SAR EVALUATION REPORT

IEEE Std 1528-2013

For
GSM/WCDMA/LTE/5G Phone with BT/BLE, DTS/UNII a/b/g/n/ac and NFC

FCC ID: A3LSMA256E
Model Name: SM-A256E/DSN and SM-A256E/N

Report Number: 14938215-S1V5
Issue Date: 11/16/2023

Prepared for
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ACCREDITED
CERT #0751.05

Revision History

Rev.	Date	Revisions	Revised By
V1	11/8/2023	Initial Issue	--
V2	11/10/2023	Updated §6.7 to include WLAN Body & hotspot configurations. Updated §9.3 to remove mention of LTE Band 26 covering Band 5 Updated §9.7, page 78 power reduction title	Kiara Davis
V3	11/13/2023	Updated § 1/6.7/8.1/8.2/10.20/12.1/12.5: Added WLAN extremity data. Updated § 10.17/10.18: Updated RSI Appendix A: Added test setup for WLAN extremity. Appendix C: Updated plots Appendix E: Updated SAR probes	Truc Tran
V4	11/15/2023	Section 6.2: Updated note	Coltyce Sanders
V5	11/16/2023	Section 1: Updated Highest SAR values Section 12: Updated Sum of SAR tables	Coltyce Sanders

Table of Contents

1. Attestation of Test Results

Applicant Name		SAMSUNG ELECTRONICS CO., LTD.				
FCC ID		A3LSMA256E				
Model Name		SM-A256E/DSN and SM-A256E/N (Used model SM-A256E/DSN for final testing)				
Difference in Model Name		Model SM-A256E/DSN is electrically identical to Model SM-A256E/N. The only hardware difference is that model SM-A256E/DSN supports dual SIM, while SM-A256E/N does not SM-A256E/DSN was used to perform all final tests.				
Applicable Standards		Published RF exposure KDB procedures. IEEE Std 1528-2013				
Exposure Category		SAR Limits (W/Kg)				
		Peak spatial-average (1g of tissue)		Extremities (hands, wrists, ankles, etc.) (10g of tissue)		
General population / Uncontrolled exposure		1.6		4		
RF Exposure Conditions		Equipment Class - Highest Reported SAR (W/kg)				
		PCE	DTS	NII	DSS	DXX
Head		0.720	0.095	0.466	0.061	N/A
Body-worn		0.487	0.133	0.389	0.017	N/A
Hotspot		0.965	0.339	0.667	0.047	N/A
Extremity		1.121	N/A	0.431	N/A	0.034
Simultaneous TX	Head	1.351	0.999	1.351	1.351	N/A
	Body-worn	1.105	0.832	1.105	1.105	N/A
	Hotspot	1.586	1.456	1.586	1.586	N/A
	Extremity	1.556	N/A	1.556	N/A	1.556
Date Tested		9/12/2023 to 11/13/2023				
Test Results		Pass				

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested can demonstrate compliance with the requirements as documented in this report.

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not considered unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the U.S. Government, or any agency of the U.S. government.

Approved & Released By:	Prepared By:
	
Devin Chang Senior Test Engineer UL Verification Services Inc.	Kiara Davis Laboratory Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

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

248227 D01 802.11 Wi-Fi SAR v02r02
447498 D01 General RF Exposure Guidance v06
447498 D03 Supplement C Cross-Reference v01
648474 D04 Handset SAR v01r03
680106 D01 RF Exposure Wireless Charging Apps v03r01
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
941225 D07 UMPC Mini Tablet v01r02

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

TCB Workshop October 2014; RF Exposure Procedures (Other LTE Considerations)
TCB Workshop April 2015; RF Exposure Procedures (Overlapping LTE Bands)
TCB Workshop October 2015; RF Exposure Procedures (KDB 941225 D05A)
TCB Workshop April 2016; RF Exposure Procedures (LTE Carrier Aggregation for DL)
TCB Workshop October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
TCB Workshop October 2016; RF Exposure Procedures (DUT Holder Perturbations)
TCB Workshop May 2017; RF Exposure Procedures (Broadband Liquid Above 3 GHz)
TCB Workshop November 2017; RF Exposure Procedures (LTE UL/DL Carrier Aggregation SAR)
TCB Workshop April 2018; RF Exposure Procedures (LTE DL CA SAR Test Exclusion)
TCB Workshop April 2019; RF Exposure Procedures (Tissue Simulating Liquids (TSL))
TCB Workshop November 2019; RF Exposure Policy Updates (5G NR FR1 NSA EN-DCUE SAR Evaluations)
TCB Workshop October 2020; 5G and RF Exposure Procedures (Simultaneous Transmission SAR Evaluation for EN-DC)
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

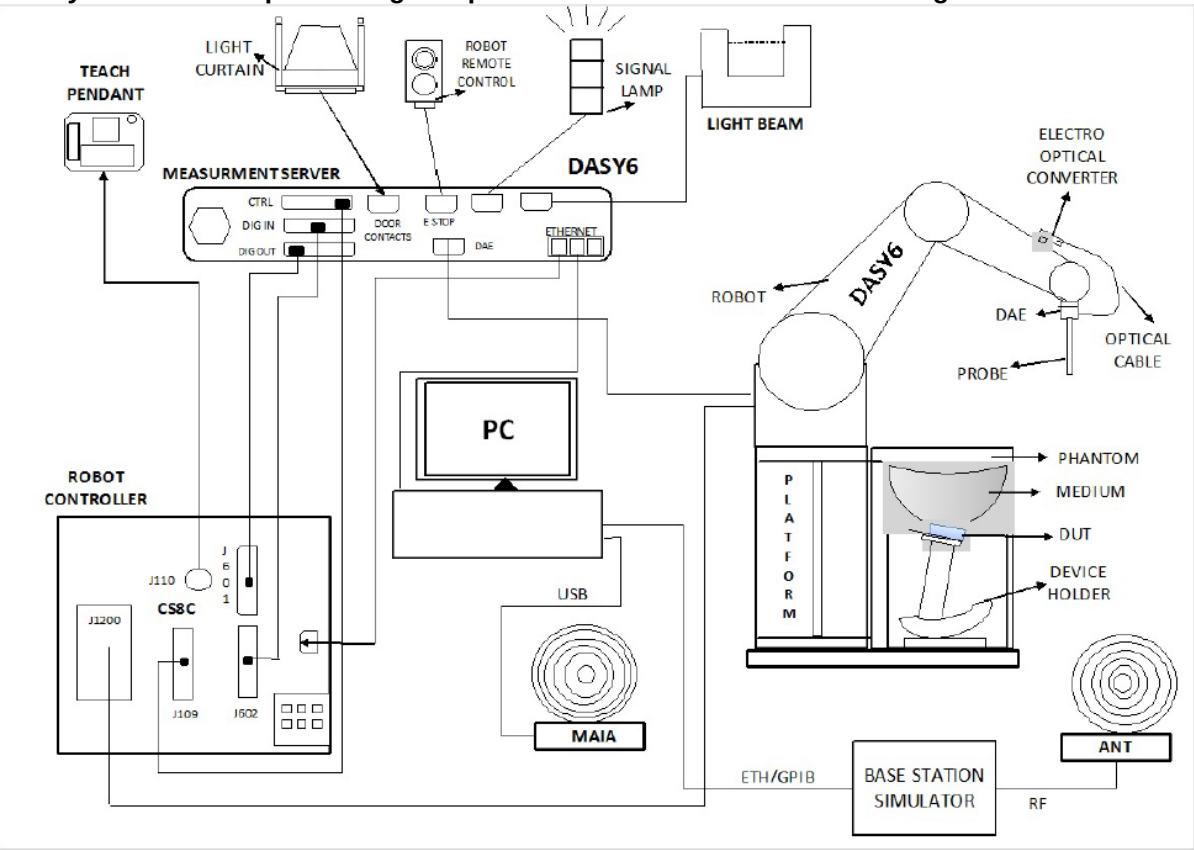
47266 Benicia Street
SAR Labs 1, 2, 3, 9, 10

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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



1. A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. An isotropic Field probe optimized and calibrated for the targeted measurement.
3. 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.
4. 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.
5. 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.
6. The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
7. A computer running Win10 and the DASY6/8[1] software.
8. Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
9. The phantom, the device holder, and other accessories according to the targeted measurement.

[1] DASY6/8 software used: DASY6.16.2 or DASY8.16.2 and older generations.

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 IEC/IEEE 62209-1528, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

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

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

Step 3: Zoom Scan

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

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

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

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

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

Step 4: Power drift measurement

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

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
Dielectric Probe kit	SPEAG	DAK-3.5	1103	2/6/2024
Shorting Block	SPEAG	DAK-1.2/3.5 Short	SM DAK 200 BA	2/6/2024
Vector Network Analyzer	ROHDE & SCHWARZ	ZNLE6	101273-VA	2/19/2024
Dielectric Probe kit	SPEAG	DAK-12	1128	1/16/2024
Shorting Block	SPEAG	DAK-12 Short	SM DAK 220 AC	1/16/2024
Thermometer	Fisher Scientific	Traceable	140493798	4/30/2024

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Signal Genarator	R&S	SMB 100A	180968-GX	2/14/2024
Power Meter	HP	437B	3125U11364	1/26/2024
Power Sensor	HP	8481A	3125U11364	1/26/2024
Power Sensor	R&S	NRP18A	100992-IU	2/15/2024
Amplifier	Miteq	AMF-4D-00400600-50-30P	1795093	N/A
Bi-directional coupler	Werlatone	C8060-102	4736	N/A
DC Power Supply	Sorensen	XT 15-4	1802A01877	N/A
MXG Analog Signal Generator	Agilent	N5181A	MY50140630	1/31/2024
Power Meter	HP	437B	3125U09516	1/31/2024
Power Meter	HP	437B	3125U09248	1/31/2024
Power Sensor	Agilent	8481A	2237A31744	1/31/2024
Power Sensor	HP	8481A	2702A60780	1/31/2024
Amplifier	Miteq	AMF-4D-00400600-50-30P	1620606	N/A
Bi-directional coupler	Werlatone	C8060-102	2148	N/A
DC Power Supply	Sorensen	XT 15-4	1817A02680	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab 1)	SPEAG	EX3DV4	7463	4/19/2024
E-Field Probe (SAR Lab 2)	SPEAG	EX3DV4	7356	3/17/2024
E-Field Probe (SAR Lab 3)	SPEAG	EX3DV4	3989	1/26/2024
E-Field Probe (SAR Lab 9)	SPEAG	EX3DV4	7807	4/11/2024
E-Field Probe (SAR Lab 10)	SPEAG	EX3DV4	7335	1/26/2024
DATA ACQUISITION ELECTRONICS (SAR 1)	SPEAG	DAE4	1357	1/27/2024
DATA ACQUISITION ELECTRONICS (SAR 2)	SPEAG	DAE4	1674	5/11/2024
DATA ACQUISITION ELECTRONICS (SAR 3)	SPEAG	DAE4	1547	4/18/2024
DATA ACQUISITION ELECTRONICS (SAR 9)	SPEAG	DAE4	1544	1/24/2024
DATA ACQUISITION ELECTRONICS (SAR 10)	SPEAG	DAE4	1472	1/23/2024
Thermometer (SAR 1, 2, 3)	Fisherbrand	Traceable	181073792	2/29/2024
Thermometer(SAR 9, 10)	Fisherbrand	Traceable	181073792	2/29/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D750V3	1019	4/13/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D835V2	4d002	11/24/2023
SYSTEM VALIDATION DIPOLE	SPEAG	D1750V2	1050	4/19/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D1750V2	1077	10/13/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D1900V2	5d140	4/14/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D2450V2	706	1/20/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D2600V2	1036	4/11/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D3500V2	1011	4/17/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D3700V2	1039	* 5/6/2023
SYSTEM VALIDATION DIPOLE	SPEAG	D5GHzV2	1003	2/22/2024
SYSTEM VALIDATION DIPOLE	SPEAG	D5GHzV2	1138	2/3/2024
SYSTEM VALIDATION DIPOLE	SPEAG	CLA13	1008	1/12/2024

Note(s):

* calibration has been extended via impedance measurement. Refer to appendix G for details

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Power Meter	Keysight	N1912A	MY55196007	1/31/2024
Power Sensor	Agilent	N1921A	MY53260001	1/31/2024
Wideband Radio Communication Tester	R&S	CMW500	171873-pw	2/29/2024
Wideband Radio Communication Tester	R&S	CMW500	124593-ss	2/29/2024
Wideband Radio Communication Tester	R&S	CMW500	171871-Gd	2/29/2024
Wideband Radio Communication Tester	R&S	CMW500	170416-Lb	2/28/2024
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY60102066	1/31/2024

5. Measurement Uncertainty

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

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	Overall (Length x Width): 161 mm x 76.5 mm Overall Diagonal: 178.2 mm Display Diagonal: 164.3 mm This is a Phablet Device (display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm)		
Back Cover	The Back Cover is not removable		
Battery Options	The rechargeable battery is not user accessible.		
Accessory	Headset		
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☒ Mobile Hotspot (Wi-Fi 5.2 GHz, 5.8 GHz)		
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other Wi-Fi Direct is only available in hand use configuration ☒ Wi-Fi Direct (Wi-Fi 2.4 GHz) ☒ Wi-Fi Direct (Wi-Fi 5.2, 5.8 GHz)		
Bluetooth Tethering (Hotspot)	BT Tethering mode permits the device to share its cellular data connection with other devices. ☒ BT Tethering (Bluetooth 2.4 GHz)		
Test sample information	**S/N**	**IMEI**	**Notes**
	R3CW50B7JJP	350616250200580 350960280200586	Licensed Conducted
	R3CW50B7JMB	350616250200614 350960280200610	Licensed Conducted
	R3CW50B7JHJ	350616250200572 350960280200578	Licensed Conducted
	R3CW50B1BSE	351137770223027 352652680223023	WLAN/BT Conducted
	R3CW70X5MMJ	351137770256415 352652680256411	Licensed Radiated
	R3CW70X5MEA	351137770256340 352652680256346	Licensed Radiated
	R3CW70X5MHV	351137770256373 352652680256379	Licensed Radiated
	R3CW70X5MDB	351137770256332 352652680256338	Licensed Radiated
	R3CW50B1CCH	351137770223217 352652680223213	WLAN/BT Radiated
	R3CW50B1C1P	351137770223100 352652680223106	WLAN/BT Radiated
	R3CW50B1BNY	351137770222987 352652680222983	WLAN/BT Radiated
	R3CW50B1BRL	351137770223019 352652680223015	WLAN/BT Radiated
Software Version	**A256E.001**		

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EDGE (8PSK)	GSM Class : B Multi-Slot Class: Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25% 3 Slots: 37.5% 4 Slots: 50%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7) DL only		100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 12 FDD Band 13 FDD Band 17 FDD Band 26 TDD Band 41 FDD Band 66	QPSK 16QAM 64QAM 256QAM Rel. 15 Carrier Aggregation (1 Uplink and 4 Downlinks)		100% (FDD) 63.3% (TDD) Power Class 3 Refer to §6.4
5G NR (FR1)	FDD band n5 FDD band n26 TDD band n41 FDD band n66 TDD band n77	CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM DFT-S-OFDM: π/2 BPSK (UL Only), QPSK, 16QAM, 64QAM, 256QAM		100% (FDD) 100% (TDD)
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)		97.36% (802.11b) [1]
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)		90.94% (802.11a) [1] 89.13% (802.11n 40MHz BW) [1] 92.05% (802.11ac 80MHz BW) [1]
	Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No			
	Does this device support Band gap channel(s)? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	BR, EDR, LE		77.50% (GFSK) [2]
NFC	13.56 MHz	Type A/B/F and ISO15693		100%

Notes:

1. Refer to §9.6 and §9.7 for Wi-Fi DTS and UNII Measured Duty Cycles respectively.
2. Refer to §9.8 for Bluetooth Measured Duty Cycle.

6.3. General LTE SAR Test and Reporting Considerations

Item	Description						
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz (BW = 60 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	**18700 /1860**	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5	18607/ 1850.7
	Mid	**18900/ 1880**	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880
	High	**19100/ 1900**	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19185/ 1908.5	19193/ 1909.3
	Band 4	Frequency range: 1710 - 1755 MHz (BW = 45 MHz)					
		Channel Bandwidth					
		20 MHz [1]	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5	19957/ 1710.7
	Mid	**20175/ 1732.5**	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5	20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz (BW = 25 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz	3 MHz	1.4 MHz
	Low			20450/ 829	20425/ 826.5	20415/ 825.5	20407/ 824.7
	Mid			**20525/ 836.5**	20525/ 836.5	20525/ 836.5	20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5	20643/ 848.3
	Band 12	Frequency range: 699 – 716 MHz (BW = 17 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz	3 MHz	1.4 MHz
	Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
	Mid			**23095/ 707.5**	23095/ 707.5	23095/ 707.5	23095/ 707.5
	High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz (BW = 10 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz [1]	3 MHz	1.4 MHz
	Low				23205/ 779.5		
	Mid			**23230/ 782**	23230/ 782		
	High				23255/ 784.5		
	Band 17	Frequency range: 704 - 716 MHz (BW = 12 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz [1]	5 MHz [1]	3 MHz	1.4 MHz
	Low			23780/ 709	23755/ 706.5		
	Mid			**23790/ 710**	23790/ 710		
	High			23800/ 711	23825/ 713.5		
	Band 26	Frequency range: 814 - 849 MHz (BW = 35 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz [1]	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low		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/	26990/	27015/	27025/	27033/

			841.5	844	846.5	847.5	848.3
	Band 41[2]	Frequency range: 2496 - 2690 MHz (BW = 194 MHz)					
		Channel Bandwidth					
		20 MHz	15 `MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	**39750 / 2506.0**					
	Mid- Low	**40185 / 2549.5**					
	Mid	**40620 / 2593.0**					
	Mid-High	**41055 / 2636.5**					
	High	**41490 / 2680.0**					
	Band 66	Frequency range: 1710 - 1780 MHz (BW = 70 MHz)					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low	**132072/ 1720**	132047/ 1717.5	132022/ 1715	131997/ 1712.5	131987/ 1711.5	131979/ 1710.7
	Mid	**132322/ 1745**	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745
	High	**132572/ 1770**	132597/ 1772.5	132622/ 1775	132647/ 1777.5	132657/ 1778.5	132665/ 1779.3

LTE transmitter and antenna implementation	Refer to Appendix A.
Maximum power reduction (MPR)	**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

	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
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:

1. 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.
2. LTE band 41 test channels in accordance with October 2014 TCB workshop for all channels bandwidths.
3. SAR Testing for LTE was performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

6.4. LTE (TDD) Considerations

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

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

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

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

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

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

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

Note(s):

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

6.5. General NR(FR1) SAR Test and Reporting Considerations

n5	SCS (kHz)	Frequency range: 824 - 849 MHz (BW = 25 MHz)												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
Low	15										166800 /834	166300 /831.5	165800 /829	165300 /826.5
Mid	15										167300 /836.5	167300 /836.5	167300 /836.5	167300 /836.5
High	15										167800 /839	168300 /841.5	168800 /844	169300 /846.5
n26	SCS (kHz)	Frequency range: 814 - 849 MHz (BW = 35 MHz)												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
Low	15										164800 /824	164300 /821.5	163800 /819	163300 /816.5
Mid	15										166300 /831.5	166300 /831.5	166300 /831.5	166300 /831.5
High	15										167800 /839	168300 /841.5	168800 /844	169300 /846.5
n41	SCS (kHz)	Frequency range: 2496 - 2690 MHz (BW = 194 MHz)												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
Low	30	509196 /2545.98	508200 /2541	507198 /2535.99	506196 /2530.98	505200 /2526	504198 /2520.99	503196 /2515.98	502200 /2511		501198 /2505.99	500700 /2503.5	500196 /2500.98	
Low-Mid	30	513900 /2569.5	513396 /2566.98	512898 /2564.49	512400 /2562	511896 /2559.48	511398 /2556.99	510900 /2554.5	510396 /2551.98		509898 /2549.49	509646 /2548.23	509400 /2547	
Mid	30	518598 /2592.99	518598 /2592.99	518598 /2592.99	518598 /2592.99	518598 /2592.99	518598 /2592.99	518598 /2592.99	518598 /2592.99		518598 /2592.99	518598 /2592.99	518598 /2592.99	
Mid-High	30	523296 /2616.48	523800 /2619	524298 /2621.49	524796 /2623.98	525300 /2626.5	525798 /2628.99	526296 /2631.48	526800 /2634		527298 /2636.49	527550 /2637.75	527796 /2638.98	
High	30	527994 /2639.97	528996 /2644.98	529998 /2649.99	530994 /2654.97	531996 /2659.98	532998 /2664.99	533994 /2669.97	534996 /2674.98		535998 /2679.99	536496 /2682.48	536994 /2684.97	
n66	SCS (kHz)	Frequency range: 1710 - 1780 MHz (BW = 70 MHz)												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
Low	15										344000 /1720	343500 /1717.5	343000 /1715	342500 /1712.5
Mid	15										349000 /1745	349000 /1745	349000 /1745	349000 /1745
High	15										354000 /1770	354500 /1772.5	355000 /1775	355500 /1777.5
n77	SCS (kHz)	Block A Frequency range: 3450 - 3550 MHz (BW = 100 MHz)												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
Low	30	633332 /3499.98	633000 /3495	632666 /3489.99	632332 /3484.98	632000 /3480	631666 /3474.99	631332 /3469.98	631000 /3465	630832 /3462.48	630666 /3459.99	630500 /3457.5	630332 /3454.98	
Mid	30	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	633332 /3499.98	
High	30	633332 /3499.98	633666 /3504.99	633998 /3509.97	634332 /3514.98	634666 /3519.99	634998 /3524.97	635332 /3529.98	635666 /3534.99	635832 /3537.48	635998 /3539.97	636166 /3542.49	636332 /3544.98	
n77	SCS (kHz)	Block C Frequency range: 3700 - 3980 MHz (BW = 280 MHz)												
		Channel Bandwidth (MHz)												
		100	90	80	70	60	50	40	30	25	20	15	10	5
Low	30	649998 /3749.97	649666 /3744.99	649332 /3739.98	648998 /3734.97	648666 /3729.99	648332 /3724.98	647998 /3719.97	647666 /3714.99	647498 /3712.47	647332 /3709.98	647166 /3707.49	646998 /3704.97	
Low-Mid	30	652998 /3794.97	652832 /3792.48	652666 /3789.99	652498 /3787.47	652332 /3784.98	652166 /3782.49	651998 /3779.97	651832 /3777.48	651748 /3776.22	651666 /3774.99	651582 /3773.73	651498 /3772.47	
Mid	30	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	656000 /3840	
Mid-High	30	658998 /3884.97	659166 /3887.49	659332 /3889.98	659498 /3892.47	659666 /3894.99	659832 /3897.48	659998 /3899.97	660166 /3902.49	660248 /3903.72	660332 /3904.98	660416 /3906.24	660498 /3907.47	
High	30	661998 /3929.97	662332 /3934.98	662666 /3939.99	662998 /3944.97	663332 /3949.98	663666 /3954.99	663998 /3959.97	664332 /3964.98	664498 /3967.47	664666 /3969.99	664832 /3972.48	664998 /3974.97	

SCS	15 kHz (n5, n26, n66) 30 kHz (n41, n77)
NR(FR1) transmitter and antenna implementation	Refer to section 7 and Appendix A.
A-MPR(Additional MPR) disabled for SAR testing?	Yes

EN-DC Carrier Aggregation Possible Combinations	
LTE Anchor Bands for NR Band n5	LTE Band 2/66
LTE Anchor Bands for NR Band n66	LTE Band 2/5/12/13
LTE Anchor Bands for NR Band n41	LTE Band 2/4/12/26/66
LTE Anchor Bands for NR Band n77	LTE Band 2/5/12/13/66

Notes:

1. 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 FCC Guidance.
2. For NR bands, SA and EN-DC were tested. Due to test setup limitations, SAR testing for NR TDD bands was performed using test mode software to establish the connection.

6.6. Time-Average Feature

This device uses Samsung's TAS algorithm to control output power of the cellular (WWAN) transmitters. The version used allows for spatial grouping of antennas such that output power across all antennas within the same spatial group is controlled to ensure aggregate SAR under simultaneous conditions for those antennas remains below the target SAR value. To verify that the aggregate SAR from antennas within different spatial groups does not exceed limits the simultaneous conditions are verified using the aggregate SAR and where the aggregate SAR exceeds the limit either the SPLSR analysis or volume scan methods are used to verify that SAR distributions from the different spatial groupings do not overlap to the extent that localized SAR values would exceed the limit. Please refer to the Operational Description for detailed information regarding the TAS algorithm and chipset utilized in the DUT. Please refer to UL TAS Report 4790976587-S1 Part 2 TAS assessments.

SAR Characterizations:

Please refer to UL TAS Report 14938215-S2 Part 0 for full details regarding SAR Characterizations.

6.7. Power Back-off Operation

This device supports multiple power back-off modes: WWAN (Ear-jack), WWAN (Hotspot), WWAN (Grip Sensor), and WWAN (RCV). Each of the power back-off operates within specific exposure conditions for certain technologies. For full details on how each power back-off mode operates, refer to the Operational Description.

Power Back-off mode	Technologies Supported	Exposure Conditions Active			
		Head	Body-worn	Hotspot	Product Specific 10g (Extremity)
RSI 0 WWAN (Free)	GSM 850/1900 W-CDMA B2/4/5 LTE B2/4/5/41/66 NR n5/26/41/66/77	N/A	✓	N/A	✓[4]
RSI 1 WWAN (Earjack)	GSM 850/1900 W-CDMA B2/4/5 LTE B2/4/5/41/66 NR n5/26/41/66/77	N/A	✓	N/A	N/A
RSI 2 WWAN (Grip)	GSM 850/1900 W-CDMA B2/4/5 LTE B2/4/5/41/66 NR n5/26/41/66/77	N/A	N/A	N/A	✓
RSI 3 WWAN (Hotspot)	GSM 850/1900 W-CDMA B2/4/5 LTE B2/4/5/41/66 NR n5/26/41/66/77	N/A	N/A	✓	N/A
RSI 4 WWAN (RCV)	GSM 850/1900 W-CDMA B2/4/5 LTE B2/4/5/41/66 NR n5/26/41/66/77	✓	N/A	N/A	N/A
WLAN (RCV)	Wi-Fi 2.4GHz Wi-Fi 5GHz	✓	N/A	N/A	N/A
WLAN (Grip)	Wi-Fi 2.4GHz Wi-Fi 5GHz	N/A	N/A	N/A	✓
WLAN (Maximum)	Wi-Fi 2.4GHz Wi-Fi 5GHz	N/A	✓	✓	✓

Note(s):

1. Tune-Up Limits for WWAN (Hotspot) and WWAN (Grip Sensor) are all Reduced Average Powers. Please refer to §9 for all conducted power measurements.
2. Back-off priority: RSI 4 → RSI 3 → RSI 1 → RSI 2 → RSI 0.
3. Body-worn SAR with ear-jack connected at reduced power is tested when Body-worn measured at max power is > 1.2 W/kg.
4. Extremity testing was performed at Proximity Sensor distance -1mm, please refer to the Sensor triggering distance document for further details.

