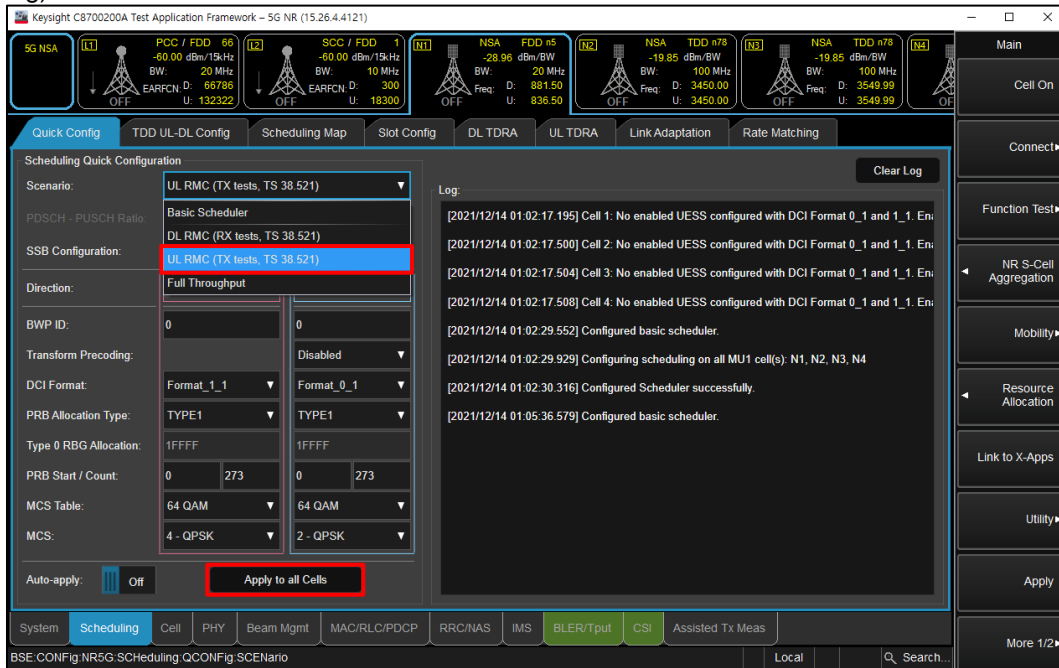
(Figure 2-1)

- Select operating band, SCS, BW and Channel for NR (NR -> Cell -> Config)



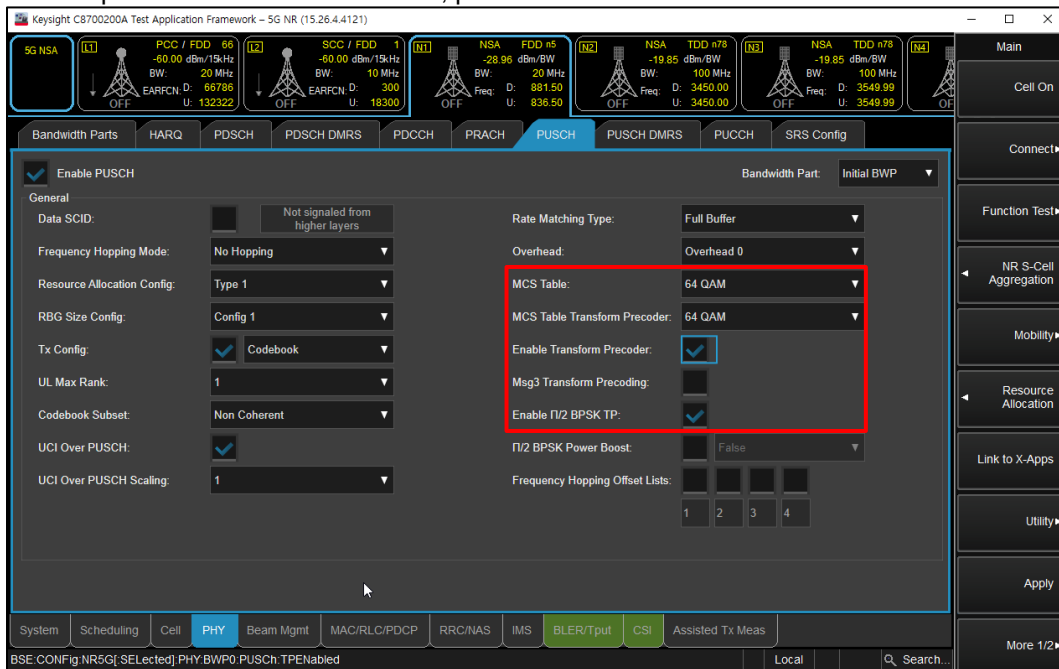
(Figure 2-2)

- Select “UL RMC (TX tests, TS 38.521)” for maximum power RB scheduling (NR -> Scheduling -> Quick Config)



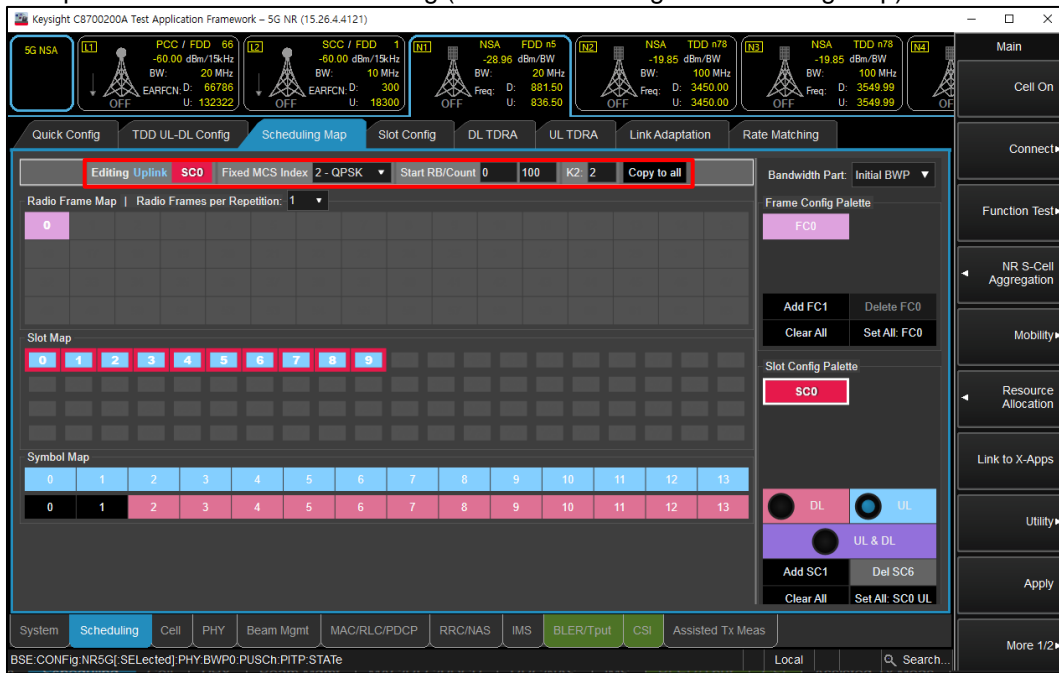
(Figure 2-3)

- To set waveform for NR Band (NR -> PHY -> PUSCH)
 - Select highest modulation in the MCS Table and MCS Table Transform Precoder
 - Enable Transform Precoder: DFT-s-OFDM / disable for CP-OFDM
 - Enable pi/2 BPSK TP: DFT-s-OFDM, pi/2 BPSK modulation



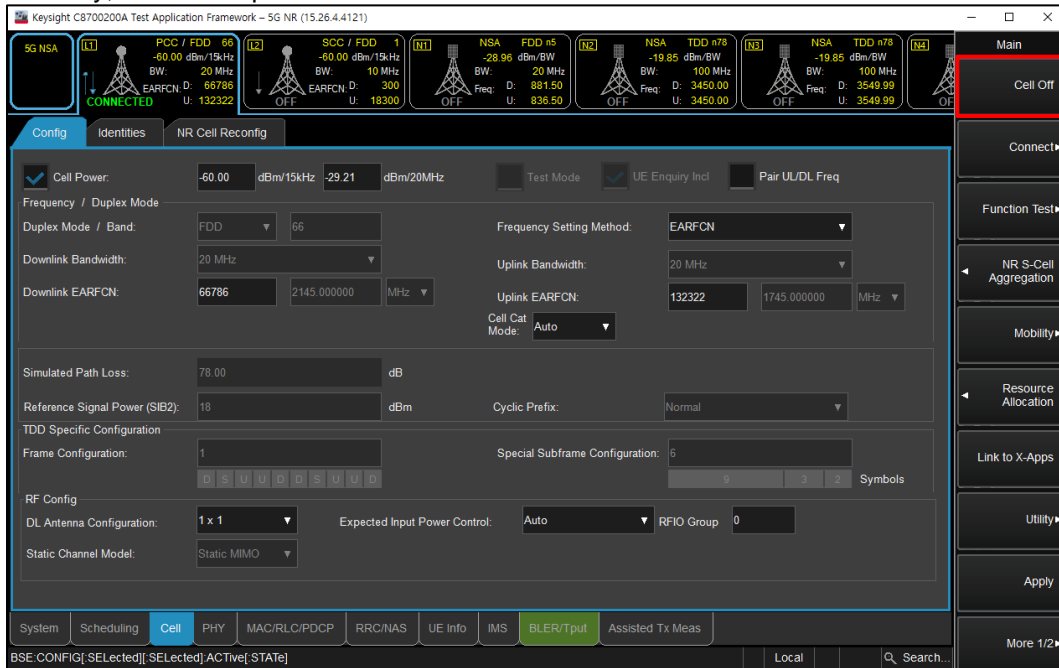
(Figure 2-4)

- Select Uplink Modulation and RB setting (NR -> Scheduling -> Scheduling Map)



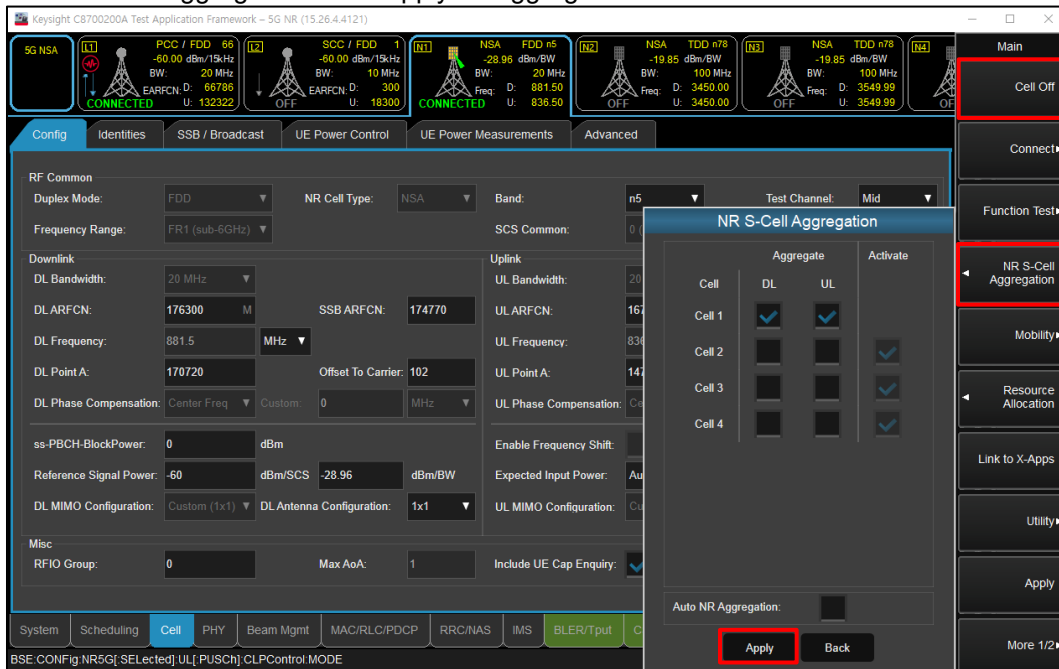
(Figure 2-5)

- Click “Cell On” button in the right of Test application screen in the LTE tab
- If necessary, turn the Airplane Mode on/off in the DUT



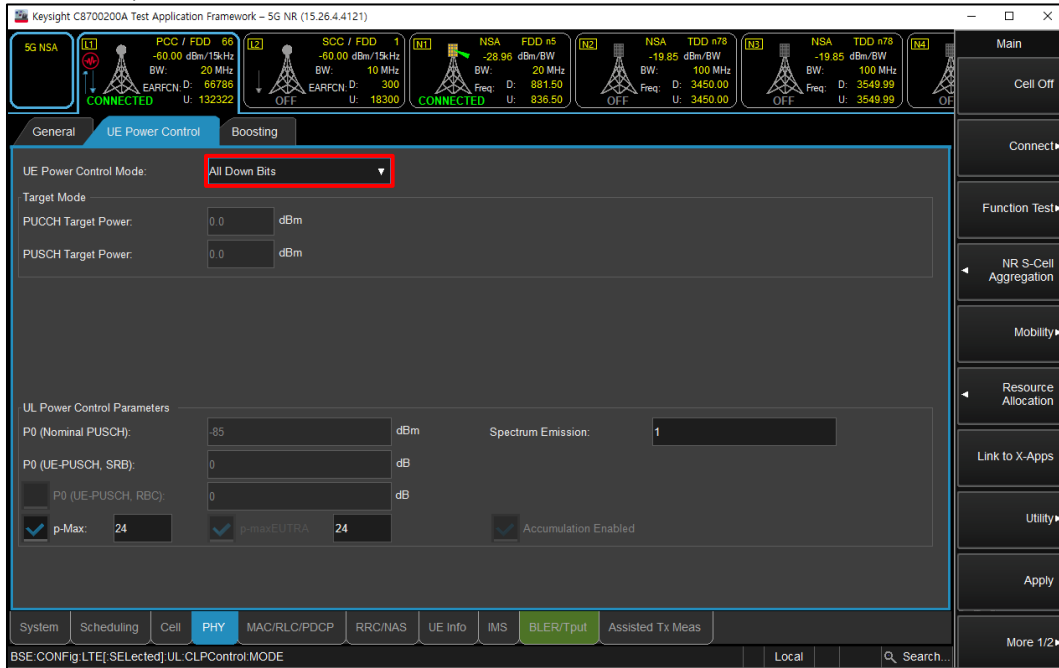
(Figure 2-6)

- Click “Cell On” button in the right of Test application screen in the NR tab
- Click “NR S-Cell Aggregation” and “Apply” to aggregate NR band



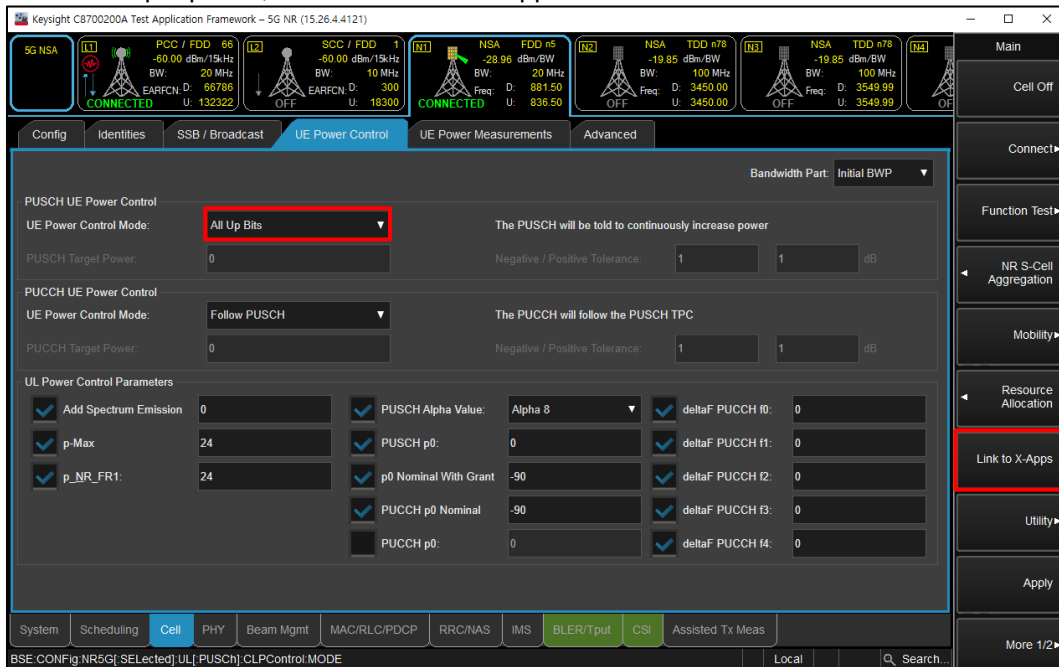
(Figure 2-7)

- Select “All Down Bits” of UL Power control Mode in LTE tab for NR maximum power (LTE -> PHY -> UE Power Control)



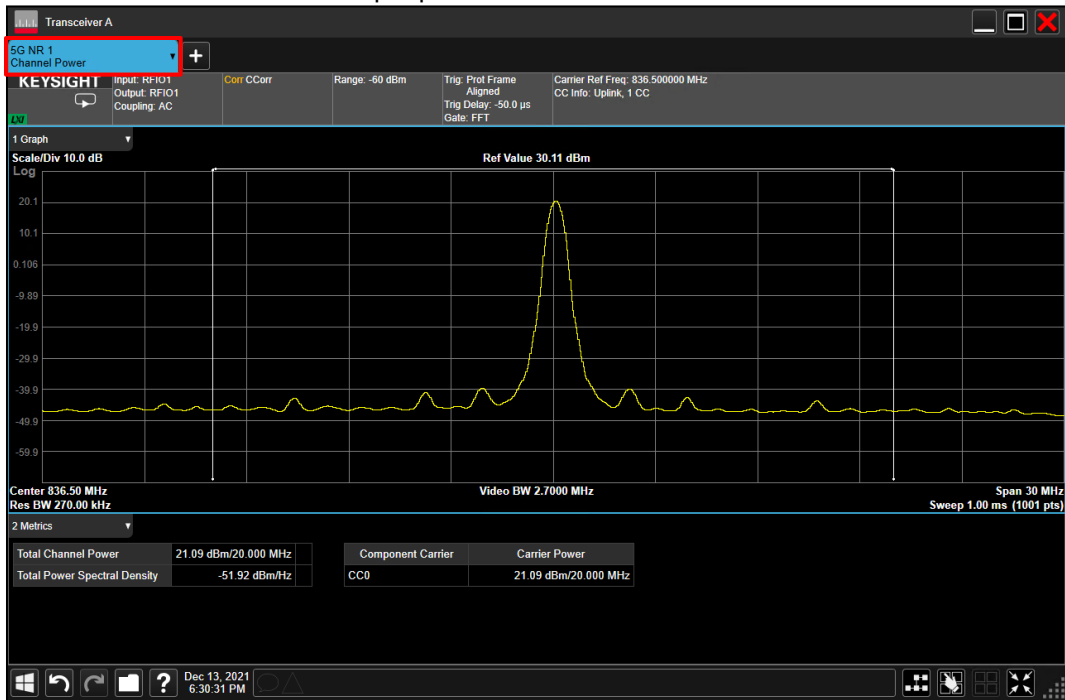
(Figure 2-8)

- Select “All Up Bits” of UL Power control Mode in NR tab for NR maximum power (NR -> Cell -> UE Power Control)
- To read the output power, click the “Link to X-Apps”



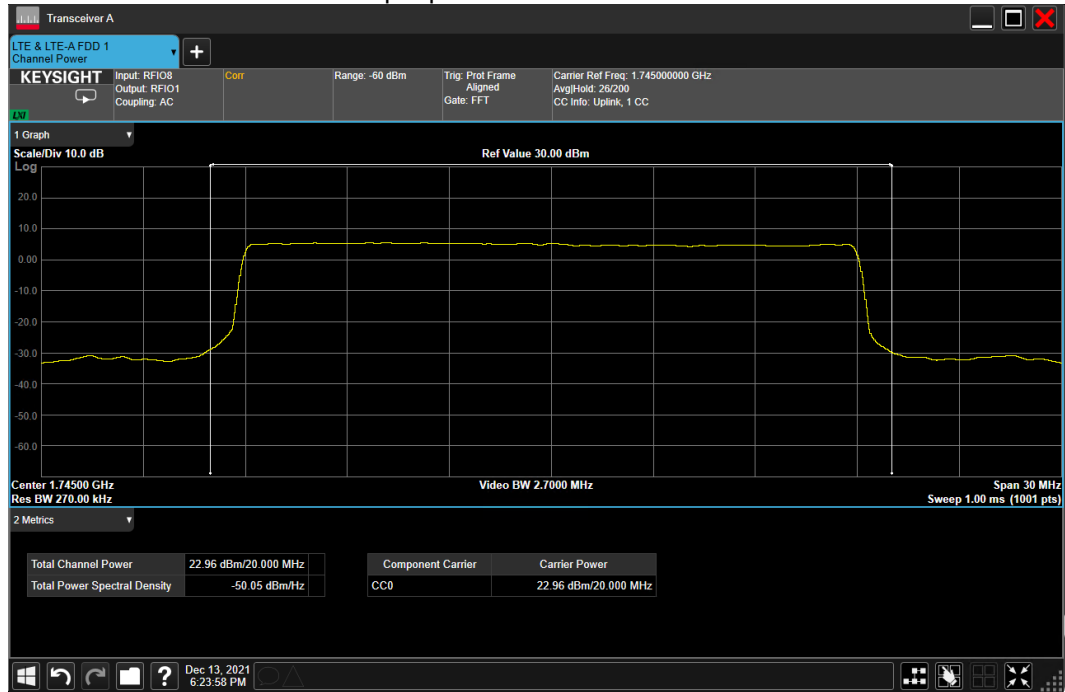
(Figure 2-9)

- Select “Channel Power” for NR output power



(Figure 2-10)

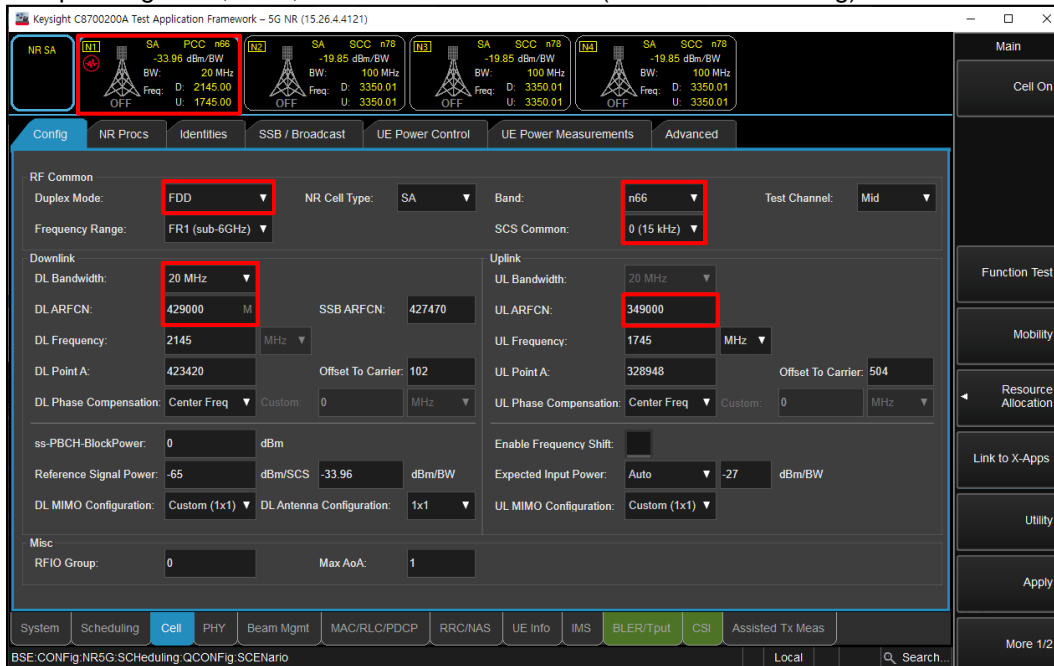
- Select “Channel Power” for LTE output power



(Figure 2-11)

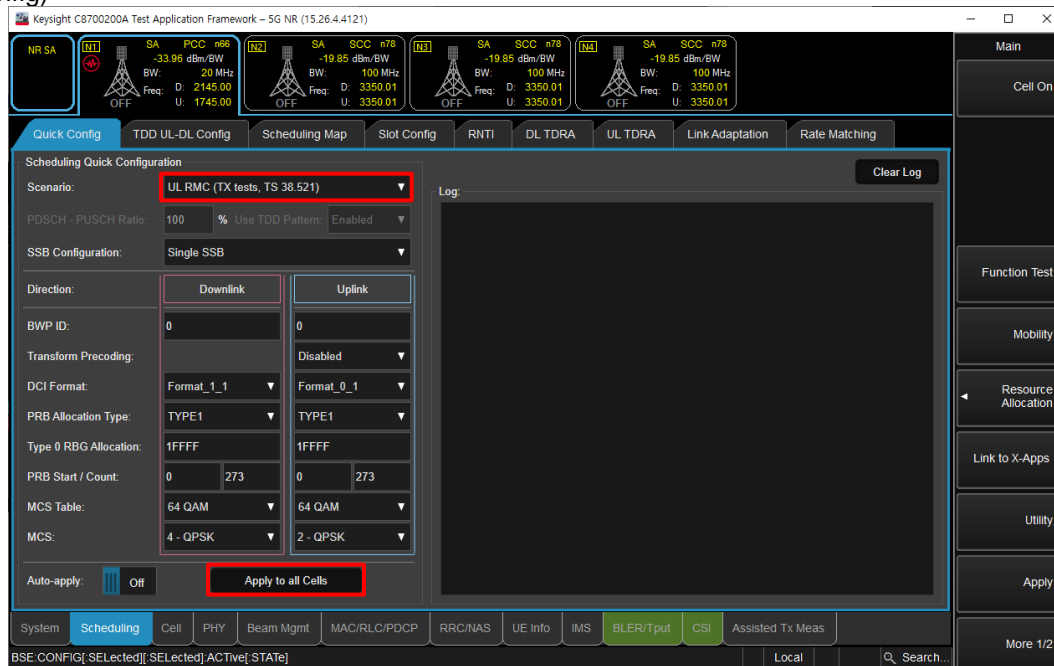
SA Mode

- Select operating band, SCS, BW and Channel for NR (NR -> Cell -> Config)