Product Specific 10g (Extremity) Adjusted SAR Calculation:

Wireless technologies	Antenna	PMax (dBm)	RSI 3 (dBm)	Power Factor	Reported SAR Limit (W/kg)
GSM 850	ANT A	32.5	25.3	5.248	0.229
GSM 1900	ANT B	28.0	23.3	2.951	0.407
WCDMA B2	ANT B	24.5	22.0	1.778	0.675
WCDMA B4	ANT B	24.5	22.0	1.778	0.675
WCDMA B5	ANT A	25.0	25.0	1.000	1.200
LTE B2	ANT B	23.0	22.0	1.259	0.953
LTE B2	ANT E	22.5	22.0	1.122	1.070
LTE B5	ANT A	25.0	25.0	1.000	1.200
LTE B12	ANT A	24.5	24.5	1.000	1.200
LTE B13	ANT A	24.5	24.5	1.000	1.200
LTE B17	ANT A	24.5	24.5	1.000	1.200
LTE B26	ANT A	25.0	25.0	1.000	1.200
LTE B41	ANT B	24.0	20.5	2.239	0.536
LTE B66	ANT B	24.0	22.0	1.585	0.757
LTE B66	ANT E	24.0	22.0	1.585	0.757
NR n5	ANT A	25.0	25.0	1.000	1.200
NR n26	ANT A	24.5	24.5	1.000	1.200
NR n66	ANT B	24.5	22.0	1.778	0.675
NR n41	ANT B	24.0	18.0	3.981	0.301
NR n77	ANT F	24.7	18.0	4.677	0.257
NR n41 SRS1	ANT C	17.5	17.5	1.000	1.200
NR n41 SRS2	ANT G	18.0	18.0	1.000	1.200
NR n41 SRS3	ANT H	18.0	18.0	1.000	1.200
Wi-Fi 2.4 GHz	ANT H	19.0	19.0	1.00	1.200
Wi-Fi 5.2 GHz	ANT H	16.0	16.0	1.00	1.200
Wi-Fi 5.8 GHz	ANT H	16.0	16.0	1.00	1.200
Bluetooth 2.4 GHz	ANT H	12.0	12.0	1.000	1.200

Note(s):

1. Hotspot mode supports power reduction. Per KDB 648474 D04: when the measured SAR is scaled to the maximum tune-up limit and the adjusted SAR is < 1.2 W/kg, 10g extremity SAR is not required for this band. If the Reported 1g SAR value in §10 is less than the Reported SAR Limit listed above, then Extremity SAR is not required. Please refer to §10 for Reported SAR results.
2. LTE 50% RB is scaled up to the Max Tune-Up Limit with MPR included.
3. Pmax selected for GSM 850/1900 was the worst case Pmax Frame Average power across all time slots.

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.

Antenna	Band	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
ANT A	GSM 850 WCDMA B5 LTE B5/12/13/17/26 FR1 n5/26	Yes	Yes	No	Yes	Yes	Yes
ANT B	GSM 1900 WCDMA B2/4 LTE B2/4/41/66 FR1 n41/66	Yes	Yes	No	No	Yes	Yes
ANT C	n41 SRS 1	Yes	Yes	Yes	Yes	No	No
ANT E	LTE B2/4/66	Yes	Yes	Yes	No	No	Yes
ANT F	FR1 n77	Yes	Yes	Yes	No	No	Yes
ANT G	n41 SRS 2	Yes	Yes	Yes	Yes	No	No
ANT H	Wi-Fi 2.4GHz Wi-Fi 5GHz Bluetooth n41 SRS 3	Yes	Yes	Yes	No	No	No
NFC	NFC (Extremity)	Yes	Yes	Yes	No	No	Yes

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. For Phablet devices: when hotspot mode applies, Extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.
3. For Phablet devices: when hotspot mode applies and power reduction applies to hotspot mode, Extremity SAR is required for each test position that has an adjusted SAR to maximum power that is > 1.2 W/kg.
4. Wi-Fi Direct is only available in Hand use configuration.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

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

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

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

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

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

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

Dielectric Property Measurements Results:

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
1	9/12/2023	2450	Head	2450	40.30	39.20	2.81%	1.78	1.80	-1.17%
				2400	40.40	39.30	2.81%	1.74	1.75	-0.61%
				2500	40.30	39.14	2.97%	1.82	1.85	-1.94%
1	9/12/2023	5750	Head	5750	34.54	35.36	-2.33%	5.14	5.21	-1.34%
				5700	34.61	35.42	-2.29%	5.08	5.16	-1.52%
				5850	34.35	35.30	-2.69%	5.26	5.32	-1.13%
1	9/15/2023	750	Head	750	42.80	41.96	2.00%	0.88	0.89	-1.18%
				660	43.10	42.42	1.60%	0.85	0.89	-4.10%
				800	42.71	41.71	2.41%	0.90	0.90	0.38%
1	9/15/2023	835	Head	835	42.59	41.50	2.63%	0.92	0.90	1.78%
				805	42.70	41.68	2.45%	0.90	0.90	0.57%
				850	42.53	41.50	2.48%	0.92	0.92	0.74%
1	9/19/2023	750	Head	750	43.72	41.96	4.19%	0.92	0.89	2.47%
				660	44.08	42.42	3.91%	0.88	0.89	-0.58%
				800	43.51	41.71	4.33%	0.93	0.90	4.14%
1	9/19/2023	835	Head	835	43.30	41.50	4.34%	0.94	0.90	4.32%
				805	43.38	41.68	4.08%	0.93	0.90	3.26%
				850	43.25	41.50	4.22%	0.94	0.92	2.61%
1	9/25/2023	750	Head	750	43.60	41.96	3.90%	0.87	0.89	-2.32%
				660	43.86	42.42	3.39%	0.84	0.89	-4.67%
				800	43.49	41.71	4.28%	0.89	0.90	-0.72%
1	9/25/2023	835	Head	835	43.56	41.50	4.96%	0.87	0.90	-3.19%
				805	43.64	41.68	4.70%	0.86	0.90	-4.24%
				850	43.52	41.50	4.87%	0.88	0.92	-4.22%
1	9/26/2023	1750	Head	1750	39.63	40.08	-1.13%	1.36	1.37	-0.58%
				1695	39.71	40.17	-1.14%	1.33	1.34	-0.89%
				1755	39.63	40.08	-1.12%	1.36	1.37	-0.57%
1	10/2/2023	1750	Head	1750	41.96	40.08	4.68%	1.30	1.37	-4.97%
				1695	42.00	40.17	4.56%	1.27	1.34	-4.93%
				1755	41.97	40.08	4.72%	1.30	1.37	-4.94%
1	10/2/2023	1900	Head	1900	41.71	40.00	4.28%	1.40	1.40	-0.29%
				1850	41.83	40.00	4.58%	1.37	1.40	-2.21%
				1920	41.69	40.00	4.22%	1.41	1.40	0.50%
1	10/3/2023	835	Head	835	40.83	41.50	-1.61%	0.87	0.90	-3.23%
				805	40.90	41.68	-1.87%	0.86	0.90	-4.18%
				850	40.79	41.50	-1.71%	0.88	0.92	-4.31%
1	10/3/2023	3700	Head	3700	38.82	37.70	2.97%	3.11	3.12	-0.07%
				3600	39.04	37.82	3.24%	3.01	3.01	-0.20%
				3900	38.42	37.47	2.53%	3.34	3.32	0.64%
1	10/6/2023	1750	Head	1750	41.25	40.08	2.91%	1.30	1.37	-4.89%
				1695	41.29	40.17	2.79%	1.27	1.34	-4.93%
				1755	41.25	40.08	2.93%	1.31	1.37	-4.87%
1	10/13/2023	2600	Head	2600	39.16	39.01	0.38%	1.89	1.96	-3.83%
				2495	39.32	39.14	0.45%	1.80	1.85	-2.74%
				2690	39.01	38.90	0.29%	1.96	2.06	-4.78%
1	10/17/2023	2600	Head	2600	40.94	39.01	4.95%	1.89	1.96	-3.47%
				2495	41.09	39.14	4.97%	1.80	1.85	-2.47%
				2690	40.77	38.90	4.81%	1.97	2.06	-4.34%

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
1	10/23/2023	2600	Head	2600	40.44	39.01	3.66%	1.86	1.96	-5.00%
				2495	40.53	39.14	3.54%	1.78	1.85	-3.88%
				2690	40.30	38.90	3.61%	1.94	2.06	-5.90%
1	10/24/2023	2600	Head	2600	40.90	39.01	4.84%	1.88	1.96	-4.19%
				2495	41.04	39.14	4.85%	1.79	1.85	-3.28%
				2690	40.75	38.90	4.76%	1.96	2.06	-4.83%
1	10/24/2023	1750	Head	1750	40.92	40.08	2.08%	1.31	1.37	-4.45%
				1695	40.95	40.17	1.94%	1.28	1.34	-4.26%
				1755	40.92	40.08	2.10%	1.31	1.37	-4.43%
1	11/2/2023	1750	Head	1750	40.12	40.08	0.09%	1.31	1.37	-4.45%
				1695	40.19	40.17	0.05%	1.27	1.34	-4.85%
				1755	40.12	40.08	0.11%	1.31	1.37	-4.43%
1	11/8/2023	1900	Head	1900	41.20	40.00	3.00%	1.37	1.40	-1.93%
				1850	41.30	40.00	3.25%	1.35	1.40	-3.93%
				1920	41.17	40.00	2.93%	1.39	1.40	-1.07%
2	9/12/2023	5600	Head	5600	34.36	35.53	-3.30%	4.89	5.06	-3.46%
				5500	34.53	35.65	-3.14%	4.77	4.96	-3.87%
				5725	34.16	35.39	-3.48%	5.03	5.19	-3.05%
2	9/12/2023	5250	Head	5250	34.98	35.93	-2.65%	4.49	4.70	-4.49%
				5150	35.16	36.05	-2.46%	4.38	4.60	-4.80%
				5350	34.79	35.82	-2.87%	4.60	4.80	-4.19%
2	9/12/2023	5750	Head	5750	34.12	35.36	-3.51%	5.06	5.21	-3.01%
				5700	34.19	35.42	-3.47%	5.00	5.16	-3.17%
				5850	33.95	35.30	-3.82%	5.17	5.32	-2.82%
2	9/15/2023	1750	Head	1750	41.47	40.08	3.46%	1.41	1.37	2.63%
				1695	41.56	40.17	3.46%	1.37	1.34	2.02%
				1755	41.49	40.08	3.53%	1.41	1.37	2.71%
2	9/15/2023	1900	Head	1900	40.88	40.00	2.20%	1.48	1.40	5.64%
				1850	41.01	40.00	2.52%	1.45	1.40	3.57%
				1920	40.90	40.00	2.25%	1.49	1.40	6.64%
2	9/19/2023	1750	Head	1750	38.87	40.08	-3.03%	1.33	1.37	-2.99%
				1695	38.95	40.17	-3.04%	1.30	1.34	-2.99%
				1755	38.86	40.08	-3.04%	1.33	1.37	-3.19%
2	9/19/2023	1900	Head	1900	38.54	40.00	-3.65%	1.41	1.40	0.43%
				1850	38.67	40.00	-3.33%	1.38	1.40	-1.14%
				1920	38.52	40.00	-3.70%	1.42	1.40	1.14%
2	9/21/2023	2600	Head	2600	38.51	39.01	-1.28%	1.91	1.96	-2.51%
				2495	38.66	39.14	-1.23%	1.82	1.85	-1.44%
				2690	38.35	38.90	-1.41%	1.99	2.06	-3.37%
2	9/25/2023	1900	Head	1900	38.76	40.00	-3.10%	1.38	1.40	-1.29%
				1850	38.88	40.00	-2.80%	1.35	1.40	-3.43%
				1920	38.71	40.00	-3.23%	1.40	1.40	-0.29%
2	9/25/2023	2600	Head	2600	39.19	39.01	0.46%	1.89	1.96	-3.78%
				2495	39.39	39.14	0.63%	1.80	1.85	-2.69%
				2690	39.04	38.90	0.37%	1.96	2.06	-4.98%

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
2	9/25/2023	1750	Head	1750	41.60	40.08	3.78%	1.30	1.37	-4.89%
				1695	41.66	40.17	3.71%	1.28	1.34	-4.48%
				1755	41.60	40.08	3.80%	1.31	1.37	-4.87%
2	9/28/2023	3500	Head	3500	37.19	37.93	-1.95%	2.79	2.91	-4.18%
				3400	37.36	38.04	-1.80%	2.70	2.81	-4.00%
				3600	37.02	37.82	-2.10%	2.89	3.01	-4.24%
2	9/28/2023	3900	Head	3900	36.48	37.47	-2.65%	3.20	3.32	-3.73%
				3800	36.66	37.59	-2.47%	3.09	3.22	-4.06%
				4000	36.31	37.36	-2.81%	3.31	3.42	-3.45%
2	10/2/2023	2600	Head	2600	39.21	39.01	0.51%	1.89	1.96	-3.52%
				2495	39.37	39.14	0.58%	1.80	1.85	-2.47%
				2690	39.06	38.90	0.42%	1.97	2.06	-4.44%
2	10/2/2023	3500	Head	3500	39.51	37.93	4.17%	2.77	2.91	-4.76%
				3400	39.69	38.04	4.33%	2.68	2.81	-4.53%
				3600	39.34	37.82	4.03%	2.87	3.01	-4.94%
2	10/5/2023	1750	Head	1750	39.57	40.08	-1.28%	1.31	1.37	-4.67%
				1695	39.60	40.17	-1.42%	1.27	1.34	-4.93%
				1755	39.57	40.08	-1.26%	1.31	1.37	-4.65%
2	10/10/2023	835	Head	835	39.94	41.50	-3.76%	0.87	0.90	-3.73%
				805	40.00	41.68	-4.03%	0.86	0.90	-4.70%
				850	39.90	41.50	-3.86%	0.87	0.92	-4.79%
2	10/10/2023	1750	Head	1750	41.29	40.08	3.01%	1.33	1.37	-3.14%
				1695	41.32	40.17	2.86%	1.29	1.34	-3.51%
				1755	41.28	40.08	3.00%	1.33	1.37	-3.05%
2	10/10/2023	1900	Head	1900	40.58	40.00	1.45%	1.41	1.40	0.43%
				1850	40.66	40.00	1.65%	1.37	1.40	-1.86%
				1920	40.55	40.00	1.37%	1.42	1.40	1.43%
2	10/19/2023	835	Head	835	43.00	41.50	3.61%	0.90	0.90	0.43%
				805	42.92	41.68	2.98%	0.89	0.90	-0.56%
				850	43.07	41.50	3.78%	0.91	0.92	-0.62%
2	10/23/2023	2600	Head	2600	40.40	39.01	3.56%	1.88	1.96	-4.24%
				2495	40.52	39.14	3.52%	1.79	1.85	-3.06%
				2690	40.26	38.90	3.50%	1.96	2.06	-4.98%
2	10/25/2023	835	Head	835	43.39	41.50	4.55%	0.90	0.90	-0.39%
				805	43.39	41.68	4.10%	0.88	0.90	-1.42%
				850	43.38	41.50	4.53%	0.90	0.92	-1.30%
2	10/25/2023	3500	Head	3500	39.01	37.93	2.85%	2.78	2.91	-4.69%
				3400	39.19	38.04	3.01%	2.69	2.81	-4.32%
				3600	38.84	37.82	2.71%	2.86	3.01	-4.97%
2	10/30/2023	5250	Head	5250	35.97	35.93	0.10%	4.49	4.70	-4.53%
				5150	36.16	36.05	0.31%	4.38	4.60	-4.82%
				5350	35.78	35.82	-0.11%	4.60	4.80	-4.28%
2	11/2/2023	1900	Head	1900	40.96	40.00	2.40%	1.41	1.40	1.00%
				1850	41.06	40.00	2.65%	1.39	1.40	-0.57%
				1920	40.96	40.00	2.40%	1.42	1.40	1.71%

SAR Lab	Date	Band (MHz)	Tissue Type	Frequency (MHz)	Relative Permittivity (εr)			Conductivity (σ)		
					Measured	Target	Delta (%)	Measured	Target	Delta (%)
2	11/6/2023	1900	Head	1900	41.17	40.00	2.93%	1.44	1.40	3.14%
				1850	41.29	40.00	3.23%	1.42	1.40	1.21%
				1920	41.14	40.00	2.85%	1.46	1.40	4.07%
2	11/13/2023	5250	Head	5250	36.42	35.93	1.35%	4.50	4.70	-4.30%
				5150	36.60	36.05	1.53%	4.39	4.60	-4.63%
				5350	36.25	35.82	1.20%	4.61	4.80	-4.05%
2	11/13/2023	5600	Head	5600	35.83	35.53	0.83%	4.89	5.06	-3.40%
				5500	36.02	35.65	1.04%	4.77	4.96	-3.71%
				5725	35.62	35.39	0.65%	5.04	5.19	-2.93%
3	9/18/2023	13	Head	13	52.10	55.00	-5.27%	0.81	0.75	7.64%
				12	51.37	55.00	-6.60%	0.81	0.75	7.60%
				14	52.58	55.00	-4.40%	0.81	0.75	7.68%
9	9/25/2023	750	Head	750	43.81	41.96	4.41%	0.84	0.89	-5.39%
				660	44.10	42.42	3.95%	0.81	0.89	-8.12%
				800	43.66	41.71	4.69%	0.86	0.90	-4.32%
10	9/21/2023	5250	Head	5250	35.04	35.93	-2.49%	4.64	4.70	-1.32%
				5150	35.24	36.05	-2.24%	4.53	4.60	-1.63%
				5350	34.84	35.82	-2.73%	4.75	4.80	-1.07%
10	9/21/2023	5600	Head	5600	34.36	35.53	-3.30%	5.04	5.06	-0.50%
				5500	34.56	35.65	-3.05%	4.92	4.96	-0.87%
				5725	34.12	35.39	-3.59%	5.19	5.19	-0.06%
10	9/21/2023	5750	Head	5750	34.08	35.36	-3.63%	5.19	5.21	-0.55%
				5700	34.16	35.42	-3.56%	5.15	5.16	-0.17%
				5850	33.88	35.30	-4.02%	5.33	5.32	0.19%
10	10/5/2023	1750	Head	1750	40.47	40.08	0.96%	1.35	1.37	-1.09%
				1695	40.51	40.17	0.85%	1.33	1.34	-0.82%
				1755	40.48	40.08	1.01%	1.36	1.37	-1.08%
10	10/5/2023	2600	Head	2600	39.26	39.01	0.64%	1.96	1.96	-0.16%
				2495	39.41	39.14	0.68%	1.87	1.85	1.15%
				2690	39.11	38.90	0.55%	2.04	2.06	-1.14%
10	10/9/2023	2600	Head	2600	37.98	39.01	-2.64%	1.92	1.96	-2.30%
				2495	38.16	39.14	-2.51%	1.83	1.85	-0.90%
				2690	37.83	38.90	-2.74%	1.98	2.06	-3.66%

8.2. System Check

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

System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
  For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
  - The dipole input power (forward power) for the CLA 13 was 1 W.
- The results are normalized to 1 W input power.

System Check Results

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within ±10% of the manufacturer calibrated dipole SAR target. Refer to Appendix B for the SAR System Check Plots.

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
1	9/12/2023	Head	D2450V2 SN: 706	1/20/2024	5.190	51.90	52.30	-0.76%	2.530	25.30	24.50	3.27%	1
1	9/12/2023	Head	D5GHzV2 SN: 1003 (5.75 GHz)	2/22/2024	7.600	76.00	79.30	-4.16%	2.290	22.90	22.40	2.23%	2
1	9/15/2023	Head	D750V3 SN: 1019	4/13/2024	0.819	8.19	8.51	-3.76%	0.557	5.57	5.59	-0.36%	
1	9/15/2023	Head	D835V2 SN: 4d002	11/24/2023	0.898	8.98	9.83	-8.65%	0.606	6.06	6.42	-5.61%	3
1	9/19/2023	Head	D750V3 SN: 1019	4/13/2024	0.883	8.83	8.51	3.76%	0.602	6.02	5.59	7.69%	4
1	9/19/2023	Head	D835V2 SN: 4d002	11/24/2023	0.979	9.79	9.83	-0.41%	0.663	6.63	6.42	3.27%	
1	9/25/2023	Head	D750V3 SN: 1019	4/13/2024	0.833	8.33	8.51	-2.12%	0.573	5.73	5.59	2.50%	
1	9/25/2023	Head	D835V2 SN: 4d002	11/24/2023	0.907	9.07	9.83	-7.73%	0.619	6.19	6.42	-3.58%	
1	9/26/2023	Head	D1750V2 SN: 1050	4/19/2024	3.350	33.50	36.10	-7.20%	1.850	18.50	18.90	-2.12%	
1	10/2/2023	Head	D1750V2 SN: 1050	4/19/2024	3.270	32.70	36.10	-9.42%	1.830	18.20	18.90	-3.70%	5
1	10/2/2023	Head	D1900V2 SN: 5d140	4/14/2024	3.730	37.30	39.40	-5.33%	2.040	20.40	20.60	-0.97%	6
1	10/3/2023	Head	D835V2 SN: 4d002	11/24/2023	0.931	9.31	9.83	-5.29%	0.639	6.39	6.42	-0.47%	
1	10/3/2023	Head	D3700V2 SN: 1039	5/6/2023	6.950	69.50	69.27	0.33%	2.780	27.80	25.68	8.26%	7
1	10/6/2023	Head	D1750V2 SN: 1050	4/19/2024	3.360	33.60	36.10	-6.93%	1.890	18.90	18.90	0.00%	
1	10/13/2023	Head	D2600V2 SN: 1036	4/11/2024	5.330	53.30	55.40	-3.79%	2.520	25.20	24.90	1.20%	
1	10/17/2023	Head	D2600V2 SN: 1036	4/11/2024	5.340	53.40	55.40	-3.61%	2.550	25.50	24.90	2.41%	
1	10/23/2023	Head	D2600V2 SN: 1036	4/11/2024	5.260	52.60	55.40	-5.05%	2.500	25.00	24.90	0.40%	8
1	10/24/2023	Head	D2600V2 SN: 1036	4/11/2024	5.350	53.50	55.40	-3.43%	2.540	25.40	24.90	2.01%	
1	10/24/2023	Head	D1750V2 SN: 1050	4/19/2024	3.280	32.80	36.10	-9.14%	1.840	18.40	18.90	-2.65%	
1	11/2/2023	Head	D1750V2 SN: 1077	10/13/2024	3.290	32.90	36.30	-9.37%	1.830	18.30	19.10	-4.19%	9
1	11/8/2023	Head	D1900V2 SN: 5d163	10/13/2024	3.810	38.10	39.70	-4.03%	2.070	20.70	20.80	-0.48%	

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
2	9/12/2023	Head	D5GHzV2 SN: 1138 (5.25 GHz)	2/3/2024	7.680	76.80	79.50	-3.40%	2.220	22.20	22.60	-1.77%	10
2	9/12/2023	Head	D5GHzV2 SN: 1138 (5.60 GHz)	2/3/2024	8.670	86.70	82.50	5.09%	2.480	24.80	23.40	5.98%	11
2	9/12/2023	Head	D5GHzV2 SN: 1138 (5.75 GHz)	2/3/2024	7.660	76.60	78.30	-2.17%	2.210	22.10	22.20	-0.45%	12
2	9/15/2023	Head	D1750V2 SN: 1050	4/19/2024	3.670	36.70	36.10	1.66%	1.970	19.70	18.90	4.23%	
2	9/15/2023	Head	D1900V2 SN: 5d163	10/28/2023	4.160	41.60	39.10	6.39%	2.180	21.80	20.40	6.86%	
2	9/19/2023	Head	D1750V2 SN: 1050	4/19/2024	3.380	33.80	36.10	-6.37%	1.820	18.20	18.90	-3.70%	13
2	9/19/2023	Head	D1900V2 SN: 5d163	10/28/2023	3.900	39.00	39.10	-0.26%	2.060	20.60	20.40	0.98%	
2	9/21/2023	Head	D2600V2 SN: 1036	4/11/2024	5.230	52.30	55.40	-5.60%	2.380	23.80	24.90	-4.42%	14
2	9/25/2023	Head	D1750V2 SN: 1050	4/19/2024	3.500	35.00	36.10	-3.05%	1.870	18.70	18.90	-1.06%	
2	9/25/2023	Head	D1900V2 SN: 5d163	10/28/2023	4.000	40.00	39.10	2.30%	2.080	20.80	20.40	1.96%	
2	9/25/2023	Head	D2600V2 SN: 1036	4/11/2024	5.590	55.90	55.40	0.90%	2.550	25.50	24.90	2.41%	
2	9/28/2023	Head	D3500V2 SN: 1011	4/17/2024	6.630	66.30	65.60	1.07%	2.580	25.80	24.70	4.45%	
2	10/2/2023	Head	D2600V2 SN: 1036	4/11/2024	5.720	57.20	55.40	3.25%	2.600	26.00	24.90	4.42%	
2	10/2/2023	Head	D3500V2 SN: 1011	4/17/2024	6.820	68.20	65.60	3.96%	2.650	26.50	24.70	7.29%	15
2	10/5/2023	Head	D1750V2 SN: 1050	4/19/2024	3.450	34.50	36.10	-4.43%	1.860	18.60	18.90	-1.59%	
2	10/10/2023	Head	D835V2 SN: 4d002	11/24/2023	0.990	9.90	9.83	0.71%	0.655	6.55	6.42	2.02%	
2	10/10/2023	Head	D1750V2 SN: 1050	4/19/2024	3.600	36.00	36.10	-0.28%	1.940	19.40	18.90	2.65%	
2	10/10/2023	Head	D1900V2 SN: 5d140	4/14/2024	4.100	41.00	39.40	4.06%	2.150	21.50	20.60	4.37%	
2	10/19/2023	Head	D835V2 SN: 4d002	11/24/2023	0.992	9.92	9.83	0.92%	0.652	6.52	6.42	1.56%	
2	10/23/2023	Head	D2600V2 SN: 1036	4/11/2024	5.370	53.70	55.40	-3.07%	2.450	24.50	24.90	-1.61%	
2	10/25/2023	Head	D835V2 SN: 4d002	11/24/2023	0.997	9.97	9.83	1.42%	0.659	6.59	6.42	2.65%	16
2	10/25/2023	Head	D3500V2 SN: 1011	4/17/2024	6.370	63.70	65.60	-2.90%	2.470	24.70	24.70	0.00%	
2	10/30/2023	Head	D5GHzV2 SN: 1003 (5.25 GHz)	2/22/2024	7.420	74.20	80.30	-7.60%	2.130	21.30	22.90	-6.99%	17
2	11/2/2023	Head	D1900V2 SN: 5d163	10/13/2024	4.270	42.70	39.10	9.21%	2.240	22.40	20.40	9.80%	18
2	11/8/2023	Head	D1900V2 SN: 5d163	10/13/2024	4.130	41.30	39.70	4.03%	2.150	21.50	20.80	3.37%	
2	11/13/2023	Head	D5GHzV2 SN: 1138 (5.25 GHz)	2/3/2024	7.870	78.70	79.50	-1.01%	2.240	22.40	22.60	-0.88%	
2	11/13/2023	Head	D5GHzV2 SN: 1138 (5.6 GHz)	2/3/2024	7.930	79.30	82.50	-3.88%	2.240	22.40	23.40	-4.27%	

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
9	9/25/2023	Head	D750V3 SN: 1019	4/13/2024	0.847	8.47	8.51	-0.47%	0.567	5.67	5.59	1.43%	19
10	9/21/2023	Head	D5GHzV2 SN: 1003 (5.75 GHz)	2/22/2024	8.280	82.80	79.30	4.41%	2.360	23.60	22.40	5.36%	20
10	9/21/2023	Head	D5GHzV2 SN: 1003 (5.60 GHz)	2/22/2024	8.140	81.40	83.00	-1.93%	2.310	23.10	23.70	-2.53%	21
10	9/21/2023	Head	D5GHzV2 SN: 1003 (5.25 GHz)	2/22/2024	7.720	77.20	80.30	-3.86%	2.220	22.20	22.90	-3.06%	22
10	10/5/2023	Head	D1750V2 SN: 1050	4/19/2024	3.560	35.60	36.10	-1.39%	1.890	18.90	18.90	0.00%	23
10	10/5/2023	Head	D2600V2 SN: 1036	4/11/2024	5.790	57.90	55.40	4.51%	2.600	26.00	24.90	4.42%	24
10	10/9/2023	Head	D2600V2 SN: 1036	4/11/2024	5.500	55.00	55.40	-0.72%	2.460	24.60	24.90	-1.20%	
10	10/10/2023	Head	D3500V2 SN: 1011	4/17/2024	6.250	62.50	65.60	-4.73%	2.400	24.00	24.70	-2.83%	25
10	10/10/2023	Head	D3700V2 SN: 1039	5/6/2023	6.470	64.70	69.27	-6.60%	2.400	24.00	25.68	-6.53%	26

SAR Lab	Date	Tissue Type	Dipole Type _Serial #	Dipole Cal. Due Data	Measured Results for 1g SAR				Measured Results for 10g SAR				Plot No.
					Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	Zoom Scan to 100 mW	Normalize to 1 W	Target (Ref. Value)	Delta ±10 %	
3	9/18/2023	Head	CLA13 SN: 1008	1/12/2024	0.588	0.59	0.54	8.09%	0.361	0.36	0.34	6.80%	27

9. Conducted Output Power Measurements

Tune-Up Power Limits provided by the manufacturer are used to scale measured SAR values.

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

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

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

Per October 2013 TCB Workshop:
When the maximum frame-averaged powers levels are within 0.25 dB of each other, test the configuration with the highest number of time slots.

Maximum Output Power (Tune-up Limit) for GSM

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

RF Air interface	Mode	Tune-up Power Limit (dBm)	
		ANT A	
		RSI: 0, 4	RSI: 1, 2, 3
GSM850	Voice/GPRS (1 slot)	33.5	30.0
	GPRS 2 slots	32.5	27.0
	GPRS 3 slots	30.0	25.3
	GPRS 4 slots	28.0	24.0
	EGPRS 1 slot	27.5	27.5
	EGPRS 2 slot	26.0	26.0
	EGPRS 3 slot	24.0	24.0
	EGPRS 4 slots	23.0	23.0
RF Air interface	Mode	Tune-up Power Limit (dBm)	
		ANT B	
		RSI: 0, 4	RSI:1, 2, 3
GSM1900	Voice/GPRS (1 slot)	30.5	28.0
	GPRS 2 slots	27.0	25.0
	GPRS 3 slots	25.0	23.3
	GPRS 4 slots	24.0	22.0
	EGPRS 1 slot	26.0	26.0
	EGPRS 2 slot	25.0	25.0
	EGPRS 3 slot	23.0	23.0
	EGPRS 4 slots	22.0	22.0

GSM850 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	RSI: 0, 4 Average Power (dBm)				RSI: 1, 2, 3 Average Power (dBm)			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	128	824.2	32.5	23.5	33.5	24.5	29.3	20.3	30.0	21.0
			190	836.6	32.5	23.5			29.1	20.1		
			251	848.8	32.3	23.3			28.9	19.9		
		2	128	824.2	30.5	24.5	32.5	**26.5**	25.9	19.9	27.0	21.0
			190	836.6	30.5	24.5			25.9	19.9		
			251	848.8	30.5	24.5			25.7	19.7		
		3	128	824.2	29.1	24.8	30.0	25.7	23.8	19.5	25.3	**21.0**
			190	836.6	28.8	24.6			23.9	19.6		
			251	848.8	28.7	24.4			23.7	19.4		
		4	128	824.2	27.9	24.9	28.0	25.0	22.9	19.9	24.0	21.0
			190	836.6	27.9	24.9			22.9	19.9		
			251	848.8	27.7	24.7			22.7	19.7		
EDGE (8PSK)	MCS5	1	128	824.2	26.7	17.7	27.5	18.5	26.7	17.7	27.5	18.5
			190	836.6	26.6	17.6			26.6	17.6		
			251	848.8	26.3	17.3			26.4	17.4		
		2	128	824.2	24.8	18.8	26.0	20.0	24.8	18.8	26.0	20.0
			190	836.6	24.8	18.8			24.8	18.8		
			251	848.8	24.9	18.9			24.9	18.9		
		3	128	824.2	23.6	19.3	24.0	19.7	23.6	19.3	24.0	19.7
			190	836.6	23.6	19.3			23.6	19.3		
			251	848.8	23.3	19.0			23.3	19.1		
		4	128	824.2	22.3	19.3	23.0	20.0	22.2	19.2	23.0	20.0
			190	836.6	22.5	19.5			22.4	19.4		
			251	848.8	22.3	19.3			22.1	19.1		

Notes:

Based on the Tune-up Procedure, GPRS/EDGE (GMSK) mode with 2 time slots for Max power and 3 time slots reduced power have maximum frame-averaged power.

GSM1900 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	RSI: 0, 4 Average Power (dBm)				RSI: 1, 2, 3 Average Power (dBm)			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GPRS/EDGE (GMSK)	CS1	1	512	1850.2	28.5	19.5	30.5	**21.5**	26.3	17.3	28.0	19.0
			661	1880.0	28.5	19.5			26.4	17.4		
			810	1909.8	28.5	19.5			26.2	17.2		
		2	512	1850.2	26.2	20.2	27.0	21.0	23.4	17.4	25.0	19.0
			661	1880.0	26.2	20.2			23.4	17.4		
			810	1909.8	26.1	20.1			23.0	17.0		
		3	512	1850.2	24.4	20.1	25.0	20.7	21.6	17.3	23.3	**19.0**
			661	1880.0	24.5	20.2			21.7	17.4		
			810	1909.8	24.2	19.9			21.5	17.2		
		4	512	1850.2	23.1	20.1	24.0	21.0	20.3	17.3	22.0	19.0
			661	1880.0	23.1	20.1			20.5	17.5		
			810	1909.8	22.7	19.7			20.2	17.2		
EDGE (8PSK)	MCS5	1	512	1850.2	24.7	15.7	26.0	17.0	25.0	16.0	26.0	17.0
			661	1880.0	25.0	16.0			25.0	16.0		
			810	1909.8	24.6	15.6			24.9	15.9		
		2	512	1850.2	23.2	17.2	25.0	19.0	23.2	17.2	25.0	19.0
			661	1880.0	23.1	17.1			23.0	17.0		
			810	1909.8	23.0	17.0			23.0	17.0		
		3	512	1850.2	21.8	17.5	23.0	18.7	21.5	17.2	23.0	18.7
			661	1880.0	21.8	17.5			21.7	17.4		
			810	1909.8	21.7	17.4			21.3	17.0		
		4	512	1850.2	20.6	17.6	22.0	19.0	20.2	17.2	22.0	19.0
			661	1880.0	20.8	17.8			20.5	17.5		
			810	1909.8	20.5	17.5			20.2	17.2		

Notes:

Based on the Tune-up Procedure, GPRS/EDGE (GMSK) mode with 1 time slot for Max power and 3 time slots reduced power have maximum frame-averaged power.

9.2. W-CDMA

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

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

Release 99 Setup Procedures used to establish the test signals

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

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

HSDPA Setup Procedures used to establish the test signals

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

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

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

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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

HSUPA Setup Procedures used to establish the test signals

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

DC-HSDPA Setup Procedures used to establish the test signals

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

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

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

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

SAR measurement is not required for the HSDPA, HSUPA and DC-HSDPA. When primary mode and the adjusted SAR is ≤ 1.2 W/kg and secondary mode is ≤ ¼ dB higher than the primary mode

RF Air interface	Mode	Tune-up PowerLimit (dBm)		
		ANT A	ANT B	
		RSI: 0, 1, 2, 3, 4	RSI: 0, 4	RSI: 1, 2, 3
W-CDMA Band 2	R99		24.5	22.0
	HSDPA		23.5	20.5
	HSUPA		23.5	20.0
	DC-HSDPA		23.5	20.5
W-CDMA Band 4	R99		24.5	22.0
	HSDPA		23.5	20.5
	HSUPA		23.5	20.5
	DC-HSDPA		23.5	20.5
W-CDMA Band 5	R99	25.0		
	HSDPA	24.0		
	HSUPA	24.0		
	DC-HSDPA	24.0		

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	RSI: 0, 4 Average Power (dBm)			RSI: 1, 2, 3 Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.9	N/A	24.5	21.0	N/A	22.0
		9400	1880.0	23.1			21.1		
		9538	1907.6	23.1			21.1		
HSDPA	Subtest 1	9262	1852.4	22.8	0	23.5	19.8	0	20.5
		9400	1880.0	23.0			20.0		
		9538	1907.6	23.0			20.0		
	Subtest 2	9262	1852.4	22.8	0	23.5	19.8	0	20.5
		9400	1880.0	23.0			20.0		
		9538	1907.6	23.0			20.0		
	Subtest 3	9262	1852.4	22.8	0.5	23.0	19.8	0.5	20.0
		9400	1880.0	23.0			20.0		
		9538	1907.6	23.0			20.0		
	Subtest 4	9262	1852.4	22.8	0.5	23.0	19.8	0.5	20.0
		9400	1880.0	23.0			20.0		
		9538	1907.6	23.0			20.0		
HSUPA	Subtest 1	9262	1852.4	22.1	0	23.5	18.5	0	20.0
		9400	1880.0	22.3			18.9		
		9538	1907.6	22.3			19.0		
	Subtest 2	9262	1852.4	22.0	1	22.5	17.8	2	18.0
		9400	1880.0	22.0			17.9		
		9538	1907.6	22.0			18.0		
	Subtest 3	9262	1852.4	21.8	1	22.5	17.7	1	19.0
		9400	1880.0	21.9			17.8		
		9538	1907.6	22.0			17.9		
	Subtest 4	9262	1852.4	21.8	1	22.5	17.8	2	18.0
		9400	1880.0	22.0			17.9		
		9538	1907.6	21.9			17.9		
	Subtest 5	9262	1852.4	22.8	0	23.5	18.5	0	20.0
		9400	1880.0	23.0			18.9		
		9538	1907.6	23.0			19.0		
DC-HSDPA	Subtest 1	9262	1852.4	22.8	0	23.5	19.7	0	20.5
		9400	1880.0	23.0			20.0		
		9538	1907.6	22.9			19.9		
	Subtest 2	9262	1852.4	22.8	0	23.5	19.7	0	20.5
		9400	1880.0	23.0			20.0		
		9538	1907.6	23.0			19.9		
	Subtest 3	9262	1852.4	22.7	0.5	23.0	19.7	0.5	20.0
		9400	1880.0	23.0			20.0		
		9538	1907.6	22.7			19.7		
	Subtest 4	9262	1852.4	22.7	0.5	23.0	19.7	0.5	20.0
		9400	1880.0	23.0			20.0		
		9538	1907.6	22.8			19.9		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	RSI: 0, 4 Average Power (dBm)			RSI: 1, 2, 3 Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.9	N/A	24.5	20.9	N/A	22.0
		1413	1732.6	22.8			20.8		
		1513	1752.6	23.0			21.0		
HSDPA	Subtest 1	1312	1712.4	22.7	0	23.5	19.7	0	20.5
		1413	1732.6	22.7			19.6		
		1513	1752.6	22.9			19.8		
	Subtest 2	1312	1712.4	22.7	0	23.5	19.7	0	20.5
		1413	1732.6	22.7			19.7		
		1513	1752.6	22.9			19.9		
	Subtest 3	1312	1712.4	22.7	0.5	23.0	19.7	0.5	20.0
		1413	1732.6	22.7			19.7		
		1513	1752.6	22.9			19.9		
	Subtest 4	1312	1712.4	22.7	0.5	23.0	19.7	0.5	20.0
		1413	1732.6	22.7			19.7		
		1513	1752.6	23.0			19.9		
HSUPA	Subtest 1	1312	1712.4	21.7	0	23.5	18.7	0	20.5
		1413	1732.6	21.6			18.6		
		1513	1752.6	21.8			18.9		
	Subtest 2	1312	1712.4	21.7	1	22.5	18.5	2	18.5
		1413	1732.6	21.6			18.5		
		1513	1752.6	21.8			18.5		
	Subtest 3	1312	1712.4	21.7	1	22.5	18.7	1	19.5
		1413	1732.6	21.7			18.6		
		1513	1752.6	21.9			18.9		
	Subtest 4	1312	1712.4	21.7	1	22.5	18.5	2	18.5
		1413	1732.6	21.5			18.5		
		1513	1752.6	21.0			18.5		
	Subtest 5	1312	1712.4	22.8	0	23.5	19.8	0	20.5
		1413	1732.6	22.7			19.8		
		1513	1752.6	23.0			20.0		
DC-HSDPA	Subtest 1	1312	1712.4	22.8	0	23.5	19.8	0	20.5
		1413	1732.6	22.9			19.9		
		1513	1752.6	23.0			20.0		
	Subtest 2	1312	1712.4	22.8	0	23.5	19.8	0	20.5
		1413	1732.6	22.9			19.9		
		1513	1752.6	23.0			20.0		
	Subtest 3	1312	1712.4	22.8	0.5	23.0	19.8	0.5	20.0
		1413	1732.6	22.9			19.9		
		1513	1752.6	23.0			20.0		
	Subtest 4	1312	1712.4	22.8	0.5	23.0	19.8	0.5	20.0
		1413	1732.6	22.9			19.9		
		1513	1752.6	23.0			20.0		

W-CDMA Band V Measured Results

Mode		UL Ch No.	Freq. (MHz)	RSI: 0, 1, 2, 3, 4 Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.7	N/A	25.0
		4183	836.6	23.8		
		4233	846.6	23.6		
HSDPA	Subtest 1	4132	826.4	23.7	0	24.0
		4183	836.6	23.7		
		4233	846.6	23.7		
	Subtest 2	4132	826.4	23.7	0	24.0
		4183	836.6	23.8		
		4233	846.6	23.6		
	Subtest 3	4132	826.4	23.8	0	24.0
		4183	836.6	23.7		
		4233	846.6	23.6		
	Subtest 4	4132	826.4	23.7	0	24.0
		4183	836.6	23.7		
		4233	846.6	23.6		
HSUPA	Subtest 1	4132	826.4	22.5	0	24.0
		4183	836.6	22.5		
		4233	846.6	22.4		
	Subtest 2	4132	826.4	22.5	1	23.0
		4183	836.6	22.5		
		4233	846.6	22.4		
	Subtest 3	4132	826.4	22.5	1	23.0
		4183	836.6	22.5		
		4233	846.6	22.4		
	Subtest 4	4132	826.4	22.5	1	23.0
		4183	836.6	22.5		
		4233	846.6	22.4		
	Subtest 5	4132	826.4	23.7	0	24.0
		4183	836.6	23.7		
		4233	846.6	23.7		
DC-HSDPA	Subtest 1	4132	826.4	23.8	0	24.0
		4183	836.6	23.8		
		4233	846.6	23.7		
	Subtest 2	4132	826.4	23.8	0	24.0
		4183	836.6	23.8		
		4233	846.6	23.7		
	Subtest 3	4132	826.4	23.8	0	24.0
		4183	836.6	23.8		
		4233	846.6	23.6		
	Subtest 4	4132	826.4	23.8	0	24.0
		4183	836.6	23.8		
		4233	846.6	23.7		

9.3. LTE

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

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

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

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

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

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

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

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 4 (1710-1755 MHz) is covered by LTE Band 66 (1710-1780 MHz)
   - LTE Band 17 (704-716 MHz) is covered by LTE Band 12 (699-716 MHz)

For some LTE Bands, certain channel bandwidths do not support at least three non-overlapping channels. When a device supports overlapping channel assignments 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. Please refer to section 6.3. for a detailed list of LTE test channels

- LTE Band 4 (1710-1755 MHz)
- LTE Band 5 (824-849 MHz)
- LTE Band 12 (699-716 MHz)
- LTE Band 13 (777-787 MHz)

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

SAR measurement is not required for the 16QAM, 64QAM, and 256QAM. When the highest maximum output power for 16QAM, 64QAM, and 256QAM is ≤ ½ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.

RF Air interface	Mode	Tune-up PowerLimit (dBm)			
		ANT B		ANT E	
		RSI: 4	RSI: 0, 1, 2, 3	RSI: 4	RSI:0, 1, 2, 3
LTE Band 2	QPSK	23.0	22.0	22.5	22.0
LTE Band 4	QPSK	24.0	22.0	24.0	22.0
LTE Band 66	QPSK	24.0	22.0	24.0	22.0

RF Air interface	Mode	Tune-up PowerLimit (dBm)	
		ANT B	
		RSI: 0, 4	RSI: 1, 2, 3
LTE Band 41	QPSK	24.0	20.5

RF Air interface	Mode	Tune-up PowerLimit (dBm)
		ANT A
		RSI:0, 1, 2, 3, 4
LTE Band 5	QPSK	25.0
LTE Band 12	QPSK	24.5
LTE Band 13	QPSK	24.5
LTE Band 17	QPSK	24.5
LTE Band 26	QPSK	25.0

LTE Band 2 Measured Results (ANT B)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18700	18900	19100	MPR	Tune-up Limit	18700	18900	19100	MPR	Tune-up Limit
				1860 MHz	1880 MHz	1900 MHz			1860 MHz	1880 MHz	1900 MHz		
20	QPSK	1	0	21.4	21.6	21.6	0	23.0	20.6	20.7	20.5	0	22.0
		1	49	21.4	21.2	21.9	0	23.0	20.8	20.8	20.5	0	22.0
		1	99	21.5	21.6	21.7	0	23.0	20.7	20.8	20.5	0	22.0
		50	0	21.7	21.8	21.7	0	23.0	20.8	21.0	20.8	0	22.0
		50	24	21.7	21.8	21.8	0	23.0	20.8	21.0	20.8	0	22.0
		50	50	21.7	21.8	21.8	0	23.0	20.8	21.0	20.8	0	22.0
		100	0	21.7	21.8	21.7	0	23.0	20.8	21.0	20.8	0	22.0
	16QAM	1	0	22.0	22.0	21.6	0	23.0	20.7	21.2	20.9	0	22.0
		1	49	22.1	21.9	21.8	0	23.0	21.1	21.4	20.9	0	22.0
		1	99	22.1	22.0	21.6	0	23.0	20.8	21.2	20.9	0	22.0
		50	0	21.8	21.9	21.8	0.5	22.5	20.9	21.0	20.9	0	22.0
		50	24	21.8	21.9	21.8	0.5	22.5	20.9	21.1	20.9	0	22.0
		50	50	21.8	21.9	21.8	0.5	22.5	20.9	21.1	20.9	0	22.0
		100	0	21.8	21.9	21.8	0.5	22.5	20.9	21.1	20.9	0	22.0
	64QAM	1	0	21.2	21.6	21.4	0.5	22.5	20.7	20.3	20.3	0	22.0
		1	49	21.3	21.9	21.7	0.5	22.5	20.9	20.4	20.5	0	22.0
		1	99	21.4	21.7	21.4	0.5	22.5	20.7	20.3	20.4	0	22.0
		50	0	20.5	20.7	20.6	1.5	21.5	20.4	20.3	20.3	0.5	21.5
		50	24	20.6	20.8	20.7	1.5	21.5	20.4	20.4	20.4	0.5	21.5
		50	50	20.6	20.8	20.7	1.5	21.5	20.4	20.4	20.4	0.5	21.5
		100	0	20.6	20.7	20.6	1.5	21.5	20.3	20.3	20.3	0.5	21.5
	256QAM	1	0	18.6	18.7	18.4	3.5	19.5	18.2	18.5	18.3	2.5	19.5
		1	49	18.7	18.9	18.7	3.5	19.5	18.4	18.7	18.3	2.5	19.5
		1	99	18.8	18.8	18.5	3.5	19.5	18.3	18.5	18.3	2.5	19.5
		50	0	18.5	18.7	18.6	3.5	19.5	18.4	18.5	18.4	2.5	19.5
		50	24	18.6	18.7	18.6	3.5	19.5	18.4	18.5	18.3	2.5	19.5
		50	50	18.6	18.7	18.6	3.5	19.5	18.3	18.5	18.3	2.5	19.5
		100	0	18.5	18.7	18.6	3.5	19.5	18.4	18.5	18.3	2.5	19.5

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18675	18900	19125	MPR	Tune-up Limit	18675	18900	19125	MPR	Tune-up Limit
				1857.5 MHz	1880 MHz	1902.5 MHz			1857.5 MHz	1880 MHz	1902.5 MHz		
15	QPSK	1	0	21.5	21.6	21.6	0	23.0	20.6	20.7	20.5	0	22.0
		1	37	21.6	21.6	21.4	0	23.0	20.6	20.7	20.5	0	22.0
		1	74	21.5	21.6	21.6	0	23.0	20.7	20.7	20.5	0	22.0
		36	0	21.7	21.9	21.9	0	23.0	20.8	21.0	20.8	0	22.0
		36	20	21.8	21.9	21.9	0	23.0	20.8	21.0	20.9	0	22.0
		36	39	21.8	22.0	21.9	0	23.0	20.8	21.0	20.9	0	22.0
		75	0	21.8	22.0	21.9	0	23.0	20.8	21.0	20.9	0	22.0
	16QAM	1	0	21.9	22.3	21.7	0	23.0	21.0	21.2	21.2	0	22.0
		1	37	22.0	22.4	21.7	0	23.0	21.1	21.1	21.2	0	22.0
		1	74	22.0	22.4	21.7	0	23.0	21.0	21.1	21.1	0	22.0
		36	0	21.8	22.0	21.9	0.5	22.5	20.9	21.1	21.0	0	22.0
		36	20	21.8	22.0	21.9	0.5	22.5	20.9	21.1	21.0	0	22.0
		36	39	21.8	22.0	21.9	0.5	22.5	20.9	21.1	21.0	0	22.0
		75	0	21.8	21.9	21.9	0.5	22.5	20.9	21.1	21.0	0	22.0
	64QAM	1	0	21.2	21.3	21.6	0.5	22.5	20.7	20.8	20.8	0	22.0
		1	37	21.3	21.2	21.5	0.5	22.5	20.7	20.9	20.7	0	22.0
		1	74	21.3	21.3	21.7	0.5	22.5	20.7	20.7	20.7	0	22.0
		36	0	20.5	20.7	20.7	1.5	21.5	20.4	20.5	20.4	0.5	21.5
		36	20	20.5	20.7	20.7	1.5	21.5	20.4	20.5	20.4	0.5	21.5
		36	39	20.6	20.7	20.7	1.5	21.5	20.4	20.5	20.4	0.5	21.5
		75	0	20.5	20.7	20.7	1.5	21.5	20.4	20.6	20.4	0.5	21.5
	256QAM	1	0	18.2	18.7	18.5	3.5	19.5	18.4	18.6	18.6	2.5	19.5
		1	37	18.3	18.7	18.7	3.5	19.5	18.4	18.6	18.4	2.5	19.5
		1	74	18.4	18.8	18.5	3.5	19.5	18.4	18.6	18.4	2.5	19.5
		36	0	18.4	18.6	18.6	3.5	19.5	18.3	18.5	18.3	2.5	19.5
		36	20	18.4	18.7	18.6	3.5	19.5	18.3	18.5	18.3	2.5	19.5
		36	39	18.4	18.6	18.7	3.5	19.5	18.3	18.5	18.3	2.5	19.5
		75	0	18.4	18.6	18.7	3.5	19.5	18.3	18.6	18.4	2.5	19.5

LTE Band 2 Measured Results (ANT B) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18650	18900	19150	MPR	Tune-up Limit	18650	18900	19150	MPR	Tune-up Limit
				1855 MHz	1880 MHz	1905 MHz			1855 MHz	1880 MHz	1905 MHz		
10	QPSK	1	0	21.5	21.5	21.6	0	23.0	20.7	20.8	20.5	0	22.0
		1	25	21.7	21.4	21.6	0	23.0	20.7	20.8	20.4	0	22.0
		1	49	21.5	21.6	21.6	0	23.0	20.7	20.9	20.5	0	22.0
		25	0	21.7	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
		25	12	21.7	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
		25	25	21.7	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
		50	0	21.7	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
	16QAM	1	0	21.7	22.2	21.8	0	23.0	21.1	21.1	21.2	0	22.0
		1	25	21.8	22.2	21.9	0	23.0	21.1	21.1	21.2	0	22.0
		1	49	21.8	22.2	21.6	0	23.0	21.1	21.2	21.2	0	22.0
		25	0	21.7	21.9	21.8	0.5	22.5	20.8	21.1	21.0	0	22.0
		25	12	21.7	21.9	21.8	0.5	22.5	20.8	21.1	21.0	0	22.0
		25	25	21.8	21.9	21.8	0.5	22.5	20.8	21.1	20.9	0	22.0
		50	0	21.7	21.8	21.8	0.5	22.5	20.8	21.0	20.9	0	22.0
	64QAM	1	0	21.1	21.2	21.6	0.5	22.5	20.7	20.9	20.8	0	22.0
		1	25	21.2	21.2	21.7	0.5	22.5	20.7	20.8	20.8	0	22.0
		1	49	21.3	21.3	21.5	0.5	22.5	20.8	20.8	20.9	0	22.0
		25	0	20.5	20.7	20.8	1.5	21.5	20.4	20.7	20.4	0.5	21.5
		25	12	20.5	20.7	20.8	1.5	21.5	20.4	20.7	20.4	0.5	21.5
		25	25	20.5	20.7	20.8	1.5	21.5	20.4	20.7	20.4	0.5	21.5
		50	0	20.5	20.7	20.7	1.5	21.5	20.4	20.6	20.5	0.5	21.5
	256QAM	1	0	18.3	18.7	18.5	3.5	19.5	18.3	18.3	18.5	2.5	19.5
		1	25	18.4	18.7	18.5	3.5	19.5	18.2	18.3	18.5	2.5	19.5
		1	49	18.4	18.7	18.5	3.5	19.5	18.3	18.4	18.5	2.5	19.5
		25	0	18.4	18.7	18.7	3.5	19.5	18.4	18.6	18.5	2.5	19.5
		25	12	18.4	18.7	18.7	3.5	19.5	18.4	18.6	18.5	2.5	19.5
		25	25	18.4	18.7	18.7	3.5	19.5	18.4	18.6	18.5	2.5	19.5
		50	0	18.4	18.7	18.6	3.5	19.5	18.3	18.6	18.4	2.5	19.5

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18625	18900	19175	MPR	Tune-up Limit	18625	18900	19175	MPR	Tune-up Limit
				1852.5 MHz	1880 MHz	1907.5 MHz			1852.5 MHz	1880 MHz	1907.5 MHz		
5	QPSK	1	0	21.5	21.8	21.5	0	23.0	20.7	20.9	20.8	0	22.0
		1	12	21.6	21.9	21.6	0	23.0	20.4	20.9	20.8	0	22.0
		1	24	21.6	21.8	21.6	0	23.0	20.7	20.9	20.8	0	22.0
		12	0	21.6	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
		12	7	21.6	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
		12	13	21.7	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
		25	0	21.7	21.9	21.8	0	23.0	20.8	21.0	20.9	0	22.0
	16QAM	1	0	21.7	21.9	21.8	0	23.0	21.0	21.2	21.0	0	22.0
		1	12	21.9	21.9	21.8	0	23.0	20.8	21.2	21.0	0	22.0
		1	24	21.8	21.9	21.8	0	23.0	21.0	21.3	21.0	0	22.0
		12	0	21.6	21.8	21.9	0.5	22.5	20.8	21.0	20.9	0	22.0
		12	7	21.6	21.8	21.9	0.5	22.5	20.8	21.0	20.9	0	22.0
		12	13	21.6	21.8	21.9	0.5	22.5	20.9	21.0	20.9	0	22.0
		25	0	21.7	21.9	21.8	0.5	22.5	20.9	21.1	20.9	0	22.0
	64QAM	1	0	21.0	21.6	21.4	0.5	22.5	21.0	20.7	20.9	0	22.0
		1	12	20.9	21.7	21.4	0.5	22.5	20.9	20.7	20.8	0	22.0
		1	24	20.9	21.7	21.5	0.5	22.5	21.0	20.8	20.9	0	22.0
		12	0	20.3	20.6	20.6	1.5	21.5	20.3	20.6	20.4	0.5	21.5
		12	7	20.4	20.6	20.6	1.5	21.5	20.3	20.6	20.4	0.5	21.5
		12	13	20.4	20.6	20.6	1.5	21.5	20.3	20.6	20.4	0.5	21.5
		25	0	20.4	20.7	20.6	1.5	21.5	20.4	20.6	20.4	0.5	21.5
	256QAM	1	0	18.5	18.6	18.4	3.5	19.5	18.4	18.5	18.1	2.5	19.5
		1	12	18.5	18.5	18.3	3.5	19.5	18.3	19.4	18.0	2.5	19.5
		1	24	18.5	18.6	18.4	3.5	19.5	18.4	18.5	18.2	2.5	19.5
		12	0	18.4	18.6	18.6	3.5	19.5	18.3	18.5	18.4	2.5	19.5
		12	7	18.4	18.6	18.6	3.5	19.5	18.3	18.5	18.4	2.5	19.5
		12	13	18.4	18.6	18.6	3.5	19.5	18.3	18.5	18.4	2.5	19.5
		25	0	18.3	18.6	18.6	3.5	19.5	18.3	18.6	18.4	2.5	19.5