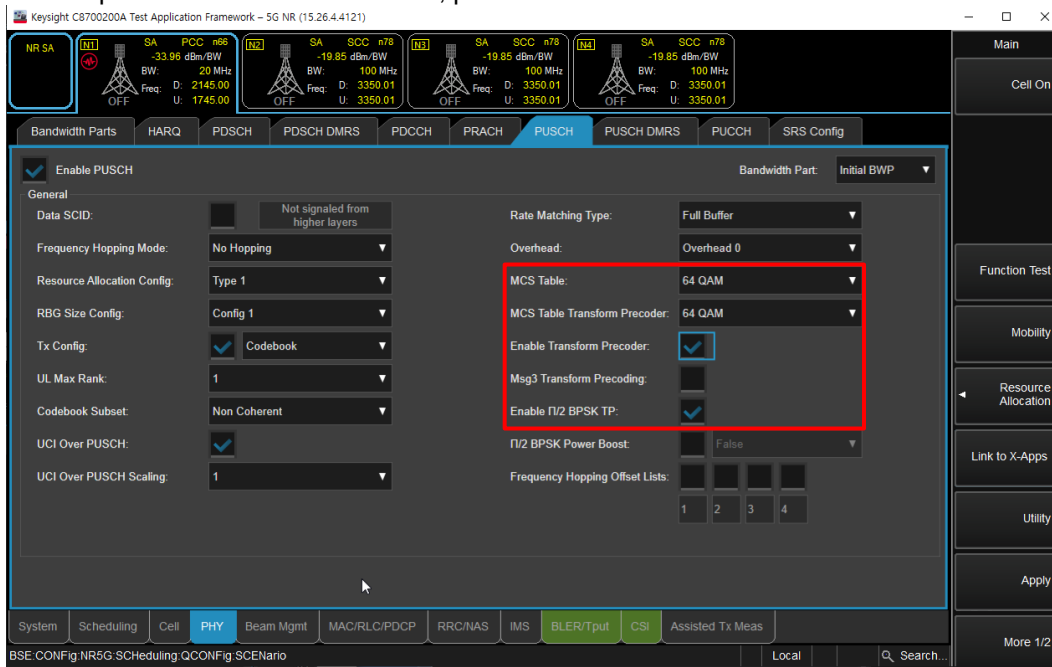
(Figure 3-1)

- Select "UL RMC (TX tests, TS 38.521)" for maximum power RB scheduling (NR -> Scheduling -> Quick Config)



(Figure 3-2)

- To set waveform for NR Band (NR -> PHY -> PUSCH)
 - Select highest modulation in the MCS Table and MCS Table Transform Precoder
 - Enable Transform Precoder: DFT-s-OFDM / disable for CP-OFDM
 - Enable $\pi/2$ BPSK TP: DFT-s-OFDM, $\pi/2$ BPSK modulation



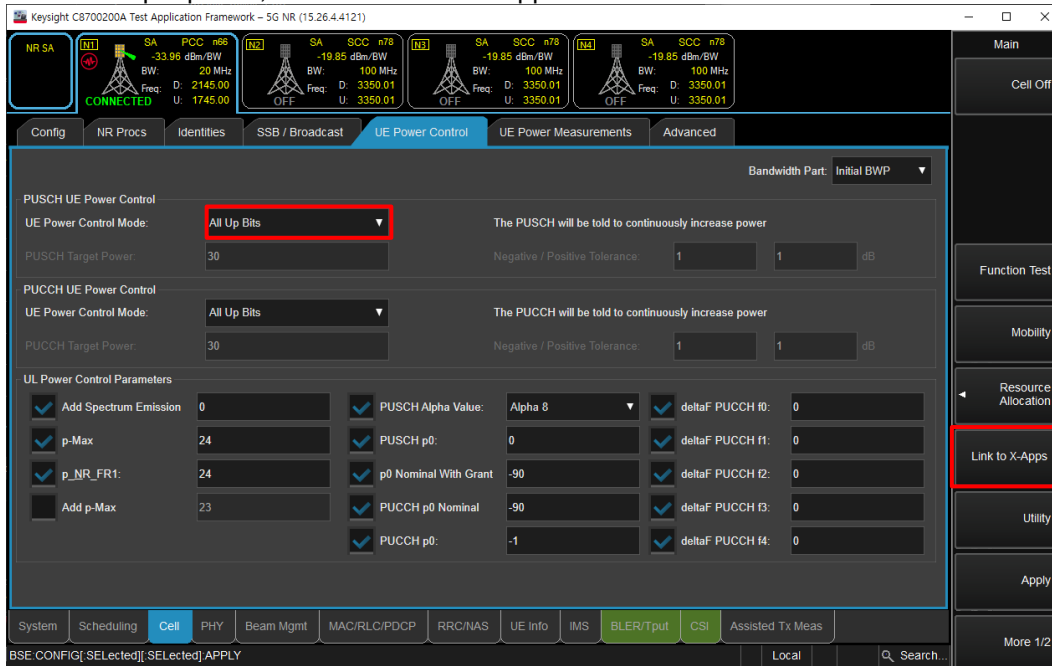
(Figure 3-3)

- Select Uplink Modulation and RB setting (NR -> Scheduling -> Scheduling Map)



(Figure 3-4)

- Click “Cell On” button in the right of Test application screen
- If necessary, turn the Airplane Mode on/off in the DUT
- Select “All Up Bits” of UL Power control Mode (Cell -> UE Power Control)
- To read the output power, click the “Link to X-Apps”



(Figure 3-5)

- Select “Channel Power”



(Figure 3-6)

NR Band n5 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					DSI = 0					DSI = 1				
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					166800 834 MHz	167300 836.5 MHz	167800 839 MHz			166800 834 MHz	167300 836.5 MHz	167800 839 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1		23.89		0.0	25.0		14.79		0.0	16.0
			1	53		23.79		0.0	25.0		14.67		0.0	16.0
			1	104		23.68		0.0	25.0		14.62		0.0	16.0
			50	0		22.97		0.5	24.5		14.92		0.0	16.0
			50	28		23.91		0.0	25.0		14.87		0.0	16.0
			50	56		22.77		0.5	24.5		14.81		0.0	16.0
			100	0		22.89		0.5	24.5		14.93		0.0	16.0
		QPSK	1	1		24.04		0.0	25.0		15.16		0.0	16.0
			1	53		23.90		0.0	25.0		14.78		0.0	16.0
			1	104		23.84		0.0	25.0		14.69		0.0	16.0
			50	0		22.96		1.0	24.0		14.90		0.0	16.0
			50	28		23.89		0.0	25.0		15.01		0.0	16.0
			50	56		22.75		1.0	24.0		14.80		0.0	16.0
			100	0		22.90		1.0	24.0		14.94		0.0	16.0
16QAM	1	1		22.89		1.0	24.0		14.91		0.0	16.0		
64QAM	1	1		21.69		2.5	22.5		15.11		0.0	16.0		
256QAM	1	1		19.00		4.5	20.5		14.34		0.0	16.0		
CP-OFDM	QPSK	1	1		21.11		1.5	23.5		14.92		0.0	16.0	
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1		23.81		0.0	25.0		14.82		0.0	16.0
			1	40		23.77		0.0	25.0		14.70		0.0	16.0
			1	77		23.74		0.0	25.0		14.66		0.0	16.0
			36	0		22.95		0.5	24.5		14.90		0.0	16.0
			36	22		23.91		0.0	25.0		14.86		0.0	16.0
			36	43		22.83		0.5	24.5		14.81		0.0	16.0
			75	0		22.89		0.5	24.5		14.92		0.0	16.0
		QPSK	1	1		24.02		0.0	25.0		14.94		0.0	16.0
			1	40		23.91		0.0	25.0		14.82		0.0	16.0
			1	77		23.88		0.0	25.0		14.74		0.0	16.0
			36	0		22.95		1.0	24.0		14.91		0.0	16.0
			36	22		23.91		0.0	25.0		14.86		0.0	16.0
			36	43		22.83		1.0	24.0		14.80		0.0	16.0
			75	0		22.89		1.0	24.0		14.90		0.0	16.0
16QAM	1	1		22.88		1.0	24.0		14.91		0.0	16.0		
64QAM	1	1		21.65		2.5	22.5		15.09		0.0	16.0		
256QAM	1	1		18.95		4.5	20.5		14.35		0.0	16.0		
CP-OFDM	QPSK	1	1		21.13		1.5	23.5		14.90		0.0	16.0	

NR Band n5 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					165800	167300	168800			165800	167300	168800		
					829 MHz	836.5 MHz	844 MHz			829 MHz	836.5 MHz	844 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1		23.81		0.0	25.0		14.76		0.0	16.0
			1	26		23.83		0.0	25.0		14.77		0.0	16.0
			1	50		23.74		0.0	25.0		14.69		0.0	16.0
			25	0		23.02		0.5	24.5		14.96		0.0	16.0
			25	14		23.97		0.0	25.0		15.00		0.0	16.0
			25	27		22.92		0.5	24.5		14.97		0.0	16.0
		50	0		23.01		0.5	24.5		14.98		0.0	16.0	
		QPSK	1	1		23.94		0.0	25.0		14.89		0.0	16.0
			1	26		23.98		0.0	25.0		14.86		0.0	16.0
			1	50		23.88		0.0	25.0		14.72		0.0	16.0
			25	0		23.01		1.0	24.0		14.96		0.0	16.0
			25	14		23.98		0.0	25.0		15.01		0.0	16.0
			25	27		22.90		1.0	24.0		14.97		0.0	16.0
		16QAM	1	1		22.87		1.0	24.0		14.87		0.0	16.0
64QAM	1		1		21.55		2.5	22.5		15.01		0.0	16.0	
256QAM	1		1		18.85		4.5	20.5		14.31		0.0	16.0	
CP-OFDM	QPSK	1	1		21.12		1.5	23.5		14.80		0.0	16.0	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					165300	167300	169300			165300	167300	169300		
					826.5 MHz	836.5 MHz	846.5 MHz			826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.94	23.88	23.77	0.0	25.0	14.87	14.85	14.73	0.0	16.0
			1	13	23.83	23.82	23.72	0.0	25.0	14.82	14.74	14.66	0.0	16.0
			1	23	23.85	23.86	23.73	0.0	25.0	14.81	14.78	14.69	0.0	16.0
			12	0	22.99	22.95	22.83	0.5	24.5	14.97	14.95	14.83	0.0	16.0
			12	7	23.95	23.94	23.82	0.0	25.0	14.97	14.96	14.85	0.0	16.0
			12	13	22.96	22.93	22.80	0.5	24.5	15.03	14.93	14.85	0.0	16.0
		25	0	23.04	23.00	22.86	0.5	24.5	15.05	15.00	14.86	0.0	16.0	
		QPSK	1	1	24.05	24.08	23.95	0.0	25.0	15.01	15.01	14.90	0.0	16.0
			1	13	24.00	23.99	23.83	0.0	25.0	14.90	14.89	14.72	0.0	16.0
			1	23	24.00	23.97	23.84	0.0	25.0	14.98	14.90	14.68	0.0	16.0
			12	0	22.98	22.98	22.89	1.0	24.0	15.00	14.95	14.84	0.0	16.0
			12	7	23.94	23.93	23.79	0.0	25.0	14.98	14.94	14.85	0.0	16.0
			12	13	23.01	22.92	22.85	1.0	24.0	15.03	14.94	14.88	0.0	16.0
		25	0	23.02	22.99	22.87	1.0	24.0	15.05	15.00	14.86	0.0	16.0	
		16QAM	1	1	22.97	23.06	22.87	1.0	24.0	14.96	14.94	14.88	0.0	16.0
		64QAM	1	1	21.77	21.74	21.63	2.5	22.5	15.18	15.14	14.98	0.0	16.0
		256QAM	1	1	19.02	19.01	18.90	4.5	20.5	14.45	14.44	14.31	0.0	16.0
		CP-OFDM	QPSK	1	1	21.14	21.14	21.15	1.5	23.5	14.95	14.70	14.75	0.0

NR Band n25 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					DSI = 0					DSI = 1				
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					372000	376500	381000			372000	376500	381000		
1860 MHz	1882.5 MHz	1905 MHz	1860 MHz	1882.5 MHz	1905 MHz									
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.93	22.98	23.02	0.0	23.5	11.38	11.42	11.42	0.0	12.0
			1	53	22.95	23.04	22.91	0.0	23.5	11.37	11.33	11.31	0.0	12.0
			1	104	22.97	23.02	22.83	0.0	23.5	11.45	11.38	11.31	0.0	12.0
			50	0	22.13	22.20	22.16	0.5	23.0	11.55	11.55	11.50	0.0	12.0
			50	28	23.15	23.20	23.14	0.0	23.5	11.53	11.58	11.54	0.0	12.0
			50	56	22.16	22.20	22.06	0.5	23.0	11.63	11.53	11.54	0.0	12.0
		QPSK	1	1	23.03	23.11	23.11	0.0	23.5	11.50	11.54	11.51	0.0	12.0
			1	53	23.05	23.14	23.03	0.0	23.5	11.47	11.58	11.46	0.0	12.0
			1	104	23.09	23.10	23.00	0.0	23.5	11.57	11.57	11.45	0.0	12.0
			50	0	22.25	22.16	22.18	1.0	22.5	11.51	11.52	11.47	0.0	12.0
			50	28	23.00	23.24	23.10	0.0	23.5	11.50	11.66	11.52	0.0	12.0
			50	56	22.17	22.18	22.08	1.0	22.5	11.59	11.60	11.52	0.0	12.0
		16QAM	1	1	21.99	22.08	22.11	1.0	22.5	11.44	11.43	11.46	0.0	12.0
			1	1	20.77	20.83	20.87	2.5	21.0	11.66	11.62	11.63	0.0	12.0
256QAM	1	1	17.84	18.04	18.06	4.5	19.0	11.07	11.07	10.99	0.0	12.0		
CP-OFDM	QPSK	1	1	21.06	21.05	21.07	1.5	22.0	11.47	11.47	11.43	0.0	12.0	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					371500	376500	381500			371500	376500	381500		
					1857.5 MHz	1882.5 MHz	1907.5 MHz	1857.5 MHz	1882.5 MHz	1907.5 MHz				
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.97	23.07	22.99	0.0	23.5	11.38	11.38	11.33	0.0	12.0
			1	40	22.95	23.01	22.88	0.0	23.5	11.31	11.32	11.26	0.0	12.0
			1	77	23.03	23.05	22.85	0.0	23.5	11.42	11.39	11.35	0.0	12.0
			36	0	22.10	22.18	22.10	0.5	23.0	11.45	11.49	11.48	0.0	12.0
			36	22	23.12	23.20	23.06	0.0	23.5	11.45	11.49	11.47	0.0	12.0
			36	43	22.16	22.21	22.08	0.5	23.0	11.45	11.45	11.50	0.0	12.0
		QPSK	75	0	22.11	22.20	22.08	0.5	23.0	11.40	11.48	11.49	0.0	12.0
			1	1	23.10	23.19	23.12	0.0	23.5	11.46	11.48	11.44	0.0	12.0
			1	40	23.07	23.14	23.02	0.0	23.5	11.40	11.42	11.39	0.0	12.0
			1	77	23.12	23.17	22.97	0.0	23.5	11.55	11.45	11.39	0.0	12.0
			36	0	22.14	22.19	22.11	1.0	22.5	11.45	11.44	11.46	0.0	12.0
			36	22	23.17	23.18	23.07	0.0	23.5	11.44	11.52	11.46	0.0	12.0
		16QAM	36	43	22.19	22.18	22.05	1.0	22.5	11.44	11.51	11.48	0.0	12.0
			75	0	22.15	22.19	22.11	1.0	22.5	11.42	11.46	11.47	0.0	12.0
64QAM	1	1	22.10	22.15	22.11	1.0	22.5	11.44	11.49	11.38	0.0	12.0		
	1	1	20.81	20.91	20.82	2.5	21.0	11.62	11.67	11.52	0.0	12.0		
256QAM	1	1	17.86	18.03	18.01	4.5	19.0	10.94	10.97	10.94	0.0	12.0		
CP-OFDM	QPSK	1	1	21.05	21.05	21.07	1.5	22.0	11.44	11.47	11.42	0.0	12.0	

Note(s):

NR Band n2 is covered by NR Band n25.

NR Band n25 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
					371000	376500	382000			371000	376500	382000			
					1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz			
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.91	23.13	23.01	0.0	23.5	11.24	11.50	11.39	0.0	12.0	
			1	26	22.96	23.14	23.00	0.0	23.5	11.26	11.39	11.42	0.0	12.0	
			1	50	22.93	23.08	22.96	0.0	23.5	11.38	11.38	11.44	0.0	12.0	
			25	0	22.40	22.27	22.12	0.5	23.0	11.35	11.55	11.51	0.0	12.0	
			25	14	23.10	23.24	23.13	0.0	23.5	11.47	11.56	11.50	0.0	12.0	
			25	27	22.10	22.29	22.13	0.5	23.0	11.50	11.52	11.52	0.0	12.0	
			50	0	22.11	22.25	22.13	0.5	23.0	11.49	11.53	11.57	0.0	12.0	
		QPSK	1	1	23.02	23.20	23.16	0.0	23.5	11.24	11.49	11.49	0.0	12.0	
			1	26	23.02	23.23	23.11	0.0	23.5	11.35	11.53	11.54	0.0	12.0	
			1	50	23.07	23.20	23.07	0.0	23.5	11.45	11.52	11.50	0.0	12.0	
			25	0	22.07	22.26	22.14	1.0	22.5	11.36	11.55	11.56	0.0	12.0	
			25	14	23.13	23.22	23.14	0.0	23.5	11.42	11.55	11.52	0.0	12.0	
			25	27	22.14	22.26	22.09	1.0	22.5	11.48	11.56	11.57	0.0	12.0	
		16QAM	1	1	22.02	22.23	22.13	1.0	22.5	11.28	11.48	11.46	0.0	12.0	
64QAM	1		1	20.78	20.96	20.83	2.5	21.0	11.53	11.67	11.69	0.0	12.0		
256QAM	1		1	17.76	18.11	18.02	4.5	19.0	10.83	10.96	10.96	0.0	12.0		
CP-OFDM	QPSK	1	1	21.04	21.04	21.05	1.5	22.0	11.33	11.41	11.44	0.0	12.0		
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit	
					370500	376500	382500			370500	376500	382500			
					1852.5 MHz	1882.5 MHz	1912.5 MHz			1852.5 MHz	1882.5 MHz	1912.5 MHz			
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.92	23.16	22.99	0.0	23.5	11.29	11.47	11.32	0.0	12.0	
			1	13	22.91	23.11	22.93	0.0	23.5	11.23	11.35	11.37	0.0	12.0	
			1	23	22.95	23.11	22.90	0.0	23.5	11.26	11.40	11.36	0.0	12.0	
			12	0	22.00	22.25	22.06	0.5	23.0	11.35	11.47	11.46	0.0	12.0	
			12	7	23.00	23.14	23.05	0.0	23.5	11.32	11.44	11.45	0.0	12.0	
			12	13	21.99	22.25	22.03	0.5	23.0	11.36	11.45	11.46	0.0	12.0	
			25	0	22.05	22.27	22.08	0.5	23.0	11.37	11.47	11.44	0.0	12.0	
		QPSK	1	1	23.02	23.24	23.09	0.0	23.5	11.38	11.51	11.43	0.0	12.0	
			1	13	23.02	23.20	23.04	0.0	23.5	11.31	11.55	11.50	0.0	12.0	
			1	23	23.05	23.26	23.00	0.0	23.5	11.36	11.58	11.45	0.0	12.0	
			12	0	22.05	22.24	22.05	1.0	22.5	11.37	11.50	11.46	0.0	12.0	
			12	7	22.98	23.22	23.04	0.0	23.5	11.33	11.46	11.42	0.0	12.0	
			12	13	22.06	22.21	22.03	1.0	22.5	11.38	11.50	11.43	0.0	12.0	
			25	0	22.05	22.24	22.11	1.0	22.5	11.33	11.52	11.49	0.0	12.0	
		16QAM	1	1	22.02	22.29	22.05	1.0	22.5	11.35	11.49	11.40	0.0	12.0	
			64QAM	1	1	20.79	20.95	20.83	2.5	21.0	11.57	11.68	11.62	0.0	12.0
			256QAM	1	1	17.84	18.14	18.00	4.5	19.0	10.86	11.03	11.03	0.0	12.0
		CP-OFDM	QPSK	1	1	21.06	21.03	21.04	1.5	22.0	11.32	11.48	11.45	0.0	12.0

Note(s):
NR Band n2 is covered by NR Band n25.

NR Band n41 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)														
					DSI = 0						DSI = 1								
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit					
					509202	518598	528000			509202	518598	528000							
2546.01 MHz	2592.99 MHz	2640 MHz	2546.01 MHz	2592.99 MHz	2640 MHz														
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1			19.90			0.0	21.0			10.96			0.0	12.0	
			1	137			20.25			0.0	21.0				11.15			0.0	12.0
			1	271			20.19			0.0	21.0				10.99			0.0	12.0
			135	0			20.32			0.0	21.0				11.09			0.0	12.0
			135	69			20.31			0.0	21.0				11.05			0.0	12.0
			135	138			20.35			0.0	21.0				10.85			0.0	12.0
		270	0			20.36			0.0	21.0				11.06			0.0	12.0	
		QPSK	1	1			20.05			0.0	21.0				10.81			0.0	12.0
			1	137			20.38			0.0	21.0				11.14			0.0	12.0
			1	271			20.21			0.0	21.0				10.98			0.0	12.0
			135	0			20.31			0.0	21.0				11.03			0.0	12.0
			135	69			20.33			0.0	21.0				11.05			0.0	12.0
			135	138			20.35			0.0	21.0				10.91			0.0	12.0
		270	0			20.31			0.0	21.0				11.08			0.0	12.0	
16QAM	1	1			19.81			0.0	21.0				10.96			0.0	12.0		
64QAM	1	1			20.14			0.0	21.0				10.71			0.0	12.0		
256QAM	1	1			19.15			0.0	21.0				11.06			0.0	12.0		
CP-OFDM	QPSK	1	1			20.09			0.0	21.0			10.77			0.0	12.0		
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
					508200				528996				508200				528996		
					2541 MHz				2644.98 MHz		2541 MHz				2644.98 MHz				
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	19.63				20.33	0.0	21.0	10.97				11.06	0.0	12.0	
			1	123	20.29				20.14	0.0	21.0	11.26				10.87	0.0	12.0	
			1	243	20.57				20.47	0.0	21.0	11.60				11.08	0.0	12.0	
			120	0	20.29				20.34	0.0	21.0	11.06				10.91	0.0	12.0	
			120	63	20.25				19.99	0.0	21.0	11.15				10.76	0.0	12.0	
			120	125	20.14				20.59	0.0	21.0	11.25				10.97	0.0	12.0	
		243	0	20.39				20.55	0.0	21.0	11.24				10.87	0.0	12.0		
		QPSK	1	1	19.83				20.30	0.0	21.0	11.04				11.00	0.0	12.0	
			1	123	20.26				20.11	0.0	21.0	11.28				10.84	0.0	12.0	
			1	243	20.61				20.44	0.0	21.0	11.59				11.01	0.0	12.0	
			120	0	20.34				20.40	0.0	21.0	11.04				10.91	0.0	12.0	
			120	63	20.28				20.03	0.0	21.0	11.18				10.80	0.0	12.0	
			120	125	20.59				20.66	0.0	21.0	11.28				11.03	0.0	12.0	
		243	0	20.44				20.55	0.0	21.0	11.21				10.87	0.0	12.0		
		16QAM	1	1	20.40				20.45	0.0	21.0	11.13				11.13	0.0	12.0	
		64QAM	1	1	19.90				19.95	0.0	21.0	10.84				10.83	0.0	12.0	
		256QAM	1	1	19.48				19.48	0.0	21.0	11.25				11.23	0.0	12.0	
		CP-OFDM	QPSK	1	1	20.05				20.15	0.0	21.0	11.01				10.99	0.0	12.0

NR Band n41 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)				MPR	Tune-up Limit		
					507204		529998				507204		529998					
					2536.02 MHz		2649.99 MHz				2536.02 MHz		2649.99 MHz					
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	19.77			20.00	0.0	21.0	11.17			10.84	0.0	12.0		
			1	109	20.25			20.04	0.0	21.0	11.45			10.89	0.0	12.0		
			1	215	20.37			20.19	0.0	21.0	11.59			10.92	0.0	12.0		
			108	0	20.24			20.28	0.0	21.0	11.23			10.85	0.0	12.0		
			108	55	20.18			20.53	0.0	21.0	11.38			10.79	0.0	12.0		
			108	109	20.37			20.58	0.0	21.0	11.36			10.86	0.0	12.0		
			216	0	20.41			20.45	0.0	21.0	11.26			10.74	0.0	12.0		
		QPSK	1	1	19.83			20.38	0.0	21.0	11.13			10.85	0.0	12.0		
			1	109	20.31			20.10	0.0	21.0	11.31			10.84	0.0	12.0		
			1	215	20.41			20.32	0.0	21.0	11.52			10.94	0.0	12.0		
			108	0	20.29			20.42	0.0	21.0	11.20			10.82	0.0	12.0		
			108	55	20.21			20.05	0.0	21.0	11.34			10.75	0.0	12.0		
			108	109	20.43			20.56	0.0	21.0	11.38			10.91	0.0	12.0		
			216	0	20.41			20.45	0.0	21.0	11.26			10.74	0.0	12.0		
		16QAM	1	1	20.39			20.72	0.0	21.0	11.20			10.98	0.0	12.0		
		64QAM	1	1	19.89			20.18	0.0	21.0	10.94			10.68	0.0	12.0		
		256QAM	1	1	19.39			19.37	0.0	21.0	11.31			11.10	0.0	12.0		
CP-OFDM	QPSK	1	1	20.12			20.44	0.0	21.0	11.11			10.82	0.0	12.0			
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	19.95		20.16		20.44	0.0	21.0	11.40		11.15		10.82	0.0	12.0
			1	81	20.38		20.24		20.72	0.0	21.0	11.61		11.18		11.06	0.0	12.0
			1	160	20.21		20.01		20.80	0.0	21.0	11.51		10.86		11.15	0.0	12.0
			81	0	20.40		20.66		20.51	0.0	21.0	11.32		11.17		11.02	0.0	12.0
			81	41	19.58		20.23		20.28	0.0	21.0	11.54		11.14		11.00	0.0	12.0
			81	81	20.63		20.68		20.74	0.0	21.0	11.49		11.06		11.14	0.0	12.0
			162	0	20.59		20.70		20.67	0.0	21.0	11.42		11.04		10.96	0.0	12.0
		QPSK	1	1	19.96		20.30		20.08	0.0	21.0	11.35		11.14		10.81	0.0	12.0
			1	81	20.43		20.34		20.40	0.0	21.0	11.59		11.16		11.07	0.0	12.0
			1	160	20.28		20.08		20.54	0.0	21.0	11.49		10.92		10.99	0.0	12.0
			81	0	20.42		20.80		20.65	0.0	21.0	11.25		11.19		11.02	0.0	12.0
			81	41	20.33		20.79		20.27	0.0	21.0	11.48		11.09		11.03	0.0	12.0
			81	81	20.61		20.68		20.78	0.0	21.0	11.50		11.09		11.16	0.0	12.0
			162	0	20.59		20.71		20.70	0.0	21.0	11.41		11.10		11.01	0.0	12.0
		16QAM	1	1	20.09		20.80		20.75	0.0	21.0	11.45		11.24		11.00	0.0	12.0
		64QAM	1	1	20.22		20.55		20.22	0.0	21.0	11.17		10.99		10.74	0.0	12.0
		256QAM	1	1	19.67		19.74		19.47	0.0	21.0	11.60		11.40		11.10	0.0	12.0
CP-OFDM	QPSK	1	1	20.34		20.74		20.47	0.0	21.0	11.31		11.15		10.81	0.0	12.0	
505200	518598	531996	2526 MHz	2592.99 MHz	2659.98 MHz	MPR	Tune-up Limit	505200	518598	531996	MPR	Tune-up Limit						
													2526 MHz	2592.99 MHz	2659.98 MHz			
																2526 MHz	2592.99 MHz	2659.98 MHz