LTE Band 2 Measured Results (ANT B) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18615	18900	19185	MPR	Tune-up Limit	18615	18900	19185	MPR	Tune-up Limit
				1851.5 MHz	1880 MHz	1908.5 MHz			1851.5 MHz	1880 MHz	1908.5 MHz		
3	QPSK	1	0	21.5	21.7	21.5	0	23.0	20.5	20.9	20.7	0	22.0
		1	8	21.3	21.7	21.5	0	23.0	20.4	20.8	20.6	0	22.0
		1	14	21.6	21.7	21.6	0	23.0	20.6	21.0	20.7	0	22.0
		8	0	21.7	22.0	21.9	0	23.0	20.8	21.1	20.9	0	22.0
		8	4	21.8	21.9	21.9	0	23.0	20.8	21.0	20.9	0	22.0
		8	7	21.7	21.9	21.9	0	23.0	20.8	21.0	20.9	0	22.0
		15	0	21.7	21.9	21.8	0	23.0	20.8	21.0	21.0	0	22.0
	16QAM	1	0	21.6	22.1	22.0	0	23.0	21.0	21.3	20.7	0	22.0
		1	8	21.6	22.1	22.0	0	23.0	21.0	21.2	20.5	0	22.0
		1	14	21.5	22.2	22.0	0	23.0	21.1	21.2	20.6	0	22.0
		8	0	21.5	21.9	21.8	0.5	22.5	20.8	21.0	20.8	0	22.0
		8	4	21.6	21.9	21.8	0.5	22.5	20.8	21.0	20.9	0	22.0
		8	7	21.5	21.9	21.8	0.5	22.5	20.9	21.0	20.8	0	22.0
		15	0	21.7	21.8	21.7	0.5	22.5	20.8	21.1	20.9	0	22.0
	64QAM	1	0	21.3	21.3	21.4	0.5	22.5	20.9	20.8	20.9	0	22.0
		1	8	21.3	21.3	21.4	0.5	22.5	20.9	20.6	20.8	0	22.0
		1	14	21.4	21.4	21.3	0.5	22.5	21.0	20.7	21.0	0	22.0
		8	0	20.3	20.7	20.6	1.5	21.5	20.3	20.6	20.5	0.5	21.5
		8	4	20.3	20.7	20.6	1.5	21.5	20.3	20.5	20.5	0.5	21.5
		8	7	20.3	20.7	20.6	1.5	21.5	20.3	20.5	20.5	0.5	21.5
		15	0	20.5	20.6	20.6	1.5	21.5	20.5	20.5	20.4	0.5	21.5
	256QAM	1	0	18.5	18.7	18.7	3.5	19.5	18.2	18.4	18.4	2.5	19.5
		1	8	18.4	18.5	18.7	3.5	19.5	18.1	18.4	18.3	2.5	19.5
		1	14	18.4	18.7	18.6	3.5	19.5	18.2	18.5	18.4	2.5	19.5
		8	0	18.3	18.6	18.6	3.5	19.5	18.3	18.6	18.5	2.5	19.5
		8	4	18.3	18.6	18.6	3.5	19.5	18.3	18.6	18.5	2.5	19.5
		8	7	18.3	18.6	18.6	3.5	19.5	18.2	18.6	18.5	2.5	19.5
		15	0	18.4	18.6	18.6	3.5	19.5	18.4	18.6	18.3	2.5	19.5

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18607	18900	19193	MPR	Tune-up Limit	18607	18900	19193	MPR	Tune-up Limit
				1850.7 MHz	1880 MHz	1909.3 MHz			1850.7 MHz	1880 MHz	1909.3 MHz		
1.4	QPSK	1	0	21.8	22.0	21.9	0	23.0	20.8	21.1	21.0	0	22.0
		1	3	21.4	21.8	21.9	0	23.0	20.6	20.9	20.7	0	22.0
		1	5	21.7	22.0	21.9	0	23.0	20.8	21.0	20.9	0	22.0
		3	0	21.8	21.9	21.9	0	23.0	20.9	21.0	21.0	0	22.0
		3	1	21.8	21.9	21.9	0	23.0	20.9	21.1	21.0	0	22.0
		3	3	21.5	22.0	21.9	0	23.0	20.8	21.1	20.9	0	22.0
		6	0	21.8	21.9	21.9	0	23.0	20.9	21.0	21.0	0	22.0
	16QAM	1	0	21.9	21.9	21.7	0	23.0	20.8	21.2	20.8	0	22.0
		1	3	22.0	22.1	21.6	0	23.0	21.0	21.2	20.9	0	22.0
		1	5	22.0	22.0	21.8	0	23.0	21.0	21.2	20.9	0	22.0
		3	0	21.7	22.1	21.8	0	23.0	21.0	21.1	21.0	0	22.0
		3	1	21.7	22.0	21.8	0	23.0	21.0	21.2	20.9	0	22.0
		3	3	21.7	22.0	21.9	0	23.0	20.9	21.2	21.0	0	22.0
		6	0	21.6	22.0	21.9	0.5	22.5	20.9	21.1	21.0	0	22.0
	64QAM	1	0	20.7	21.5	20.7	0.5	22.5	21.0	20.6	21.1	0	22.0
		1	3	21.5	21.9	21.5	0.5	22.5	20.7	20.8	20.8	0	22.0
		1	5	21.5	21.7	21.5	0.5	22.5	20.9	20.7	21.0	0	22.0
		3	0	21.7	21.7	21.7	0.5	22.5	21.0	20.7	21.1	0	22.0
		3	1	21.6	21.6	21.6	0.5	22.5	21.0	20.7	21.0	0	22.0
		3	3	21.7	21.5	21.7	0.5	22.5	21.0	20.8	21.1	0	22.0
		6	0	20.8	20.6	20.8	1.5	21.5	20.4	20.3	20.4	0.5	21.5
	256QAM	1	0	18.8	18.6	18.8	3.5	19.5	18.3	18.8	18.2	2.5	19.5
		1	3	18.9	18.6	18.9	3.5	19.5	18.2	18.6	18.1	2.5	19.5
		1	5	18.8	18.6	18.8	3.5	19.5	18.3	18.7	18.2	2.5	19.5
		3	0	18.6	18.8	18.6	3.5	19.5	18.5	18.5	18.5	2.5	19.5
		3	1	18.5	18.8	18.5	3.5	19.5	18.4	18.5	18.4	2.5	19.5
		3	3	18.5	18.7	18.5	3.5	19.5	18.4	18.5	18.3	2.5	19.5
		6	0	18.6	18.6	18.6	3.5	19.5	18.4	18.5	18.4	2.5	19.5

LTE Band 2 Measured Results (ANT E)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18700	18900	19100	MPR	Tune-up Limit	18700	18900	19100	MPR	Tune-up Limit
				1860 MHz	1880 MHz	1900 MHz			1860 MHz	1880 MHz	1900 MHz		
20	QPSK	1	0	20.6	20.8	20.8	0	22.5	20.3	20.3	20.0	0	22.0
		1	49	20.7	20.7	21.0	0	22.5	20.1	20.2	20.0	0	22.0
		1	99	20.6	20.9	20.9	0	22.5	20.3	20.4	20.1	0	22.0
		50	0	21.0	21.0	20.9	0	22.5	20.4	20.4	20.4	0	22.0
		50	24	21.0	21.1	21.0	0	22.5	20.4	20.5	20.4	0	22.0
		50	50	21.0	21.1	21.0	0	22.5	20.4	20.4	20.5	0	22.0
		100	0	21.0	21.1	20.9	0	22.5	20.4	20.5	20.4	0	22.0
	16QAM	1	0	21.1	21.2	20.8	0	22.5	20.8	20.6	20.3	0	22.0
		1	49	21.3	21.3	21.1	0	22.5	20.8	20.6	20.5	0	22.0
		1	99	21.1	21.3	20.8	0	22.5	20.8	20.7	20.3	0	22.0
		50	0	21.1	21.2	21.1	0.5	22.0	20.5	20.6	20.5	0	22.0
		50	24	21.1	21.2	21.1	0.5	22.0	20.5	20.6	20.6	0	22.0
		50	50	21.1	21.2	21.1	0.5	22.0	20.5	20.6	20.6	0	22.0
		100	0	21.1	21.2	21.1	0.5	22.0	20.5	20.7	20.5	0	22.0
	64QAM	1	0	20.9	21.1	20.6	0.5	22.0	20.5	20.4	20.4	0	22.0
		1	49	21.2	21.2	20.8	0.5	22.0	20.7	20.5	20.6	0	22.0
		1	99	20.9	21.2	20.7	0.5	22.0	20.5	20.5	20.5	0	22.0
		50	0	20.2	20.2	20.1	1.5	21.0	20.2	20.3	20.1	1	21.0
		50	24	20.2	20.3	20.1	1.5	21.0	20.2	20.3	20.1	1	21.0
		50	50	20.2	20.3	20.1	1.5	21.0	20.2	20.3	20.1	1	21.0
		100	0	20.1	20.2	20.1	1.5	21.0	20.2	20.2	20.1	1	21.0
	256QAM	1	0	18.0	18.2	17.9	3.5	19.0	18.2	18.5	18.0	3	19.0
		1	49	18.2	18.2	18.1	3.5	19.0	18.3	18.6	18.2	3	19.0
		1	99	18.0	18.2	18.0	3.5	19.0	18.2	18.5	18.0	3	19.0
		50	0	18.1	18.1	18.0	3.5	19.0	18.1	18.2	18.1	3	19.0
		50	24	18.1	18.2	18.0	3.5	19.0	18.1	18.3	18.1	3	19.0
		50	50	18.0	18.1	18.0	3.5	19.0	18.1	18.3	18.1	3	19.0
		100	0	18.0	18.1	18.0	3.5	19.0	18.1	18.2	18.1	3	19.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18675	18900	19125	MPR	Tune-up Limit	18675	18900	19125	MPR	Tune-up Limit
				1857.5 MHz	1880 MHz	1902.5 MHz			1857.5 MHz	1880 MHz	1902.5 MHz		
15	QPSK	1	0	20.8	21.0	20.7	0	22.5	20.2	20.4	20.1	0	22.0
		1	37	20.7	20.9	20.7	0	22.5	20.1	20.4	20.2	0	22.0
		1	74	20.8	21.0	20.8	0	22.5	20.2	20.4	20.1	0	22.0
		36	0	21.1	21.2	21.1	0	22.5	20.5	20.6	20.5	0	22.0
		36	20	21.1	21.2	21.1	0	22.5	20.5	20.6	20.5	0	22.0
		36	39	21.1	21.3	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		75	0	21.1	21.3	21.2	0	22.5	20.5	20.6	20.6	0	22.0
	16QAM	1	0	21.1	21.3	21.3	0	22.5	20.5	20.7	20.8	0	22.0
		1	37	21.1	21.3	21.3	0	22.5	20.4	20.7	20.9	0	22.0
		1	74	21.1	21.3	21.4	0	22.5	20.5	20.7	20.8	0	22.0
		36	0	21.1	21.3	21.2	0.5	22.0	20.5	20.7	20.5	0	22.0
		36	20	21.1	21.3	21.2	0.5	22.0	20.5	20.7	20.5	0	22.0
		36	39	21.1	21.3	21.2	0.5	22.0	20.5	20.7	20.5	0	22.0
		75	0	21.1	21.3	21.2	0.5	22.0	20.5	20.7	20.5	0	22.0
	64QAM	1	0	20.9	21.0	21.0	0.5	22.0	20.6	20.2	20.6	0	22.0
		1	37	20.9	20.9	20.9	0.5	22.0	20.6	20.1	20.5	0	22.0
		1	74	20.9	21.0	21.0	0.5	22.0	20.7	20.2	20.6	0	22.0
		36	0	20.2	20.2	20.1	1.5	21.0	20.1	20.3	20.2	1	21.0
		36	20	20.2	20.3	20.1	1.5	21.0	20.1	20.3	20.3	1	21.0
		36	39	20.2	20.2	20.0	1.5	21.0	20.1	20.3	20.2	1	21.0
		75	0	20.1	20.2	20.1	1.5	21.0	20.2	20.2	20.1	1	21.0
	256QAM	1	0	17.9	18.1	18.0	3.5	19.0	17.9	18.4	18.2	3	19.0
		1	37	17.9	18.1	18.0	3.5	19.0	18.0	18.4	18.1	3	19.0
		1	74	17.9	18.2	18.1	3.5	19.0	17.9	18.5	18.2	3	19.0
		36	0	18.0	18.1	18.0	3.5	19.0	18.1	18.2	18.1	3	19.0
		36	20	18.0	18.1	18.0	3.5	19.0	18.1	18.2	18.1	3	19.0
		36	39	18.0	18.1	18.0	3.5	19.0	18.1	18.2	18.1	3	19.0
		75	0	18.1	18.1	18.0	3.5	19.0	18.1	18.2	18.1	3	19.0

LTE Band 2 Measured Results (ANT E) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18650	18900	19150	MPR	Tune-up Limit	18650	18900	19150	MPR	Tune-up Limit
				1855 MHz	1880 MHz	1905 MHz			1855 MHz	1880 MHz	1905 MHz		
10	QPSK	1	0	20.8	21.1	20.8	0	22.5	20.2	20.5	20.2	0	22.0
		1	25	20.8	21.2	20.7	0	22.5	20.3	20.6	20.1	0	22.0
		1	49	20.9	21.1	20.9	0	22.5	20.3	20.5	20.3	0	22.0
		25	0	21.1	21.2	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		25	12	21.1	21.2	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		25	25	21.1	21.2	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		50	0	21.1	21.3	21.2	0	22.5	20.5	20.6	20.5	0	22.0
	16QAM	1	0	20.9	21.4	21.5	0	22.5	20.4	20.8	20.8	0	22.0
		1	25	21.1	21.5	21.5	0	22.5	20.6	20.8	20.8	0	22.0
		1	49	20.9	21.4	21.5	0	22.5	20.4	20.8	20.8	0	22.0
		25	0	21.1	21.3	21.1	0.5	22.0	20.5	20.7	20.5	0	22.0
		25	12	21.2	21.3	21.1	0.5	22.0	20.5	20.7	20.5	0	22.0
		25	25	21.1	21.3	21.1	0.5	22.0	20.5	20.7	20.5	0	22.0
		50	0	21.1	21.2	21.1	0.5	22.0	20.5	20.6	20.5	0	22.0
	64QAM	1	0	20.9	21.2	20.7	0.5	22.0	20.4	20.4	20.5	0	22.0
		1	25	21.0	21.2	20.8	0.5	22.0	20.5	20.4	20.6	0	22.0
		1	49	21.0	21.3	20.7	0.5	22.0	20.5	20.4	20.5	0	22.0
		25	0	20.1	20.3	20.2	1.5	21.0	20.1	20.3	20.3	1	21.0
		25	12	20.1	20.3	20.2	1.5	21.0	20.1	20.3	20.2	1	21.0
		25	25	20.1	20.3	20.2	1.5	21.0	20.1	20.3	20.3	1	21.0
		50	0	20.1	20.2	20.1	1.5	21.0	20.1	20.2	20.2	1	21.0
	256QAM	1	0	17.8	18.2	18.1	3.5	19.0	18.2	18.5	18.1	3	19.0
		1	25	17.8	18.3	18.1	3.5	19.0	18.2	18.5	18.1	3	19.0
		1	49	17.8	18.2	18.1	3.5	19.0	18.2	18.5	18.1	3	19.0
		25	0	18.1	18.2	18.1	3.5	19.0	18.1	18.3	18.2	3	19.0
		25	12	18.1	18.3	18.1	3.5	19.0	18.1	18.3	18.2	3	19.0
		25	25	18.1	18.3	18.1	3.5	19.0	18.1	18.3	18.2	3	19.0
		50	0	18.1	18.2	18.1	3.5	19.0	18.1	18.2	18.2	3	19.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18625	18900	19175	MPR	Tune-up Limit	18625	18900	19175	MPR	Tune-up Limit
				1852.5 MHz	1880 MHz	1907.5 MHz			1852.5 MHz	1880 MHz	1907.5 MHz		
5	QPSK	1	0	21.0	21.0	21.0	0	22.5	20.4	20.6	20.3	0	22.0
		1	12	21.0	20.9	21.0	0	22.5	20.5	20.7	20.3	0	22.0
		1	24	21.1	21.0	21.1	0	22.5	20.4	20.6	20.4	0	22.0
		12	0	21.1	21.2	21.1	0	22.5	20.5	20.6	20.5	0	22.0
		12	7	21.1	21.2	21.1	0	22.5	20.5	20.6	20.5	0	22.0
		12	13	21.1	21.2	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		25	0	21.1	21.2	21.2	0	22.5	20.5	20.6	20.6	0	22.0
	16QAM	1	0	21.2	21.5	21.3	0	22.5	20.5	20.8	20.8	0	22.0
		1	12	21.1	21.3	21.3	0	22.5	20.6	20.8	20.7	0	22.0
		1	24	21.1	21.5	21.4	0	22.5	20.6	20.8	20.7	0	22.0
		12	0	21.1	21.3	21.1	0.5	22.0	20.5	20.6	20.6	0	22.0
		12	7	21.1	21.3	21.1	0.5	22.0	20.5	20.6	20.6	0	22.0
		12	13	21.1	21.4	21.1	0.5	22.0	20.5	20.6	20.6	0	22.0
		25	0	21.2	21.3	21.2	0.5	22.0	20.5	20.6	20.6	0	22.0
	64QAM	1	0	20.8	21.2	20.9	0.5	22.0	20.1	20.6	20.8	0	22.0
		1	12	20.9	21.1	20.9	0.5	22.0	20.1	20.7	20.8	0	22.0
		1	24	20.9	21.2	20.9	0.5	22.0	20.2	20.7	20.8	0	22.0
		12	0	20.1	20.2	20.0	1.5	21.0	20.1	20.3	20.1	1	21.0
		12	7	20.1	20.2	20.0	1.5	21.0	20.1	20.3	20.1	1	21.0
		12	13	20.1	20.2	20.0	1.5	21.0	20.1	20.3	20.1	1	21.0
		25	0	20.1	20.2	20.1	1.5	21.0	20.1	20.2	20.2	1	21.0
	256QAM	1	0	17.9	18.4	18.0	3.5	19.0	17.9	18.3	18.3	3	19.0
		1	12	17.7	18.3	17.9	3.5	19.0	17.8	18.1	18.2	3	19.0
		1	24	17.9	18.4	18.0	3.5	19.0	17.9	18.3	18.3	3	19.0
		12	0	18.0	18.2	18.1	3.5	19.0	18.1	18.2	18.2	3	19.0
		12	7	18.0	18.2	18.1	3.5	19.0	18.1	18.2	18.2	3	19.0
		12	13	18.0	18.2	18.1	3.5	19.0	18.1	18.2	18.1	3	19.0
		25	0	18.0	18.1	18.1	3.5	19.0	18.1	18.3	18.1	3	19.0

LTE Band 2 Measured Results (ANT E) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18615	18900	19185	MPR	Tune-up Limit	18615	18900	19185	MPR	Tune-up Limit
				1851.5 MHz	1880 MHz	1908.5 MHz			1851.5 MHz	1880 MHz	1908.5 MHz		
3	QPSK	1	0	21.0	21.0	20.9	0	22.5	20.3	20.4	20.3	0	22.0
		1	8	20.8	20.9	20.8	0	22.5	20.2	20.4	20.3	0	22.0
		1	14	21.1	21.0	21.0	0	22.5	20.4	20.4	20.4	0	22.0
		8	0	21.2	21.2	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		8	4	21.1	21.2	21.2	0	22.5	20.5	20.6	20.6	0	22.0
		8	7	21.1	21.2	21.2	0	22.5	20.5	20.6	20.6	0	22.0
		15	0	21.1	21.2	21.2	0	22.5	20.5	20.6	20.6	0	22.0
	16QAM	1	0	20.9	21.5	21.4	0	22.5	20.3	20.9	20.7	0	22.0
		1	8	20.8	21.4	21.4	0	22.5	20.3	20.9	20.7	0	22.0
		1	14	20.8	21.5	21.4	0	22.5	20.2	21.0	20.6	0	22.0
		8	0	21.0	21.2	21.1	0.5	22.0	20.4	20.6	20.5	0	22.0
		8	4	21.2	21.2	21.1	0.5	22.0	20.5	20.6	20.5	0	22.0
		8	7	21.1	21.2	21.1	0.5	22.0	20.4	20.6	20.5	0	22.0
		15	0	21.1	21.2	21.2	0.5	22.0	20.5	20.6	20.5	0	22.0
	64QAM	1	0	21.1	21.4	21.0	0.5	22.0	20.7	20.6	20.6	0	22.0
		1	8	21.0	21.3	21.0	0.5	22.0	20.6	20.4	20.5	0	22.0
		1	14	21.2	21.5	21.0	0.5	22.0	20.8	20.7	20.6	0	22.0
		8	0	20.1	20.2	20.1	1.5	21.0	20.1	20.2	20.2	1	21.0
		8	4	20.1	20.2	20.1	1.5	21.0	20.1	20.2	20.1	1	21.0
		8	7	20.1	20.2	20.1	1.5	21.0	20.1	20.2	20.2	1	21.0
		15	0	20.2	20.2	20.1	1.5	21.0	20.3	20.2	20.2	1	21.0
	256QAM	1	0	18.1	18.2	18.1	3.5	19.0	18.0	18.4	18.0	3	19.0
		1	8	18.0	18.2	18.0	3.5	19.0	17.9	18.3	17.8	3	19.0
		1	14	18.0	18.2	18.0	3.5	19.0	18.0	18.4	18.0	3	19.0
		8	0	18.1	18.1	18.0	3.5	19.0	18.1	18.3	18.2	3	19.0
		8	4	18.1	18.1	18.0	3.5	19.0	18.1	18.2	18.3	3	19.0
		8	7	18.1	18.2	18.0	3.5	19.0	18.2	18.2	18.2	3	19.0
		15	0	18.2	18.1	18.1	3.5	19.0	18.1	18.2	18.3	3	19.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				18607	18900	19193	MPR	Tune-up Limit	18607	18900	19193	MPR	Tune-up Limit
				1850.7 MHz	1880 MHz	1909.3 MHz			1850.7 MHz	1880 MHz	1909.3 MHz		
1.4	QPSK	1	0	21.0	21.2	21.2	0	22.5	20.4	20.6	20.5	0	22.0
		1	3	21.0	20.8	21.0	0	22.5	20.4	20.3	20.4	0	22.0
		1	5	21.0	21.1	21.2	0	22.5	20.4	20.5	20.5	0	22.0
		3	0	21.1	21.3	21.2	0	22.5	20.5	20.6	20.5	0	22.0
		3	1	21.0	21.3	21.2	0	22.5	20.4	20.6	20.5	0	22.0
		3	3	21.0	21.1	21.2	0	22.5	20.4	20.5	20.6	0	22.0
		6	0	21.1	21.2	21.1	0	22.5	20.4	20.6	20.5	0	22.0
	16QAM	1	0	20.9	21.4	21.1	0	22.5	20.4	20.8	20.4	0	22.0
		1	3	21.1	21.6	21.3	0	22.5	20.5	20.8	20.7	0	22.0
		1	5	21.0	21.5	21.2	0	22.5	20.5	20.8	20.5	0	22.0
		3	0	21.2	21.2	21.3	0	22.5	20.6	20.5	20.7	0	22.0
		3	1	21.1	21.4	21.2	0	22.5	20.5	20.6	20.6	0	22.0
		3	3	21.2	21.2	21.2	0	22.5	20.5	20.5	20.6	0	22.0
		6	0	21.2	21.2	21.2	0.5	22.0	20.5	20.5	20.5	0	22.0
	64QAM	1	0	21.0	21.4	21.2	0.5	22.0	20.4	20.8	20.9	0	22.0
		1	3	21.3	21.2	21.1	0.5	22.0	20.6	20.7	20.8	0	22.0
		1	5	21.1	21.3	21.1	0.5	22.0	20.5	20.7	20.8	0	22.0
		3	0	21.1	21.4	21.2	0.5	22.0	20.7	21.0	20.8	0	22.0
		3	1	21.0	21.3	21.2	0.5	22.0	20.6	20.9	20.8	0	22.0
		3	3	20.9	21.2	21.1	0.5	22.0	20.6	20.9	20.7	0	22.0
		6	0	20.1	20.3	20.1	1.5	21.0	20.1	20.3	20.2	1	21.0
	256QAM	1	0	17.9	18.3	18.0	3.5	19.0	18.1	18.4	18.0	3	19.0
		1	3	17.9	18.3	17.9	3.5	19.0	18.1	18.3	18.0	3	19.0
		1	5	17.9	18.3	18.0	3.5	19.0	18.1	18.4	18.0	3	19.0
		3	0	18.1	18.0	18.3	3.5	19.0	18.3	18.1	18.2	3	19.0
		3	1	18.0	18.0	18.2	3.5	19.0	18.3	18.0	18.1	3	19.0
		3	3	17.9	18.0	18.1	3.5	19.0	18.2	18.0	18.0	3	19.0
		6	0	18.1	18.1	18.1	3.5	19.0	18.1	18.2	18.1	3	19.0

LTE Band 5 Measured Results (ANT A)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	20525	[redacted]		
					836.5 MHz			
10	QPSK	1	0		23.6		0	25.0
		1	25		23.6		0	25.0
		1	49		23.5		0	25.0
		25	0		22.7		1	24.0
		25	12		22.7		1	24.0
		25	25		22.7		1	24.0
		50	0		22.7		1	24.0
	16QAM	1	0		22.7		1	24.0
		1	25		22.8		1	24.0
		1	49		22.6		1	24.0
		25	0		21.8		2	23.0
		25	12		21.8		2	23.0
		25	25		21.8		2	23.0
		50	0		21.8		2	23.0
	64QAM	1	0		21.7		2	23.0
		1	25		21.8		2	23.0
		1	49		21.8		2	23.0
		25	0		20.8		3	22.0
		25	12		20.9		3	22.0
		25	25		20.9		3	22.0
		50	0		20.8		3	22.0
	256QAM	1	0		18.8		5	20.0
		1	25		18.8		5	20.0
		1	49		18.8		5	20.0
		25	0		18.8		5	20.0
		25	12		18.8		5	20.0
		25	25		18.8		5	20.0
		50	0		18.8		5	20.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				20425	20525	20625		
				826.5 MHz	836.5 MHz	846.5 MHz		
5	QPSK	1	0	23.8	23.6	23.6	0	25.0
		1	12	23.8	23.5	23.5	0	25.0
		1	24	23.9	23.6	23.6	0	25.0
		12	0	22.8	22.8	22.7	1	24.0
		12	7	22.8	22.7	22.7	1	24.0
		12	13	22.8	22.8	22.7	1	24.0
		25	0	22.9	22.8	22.7	1	24.0
	16QAM	1	0	23.0	23.3	22.9	1	24.0
		1	12	22.9	23.0	22.8	1	24.0
		1	24	23.0	23.2	22.9	1	24.0
		12	0	21.8	21.9	21.7	2	23.0
		12	7	21.8	21.9	21.7	2	23.0
		12	13	21.8	21.9	21.7	2	23.0
		25	0	21.9	21.8	21.7	2	23.0
	64QAM	1	0	21.7	21.7	21.5	2	23.0
		1	12	21.6	21.6	21.5	2	23.0
		1	24	21.7	21.7	21.6	2	23.0
		12	0	20.9	20.7	20.7	3	22.0
		12	7	20.8	20.7	20.7	3	22.0
		12	13	20.8	20.7	20.7	3	22.0
		25	0	20.8	20.8	20.7	3	22.0
	256QAM	1	0	18.8	19.1	18.4	5	20.0
		1	12	18.7	19.1	18.4	5	20.0
		1	24	18.7	19.1	18.5	5	20.0
		12	0	18.8	18.8	18.7	5	20.0
		12	7	18.8	18.8	18.7	5	20.0
		12	13	18.8	18.8	18.7	5	20.0
		25	0	18.8	18.7	18.7	5	20.0

LTE Band 5 Measured Results (ANT A) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				20415	20525	20635		
				825.5 MHz	836.5 MHz	847.5 MHz		
3	QPSK	1	0	23.7	23.6	23.5	0	25.0
		1	8	23.5	23.4	23.3	0	25.0
		1	14	23.7	23.6	23.5	0	25.0
		8	0	22.8	22.8	22.8	1	24.0
		8	4	22.9	22.8	22.8	1	24.0
		8	7	22.9	22.8	22.8	1	24.0
		15	0	22.8	22.8	22.7	1	24.0
	16QAM	1	0	22.8	23.0	22.9	1	24.0
		1	8	22.6	22.9	22.8	1	24.0
		1	14	22.7	23.1	22.9	1	24.0
		8	0	21.7	21.8	21.8	2	23.0
		8	4	21.8	21.8	21.8	2	23.0
		8	7	21.7	21.8	21.7	2	23.0
		15	0	21.8	21.8	21.7	2	23.0
	64QAM	1	0	21.6	21.7	21.7	2	23.0
		1	8	21.5	21.5	21.6	2	23.0
		1	14	21.5	21.8	21.8	2	23.0
		8	0	20.9	20.8	20.7	3	22.0
		8	4	20.8	20.8	20.7	3	22.0
		8	7	20.8	20.8	20.7	3	22.0
		15	0	20.8	20.8	20.8	3	22.0
	256QAM	1	0	18.5	19.0	18.7	5	20.0
		1	8	18.4	18.9	18.6	5	20.0
		1	14	18.6	18.9	18.7	5	20.0
		8	0	18.8	18.8	18.7	5	20.0
		8	4	18.9	18.8	18.6	5	20.0
		8	7	18.8	18.8	18.7	5	20.0
		15	0	18.9	18.7	18.8	5	20.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				20407	20525	20643		
				824.7 MHz	836.5 MHz	848.3 MHz		
1.4	QPSK	1	0	23.9	23.8	23.8	0	25.0
		1	3	23.8	23.5	23.5	0	25.0
		1	5	23.8	23.7	23.7	0	25.0
		3	0	23.9	23.8	23.7	0	25.0
		3	1	23.9	23.9	23.7	0	25.0
		3	3	23.8	23.7	23.7	0	25.0
		6	0	22.9	22.8	22.7	1	24.0
	16QAM	1	0	22.8	23.0	22.7	1	24.0
		1	3	22.9	23.2	22.9	1	24.0
		1	5	22.9	23.1	22.8	1	24.0
		3	0	23.0	22.8	22.8	1	24.0
		3	1	22.9	22.8	22.8	1	24.0
		3	3	23.0	22.8	22.7	1	24.0
		6	0	21.9	21.8	21.8	2	23.0
	64QAM	1	0	21.8	22.1	21.9	2	23.0
		1	3	22.0	22.0	21.8	2	23.0
		1	5	21.9	22.0	21.8	2	23.0
		3	0	21.8	21.9	21.9	2	23.0
		3	1	21.8	21.9	21.8	2	23.0
		3	3	21.8	21.9	21.9	2	23.0
		6	0	20.9	20.9	20.9	3	22.0
	256QAM	1	0	18.8	18.8	18.8	5	20.0
		1	3	18.8	18.8	18.7	5	20.0
		1	5	18.8	18.8	18.9	5	20.0
		3	0	19.0	18.8	18.7	5	20.0
		3	1	18.9	18.7	18.6	5	20.0
		3	3	18.8	18.6	18.7	5	20.0
		6	0	18.8	18.7	18.7	5	20.0

LTE Band 12 Measured Results (ANT A)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	23095	[redacted]		
					707.5 MHz			
10	QPSK	1	0		22.9		0	24.5
		1	25		22.9		0	24.5
		1	49		22.9		0	24.5
		25	0		22.2		1	23.5
		25	12		22.2		1	23.5
		25	25		22.2		1	23.5
		50	0		22.2		1	23.5
	16QAM	1	0		22.3		1	23.5
		1	25		22.2		1	23.5
		1	49		22.3		1	23.5
		25	0		21.3		2	22.5
		25	12		21.2		2	22.5
		25	25		21.2		2	22.5
		50	0		21.2		2	22.5
	64QAM	1	0		21.1		2	22.5
		1	25		21.1		2	22.5
		1	49		21.1		2	22.5
		25	0		20.3		3	21.5
		25	12		20.2		3	21.5
		25	25		20.2		3	21.5
		50	0		20.2		3	21.5
	256QAM	1	0		18.6		5	19.5
		1	25		18.4		5	19.5
		1	49		18.5		5	19.5
		25	0		18.3		5	19.5
		25	12		18.3		5	19.5
		25	25		18.3		5	19.5
		50	0		18.2		5	19.5

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				23035	23095	23155		
				701.5 MHz	707.5 MHz	713.5 MHz		
5	QPSK	1	0	23.1	23.2	23.1	0	24.5
		1	12	23.0	23.1	22.9	0	24.5
		1	24	23.1	23.2	23.2	0	24.5
		12	0	22.2	22.2	22.3	1	23.5
		12	7	22.2	22.2	22.3	1	23.5
		12	13	22.2	22.2	22.3	1	23.5
		25	0	22.2	22.2	22.3	1	23.5
	16QAM	1	0	22.3	22.3	22.5	1	23.5
		1	12	22.2	22.1	22.3	1	23.5
		1	24	22.3	22.3	22.4	1	23.5
		12	0	21.2	21.1	21.4	2	22.5
		12	7	21.2	21.1	21.4	2	22.5
		12	13	21.2	21.1	21.4	2	22.5
		25	0	21.2	21.2	21.4	2	22.5
	64QAM	1	0	21.4	20.9	21.0	2	22.5
		1	12	21.2	20.9	20.9	2	22.5
		1	24	21.3	20.9	21.0	2	22.5
		12	0	20.2	20.2	20.3	3	21.5
		12	7	20.2	20.1	20.3	3	21.5
		12	13	20.2	20.1	20.3	3	21.5
		25	0	20.2	20.2	20.3	3	21.5
	256QAM	1	0	18.4	18.1	18.1	5	19.5
		1	12	18.3	17.9	18.1	5	19.5
		1	24	18.4	18.0	18.1	5	19.5
		12	0	18.3	18.2	18.3	5	19.5
		12	7	18.3	18.2	18.3	5	19.5
		12	13	18.2	18.2	18.3	5	19.5
		25	0	18.2	18.2	18.3	5	19.5

LTE Band 12 Measured Results (ANT A) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				23025	23095	23165		
				700.5 MHz	707.5 MHz	714.5 MHz		
3	QPSK	1	0	23.0	23.0	23.1	0	24.5
		1	8	22.7	22.9	23.0	0	24.5
		1	14	23.0	22.9	23.1	0	24.5
		8	0	22.3	22.2	22.4	1	23.5
		8	4	22.2	22.2	22.3	1	23.5
		8	7	22.2	22.2	22.3	1	23.5
		15	0	22.2	22.2	22.3	1	23.5
	16QAM	1	0	22.2	22.5	22.5	1	23.5
		1	8	22.1	22.4	22.4	1	23.5
		1	14	22.2	22.5	22.4	1	23.5
		8	0	21.1	21.3	21.4	2	22.5
		8	4	21.2	21.2	21.3	2	22.5
		8	7	21.1	21.2	21.3	2	22.5
		15	0	21.2	21.2	21.3	2	22.5
	64QAM	1	0	21.1	21.0	21.3	2	22.5
		1	8	21.0	20.8	21.1	2	22.5
		1	14	21.0	21.1	21.3	2	22.5
		8	0	20.2	20.3	20.3	3	21.5
		8	4	20.2	20.3	20.3	3	21.5
		8	7	20.2	20.3	20.3	3	21.5
		15	0	20.2	20.1	20.2	3	21.5
	256QAM	1	0	18.1	18.4	18.3	5	19.5
		1	8	18.1	18.3	18.2	5	19.5
		1	14	18.2	18.4	18.3	5	19.5
		8	0	18.3	18.3	18.5	5	19.5
		8	4	18.3	18.3	18.4	5	19.5
		8	7	18.3	18.3	18.4	5	19.5
		15	0	18.3	18.2	18.3	5	19.5

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				23017	23095	23173		
				699.7 MHz	707.5 MHz	715.3 MHz		
1.4	QPSK	1	0	23.2	23.3	23.4	0	24.5
		1	3	23.0	23.2	23.2	0	24.5
		1	5	23.2	23.2	23.3	0	24.5
		3	0	23.3	23.3	23.3	0	24.5
		3	1	23.3	23.2	23.3	0	24.5
		3	3	23.1	23.2	23.3	0	24.5
		6	0	22.2	22.3	22.3	1	23.5
	16QAM	1	0	22.5	22.2	22.3	1	23.5
		1	3	22.7	22.3	22.5	1	23.5
		1	5	22.6	22.3	22.4	1	23.5
		3	0	22.2	22.4	22.6	1	23.5
		3	1	22.3	22.3	22.5	1	23.5
		3	3	22.3	22.3	22.5	1	23.5
		6	0	21.3	21.3	21.4	2	22.5
	64QAM	1	0	21.3	21.2	21.2	2	22.5
		1	3	21.1	21.1	21.3	2	22.5
		1	5	21.3	21.1	21.2	2	22.5
		3	0	21.2	21.2	21.2	2	22.5
		3	1	21.2	21.1	21.2	2	22.5
		3	3	21.2	21.1	21.3	2	22.5
		6	0	20.2	20.2	20.3	3	21.5
	256QAM	1	0	18.2	18.2	18.3	5	19.5
		1	3	18.2	18.1	18.3	5	19.5
		1	5	18.3	18.2	18.2	5	19.5
		3	0	18.3	18.2	18.6	5	19.5
		3	1	18.2	18.2	18.5	5	19.5
		3	3	18.2	18.2	18.4	5	19.5
		6	0	18.2	18.2	18.3	5	19.5

LTE Band 13 Measured Results (ANT A)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	23230 782 MHz	[redacted]		
10	QPSK	1	0	[redacted]	22.9	[redacted]	0	24.5
		1	25	[redacted]	22.9	[redacted]	0	24.5
		1	49	[redacted]	23.0	[redacted]	0	24.5
		25	0	[redacted]	22.2	[redacted]	1	23.5
		25	12	[redacted]	22.3	[redacted]	1	23.5
		25	25	[redacted]	22.2	[redacted]	1	23.5
		50	0	[redacted]	22.2	[redacted]	1	23.5
	16QAM	1	0	[redacted]	22.6	[redacted]	1	23.5
		1	25	[redacted]	22.8	[redacted]	1	23.5
		1	49	[redacted]	22.6	[redacted]	1	23.5
		25	0	[redacted]	21.3	[redacted]	2	22.5
		25	12	[redacted]	21.4	[redacted]	2	22.5
		25	25	[redacted]	21.4	[redacted]	2	22.5
		50	0	[redacted]	21.3	[redacted]	2	22.5
	64QAM	1	0	[redacted]	21.1	[redacted]	2	22.5
		1	25	[redacted]	21.3	[redacted]	2	22.5
		1	49	[redacted]	21.2	[redacted]	2	22.5
		25	0	[redacted]	20.4	[redacted]	3	21.5
		25	12	[redacted]	20.4	[redacted]	3	21.5
		25	25	[redacted]	20.4	[redacted]	3	21.5
		50	0	[redacted]	20.4	[redacted]	3	21.5
	256QAM	1	0	[redacted]	18.0	[redacted]	5	19.5
		1	25	[redacted]	18.0	[redacted]	5	19.5
		1	49	[redacted]	18.1	[redacted]	5	19.5
		25	0	[redacted]	18.3	[redacted]	5	19.5
		25	12	[redacted]	18.4	[redacted]	5	19.5
		25	25	[redacted]	18.4	[redacted]	5	19.5
		50	0	[redacted]	18.3	[redacted]	5	19.5

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	23230 782 MHz	[redacted]		
5	QPSK	1	0	[redacted]	23.2	[redacted]	0	24.5
		1	12	[redacted]	23.2	[redacted]	0	24.5
		1	24	[redacted]	23.2	[redacted]	0	24.5
		12	0	[redacted]	22.3	[redacted]	1	23.5
		12	7	[redacted]	22.3	[redacted]	1	23.5
		12	13	[redacted]	22.3	[redacted]	1	23.5
		25	0	[redacted]	22.3	[redacted]	1	23.5
	16QAM	1	0	[redacted]	22.6	[redacted]	1	23.5
		1	12	[redacted]	22.5	[redacted]	1	23.5
		1	24	[redacted]	22.6	[redacted]	1	23.5
		12	0	[redacted]	21.3	[redacted]	2	22.5
		12	7	[redacted]	21.2	[redacted]	2	22.5
		12	13	[redacted]	21.2	[redacted]	2	22.5
		25	0	[redacted]	21.4	[redacted]	2	22.5
	64QAM	1	0	[redacted]	21.4	[redacted]	2	22.5
		1	12	[redacted]	21.3	[redacted]	2	22.5
		1	24	[redacted]	21.5	[redacted]	2	22.5
		12	0	[redacted]	20.3	[redacted]	3	21.5
		12	7	[redacted]	20.3	[redacted]	3	21.5
		12	13	[redacted]	20.3	[redacted]	3	21.5
		25	0	[redacted]	20.3	[redacted]	3	21.5
	256QAM	1	0	[redacted]	18.1	[redacted]	5	19.5
		1	12	[redacted]	17.9	[redacted]	5	19.5
		1	24	[redacted]	18.1	[redacted]	5	19.5
		12	0	[redacted]	18.3	[redacted]	5	19.5
		12	7	[redacted]	18.3	[redacted]	5	19.5
		12	13	[redacted]	18.3	[redacted]	5	19.5
		25	0	[redacted]	18.4	[redacted]	5	19.5

LTE Band 26 Measured Results (ANT A)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				[redacted]	26865	[redacted]		
					831.5 MHz			
15	QPSK	1	0		23.6		0	25.0
		1	37		23.5		0	25.0
		1	74		23.6		0	25.0
		36	0		22.8		1	24.0
		36	20		22.8		1	24.0
		36	39		22.8		1	24.0
		75	0		22.8		1	24.0
	16QAM	1	0		23.0		1	24.0
		1	37		22.9		1	24.0
		1	74		23.0		1	24.0
		36	0		21.9		2	23.0
		36	20		21.9		2	23.0
		36	39		21.9		2	23.0
		75	0		21.9		2	23.0
	64QAM	1	0		21.9		2	23.0
		1	37		21.9		2	23.0
		1	74		22.0		2	23.0
		36	0		20.9		3	22.0
		36	20		20.9		3	22.0
		36	39		20.9		3	22.0
		75	0		20.9		3	22.0
	256QAM	1	0		18.9		5	20.0
		1	37		18.9		5	20.0
		1	74		18.9		5	20.0
		36	0		18.8		5	20.0
		36	20		18.8		5	20.0
		36	39		18.8		5	20.0
		75	0		18.9		5	20.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				26740	26865	26990		
				819 MHz	831.5 MHz	844 MHz		
10	QPSK	1	0	23.5	23.7	23.5	0	25.0
		1	25	23.4	23.8	23.4	0	25.0
		1	49	23.6	23.7	23.5	0	25.0
		25	0	22.9	22.9	22.8	1	24.0
		25	12	22.9	22.9	22.8	1	24.0
		25	25	22.9	22.9	22.8	1	24.0
		50	0	22.9	22.9	22.8	1	24.0
	16QAM	1	0	23.3	23.0	22.7	1	24.0
		1	25	23.4	23.1	22.7	1	24.0
		1	49	23.3	23.1	22.6	1	24.0
		25	0	22.0	21.9	21.9	2	23.0
		25	12	22.0	21.9	21.9	2	23.0
		25	25	22.0	21.9	21.8	2	23.0
		50	0	21.9	21.9	21.8	2	23.0
	64QAM	1	0	21.6	21.8	21.7	2	23.0
		1	25	21.6	21.8	21.8	2	23.0
		1	49	21.6	21.9	21.8	2	23.0
		25	0	21.0	20.9	20.9	3	22.0
		25	12	21.0	20.9	20.9	3	22.0
		25	25	21.0	21.0	20.8	3	22.0
		50	0	21.0	20.9	20.8	3	22.0
	256QAM	1	0	18.7	19.0	18.7	5	20.0
		1	25	18.8	19.0	18.6	5	20.0
		1	49	18.7	19.1	18.7	5	20.0
		25	0	18.9	18.9	18.8	5	20.0
		25	12	19.0	19.0	18.8	5	20.0
		25	25	18.9	19.0	18.8	5	20.0
		50	0	18.9	18.9	18.8	5	20.0

LTE Band 26 Measured Results (ANT A) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				26715	26865	27015		
				816.5 MHz	831.5 MHz	846.5 MHz		
5	QPSK	1	0	23.7	23.6	23.7	0	25.0
		1	12	23.7	23.5	23.7	0	25.0
		1	24	23.7	23.7	23.7	0	25.0
		12	0	22.9	22.9	22.8	1	24.0
		12	7	22.9	22.8	22.8	1	24.0
		12	13	22.8	22.9	22.8	1	24.0
		25	0	22.9	22.8	22.8	1	24.0
	16QAM	1	0	23.0	23.0	22.8	1	24.0
		1	12	23.0	22.8	22.6	1	24.0
		1	24	23.1	23.0	22.8	1	24.0
		12	0	21.9	22.0	21.7	2	23.0
		12	7	21.9	21.9	21.7	2	23.0
		12	13	21.9	22.0	21.8	2	23.0
		25	0	21.9	22.0	21.9	2	23.0
	64QAM	1	0	21.8	21.8	21.4	2	23.0
		1	12	21.8	21.7	21.4	2	23.0
		1	24	21.9	21.8	21.5	2	23.0
		12	0	20.9	20.8	20.7	3	22.0
		12	7	20.9	20.8	20.7	3	22.0
		12	13	20.9	20.8	20.7	3	22.0
		25	0	20.9	20.9	20.7	3	22.0
	256QAM	1	0	18.7	19.1	18.7	5	20.0
		1	12	18.5	19.0	18.6	5	20.0
		1	24	18.6	19.1	18.7	5	20.0
		12	0	18.9	18.9	18.8	5	20.0
		12	7	18.9	18.9	18.8	5	20.0
		12	13	18.9	18.9	18.8	5	20.0
		25	0	18.9	18.8	18.8	5	20.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				26705	26865	27025		
				815.5 MHz	831.5 MHz	847.5 MHz		
3	QPSK	1	0	23.7	23.8	23.5	0	25.0
		1	8	23.6	23.5	23.4	0	25.0
		1	14	23.7	23.8	23.5	0	25.0
		8	0	22.9	22.9	22.8	1	24.0
		8	4	22.9	22.9	22.8	1	24.0
		8	7	22.9	22.9	22.8	1	24.0
		15	0	22.9	22.9	22.8	1	24.0
	16QAM	1	0	23.1	22.6	23.0	1	24.0
		1	8	23.0	22.4	23.0	1	24.0
		1	14	23.2	22.5	23.0	1	24.0
		8	0	22.0	21.9	21.7	2	23.0
		8	4	22.0	22.0	21.8	2	23.0
		8	7	22.0	21.9	21.7	2	23.0
		15	0	21.9	21.8	21.8	2	23.0
	64QAM	1	0	21.7	21.8	21.8	2	23.0
		1	8	21.5	21.6	21.7	2	23.0
		1	14	21.6	21.9	21.9	2	23.0
		8	0	21.0	21.0	20.8	3	22.0
		8	4	21.0	20.9	20.7	3	22.0
		8	7	21.0	21.0	20.8	3	22.0
		15	0	20.9	20.8	20.8	3	22.0
	256QAM	1	0	18.9	19.2	18.9	5	20.0
		1	8	18.9	19.1	18.8	5	20.0
		1	14	19.0	19.2	18.9	5	20.0
		8	0	18.9	19.0	18.9	5	20.0
		8	4	18.9	18.9	18.8	5	20.0
		8	7	18.9	18.9	18.9	5	20.0
		15	0	19.0	18.8	18.8	5	20.0

LTE Band 26 Measured Results (ANT A) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0,1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
				26697	26865	27033		
				814.7 MHz	831.5 MHz	848.3 MHz		
1.4	QPSK	1	0	23.9	23.9	23.8	0	25.0
		1	3	23.7	23.8	23.5	0	25.0
		1	5	23.9	23.9	23.7	0	25.0
		3	0	23.9	23.9	23.9	0	25.0
		3	1	23.9	24.0	23.9	0	25.0
		3	3	24.0	23.9	23.7	0	25.0
		6	0	22.9	22.9	22.8	1	24.0
	16QAM	1	0	22.9	22.8	23.1	1	24.0
		1	3	23.2	23.0	23.2	1	24.0
		1	5	23.1	22.9	23.1	1	24.0
		3	0	23.1	23.0	22.8	1	24.0
		3	1	23.1	23.0	22.8	1	24.0
		3	3	23.1	23.0	22.8	1	24.0
		6	0	21.9	22.0	21.7	2	23.0
	64QAM	1	0	22.3	22.0	21.8	2	23.0
		1	3	22.2	21.9	21.8	2	23.0
		1	5	22.2	22.0	21.9	2	23.0
		3	0	22.1	22.1	21.7	2	23.0
		3	1	22.0	22.0	21.7	2	23.0
		3	3	22.0	21.9	21.7	2	23.0
		6	0	20.9	21.0	20.9	3	22.0
	256QAM	1	0	18.8	19.3	18.9	5	20.0
		1	3	18.8	19.1	18.9	5	20.0
		1	5	18.9	19.3	18.8	5	20.0
		3	0	18.9	18.8	19.0	5	20.0
		3	1	18.9	18.8	19.0	5	20.0
		3	3	18.9	18.8	18.9	5	20.0
		6	0	18.9	18.9	18.8	5	20.0

LTE Band 41 Measured Results (ANT B)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 0, 4 Average Power (dBm)							RSI: 1, 2, 3 Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20	QPSK	1	0	22.5	22.4	22.7	22.3	23.2	0	24.0	18.5	19.6	20.1	19.7	19.8	0	20.5
		1	49	22.4	22.3	23.2	23.2	23.2	0	24.0	19.1	19.5	20.4	20.0	19.9	0	20.5
		1	99	22.3	22.3	22.4	22.7	22.4	0	24.0	19.1	19.5	19.8	20.0	19.7	0	20.5
		50	0	21.4	21.8	22.2	22.2	22.2	1	23.0	19.2	19.5	20.3	20.2	19.8	0	20.5
		50	24	21.6	21.8	22.3	22.4	22.2	1	23.0	19.3	19.5	20.3	20.2	19.7	0	20.5
		50	50	21.6	21.8	22.1	22.3	22.1	1	23.0	19.3	19.5	20.2	20.1	19.7	0	20.5
		100	0	21.7	21.8	22.2	22.2	22.2	1	23.0	19.3	19.5	20.3	20.2	19.7	0	20.5
	16QAM	1	0	21.4	21.4	22.5	22.3	22.0	1	23.0	18.9	19.6	20.2	19.9	19.5	0	20.5
		1	49	21.4	21.5	22.7	22.7	21.9	1	23.0	19.2	19.5	20.3	20.0	20.0	0	20.5
		1	99	21.4	22.1	22.2	22.5	22.3	1	23.0	19.3	19.4	20.1	19.9	19.5	0	20.5
		50	0	20.8	21.0	21.7	21.7	21.3	2	22.0	19.3	19.5	20.3	20.3	19.9	0	20.5
		50	24	20.8	21.0	21.7	21.7	21.3	2	22.0	19.3	19.5	20.3	20.3	19.9	0	20.5
		50	50	20.8	21.0	21.7	21.6	21.3	2	22.0	19.3	19.5	20.3	20.2	19.9	0	20.5
		100	0	20.8	21.0	21.8	21.7	21.3	2	22.0	19.3	19.5	20.3	20.3	19.9	0	20.5
	64QAM	1	0	21.8	21.0	20.6	21.3	20.7	2	22.0	18.7	19.6	20.3	20.0	19.6	0	20.5
		1	49	20.7	20.6	20.6	21.3	20.5	2	22.0	18.7	19.2	20.1	19.6	19.7	0	20.5
		1	99	20.7	20.8	21.1	20.7	20.8	2	22.0	18.9	19.1	20.2	19.9	19.7	0	20.5
		50	0	19.7	20.0	20.6	20.5	19.9	3	21.0	19.6	19.8	20.4	20.3	19.9	0	20.5
		50	24	20.0	20.0	20.7	20.4	19.9	3	21.0	19.6	19.7	20.3	20.3	19.9	0	20.5
		50	50	19.9	20.0	20.5	20.4	19.9	3	21.0	19.5	19.7	20.3	20.3	19.9	0	20.5
		100	0	20.0	20.0	20.6	20.4	19.9	3	21.0	19.6	19.7	20.3	20.3	19.9	0	20.5
	256QAM	1	0	18.6	17.9	18.3	18.6	17.8	5	19.0	17.2	17.8	18.8	18.6	18.4	1.5	19.0
		1	49	17.9	18.1	18.2	18.3	18.0	5	19.0	17.7	17.7	18.9	18.4	18.2	1.5	19.0
		1	99	17.9	17.9	18.1	18.5	17.8	5	19.0	17.6	17.8	18.8	18.2	18.3	1.5	19.0
		50	0	17.8	18.0	18.6	18.4	17.9	5	19.0	18.0	18.0	18.7	18.7	18.2	1.5	19.0
		50	24	18.0	17.9	18.6	18.4	17.9	5	19.0	17.9	18.0	18.7	18.7	18.2	1.5	19.0
		50	50	17.9	17.9	18.5	18.3	17.8	5	19.0	17.9	18.0	18.7	18.6	18.2	1.5	19.0
		100	0	17.9	17.9	18.6	18.3	17.8	5	19.0	17.9	18.0	18.7	18.7	18.2	1.5	19.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0, 4 Average Power (dBm)							RSI: 1, 2, 3 Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
15	QPSK	1	0	22.7	22.8	22.8	22.5	23.2	0	24.0	19.2	19.5	20.2	20.3	19.7	0	20.5
		1	37	22.5	22.6	23.1	23.2	23.1	0	24.0	19.3	19.3	20.1	19.9	19.6	0	20.5
		1	74	22.6	22.7	22.6	23.0	23.0	0	24.0	19.3	19.5	20.2	20.1	19.5	0	20.5
		36	0	21.3	22.0	22.2	22.2	22.4	1	23.0	19.3	19.6	20.3	20.3	19.9	0	20.5
		36	20	21.8	22.0	22.3	22.4	22.4	1	23.0	19.3	19.6	20.3	20.3	19.9	0	20.5
		36	39	21.8	22.2	22.1	22.5	22.4	1	23.0	19.3	19.6	20.3	20.3	19.9	0	20.5
		75	0	21.8	22.0	22.1	22.3	22.4	1	23.0	19.3	19.5	20.3	20.3	19.9	0	20.5
	16QAM	1	0	21.9	21.0	22.5	22.2	21.7	1	23.0	18.9	19.4	20.2	19.3	19.2	0	20.5
		1	37	21.6	21.6	22.3	22.3	21.7	1	23.0	18.9	19.3	20.0	19.2	19.3	0	20.5
		1	74	21.7	21.6	22.5	22.6	21.7	1	23.0	18.8	19.2	20.1	19.2	19.2	0	20.5
		36	0	20.5	21.1	21.7	21.8	21.3	2	22.0	19.6	19.6	20.3	20.0	19.4	0	20.5
		36	20	21.0	21.2	21.7	21.8	21.3	2	22.0	19.5	19.5	20.2	20.0	19.4	0	20.5
		36	39	20.9	21.1	21.7	21.7	21.3	2	22.0	19.5	19.6	20.2	20.0	19.4	0	20.5
		75	0	20.9	21.0	21.8	21.7	21.3	2	22.0	19.5	19.6	20.2	19.9	19.4	0	20.5
	64QAM	1	0	21.4	20.4	21.7	21.2	20.6	2	22.0	18.9	19.1	20.2	20.4	19.4	0	20.5
		1	37	20.4	20.6	21.4	20.9	20.3	2	22.0	19.3	18.8	20.2	19.8	19.3	0	20.5
		1	74	20.7	20.7	21.4	20.9	20.3	2	22.0	19.5	19.0	20.3	20.1	19.6	0	20.5
		36	0	19.8	20.0	20.7	20.4	19.9	3	21.0	19.5	19.6	20.4	20.3	19.9	0	20.5
		36	20	19.9	20.0	20.6	20.4	19.9	3	21.0	19.4	19.6	20.3	20.3	19.8	0	20.5
		36	39	19.8	20.0	20.6	20.3	19.9	3	21.0	19.5	19.6	20.3	20.3	19.9	0	20.5
		75	0	19.9	19.9	20.5	20.4	19.8	3	21.0	19.5	19.6	20.3	20.3	19.8	0	20.5
	256QAM	1	0	17.7	17.6	18.1	18.2	17.7	5	19.0	17.4	17.7	18.5	18.7	17.9	1.5	19.0
		1	37	17.8	17.4	17.9	18.2	17.7	5	19.0	17.8	17.8	18.4	18.5	17.9	1.5	19.0
		1	74	18.1	17.9	18.2	18.3	17.6	5	19.0	17.9	17.7	18.5	18.3	17.8	1.5	19.0
		36	0	17.9	18.0	18.6	18.3	17.8	5	19.0	17.9	18.0	18.7	18.7	18.3	1.5	19.0
		36	20	17.9	17.9	18.5	18.4	17.8	5	19.0	17.8	18.1	18.7	18.7	18.2	1.5	19.0
		36	39	17.8	17.9	18.5	18.3	17.8	5	19.0	17.8	18.0	18.7	18.6	18.2	1.5	19.0
		75	0	18.0	17.9	18.5	18.4	17.8	5	19.0	17.9	18.0	18.7	18.7	18.2	1.5	19.0