NR Band n41 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
					504204	513468	518598	523734	532998			504204	513468	518598	523734	532998		
					2512.02 MHz	2567.34 MHz	2592.99MHz	2618.61 MHz	2664.99MHz			2512.02 MHz	2567.34 MHz	2592.99MHz	2618.61 MHz	2664.99MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.11		20.76		20.40	0.0	21.0	11.38		11.13		10.98	0.0	12.0
			1	67	20.30		20.65		20.40	0.0	21.0	11.38		11.09		11.18	0.0	12.0
			1	131	20.47		20.56		20.66	0.0	21.0	11.50		10.98		11.30	0.0	12.0
			64	0	20.32		20.67		20.53	0.0	21.0	11.21		11.07		11.03	0.0	12.0
			64	35	20.20		20.65		20.50	0.0	21.0	11.31		11.11		11.19	0.0	12.0
			64	69	20.70		20.68		20.80	0.0	21.0	11.43		11.03		11.25	0.0	12.0
		128	0	20.49		20.68		20.77	0.0	21.0	11.32		11.02		11.07	0.0	12.0	
		QPSK	1	1	20.08		20.70		20.63	0.0	21.0	11.36		11.18		10.99	0.0	12.0
			1	67	20.33		20.34		20.50	0.0	21.0	11.43		11.13		11.20	0.0	12.0
			1	131	20.55		20.22		20.78	0.0	21.0	11.50		11.00		11.38	0.0	12.0
			64	0	20.44		20.77		20.63	0.0	21.0	11.19		11.07		11.08	0.0	12.0
			64	35	20.58		20.70		20.72	0.0	21.0	11.29		11.13		11.18	0.0	12.0
			64	69	20.73		20.70		20.84	0.0	21.0	11.47		11.09		11.24	0.0	12.0
		128	0	20.57		20.74		20.81	0.0	21.0	11.36		11.02		11.14	0.0	12.0	
		16QAM	1	1	20.73		20.69		20.64	0.0	21.0	11.56		11.38		11.22	0.0	12.0
		64QAM	1	1	20.25		20.68		20.39	0.0	21.0	11.15		10.98		10.81	0.0	12.0
256QAM	1	1	19.74		19.79		19.56	0.0	21.0	11.24		11.09		10.91	0.0	12.0		
CP-OFDM	QPSK	1	1	20.41		20.83		19.55	0.0	21.0	11.33		11.14		10.98	0.0	12.0	
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.16	20.02		20.20	20.80	0.0	21.0	11.51	11.05		11.12	11.05	0.0	12.0
			1	67	20.28	20.60		20.30	20.56	0.0	21.0	11.27	11.27		10.90	11.10	0.0	12.0
			1	131	20.66	20.84		20.62	20.80	0.0	21.0	11.61	11.27		11.00	10.55	0.0	12.0
			64	0	20.18	20.48		20.51	20.54	0.0	21.0	11.25	11.02		10.99	11.03	0.0	12.0
			64	35	20.36	20.62		20.43	20.61	0.0	21.0	11.25	11.18		10.82	11.10	0.0	12.0
			64	69	20.56	20.70		20.42	20.82	0.0	21.0	11.44	11.13		10.76	10.78	0.0	12.0
		128	0	20.32	20.61		20.49	20.70	0.0	21.0	11.34	11.07		10.95	11.04	0.0	12.0	
		QPSK	1	1	20.17	20.13		19.80	20.20	0.0	21.0	11.53	10.95		11.15	11.05	0.0	12.0
			1	67	20.36	20.76		20.43	20.61	0.0	21.0	11.24	11.25		10.90	11.14	0.0	12.0
			1	131	20.80	20.76		20.67	20.83	0.0	21.0	11.62	11.19		10.99	10.50	0.0	12.0
			64	0	20.23	20.56		20.59	20.61	0.0	21.0	11.25	10.99		11.04	11.00	0.0	12.0
			64	35	20.37	20.62		20.42	20.60	0.0	21.0	11.25	11.15		10.86	11.07	0.0	12.0
			64	69	20.59	20.77		20.45	20.87	0.0	21.0	11.43	11.13		10.85	10.82	0.0	12.0
		128	0	20.32	20.66		20.53	20.68	0.0	21.0	11.34	11.03		10.94	11.04	0.0	12.0	
		16QAM	1	1	20.81	20.85		20.80	20.81	0.0	21.0	11.64	11.01		11.36	11.26	0.0	12.0
		64QAM	1	1	20.23	20.45		20.70	20.60	0.0	21.0	11.38	10.74		11.07	10.94	0.0	12.0
256QAM	1	1	19.78	19.69		19.90	19.80	0.0	21.0	11.60	11.09		11.45	11.29	0.0	12.0		
CP-OFDM	QPSK	1	1	20.48	20.71		20.80	20.70	0.0	21.0	11.53	10.86		11.15	11.05	0.0	12.0	

NR Band n41 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
					502200	510402	518598	526800	534996			502200	510402	518598	526800	534996		
					2511 MHz	2592.01 MHz	2592.99 MHz	2634 MHz	2674.98 MHz			2511 MHz	2592.01 MHz	2592.99 MHz	2634 MHz	2674.98 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.24	20.35	20.79	20.44	20.54	0.0	21.0	11.61	11.62	11.41	11.17	11.33	0.0	12.0
			1	53	20.12	20.28	20.56	20.29	20.67	0.0	21.0	11.26	11.41	11.27	10.95	11.20	0.0	12.0
			1	104	20.53	20.66	20.57	20.64	20.80	0.0	21.0	11.30	11.53	11.26	11.28	9.70	0.0	12.0
			50	0	20.17	20.45	20.69	20.27	20.56	0.0	21.0	11.27	11.48	11.28	10.87	11.12	0.0	12.0
			50	28	20.12	20.47	20.69	20.34	20.70	0.0	21.0	11.29	11.37	11.24	10.93	11.20	0.0	12.0
			50	56	20.45	20.57	20.66	20.54	20.85	0.0	21.0	11.43	11.50	11.27	11.16	10.84	0.0	12.0
			100	0	20.27	20.48	20.69	20.39	20.78	0.0	21.0	11.32	11.52	11.26	11.07	11.05	0.0	12.0
		QPSK	1	1	20.29	20.41	20.73	20.48	20.49	0.0	21.0	11.62	11.53	11.40	11.18	11.32	0.0	12.0
			1	53	20.18	20.51	20.75	20.39	20.72	0.0	21.0	11.24	11.36	11.28	10.93	11.23	0.0	12.0
			1	104	20.70	20.76	20.77	20.73	20.82	0.0	21.0	11.60	11.56	11.28	11.24	9.60	0.0	12.0
			50	0	20.18	20.45	20.75	20.29	20.54	0.0	21.0	11.25	11.52	11.28	10.91	11.10	0.0	12.0
			50	28	20.21	20.46	20.73	20.39	20.70	0.0	21.0	11.28	11.41	11.27	10.97	11.21	0.0	12.0
			50	56	20.44	20.52	20.68	20.57	20.82	0.0	21.0	11.47	11.54	11.31	11.18	10.86	0.0	12.0
			100	0	20.23	20.52	20.74	20.39	20.73	0.0	21.0	11.29	11.54	11.31	11.06	11.06	0.0	12.0
		16QAM	1	1	20.78	20.79	20.79	20.85	20.78	0.0	21.0	11.58	11.61	11.58	11.32	11.53	0.0	12.0
		64QAM	1	1	20.30	20.58	20.74	20.36	20.57	0.0	21.0	11.49	11.58	11.28	11.07	11.22	0.0	12.0
		256QAM	1	1	19.79	19.99	19.88	19.56	19.75	0.0	21.0	11.53	11.56	11.60	11.42	11.56	0.0	12.0
CP-OFDM	QPSK	1	1	20.42	20.79	19.90	20.59	20.78	0.0	21.0	11.62	11.55	11.41	11.14	11.32	0.0	12.0	
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.25	20.45	20.67	20.44	20.53	0.0	21.0	11.34	11.53	11.33	10.84	11.25	0.0	12.0
			1	26	20.13	20.29	20.83	20.41	20.55	0.0	21.0	11.14	11.34	11.17	10.88	11.17	0.0	12.0
			1	49	20.22	20.37	20.75	20.76	20.58	0.0	21.0	11.37	11.41	11.12	11.02	11.23	0.0	12.0
			25	0	20.31	20.55	20.75	20.48	20.81	0.0	21.0	11.23	11.44	11.14	10.90	11.23	0.0	12.0
			25	13	20.36	20.55	20.42	20.42	20.61	0.0	21.0	11.19	11.35	11.19	10.86	11.16	0.0	12.0
			25	26	20.40	20.57	20.72	20.59	20.79	0.0	21.0	11.12	11.40	11.06	10.98	11.12	0.0	12.0
			50	0	20.39	20.58	20.79	20.51	20.78	0.0	21.0	11.26	11.47	11.16	10.86	11.14	0.0	12.0
		QPSK	1	1	20.14	20.50	20.79	20.07	20.59	0.0	21.0	11.34	11.50	11.31	10.77	11.25	0.0	12.0
			1	26	20.01	20.32	20.39	20.15	20.60	0.0	21.0	11.14	11.35	11.19	10.85	11.09	0.0	12.0
			1	49	20.15	20.39	20.45	20.35	20.60	0.0	21.0	11.36	11.45	11.15	11.02	11.23	0.0	12.0
			25	0	20.38	20.67	20.79	20.52	20.80	0.0	21.0	11.27	11.43	11.19	10.93	11.25	0.0	12.0
			25	13	20.38	20.64	20.84	20.48	20.85	0.0	21.0	11.21	11.43	11.20	10.90	11.16	0.0	12.0
			25	26	20.41	20.56	20.73	20.61	20.79	0.0	21.0	11.20	11.47	11.11	11.02	11.20	0.0	12.0
			50	0	20.44	20.62	20.84	20.52	20.87	0.0	21.0	11.23	11.51	11.16	10.89	11.17	0.0	12.0
		16QAM	1	1	20.76	20.85	20.86	20.71	20.79	0.0	21.0	11.46	11.55	11.44	10.96	11.38	0.0	12.0
		64QAM	1	1	20.27	20.56	20.67	20.18	20.70	0.0	21.0	11.14	11.44	11.12	10.67	11.05	0.0	12.0
		256QAM	1	1	19.78	19.96	19.84	19.45	19.88	0.0	21.0	11.58	11.56	11.53	11.02	11.46	0.0	12.0
CP-OFDM	QPSK	1	1	20.48	20.80	20.87	20.43	20.86	0.0	21.0	11.24	11.52	11.26	10.73	11.22	0.0	12.0	

NR Band n66 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					DSI = 0					DSI = 1				
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					344000	349000	354000			344000	349000	354000		
1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz									
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.64	22.44	22.36	0.0	23	11.50	11.51	11.48	0.0	12
			1	53	22.57	22.43	22.30	0.0	23	11.43	11.42	11.42	0.0	12
			1	104	22.70	22.42	22.42	0.0	23	11.49	11.41	11.47	0.0	12
			50	0	21.73	21.69	21.47	0.5	22.5	11.59	11.69	11.57	0.0	12
			50	28	22.78	22.64	22.49	0.0	23	11.61	11.63	11.61	0.0	12
			50	56	21.81	21.59	21.54	0.5	22.5	11.61	11.54	11.60	0.0	12
			100	0	21.80	21.63	21.46	0.5	22.5	11.57	11.59	11.56	0.0	12
		QPSK	1	1	22.81	22.64	22.47	0.00	23	11.71	11.65	11.61	0.00	12
			1	53	22.72	22.50	22.42	0.00	23	11.56	11.68	11.51	0.00	12
			1	104	22.77	22.53	22.52	0.00	23	11.68	11.70	11.63	0.00	12
			50	0	21.75	21.64	21.48	1.00	22	11.55	11.58	11.55	0.00	12
			50	28	22.65	22.60	22.46	0.00	23	11.63	11.62	11.60	0.00	12
			50	56	21.80	21.58	21.49	1.00	22	11.62	11.61	11.59	0.00	12
			100	0	21.78	21.62	21.49	1.00	22	11.63	11.55	11.61	0.00	12
	16QAM	1	1	21.74	21.64	21.48	1.0	22	11.59	11.61	11.53	0.0	12	
64QAM	1	1	20.30	20.24	20.10	2.5	20.5	11.76	11.74	11.74	0.0	12		
256QAM	1	1	17.53	17.45	17.29	4.5	18.5	11.02	11.11	11.07	0.0	12		
CP-OFDM	QPSK	1	1	21.15	21.14	21.16	1.5	21.5	11.54	11.70	11.55	0.0	12	
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.60	22.60	22.39	0.0	23	11.46	11.45	11.42	0.0	12
			1	40	22.62	22.48	22.31	0.0	23	11.43	11.38	11.39	0.0	12
			1	77	22.67	22.51	22.43	0.0	23	11.54	11.50	11.51	0.0	12
			36	0	21.75	21.66	21.46	0.5	22.5	11.56	11.59	11.60	0.0	12
			36	22	22.74	22.63	22.44	0.0	23	11.55	11.62	11.54	0.0	12
			36	43	21.76	21.61	21.49	0.5	22.5	11.61	11.59	11.58	0.0	12
			75	0	21.76	21.66	21.45	0.5	22.5	11.60	11.58	11.58	0.0	12
		QPSK	1	1	22.71	22.71	22.48	0.0	23	11.55	11.58	11.56	0.0	12
			1	40	22.70	22.56	22.42	0.0	23	11.53	11.53	11.48	0.0	12
			1	77	22.81	22.58	22.52	0.0	23	11.73	11.65	11.60	0.0	12
			36	0	21.77	21.70	21.48	1.0	22	11.56	11.59	11.55	0.0	12
			36	22	22.77	22.60	22.47	0.0	23	11.55	11.60	11.54	0.0	12
			36	43	21.78	21.62	21.49	1.0	22	11.60	11.58	11.55	0.0	12
			75	0	21.76	21.65	21.49	1.0	22	11.59	11.60	11.58	0.0	12
	16QAM	1	1	21.72	21.70	21.45	1.0	22	11.53	11.55	11.52	0.0	12	
64QAM	1	1	20.25	20.31	20.03	2.5	20.5	11.72	11.73	11.73	0.0	12		
256QAM	1	1	17.54	17.50	17.23	4.5	18.5	11.04	11.05	10.99	0.0	12		
CP-OFDM	QPSK	1	1	21.15	21.13	21.13	1.5	21.5	11.54	11.53	11.52	0.0	12	

NR Band n66 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					343000	349000	355000			343000	349000	355000		
					1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.64	22.61	22.48	0.0	23	11.31	11.35	11.29	0.0	12
			1	26	22.66	22.68	22.50	0.0	23	11.37	11.38	11.29	0.0	12
			1	50	22.70	22.64	22.54	0.0	23	11.40	11.38	11.29	0.0	12
			25	0	21.74	21.74	21.56	0.5	22.5	11.41	11.44	11.39	0.0	12
			25	14	22.76	22.73	22.61	0.0	23	11.43	11.47	11.41	0.0	12
			25	27	21.79	21.70	21.61	0.5	22.5	11.43	11.48	11.41	0.0	12
			50	0	21.79	21.79	21.63	0.5	22.5	11.45	11.50	11.39	0.0	12
		QPSK	1	1	22.67	22.70	22.53	0.0	23	11.42	11.55	11.40	0.0	12
			1	26	22.74	22.72	22.57	0.0	23	11.56	11.61	11.40	0.0	12
			1	50	22.78	22.68	22.60	0.0	23	11.53	11.61	11.42	0.0	12
			25	0	21.72	21.78	21.57	1.0	22	11.49	11.46	11.38	0.0	12
			25	14	22.73	22.76	22.57	0.0	23	11.44	11.44	11.39	0.0	12
			25	27	21.73	21.75	21.57	1.0	22	11.43	11.45	11.38	0.0	12
			50	0	21.77	21.70	21.53	1.0	22	11.39	11.42	11.38	0.0	12
16QAM	1	1	21.71	21.71	21.56	1.0	22	11.38	11.43	11.37	0.0	12		
64QAM	1	1	20.36	20.36	20.15	2.5	20.5	11.58	11.63	11.51	0.0	12		
256QAM	1	1	17.61	17.57	17.40	4.5	18.5	10.90	10.95	10.86	0.0	12		
CP-OFDM	QPSK	1	1	21.13	21.15	21.14	1.5	21.5	11.34	11.46	11.32	0.0	12	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					342500	349000	355500			342500	349000	355500		
					1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.56	22.65	22.48	0.0	23	11.55	11.60	11.52	0.0	12
			1	13	22.66	22.65	22.55	0.0	23	11.52	11.59	11.60	0.0	12
			1	23	22.66	22.63	22.48	0.0	23	11.52	11.52	11.49	0.0	12
			12	0	21.73	21.72	21.61	0.5	22.5	11.58	11.62	11.60	0.0	12
			12	7	22.72	22.73	22.59	0.0	23	11.63	11.64	11.65	0.0	12
			12	13	21.72	21.73	21.62	0.5	22.5	11.63	11.64	11.63	0.0	12
			25	0	21.71	21.72	21.60	0.5	22.5	11.64	11.68	11.62	0.0	12
		QPSK	1	1	22.72	22.72	22.63	0.0	23	11.65	11.67	11.62	0.0	12
			1	13	22.71	22.73	22.65	0.0	23	11.66	11.76	11.66	0.0	12
			1	23	22.74	22.65	22.64	0.0	23	11.62	11.73	11.65	0.0	12
			12	0	21.75	21.76	21.58	1.0	22	11.58	11.67	11.62	0.0	12
			12	7	22.73	22.70	22.59	0.0	23	11.62	11.64	11.63	0.0	12
			12	13	21.75	21.70	21.64	1.0	22	11.61	11.64	11.64	0.0	12
			25	0	21.76	21.72	21.61	1.0	22	11.60	11.67	11.66	0.0	12
16QAM	1	1	21.71	21.76	21.57	1.0	22	11.57	11.59	11.56	0.0	12		
64QAM	1	1	20.38	20.39	20.21	2.5	20.5	11.76	11.82	11.76	0.0	12		
256QAM	1	1	17.62	17.63	17.42	4.5	18.5	11.11	11.16	11.09	0.0	12		
CP-OFDM	QPSK	1	1	21.14	21.14	21.13	1.5	21.5	11.54	11.59	11.67	0.0	12	

NR Band n71 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					DSI = 0					DSI = 1				
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					134600 673 MHz	136100 680.5 MHz	137600 688 MHz			134600 673 MHz	136100 680.5 MHz	137600 688 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1		23.95		0.0	25		16.03		0.0	17
			1	53		23.89		0.0	25		15.96		0.0	17
			1	104		23.69		0.0	25		15.78		0.0	17
			50	0		23.13		0.5	24.5		16.22		0.0	17
			50	28		24.02		0.0	25		16.06		0.0	17
			50	56		22.92		0.5	24.5		16.01		0.0	17
		QPSK	100	0		23.03		0.5	24.5		16.11		0.0	17
			1	1		24.09		0.0	25		16.16		0.0	17
			1	53		24.02		0.0	25		16.10		0.0	17
			1	104		23.83		0.0	25		15.86		0.0	17
			50	0		23.11		1.0	24		16.15		0.0	17
			50	28		24.02		0.0	25		16.30		0.0	17
			50	56		22.90		1.0	24		16.00		0.0	17
100	0		23.03		1.0	24		16.11		0.0	17			
16QAM	1	1		23.02		1.0	24		16.04		0.0	17		
64QAM	1	1		21.71		2.5	22.5		16.24		0.0	17		
256QAM	1	1		18.89		4.5	20.5		15.52		0.0	17		
CP-OFDM	QPSK	1	1		21.04		1.5	23.5		16.16		0.0	17	
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1		24.00		0.0	25		16.01		0.0	17
			1	40		23.94		0.0	25		16.00		0.0	17
			1	77		23.80		0.0	25		15.83		0.0	17
			36	0		23.10		0.5	24.5		16.16		0.0	17
			36	22		24.02		0.0	25		16.12		0.0	17
			36	43		22.94		0.5	24.5		16.01		0.0	17
			75	0		23.02		0.5	24.5		16.10		0.0	17
		QPSK	1	1		24.06		0.0	25		16.16		0.0	17
			1	40		24.07		0.0	25		16.07		0.0	17
			1	77		23.89		0.0	25		15.91		0.0	17
			36	0		23.12		1.0	24		16.19		0.0	17
			36	22		24.06		0.0	25		16.10		0.0	17
			36	43		22.93		1.0	24		16.06		0.0	17
75	0		23.10		1.0	24		16.10		0.0	17			
16QAM	1	1		23.06		1.0	24		16.10		0.0	17		
64QAM	1	1		21.72		2.5	22.5		16.27		0.0	17		
256QAM	1	1		19.00		4.5	20.5		15.63		0.0	17		
CP-OFDM	QPSK	1	1		21.02		1.5	23.5		16.19		0.0	17	

NR Band n71 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					133600	136100	138600			133600	136100	138600		
					668 MHz	680.5 MHz	693 MHz			668 MHz	680.5 MHz	693 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.15	24.08	23.92	0.0	25	16.24	16.18	16.00	0.0	17
			1	26	24.10	24.14	23.85	0.0	25	16.10	16.20	15.89	0.0	17
			1	50	24.13	24.02	23.70	0.0	25	16.12	16.13	15.78	0.0	17
			25	0	23.21	23.22	22.94	0.5	24.5	16.24	16.19	16.02	0.0	17
			25	14	24.16	24.20	23.88	0.0	25	16.14	16.26	15.93	0.0	17
			25	27	23.09	23.15	22.79	0.5	24.5	16.20	16.17	15.89	0.0	17
		QPSK	50	0	23.14	23.12	22.91	0.5	24.5	16.09	16.22	15.95	0.0	17
			1	1	24.21	24.15	24.02	0.0	25	16.25	16.18	16.08	0.0	17
			1	26	24.16	24.21	23.91	0.0	25	16.11	16.27	15.97	0.0	17
			1	50	24.24	24.10	23.76	0.0	25	16.17	16.17	15.85	0.0	17
			25	0	23.24	23.24	22.90	1.0	24	16.17	16.19	16.02	0.0	17
			25	14	24.17	24.19	23.88	0.0	25	16.14	16.24	15.94	0.0	17
			25	27	23.14	23.12	22.82	1.0	24	16.20	16.17	15.89	0.0	17
			50	0	23.16	23.15	22.90	1.0	24	16.11	16.26	15.93	0.0	17
16QAM	1	1	23.22	23.16	23.02	1.0	24	16.22	16.21	16.03	0.0	17		
64QAM	1	1	21.90	21.83	21.63	2.5	22.5	16.45	16.42	16.23	0.0	17		
256QAM	1	1	19.18	19.11	18.92	4.5	20.5	15.77	15.74	15.60	0.0	17		
CP-OFDM	QPSK	1	1	21.08	21.09	21.09	1.5	23.5	16.27	16.23	16.07	0.0	17	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					133100	136100	139100			133100	136100	139100		
					665.5 MHz	680.5 MHz	695.5 MHz			665.5 MHz	680.5 MHz	695.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.12	24.12	23.80	0.0	25	16.22	16.05	15.89	0.0	17
			1	13	24.04	24.14	23.81	0.0	25	16.14	16.16	15.87	0.0	17
			1	23	24.12	24.02	23.70	0.0	25	16.07	16.11	15.74	0.0	17
			12	0	23.15	23.18	22.89	0.5	24.5	16.24	16.25	15.95	0.0	17
			12	7	24.10	24.18	23.86	0.0	25	16.18	16.26	15.95	0.0	17
			12	13	23.22	23.14	22.79	0.5	24.5	16.20	16.17	15.87	0.0	17
		QPSK	25	0	23.24	23.14	22.82	0.5	24.5	16.20	16.21	15.94	0.0	17
			1	1	24.20	24.19	23.90	0.0	25	16.29	16.13	15.92	0.0	17
			1	13	24.17	24.21	23.85	0.0	25	16.23	16.24	15.93	0.0	17
			1	23	24.16	24.09	23.75	0.0	25	16.11	16.11	15.80	0.0	17
			12	0	23.22	23.18	22.87	1.0	24	16.27	16.27	15.93	0.0	17
			12	7	24.11	24.17	23.84	0.0	25	16.19	16.22	15.95	0.0	17
			12	13	23.21	23.13	22.82	1.0	24	16.21	16.18	15.86	0.0	17
			25	0	23.25	23.20	22.87	1.0	24	16.20	16.23	15.91	0.0	17
16QAM	1	1	23.19	23.24	22.87	1.0	24	16.21	16.08	15.90	0.0	17		
64QAM	1	1	21.88	21.86	21.54	2.5	22.5	16.47	16.31	16.12	0.0	17		
256QAM	1	1	19.12	19.16	18.88	4.5	20.5	15.76	15.64	15.50	0.0	17		
CP-OFDM	QPSK	1	1	21.12	21.07	21.08	1.5	23.5	16.29	16.10	15.94	0.0	17	

NR Band n77(Voice/Data/SRS0)- Lower Band- Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					DSI = 0				DSI = 1					
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
						633334	3500.01 MHz				633334	3500.01 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1		18.39		0.0	19.3		8.77		0.0	9.5
			1	137		18.41		0.0	19.3		8.50		0.0	9.5
			1	271		18.44		0.0	19.3		8.46		0.0	9.5
			135	0		18.41		0.0	19.3		8.59		0.0	9.5
			135	69		18.54		0.0	19.3		8.51		0.0	9.5
			135	138		18.61		0.0	19.3		8.36		0.0	9.5
			270	0		18.61		0.0	19.3		8.52		0.0	9.5
		QPSK	1	1		18.47		0.0	19.3		8.58		0.0	9.5
			1	137		18.37		0.0	19.3		8.41		0.0	9.5
			1	271		18.38		0.0	19.3		8.39		0.0	9.5
			135	0		18.24		0.0	19.3		8.52		0.0	9.5
			135	69		18.45		0.0	19.3		8.53		0.0	9.5
			135	138		18.18		0.0	19.3		8.23		0.0	9.5
			270	0		18.39		0.0	19.3		8.42		0.0	9.5
16QAM	1	1		18.85		0.0	19.3		8.47		0.0	9.5		
64QAM	1	1		18.77		0.0	19.3		8.59		0.0	9.5		
256QAM	1	1		18.84		0.0	19.3		8.53		0.0	9.5		
CP-OFDM	QPSK	1	1		18.83		0.0	19.3		8.89		0.0	9.5	
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1		18.51		0.0	19.3		8.34		0.0	9.5
			1	109		18.48		0.0	19.3		8.23		0.0	9.5
			1	215		18.39		0.0	19.3		8.14		0.0	9.5
			108	0		18.75		0.0	19.3		8.36		0.0	9.5
			108	55		18.51		0.0	19.3		8.32		0.0	9.5
			108	109		18.78		0.0	19.3		8.21		0.0	9.5
			216	0		18.75		0.0	19.3		8.32		0.0	9.5
		QPSK	1	1		18.65		0.0	19.3		8.41		0.0	9.5
			1	109		18.64		0.0	19.3		8.27		0.0	9.5
			1	215		18.52		0.0	19.3		8.19		0.0	9.5
			108	0		18.80		0.0	19.3		8.40		0.0	9.5
			108	55		18.80		0.0	19.3		8.34		0.0	9.5
			108	109		18.83		0.0	19.3		8.25		0.0	9.5
			216	0		18.76		0.0	19.3		8.36		0.0	9.5
16QAM	1	1		18.96		0.0	19.3		8.41		0.0	9.5		
64QAM	1	1		18.74		0.0	19.3		8.53		0.0	9.5		
256QAM	1	1		18.88		0.0	19.3		8.46		0.0	9.5		
CP-OFDM	QPSK	1	1		18.78		0.0	19.3		8.42		0.0	9.5	

Note(s):

NR Band n78 is covered by NR Band n77.