LTE Band 41 Measured Results (ANT B) continued

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0, 4 Average Power (dBm)							RSI: 1, 2, 3 Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10	QPSK	1	0	22.1	22.9	23.7	23.6	23.1	0	24.0	19.5	19.6	20.2	20.3	19.8	0	20.5
		1	25	22.7	22.9	23.6	23.4	23.0	0	24.0	19.5	19.5	20.3	20.4	19.7	0	20.5
		1	49	22.7	22.9	23.6	23.4	23.0	0	24.0	19.3	19.5	20.2	20.1	19.7	0	20.5
		25	0	21.5	22.1	22.8	22.7	22.2	1	23.0	19.5	19.6	20.3	20.3	19.8	0	20.5
		25	12	21.8	22.1	22.8	22.7	22.2	1	23.0	19.5	19.6	20.3	20.3	19.8	0	20.5
		25	25	21.9	22.0	22.7	22.6	22.2	1	23.0	19.5	19.6	20.3	20.3	19.8	0	20.5
		50	0	21.9	22.1	22.8	22.7	22.2	1	23.0	19.5	19.6	20.3	20.3	19.8	0	20.5
	16QAM	1	0	21.4	22.0	22.7	22.6	22.1	1	23.0	19.3	19.6	20.0	20.2	19.8	0	20.5
		1	25	22.0	22.0	22.7	22.6	22.1	1	23.0	19.4	19.6	20.0	20.3	19.8	0	20.5
		1	49	22.0	22.0	22.7	22.6	22.2	1	23.0	19.3	19.6	19.9	20.2	19.8	0	20.5
		25	0	20.8	21.0	21.7	21.7	21.2	2	22.0	19.5	19.6	20.4	20.3	19.8	0	20.5
		25	12	20.9	21.0	21.7	21.6	21.2	2	22.0	19.4	19.6	20.4	20.2	19.7	0	20.5
		25	25	20.9	21.0	21.7	21.6	21.1	2	22.0	19.4	19.6	20.4	20.2	19.7	0	20.5
		50	0	20.9	21.0	21.7	21.6	21.1	2	22.0	19.5	19.5	20.3	20.2	19.8	0	20.5
	64QAM	1	0	20.3	20.7	20.9	21.2	20.4	2	22.0	19.2	19.7	19.9	19.9	19.3	0	20.5
		1	25	20.4	20.4	20.8	21.2	20.2	2	22.0	19.3	19.7	19.7	19.7	19.1	0	20.5
		1	49	20.5	20.7	20.8	21.2	20.4	2	22.0	19.1	19.6	19.9	19.9	19.4	0	20.5
		25	0	20.0	20.0	20.1	20.3	19.9	3	21.0	19.5	19.6	20.4	20.4	19.9	0	20.5
		25	12	19.9	19.9	20.1	20.3	19.8	3	21.0	19.5	19.6	20.4	20.3	19.8	0	20.5
		25	25	19.9	19.9	20.1	20.3	19.8	3	21.0	19.5	19.6	20.4	20.3	19.8	0	20.5
		50	0	19.9	19.9	20.1	20.3	19.8	3	21.0	19.5	19.6	20.4	20.3	19.9	0	20.5
	256QAM	1	0	17.8	17.8	18.3	18.0	17.6	5	19.0	17.7	17.8	18.4	18.4	18.0	1.5	19.0
		1	25	17.9	17.8	18.3	17.8	17.7	5	19.0	17.5	17.6	18.5	18.6	18.1	1.5	19.0
		1	49	17.7	17.7	18.3	17.9	17.6	5	19.0	17.7	17.7	18.3	18.4	17.9	1.5	19.0
		25	0	17.9	17.9	18.3	18.4	17.8	5	19.0	18.0	18.0	18.7	18.7	18.2	1.5	19.0
		25	12	17.9	17.9	18.3	18.3	17.8	5	19.0	18.0	18.0	18.7	18.7	18.2	1.5	19.0
		25	25	17.8	17.9	18.3	18.3	17.7	5	19.0	17.9	18.0	18.7	18.6	18.1	1.5	19.0
		50	0	17.9	17.9	18.3	18.3	17.8	5	19.0	18.0	18.0	18.7	18.7	18.2	1.5	19.0

BW (MHz)	Mode	RB Allocation	RB offset	RSI: 0, 4 Average Power (dBm)							RSI: 1, 2, 3 Average Power (dBm)						
				39750	40185	40620	41055	41490	MPR	Tune-up Limit	39750	40185	40620	41055	41490	MPR	Tune-up Limit
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
5	QPSK	1	0	22.4	22.9	23.4	23.2	23.1	0	24.0	19.3	19.5	20.0	19.6	19.8	0	20.5
		1	12	22.2	22.8	23.2	23.0	23.0	0	24.0	19.0	19.4	19.8	19.4	19.8	0	20.5
		1	24	22.3	22.9	23.3	23.1	23.0	0	24.0	19.2	19.5	19.9	19.5	19.7	0	20.5
		12	0	21.9	22.0	22.8	22.7	22.2	1	23.0	19.5	19.6	20.3	19.9	19.8	0	20.5
		12	7	21.9	22.0	22.7	22.7	22.2	1	23.0	19.5	19.5	20.3	19.9	19.8	0	20.5
		12	13	21.9	22.0	22.8	22.7	22.2	1	23.0	19.5	19.5	20.3	19.9	19.8	0	20.5
		25	0	21.9	22.0	22.8	22.7	22.3	1	23.0	19.5	19.6	20.3	19.9	19.8	0	20.5
	16QAM	1	0	21.8	22.0	22.2	22.5	22.2	1	23.0	19.1	19.4	20.3	19.8	19.9	0	20.5
		1	12	21.7	21.9	22.1	22.4	22.1	1	23.0	19.0	19.3	20.1	19.6	19.7	0	20.5
		1	24	21.8	22.0	22.3	22.6	22.2	1	23.0	19.2	19.4	20.3	19.8	19.8	0	20.5
		12	0	20.9	21.0	21.6	21.7	21.2	2	22.0	19.4	19.5	20.3	19.9	19.8	0	20.5
		12	7	20.9	21.0	21.6	21.7	21.2	2	22.0	19.3	19.5	20.3	19.9	19.8	0	20.5
		12	13	20.9	21.0	21.6	21.7	21.2	2	22.0	19.3	19.5	20.3	19.9	19.8	0	20.5
		25	0	20.9	21.1	21.8	21.7	21.3	2	22.0	19.5	19.6	20.4	19.9	19.9	0	20.5
	64QAM	1	0	20.5	20.8	21.6	20.8	20.6	2	22.0	19.1	19.5	20.1	19.8	19.3	0	20.5
		1	12	20.3	20.8	21.5	20.7	20.6	2	22.0	18.9	19.4	19.9	19.6	19.3	0	20.5
		1	24	20.3	20.9	21.4	20.7	20.7	2	22.0	19.0	19.5	19.9	19.6	19.3	0	20.5
		12	0	19.9	20.0	20.6	20.3	19.7	3	21.0	19.5	19.6	20.1	20.0	19.3	0	20.5
		12	7	19.8	20.0	20.6	20.3	19.7	3	21.0	19.4	19.6	20.1	19.9	19.3	0	20.5
		12	13	19.8	19.9	20.6	20.3	19.7	3	21.0	19.4	19.5	20.2	20.0	19.3	0	20.5
		25	0	19.9	20.0	20.6	20.4	19.8	3	21.0	19.6	19.6	20.1	20.0	19.5	0	20.5
	256QAM	1	0	17.7	17.9	18.6	18.1	17.7	5	19.0	17.7	18.0	18.5	18.2	17.9	1.5	19.0
		1	12	17.6	17.8	18.4	17.9	17.5	5	19.0	17.6	17.8	18.4	18.0	17.8	1.5	19.0
		1	24	17.7	17.9	18.6	18.0	17.7	5	19.0	17.7	18.0	18.5	18.2	17.9	1.5	19.0
		12	0	17.8	18.0	18.5	18.3	17.8	5	19.0	17.9	18.0	18.5	18.3	17.8	1.5	19.0
		12	7	17.8	18.0	18.5	18.3	17.8	5	19.0	17.9	17.9	18.5	18.3	17.8	1.5	19.0
		12	13	17.8	17.9	18.5	18.3	17.7	5	19.0	17.9	17.9	18.5	18.3	17.8	1.5	19.0
		25	0	17.8	17.9	18.5	18.3	17.7	5	19.0	17.9	17.9	18.6	18.3	17.8	1.5	19.0

LTE Band 66 Measured Results (ANT B)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				132072	132322	132572	MPR	Tune-up Limit	132072	132322	132572	MPR	Tune-up Limit
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20	QPSK	1	0	22.7	22.9	22.7	0	24.0	21.2	21.4	21.3	0	22.0
		1	49	22.7	23.1	22.5	0	24.0	21.4	21.5	21.1	0	22.0
		1	99	22.8	23.0	22.8	0	24.0	21.2	21.5	21.3	0	22.0
		50	0	21.7	22.0	21.8	1	23.0	21.2	21.5	21.3	0	22.0
		50	24	21.7	22.0	21.8	1	23.0	21.3	21.5	21.3	0	22.0
		50	50	21.8	22.0	21.8	1	23.0	21.3	21.5	21.3	0	22.0
		100	0	21.8	22.0	21.8	1	23.0	21.3	21.5	21.3	0	22.0
	16QAM	1	0	22.3	22.4	22.5	1	23.0	21.7	22.0	21.9	0	22.0
		1	49	22.3	22.6	22.6	1	23.0	22.0	22.0	21.9	0	22.0
		1	99	22.3	22.5	22.5	1	23.0	21.8	22.0	22.0	0	22.0
		50	0	20.9	21.1	21.1	2	22.0	20.9	21.2	21.1	0	22.0
		50	24	20.9	21.2	21.1	2	22.0	21.0	21.2	21.1	0	22.0
		50	50	21.0	21.2	21.1	2	22.0	21.0	21.2	21.1	0	22.0
		100	0	21.0	21.2	21.1	2	22.0	21.0	21.2	21.1	0	22.0
	64QAM	1	0	20.9	21.4	21.1	2	22.0	20.9	21.4	21.3	0	22.0
		1	49	21.2	21.5	21.2	2	22.0	21.2	21.6	21.4	0	22.0
		1	99	21.0	21.5	21.3	2	22.0	21.0	21.6	21.4	0	22.0
		50	0	19.9	20.1	20.0	3	21.0	19.9	20.2	20.0	1	21.0
		50	24	19.9	20.2	20.0	3	21.0	19.9	20.2	20.1	1	21.0
		50	50	19.9	20.2	20.0	3	21.0	19.9	20.2	20.1	1	21.0
		100	0	19.9	20.1	20.0	3	21.0	19.9	20.2	20.0	1	21.0
	256QAM	1	0	18.1	18.4	18.0	5	19.0	18.0	18.4	18.3	3	19.0
		1	49	18.1	18.5	18.2	5	19.0	18.1	18.6	18.3	3	19.0
		1	99	18.2	18.5	18.2	5	19.0	18.1	18.6	18.4	3	19.0
		50	0	17.8	18.1	18.0	5	19.0	17.9	18.1	18.0	3	19.0
		50	24	17.9	18.1	18.0	5	19.0	17.9	18.2	18.1	3	19.0
		50	50	17.9	18.1	18.0	5	19.0	17.9	18.2	18.1	3	19.0
		100	0	17.9	18.1	18.0	5	19.0	17.9	18.1	18.1	3	19.0

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				132047	132322	132597	MPR	Tune-up Limit	132047	132322	132597	MPR	Tune-up Limit
				1717.5 MHz	1745 MHz	1772.5 MHz			1717.5 MHz	1745 MHz	1772.5 MHz		
15	QPSK	1	0	22.8	23.1	23.1	0	24.0	21.3	21.6	21.6	0	22.0
		1	37	22.9	23.0	23.1	0	24.0	21.4	21.6	21.6	0	22.0
		1	74	22.9	23.2	23.2	0	24.0	21.4	21.8	21.6	0	22.0
		36	0	21.9	22.2	22.1	1	23.0	21.4	21.7	21.6	0	22.0
		36	20	21.9	22.2	22.2	1	23.0	21.4	21.7	21.7	0	22.0
		36	39	21.9	22.2	22.2	1	23.0	21.4	21.7	21.7	0	22.0
		75	0	21.9	22.2	22.2	1	23.0	21.4	21.7	21.7	0	22.0
	16QAM	1	0	22.2	22.3	22.4	1	23.0	21.7	21.9	21.7	0	22.0
		1	37	22.3	22.3	22.5	1	23.0	21.7	21.8	21.7	0	22.0
		1	74	22.3	22.4	22.5	1	23.0	21.7	21.9	21.8	0	22.0
		36	0	20.9	21.2	21.1	2	22.0	20.9	21.2	21.1	0	22.0
		36	20	20.9	21.2	21.1	2	22.0	20.9	21.2	21.1	0	22.0
		36	39	20.9	21.2	21.1	2	22.0	20.9	21.2	21.2	0	22.0
		75	0	20.9	21.2	21.1	2	22.0	20.9	21.2	21.1	0	22.0
	64QAM	1	0	20.9	21.3	21.2	2	22.0	21.2	21.3	21.1	0	22.0
		1	37	20.9	21.2	21.2	2	22.0	21.1	21.3	21.1	0	22.0
		1	74	21.0	21.4	21.3	2	22.0	21.3	21.4	21.2	0	22.0
		36	0	19.9	20.1	20.1	3	21.0	19.8	20.2	20.1	1	21.0
		36	20	19.9	20.1	20.1	3	21.0	19.9	20.2	20.1	1	21.0
		36	39	19.9	20.1	20.1	3	21.0	19.9	20.2	20.1	1	21.0
		75	0	19.8	20.1	20.0	3	21.0	19.9	20.2	20.1	1	21.0
	256QAM	1	0	18.0	18.2	18.2	5	19.0	17.9	18.3	18.2	3	19.0
		1	37	18.0	18.3	18.1	5	19.0	18.0	18.2	18.3	3	19.0
		1	74	18.0	18.3	18.3	5	19.0	18.0	18.4	18.3	3	19.0
		36	0	17.8	18.1	18.0	5	19.0	17.8	18.2	18.0	3	19.0
		36	20	17.8	18.1	18.0	5	19.0	17.8	18.2	18.1	3	19.0
		36	39	17.8	18.1	18.1	5	19.0	17.8	18.2	18.1	3	19.0
		75	0	17.8	18.1	18.0	5	19.0	17.8	18.2	18.1	3	19.0

LTE Band 66 Measured Results (ANT B) continued

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (dBm)			MPR	Tune-up Limit
				132022	132322	132622			132022	132322	132622		
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10	QPSK	1	0	22.8	23.2	23.1	0	24.0	21.3	21.7	21.6	0	22.0
		1	25	22.8	23.3	23.1	0	24.0	21.2	21.8	21.8	0	22.0
		1	49	22.8	23.2	23.1	0	24.0	21.3	21.8	21.7	0	22.0
		25	0	21.8	22.2	22.2	1	23.0	21.3	21.7	21.6	0	22.0
		25	12	21.8	22.2	22.2	1	23.0	21.3	21.7	21.7	0	22.0
		25	25	21.8	22.2	22.2	1	23.0	21.3	21.7	21.7	0	22.0
		50	0	21.8	22.2	22.2	1	23.0	21.3	21.7	21.6	0	22.0
	16QAM	1	0	22.0	22.6	22.4	1	23.0	21.7	21.7	21.8	0	22.0
		1	25	22.2	22.7	22.4	1	23.0	21.8	21.9	22.0	0	22.0
		1	49	22.1	22.6	22.4	1	23.0	21.7	21.8	21.9	0	22.0
		25	0	20.9	21.2	21.2	2	22.0	20.9	21.2	21.2	0	22.0
		25	12	20.9	21.2	21.2	2	22.0	20.9	21.3	21.2	0	22.0
		25	25	20.9	21.2	21.2	2	22.0	20.9	21.3	21.2	0	22.0
		50	0	20.8	21.2	21.1	2	22.0	20.8	21.2	21.1	0	22.0
	64QAM	1	0	20.8	21.3	21.3	2	22.0	21.0	21.4	21.2	0	22.0
		1	25	20.9	21.5	21.4	2	22.0	21.1	21.6	21.2	0	22.0
		1	49	20.9	21.4	21.4	2	22.0	21.0	21.4	21.3	0	22.0
		25	0	19.8	20.1	20.1	3	21.0	19.9	20.2	20.1	1	21.0
		25	12	19.8	20.1	20.1	3	21.0	19.9	20.2	20.2	1	21.0
		25	25	19.8	20.2	20.1	3	21.0	19.9	20.2	20.2	1	21.0
		50	0	19.8	20.1	20.1	3	21.0	19.8	20.2	20.1	1	21.0
	256QAM	1	0	17.8	18.3	18.2	5	19.0	17.8	18.3	18.2	3	19.0
		1	25	17.9	18.3	18.2	5	19.0	17.9	18.4	18.2	3	19.0
		1	49	17.8	18.4	18.2	5	19.0	17.9	18.4	18.3	3	19.0
		25	0	17.8	18.2	18.1	5	19.0	17.9	18.2	18.1	3	19.0
		25	12	17.8	18.2	18.1	5	19.0	17.9	18.2	18.1	3	19.0
		25	25	17.8	18.2	18.1	5	19.0	17.9	18.2	18.1	3	19.0
		50	0	17.8	18.1	18.0	5	19.0	17.8	18.2	18.1	3	19.0
BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (dBm)			MPR	Tune-up Limit
				131997	132322	132647			131997	132322	132647		
				1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz		
5	QPSK	1	0	22.7	23.1	23.0	0	24.0	21.6	22.0	22.0	0	22.0
		1	12	22.7	23.2	22.9	0	24.0	21.4	22.0	21.9	0	22.0
		1	24	22.7	23.2	23.1	0	24.0	21.6	22.0	22.0	0	22.0
		12	0	21.7	22.2	22.1	1	23.0	21.7	22.0	22.0	0	22.0
		12	7	21.7	22.2	22.2	1	23.0	21.7	22.0	22.0	0	22.0
		12	13	21.7	22.2	22.1	1	23.0	21.7	22.0	22.0	0	22.0
		25	0	21.8	22.2	22.2	1	23.0	21.7	22.0	22.0	0	22.0
	16QAM	1	0	22.0	22.4	22.4	1	23.0	22.0	22.0	22.0	0	22.0
		1	12	22.0	22.4	22.3	1	23.0	21.9	22.0	22.0	0	22.0
		1	24	22.1	22.4	22.4	1	23.0	22.0	22.0	22.0	0	22.0
		12	0	20.8	21.3	21.2	2	22.0	21.2	21.7	21.6	0	22.0
		12	7	20.8	21.3	21.2	2	22.0	21.2	21.7	21.7	0	22.0
		12	13	20.8	21.3	21.2	2	22.0	21.2	21.7	21.6	0	22.0
		25	0	20.8	21.2	21.2	2	22.0	21.2	21.7	21.6	0	22.0
	64QAM	1	0	20.9	21.2	21.3	2	22.0	21.0	21.4	21.2	0	22.0
		1	12	20.8	21.1	21.3	2	22.0	21.0	21.4	21.2	0	22.0
		1	24	20.9	21.3	21.3	2	22.0	21.0	21.4	21.2	0	22.0
		12	0	19.7	20.1	20.0	3	21.0	19.7	20.2	20.1	1	21.0
		12	7	19.7	20.1	20.0	3	21.0	19.7	20.2	20.1	1	21.0
		12	13	19.7	20.1	20.0	3	21.0	19.7	20.2	20.1	1	21.0
		25	0	19.7	20.1	20.0	3	21.0	19.7	20.2	20.1	1	21.0
	256QAM	1	0	17.7	18.0	18.3	5	19.0	18.2	18.3	18.2	3	19.0
		1	12	17.7	17.7	18.2	5	19.0	18.1	18.2	17.9	3	19.0
		1	24	17.7	18.0	18.3	5	19.0	18.2	18.3	18.2	3	19.0
		12	0	17.7	18.1	18.1	5	19.0	17.8	18.2	18.1	3	19.0
		12	7	17.7	18.1	18.1	5	19.0	17.8	18.2	18.1	3	19.0
		12	13	17.7	18.1	18.1	5	19.0	17.8	18.2	18.1	3	19.0
		25	0	17.7	18.1	18.0	5	19.0	17.8	18.2	18.1	3	19.0

LTE Band 66 Measured Results (ANT B) continued

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (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	QPSK	1	0	22.8	23.1	23.2	0	24.0	21.7	22.0	22.0	0	22.0
		1	8	22.6	23.1	23.2	0	24.0	21.4	22.0	22.0	0	22.0
		1	14	22.8	23.1	23.2	0	24.0	21.7	22.0	22.0	0	22.0
		8	0	21.7	22.2	22.2	1	23.0	21.6	22.0	22.0	0	22.0
		8	4	21.7	22.2	22.1	1	23.0	21.6	22.0	22.0	0	22.0
		8	7	21.7	22.2	22.2	1	23.0	21.6	22.0	22.0	0	22.0
		15	0	21.7	22.2	22.1	1	23.0	21.6	22.0	22.0	0	22.0
	16QAM	1	0	21.8	22.5	22.5	1	23.0	21.8	22.0	22.0	0	22.0
		1	8	21.8	22.5	22.5	1	23.0	21.7	22.0	22.0	0	22.0
		1	14	21.8	22.5	22.4	1	23.0	21.8	22.0	22.0	0	22.0
		8	0	20.7	21.3	21.3	2	22.0	21.2	21.7	21.6	0	22.0
		8	4	20.8	21.2	21.2	2	22.0	21.2	21.7	21.5	0	22.0
		8	7	20.8	21.3	21.2	2	22.0	21.2	21.7	21.5	0	22.0
		15	0	20.7	21.2	21.2	2	22.0	21.1	21.6	21.5	0	22.0
	64QAM	1	0	20.8	21.3	21.2	2	22.0	20.8	21.4	21.4	0	22.0
		1	8	20.8	21.2	21.1	2	22.0	20.8	21.4	21.4	0	22.0
		1	14	20.8	21.3	21.3	2	22.0	20.8	21.5	21.5	0	22.0
		8	0	19.6	20.1	20.1	3	21.0	19.7	20.1	20.2	1	21.0
		8	4	19.6	20.1	20.0	3	21.0	19.7	20.2	20.1	1	21.0
		8	7	19.6	20.1	20.1	3	21.0	19.8	20.2	20.2	1	21.0
		15	0	19.7	20.0	20.1	3	21.0	19.7	20.1	20.1	1	21.0
	256QAM	1	0	17.8	18.3	18.3	5	19.0	17.9	18.3	18.2	3	19.0
		1	8	17.8	18.1	18.2	5	19.0	17.8	18.3	18.2	3	19.0
		1	14	17.8	18.3	18.3	5	19.0	17.9	18.3	18.2	3	19.0
		8	0	17.7	18.2	18.1	5	19.0	17.8	18.3	18.1	3	19.0
		8	4	17.6	18.2	18.0	5	19.0	17.8	18.2	18.1	3	19.0
		8	7	17.6	18.2	18.1	5	19.0	17.7	18.2	18.1	3	19.0
		15	0	17.7	18.1	18.1	5	19.0	17.8	18.2	18.2	3	19.0
BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (dBm)			MPR	Tune-up Limit
				131979	132322	132665			131979	132322	132665		
				1710.7 MHz	1745 MHz	1779.3 MHz			1710.7 MHz	1745 MHz	1779.3 MHz		
1.4	QPSK	1	0	22.5	23.0	23.0	0	24.0	21.3	22.0	22.0	0	22.0
		1	3	22.4	23.2	23.1	0	24.0	21.5	21.8	22.0	0	22.0
		1	5	22.5	23.1	23.1	0	24.0	21.4	22.0	22.0	0	22.0
		3	0	22.6	23.0	23.0	0	24.0	21.4	22.0	22.0	0	22.0
		3	1	22.5	23.1	23.1	0	24.0	21.4	22.0	21.9	0	22.0
		3	3	22.5	23.0	23.1	0	24.0	21.4	22.0	21.9	0	22.0
		6	0	21.6	22.1	22.1	1	23.0	21.5	22.0	22.0	0	22.0
	16QAM	1	0	21.7	22.1	22.4	1	23.0	21.7	22.0	22.0	0	22.0
		1	3	21.8	22.0	22.4	1	23.0	21.5	22.0	22.0	0	22.0
		1	5	21.8	22.2	22.4	1	23.0	21.7	22.0	22.0	0	22.0
		3	0	21.7	22.3	22.2	1	23.0	21.6	22.0	22.0	0	22.0
		3	1	21.6	22.2	22.2	1	23.0	21.6	22.0	21.9	0	22.0
		3	3	21.6	22.2	22.2	1	23.0	21.5	22.0	21.9	0	22.0
		6	0	20.7	21.3	21.1	2	22.0	21.1	21.5	21.6	0	22.0
	64QAM	1	0	20.7	21.1	21.5	2	22.0	20.9	21.2	21.1	0	22.0
		1	3	20.8	21.1	21.6	2	22.0	21.0	21.3	21.2	0	22.0
		1	5	20.7	21.1	21.5	2	22.0	20.9	21.2	21.2	0	22.0
		3	0	20.8	21.2	21.5	2	22.0	20.8	21.2	21.1	0	22.0
		3	1	20.7	21.2	21.5	2	22.0	20.7	21.2	21.1	0	22.0
		3	3	20.7	21.2	21.4	2	22.0	20.8	21.2	21.1	0	22.0
		6	0	19.6	20.3	20.6	3	21.0	19.8	20.2	20.1	1	21.0
	256QAM	1	0	17.5	18.3	18.4	5	19.0	17.7	18.1	18.2	3	19.0
		1	3	17.7	18.5	18.4	5	19.0	17.8	18.1	18.2	3	19.0
		1	5	17.5	18.3	18.5	5	19.0	17.7	18.1	18.2	3	19.0
		3	0	17.5	18.4	18.3	5	19.0	17.7	18.0	18.3	3	19.0
		3	1	17.4	18.4	18.3	5	19.0	17.6	18.0	18.2	3	19.0
		3	3	17.4	18.3	18.3	5	19.0	17.6	18.0	18.2	3	19.0
		6	0	17.5	18.5	18.4	5	19.0	17.7	18.1	18.2	3	19.0

LTE Band 66 Measured Results (ANT E)

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				132072	132322	132572	MPR	Tune-up Limit	132072	132322	132572	MPR	Tune-up Limit
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20	QPSK	1	0	23.3	23.5	23.2	0	24.0	21.2	21.3	21.1	0	22.0
		1	49	23.3	23.1	23.4	0	24.0	21.1	21.1	21.0	0	22.0
		1	99	23.4	23.5	23.3	0	24.0	21.3	21.3	21.1	0	22.0
		50	0	22.4	22.5	22.2	1	23.0	21.3	21.4	21.1	0	22.0
		50	24	22.4	22.5	22.2	1	23.0	21.3	21.4	21.2	0	22.0
		50	50	22.4	22.5	22.2	1	23.0	21.3	21.4	21.1	0	22.0
		100	0	22.4	22.5	22.2	1	23.0	21.3	21.4	21.2	0	22.0
	16QAM	1	0	22.8	22.7	22.9	1	23.0	22.0	22.0	21.7	0	22.0
		1	49	22.7	22.7	23.0	1	23.0	22.0	22.0	21.9	0	22.0
		1	99	22.9	22.6	22.9	1	23.0	22.0	22.0	21.7	0	22.0
		50	0	21.5	21.3	21.5	2	22.0	21.7	21.9	21.6	0	22.0
		50	24	21.5	21.3	21.5	2	22.0	21.7	21.9	21.6	0	22.0
		50	50	21.5	21.3	21.5	2	22.0	21.7	21.8	21.6	0	22.0
		100	0	21.5	21.3	21.5	2	22.0	21.7	21.8	21.5	0	22.0
	64QAM	1	0	21.5	21.5	21.1	2	22.0	21.5	21.8	21.6	0	22.0
		1	49	21.8	21.8	21.2	2	22.0	21.7	21.8	21.6	0	22.0
		1	99	21.8	21.5	21.1	2	22.0	21.6	21.8	21.6	0	22.0
		50	0	20.2	20.4	20.5	3	21.0	20.6	20.9	20.5	1	21.0
		50	24	20.3	20.4	20.5	3	21.0	20.6	20.8	20.5	1	21.0
		50	50	20.3	20.4	20.5	3	21.0	20.6	20.8	20.5	1	21.0
		100	0	20.2	20.4	20.4	3	21.0	20.6	20.8	20.5	1	21.0
	256QAM	1	0	18.2	18.5	18.2	5	19.0	18.8	19.0	18.7	3	19.0
		1	49	18.2	18.5	18.4	5	19.0	19.0	19.0	18.8	3	19.0
		1	99	18.2	18.4	18.2	5	19.0	18.9	19.0	18.7	3	19.0
		50	0	18.2	18.4	18.5	5	19.0	18.6	18.8	18.5	3	19.0
		50	24	18.2	18.4	18.5	5	19.0	18.6	18.8	18.5	3	19.0
		50	50	18.3	18.4	18.5	5	19.0	18.6	18.8	18.5	3	19.0
		100	0	18.2	18.4	18.5	5	19.0	18.6	18.8	18.5	3	19.0

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)					RSI: 0, 1, 2, 3 Average Power (dBm)				
				132047	132322	132597	MPR	Tune-up Limit	132047	132322	132597	MPR	Tune-up Limit
				1717.5 MHz	1745 MHz	1772.5 MHz			1717.5 MHz	1745 MHz	1772.5 MHz		
15	QPSK	1	0	23.5	23.3	23.5	0	24.0	21.6	21.5	21.6	0	22.0
		1	37	23.5	23.5	23.3	0	24.0	21.4	21.6	21.5	0	22.0
		1	74	23.5	23.8	23.4	0	24.0	21.6	21.7	21.6	0	22.0
		36	0	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
		36	20	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
		36	39	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
		75	0	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
	16QAM	1	0	23.0	22.5	22.5	1	23.0	21.7	21.8	22.0	0	22.0
		1	37	23.0	22.7	22.5	1	23.0	21.7	22.0	22.0	0	22.0
		1	74	22.5	23.0	22.5	1	23.0	21.7	22.0	22.0	0	22.0
		36	0	21.5	21.8	21.5	2	22.0	21.6	21.8	21.6	0	22.0
		36	20	21.5	21.8	21.5	2	22.0	21.6	21.8	21.6	0	22.0
		36	39	21.5	21.8	21.5	2	22.0	21.6	21.8	21.6	0	22.0
		75	0	21.5	21.8	21.5	2	22.0	21.6	21.8	21.6	0	22.0
	64QAM	1	0	21.6	21.9	21.8	2	22.0	21.7	21.7	21.7	0	22.0
		1	37	21.6	21.8	21.6	2	22.0	21.6	21.7	21.5	0	22.0
		1	74	21.7	21.9	21.7	2	22.0	21.7	21.8	21.7	0	22.0
		36	0	20.6	20.8	20.4	3	21.0	20.6	20.8	20.5	1	21.0
		36	20	20.6	20.8	20.4	3	21.0	20.6	20.8	20.5	1	21.0
		36	39	20.6	20.8	20.5	3	21.0	20.6	20.8	20.5	1	21.0
		75	0	20.6	20.7	20.5	3	21.0	20.6	20.7	20.5	1	21.0
	256QAM	1	0	18.8	18.9	18.7	5	19.0	18.7	18.8	18.5	3	19.0
		1	37	18.8	18.7	18.7	5	19.0	18.6	18.7	18.5	3	19.0
		1	74	18.8	18.8	18.7	5	19.0	18.7	18.8	18.5	3	19.0
		36	0	18.6	18.7	18.4	5	19.0	18.6	18.7	18.4	3	19.0
		36	20	18.5	18.7	18.4	5	19.0	18.6	18.7	18.4	3	19.0
		36	39	18.6	18.7	18.4	5	19.0	18.6	18.7	18.4	3	19.0
		75	0	18.5	18.7	18.5	5	19.0	18.6	18.7	18.5	3	19.0

LTE Band 66 Measured Results (ANT E) continued

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (dBm)			MPR	Tune-up Limit
				132022	132322	132622			132022	132322	132622		
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10	QPSK	1	0	23.5	23.8	23.5	0	24.0	21.6	21.7	21.6	0	22.0
		1	25	23.4	23.9	23.5	0	24.0	21.6	21.8	21.5	0	22.0
		1	49	23.5	23.8	23.5	0	24.0	21.6	21.7	21.5	0	22.0
		25	0	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
		25	12	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
		25	25	22.5	22.8	22.5	1	23.0	21.6	21.8	21.5	0	22.0
		50	0	22.5	22.8	22.5	1	23.0	21.6	21.8	21.6	0	22.0
	16QAM	1	0	22.9	22.7	22.5	1	23.0	21.7	22.0	21.9	0	22.0
		1	25	23.0	22.6	22.8	1	23.0	21.8	22.0	22.0	0	22.0
		1	49	22.9	22.7	22.5	1	23.0	21.7	22.0	21.8	0	22.0
		25	0	21.5	21.9	21.5	2	22.0	21.6	21.9	21.6	0	22.0
		25	12	21.5	21.9	21.5	2	22.0	21.6	21.9	21.6	0	22.0
		25	25	21.5	21.9	21.5	2	22.0	21.6	21.8	21.6	0	22.0
		50	0	21.5	21.8	21.5	2	22.0	21.6	21.8	21.6	0	22.0
	64QAM	1	0	21.7	21.9	21.7	2	22.0	21.6	22.0	21.7	0	22.0
		1	25	21.8	22.0	21.7	2	22.0	21.6	21.7	21.8	0	22.0
		1	49	21.7	21.9	21.6	2	22.0	21.5	22.0	21.7	0	22.0
		25	0	20.6	20.8	20.6	3	21.0	20.6	20.8	20.6	1	21.0
		25	12	20.6	20.8	20.6	3	21.0	20.6	20.8	20.6	1	21.0
		25	25	20.6	20.8	20.6	3	21.0	20.6	20.8	20.6	1	21.0
		50	0	20.5	20.8	20.5	3	21.0	20.5	20.8	20.5	1	21.0
	256QAM	1	0	18.6	18.8	18.7	5	19.0	18.7	18.8	18.4	3	19.0
		1	25	18.7	18.9	18.6	5	19.0	18.6	19.0	18.5	3	19.0
		1	49	18.6	18.8	18.7	5	19.0	18.7	18.8	18.4	3	19.0
		25	0	18.6	18.9	18.6	5	19.0	18.6	18.8	18.5	3	19.0
		25	12	18.5	18.8	18.6	5	19.0	18.6	18.8	18.5	3	19.0
		25	25	18.5	18.8	18.6	5	19.0	18.6	18.8	18.5	3	19.0
		50	0	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (dBm)			MPR	Tune-up Limit
				131997	132322	132647			131997	132322	132647		
				1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz		
5	QPSK	1	0	23.5	23.5	23.5	0	24.0	21.5	21.7	21.5	0	22.0
		1	12	23.5	23.5	23.3	0	24.0	21.5	21.7	21.3	0	22.0
		1	24	23.5	23.5	23.5	0	24.0	21.5	21.7	21.5	0	22.0
		12	0	22.5	22.8	22.5	1	23.0	21.5	21.8	21.5	0	22.0
		12	7	22.5	22.8	22.5	1	23.0	21.5	21.8	21.5	0	22.0
		12	13	22.5	22.8	22.5	1	23.0	21.5	21.8	21.5	0	22.0
		25	0	22.5	22.8	22.5	1	23.0	21.5	21.8	21.5	0	22.0
	16QAM	1	0	22.9	22.5	22.9	1	23.0	21.8	22.0	21.9	0	22.0
		1	12	22.8	22.6	22.5	1	23.0	21.7	21.9	21.8	0	22.0
		1	24	22.9	22.6	22.8	1	23.0	21.8	22.0	21.9	0	22.0
		12	0	21.5	21.8	21.5	2	22.0	21.5	21.9	21.6	0	22.0
		12	7	21.5	21.8	21.5	2	22.0	21.5	21.9	21.6	0	22.0
		12	13	21.5	21.8	21.5	2	22.0	21.5	21.9	21.6	0	22.0
		25	0	21.5	21.8	21.5	2	22.0	21.5	21.8	21.6	0	22.0
	64QAM	1	0	21.7	21.6	21.5	2	22.0	21.9	22.0	21.6	0	22.0
		1	12	21.7	21.6	21.5	2	22.0	21.8	22.0	21.6	0	22.0
		1	24	21.7	21.6	21.5	2	22.0	21.9	21.5	21.6	0	22.0
		12	0	20.5	20.7	20.5	3	21.0	20.5	20.8	20.5	1	21.0
		12	7	20.5	20.8	20.5	3	21.0	20.5	20.8	20.5	1	21.0
		12	13	20.5	20.7	20.5	3	21.0	20.4	20.8	20.5	1	21.0
		25	0	20.5	20.7	20.5	3	21.0	20.5	20.8	20.4	1	21.0
	256QAM	1	0	18.5	18.6	18.4	5	19.0	18.7	18.7	18.4	3	19.0
		1	12	18.5	18.5	18.2	5	19.0	18.6	18.6	18.3	3	19.0
		1	24	18.5	18.5	18.4	5	19.0	18.7	18.6	18.5	3	19.0
		12	0	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0
		12	7	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0
		12	13	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0
		25	0	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0

LTE Band 66 Measured Results (ANT E) continued

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (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	QPSK	1	0	23.5	23.5	23.5	0	24.0	21.6	21.7	21.6	0	22.0
		1	8	23.5	23.5	23.3	0	24.0	21.3	21.6	21.5	0	22.0
		1	14	23.5	23.5	23.5	0	24.0	21.6	21.7	21.6	0	22.0
		8	0	22.5	22.5	22.5	1	23.0	21.5	21.7	21.5	0	22.0
		8	4	22.5	22.5	22.5	1	23.0	21.5	21.7	21.5	0	22.0
		8	7	22.5	22.5	22.5	1	23.0	21.5	21.7	21.5	0	22.0
		15	0	22.5	22.8	22.5	1	23.0	21.5	21.8	21.5	0	22.0
	16QAM	1	0	22.8	23.0	22.5	1	23.0	21.7	22.0	21.9	0	22.0
		1	8	22.8	23.0	22.5	1	23.0	21.7	22.0	21.8	0	22.0
		1	14	22.8	23.0	22.5	1	23.0	21.6	22.0	21.8	0	22.0
		8	0	21.5	21.9	21.5	2	22.0	21.5	21.8	21.6	0	22.0
		8	4	21.5	21.9	21.5	2	22.0	21.5	21.8	21.6	0	22.0
		8	7	21.5	21.9	21.5	2	22.0	21.5	21.8	21.6	0	22.0
		15	0	21.5	21.8	21.5	2	22.0	21.5	21.8	21.6	0	22.0
	64QAM	1	0	21.8	22.0	21.6	2	22.0	21.7	21.8	21.7	0	22.0
		1	8	21.7	21.9	21.6	2	22.0	21.5	21.7	21.6	0	22.0
		1	14	21.8	22.0	21.6	2	22.0	21.7	21.8	21.6	0	22.0
		8	0	20.5	20.9	20.5	3	21.0	20.5	20.7	20.5	1	21.0
		8	4	20.5	20.8	20.4	3	21.0	20.5	20.7	20.4	1	21.0
		8	7	20.5	20.8	20.5	3	21.0	20.5	20.7	20.4	1	21.0
		15	0	20.5	20.7	20.5	3	21.0	20.4	20.8	20.5	1	21.0
	256QAM	1	0	18.7	18.9	18.4	5	19.0	18.6	18.9	18.5	3	19.0
		1	8	18.7	18.8	18.3	5	19.0	18.4	18.9	18.5	3	19.0
		1	14	18.7	18.9	18.5	5	19.0	18.5	19.0	18.5	3	19.0
		8	0	18.5	18.9	18.5	5	19.0	18.6	18.8	18.5	3	19.0
		8	4	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0
		8	7	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0
		15	0	18.5	18.8	18.5	5	19.0	18.5	18.8	18.5	3	19.0

BW (MHz)	Mode	RB Allocation	RB Offset	RSI: 4 Average Power (dBm)			MPR	Tune-up Limit	RSI: 0, 1, 2, 3 Average Power (dBm)			MPR	Tune-up Limit
				131979	132322	132665			131979	132322	132665		
				1710.7 MHz	1745 MHz	1779.3 MHz			1710.7 MHz	1745 MHz	1779.3 MHz		
1.4	QPSK	1	0	23.4	23.5	23.3	0	24.0	21.3	21.6	21.5	0	22.0
		1	3	23.4	23.5	23.4	0	24.0	21.4	21.4	21.4	0	22.0
		1	5	23.4	23.5	23.4	0	24.0	21.3	21.7	21.5	0	22.0
		3	0	23.4	23.5	23.4	0	24.0	21.3	21.6	21.5	0	22.0
		3	1	23.4	23.5	23.4	0	24.0	21.3	21.7	21.4	0	22.0
		3	3	23.4	23.5	23.4	0	24.0	21.3	21.7	21.4	0	22.0
		6	0	22.4	22.5	22.4	1	23.0	21.4	21.7	21.4	0	22.0
	16QAM	1	0	22.5	22.6	22.5	1	23.0	21.5	22.0	21.5	0	22.0
		1	3	22.5	22.6	22.4	1	23.0	21.3	22.0	21.6	0	22.0
		1	5	22.5	22.6	22.5	1	23.0	21.5	22.0	21.6	0	22.0
		3	0	22.5	22.8	22.5	1	23.0	21.5	21.8	21.6	0	22.0
		3	1	22.4	22.8	22.5	1	23.0	21.5	21.9	21.5	0	22.0
		3	3	22.4	22.8	22.5	1	23.0	21.4	21.9	21.6	0	22.0
		6	0	21.5	21.5	21.5	2	22.0	21.5	21.6	21.5	0	22.0
	64QAM	1	0	21.6	21.8	21.7	2	22.0	21.6	21.6	21.7	0	22.0
		1	3	21.6	22.0	21.8	2	22.0	21.7	21.7	21.7	0	22.0
		1	5	21.6	21.8	21.7	2	22.0	21.6	21.6	21.7	0	22.0
		3	0	21.5	21.9	21.6	2	22.0	21.4	21.7	21.4	0	22.0
		3	1	21.5	21.8	21.6	2	22.0	21.4	21.7	21.4	0	22.0
		3	3	21.4	21.8	21.6	2	22.0	21.4	21.7	21.3	0	22.0
		6	0	20.4	20.9	20.5	3	21.0	20.4	20.8	20.4	1	21.0
	256QAM	1	0	18.5	18.9	18.3	5	19.0	18.3	18.7	18.6	3	19.0
		1	3	18.5	19.0	18.3	5	19.0	18.3	18.8	18.5	3	19.0
		1	5	18.5	18.9	18.3	5	19.0	18.3	18.7	18.6	3	19.0
		3	0	18.4	18.6	18.4	5	19.0	18.3	18.6	18.5	3	19.0
		3	1	18.4	18.6	18.3	5	19.0	18.2	18.6	18.5	3	19.0
		3	3	18.4	18.6	18.3	5	19.0	18.1	18.5	18.5	3	19.0
		6	0	18.4	18.7	18.5	5	19.0	18.3	18.6	18.4	3	19.0

9.4. LTE Down-Link Carrier Aggregation

This device supports LTE downlink carrier aggregation (CA). The table below shows the supported frequency bands of the device for DL Inter-band and DL Intra-band combinations.

Index	2CC	Restriction	Completely Covered by Measurement Superset
2CC# 1	CA_2A-2A		No
2CC# 2	CA_2A-4A		3CC#1
2CC# 3	CA_2A-5A		3CC#1
2CC# 4	CA_2A-12A		No
2CC# 5	CA_2A-13A		3CC#2
2CC# 6	CA_2A-17A		No
2CC# 7	CA_2A-66A		No
2CC# 8	CA_2C		No
2CC# 9	CA_4A-2A		No
2CC# 10	CA_4A-4A		3CC#3
2CC# 11	CA_4A-5A		No
2CC# 12	CA_4A-12A		3CC#3
2CC# 12	CA_4A-13A		No
2CC# 13	CA_4A-17A		No
2CC# 14	CA_5A-2A		No
2CC# 15	CA_5A-4A		No
2CC# 16	CA_5A-41A		No
2CC# 17	CA_5A-66A		3CC#4
2CC# 18	CA_12A-2A		No
2CC# 19	CA_12A-4A		No
2CC# 20	CA_12A-66A		3CC#5
2CC# 21	CA_13A-2A		No
2CC# 22	CA_17A-2A		No
2CC# 23	CA_26A-41A		3CC#6
2CC# 24	CA_41A-41A		No
2CC# 25	CA_41C		3CC#8
2CC# 26	CA_66A-12A		No
2CC# 27	CA_66A-66A		No
2CC# 28	CA_66B		No
2CC# 29	CA_66C		No

Index	3CC	Restriction	Completely Covered by Measurement Superset
3CC# 1	CA_2A-4A-5A		No
3CC# 2	CA_2A-4A-13A		No
3CC# 3	CA_4A-4A-12A		No
3CC# 4	CA_5A-66A-66A		No
3CC# 5	CA_12A-66A-66A		No
3CC# 6	CA_26A-41C		No
3CC# 7	CA_41A-41C		4CC#1
3CC# 8	CA_41D		4CC#3

Index	4CC	Restriction	Completely Covered by Measurement Superset
4CC# 1	CA_41A-41D		No
4CC# 2	CA_41C-41C		No
4CC# 3	CA_41E		No

Power measurements were performed on the channel with the highest maximum output power from the Tune-up Procedure

When carrier aggregation is limited to downlink only, uplink maximum output power (single carrier) is measured for the supported combinations of downlink carrier aggregation listed in the table below. By applying the power measurement procedures of KDB 941225 D05A and April 2018 TCB workshop, DL CA can qualify for UL SAR test exclusion. Power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs

2CC DL CA Measured Results

E-UTRA CA configuration	CC1 (UL)					CC2 (DL)			Aggregated BW	CA Inactive (dBm)	CA Active (dBm)	Delta	2CC #
	Mode	BW (MHz)	Channel	Freq (MHz)	RB Offset	BW (MHz)	Channel	Freq (MHz)					
CA_2A-2A	QPSK	20	18700	1860	1,49	20	1100	1980	40	24.10	23.70	-0.40	1
CA_2A-12A	QPSK	20	18900	1880	1,49	10	5060	734	30	23.70	23.90	0.20	4
CA_2A-17A	QPSK	20	18900	1880	1,49	10	5790	740	30	23.30	23.40	0.10	6
CA_2A-66A	QPSK	20	18900	1880	1,49	20	67236	2190	40	22.90	22.90	0.00	7
CA_2C	QPSK	20	18801	1870.1	1,49	20	999	1969.9	40	24.00	22.60	-1.40	8
CA_4A-2A	QPSK	20	20050	1720	1,49	20	1100	1980	40	23.00	23.20	0.20	9
CA_4A-5A	QPSK	20	20175	1732.5	1,49	10	2450	874	30	23.00	23.00	0.00	11
CA_4A-13A	QPSK	20	20175	1732.5	1,49	10	5230	751	30	23.00	23.10	0.10	12
CA_5A-2A	QPSK	10	20525	836.5	1,24	20	1100	1980	30	23.70	23.90	0.20	14
CA_5A-41A	QPSK	10	20525	836.5	1,24	20	40620	2593	30	23.70	23.60	-0.10	16
CA_26A-41A	QPSK	10	26865	831.5	1,37	20	40620	2593	30	23.80	24.00	0.20	23
CA_41A-41A	QPSK	20	39750	2506	1,49	20	41490	2680	40	22.60	22.80	0.20	24
CA_66A-66A	QPSK	20	132072	1720	1,49	20	67036	2170	40	23.10	22.80	-0.30	27
CA_66B	QPSK	10	132373	1750.1	1,49	10	66936	2160	20	23.20	22.40	-0.80	28
CA_66C	QPSK	20	132323	1745.1	1,49	20	66985	2164.9	40	23.60	22.30	-1.30	29

3CC DL CA Measured Results

E-UTRA CA configuration	CC1 (UL)					CC2 (DL)			CC3 (DL)			Aggregated BW	CA Inactive (dBm)	CA Active (dBm)	Delta	3CC #
	Mode	BW (MHz)	Channel	Freq (MHz)	RB Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_2A-4A-5A	QPSK	20	18900	1880	1,49	20	2300	2145	10	2525	881.5	50	23.60	23.40	-0.20	1
CA_2A-4A-13A	QPSK	20	18900	1880	1,49	20	2300	2145	10	5230	751	50	23.50	23.30	-0.20	2
CA_4A-4A-12A	QPSK	20	20050	1720	1,49	20	2300	2145	10	5095	737.5	50	22.80	22.60	-0.20	3
CA_5A-66A-66A	QPSK	10	20525	836.5	1,24	20	66536	2120	20	67236	2190	50	22.70	22.80	0.10	4
CA_12A-66A-66A	QPSK	10	23095	707.5	1,24	20	66536	2120	20	67236	2190	50	23.40	23.20	-0.20	5
CA_26A-41C	QPSK	10	26865	831.5	1,37	20	40842	2615.2	20	41040	2645	50	23.60	23.60	0.00	6

4CC DL CA Measured Results

E-UTRA CA configuration	CC1 (UL)					CC2 (DL)			CC3 (DL)			CC4 (DL)			Aggregated BW	CA Inactive (dBm)	CA Active (dBm)	Delta	4CC #
	Mode	BW (MHz)	Channel	Freq (MHz)	RB Offset	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)	BW (MHz)	Channel	Freq (MHz)					
CA_41A-41D	QPSK	20	39750	2506	1,49	20	41094	2640.4	20	41292	2660.2	20	41490	2680	80	22.40	22.60	0.20	1
CA_41C-41C	QPSK	20	39750	2506	1,49	20	39948	2525.8	20	41292	2660.2	20	41490	2680	80	22.50	21.70	-0.80	2
CA_41E	QPSK	20	40320	2563	1,49	20	40518	2582.8	20	40716	2602.6	20	40914	2622.4	80	22.70	22.20	-0.50	3

9.5. 5G NR (FR1)

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 6.2.2.3-1: 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]
	≤ 0.5[2]		0[2]
DFT-s-OFDM QPSK	≤ 1		0
DFT-s-OFDM 16 QAM	≤ 2		≤ 1
DFT-s-OFDM 64 QAM	≤ 2.5		
DFT-s-OFDM 256 QAM	≤ 4.5		
CP-OFDM QPSK	≤ 3		≤ 1.5
CP-OFDM 16 QAM	≤ 3		≤ 2
CP-OFDM 64 QAM	≤ 3.5		
CP-OFDM 256 QAM	≤ 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	36@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	36@0	18@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	100@0	50@25	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
25MHz	15	DFT-s	2@0	2@131	1@0	1@132	128@0	64@32	1@1	1@131
		CP	2@0	2@131	1@0	1@132	133@0	67@33	1@1	1@131
	30	DFT-s	2@0	2@63	1@0	1@64	64@0	32@16	1@1	1@63
		CP	2@0	2@63	1@0	1@64	65@0	33@16	1@1	1@63
	60	DFT-s	2@0	2@29	1@0	1@30	30@0	15@7[1]	1@1	1@29
		CP	2@0	2@29	1@0	1@30	31@0	15@7[1]	1@1	1@29
30MHz	15	DFT-s	2@0	2@158	1@0	1@159	160@0	80@40	1@1	1@158
		CP	2@0	2@158	1@0	1@159	160@0	80@40	1@1	1@158
	30	DFT-s	2@0	2@76	1@0	1@77	75@0	36@18	1@1	1@76
		CP	2@0	2@76	1@0	1@77	78@0	39@19	1@1	1@76
	60	DFT-s	2@0	2@36	1@0	1@37	36@0	18@9	1@1	1@36
		CP	2@0	2@36	1@0	1@37	38@0	19@9	1@1	1@36
40MHz	15	DFT-s	2@0	2@214	1@0	1@215	216@0	108@54	1@1	1@214
		CP	2@0	2@214	1@0	1@215	216@0	108@54	1@1	1@214
	30	DFT-s	2@0	2@104	1@0	1@105	100@0	50@25	1@1	1@104
		CP	2@0	2@104	1@0	1@105	106@0	53@26	1@1	1@104
	60	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
50MHz	15	DFT-s	2@0	2@268	1@0	1@269	270@0	135@67	1@1	1@268
		CP	2@0	2@268	1@0	1@269	270@0	135@67	1@1	1@268
	30	DFT-s	2@0	2@131	1@0	1@132	128@0	64@32	1@1	1@131
		CP	2@0	2@131	1@0	1@132	133@0	67@33	1@1	1@131
	60	DFT-s	2@0	2@63	1@0	1@64	64@0	32@16	1@1	1@63
		CP	2@0	2@63	1@0	1@64	65@0	33@16	1@1	1@63
60MHz	15	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
	30	DFT-s	2@0	2@160	1@0	1@161	162@0	81@40	1@1	1@160
		CP	2@0	2@160	1@0	1@161	162@0	81@40	1@1	1@160
	60	DFT-s	2@0	2@77	1@0	1@78	75@0	36@18	1@1	1@77
		CP	2@0	2@77	1@0	1@78	79@0	39@19[1]	1@1	1@77
80MHz	15	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
	30	DFT-s	2@0	2@215	1@0	1@216	216@0	108@54	1@1	1@215
		CP	2@0	2@215	1@0	1@216	217@0	109@54	1@1	1@215
	60	DFT-s	2@0	2@105	1@0	1@106	100@0	50@25	1@1	1@105
		CP	2@0	2@105	1@0	1@106	107@0	53@26[1]	1@1	1@105
90MHz	15	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
	30	DFT-s	2@0	2@243	1@0	1@244	240@0	120@60	1@1	1@243
		CP	2@0	2@243	1@0	1@244	245@0	123@61	1@1	1@243
	60	DFT-s	2@0	2@119	1@0	1@120	120@0	60@30	1@1	1@119
		CP	2@0	2@119	1@0	1@120	121@0	61@30	1@1	1@119
100MHz	15	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
	30	DFT-s	2@0	2@271	1@0	1@272	270@0	135@67	1@1	1@271
		CP	2@0	2@271	1@0	1@272	273@0	137@68	1@1	1@271
	60	DFT-s	2@0	2@133	1@0	1@134	135@0	64@32	1@1	1@133
		CP	2@0	2@133	1@0	1@134	135@0	67@33[1]	1@1	1@133

Note 1: The allocated RB number L_{CRB} is ceil(N_{RB}/2) -1 in order to meet Inner RB allocation definition ($RB_{Start,Low} \leq RB_{Start} \leq RB_{Start,High}$) described in subclause 6.2.2 of TS 38.101-1 [2].

Maximum Output Power (Tune-up Limit) for 5G NR (FR1)

SAR measurement is not required for the QPSK, 16QAM, 64QAM and 256QAM. When the highest maximum output power for QPSK, 16QAM, 64QAM and 256QAM is ≤ ½ dB higher than the π/2 BPSK or when the reported SAR for the π/2 BPSK configuration is ≤ 1.45 W/kg.
Please refer to section 6.5. for 5G NR(FR1) detail test channels.