NR Band n77(Voice/Data/SRS0)- Lower Band- Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					633334					633334				
					3500.01 MHz					3500.01 MHz				
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1		18.83		0.0	19.3		8.73		0.0	9.50
			1	81		18.83		0.0	19.3		8.58		0.0	9.50
			1	160		18.68		0.0	19.3		8.38		0.0	9.50
			81	0		18.63		0.0	19.3		8.56		0.0	9.50
			81	41		18.87		0.0	19.3		8.55		0.0	9.50
			81	81		18.81		0.0	19.3		8.32		0.0	9.50
			162	0		18.90		0.0	19.3		8.54		0.0	9.50
		QPSK	1	1		18.81		0.0	19.3		8.48		0.0	9.50
			1	81		18.89		0.0	19.3		8.50		0.0	9.50
			1	160		18.65		0.0	19.3		8.25		0.0	9.50
			81	0		18.96		0.0	19.3		8.49		0.0	9.50
			81	41		18.82		0.0	19.3		8.46		0.0	9.50
			81	81		18.94		0.0	19.3		8.31		0.0	9.50
			162	0		18.92		0.0	19.3		8.44		0.0	9.50
16QAM	1	1		18.91		0.0	19.3		8.45		0.0	9.50		
64QAM	1	1		18.93		0.0	19.3		8.57		0.0	9.50		
256QAM	1	1		18.82		0.0	19.3		8.49		0.0	9.50		
CP-OFDM	QPSK	1	1		18.97		0.0	19.3		8.45		0.0	9.50	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					631334	633334	635332			631334	633334	635332		
					3470.01 MHz					3500.01 MHz				
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.86		18.92	0.0	19.3	8.65		8.80	0.0	9.50
			1	53	18.88		18.80	0.0	19.3	8.57		8.59	0.0	9.50
			1	104	18.78		18.84	0.0	19.3	8.59		8.61	0.0	9.50
			50	0	18.74		18.84	0.0	19.3	8.71		8.69	0.0	9.50
			50	28	18.94		18.89	0.0	19.3	8.66		8.55	0.0	9.50
			50	56	18.94		18.90	0.0	19.3	8.71		8.61	0.0	9.50
			100	0	18.88		18.96	0.0	19.3	8.66		8.60	0.0	9.50
		QPSK	1	1	18.77		18.95	0.0	19.3	8.73		8.60	0.0	9.50
			1	53	18.88		18.84	0.0	19.3	8.57		8.42	0.0	9.50
			1	104	18.84		18.94	0.0	19.3	8.65		8.44	0.0	9.50
			50	0	18.80		18.97	0.0	19.3	8.73		8.54	0.0	9.50
			50	28	18.74		18.88	0.0	19.3	8.63		8.50	0.0	9.50
			50	56	18.88		18.88	0.0	19.3	8.67		8.56	0.0	9.50
			100	0	18.89		18.88	0.0	19.3	8.70		8.55	0.0	9.50
		16QAM	1	1	18.91		18.84	0.0	19.3	8.75		8.56	0.0	9.50
		64QAM	1	1	18.78		18.84	0.0	19.3	8.84		8.74	0.0	9.50
		256QAM	1	1	18.94		18.88	0.0	19.3	8.74		8.59	0.0	9.50
		CP-OFDM	QPSK	1	1	18.82		18.87	0.0	19.3	8.72		8.62	0.0

Note(s):

NR Band n78 is covered by NR Band n77.

NR Band n77(Voice/Data/SRS0)- Lower Band- Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					631000	633334	635666			631000	633334	635666		
					3465 MHz	3500.01 MHz	3534.99 MHz			3465 MHz	3500.01 MHz	3534.99 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.76	18.95	18.72	0.0	19.3	8.74	8.63	8.45	0.0	9.50
			1	39	18.72	18.85	18.65	0.0	19.3	8.66	8.45	8.37	0.0	9.50
			1	76	18.84	18.86	18.78	0.0	19.3	8.76	8.51	8.35	0.0	9.50
			36	0	18.75	18.76	18.88	0.0	19.3	8.78	8.56	8.50	0.0	9.50
			36	21	18.78	18.88	18.75	0.0	19.3	8.71	8.49	8.42	0.0	9.50
			36	42	18.87	18.77	18.81	0.0	19.3	8.72	8.54	8.46	0.0	9.50
			75	0	18.82	18.83	18.78	0.0	19.3	8.76	8.52	8.51	0.0	9.50
		QPSK	1	1	18.94	19.00	18.88	0.0	19.3	8.78	8.72	8.52	0.0	9.50
			1	39	18.85	18.93	18.78	0.0	19.3	8.64	8.45	8.39	0.0	9.50
			1	76	18.93	18.89	18.90	0.0	19.3	8.68	8.48	8.37	0.0	9.50
			36	0	18.88	18.84	18.68	0.0	19.3	8.74	8.57	8.57	0.0	9.50
			36	21	18.92	18.92	18.77	0.0	19.3	8.66	8.47	8.47	0.0	9.50
			36	42	18.64	18.84	18.68	0.0	19.3	8.74	8.55	8.52	0.0	9.50
		16QAM	1	1	19.03	19.02	18.97	0.0	19.3	8.70	8.66	8.46	0.0	9.50
	64QAM		1	1	18.96	18.93	18.85	0.0	19.3	8.85	8.78	8.53	0.0	9.50
256QAM	1		1	19.26	19.27	19.17	0.0	19.3	8.77	8.69	8.54	0.0	9.50	
CP-OFDM	QPSK	1	1	19.10	19.13	19.02	0.0	19.3	8.73	8.65	8.55	0.0	9.50	
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.73	18.74	18.55	0.0	19.3	8.74	8.64	8.43	0.0	9.50
			1	26	18.78	18.72	18.57	0.0	19.3	8.72	8.60	8.47	0.0	9.50
			1	49	18.87	18.62	18.69	0.0	19.3	8.75	8.63	8.40	0.0	9.50
			25	0	18.69	18.71	18.67	0.0	19.3	8.73	8.59	8.47	0.0	9.50
			25	13	18.85	18.73	18.69	0.0	19.3	8.68	8.52	8.44	0.0	9.50
			25	26	18.92	18.95	18.89	0.0	19.3	8.72	8.61	8.48	0.0	9.50
			50	0	18.98	18.97	18.94	0.0	19.3	8.72	8.61	8.48	0.0	9.50
		QPSK	1	1	18.99	19.02	18.83	0.0	19.3	8.83	8.70	8.61	0.0	9.50
			1	26	18.92	18.96	18.74	0.0	19.3	8.75	8.59	8.53	0.0	9.50
			1	49	18.96	18.86	18.81	0.0	19.3	8.77	8.62	8.42	0.0	9.50
			25	0	18.99	19.01	18.89	0.0	19.3	8.76	8.57	8.50	0.0	9.50
			25	13	18.95	18.64	18.81	0.0	19.3	8.73	8.58	8.44	0.0	9.50
			25	26	19.03	19.03	19.04	0.0	19.3	8.78	8.61	8.50	0.0	9.50
			50	0	19.02	19.07	19.02	0.0	19.3	8.75	8.57	8.54	0.0	9.50
	16QAM	1	1	19.05	18.98	18.60	0.0	19.3	8.66	8.54	8.48	0.0	9.50	
64QAM		1	1	18.98	18.97	18.65	0.0	19.3	8.89	8.77	8.70	0.0	9.50	
256QAM		1	1	19.31	19.23	19.01	0.0	19.3	9.02	8.88	8.80	0.0	9.50	
CP-OFDM	QPSK	1	1	19.09	19.09	18.87	0.0	19.3	8.89	8.72	8.63	0.0	9.50	

Note(s):

NR Band n78 is covered by NR Band n77.

NR Band n77(SRS1/SRS2/SRS3)- Lower Band- Measured Results

BW (MHz)	Mode	Maximum Allowed Average Power (dBm)				Maximum Allowed Average Power (dBm)				Maximum Allowed Average Power (dBm)					
		DSI = 0, 1				DSI = 0, 1				DSI = 0, 1					
		SRS 1 Measured Pwr (dBm)			Tune-up Limit	SRS 2 Measured Pwr (dBm)			Tune-up Limit	SRS 3 Measured Pwr (dBm)			Tune-up Limit		
	633334			633334				633334							
		3500.01 MHz				3500.01 MHz				3500.01 MHz					
100 MHz	SRS CW		11.36		12.0		9.65		10.5		10.15		10.5		
BW (MHz)	Mode	Measured Pwr (dBm)				Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	
			633334					633334					633334		
				3500.01 MHz				3500.01 MHz				3500.01 MHz			
80 MHz	SRS CW		11.26		12.0		9.03		10.5		10.13		10.5		
BW (MHz)	Mode	Measured Pwr (dBm)				Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	
			633334					633334					633334		
				3500.01 MHz				3500.01 MHz				3500.01 MHz			
60 MHz	SRS CW		11.54		12.0		9.05		10.5		10.25		10.5		
BW (MHz)	Mode	Measured Pwr (dBm)				Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	
		631334		635332			631334		635332			631334			635332
				3470.01 MHz		3529.98 MHz			3470.01 MHz		3529.98 MHz			3470.01 MHz	
40 MHz	SRS CW	11.62		11.52	12.0	9.17		9.31	10.5	10.45		10.44	10.5		
BW (MHz)	Mode	Measured Pwr (dBm)				Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	
		631000	633334	635666			631000	633334	635666			631000	633334		635666
				3465 MHz	3500.01 MHz	3534.99 MHz			3465 MHz	3500.01 MHz	3534.99 MHz			3465 MHz	3500.01 MHz
30 MHz	SRS CW	11.53	11.55	11.56	12.0	9.24	9.24	9.31	10.5	10.46	10.48	10.45	10.5		
BW (MHz)	Mode	Measured Pwr (dBm)				Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	Measured Pwr (dBm)			Tune-up Limit	
		630668	633334	636000			630668	633334	636000			630668	633334		636000
				3460.02 MHz	3500.01 MHz	3540 MHz			3460.02 MHz	3500.01 MHz	3540 MHz			3460.02 MHz	3500.01 MHz
20 MHz	SRS CW	11.56	11.55	11.51	12.0	9.19	9.28	9.25	10.5	10.42	10.44	10.42	10.5		

Notes:

SRS1/SRS2/SRS3 were measured output power through FTM mode provided by manufacturer.

NR Band n77(Voice/Data/SRS0)- Upper Band- Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)																								
					DSI = 0							DSI = 1																	
					Measured Pwr (dBm)							MPR	Tune-up Limit	Measured Pwr (dBm)							MPR	Tune-up Limit							
					650000				662000					650000				662000											
3750 MHz				3930 MHz			3750 MHz				3930 MHz																		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	19.07				18.62			0.0	19.3	8.35				8.40			0.0	9.50							
			1	137	19.26				18.75			0.0	19.3	8.65				8.31			0.0	9.50							
			1	271	19.29				18.77			0.0	19.3	8.70				8.33			0.0	9.50							
			135	0	18.93				18.79			0.0	19.3	8.47				8.33			0.0	9.50							
			135	69	19.23				18.76			0.0	19.3	8.58				8.25			0.0	9.50							
			135	138	19.02				18.75			0.0	19.3	8.56				8.24			0.0	9.50							
		270	0	19.06				18.82			0.0	19.3	8.50				8.25			0.0	9.50								
		1	1	19.28				18.97			0.0	19.3	8.70				8.34			0.0	9.50								
		1	137	19.25				18.89			0.0	19.3	8.60				8.26			0.0	9.50								
		1	271	19.24				18.84			0.0	19.3	8.66				8.28			0.0	9.50								
		135	0	19.05				18.59			0.0	19.3	8.55				8.39			0.0	9.50								
		135	69	19.28				18.82			0.0	19.3	8.64				8.41			0.0	9.50								
		135	138	19.10				18.83			0.0	19.3	8.63				8.26			0.0	9.50								
		270	0	19.05				18.87			0.0	19.3	8.51				8.28			0.0	9.50								
16QAM	1	1	19.02				19.05			0.0	19.3	8.65				8.58			0.0	9.50									
64QAM	1	1	19.06				19.15			0.0	19.3	8.63				8.56			0.0	9.50									
256QAM	1	1	19.14				18.77			0.0	19.3	8.56				8.50			0.0	9.50									
CP-OFDM	QPSK	1	1	19.05				18.94			0.0	19.3	8.41				8.29			0.0	9.50								
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)																								
					649334							MPR	Tune-up Limit	656000							MPR	Tune-up Limit							
					3740.01 MHz									3840 MHz									3939.99 MHz						
					3740.01 MHz									3740.01 MHz										3740.01 MHz					
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.95				18.70			0.0	19.3	8.20				8.37			7.98	0.0	9.50						
			1	109	19.13				18.61			0.0	19.3	8.30				8.42			7.90	0.0	9.50						
			1	215	19.14				18.45			0.0	19.3	8.24				8.47			7.86	0.0	9.50						
			108	0	19.07				18.88			0.0	19.3	8.30				8.34			7.92	0.0	9.50						
			108	55	19.22				18.91			0.0	19.3	8.26				8.41			7.90	0.0	9.50						
			108	109	19.06				18.83			0.0	19.3	8.25				8.38			7.87	0.0	9.50						
		216	0	19.19				18.92			0.0	19.3	8.23				8.40			7.87	0.0	9.50							
		1	1	19.05				19.19			0.0	19.3	8.28				8.14			8.55	0.0	9.50							
		1	109	19.22				18.70			0.0	19.3	8.29				8.36			8.65	0.0	9.50							
		1	215	19.19				18.52			0.0	19.3	8.18				8.41			8.66	0.0	9.50							
		108	0	19.15				19.08			0.0	19.3	8.29				8.27			8.67	0.0	9.50							
		108	55	19.27				18.66			0.0	19.3	8.32				8.38			8.65	0.0	9.50							
		108	109	19.22				18.92			0.0	19.3	8.22				8.32			8.77	0.0	9.50							
		216	0	19.20				18.99			0.0	19.3	8.24				8.36			7.92	0.0	9.50							
16QAM	1	1	19.24				19.25			0.0	19.3	8.35				8.35			8.69	0.0	9.50								
64QAM	1	1	19.06				19.04			0.0	19.3	8.28				8.28			8.54	0.0	9.50								
256QAM	1	1	19.14				19.11			0.0	19.3	8.33				8.31			8.62	0.0	9.50								
CP-OFDM	QPSK	1	1	19.22				19.16			0.0	19.3	8.33				8.34			8.63	0.0	9.50							

Note(s):
NR Band n78 is covered by NR Band n77.

NR Band n77(Voice/Data/SRS0)- Upper Band- Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit	Measured Pwr (dBm)						MPR	Tune-up Limit
					648668	653556			658444	663332			648668	653556			658444	663332		
					3730.02 MHz	3803.34 MHz			3876.66 MHz	3949.98 MHz			3730.02 MHz	3803.34 MHz			3876.66 MHz	3949.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.95	18.93			18.52	18.78	0.0	19.3	8.29	8.41			8.45	8.57	0.0	9.50
			1	81	19.13	18.87			18.54	18.70	0.0	19.3	8.30	8.45			8.56	8.65	0.0	9.50
			1	160	19.25	18.74			18.62	18.74	0.0	19.3	8.28	8.47			8.66	8.51	0.0	9.50
			81	0	18.99	19.20			18.98	18.67	0.0	19.3	8.32	8.42			8.50	8.65	0.0	9.50
			81	41	19.21	18.85			18.66	18.69	0.0	19.3	8.26	8.42			8.60	8.64	0.0	9.50
			81	81	19.23	19.18			18.98	18.68	0.0	19.3	8.32	8.45			8.55	8.55	0.0	9.50
		162	0	19.28	19.24			19.06	18.85	0.0	19.3	8.34	8.42			8.61	8.57	0.0	9.50	
		QPSK	1	1	19.12	18.97			18.89	18.72	0.0	19.3	8.35	8.45			8.46	8.65	0.0	9.50
			1	81	19.23	18.93			18.83	18.74	0.0	19.3	8.26	8.38			8.51	8.60	0.0	9.50
			1	160	19.29	18.83			18.78	18.75	0.0	19.3	8.30	8.37			8.60	8.51	0.0	9.50
			81	0	19.24	19.20			19.04	18.90	0.0	19.3	8.38	8.47			8.47	8.65	0.0	9.50
			81	41	19.22	18.95			18.79	18.70	0.0	19.3	8.31	8.42			8.58	8.63	0.0	9.50
			81	81	19.30	19.15			19.01	18.82	0.0	19.3	8.30	8.50			8.57	8.56	0.0	9.50
		162	0	19.24	19.18			19.05	18.96	0.0	19.3	8.36	8.44			8.58	8.56	0.0	9.50	
16QAM	1	1	19.20	18.84			19.16	19.01	0.0	19.3	8.46	8.51			8.57	8.70	0.0	9.50		
64QAM	1	1	19.18	18.96			19.21	19.06	0.0	19.3	8.33	8.40			8.44	8.59	0.0	9.50		
256QAM	1	1	19.29	19.24			19.15	19.02	0.0	19.3	8.45	8.47			8.50	8.70	0.0	9.50		
CP-OFDM	QPSK	1	1	19.28	19.02			19.08	18.94	0.0	19.3	8.42	8.50			8.53	8.72	0.0	9.50	
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	19.03	19.30	19.16	19.08	18.81	18.82	0.0	19.3	8.26	8.30	8.29	8.45	8.22	8.06	0.0	9.50
			1	53	19.08	19.11	19.01	18.85	18.73	18.77	0.0	19.3	8.27	8.31	8.42	8.70	8.55	7.99	0.0	9.50
			1	104	18.20	19.06	19.01	18.85	18.81	18.84	0.0	19.3	8.31	8.23	8.43	8.70	8.60	8.05	0.0	9.50
			50	0	19.22	19.21	19.22	19.11	18.89	18.77	0.0	19.3	8.28	8.31	8.30	8.60	8.45	8.10	0.0	9.50
			50	28	19.17	19.12	19.11	18.84	18.78	18.73	0.0	19.3	8.30	8.29	8.35	8.55	8.48	7.99	0.0	9.50
			50	56	19.30	19.23	19.26	19.02	18.91	18.88	0.0	19.3	8.21	8.22	8.36	8.66	8.53	7.94	0.0	9.50
		100	0	19.29	19.27	19.30	19.15	19.01	18.93	0.0	19.3	8.32	8.27	8.40	8.60	8.44	7.95	0.0	9.50	
		QPSK	1	1	19.28	18.88	18.91	19.16	19.09	18.91	0.0	19.3	8.33	8.33	8.27	8.52	8.35	8.05	0.0	9.50
			1	53	19.19	19.14	19.14	18.94	18.84	18.79	0.0	19.3	8.30	8.28	8.35	8.67	8.60	8.01	0.0	9.50
			1	104	18.84	19.11	19.11	19.01	18.85	18.89	0.0	19.3	8.21	8.21	8.35	8.57	8.60	8.00	0.0	9.50
			50	0	19.29	19.21	19.23	19.08	19.10	18.96	0.0	19.3	8.36	8.32	8.31	8.41	8.48	8.09	0.0	9.50
			50	28	19.17	19.17	19.16	18.97	18.82	18.78	0.0	19.3	8.35	8.32	8.38	8.51	8.53	8.01	0.0	9.50
			50	56	19.25	19.27	19.25	19.11	19.09	18.98	0.0	19.3	8.24	8.30	8.35	8.61	8.59	7.98	0.0	9.50
		100	0	19.28	19.21	19.22	19.20	19.07	19.00	0.0	19.3	8.31	8.31	8.38	8.56	8.46	7.96	0.0	9.50	
16QAM	1	1	19.21	19.21	19.27	19.27	19.24	18.98	0.0	19.3	8.37	8.34	8.41	8.55	8.60	8.35	0.0	9.50		
64QAM	1	1	19.25	19.24	19.24	19.20	19.12	18.92	0.0	19.3	8.30	8.26	8.26	8.44	8.62	8.23	0.0	9.50		
256QAM	1	1	19.25	19.15	19.15	19.22	19.23	19.24	0.0	19.3	8.40	8.40	7.93	8.54	8.52	8.16	0.0	9.50		
CP-OFDM	QPSK	1	1	19.25	19.23	19.15	19.24	19.30	19.04	0.0	19.3	8.35	8.41	8.22	8.52	8.38	8.03	0.0	9.50	

Note(s):

NR Band n78 is covered by NR Band n77.

NR Band n77(Voice/Data/SRS0)- Upper Band- Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit	Measured Pwr (dBm)						MPR	Tune-up Limit	
					647668	651000	654334	657666	661000	664332			647668	651000	654334	657666	661000	664332			
					3715.02 MHz	3765 MHz	3815.01 MHz	3864.99 MHz	3915 MHz	3964.98 MHz			3715.02 MHz	3765 MHz	3815.01 MHz	3864.99 MHz	3915 MHz	3964.98 MHz			
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.71	19.27	18.95	18.95	18.59	18.73	0.0	19.3	8.27	8.64	8.67	8.70	8.79	8.96	0.0	9.50	
			1	39	18.94	19.17	18.94	18.82	18.67	18.66	0.0	19.3	8.20	8.66	8.70	8.76	8.85	8.89	8.88	0.0	9.50
			1	76	19.03	19.09	18.90	18.88	18.73	18.68	0.0	19.3	8.08	8.67	8.69	8.74	8.98	8.90	8.90	0.0	9.50
			36	0	19.28	19.28	19.06	18.98	18.82	18.74	0.0	19.3	8.25	8.67	8.68	8.68	8.95	8.88	8.80	0.0	9.50
			36	21	19.09	19.18	18.99	18.83	18.70	18.64	0.0	19.3	8.12	8.61	8.66	8.63	8.88	8.90	8.90	0.0	9.50
			36	42	19.29	19.27	19.22	19.11	18.96	18.84	0.0	19.3	8.07	8.66	8.65	8.70	8.89	8.93	8.93	0.0	9.50
			75	0	19.29	19.28	19.30	19.17	19.00	18.95	0.0	19.3	8.21	8.70	8.70	8.68	8.90	8.86	8.86	0.0	9.50
		QPSK	1	1	19.07	19.28	19.12	19.01	18.81	18.77	0.0	19.3	8.36	8.68	8.68	8.66	8.82	8.96	8.96	0.0	9.50
			1	39	19.15	19.21	19.09	18.89	18.79	18.74	0.0	19.3	8.15	8.62	8.64	8.63	8.88	8.87	8.87	0.0	9.50
			1	76	19.25	19.15	18.96	18.94	18.79	18.79	0.0	19.3	8.07	8.63	8.66	8.79	8.99	8.90	8.90	0.0	9.50
			36	0	19.24	19.13	19.12	19.20	19.06	18.91	0.0	19.3	8.29	8.70	8.74	8.70	8.95	8.92	8.90	0.0	9.50
			36	21	19.19	19.23	19.05	18.89	18.79	18.75	0.0	19.3	8.15	8.67	8.66	8.67	8.91	8.88	8.88	0.0	9.50
			36	42	19.14	19.26	19.20	19.21	19.11	18.99	0.0	19.3	8.11	8.70	8.70	8.70	8.88	8.89	8.89	0.0	9.50
			75	0	19.15	19.27	19.17	19.24	19.07	19.01	0.0	19.3	8.26	8.67	8.72	8.72	8.94	8.92	8.92	0.0	9.50
		16QAM	1	1	19.20	19.21	19.10	19.18	18.99	18.90	0.0	19.3	8.63	8.76	8.78	8.75	8.85	9.03	9.03	0.0	9.50
64QAM	1	1	19.14	19.22	19.22	19.11	18.96	18.86	0.0	19.3	8.55	8.67	8.66	8.66	8.77	8.92	8.92	0.0	9.50		
256QAM	1	1	19.24	19.18	19.22	19.25	19.25	19.17	0.0	19.3	8.52	8.74	8.72	8.75	8.90	9.02	9.02	0.0	9.50		
CP-OFDM	QPSK	1	1	19.13	19.19	19.25	19.28	19.10	19.02	0.0	19.3	8.40	8.76	8.77	8.74	8.87	9.03	9.03	0.0	9.50	
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	18.89	19.30	18.99	18.91	18.78	18.67	0.0	19.3	8.46	8.57	8.57	8.56	8.75	8.80	8.80	0.0	9.50
			1	26	19.12	19.17	18.97	18.91	18.71	18.61	0.0	19.3	8.44	8.56	8.54	8.52	8.70	8.74	8.74	0.0	9.50
			1	49	19.21	19.20	19.03	18.99	18.84	18.63	0.0	19.3	8.60	8.60	8.59	8.68	8.92	8.83	8.83	0.0	9.50
			25	0	19.22	19.30	18.80	19.10	18.93	18.84	0.0	19.3	8.45	8.59	8.60	8.56	8.82	8.77	8.77	0.0	9.50
			25	13	19.17	19.21	19.02	19.13	18.83	18.63	0.0	19.3	8.45	8.58	8.55	8.56	8.76	8.73	8.73	0.0	9.50
			25	26	19.22	19.21	19.14	19.10	19.04	18.87	0.0	19.3	8.50	8.60	8.60	8.60	8.81	8.81	8.81	0.0	9.50
			50	0	19.23	19.28	19.22	19.21	19.08	18.87	0.0	19.3	8.48	8.61	8.57	8.57	8.78	8.76	8.76	0.0	9.50
		QPSK	1	1	19.20	18.25	19.04	18.97	18.82	18.70	0.0	19.3	8.44	8.57	8.59	8.56	8.79	8.76	8.76	0.0	9.50
			1	26	19.24	19.21	19.03	18.96	18.80	18.65	0.0	19.3	8.38	8.48	8.53	8.53	8.73	8.72	8.72	0.0	9.50
			1	49	19.00	19.29	19.11	19.01	18.89	18.68	0.0	19.3	8.53	8.57	8.57	8.66	8.85	8.78	8.78	0.0	9.50
			25	0	19.13	19.30	19.22	19.24	19.13	18.86	0.0	19.3	8.44	8.58	8.64	8.61	8.84	8.80	8.80	0.0	9.50
			25	13	19.25	19.22	19.08	19.00	18.86	18.62	0.0	19.3	8.42	8.56	8.61	8.60	8.78	8.78	8.78	0.0	9.50
			25	26	19.28	19.29	19.30	19.20	19.13	18.90	0.0	19.3	8.50	8.60	8.62	8.64	8.82	8.78	8.78	0.0	9.50
			50	0	19.25	19.27	19.29	19.26	19.17	18.90	0.0	19.3	8.46	8.60	8.62	8.61	8.80	8.82	8.82	0.0	9.50
		16QAM	1	1	19.13	19.23	19.19	19.10	19.02	18.84	0.0	19.3	8.51	8.66	8.64	8.64	8.82	8.86	8.86	0.0	9.50
64QAM	1	1	19.23	19.28	19.10	19.02	18.98	18.75	0.0	19.3	8.48	8.58	8.57	8.58	8.79	8.75	8.75	0.0	9.50		
256QAM	1	1	19.21	19.17	19.20	19.06	19.23	19.11	0.0	19.3	8.59	8.60	8.62	8.61	8.82	8.88	8.88	0.0	9.50		
CP-OFDM	QPSK	1	1	19.22	19.15	19.27	19.16	19.07	18.89	0.0	19.3	8.53	8.65	8.61	8.56	8.84	8.84	8.84	0.0	9.50	

Note(s):
NR Band n78 is covered by NR Band n77.

NR Band n77(SRS1/SRS2/SRS3)- Upper Band- Measured Results

BW (MHz)	Mode	Maximum Allowed Average Power (dBm)						Maximum Allowed Average Power (dBm)						Maximum Allowed Average Power (dBm)								
		DSI = 0, 1						DSI = 0, 1						DSI = 0, 1								
		SRS1 Measured Pwr (dBm)						SRS2 Measured Pwr (dBm)						SRS3 Measured Pwr (dBm)								
		65000	65600	66200	66800	67400	68000	Tune-up Limit	65000	65600	66200	66800	67400	68000	Tune-up Limit	65000	65600	66200	66800	67400	68000	Tune-up Limit
3750 MHz	3840 MHz	3930 MHz	4020 MHz	4110 MHz	4200 MHz		3750 MHz	3840 MHz	3930 MHz	4020 MHz	4110 MHz	4200 MHz		3750 MHz	3840 MHz	3930 MHz	4020 MHz	4110 MHz	4200 MHz			
100 MHz	SRS CW	11.38				10.12	12.0	9.89				8.87	10.5	10.04				8.61	10.5			
80 MHz	SRS CW	Measured Pwr (dBm)						Measured Pwr (dBm)						Measured Pwr (dBm)								
		649334	656000	662666	669332	676000	682666	Tune-up Limit	649334	656000	662666	669332	676000	682666	Tune-up Limit	649334	656000	662666	669332	676000	682666	Tune-up Limit
80 MHz	SRS CW	11.40		10.30		10.30	12.0	9.38		8.77		8.49	10.5	10.12		9.11		8.44	10.5			
60 MHz	SRS CW	Measured Pwr (dBm)						Measured Pwr (dBm)						Measured Pwr (dBm)								
		648668	653556	658444	663332	668220	673108	Tune-up Limit	648668	653556	658444	663332	668220	673108	Tune-up Limit	648668	653556	658444	663332	668220	673108	Tune-up Limit
60 MHz	SRS CW	11.09	10.74			10.24	10.17	12.0	9.29	9.14			8.84	8.54	10.5	10.10	9.52			9.05	8.52	10.5
40 MHz	SRS CW	Measured Pwr (dBm)						Measured Pwr (dBm)						Measured Pwr (dBm)								
		648000	651200	654400	657600	660800	664000	Tune-up Limit	648000	651200	654400	657600	660800	664000	Tune-up Limit	648000	651200	654400	657600	660800	664000	Tune-up Limit
40 MHz	SRS CW	11.47	11.2	10.8	10.5	10.4	10.3	12.0	9.67	9.53	9.44	9.11	8.92	8.73	10.5	10.41	10.11	9.75	9.33	8.97	8.67	10.5
30 MHz	SRS CW	Measured Pwr (dBm)						Measured Pwr (dBm)						Measured Pwr (dBm)								
		647668	651000	654334	657666	661000	664332	Tune-up Limit	647668	651000	654334	657666	661000	664332	Tune-up Limit	647668	651000	654334	657666	661000	664332	Tune-up Limit
30 MHz	SRS CW	11.48	11.21	10.83	10.45	10.37	10.24	12.0	9.62	9.48	9.34	9.13	8.88	8.68	10.5	10.35	10.09	9.67	9.27	8.88	8.62	10.5
20 MHz	SRS CW	Measured Pwr (dBm)						Measured Pwr (dBm)						Measured Pwr (dBm)								
		647334	650800	654266	657734	661200	664666	Tune-up Limit	647334	650800	654266	657734	661200	664666	Tune-up Limit	647334	650800	654266	657734	661200	664666	Tune-up Limit
20 MHz	SRS CW	11.44	11.29	10.75	10.56	10.38	10.17	12.0	9.46	9.53	9.21	9.08	8.87	8.54	10.5	10.22	10.03	9.58	9.28	8.97	8.48	10.5

Notes:

SRS1/SRS2/SRS3 were measured output power through FTM mode provided by manufacturer.

9.4 Wi-Fi 2.4 GHz (DTS Band)

WLAN output power results

SISO power Results

Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Max.Average Power (dBm)			Reduced Average Power		
					Meas. Avg Pwr	Max. Tune-up Limit	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 2.4G SISO Ant.1	802.11b	1 Mbps	1	2412.0	19.54	20.0	Yes	10.48	11.0	Yes
			6	2437.0	19.63			10.67		
			11	2462.0	19.64			10.66		
	802.11g	6 Mbps	1 - 11	2412 - 2462	Not Required	19.0	No	Not Required	11.0	No
	802.11n	6.5 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No
802.11ax	7.3 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No	
Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Max.Average Power (dBm)			Reduced Average Power		
					Meas. Avg Pwr	Max. Tune-up Limit	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 2.4G SISO Ant.2	802.11b	1 Mbps	1	2412.0	19.52	20.0	Yes	10.50	11.0	Yes
			6	2437.0	19.88			10.48		
			11	2462.0	19.46			10.39		
	802.11g	6 Mbps	1 - 11	2412 - 2462	Not Required	19.0	No	Not Required	11.0	No
	802.11n	6.5 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No
802.11ax	7.3 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No	

MIMO power Results

Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Max.Average Power (dBm)			Reduced Average Power		
					Meas. Avg Pwr	Max. Tune-up Limit	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 2.4G MIMO Ant.1	802.11g	6 Mbps	1	2412.0	16.21	17.0	Yes	10.80	11.0	Yes
			6	2437.0	18.66	9.95				
			11	2462.0	15.57	9.97				
	802.11n	6.5 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No
802.11ax	7.3 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No	
Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Max.Average Power (dBm)			Reduced Average Power		
					Meas. Avg Pwr	Max. Tune-up Limit	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 2.4G MIMO Ant.2	802.11g	6 Mbps	1	2412.0	16.67	17.0	Yes	10.35	11.0	Yes
			6	2437.0	18.65	10.38				
			11	2462.0	15.87	10.32				
	802.11n	6.5 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No
802.11ax	7.3 Mbps	1 - 11	2412 - 2462	Not Required	18.0	No	Not Required	11.0	No	

Note(s):

- SAR is not required for 802.11g/n modes when the adjusted SAR for 802.11b is < 1.2 W/kg.
- For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11n/g/ax mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.
- Additionally, SAR is not required for Channels 12 and 13 because the tune-up limit and the measured output power for these two channels are no greater than those for the default test channels. Refer to §6.3.
- DTS MIMO SAR tested for satisfy simultaneous transmission analysis.

9.5 Wi-Fi 5GHz (U-NII Band)

WLAN SISO Ant.1 output power Results

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	WLAN mode power					
						Max. Average Power			Reduced Average Power		
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 5GHz SISO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	17.77	18.0	Yes	Not Required	8.0	No
				56	5280.0	17.87					
				60	5300.0	17.65					
				64	5320.0	17.72					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	14.0	No	7.49	8.0	Yes
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	17.57	18.0	Yes	Not Required	8.0	No
				120	5600.0	17.79					
				124	5620.0	17.81					
				144	5720.0	17.65					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	14.0	No	7.34	8.0	Yes
	122	5610.0	Not Required	7.84							
	138	5690.0	Not Required	7.74							
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	17.84	18.0	Yes	Not Required	8.0	No
157				5785.0	17.56						
165				5825.0	17.41						
802.11n (HT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11n (HT40)		13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT40)		13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No	
802.11ac (VHT80)		29.3 Mbps	155	5775.0	Not Required	14.0	No	7.81	8.0	Yes	
802.11ax (HE20)		7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No		
802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No		

Note(s):

- 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.
- When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
- When the specified maximum output power is the same for both UNII band I and UNII band 2A, begin SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is
 - ≤ 1.2 W/kg, SAR is not required for UNII band I
 - > 1.2 W/kg, both bands should be tested independently for SAR.

WLAN SISO Ant.2 output power Results

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	WLAN mode power					
						Max. Average Power			Reduced Average Power		
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 5GHz SISO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	17.84	18.0	Yes	Not Required	8.0	No
				56	5280.0	17.79					
				60	5300.0	17.34					
				64	5320.0	17.70					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
	802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	14.0	No	7.81	8.0	Yes	
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	17.68	18.0	Yes	Not Required	8.0	No
				120	5600.0	17.36					
				124	5620.0	17.56					
				144	5720.0	17.75					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
	802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	14.0	No	7.07	8.0	Yes	
		122	5610.0	Not Required	7.53						
		138	5690.0	Not Required	7.59						
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	17.85	18.0	Yes	Not Required	8.0	No
				157	5785.0	17.53					
165				5825.0	17.42						
802.11n (HT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11n (HT40)		13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT40)		13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No	
802.11ac (VHT80)	29.3 Mbps	155	5775.0	Not Required	14.0	No	7.75	8.0	Yes		
802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No		
802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No		
802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No		

Note(s):

- 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.
- When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
- When the specified maximum output power is the same for both UNII band I and UNII band 2A, begin SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is
 - ≤ 1.2 W/kg, SAR is not required for UNII band I
 - > 1.2 W/kg, both bands should be tested independently for SAR.

WLAN MIMO Ant.1 output power Results

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	WLAN mode power					
						Max. Average Power			Reduced Average Power		
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 5GHz MIMO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	17.83	18.0	Yes	Not Required	8.0	No
				56	5280.0	17.87					
				60	5300.0	17.30					
				64	5320.0	17.30					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	14.0	No	7.53	8.0	Yes
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	17.61	18.0	Yes	Not Required	8.0	No
				120	5600.0	17.92					
				124	5620.0	17.81					
				144	5720.0	17.76					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	14.0	No	7.26	8.0	Yes
	122			5610.0	Not Required	7.67					
	138			5690.0	Not Required	7.68					
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	17.39	18.0	Yes	Not Required	8.0	No
				157	5785.0	17.16					
165				5825.0	17.48						
802.11n (HT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11n (HT40)		13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT40)		13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No	
802.11ac (VHT80)		29.3 Mbps	155	5775.0	Not Required	14.0	No	7.62	8.0	Yes	
802.11ax (HE20)		7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No		
802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No		

Note(s):

- 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.
- When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
- When the specified maximum output power is the same for both UNII band I and UNII band 2A, begin SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is
 - ≤ 1.2 W/kg, SAR is not required for UNII band I
 - > 1.2 W/kg, both bands should be tested independently for SAR.
- UNII MIMO SAR tested for satisfy simultaneous transmission analysis.

WLAN MIMO Ant.2 output power Results

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	WLAN mode power					
						Max. Average Power			Reduced Average Power		
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi 5GHz MIMO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	17.88	18.0	Yes	Not Required	8.0	No
				56	5280.0	17.81					
				60	5300.0	17.36					
				64	5320.0	17.27					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	14.0	No	6.64	8.0	Yes
		802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	17.71	18.0	Yes	Not Required	8.0	No
				120	5600.0	17.41					
				124	5620.0	17.61					
				144	5720.0	17.77					
		802.11n (HT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11n (HT40)	13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT20)	6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No
		802.11ac (VHT40)	13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	14.0	No	7.28	8.0	Yes
			122	5610.0	Not Required	6.34					
		138	5690.0	Not Required	6.89						
	802.11ax (HE20)	7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No	
	802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No	
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	17.78	18.0	Yes	Not Required	8.0	No
157				5785.0	17.47						
165				5825.0	17.55						
802.11n (HT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11n (HT40)		13.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT20)		6.5 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ac (VHT40)		13.5 Mbps	Not Required			15.0	No	Not Required	8.0	No	
802.11ac (VHT80)		29.3 Mbps	155	5775.0	Not Required	14.0	No	7.55	8.0	Yes	
802.11ax (HE20)		7.3 Mbps	Not Required			17.0	No	Not Required	8.0	No	
802.11ax (HE40)	14.6 Mbps	Not Required			17.0	No	Not Required	8.0	No		
802.11ax (HE80)	36 Mbps	Not Required			16.0	No	Not Required	8.0	No		

Note(s):

- 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.
- When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
- When the specified maximum output power is the same for both UNII band I and UNII band 2A, begin SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is
 - ≤ 1.2 W/kg, SAR is not required for UNII band I
 - > 1.2 W/kg, both bands should be tested independently for SAR.
- UNII MIMO SAR tested for satisfy simultaneous transmission analysis.

9.6. Bluetooth

Bluetooth output power Results

Band (GHz)	Antenna	Mode	Ch #	Freq. (MHz)	Maximum Average Power (dBm)		Reduced Average Power (dBm)	
					Meas Pwr	Tune-up Limit	Meas Pwr	Tune-up Limit
2.4	BT Ant.1	BDR	0	2402	17.40	19.0	7.52	8.5
			39	2441	17.82		7.96	
			78	2480	16.56		7.17	
		EDR	0	2402	15.64	17.5	8.46	9.5
			39	2441	16.15		9.02	
			78	2480	14.81		7.62	
	LE	0	2402	8.74	9.5	8.74	9.5	
		19	2440	9.39		9.39		
		39	2480	8.79		8.79		
	BT Ant.2	BDR	0	2402	16.45	19.0	5.72	8.5
			39	2441	17.16		6.93	
			78	2480	15.45		5.83	
EDR		0	2402	14.81	17.5	7.71	9.5	
		39	2441	15.49		8.39		
		78	2480	13.72		6.49		

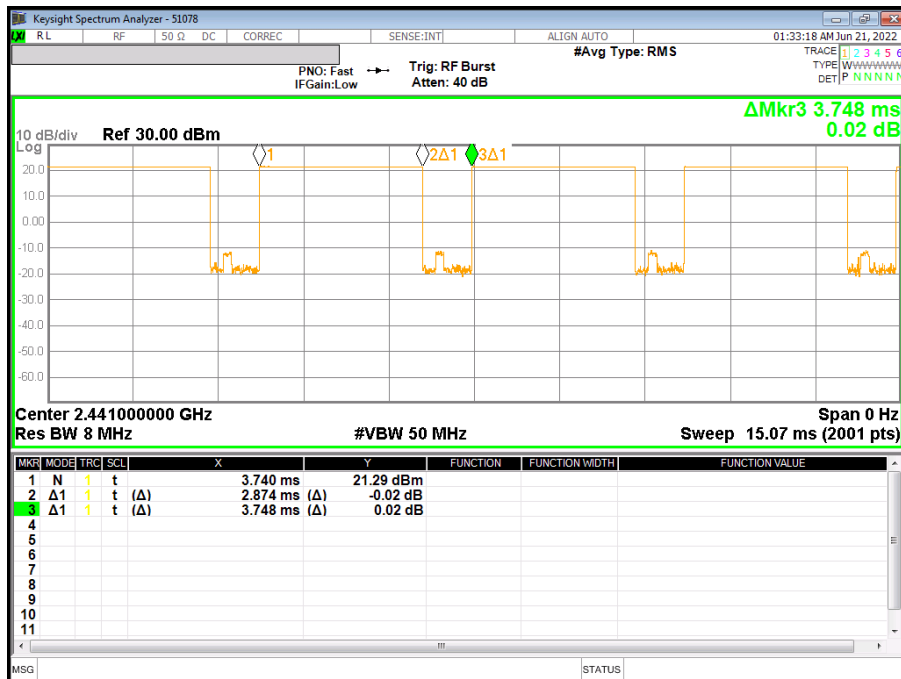
Note(s):

BT SAR are tested at the highest output power of all modes. So Max power SAR is tested using BDR mode, and Reduced power SAR is tested using EDR mode.

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK & EDR	DH5	2.874	3.748	76.7%	1.30

Duty Cycle plots



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

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

KDB 447498 D01 General RF Exposure Guidance:

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

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

KDB 648474 D04 Handset SAR:

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

KDB 648474 D04 Handset SAR (Phablet Only):

For smart phones, with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm.

When hotspot mode does not apply, 10-g extremity SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm

From that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg;

However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.

KDB 941225 D01 SAR test for 3G devices:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

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

KDB 248227 D01 SAR meas for 802.11:

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

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

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

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

10.1. WCDMA Band II

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	Rel 99 RMC	DSI = 0	17	Rear	9400	1880.0	22.50	22.10	0.676	0.741	1
				18	Edge 1	9400	1880.0	22.50	22.10	0.722	0.792	
				0	Edge 2	9400	1880.0	22.50	22.10	0.015	0.017	
		Rel 99 RMC	DSI = 1	0	Rear	9400	1880.0	11.00	10.82	0.756	0.788	
				0	Edge 1	9400	1880.0	11.00	10.82	0.521	0.543	

10.2. WCDMA Band IV

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	Rel 99 RMC	DSI = 0	17	Rear	1312	1712.4	23.00	22.11	0.669	0.821	
						1413	1732.6	23.00	22.16	0.714	0.866	
						1513	1752.6	23.00	22.27	0.766	0.906	
				18	Edge 1	1312	1712.4	23.00	22.11	0.620	0.761	
						1413	1732.6	23.00	22.16	0.674	0.818	
						1513	1752.6	23.00	22.27	0.748	0.885	
		0	Edge 2	1413	1732.6	23.00	22.16	0.335	0.406			
		Rel 99 RMC	DSI = 1	0	Rear	1312	1712.4	12.00	11.71	0.844	0.902	
						1413	1732.6	12.00	11.65	0.835	0.905	
						1513	1752.6	12.00	11.59	0.863	0.948	2
0	Edge 1			1413	1732.6	12.00	11.65	0.671	0.727			

10.3. WCDMA Band V

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	Rel 99 RMC	DSI = 0	17	Rear	4183	836.6	25.00	23.63	0.284	0.389	3
				18	Edge 1	4183	836.6	25.00	23.63	0.160	0.219	
				0	Edge 2	4183	836.6	25.00	23.63	0.509	0.698	
				0	Edge 3	4183	836.6	25.00	23.63	0.222	0.304	
				0	Edge 4	4183	836.6	25.00	23.63	0.085	0.116	
		Rel 99 RMC	DSI = 1	0	Rear	4183	836.6	15.00	13.80	0.159	0.210	
				0	Edge 1	4183	836.6	15.00	13.80	0.091	0.120	

10.4. LTE Band 5 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	20525	836.5	1	0	25.00	23.42	0.369	0.531	
								25	12	24.00	22.41	0.292	0.421	
				18	Edge 1	20525	836.5	1	0	25.00	23.42	0.147	0.212	
								25	12	24.00	22.41	0.110	0.159	
				0	Edge 2	20525	836.5	1	0	25.00	23.42	0.439	0.632	4
								25	12	24.00	22.41	0.327	0.472	
				0	Edge 3	20525	836.5	1	0	25.00	23.42	0.207	0.298	
								25	12	24.00	22.41	0.164	0.237	
		0	Edge 4	20525	836.5	1	0	25.00	23.42	0.088	0.126			
						25	12	24.00	22.41	0.071	0.102			
		QPSK	DSI = 1	0	Rear	20525	836.5	1	0	16.00	14.73	0.170	0.228	
								25	12	16.00	14.86	0.167	0.217	
				0	Edge 1	20525	836.5	1	0	16.00	14.73	0.097	0.130	
								25	12	16.00	14.86	0.096	0.125	

10.5. LTE Band 7 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.		
										Tune-up limit	Meas.	Meas.	Scaled			
Main 2 Ant.	Standalone	QPSK	DSI = 0	16	Rear	20850	2510.0	1	0	23.50	23.11	0.673	0.736			
								50	0	22.50	22.23	0.520	0.553			
				12	Edge 1	20850	2510.0	1	0	23.50	23.11	0.568	0.621			
								50	0	22.50	22.23	0.462	0.492			
				0	Edge 2	20850	2510.0	1	0	23.50	23.11	0.245	0.268			
								50	0	22.50	22.23	0.202	0.215			
				QPSK	DSI = 1	0	Rear	20850	2510.0	1	0	13.50	12.69	0.876	1.056	
										50	0	13.50	12.79	0.894	1.053	
		100	0							13.50	12.62	0.823	1.008			
		21100	2535.0					1	0	13.50	12.59	0.836	1.031			
								50	0	13.50	12.70	0.847	1.018			
		21350	2560.0					1	0	13.50	12.33	0.828	1.084			
				50	0	13.50	12.38	0.840	1.087							
		0	Edge 1	20850	2510.0	1	0	13.50	12.69	0.300	0.362	5				
50	0					13.50	12.79	0.303	0.357							

10.6. LTE Band 12 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	23095	707.5	1	0	25.00	23.12	0.140	0.216	
								25	12	24.00	22.16	0.109	0.167	
				18	Edge 1	23095	707.5	1	0	25.00	23.12	0.079	0.121	
								25	12	24.00	22.16	0.067	0.102	
				0	Edge 2	23095	707.5	1	0	25.00	23.12	0.212	0.327	6
								25	12	24.00	22.16	0.174	0.266	
				0	Edge 3	23095	707.5	1	0	25.00	23.12	0.042	0.064	
								25	12	24.00	22.16	0.030	0.045	
		0	Edge 4	23095	707.5	1	0	25.00	23.12	0.064	0.098			
						25	12	24.00	22.16	0.050	0.076			
		QPSK	DSI = 1	0	Rear	23095	707.5	1	0	15.00	13.35	0.103	0.151	
								25	12	15.00	13.41	0.161	0.232	
0	Edge 1			23095	707.5	1	0	15.00	13.35	0.081	0.119			
						25	12	15.00	13.41	0.093	0.135			

10.7. LTE Band 13 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	23230	782.0	1	0	25.00	23.80	0.263	0.347	
								25	0	24.00	22.86	0.208	0.270	
				18	Edge 1	23230	782.0	1	0	25.00	23.80	0.100	0.131	
								25	0	24.00	22.86	0.084	0.109	
				0	Edge 2	23230	782.0	1	0	25.00	23.80	0.491	0.647	7
								25	0	24.00	22.86	0.397	0.516	
				0	Edge 3	23230	782.0	1	0	25.00	23.80	0.088	0.115	
								25	0	24.00	22.86	0.074	0.096	
		0	Edge 4	23230	782.0	1	0	25.00	23.80	0.111	0.146			
						25	0	24.00	22.86	0.085	0.111			
		QPSK	DSI = 1	0	Rear	23230	782.0	1	0	15.00	13.87	0.173	0.224	
								25	0	15.00	13.87	0.176	0.228	
0	Edge 1			23230	782.0	1	0	15.00	13.87	0.080	0.103			
						25	0	15.00	13.87	0.087	0.113			

10.8. LTE Band 14 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	23330	793.0	1	0	25.00	23.63	0.335	0.459	
								25	12	24.00	22.61	0.253	0.348	
				18	Edge 1	23330	793.0	1	0	25.00	23.63	0.132	0.181	
								25	12	24.00	22.61	0.099	0.136	
				0	Edge 2	23330	793.0	1	0	25.00	23.63	0.451	0.618	8
								25	12	24.00	22.61	0.330	0.454	
				0	Edge 3	23330	793.0	1	0	25.00	23.63	0.068	0.094	
								25	12	24.00	22.61	0.060	0.083	
		0	Edge 4	23330	793.0	1	0	25.00	23.63	0.095	0.130			
						25	12	24.00	22.61	0.065	0.089			
		QPSK	DSI = 1	0	Rear	23330	793.0	1	0	17.00	15.72	0.156	0.209	
								25	12	17.00	15.70	0.164	0.221	
0	Edge 1			23330	793.0	1	0	17.00	15.72	0.125	0.168			
						25	12	17.00	15.70	0.125	0.169			

10.9. LTE Band 25 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	26140	1860.0	1	99	23.50	22.63	0.776	0.948	
								50	50	22.50	21.69	0.616	0.742	
								100	0	22.50	21.62	0.712	0.872	
						26365	1882.5	1	99	23.50	22.68	0.905	1.093	
								50	50	22.50	21.71	0.725	0.870	
								100	0	22.50	21.62	0.712	0.872	
				26590	1905.0	1	99	23.50	22.51	0.788	0.990			
						50	50	22.50	21.61	0.652	0.800			
						100	0	22.50	21.62	0.684	0.838			
				18	Edge 1	26140	1860.0	1	99	23.50	22.63	0.879	1.074	
								50	50	22.50	21.69	0.782	0.942	
								100	0	22.50	21.62	0.684	0.838	
		26365	1882.5			1	99	23.50	22.68	0.937	1.132	9		
						50	50	22.50	21.71	0.773	0.927			
						100	0	22.50	21.62	0.684	0.838			
		26590	1905.0	1	99	23.50	22.51	0.783	0.983					
				50	50	22.50	21.61	0.613	0.752					
				100	0	22.50	21.62	0.684	0.838					
		0	Edge 2	26365	1882.5	1	99	23.50	22.68	0.237	0.286			
						50	50	22.50	21.71	0.195	0.234			
						100	0	22.50	21.62	0.684	0.838			
		QPSK	DSI = 1	0	Rear	26140	1860.0	1	99	13.00	11.92	0.850	1.090	
								50	50	13.00	12.00	0.873	1.099	
								100	0	13.00	11.91	0.856	1.100	
26365	1882.5					1	99	13.00	12.12	0.863	1.057			
						50	50	13.00	12.01	0.878	1.103			
						100	0	13.00	11.91	0.856	1.100			
26590	1905.0			1	99	13.00	11.78	0.801	1.061					
				50	50	13.00	11.87	0.836	1.084					
				100	0	13.00	11.91	0.856	1.100					
0	Edge 1			26140	1860.0	1	99	13.00	11.92	0.685	0.878			
						50	50	13.00	12.00	0.702	0.884			
						100	0	13.00	11.91	0.675	0.868			
		26365	1882.5	1	99	13.00	12.12	0.659	0.807					
				50	50	13.00	12.01	0.719	0.903					
				100	0	13.00	11.91	0.675	0.868					
26590	1905.0	1	99	13.00	11.78	0.603	0.799							
		50	50	13.00	11.87	0.635	0.824							
		100	0	13.00	11.91	0.675	0.868							

10.10. LTE Band 26 (15MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.		
										Tune-up limit	Meas.	Meas.	Scaled			
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	26865	831.5	1	37	25.00	23.44	0.254	0.364			
								36	39	24.00	22.29	0.199	0.295			
				18	Edge 1	26865	831.5	1	37	25.00	23.44	0.151	0.216			
								36	39	24.00	22.29	0.118	0.175			
				0	Edge 2	26865	831.5	1	37	25.00	23.44	0.461	0.660	10		
								36	39	24.00	22.29	0.342	0.507			
				0	Edge 3	26865	831.5	1	37	25.00	23.44	0.146	0.209			
								36	39	24.00	22.29	0.114	0.169			
				0	Edge 4	26865	831.5	1	37	25.00	23.44	0.076	0.108			
								36	39	24.00	22.29	0.055	0.082			
				QPSK	DSI = 1	0	Rear	26865	831.5	1	37	17.00	15.40	0.141	0.204	
										36	39	17.00	15.27	0.140	0.209	
0	Edge 1	26865	831.5			1	37	17.00	15.40	0.082	0.119					
						36	39	17.00	15.27	0.082	0.123					

10.11. LTE Band 41 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.		
										Tune-up limit	Meas.	Meas.	Scaled			
Main 2 Ant.	Standalone	QPSK	DSI = 0	16	Rear	39750	2506.0	1	99	24.00	22.73	0.342	0.458			
								50	50	23.00	21.75	0.270	0.360			
				12	Edge 1	39750	2506.0	1	99	24.00	22.73	0.257	0.344			
								50	50	23.00	21.75	0.220	0.293			
				0	Edge 2	39750	2506.0	1	99	24.00	22.73	0.107	0.143			
								50	50	23.00	21.75	0.092	0.122			
				0	Edge 3	39750	2506.0	1	99	24.00	22.73	0.009	0.013			
								50	50	23.00	21.75	0.006	0.008			
				0	Edge 4	39750	2506.0	1	99	24.00	22.73	0.041	0.055			
								50	50	23.00	21.75	0.030	0.039			
				QPSK	DSI = 1	0	Rear	39750	2506.0	1	99	14.00	13.52	0.829	0.926	
										50	50	14.00	13.63	0.901	0.981	
		40185	2549.5					1	99	14.00	13.13	0.852	1.041	11		
								50	50	14.00	13.11	0.835	1.025			
		40620	2593.0					1	99	14.00	12.82	0.723	0.949			
								50	50	14.00	13.10	0.806	0.992			
		41055	2636.5					1	99	14.00	12.62	0.738	1.014			
								50	50	14.00	12.95	0.783	0.997			
		41490	2680.0	1	99	14.00	12.97	0.730	0.925							
				50	50	14.00	12.99	0.810	1.022							
0	Edge 1	39750	2506.0	1	99	14.00	13.52	0.160	0.179							
				50	50	14.00	13.63	0.174	0.189							

LTE Band 41 Power Class 2

Antenna	RF Exposure Conditions	Mode	Dist. (mm)	DSI Status	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 2 Ant.	Standalone	QPSK	16	DSI = 0	Rear	39750	2506.0	1	0	27.00	25.16	0.339	0.518	
	Standalone	QPSK	0	DSI = 1	Rear	40185	2549.5	50	24	16.00	14.85	0.741	0.966	

Note(s):

From May 2017 TCB workshop, SAR tested were performed using Power Class 3. SAR test for Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination.

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

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

Reported SAR vs. Output power linearly scaled

Antenna	RF Exposure Conditions	Power Class 2				Power Class 3				PC2 linearly scaled Reported SAR (W/kg)	Linearly scaled (<10%)
		Duty Cycle (%)	Tune-up Power (dBm)	Fram Avg. Power (dBm)	Reported SAR (W/kg)	Duty Cycle	Tune-up Power (dBm)	Fram Avg. Power (dBm)	Reported SAR (W/kg)		
Main 2 Ant.	Standalone	43.3	27.0	217.0	0.518	63.3	24.0	159.0	0.458	0.625	-17.1
	Standalone	43.3	16.0	17.2	0.966	63.3	14.0	15.9	1.041	1.129	-14.4

Note(s):

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

10.12. LTE Band 48 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 2 Ant.	Standalone	QPSK	DSI = 0	16	Rear	55773	3603.3	1	99	22.70	21.83	0.101	0.123	
								50	24	21.70	20.87	0.077	0.093	
				12	Edge 1	55773	3603.3	1	99	22.70	21.83	0.197	0.241	
								50	24	21.70	20.87	0.145	0.176	
				0	Edge 2	55773	3603.3	1	99	22.70	21.83	0.182	0.222	
								50	24	21.70	20.87	0.141	0.171	
		QPSK	DSI = 1	0	Rear	55773	3603.3	1	99	15.00	14.35	0.372	0.432	
								50	24	15.00	14.44	0.385	0.438	12
				0	Edge 1	55773	3603.3	1	99	15.00	14.35	0.156	0.181	
								50	24	15.00	14.44	0.158	0.180	

10.13. LTE Band 66 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.		
										Tune-up limit	Meas.	Meas.	Scaled			
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	132072	1720.0	1	49	23.50	22.72	0.746	0.893			
								50	24	22.50	21.88	0.615	0.709			
						132322	1745.0	1	49	23.50	22.63	0.713	0.871			
								132572	1770.0	1	49	23.50	22.63	0.817	0.998	
				18	Edge 1	132072	1720.0	1	49	23.50	22.72	0.668	0.799			
								50	24	22.50	21.88	0.555	0.640			
				0	Edge 2	132072	1720.0	1	49	23.50	22.72	0.369	0.442			
								50	24	22.50	21.88	0.303	0.349			
				QPSK	DSI = 1	0	Rear	132072	1720.0	1	49	12.50	11.72	0.859	1.028	
										50	24	12.50	11.90	0.921	1.057	
								132322	1745.0	1	49	12.50	11.67	0.879	1.064	
										50	24	12.50	11.80	0.849	0.997	
		132572	1770.0					1	49	12.50	11.65	0.918	1.116	13		
								50	24	12.50	11.76	0.857	1.016			
		100	0			12.50	11.80	0.924	1.086							
						12.50	11.80	0.924	1.086							
		0	Edge 1			132072	1720.0	1	49	12.50	11.72	0.834	0.998			
								50	24	12.50	11.90	0.866	0.994			
						132322	1745.0	1	49	12.50	11.67	0.908	1.099			
								50	24	12.50	11.80	0.921	1.082			
				132572	1770.0	1	49	12.50	11.65	0.887	1.079					
						50	24	12.50	11.76	0.914	1.084					
		100	0	12.50	11.80	0.907	1.066									

10.14. LTE Band 71 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	DSI = 0	17	Rear	133297	680.5	1	0	25.00	23.20	0.183	0.277	
								50	0	24.00	22.26	0.151	0.225	
				18	Edge 1	133297	680.5	1	0	25.00	23.20	0.063	0.095	
								50	0	24.00	22.26	0.053	0.079	
				0	Edge 2	133297	680.5	1	0	25.00	23.20	0.284	0.430	14
								50	0	24.00	22.26	0.239	0.357	
				0	Edge 3	133297	680.5	1	0	25.00	23.20	0.040	0.060	
								50	0	24.00	22.26	0.034	0.051	
		0	Edge 4	133297	680.5	1	0	25.00	23.20	0.050	0.075			
						50	0	24.00	22.26	0.048	0.071			
		QPSK	DSI = 1	0	Rear	133297	680.5	1	0	17.00	15.42	0.170	0.245	
								50	0	17.00	15.57	0.167	0.232	
				0	Edge 1	133297	680.5	1	0	17.00	15.42	0.118	0.170	
								50	0	17.00	15.57	0.118	0.164	

10.15. NR Band n5 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Modulation	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Main 1 Ant.	Standalone	DFT-s-OFDM	QPSK	DSI = 0	17	Rear	167300	836.5	1	1	25.00	24.04	0.455	0.568		
									50	28	25.00	23.89	0.445	0.575		15
					18	Edge 1	167300	836.5	1	1	25.00	24.04	0.168	0.210		
									50	28	25.00	23.89	0.157	0.203		
					0	Edge 2	167300	836.5	1	1	25.00	24.04	0.448	0.559		
									50	28	25.00	23.89	0.387	0.500		
					0	Edge 3	167300	836.5	1	1	25.00	24.04	0.169	0.211		
									50	28	25.00	23.89	0.144	0.186		
					0	Edge 4	167300	836.5	1	1	25.00	24.04	0.086	0.107		
									50	28	25.00	23.89	0.079	0.102		
		CP-OFDM	QPSK	DSI = 0	17	Rear	167300	836.5	1	1	23.50	21.11	0.164	0.284	1	
		DFT-s-OFDM	QPSK	DSI = 1	0	Rear	167300	836.5	1	1	16.00	15.16	0.178	0.216		
									50	28	16.00	15.01	0.157	0.197		
					0	Edge 1	167300	836.5	1	1	16.00	15.16	0.122	0.148		
									50	28	16.00	15.01	0.086	0.108		
		CP-OFDM	QPSK	DSI = 1	0	Rear	167300	836.5	1	1	16.00	14.92	0.152	0.195	1	

Note(s):

1. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.16. NR Band n25 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Modulation	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.	
											Tune-up limit	Meas.	Meas.	Scaled			
Main 1 Ant.	Standalone	DFT-s-OFDM	QPSK	DSI = 0	17	Rear	372000	1860.0	1	53	23.50	23.05	0.807	0.895			
									50	28	23.50	23.00	0.841	0.944			
							376500	1882.5	1	53	23.50	23.14	0.861	0.935			
									50	28	23.50	23.24	0.864	0.917			
							381000	1905.0	1	53	23.50	23.03	0.808	0.900			
									50	28	23.50	23.10	0.788	0.864			
					18	Edge 1	372000	1860.0	1	53	23.50	23.05	0.725	0.804			
									50	28	23.50	23.00	0.779	0.874			
							376500	1882.5	1	53	23.50	23.14	0.818	0.889			
									50	28	23.50	23.24	0.825	0.876			
							381000	1905.0	1	53	23.50	23.03	0.772	0.860			
									50	28	23.50	23.10	0.733	0.804			
		0	Edge 2	376500	1882.5	1	53	23.50	23.14	0.277	0.301						
						50	28	23.50	23.24	0.268	0.285						
		CP-OFDM	QPSK	DSI = 0	17	Rear	372000	1860.0	1	1	22.00	21.06	0.580	0.720	1		
		DFT-s-OFDM	QPSK	DSI = 1	0	Rear	372000	1860.0	1	53	12.00	11.47	0.879	0.993			
									50	28	12.00	11.50	0.926	1.039		16	
									100	0	12.00	11.55	0.915	1.015			
							376500	1882.5	1	53	12.00	11.58	0.832	0.916			
									50	28	12.00	11.66	0.864	0.934			
									381000	1905.0	1	53	12.00	11.46	0.811	0.918	
					50	28	12.00	11.52	0.839		0.937						
					0	Edge 1	376500	1882.5	1	53	12.00	11.58	0.602	0.663			
									50	28	12.00	11.66	0.625	0.676			
CP-OFDM	QPSK				DSI = 1	0	Rear	372000	1860.0	1	1	12.00	11.47	0.914	1.033	1	

10.17. NR Band n41 (100MHz Bandwidth)

Antenna	RF Exposure Conditions	Modulation	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Main 2 Ant.	Standalone	DFT-s-OFDM	QPSK	DSI = 0	16	Rear	518598	2593.0	1	137	21.00	20.38	0.302	0.348		
									135	69	21.00	20.33	0.327	0.382		
									1	137	21.00	20.38	0.330	0.381		
					12	Edge 1	518598	2593.0	135	69	21.00	20.33	0.358	0.418		
									1	137	21.00	20.38	0.030	0.035		
									135	69	21.00	20.33	0.031	0.036		
					0	Edge 2	518598	2593.0	1	137	21.00	20.38	0.030	0.035		
									135	69	21.00	20.33	0.031	0.036		
					CP-OFDM	QPSK	DSI = 0	16	Rear	518598	2593.0	1	1	19.50	18.32	0.157
		DFT-s-OFDM	QPSK	DSI = 1	0	Rear	518598	2593.0	1	137	12.00	11.14	0.714	0.870		
									135	69	12.00	11.05	0.706	0.879		17
									270	0	12.00	11.08	0.625	0.772		
					0	Edge 1	518598	2593.0	1	137	12.00	11.14	0.187	0.228		
									135	69	12.00	11.05	0.194	0.241		
					CP-OFDM	QPSK	DSI = 1	0	Rear	518598	2592.99	1	1	12.00	10.77	0.499

Note(s):

1. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.18. NR Band n66 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Modulation	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Main 1 Ant.	Standalone	DFT-s-OFDM	QPSK	DSI = 0	17	Rear	344000	1720.0	1	1	23.00	22.81	0.809	0.845		
									50	28	23.00	22.65	0.831	0.901		
									100	0	22.00	21.78	0.651	0.685		
							349000	1745.0	1	1	23.00	22.64	0.900	0.978		
									50	28	23.00	22.60	0.893	0.979		
									354000	1770.0	1	1	23.00	22.47	0.884	0.999
		50	28	23.00	22.46	0.896	1.015		18							
		344000	1720.0	1	1	23.00	22.81	0.758	0.792							
				50	28	23.00	22.65	0.801	0.868							
				349000	1745.0	50	28	23.00	22.60	0.821	0.900					
		354000	1770.0	50		28	23.00	22.46	0.876	0.992						
		344000		1720.0		1	1	23.00	22.81	0.400	0.418					
	50				28	23.00	22.65	0.414	0.449							
	CP-OFDM	QPSK	DSI = 0	17	Rear	354000	1770.0	1	1	21.50	21.15	0.556	0.603	1		
	DFT-s-OFDM	QPSK	DSI = 1	0	Rear	344000	1720.0	1	1	12.00	11.71	0.687	0.734			
								50	28	12.00	11.63	0.717	0.781			
								1	1	12.00	11.71	0.648	0.693			
														50	28	12.00
1								1	12.00	11.54	0.678	0.754	1			
													1			

10.19. NR Band n71 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	Modulation	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.				
											Tune-up limit	Meas.	Meas.	Scaled						
Main 1 Ant.	Standalone	DFT-s-OFDM	QPSK	DSI = 0	17	Rear	136100	680.5	1	1	25.00	24.09	0.188	0.232						
									50	28	25.00	24.02	0.203	0.254						
									1	1	25.00	24.09	0.077	0.094						
															50	28	25.00	24.02	0.091	0.114
									0	Edge 2	136100	680.5	1	1	25.00	24.09	0.298	0.367		
													50	28	25.00	24.02	0.322	0.404		19
		0	Edge 3	136100	680.5	1	1	25.00	24.09	0.039	0.049									
						50	28	25.00	24.02	0.050	0.063									
		0	Edge 4	136100	680.5	1	1	25.00	24.09	0.045	0.055									
						50	28	25.00	24.02	0.048	0.060									
		CP-OFDM	QPSK	DSI = 0	0	Edge 2	136100	680.5	1	1	23.50	21.04	0.206	0.363	1					
		DFT-s-OFDM	QPSK	DSI = 1	0	Rear	136100	680.5	1	1	17.00	16.03	0.227	0.284						
	50								28	17.00	16.06	0.194	0.241							
	1								1	17.00	16.03	0.116	0.145							
														50	28	17.00	16.06	0.116	0.144	
	1								1	17.00	16.16	0.180	0.218	1						
														1						

Note(s):

1. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.20. NR Band n77(Voice/Data/SRS0) (100MHz Bandwidth)

Antenna	RF Exposure Conditions	Modulation	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Main 2 Ant.	Standalone	DFT-s-OFDM	QPSK	DSI = 0	16	Rear	662000	3930.0	1	1	19.30	18.97	0.276	0.298		
									135	69	19.30	18.82	0.279	0.312		
					12	Edge 1	633334	3500.0	1	1	19.30	18.47	0.322	0.390	2	
									135	69	19.30	18.45	0.340	0.414	2	
							650000	3750.0	1	1	19.30	19.28	0.412	0.414	2	
									135	69	19.30	19.28	0.444	0.446	2	
					662000	3930.0	1	1	19.30	18.97	0.515	0.556				
							135	69	19.30	18.82	0.504	0.563				
					0	Edge 2	662000	3930.0	1	1	19.30	18.97	0.375	0.405		
									135	69	19.30	18.82	0.427	0.477		
		CP-OFDM	QPSK	DSI = 0	14	Edge 1	662000	3930.0	1	1	19.30	18.97	0.505	0.545	1	
		DFT-s-OFDM	QPSK	DSI = 1	0	Rear	633334	3500.0	1	1	9.50	8.58	0.447	0.552	2	
									135	69	9.50	8.53	0.463	0.579	2	
							650000	3750.0	1	1	9.50	8.70	0.560	0.673	2	
									135	69	9.50	8.64	0.459	0.560	2	
					662000	3930.0	1	1	9.50	8.34	0.669	0.874		20		
							135	69	9.50	8.41	0.503	0.646				
					0	Edge 1	662000	3930.0	1	1	9.50	8.34	0.245	0.320		
									135	69	9.50	8.41	0.240	0.308		
		CP-OFDM	QPSK	DSI = 1	0	Rear	662000	3930.0	1	1	9.50	8.34	0.510	0.666	1	

Note(s):

1. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.
2. NR Band n77 SAR test evaluated to all required test channels of both lower and upper bands in Worst configuration.

10.21. NR Band n77(SRS1/SRS2/SRS3) (100MHz Bandwidth)

Antenna	RF Exposure Conditions	Mode	DSI Status	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
								Tune-up limit	Meas.	Meas.	Scaled		
Sub 4 Ant. (SRS 1)	Standalone	SRS CW	DSI = 0, 1	0	Rear	633334	3500.0	12.00	11.36	0.531	0.615	1	
						650000	3750.0	12.00	11.38	0.947	1.092		21
						662000	3930.0	12.00	10.12	0.557	0.859	1	
					Edge 2	650000	3750.0	12.00	11.38	0.347	0.400		
					Edge 3	650000	3750.0	12.00	11.38	0.053	0.061		
Sub 3 Ant. (SRS 2)	Standalone	SRS CW	DSI = 0, 1	0	Rear	633334	3500.0	10.50	9.65	0.258	0.314		22
						650000	3750.0	10.50	9.89	0.217	0.250	1	
						662000	3930.0	10.50	8.87	0.209	0.304	1	
					Edge 1	633334	3500.0	10.50	9.65	0.143	0.174		
					Edge 2	633334	3500.0	10.50	9.65	0.064	0.078		
					Edge 4	633334	3500.0	10.50	9.65	0.067	0.082		
Sub 2 Ant. (SRS 3)	Standalone	SRS CW	DSI = 0, 1	0	Rear	633334	3500.0	10.50	10.15	0.936	1.015		23
						650000	3750.0	10.50	10.04	0.713	0.793	1	
						662000	3930.0	10.50	8.61	0.249	0.385	1	
					Edge 3	633334	3500.0	10.50	10.15	0.344	0.373		

Note(s):

1. NR Band n77 SAR test evaluated to all required test channels of both lower and upper bands in Worst configuration.

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

Antenna	RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offset	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Tune-up Limit	Meas.	Meas.	Scaled	
Main 2 Ant.	Standalone (Max)	QPSK	Off	16	Rear	39750	2506	1	99	39948	2525.8	1	0	24.0	23.2	0.585	0.703	24
	Standalone (Reduce)		On	0	Rear	40185	2549.5	1	99	40383	2569.3	1	0	14.0	13.3	0.497	0.584	

10.23. Wi-Fi (DTS Band)

DTS SISO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
2.4GHz	WLAN SISO Ant.1	802.11b 1 Mbps	Standanloe	Off	14	Rear	6	2437.0	99.4%	20.00	19.63	0.283	0.310		
					16	Edge 1	6	2437.0	99.4%	20.00	19.63	0.265	0.290		
					0	Edge 2	6	2437.0	99.4%	20.00	19.63	0.054	0.060		
					0	Edge 3	6	2437.0	99.4%	20.00	19.63	0.031	0.034		
					0	Edge 4	6	2437.0	99.4%	20.00	19.63	0.393	0.431		
	On	0	Rear	6	2437.0	99.4%	11.00	10.67	0.477	0.518		25			
		0	Edge 1	6	2437.0	99.4%	11.00	10.67	0.171	0.186					
	WLAN SISO Ant.2	802.11b 1 Mbps	Standanloe	Off	14	Rear	6	2437.0	99.4%	20.00	19.88	0.523	0.541		
					0	Edge 1	6	2437.0	99.4%	20.00	19.88	<0.001	<0.001		
					0	Edge 2	6	2437.0	99.4%	20.00	19.88	0.027	0.028		
					13	Edge 3	1	2412.0	99.4%	20.00	19.52	0.661	0.743	1	
							6	2437.0	99.4%	20.00	19.88	0.817	0.845		26
							11	2462.0	99.4%	20.00	19.46	0.626	0.713	3	
					0	Edge 4	6	2437.0	99.4%	20.00	19.88	0.187	0.193		
On	0	Rear	1	2412.0	99.4%	11.00	10.50	0.469	0.530						
	0	Edge 3	1	2412.0	99.4%	11.00	10.50	0.490	0.553						

DTS MIMO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Note.	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
2.4GHz	WLAN MIMO Ant.1	802.11g 6 Mbps	Standanloe	Off	14	Rear	6	2437.0	96.4%	19.00	18.66				
					16	Edge 1	6	2437.0	96.4%	19.00	18.66	0.169	0.190		
					13	Edge 3	6	2437.0	96.4%	19.00	18.66				
					0	Edge 4	6	2437.0	96.4%	19.00	18.66	0.299	0.335		
					On	0	Rear	1	2402.0	96.4%	11.00	10.80	0.536	0.582	
	0	Edge 1	1	2402.0		96.4%	11.00	10.80	0.186	0.202					
	0	Edge 3	1	2402.0		96.4%	11.00	10.80							
	WLAN MIMO Ant.2	802.11g 6 Mbps	Standanloe	Off	14	Rear	6	2437.0	96.4%	19.00	18.65	0.676	0.760		27
					16	Edge 1	6	2437.0	96.4%	19.00	18.65	0.157	0.177		
					13	Edge 3	6	2437.0	96.4%	19.00	18.65	0.628	0.706		
0					Edge 4	6	2437.0	96.4%	19.00	18.65					
On					0	Rear	1	2402.0	96.4%	11.00	10.35	0.445	0.536		
	0	Edge 1	1	2402.0	96.4%	11.00	10.35								
	0	Edge 3	1	2402.0	96.4%	11.00	10.35	0.522	0.629						

Note(s):

- Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively). If second channel SAR is not over 1.2 or 3.0 W/kg (1-g or 10-g respectively), remain channels SAR test are not required.
- SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
- Additional SAR tested.
- DTS MIMO SAR additionally evaluated due to satisfy simultaneous transmission criteria.

10.24. Wi-Fi (U-NII Bands)

U-NII 2A SISO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.			
										Tune-up limit	Meas.	Meas.	Scaled					
5.3 GHz U-NII 2A	WLAN SISO Ant.1	802.11a 6 Mbps	Standalone	Off	14	Rear	56	5280.0	96.7%	18.00	17.87	0.307	0.327					
					16	Edge 1	56	5280.0	96.7%	18.00	17.87	0.613	0.654		28			
					0	Edge 2	56	5280.0	96.7%	18.00	17.87	0.080	0.086					
					0	Edge 3	56	5290.0	96.7%	18.00	17.87	0.020	0.022					
					0	Edge 4	56	5280.0	96.7%	18.00	17.87	0.207	0.221					
	802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	58	5290.0	94.5%	8.00	7.49	0.451	0.536						
				0	Edge 1	58	5290.0	94.5%	8.00	7.49	0.501	0.596						
	WLAN SISO Ant.2	802.11a 6 Mbps	Standalone	Off	14	Rear	52	5260.0	96.7%	18.00	17.84	0.469	0.503					
					0	Edge 1	52	5260.0	96.7%	18.00	17.84	0.013	0.014					
					0	Edge 2	52	5260.0	96.7%	18.00	17.84	0.016	0.017					
					13	Edge 3	52	5260.0	96.7%	18.00	17.84	0.129	0.138					
					0	Edge 4	52	5260.0	96.7%	18.00	17.84	0.171	0.184					
					802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	58	5290.0	94.5%	8.00	7.81	0.517	0.571		29
								0	Edge 3	58	5290.0	94.5%	8.00	7.81	0.137	0.151		

U-NII 2A MIMO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.		
										Tune-up limit	Meas.	Meas.	Scaled				
5.3 GHz U-NII 2A	WLAN MIMO Ant.1	802.11a 6 Mbps	Standalone	Off	14	Rear	52	5260.0	96.7%	18.00	17.83	0.434	0.467				
					16	Edge 1	52	5260.0	96.7%	18.00	17.83	0.781	0.840				
							56	5280.0	96.7%	18.00	17.87	0.856	0.913	1	30		
					13	Edge 3	52	5260.0	96.7%	18.00	17.83						
					0	Edge 4	52	5260.0	96.7%	18.00	17.83	0.177	0.190				
	802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	58	5290.0	94.5%	8.00	7.53	0.563	0.664					
				0	Edge 1	58	5290.0	94.5%	8.00	7.53	0.654	0.771					
				0	Edge 3	58	5290.0	94.5%	8.00	7.53							
	WLAN MIMO Ant.2	802.11a 6 Mbps	Standalone	Off	14	Rear	52	5260.0	96.7%	18.00	17.88	0.494	0.525				
					16	Edge 1	52	5260.0	96.7%	18.00	17.88						
							56	5280.0	96.7%	18.00	17.81						
					13	Edge 3	52	5260.0	96.7%	18.00	17.88	0.154	0.164				
					0	Edge 4	52	5260.0	96.7%	18.00	17.88	0.264	0.281				
					802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	58	5290.0	94.5%	8.00	6.64			
0								Edge 1	58	5290.0	94.5%	8.00	6.64				
0	Edge 3	58	5290.0	94.5%				8.00	6.64	0.093	0.134						

Note(s):

- Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively). If second channel SAR is not over 1.2 or 3.0 W/kg (1-g or 10-g respectively), remain channels SAR test are not required.
- UNII MIMO SAR additionally evaluated due to satisfy simultaneous transmission criteria.

Wi-Fi (U-NII Bands) (Continued)

U-NII 2C SISO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.5 GHz U-NII 2C	WLAN SISO Ant.1	802.11a 6 Mbps	Standalone	Off	14	Rear	120	5600.0	96.7%	18.00	17.79	0.811	0.881	1	
							124	5620.0	96.7%	18.00	17.81	0.823	0.890		
					16	Edge 1	120	5600.0	96.7%	18.00	17.79	1.050	1.140	1	
							124	5620.0	96.7%	18.00	17.81	1.060	1.146		31
					0	Edge 2	124	5620.0	96.7%	18.00	17.81	0.007	0.008		
					0	Edge 3	124	5610.0	96.7%	18.00	17.81	0.030	0.032		
	0	Edge 4	124	5620.0	96.7%	18.00	17.81	0.017	0.019						
		0	Rear	122	5610.0	94.5%	8.00	7.84	0.840	0.922					
	0		Edge 1	138	5690.0	94.5%	8.00	7.74	0.960	1.078	1				
		0	Edge 1	122	5610.0	94.5%	8.00	7.84	0.531	0.583					
	WLAN SISO Ant.2		802.11a 6 Mbps	Standalone	Off	14	Rear	100	5500.0	96.7%	18.00	17.68	0.623	0.694	1
							144	5720.0	96.7%	18.00	17.75	0.824	0.903		32
		0				Edge 1	144	5720.0	96.7%	18.00	17.75	0.031	0.034		
		0				Edge 2	144	5720.0	96.7%	18.00	17.75	0.011	0.012		
13		Edge 3				144	5720.0	96.7%	18.00	17.75	0.149	0.163			
0		Edge 4				144	5720.0	96.7%	18.00	17.75	0.449	0.492			
0	Rear	138	5690.0	94.5%	8.00	7.59	0.492	0.572							
	0	Edge 3	138	5690.0	94.5%	8.00	7.59	0.153	0.178						

U-NII 2C MIMO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.5 GHz U-NII 2C	WLAN MIMO Ant.1	802.11a 6 Mbps	Standalone	Off	14	Rear	120	5600.0	96.7%	18.00	17.92	0.786	0.828		
							124	5620.0	96.7%	18.00	17.81	0.785	0.849	1	
					16	Edge 1	100	5500.0	96.7%	18.00	17.61	1.010	1.143	2	
							120	5600.0	96.7%	18.00	17.92	1.090	1.149		
						124	5620.0	96.7%	18.00	17.81	1.080	1.167	1		
						144	5690.0	96.7%	18.00	17.76	1.070	1.170	2	33	
					13	Edge 3	120	5600.0	96.7%	18.00	17.92				
					0	Edge 4	120	5600.0	96.7%	18.00	17.92	0.339	0.357		
					0	Rear	122	5610.0	94.5%	8.00	7.67	0.668	0.762		
						138	5690.0	94.5%	8.00	7.68	0.983	1.119			
					0	Edge 1	138	5690.0	94.5%	8.00	7.68	0.579	0.659		
					0	Edge 3	138	5690.0	94.5%	8.00	7.68				
	WLAN MIMO Ant.2	802.11a 6 Mbps	Standalone	Off	14	Rear	120	5600.0	96.7%	18.00	17.41	0.700	0.830		
							124	5620.0	96.7%	18.00	17.61	0.738	0.835	1	
					16	Edge 1	100	5500.0	96.7%	18.00	17.71			1	
							120	5600.0	96.7%	18.00	17.41				
						124	5620.0	96.7%	18.00	17.61			1		
						144	5690.0	96.7%	18.00	17.77			1		
	13	Edge 3	120	5600.0	96.7%	18.00	17.41	0.170	0.201						
	0	Edge 4	120	5600.0	96.7%	18.00	17.41	0.332	0.393						
	0	Rear	122	5610.0	94.5%	8.00	6.34								
			138	5690.0	94.5%	8.00	6.89								
		0	Edge 1	138	5690.0	94.5%	8.00	6.89							
		0	Edge 3	138	5690.0	94.5%	8.00	6.89	0.121	0.165					

Note(s):

1. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively). If second channel SAR is not over 1.2 or 3.0 W/kg (1-g or 10-g respectively), remain channels SAR test are not required.
2. Additional SAR tested.
3. UNII MIMO SAR additionally evaluated due to satisfy simultaneous transmission criteria.

Wi-Fi (U-NII Bands) (Continued)

U-NII 3 SISO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.8 GHz U-NII 3	WLAN SISO Ant.1	802.11a 6 Mbps	Standalone	Off	14	Rear	149	5745.0	96.7%	18.00	17.84	0.885	0.950		
							157	5785.0	96.7%	18.00	17.56	0.801	0.917	1	
					16	Edge 1	149	5745.0	96.7%	18.00	17.84	1.040	1.116		34
							157	5785.0	96.7%	18.00	17.56	0.857	0.981	1	
					0	Edge 2	149	5745.0	96.7%	18.00	17.84	0.010	0.011		
					0	Edge 3	149	5745.0	96.7%	18.00	17.84	0.033	0.035		
	0	Edge 4	149	5745.0	96.7%	18.00	17.84	0.597	0.641						
	802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	155	5775.0	94.5%	8.00	7.81	0.943	1.042			
				0	Edge 1	155	5775.0	94.5%	8.00	7.81	0.533	0.589			
	WLAN SISO Ant.2	802.11a 6 Mbps	Standalone	Off	14	Rear	149	5745.0	96.7%	18.00	17.85	0.875	0.937		35
							157	5785.0	96.7%	18.00	17.53	0.781	0.900	1	
					0	Edge 1	149	5745.0	96.7%	18.00	17.85	0.041	0.044		
					0	Edge 2	149	5745.0	96.7%	18.00	17.85	< 0.001	< 0.001		
					13	Edge 3	149	5745.0	96.7%	18.00	17.85	0.141	0.151		
0					Edge 4	149	5745.0	96.7%	18.00	17.85	0.395	0.423			
802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	155	5775.0	94.5%	8.00	7.75	0.551	0.617				
			0	Edge 3	155	5775.0	94.5%	8.00	7.75	0.142	0.159				

U-NII 3 MIMO Results

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.8 GHz U-NII 3	WLAN MIMO Ant.1	802.11a 6 Mbps	Standalone	Off	14	Rear	149	5745.0	96.7%	18.00	17.39	0.679	0.808		
							165	5825.0	96.7%	18.00	17.48	0.667	0.778	1	
					16	Edge 1	149	5745.0	96.7%	18.00	17.39	0.913	1.087		
							165	5825.0	96.7%	18.00	17.48	0.833	0.971	1	
					13	Edge 3	149	5745.0	96.7%	18.00	17.39				
					0	Edge 4	149	5745.0	96.7%	18.00	17.39	0.569	0.677		
	802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	155	5775.0	94.5%	8.00	7.62	0.966	1.115		36	
				0	Edge 1	155	5775.0	94.5%	8.00	7.62	0.563	0.650			
				0	Edge 3	155	5775.0	94.5%	8.00	7.62					
	WLAN MIMO Ant.2	802.11a 6 Mbps	Standalone	Off	14	Rear	149	5745.0	96.7%	18.00	17.78	0.771	0.839		
							165	5825.0	96.7%	18.00	17.55	0.703	0.807	1	
					16	Edge 1	149	5745.0	96.7%	18.00	17.78				
							165	5825.0	96.7%	18.00	17.55				
					13	Edge 3	149	5745.0	96.7%	18.00	17.78	0.172	0.187		
0					Edge 4	149	5745.0	96.7%	18.00	17.78	0.493	0.537			
802.11ac VHT80 29.3 Mbps	Standalone	On	0	Rear	155	5775.0	94.5%	8.00	7.55	0.649	0.761				
			0	Edge 1	155	5775.0	94.5%	8.00	7.55						
			0	Edge 3	155	5775.0	94.5%	8.00	7.55	0.135	0.158				

Note(s):

1. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively). If second channel SAR is not over 1.2 or 3.0 W/kg (1-g or 10-g respectively), remain channels SAR test are not required.
2. UNII MIMO SAR additionally evaluated due to satisfy simultaneous transmission criteria.

10.25. Bluetooth

Frequency Band	Antenna	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Plot No.		
										Tune-up limit	Meas.	Meas.	Scaled			
2.4GHz	BT SISO Ant.1	GFSK (BDR)	Standanloe	Off	14	Rear	39	2441.0	76.7%	19.00	17.82	0.220	0.376			
					16	Edge 1	39	2441.0	76.7%	19.00	17.82	0.095	0.162			
					0	Edge 2	39	2441.0	76.7%	19.00	17.82	0.040	0.068			
					0	Edge 3	39	2441.0	76.7%	19.00	17.82	0.021	0.036			
					0	Edge 4	39	2441.0	76.7%	19.00	17.82	0.249	0.426			
		EDR	Standanloe	On	0	Rear	39	2441.0	76.7%	9.50	9.02	0.302	0.440	37		
					0	Edge 1	39	2441.0	76.7%	9.50	9.02	0.058	0.084			
		BT SISO Ant.2	GFSK (BDR)	Standanloe	Off	14	Rear	39	2441.0	76.7%	19.00	17.16	0.388	0.773	38	
						0	Edge 1	39	2441.0	76.7%	19.00	17.16	<0.001	<0.001		
						0	Edge 2	39	2441.0	76.7%	19.00	17.16	<0.001	<0.001		
						13	Edge 3	39	2441.0	76.7%	19.00	17.16	0.363	0.723		
						0	Edge 4	39	2441.0	76.7%	19.00	17.16	0.059	0.118		
				EDR	Standanloe	On	0	Rear	39	2441.0	76.7%	9.50	8.39	0.184	0.310	
							0	Edge 3	39	2441.0	76.7%	9.50	8.39	0.186	0.313	

10.26. NFC

Antenna	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Test setup		Freq. (MHz)	1-g SAR (W/kg)		Plot No.
					Type	Bitrate		Meas.		
NFC	PBRS	Standalone	0	Rear	A	106	13.6	0.068		39
					B	106	13.6	0.075		
					F	106	13.6	0.000		
					B	212	13.6	0.075		
					B	424	13.6	0.075		
				Edge 1	B	106	13.6	0.000		
				Edge 2	B	106	13.6	0.000		
				Edge 3	B	106	13.6	0.000		
				Edge 4	B	106	13.6	0.002		

11. SAR Measurement Variability

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

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

Peak spatial-average (1g of tissue)

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Repeated Measured SAR (W/kg)	Largest to Smallest SAR Ratio
1750	WCDMA Band IV	Standalone	Rear	No	0.863	N/A	N/A
	LTE Band 66	Standalone	Rear	Yes	0.924	0.899	1.03
	NR Band n66	Standalone	Rear	No	0.900	N/A	N/A
1900	LTE Band 25	Standalone	Edge 1	Yes	0.937	0.895	1.05
	NR Band n25	Standalone	Rear	No	0.926	N/A	N/A
2450	DTS	Standalone	Edge 3	Yes	0.817	0.816	1.00
2600	LTE Band 7	Standalone	Rear	No	0.894	N/A	N/A
	LTE Band 41	Standalone	Rear	Yes	0.901	0.895	1.01
3500	NR Band n77	Standalone	Rear	Yes	0.936	0.930	1.01
3700	NR Band n77	Standalone	Rear	Yes	0.947	0.936	1.01
5250	UNII	Standalone	Edge 1	Yes	0.856	0.854	1.00
5600	UNII	Standalone	Edge 1	Yes	1.090	1.080	1.01
5750	UNII	Standalone	Edge 1	Yes	1.040	1.040	1.00

Note(s):

1. In above table, Only some bands above 0.8 or 2.0 W/kg (1-g or 10-g Measured SAR) were listed.
2. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20 .

12. Simultaneous Transmission SAR Analysis

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations				
Standalone	1	WWAN (3G/LTE/NR)	+	DTS MIMO		
	2	WWAN (3G/LTE/NR)	+	UNII Ant.2		
	3	WWAN (3G/LTE/NR)	+	UNII MIMO		
	4	WWAN (3G/LTE/NR)	+	BT Ant.1		
	5	WWAN (3G/LTE/NR)	+	BT Ant.2		
	6	WWAN (3G/LTE/NR)	+	DTS Ant.2	+	BT Ant.1
	7	WWAN (3G/LTE/NR)	+	UNII MIMO	+	BT Ant.1
	8	WWAN (3G/LTE/NR)	+	UNII MIMO	+	BT Ant.2
	9	WWAN (3G/LTE/NR)	+	DTS MIMO	+	UNII MIMO
	10	WWAN (3G/LTE/NR)	+	DTS Ant.2	+	UNII MIMO + BT Ant.1
	11	WWAN (3G/LTE/NR)	+	DTS MIMO		
	12	ENDC(LTE+NR)	+	UNII Ant.2		
	13	ENDC(LTE+NR)	+	UNII MIMO		
	14	ENDC(LTE+NR)	+	BT Ant.1		
	15	ENDC(LTE+NR)	+	BT Ant.2		
	16	ENDC(LTE+NR)	+	DTS Ant.2	+	BT Ant.1
	17	ENDC(LTE+NR)	+	UNII MIMO	+	BT Ant.1
	18	ENDC(LTE+NR)	+	UNII MIMO	+	BT Ant.2
	19	ENDC(LTE+NR)	+	DTS MIMO	+	UNII MIMO
	20	ENDC(LTE+NR)	+	DTS Ant.2	+	UNII MIMO + BT Ant.1
	21	All scenarios (1 - 21) + NFC				

Notes:

1. DTS supports Wi-Fi Direct, Hotspot and VoIP.
2. U-NII supports Wi-Fi Direct, Hotspot and VoIP.
3. W-CDMA, LTE, NR supports Hotspot and VoIP
4. U-NII Radio can transmit simultaneously with Bluetooth Radio in certain scenario
5. DTS Radio can transmit simultaneously with Bluetooth Radio in certain scenario.
6. NR Radio support to both SA and NSA (ENDC) Radio.

Note(s):

For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation. In Part 1 Report, simultaneous transmission compliance was evaluated individually with other Radios (WLAN or BT) using one of 4G or 5G NR.

Simultaneous transmission SAR test exclusion considerations

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

Sum of SAR

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

SAR to Peak Location Separation Ratio (SPLSR)

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

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

Where:

SAR₁ is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR₂ is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of

$$[(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2]$$

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

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

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

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

The antennas for the unlicensed transmitters are closely situated. As a result, the associated SAR hotspots are also closely situated. Some of the sum of SAR calculations yielded results over 1.6 W/kg. The SPLSR calculations for these situations were performed by treating the unlicensed SAR values as a single transmitter. The most conservative distance between all the unlicensed hotspots to the licensed hotspot was used for the value of *d* in the SPLSR calculation.

Simultaneous transmission SAR measurement

When simultaneous transmission SAR measurements are required in different frequency bands not covered by a single probe calibration point then separate tests for each frequency band are performed. The tests are performed using enlarged zoom scans which are processed, by means of superposition, using the DASY5 volume scan postprocessing procedures to determine the 1-g SAR for the aggregate SAR distribution.

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

DASY5 provides the ability to perform Multiband Evaluations according to the latest standards using the Volume Scan job as well as appropriate routines for the Post-processing.

In order to extract and process measurements within different frequency bands, the SEMCAD X Post-processor performs the combination and subsequent superposition of these measurement data via DASY5= Combined MultiBand Averaged SAR.

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

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

SPLSR Hotspot Combination

Per November 2019 TCB Workshop Notes, SPLSR Hotspot Combination procedure can be applied to evaluate to simultaneous transmission SAR analysis.

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

Test procedure

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

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

Sum to Peak Location Separation Ratio

Instead of doing a small volume scan over a co-located antenna pair (Hybrid SPLSR guide), Simultaneous transmission SAR test exclusion may algebraically sum the SAR values of the co-located pair and use that value in SPLSR calculation;

-In the calculation Separation distance must use the minimum distance between the spatially separated antenna and the closest antenna of the co-located antenna pair to be conservative.

12.1. Sum of the SAR for WWAN & Wi-Fi & BT & NFC in (Rear) position

Standalone highest SAR results

RF Exposure	WWAN Bands	Test Position	Standalone SAR (W/kg)									
			WWAN	WIFI & BT & NFC								
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT Ant.1	BT Ant.2	NFC
1	2	3	4	5	6	7	8	9	10			
Standalone	WCDMA Band II	Rear	0.788	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	WCDMA Band IV	Rear	0.948	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	WCDMA Band V	Rear	0.389	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 5	Rear	0.531	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 7	Rear	1.087	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 12	Rear	0.232	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 13	Rear	0.347	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 14	Rear	0.459	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 25	Rear	1.103	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 26	Rear	0.364	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 41	Rear	1.041	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 48	Rear	0.438	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 66	Rear	1.116	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	LTE Band 71	Rear	0.277	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	NR Band n5	Rear	0.575	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	NR Band n25	Rear	1.039	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	NR Band n41	Rear	0.879	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	NR Band n66	Rear	1.015	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
NR Band n71	Rear	0.284	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075	
NR Band n77-SRS0	Rear	0.874	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075	
NR Band n77-SRS1	Rear	1.092	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075	
NR Band n77-SRS3	Rear	1.015	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075	

Simultaneous transmission SUM SAR results

RF Exposure	Test Position	Test Position	Sum of SAR (W/kg)									
			WWAN + DTS MIMO + NFC	WWAN + UNII Ant.2 + NFC	WWAN + UNII MIMO + NFC	WWAN + BT Ant.1 + NFC	WWAN + BT Ant.2 + NFC	WWAN + DTS Ant.2 + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.2 + NFC	WWAN + DTS MIMO + UNII MIMO + NFC	WWAN + DTS Ant.2 + UNII MIMO + BT Ant.1 + NFC
			1+4+10	1+6+10	1+7+10	1+8+10	1+9+10	1+3+8+10	1+7+8+10	1+7+9+10	1+4+7+10	1+3+7+8+10
Simultaneous Tx	WCDMA Band II	Rear	1.623	1.800	1.982	1.303	1.636	1.844	2.422	2.755	2.742	2.963
	WCDMA Band IV	Rear	1.783	1.960	2.142	1.463	1.796	2.004	2.582	2.915	2.902	3.123
	WCDMA Band V	Rear	1.224	1.401	1.583	0.904	1.237	1.445	2.023	2.356	2.343	2.564
	LTE Band 5	Rear	1.366	1.543	1.725	1.046	1.379	1.587	2.165	2.498	2.485	2.706
	LTE Band 7	Rear	1.922	2.099	2.281	1.602	1.935	2.143	2.721	3.054	3.041	3.262
	LTE Band 12	Rear	1.067	1.244	1.426	0.747	1.080	1.288	1.866	2.199	2.186	2.407
	LTE Band 13	Rear	1.182	1.359	1.541	0.862	1.195	1.403	1.981	2.314	2.301	2.522
	LTE Band 14	Rear	1.294	1.471	1.653	0.974	1.307	1.515	2.093	2.426	2.413	2.634
	LTE Band 25	Rear	1.938	2.115	2.297	1.618	1.951	2.159	2.737	3.070	3.057	3.278
	LTE Band 26	Rear	1.199	1.376	1.558	0.879	1.212	1.420	1.998	2.331	2.318	2.539
	LTE Band 41	Rear	1.876	2.053	2.235	1.556	1.889	2.097	2.675	3.008	2.995	3.216
	LTE Band 48	Rear	1.273	1.450	1.632	0.953	1.286	1.494	2.072	2.405	2.392	2.613
	LTE Band 66	Rear	1.951	2.128	2.310	1.631	1.964	2.172	2.750	3.083	3.070	3.291
	LTE Band 71	Rear	1.112	1.289	1.471	0.792	1.125	1.333	1.911	2.244	2.231	2.452
	NR Band n5	Rear	1.410	1.587	1.769	1.090	1.423	1.631	2.209	2.542	2.529	2.750
	NR Band n25	Rear	1.874	2.051	2.233	1.554	1.887	2.095	2.673	3.006	2.993	3.214
	NR Band n41	Rear	1.714	1.891	2.073	1.394	1.727	1.935	2.513	2.846	2.833	3.054
	NR Band n66	Rear	1.850	2.027	2.209	1.530	1.863	2.071	2.649	2.982	2.969	3.190
NR Band n71	Rear	1.119	1.296	1.478	0.799	1.132	1.340	1.918	2.251	2.238	2.459	
NR Band n77-SRS0	Rear	1.709	1.886	2.068	1.389	1.722	1.930	2.508	2.841	2.828	3.049	
NR Band n77-SRS1	Rear	1.927	2.104	2.286	1.607	1.940	2.148	2.726	3.059	3.046	3.267	
NR Band n77-SRS3	Rear	1.850	2.027	2.209	1.530	1.863	2.071	2.649	2.982	2.969	3.190	

Note(s):

- If some simultaneous transmission scenarios are over FCC limit (Red values in table), SPLSR criteria was performed in Appendix I. According to the results of Appendix I, all combination exceeding the FCC limit of above table satisfied the SPLSR criteria. Please refer to Appendix I.

12.2. Sum of the SAR for WWAN & Wi-Fi & BT & NFC in (Edge.1) position

Standalone highest SAR results

RF Exposure	WWAN Bands	Test Position	Standalone SAR (W/kg)									
			WWAN	WIFI & BT & NFC								
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT Ant.1	BT Ant.2	NFC
1	2	3	4	5	6	7	8	9	10			
Standalone	WCDMA Band II	Edge 1	0.792	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	WCDMA Band IV	Edge 1	0.885	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	WCDMA Band V	Edge 1	0.219	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 5	Edge 1	0.212	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 7	Edge 1	0.621	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 12	Edge 1	0.135	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 13	Edge 1	0.131	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 14	Edge 1	0.181	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 25	Edge 1	1.132	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 26	Edge 1	0.216	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 41	Edge 1	0.344	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 48	Edge 1	0.241	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 66	Edge 1	1.099	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	LTE Band 71	Edge 1	0.170	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	NR Band n5	Edge 1	0.210	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	NR Band n25	Edge 1	0.889	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	NR Band n41	Edge 1	0.418	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	NR Band n66	Edge 1	0.992	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
NR Band n71	Edge 1	0.145	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000	
NR Band n77-SRS0	Edge 1	0.563	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000	
NR Band n77-SRS1	Edge 1	0.019	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000	
NR Band n77-SRS3	Edge 1	0.009	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000	

Simultaneous transmission SUM SAR results

RF Exposure	Test Position	Test Position	Sum of SAR (W/kg)									
			WWAN + DTS MIMO + NFC	WWAN + UNII Ant.2 + NFC	WWAN + UNII MIMO + NFC	WWAN + BT Ant.1 + NFC	WWAN + BT Ant.2 + NFC	WWAN + DTS Ant.2 + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.2 + NFC	WWAN + DTS MIMO + UNII MIMO + NFC	WWAN + DTS MIMO + BT Ant.1 + NFC
			1+4+10	1+6+10	1+7+10	1+8+10	1+9+10	1+3+8+10	1+7+8+10	1+7+9+10	1+4+7+10	1+3+7+8+10
Simultaneous Tx	WCDMA Band II	Edge 1	0.994	0.836	1.962	0.954	0.793	0.955	2.124	1.963	2.164	2.125
	WCDMA Band IV	Edge 1	1.087	0.929	2.055	1.047	0.886	1.048	2.217	2.056	2.257	2.218
	WCDMA Band V	Edge 1	0.421	0.263	1.389	0.381	0.220	0.382	1.551	1.390	1.591	1.552
	LTE Band 5	Edge 1	0.414	0.256	1.382	0.374	0.213	0.375	1.544	1.383	1.584	1.545
	LTE Band 7	Edge 1	0.823	0.665	1.791	0.783	0.622	0.784	1.953	1.792	1.993	1.954
	LTE Band 12	Edge 1	0.337	0.179	1.305	0.297	0.136	0.298	1.467	1.306	1.507	1.468
	LTE Band 13	Edge 1	0.333	0.175	1.301	0.293	0.132	0.294	1.463	1.302	1.503	1.464
	LTE Band 14	Edge 1	0.383	0.225	1.351	0.343	0.182	0.344	1.513	1.352	1.553	1.514
	LTE Band 25	Edge 1	1.334	1.176	2.302	1.294	1.133	1.295	2.464	2.303	2.504	2.465
	LTE Band 26	Edge 1	0.418	0.260	1.386	0.378	0.217	0.379	1.548	1.387	1.588	1.549
	LTE Band 41	Edge 1	0.546	0.388	1.514	0.506	0.345	0.507	1.676	1.515	1.716	1.677
	LTE Band 48	Edge 1	0.443	0.285	1.411	0.403	0.242	0.404	1.573	1.412	1.613	1.574
	LTE Band 66	Edge 1	1.301	1.143	2.269	1.261	1.100	1.262	2.431	2.270	2.471	2.432
	LTE Band 71	Edge 1	0.372	0.214	1.340	0.332	0.171	0.333	1.502	1.341	1.542	1.503
	NR Band n5	Edge 1	0.412	0.254	1.380	0.372	0.211	0.373	1.542	1.381	1.582	1.543
	NR Band n25	Edge 1	1.091	0.933	2.059	1.051	0.890	1.052	2.221	2.060	2.261	2.222
	NR Band n41	Edge 1	0.620	0.462	1.588	0.580	0.419	0.581	1.750	1.589	1.790	1.751
	NR Band n66	Edge 1	1.194	1.036	2.162	1.154	0.993	1.155	2.324	2.163	2.364	2.325
NR Band n71	Edge 1	0.347	0.189	1.315	0.307	0.146	0.308	1.477	1.316	1.517	1.478	
NR Band n77-SRS0	Edge 1	0.765	0.607	1.733	0.725	0.564	0.726	1.895	1.734	1.935	1.896	
NR Band n77-SRS1	Edge 1	0.221	0.063	1.189	0.181	0.020	0.182	1.351	1.190	1.391	1.352	
NR Band n77-SRS3	Edge 1	0.211	0.053	1.179	0.171	0.010	0.172	1.341	1.180	1.381	1.342	

Note(s):

1. If some simultaneous transmission scenarios are over FCC limit (Red values in table), SPLSR criteria was performed in Appendix I. According to the results of Appendix I, all combination exceeding the FCC limit of above table satisfied the SPLSR criteria. Please refer to Appendix I.
2. Green value is estimated SAR according to calculate of KDB 447498 D04. Please refer to Section.7.

12.3. Sum of the SAR for WWAN & Wi-Fi & BT & NFC in (Edge.2) position

Standalone highest SAR results

RF Exposure	WWAN Bands	Test Position	Standalone SAR (W/kg)									
			WWAN	WiFi & BT & NFC								
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT Ant.1	BT Ant.2	NFC
1	2	3	4	5	6	7	8	9	10			
Standalone	WCDMA Band II	Edge 2	0.017	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	WCDMA Band IV	Edge 2	0.406	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	WCDMA Band V	Edge 2	0.698	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 5	Edge 2	0.632	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 7	Edge 2	0.268	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 12	Edge 2	0.327	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 13	Edge 2	0.647	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 14	Edge 2	0.618	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 25	Edge 2	0.286	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 26	Edge 2	0.660	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 41	Edge 2	0.143	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 48	Edge 2	0.222	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 66	Edge 2	0.442	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	LTE Band 71	Edge 2	0.430	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	NR Band n5	Edge 2	0.559	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	NR Band n25	Edge 2	0.301	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	NR Band n41	Edge 2	0.036	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	NR Band n66	Edge 2	0.449	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	NR Band n71	Edge 2	0.404	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	NR Band n77-SRS0	Edge 2	0.477	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
NR Band n77-SRS1	Edge 2	0.400	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000	
NR Band n77-SRS3	Edge 2	0.374	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000	

Simultaneous transmission SUM SAR results

RF Exposure	Test Position	Test Position	Sum of SAR (W/kg)									
			WWAN + DTS MIMO + NFC	WWAN + UNII Ant.2 + NFC	WWAN + UNII MIMO + NFC	WWAN + BT Ant.1 + NFC	WWAN + BT Ant.2 + NFC	WWAN + DTS Ant.2 + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.2 + NFC	WWAN + DTS MIMO + UNII MIMO + NFC	WWAN + DTS Ant.2 + UNII MIMO + BT Ant.1 + NFC
			1+4+10	1+6+10	1+7+10	1+8+10	1+9+10	1+3+8+10	1+7+8+10	1+7+9+10	1+4+7+10	1+3+7+8+10
Simultaneous Tx	WCDMA Band II	Edge 2	0.105	0.034	0.120	0.085	0.018	0.113	0.188	0.121	0.208	0.216
	WCDMA Band IV	Edge 2	0.494	0.423	0.509	0.474	0.407	0.502	0.577	0.510	0.597	0.605
	WCDMA Band V	Edge 2	0.786	0.715	0.801	0.766	0.699	0.794	0.869	0.802	0.889	0.897
	LTE Band 5	Edge 2	0.720	0.649	0.735	0.700	0.633	0.728	0.803	0.736	0.823	0.831
	LTE Band 7	Edge 2	0.356	0.285	0.371	0.336	0.269	0.364	0.439	0.372	0.459	0.467
	LTE Band 12	Edge 2	0.415	0.344	0.430	0.395	0.328	0.423	0.498	0.431	0.518	0.526
	LTE Band 13	Edge 2	0.735	0.664	0.750	0.715	0.648	0.743	0.818	0.751	0.838	0.846
	LTE Band 14	Edge 2	0.706	0.635	0.721	0.686	0.619	0.714	0.789	0.722	0.809	0.817
	LTE Band 25	Edge 2	0.374	0.303	0.389	0.354	0.287	0.382	0.457	0.390	0.477	0.485
	LTE Band 26	Edge 2	0.748	0.677	0.763	0.728	0.661	0.756	0.831	0.764	0.851	0.859
	LTE Band 41	Edge 2	0.231	0.160	0.246	0.211	0.144	0.239	0.314	0.247	0.334	0.342
	LTE Band 48	Edge 2	0.310	0.239	0.325	0.290	0.223	0.318	0.393	0.326	0.413	0.421
	LTE Band 66	Edge 2	0.530	0.459	0.545	0.510	0.443	0.538	0.613	0.546	0.633	0.641
	LTE Band 71	Edge 2	0.518	0.447	0.533	0.498	0.431	0.526	0.601	0.534	0.621	0.629
	NR Band n5	Edge 2	0.647	0.576	0.662	0.627	0.560	0.655	0.730	0.663	0.750	0.758
	NR Band n25	Edge 2	0.389	0.318	0.404	0.369	0.302	0.397	0.472	0.405	0.492	0.500
	NR Band n41	Edge 2	0.124	0.053	0.139	0.104	0.037	0.132	0.207	0.140	0.227	0.235
	NR Band n66	Edge 2	0.537	0.466	0.552	0.517	0.450	0.545	0.620	0.553	0.640	0.648
	NR Band n71	Edge 2	0.492	0.421	0.507	0.472	0.405	0.500	0.575	0.508	0.595	0.603
	NR Band n77-SRS0	Edge 2	0.565	0.494	0.580	0.545	0.478	0.573	0.648	0.581	0.668	0.676
NR Band n77-SRS1	Edge 2	0.488	0.417	0.503	0.468	0.401	0.496	0.571	0.504	0.591	0.599	
NR Band n77-SRS3	Edge 2	0.462	0.391	0.477	0.442	0.375	0.470	0.545	0.478	0.565	0.573	

Note(s):

- Green value is estimated SAR according to calculate of KDB 447498 D04. Please refer to Section.7.
- Blue value is sum SAR of each DTS Ant.1 & DTS Ant.2 or UNII Ant.1 & UNII Ant.2.
- All Sum results are below FCC limit (1.6 W/kg). So additional evaluation are not required.

12.4. Sum of the SAR for WWAN & Wi-Fi & BT & NFC in (Edge.3) position

Standalone highest SAR results

RF Exposure	WWAN Bands	Test Position	Standalone SAR (W/kg)									
			WWAN	WIFI & BT & NFC								
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT Ant.1	BT Ant.2	NFC
1	2	3	4	5	6	7	8	9	10			
Standalone	WCDMA Band II	Edge 3	0.147	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	WCDMA Band IV	Edge 3	0.165	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	WCDMA Band V	Edge 3	0.304	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 5	Edge 3	0.298	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 7	Edge 3	0.188	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 12	Edge 3	0.064	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 13	Edge 3	0.115	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 14	Edge 3	0.094	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 25	Edge 3	0.185	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 26	Edge 3	0.209	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 41	Edge 3	0.013	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 48	Edge 3	0.160	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 66	Edge 3	0.185	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	LTE Band 71	Edge 3	0.060	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	NR Band n5	Edge 3	0.211	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	NR Band n25	Edge 3	0.185	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	NR Band n41	Edge 3	0.106	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
	NR Band n66	Edge 3	0.165	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000
NR Band n71	Edge 3	0.063	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000	
NR Band n77-SRS0	Edge 3	0.073	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000	
NR Band n77-SRS1	Edge 3	0.061	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000	
NR Band n77-SRS3	Edge 3	0.373	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.773	0.000	

Simultaneous transmission SUM SAR results

RF Exposure	Test Position	Test Position	Sum of SAR (W/kg)									
			WWAN + DTS MIMO + NFC	WWAN + UNII Ant.2 + NFC	WWAN + UNII MIMO + NFC	WWAN + BT Ant.1 + NFC	WWAN + BT Ant.2 + NFC	WWAN + DTS Ant.2 + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.2 + NFC	WWAN + DTS MIMO + UNII MIMO + NFC	WWAN + DTS Ant.2 + UNII MIMO + BT Ant.1 + NFC
			1 + 4 + 10	1 + 6 + 10	1 + 7 + 10	1 + 8 + 10	1 + 9 + 10	1 + 3 + 8 + 10	1 + 7 + 8 + 10	1 + 7 + 9 + 10	1 + 4 + 7 + 10	1 + 3 + 7 + 8 + 10
Simultaneous Tx	WCDMA Band II	Edge 3	0.853	0.325	0.348	0.183	0.920	1.028	0.384	1.121	1.054	1.229
	WCDMA Band IV	Edge 3	0.871	0.343	0.366	0.201	0.938	1.046	0.402	1.139	1.072	1.247
	WCDMA Band V	Edge 3	1.010	0.482	0.505	0.340	1.077	1.185	0.541	1.278	1.211	1.386
	LTE Band 5	Edge 3	1.004	0.476	0.499	0.334	1.071	1.179	0.535	1.272	1.205	1.380
	LTE Band 7	Edge 3	0.894	0.366	0.389	0.224	0.961	1.069	0.425	1.162	1.095	1.270
	LTE Band 12	Edge 3	0.770	0.242	0.265	0.100	0.837	0.945	0.301	1.038	0.971	1.146
	LTE Band 13	Edge 3	0.821	0.293	0.316	0.151	0.888	0.996	0.352	1.089	1.022	1.197
	LTE Band 14	Edge 3	0.800	0.272	0.295	0.130	0.867	0.975	0.331	1.068	1.001	1.176
	LTE Band 25	Edge 3	0.891	0.363	0.386	0.221	0.958	1.066	0.422	1.159	1.092	1.267
	LTE Band 26	Edge 3	0.915	0.387	0.410	0.245	0.982	1.090	0.446	1.183	1.116	1.291
	LTE Band 41	Edge 3	0.719	0.191	0.214	0.049	0.786	0.894	0.250	0.987	0.920	1.095
	LTE Band 48	Edge 3	0.866	0.338	0.361	0.196	0.933	1.041	0.397	1.134	1.067	1.242
	LTE Band 66	Edge 3	0.891	0.363	0.386	0.221	0.958	1.066	0.422	1.159	1.092	1.267
	LTE Band 71	Edge 3	0.766	0.238	0.261	0.096	0.833	0.941	0.297	1.034	0.967	1.142
	NR Band n5	Edge 3	0.917	0.389	0.412	0.247	0.984	1.092	0.448	1.185	1.118	1.293
	NR Band n25	Edge 3	0.891	0.363	0.386	0.221	0.958	1.066	0.422	1.159	1.092	1.267
	NR Band n41	Edge 3	0.812	0.284	0.307	0.142	0.879	0.987	0.343	1.080	1.013	1.188
	NR Band n66	Edge 3	0.871	0.343	0.366	0.201	0.938	1.046	0.402	1.139	1.072	1.247
NR Band n71	Edge 3	0.769	0.241	0.264	0.099	0.836	0.944	0.300	1.037	0.970	1.145	
NR Band n77-SRS0	Edge 3	0.779	0.251	0.274	0.109	0.846	0.954	0.310	1.047	0.980	1.155	
NR Band n77-SRS1	Edge 3	0.767	0.239	0.262	0.097	0.834	0.942	0.298	1.035	0.968	1.143	
NR Band n77-SRS3	Edge 3	1.079	0.551	0.574	0.409	1.146	1.254	0.610	1.347	1.280	1.455	

Note(s):

- Green value is estimated SAR according to calculate of KDB 447498 D04. Please refer to Section.7.
- All Sum results are below FCC limit (1.6 W/kg). So additional evaluation are not required.

12.5. Sum of the SAR for WWAN & Wi-Fi & BT & NFC in (Edge.4) position

Standalone highest SAR results

RF Exposure	WWAN Bands	Test Position	Standalone SAR (W/kg)									
			WWAN	WIFI & BT & NFC								
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT Ant.1	BT Ant.2	NFC
1	2	3	4	5	6	7	8	9	10			
Standalone	WCDMA Band II	Edge 4	0.107	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	WCDMA Band IV	Edge 4	0.121	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	WCDMA Band V	Edge 4	0.116	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 5	Edge 4	0.126	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 7	Edge 4	0.136	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 12	Edge 4	0.098	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 13	Edge 4	0.146	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 14	Edge 4	0.130	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 25	Edge 4	0.135	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 26	Edge 4	0.108	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 41	Edge 4	0.055	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 48	Edge 4	0.114	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 66	Edge 4	0.135	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	LTE Band 71	Edge 4	0.075	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	NR Band n5	Edge 4	0.107	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	NR Band n25	Edge 4	0.135	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	NR Band n41	Edge 4	0.077	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
	NR Band n66	Edge 4	0.121	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002
NR Band n71	Edge 4	0.060	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002	
NR Band n77-SRS0	Edge 4	0.052	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002	
NR Band n77-SRS1	Edge 4	0.006	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002	
NR Band n77-SRS3	Edge 4	0.005	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002	

Simultaneous transmission SUM SAR results

RF Exposure	Test Position	Test Position	Sum of SAR (W/kg)									
			WWAN + DTS MIMO + NFC	WWAN + UNII Ant.2 + NFC	WWAN + UNII MIMO + NFC	WWAN + BT Ant.1 + NFC	WWAN + BT Ant.2 + NFC	WWAN + DTS Ant.2 + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.2 + NFC	WWAN + DTS MIMO + UNII MIMO + NFC	WWAN + DTS Ant.2 + UNII MIMO + BT Ant.1 + NFC
			1 + 4 + 10	1 + 6 + 10	1 + 7 + 10	1 + 8 + 10	1 + 9 + 10	1 + 3 + 8 + 10	1 + 7 + 8 + 10	1 + 7 + 9 + 10	1 + 4 + 7 + 10	1 + 3 + 7 + 8 + 10
Simultaneous Tx	WCDMA Band II	Edge 4	0.444	0.601	0.786	0.535	0.227	0.728	1.212	0.904	1.121	1.405
	WCDMA Band IV	Edge 4	0.458	0.615	0.800	0.549	0.241	0.742	1.226	0.918	1.135	1.419
	WCDMA Band V	Edge 4	0.453	0.610	0.795	0.544	0.236	0.737	1.221	0.913	1.130	1.414
	LTE Band 5	Edge 4	0.463	0.620	0.805	0.554	0.246	0.747	1.231	0.923	1.140	1.424
	LTE Band 7	Edge 4	0.473	0.630	0.815	0.564	0.256	0.757	1.241	0.933	1.150	1.434
	LTE Band 12	Edge 4	0.435	0.592	0.777	0.526	0.218	0.719	1.203	0.895	1.112	1.396
	LTE Band 13	Edge 4	0.483	0.640	0.825	0.574	0.266	0.767	1.251	0.943	1.160	1.444
	LTE Band 14	Edge 4	0.467	0.624	0.809	0.558	0.250	0.751	1.235	0.927	1.144	1.428
	LTE Band 25	Edge 4	0.472	0.629	0.814	0.563	0.255	0.756	1.240	0.932	1.149	1.433
	LTE Band 26	Edge 4	0.445	0.602	0.787	0.536	0.228	0.729	1.213	0.905	1.122	1.406
	LTE Band 41	Edge 4	0.392	0.549	0.734	0.483	0.175	0.676	1.160	0.852	1.069	1.353
	LTE Band 48	Edge 4	0.451	0.608	0.793	0.542	0.234	0.735	1.219	0.911	1.128	1.412
	LTE Band 66	Edge 4	0.472	0.629	0.814	0.563	0.255	0.756	1.240	0.932	1.149	1.433
	LTE Band 71	Edge 4	0.412	0.569	0.754	0.503	0.195	0.696	1.180	0.872	1.089	1.373
	NR Band n5	Edge 4	0.444	0.601	0.786	0.535	0.227	0.728	1.212	0.904	1.121	1.405
	NR Band n25	Edge 4	0.472	0.629	0.814	0.563	0.255	0.756	1.240	0.932	1.149	1.433
	NR Band n41	Edge 4	0.414	0.571	0.756	0.505	0.197	0.698	1.182	0.874	1.091	1.375
	NR Band n66	Edge 4	0.458	0.615	0.800	0.549	0.241	0.742	1.226	0.918	1.135	1.419
NR Band n71	Edge 4	0.397	0.554	0.739	0.488	0.180	0.681	1.165	0.857	1.074	1.358	
NR Band n77-SRS0	Edge 4	0.389	0.546	0.731	0.480	0.172	0.673	1.157	0.849	1.066	1.350	
NR Band n77-SRS1	Edge 4	0.343	0.500	0.685	0.434	0.126	0.627	1.111	0.803	1.020	1.304	
NR Band n77-SRS3	Edge 4	0.342	0.499	0.684	0.433	0.125	0.626	1.110	0.802	1.019	1.303	

Note(s):

- Green value is estimated SAR according to calculate of KDB 447498 D04. Please refer to Section.7.
- All Sum results are below FCC limit (1.6 W/kg). So additional evaluation are not required.

12.6. Sum of the SAR for NR Band n77-SRS2 (Sub3 Ant.) & Wi-Fi & BT & NFC

Standalone highest SAR results

RF Exposure	Test Position	Standalone SAR (W/kg)									
		WWAN	WIFI & BT & NFC								
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII Ant.1	UNII Ant.2	UNII MIMO	BT Ant.1	BT Ant.2	NFC
1	2	3	4	5	6	7	8	9	10		
Standalone	Rear	0.314	0.518	0.541	0.760	1.078	0.937	1.119	0.440	0.773	0.075
	Edge 1	0.174	0.290	0.001	0.202	1.146	0.044	1.170	0.162	0.001	0.000
	Edge 2	0.078	0.060	0.028	0.088	0.086	0.017	0.103	0.068	0.001	0.000
	Edge 3	0.008	0.034	0.845	0.706	0.035	0.178	0.201	0.036	0.723	0.000
	Edge 4	0.082	0.431	0.193	0.335	0.641	0.492	0.677	0.426	0.118	0.002

Simultaneous transmission SUM SAR results

RF Exposure	Test Position	Sum of SAR (W/kg)									
		WWAN + DTS MIMO + NFC	WWAN + UNII Ant.2 + NFC	WWAN + UNII MIMO + NFC	WWAN + BT Ant.1 + NFC	WWAN + BT Ant.2 + NFC	WWAN + DTS Ant.2 + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.1 + NFC	WWAN + UNII MIMO + BT Ant.2 + NFC	WWAN + DTS MIMO + UNII MIMO + NFC	WWAN + DTS Ant.2 + UNII MIMO + BT Ant.1 + NFC
		1+4+10	1+6+10	1+7+10	1+8+10	1+9+10	1+3+8+10	1+7+8+10	1+7+9+10	1+4+7+10	1+3+7+8+10
Simultaneous Tx	Rear	1.149	1.326	1.508	0.829	1.162	1.370	1.948	2.281	2.268	2.489
	Edge 1	0.376	0.218	1.344	0.336	0.175	0.337	1.506	1.345	1.546	1.507
	Edge 2	0.166	0.095	0.181	0.146	0.079	0.174	0.249	0.182	0.269	0.277
	Edge 3	0.714	0.186	0.209	0.044	0.731	0.889	0.245	0.932	0.915	1.090
	Edge 4	0.419	0.576	0.761	0.510	0.202	0.703	1.187	0.879	1.096	1.380

SPLSR criteria

RF Exposure	Test Position	WWAN	UNII MIMO	BT Ant.1	DTS Ant.2	NFC	Sum of SAR (W/kg) (1-g)		Calculated Distance (mm)	1-g SPLSR (=0.04) Note.4	Volume Scan (Yes/No)	Figure
		1	7	8	3	10						
Standalone	Rear	0.314	1.119	0.440	0.541	0.075	1+3+7+8+10 (1+7+8+10)	2.489				57
		1.570			0.541	0.075	(1+7+8)+3+10	2.186				
		1.570			0.541		(1+7+8)+3	2.111	160.1	0.02	No	
		1.570				0.075	(1+7+8)+10	1.645	54.8	0.04	No	
					0.541	0.075	3+10	0.616	108.1	0.00	No	
Hybrid SPLSR Note.3		1.570				(1+7+8)	1.570					
Standalone	Rear	0.314	1.119		0.773	0.075	1+7+9+10	2.281				58
		1.200			0.773	0.075	(1+7)+9+10	2.048				
		1.200			0.773		(1+7)+9	1.973	162.4	0.02	No	
		1.200				0.075	(1+7)+10	1.275	54.8	0.03	No	
					0.773	0.075	9+10	0.848	110.7	0.01	No	
Hybrid SPLSR Note.3		1.200				(1+7)	1.200					
Standalone	Rear	0.314	1.119		0.760	0.075	1+7+4+10	2.268				59
		1.200			0.760	0.075	(1+7)+4+10	2.035				
		1.200			0.760		(1+7)+4	1.960	155.3	0.02	No	
		1.200				0.075	(1+7)+10	1.275	54.8	0.03	No	
					0.760	0.075	4+10	0.835	103.2	0.01	No	
Hybrid SPLSR Note.3		1.200				(1+7)	1.200					

Note(s):

- Green value is estimated SAR according to calculate of KDB 447498 D04. Please refer to Section.7.
- Blue value is sum SAR of each DTS Ant.1 & DTS Ant.2 or UNII Ant.1 & UNII Ant.2.
- SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.7 for detailed Volume Scan Result.
- SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair.
- Simultaneous transmission scenario (1+7+8+10) is subset of Simultaneous transmission scenario (1+3+7+8+10).
- SPLSR criteria plots(Figure No.) are refer to Appendix I.

12.7. Volume scan results

RF Exposure	Test Position	Configuration	Band	Original Measured SAR (W/kg)	Volume Scan Result	Plot No.	Multi-Band Combined factor	Multi-Band Combined Result	Plot No.
Standalone	Rear	WWAN + UNII MIMO + BT Ant.1	WWAN	0.258	0.179	1	1.334	1.570	4
			UNII MIMO	0.983	0.997	2	1.139		
			BT Ant.1	0.302	0.238	3	1.457		
Standalone	Rear	UNII MIMO + BT Ant.1	WWAN	0.258	0.179		1.334	1.200	5
			UNII MIMO	0.983	0.997		1.139		

Note(s):

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

Conclusion:

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

Appendixes

Refer to separated files for the following appendixes.

4790430333-S1 FCC Report SAR_App A_Photos & Ant. Locations

4790430333-S1 FCC Report SAR_App B_Highest SAR Test Plots

4790430333-S1 FCC Report SAR_App C_System Check Plots

4790430333-S1 FCC Report SAR_App D_SAR Tissue Ingredients

4790430333-S1 FCC Report SAR_App E_Probe Cal. Certificates

4790430333-S1 FCC Report SAR_App F_Dipole Cal. Certificates

4790430333-S1 FCC Report SAR_App G_Proximity Sensor feature

4790430333-S1 FCC Report SAR_App H_LTE Carrier Aggregation

4790430333-S1 FCC Report SAR_App I_SPLSR criteria

4790430333-S1 FCC Report SAR_App J_Volume scan results

END OF REPORT