RF Air interface	Mode	Tune-up PowerLimit (dBm)
		ANT A
		RSI: 0, 1, 2, 3, 4
NR Band n5	π/2 BPSK / QPSK	25.0
NR Band n26	π/2 BPSK / QPSK	24.5

RF Air interface	Mode	Tune-up PowerLimit (dBm)	
		ANT B	
		RSI:0, 4	RSI:1, 2, 3
NR Band n41	π/2 BPSK / QPSK	24.0	18.0

RF Air interface	Mode	Tune-up PowerLimit (dBm)
		ANT B
		RSI: 0, 1, 2, 3, 4
NR Band n66	π/2 BPSK / QPSK	22.0

RF Air interface	Mode	Tune-up PowerLimit (dBm)
		ANT C
		RSI: 0, 1, 2, 3, 4
NR Band n41 SRS1	π/2 BPSK / QPSK	17.5

RF Air interface	Mode	Tune-up PowerLimit (dBm)
		ANT G
		RSI: 0, 1, 2, 3, 4
NR Band n41 SRS2	π/2 BPSK / QPSK	18.0

RF Air interface	Mode	Tune-up PowerLimit (dBm)
		ANT H
		RSI: 0, 1, 2, 3, 4
NR Band n41 SRS3	π/2 BPSK / QPSK	18.0

RF Air interface	Mode	Tune-up PowerLimit (dBm)	
		ANT F	
		RSI: 0, 1, 2, 3	RSI: 4
NR Band n77	π/2 BPSK / QPSK	18.0	16.0

Note(s):

SRS (Sounding Reference Signal) refers to antenna swithing for Downlink channel status information (CSI) aquisition. The purpose is to enhance Downlink MIMO allocation and improve Rx performance. It is tranmitted bl the UE as a reference signal for eNodeB to find the best channel quality. SRS can transmit in NSA and SA modes

NR Band n5 Measured Results (ANT A)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						166800	167300	167800		
						834 MHz	836.5 MHz	839 MHz		
20	DFT-s	15	π/2 BPSK	1	1		24.1		0	25
				1	53		24.3		0	25
				1	104		24.1		0	25
				50	28		24.2		0	25
			QPSK	1	1		24.3		0	25
				1	53		24.4		0	25
				1	104		24.3		0	25
				50	28		24.5		0	25
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						166300	167300	168300		
						831.5 MHz	836.5 MHz	841.5 MHz		
15	DFT-s	15	π/2 BPSK	1	39		24.4		0	25
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						165800	167300	168800		
						829 MHz	836.5 MHz	844 MHz		
10	DFT-s	15	π/2 BPSK	1	26	24.3	24.3	24.2	0	25
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						165300	167300	169300		
						826.5 MHz	836.5 MHz	846.5 MHz		
5	DFT-s	15	π/2 BPSK	1	12	24.2	24.2	24.3	0	25

NR Band n26 Measured Results (ANT A)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						164800	166300	167800		
						824 MHz	831.5 MHz	839 MHz		
20	DFT-s	15	π/2 BPSK	1	1		23.3		0	24.5
				1	53		23.6		0	24.5
				1	104		23.5		0	24.5
				50	28		23.5		0	24.5
			QPSK	1	1		23.3		0	24.5
				1	53		23.7		0	24.5
				1	104		23.5		0	24.5
				50	28		23.5		0	24.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						164300	166300	168300		
						821.5 MHz	831.5 MHz	841.5 MHz		
15	DFT-s	15	π/2 BPSK	1	39	23.4	23.5	23.6	0	24.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						163800	166300	168800		
						819 MHz	831.5 MHz	844 MHz		
10	DFT-s	15	π/2 BPSK	1	26	23.6	23.7	23.7	0	24.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						163300	166300	169300		
						816.5 MHz	831.5 MHz	846.5 MHz		
5	DFT-s	15	π/2 BPSK	1	12	23.5	23.7	23.8	0	24.5

NR Band n41 Measured Results (ANT B)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						509199	510000	513897	518598	523296	527997	MPR	Tune-up Limit	509199	510000	513897	518598	523296	527997	MPR	Tune-up Limit
						2545.995 MHz	2550 MHz	2569.485 MHz	2592.99 MHz	2616.48 MHz	2639.985 MHz			2545.995 MHz	2550 MHz	2569.485 MHz	2592.99 MHz	2616.48 MHz	2639.985 MHz		
100	DFT-s	30	π/2 BPSK	1	1				22.8			0	24				17.0			0	18
				1	136				23.7			0	24				17.8			0	18
				1	271				23.5			0	24				17.5			0	18
				135	69				23.5			0	24				17.6			0	18
			QPSK	1	1				23.0			0	24				17.0			0	18
				1	136				23.5			0	24				17.7			0	18
				1	271				23.6			0	24				17.5			0	18
				135	69				23.4			0	24				17.6			0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						508200	508998	513399	518598	523797	528996	MPR	Tune-up Limit	508200	508998	513399	518598	523797	528996	MPR	Tune-up Limit
						2541 MHz	2544.99 MHz	2566.995 MHz	2592.99 MHz	2618.985 MHz	2644.98 MHz			2541 MHz	2544.99 MHz	2566.995 MHz	2592.99 MHz	2618.985 MHz	2644.98 MHz		
90	DFT-s	30	π/2 BPSK	1	122				23.7			0	24				17.5			0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						507198	507999	512898	518598	524298	529998	MPR	Tune-up Limit	507198	507999	512898	518598	524298	529998	MPR	Tune-up Limit
						2535.99 MHz	2539.995 MHz	2564.49 MHz	2592.99 MHz	2621.49 MHz	2649.99 MHz			2535.99 MHz	2539.995 MHz	2564.49 MHz	2592.99 MHz	2621.49 MHz	2649.99 MHz		
80	DFT-s	30	π/2 BPSK	1	108				23.5			0	24				17.5			0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						506199	507000	512397	518598	524796	530997	MPR	Tune-up Limit	506199	507000	512397	518598	524796	530997	MPR	Tune-up Limit
						2530.995 MHz	2535 MHz	2561.985 MHz	2592.99 MHz	2623.98 MHz	2654.985 MHz			2530.995 MHz	2535 MHz	2561.985 MHz	2592.99 MHz	2623.98 MHz	2654.985 MHz		
70	DFT-s	30	π/2 BPSK	1	94	23.1	23.1	23.5	23.4	23.6	23.6	0	24	16.7	16.7	17.1	17.5	17.3	17.4	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						505200	505998	511899	518598	525297	531996	MPR	Tune-up Limit	505200	505998	511899	518598	525297	531996	MPR	Tune-up Limit
						2526 MHz	2529.99 MHz	2559.495 MHz	2592.99 MHz	2626.485 MHz	2659.98 MHz			2526 MHz	2529.99 MHz	2559.495 MHz	2592.99 MHz	2626.485 MHz	2659.98 MHz		
60	DFT-s	30	π/2 BPSK	1	81	23.1	23.1	23.6	23.3	23.5	23.7	0	24	16.7	16.8	17.2	17.6	17.4	17.4	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						504198	504999	511398	518598	525798	532998	MPR	Tune-up Limit	504198	504999	511398	518598	525798	532998	MPR	Tune-up Limit
						2520.99 MHz	2524.995 MHz	2556.99 MHz	2592.99 MHz	2628.99 MHz	2664.99 MHz			2520.99 MHz	2524.995 MHz	2556.99 MHz	2592.99 MHz	2628.99 MHz	2664.99 MHz		
50	DFT-s	30	π/2 BPSK	1	66	23.1	23.1	23.5	23.5	23.4	23.6	0	24	16.7	16.7	17.0	17.5	17.3	17.3	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						503199	504000	510897	518598	526296	533997	MPR	Tune-up Limit	503199	504000	510897	518598	526296	533997	MPR	Tune-up Limit
						2515.995 MHz	2520 MHz	2554.485 MHz	2592.99 MHz	2631.48 MHz	2669.985 MHz			2515.995 MHz	2520 MHz	2554.485 MHz	2592.99 MHz	2631.48 MHz	2669.985 MHz		
40	DFT-s	30	π/2 BPSK	1	53	23.2	23.2	23.5	22.8	23.2	23.5	0	24	16.8	16.8	17.1	17.5	17.4	17.2	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						502200	502998	510399	518598	526797	534996	MPR	Tune-up Limit	502200	502998	510399	518598	526797	534996	MPR	Tune-up Limit
						2511 MHz	2514.99 MHz	2551.995 MHz	2592.99 MHz	2633.985 MHz	2674.98 MHz			2511 MHz	2514.99 MHz	2551.995 MHz	2592.99 MHz	2633.985 MHz	2674.98 MHz		
30	DFT-s	30	π/2 BPSK	1	39	23.2	23.2	23.4	23.1	23.4	23.4	0	24	16.8	16.8	17.0	17.5	17.3	17.1	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						501198	501999	509898	518598	527298	535998	MPR	Tune-up Limit	501198	501999	509898	518598	527298	535998	MPR	Tune-up Limit
						2505.99 MHz	2509.995 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz			2505.99 MHz	2509.995 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz		
20	DFT-s	30	π/2 BPSK	1	25	23.1	23.0	23.3	23.1	23.6	23.2	0	24	16.8	16.8	16.9	17.5	17.3	17.0	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						500700	501498	509649	518598	527547	536496	MPR	Tune-up Limit	500700	501498	509649	518598	527547	536496	MPR	Tune-up Limit
						2503.5 MHz	2507.49 MHz	2548.245 MHz	2592.99 MHz	2637.735 MHz	2682.48 MHz			2503.5 MHz	2507.49 MHz	2548.245 MHz	2592.99 MHz	2637.735 MHz	2682.48 MHz		
15	DFT-s	30	π/2 BPSK	1	19	23.1	23.1	23.3	23.1	23.6	23.3	0	24	16.9	16.8	16.9	17.6	17.4	17.1	0	18

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	DSI: 0, 4 Average Power (dBm)								DSI: 1, 2, 3 Average Power (dBm)							
						500199	501000	509397	518598	527796	536997	MPR	Tune-up Limit	500199	501000	509397	518598	527796	536997	MPR	Tune-up Limit
						2500.995 MHz	2505 MHz	2546.985 MHz	2592.99 MHz	2638.98 MHz	2684.985 MHz			2500.995 MHz	2505 MHz	2546.985 MHz	2592.99 MHz	2638.98 MHz	2684.985 MHz		
10	DFT-s	30	π/2 BPSK	1	12	22.9	23.2	23.3	23.1	23.6	23.3	0	24	16.9	16.9	17.0	17.6	17.4	17.0	0	18

NR Band n41 SRS1 Measured Results (ANT C)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						509199	510000	513897	518598	523296	527997		
						2545.995 MHz	2550 MHz	2569.485 MHz	2592.99 MHz	2616.48 MHz	2639.985 MHz		
100	DFT-s	30	π/2 BPSK	1	1				16.7			0	17.5
				1	136				16.2			0	17.5
				1	271				17.0			0	17.5
				135	69				16.4			0	17.5
			QPSK	1	1				16.6			0	17.5
				1	136				16.1			0	17.5
				1	271				16.9			0	17.5
				135	69				16.3			0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						508200	508998	513399	518598	523797	528996		
						2541 MHz	2544.99 MHz	2566.995 MHz	2592.99 MHz	2618.985 MHz	2644.98 MHz		
90	DFT-s	30	π/2 BPSK	1	122				16.1			0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						507198	507999	512898	518598	524298	529998		
						2535.99 MHz	2539.995 MHz	2564.49 MHz	2592.99 MHz	2621.49 MHz	2649.99 MHz		
80	DFT-s	30	π/2 BPSK	1	108				16.2			0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						506199	507000	512397	518598	524796	530997		
						2530.995 MHz	2535 MHz	2561.985 MHz	2592.99 MHz	2623.98 MHz	2654.985 MHz		
70	DFT-s	30	π/2 BPSK	1	94	15.9	16.2	16.7	16.1	16.0	17.1	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						505200	505998	511899	518598	525297	531996		
						2526 MHz	2529.99 MHz	2559.495 MHz	2592.99 MHz	2626.485 MHz	2659.98 MHz		
60	DFT-s	30	π/2 BPSK	1	81	15.6	15.9	16.8	16.2	16.4	17.0	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						504198	504999	511398	518598	525798	532998		
						2520.99 MHz	2524.995 MHz	2556.99 MHz	2592.99 MHz	2628.99 MHz	2664.99 MHz		
50	DFT-s	30	π/2 BPSK	1	66	15.7	15.5	16.6	16.1	16.4	16.9	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						503199	504000	510897	518598	526296	533997		
						2515.995 MHz	2520 MHz	2554.485 MHz	2592.99 MHz	2631.48 MHz	2669.985 MHz		
40	DFT-s	30	π/2 BPSK	1	53	15.5	15.8	16.6	16.2	16.6	16.6	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						502200	502998	510399	518598	526797	534996		
						2511 MHz	2514.99 MHz	2551.995 MHz	2592.99 MHz	2633.985 MHz	2674.98 MHz		
30	DFT-s	30	π/2 BPSK	1	39	16.2	15.7	16.5	16.0	16.6	16.4	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						501198	501999	509898	518598	527298	535998		
						2505.99 MHz	2509.995 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz		
20	DFT-s	30	π/2 BPSK	1	25	16.2	16.4	16.3	16.1	16.7	16.0	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						500700	501498	509649	518598	527547	536496		
						2503.5 MHz	2507.49 MHz	2548.245 MHz	2592.99 MHz	2637.735 MHz	2682.48 MHz		
15	DFT-s	30	π/2 BPSK	1	19	16.4	15.9	16.3	15.9	16.8	15.7	0	17.5
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						500199	501000	509397	518598	527796	536997		
						2500.995 MHz	2505 MHz	2546.985 MHz	2592.99 MHz	2638.98 MHz	2684.985 MHz		
10	DFT-s	30	π/2 BPSK	1	12	16.5	16.3	16.3	15.9	16.9	16.3	0	17.5

NR Band n41 SRS2 Measured Results (ANT G)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						509199	510000	513897	518598	523296	527997		
						2545.995 MHz	2550 MHz	2569.485 MHz	2592.99 MHz	2616.48 MHz	2639.985 MHz		
100	DFT-s	30	π/2 BPSK	1	1				16.4			0	18
				1	136				17.7			0	18
				1	271				17.8			0	18
				135	69				17.5			0	18
			QPSK	1	1				16.3			0	18
				1	136				17.6			0	18
				1	271				17.8			0	18
				135	69				17.4			0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						508200	508998	513399	518598	523797	528996		
						2541 MHz	2544.99 MHz	2566.995 MHz	2592.99 MHz	2618.985 MHz	2644.98 MHz		
90	DFT-s	30	π/2 BPSK	1	122				17.8			0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						507198	507999	512898	518598	524298	529998		
						2535.99 MHz	2539.995 MHz	2564.49 MHz	2592.99 MHz	2621.49 MHz	2649.99 MHz		
80	DFT-s	30	π/2 BPSK	1	108				17.8			0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						506199	507000	512397	518598	524796	530997		
						2530.995 MHz	2535 MHz	2561.985 MHz	2592.99 MHz	2623.98 MHz	2654.985 MHz		
70	DFT-s	30	π/2 BPSK	1	94	16.3	16.2	16.9	17.6	17.6	17.7	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						505200	505998	511899	518598	525297	531996		
						2526 MHz	2529.99 MHz	2559.495 MHz	2592.99 MHz	2626.485 MHz	2659.98 MHz		
60	DFT-s	30	π/2 BPSK	1	81	16.1	16.1	16.8	17.6	17.7	17.7	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						504198	504999	511398	518598	525798	532998		
						2520.99 MHz	2524.995 MHz	2556.99 MHz	2592.99 MHz	2628.99 MHz	2664.99 MHz		
50	DFT-s	30	π/2 BPSK	1	66	16.1	16.1	16.7	17.6	17.6	17.5	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						503199	504000	510897	518598	526296	533997		
						2515.995 MHz	2520 MHz	2554.485 MHz	2592.99 MHz	2631.48 MHz	2669.985 MHz		
40	DFT-s	30	π/2 BPSK	1	53	16.0	16.1	16.7	17.6	17.7	17.4	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						502200	502998	510399	518598	526797	534996		
						2511 MHz	2514.99 MHz	2551.995 MHz	2592.99 MHz	2633.985 MHz	2674.98 MHz		
30	DFT-s	30	π/2 BPSK	1	39	16.1	16.1	16.7	17.6	17.7	17.4	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						501198	501999	509898	518598	527298	535998		
						2505.99 MHz	2509.995 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz		
20	DFT-s	30	π/2 BPSK	1	25	16.0	16.0	16.5	17.5	17.7	17.3	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						500700	501498	509649	518598	527547	536496		
						2503.5 MHz	2507.49 MHz	2548.245 MHz	2592.99 MHz	2637.735 MHz	2682.48 MHz		
15	DFT-s	30	π/2 BPSK	1	19	16.0	16.0	16.5	17.6	17.8	17.3	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						500199	501000	509397	518598	527796	536997		
						2500.995 MHz	2505 MHz	2546.985 MHz	2592.99 MHz	2638.98 MHz	2684.985 MHz		
10	DFT-s	30	π/2 BPSK	1	12	16.0	16.0	16.5	17.6	17.7	17.3	0	18

NR Band n41 SRS 3 Measured Results (ANT H)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						509199	510000	513897	518598	523296	527997		
						2545.995 MHz	2550 MHz	2569.485 MHz	2592.99 MHz	2616.48 MHz	2639.985 MHz		
100	DFT-s	30	π/2 BPSK	1	1				16.4			0	18
				1	136				17.8			0	18
				1	271				17.8			0	18
				135	69				17.7			0	18
			QPSK	1	1				16.6			0	18
				1	136				17.8			0	18
				1	271				17.8			0	18
				135	69				17.6			0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						508200	508998	513399	518598	523797	528996		
						2541 MHz	2544.99 MHz	2566.995 MHz	2592.99 MHz	2618.985 MHz	2644.98 MHz		
90	DFT-s	30	π/2 BPSK	1	122				17.7			0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						507198	507999	512898	518598	524298	529998		
						2535.99 MHz	2539.995 MHz	2564.49 MHz	2592.99 MHz	2621.49 MHz	2649.99 MHz		
80	DFT-s	30	π/2 BPSK	1	108				17.8			0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						506199	507000	512397	518598	524796	530997		
						2530.995 MHz	2535 MHz	2561.985 MHz	2592.99 MHz	2623.98 MHz	2654.985 MHz		
70	DFT-s	30	π/2 BPSK	1	94	16.4	16.4	17.1	17.7	17.9	17.8	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						505200	505998	511899	518598	525297	531996		
						2526 MHz	2529.99 MHz	2559.495 MHz	2592.99 MHz	2626.485 MHz	2659.98 MHz		
60	DFT-s	30	π/2 BPSK	1	81	16.2	16.2	16.9	17.7	17.9	17.7	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						504198	504999	511398	518598	525798	532998		
						2520.99 MHz	2524.995 MHz	2556.99 MHz	2592.99 MHz	2628.99 MHz	2664.99 MHz		
50	DFT-s	30	π/2 BPSK	1	66	16.0	16.0	16.7	17.4	17.9	17.3	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						503199	504000	510897	518598	526296	533997		
						2515.995 MHz	2520 MHz	2554.485 MHz	2592.99 MHz	2631.48 MHz	2669.985 MHz		
40	DFT-s	30	π/2 BPSK	1	53	16.4	16.4	16.6	17.5	16.7	17.2	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						502200	502998	510399	518598	526797	534996		
						2511 MHz	2514.99 MHz	2551.995 MHz	2592.99 MHz	2633.985 MHz	2674.98 MHz		
30	DFT-s	30	π/2 BPSK	1	39	16.1	16.1	16.7	17.5	17.4	17.0	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						501198	501999	509898	518598	527298	535998		
						2505.99 MHz	2509.995 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz		
20	DFT-s	30	π/2 BPSK	1	25	16.0	16.2	16.5	17.5	17.8	17.0	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						500700	501498	509649	518598	527547	536496		
						2503.5 MHz	2507.49 MHz	2548.245 MHz	2592.99 MHz	2637.735 MHz	2682.48 MHz		
15	DFT-s	30	π/2 BPSK	1	19	16.2	16.3	16.5	17.9	17.9	17.0	0	18
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)						MPR	Tune-up Limit
						500199	501000	509397	518598	527796	536997		
						2500.995 MHz	2505 MHz	2546.985 MHz	2592.99 MHz	2638.98 MHz	2684.985 MHz		
10	DFT-s	30	π/2 BPSK	1	12	16.3	16.3	16.5	17.9	17.6	17.4	0	18

NR Band n66 Measured Results (ANT B)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						344000	349000	354000		
						1720 MHz	1745 MHz	1770 MHz		
20	DFT-s	15	π/2 BPSK	1	1	20.3	20.6	20.6	0	22
				1	53	20.6	21.0	20.8	0	22
				1	104	20.6	20.7	20.7	0	22
				50	28	20.7	20.7	20.3	0	22
			QPSK	1	1	20.3	20.5	20.6	0	22
				1	53	20.7	20.8	20.6	0	22
				1	104	20.5	20.7	20.8	0	22
				50	28	20.6	20.5	20.7	0	22
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						343500	349000	354500		
						1717.5 MHz	1745 MHz	1772.5 MHz		
15	DFT-s	15	π/2 BPSK	1	39	20.3	20.7	20.4	0	22
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						343000	349000	355000		
						1715 MHz	1745 MHz	1775 MHz		
10	DFT-s	15	π/2 BPSK	1	26	20.6	20.6	20.7	0	22
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3, 4 Average Power (dBm)			MPR	Tune-up Limit
						342500	349000	355500		
						1712.5 MHz	1745 MHz	1777.5 MHz		
5	DFT-s	15	π/2 BPSK	1	12	20.5	21.0	20.9	0	22

NR Band n77 (Block A) Measured Results (ANT F)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						633333	633333	633333	MPR	Tune-up Limit	633333	633333	633333	MPR	Tune-up Limit
						3499.995 MHz	3499.995 MHz	3499.995 MHz			3499.995 MHz	3499.995 MHz	3499.995 MHz		
100	DFT-s	30	π/2 BPSK	1	1		17.4		0	18		15.6		0	16
				1	136		17.3		0	18		15.2		0	16
				1	271		16.9		0	18		15.6		0	16
				135	69		17.2		0	18		15.2		0	16
			QPSK	1	1		17.6		0	18		15.6		0	16
				1	136		17.3		0	18		15.2		0	16
				1	271		17.0		0	18		15.5		0	16
				135	69		17.2		0	18		15.1		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						633000	633333	633666	MPR	Tune-up Limit	633000	633333	633666	MPR	Tune-up Limit
						3495 MHz	3499.995 MHz	3504.99 MHz			3495 MHz	3499.995 MHz	3504.99 MHz		
90	DFT-s	30	π/2 BPSK	1	122		17.1		0	18		14.9		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						632666	633333	634000	MPR	Tune-up Limit	632666	633333	634000	MPR	Tune-up Limit
						3489.99 MHz	3499.995 MHz	3510 MHz			3489.99 MHz	3499.995 MHz	3510 MHz		
80	DFT-s	30	π/2 BPSK	1	108		17.1		0	18		15.0		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						632333	633333	634333	MPR	Tune-up Limit	632333	633333	634333	MPR	Tune-up Limit
						3484.995 MHz	3499.995 MHz	3514.995 MHz			3484.995 MHz	3499.995 MHz	3514.995 MHz		
70	DFT-s	30	π/2 BPSK	1	94		17.0		0	18		14.8		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						632000	633333	634666	MPR	Tune-up Limit	632000	633333	634666	MPR	Tune-up Limit
						3480 MHz	3499.995 MHz	3519.99 MHz			3480 MHz	3499.995 MHz	3519.99 MHz		
60	DFT-s	30	π/2 BPSK	1	81		17.0		0	18		14.8		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						631666	633333	635000	MPR	Tune-up Limit	631666	633333	635000	MPR	Tune-up Limit
						3474.99 MHz	3499.995 MHz	3525 MHz			3474.99 MHz	3499.995 MHz	3525 MHz		
50	DFT-s	30	π/2 BPSK	1	66		17.0		0	18		14.9		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						631333	633333	635333	MPR	Tune-up Limit	631333	633333	635333	MPR	Tune-up Limit
						3469.995 MHz	3499.995 MHz	3529.995 MHz			3469.995 MHz	3499.995 MHz	3529.995 MHz		
40	DFT-s	30	π/2 BPSK	1	53		16.3		0	18		15.0		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						631000	633333	635666	MPR	Tune-up Limit	631000	633333	635666	MPR	Tune-up Limit
						3465 MHz	3499.995 MHz	3534.99 MHz			3465 MHz	3499.995 MHz	3534.99 MHz		
30	DFT-s	30	π/2 BPSK	1	39		16.6		0	18		15.1		0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						630833	633333	635833	MPR	Tune-up Limit	630833	633333	635833	MPR	Tune-up Limit
						3462.495 MHz	3499.995 MHz	3537.495 MHz			3462.495 MHz	3499.995 MHz	3537.495 MHz		
25	DFT-s	30	π/2 BPSK	1	32	16.5	16.7	16.4	0	18	14.5	15.1	14.7	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						630666	633333	636000	MPR	Tune-up Limit	630666	633333	636000	MPR	Tune-up Limit
						3459.99 MHz	3499.995 MHz	3540 MHz			3459.99 MHz	3499.995 MHz	3540 MHz		
20	DFT-s	30	π/2 BPSK	1	25	16.4	17.3	16.3	0	18	14.4	15.2	14.2	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						630500	633333	636166	MPR	Tune-up Limit	630500	633333	636166	MPR	Tune-up Limit
						3457.5 MHz	3499.995 MHz	3542.49 MHz			3457.5 MHz	3499.995 MHz	3542.49 MHz		
15	DFT-s	30	π/2 BPSK	1	19	16.6	17.3	16.2	0	18	14.5	15.1	14.2	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)					RSI: 4 Average Power (dBm)				
						630333	633333	636333	MPR	Tune-up Limit	630333	633333	636333	MPR	Tune-up Limit
						3454.995 MHz	3499.995 MHz	3544.995 MHz			3454.995 MHz	3499.995 MHz	3544.995 MHz		
10	DFT-s	30	π/2 BPSK	1	12	16.5	17.4	16.1	0	18	14.4	15.2	14.3	0	16

NR Band n77 (Block C) Measured Results (ANT F)

BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						650000	652400	654800	657200	659600	662000	MPR	Tune-up Limit	650000	652400	654800	657200	659600	662000	MPR	Tune-up Limit
						3750 MHz	3786 MHz	3822 MHz	3858 MHz	3894 MHz	3930 MHz			3750 MHz	3786 MHz	3822 MHz	3858 MHz	3894 MHz	3930 MHz		
100	DFT-s	30	π/2 BPSK	1	1				17.5			0	18				16.0			0	16
				1	136				16.7			0	18				15.6			0	16
				1	271				16.2			0	18				14.6			0	16
				135	69				16.7			0	18				15.6			0	16
			QPSK	1	1				17.4			0	18				16.0			0	16
				1	136				16.6			0	18				15.4			0	16
				1	271				16.1			0	18				14.2			0	16
				135	69				16.5			0	18				15.5			0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						649666	652200	654733	657266	659800	662333	MPR	Tune-up Limit	649666	652200	654733	657266	659800	662333	MPR	Tune-up Limit
						3744.99 MHz	3783 MHz	3820.995 MHz	3858.99 MHz	3897 MHz	3934.995 MHz			3744.99 MHz	3783 MHz	3820.995 MHz	3858.99 MHz	3897 MHz	3934.995 MHz		
90	DFT-s	30	π/2 BPSK	1	122				16.7			0	18				15.6			0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						649333	652000	654666	657333	660000	662666	MPR	Tune-up Limit	649333	652000	654666	657333	660000	662666	MPR	Tune-up Limit
						3739.995 MHz	3780 MHz	3819.99 MHz	3859.995 MHz	3900 MHz	3939.99 MHz			3739.995 MHz	3780 MHz	3819.99 MHz	3859.995 MHz	3900 MHz	3939.99 MHz		
80	DFT-s	30	π/2 BPSK	1	108				16.8			0	18				15.5			0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						649000	651800	654600	657400	660200	663000	MPR	Tune-up Limit	649000	651800	654600	657400	660200	663000	MPR	Tune-up Limit
						3735 MHz	3777 MHz	3819 MHz	3861 MHz	3903 MHz	3945 MHz			3735 MHz	3777 MHz	3819 MHz	3861 MHz	3903 MHz	3945 MHz		
70	DFT-s	30	π/2 BPSK	1	94				16.3			0	18				15.2			0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						648666	651600	654533	657466	660400	663333	MPR	Tune-up Limit	648666	651600	654533	657466	660400	663333	MPR	Tune-up Limit
						3729.99 MHz	3774 MHz	3817.995 MHz	3861.99 MHz	3906 MHz	3949.995 MHz			3729.99 MHz	3774 MHz	3817.995 MHz	3861.99 MHz	3906 MHz	3949.995 MHz		
60	DFT-s	30	π/2 BPSK	1	81				16.6			0	18				15.4			0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						648333	651400	654466	657533	660600	663666	MPR	Tune-up Limit	648333	651400	654466	657533	660600	663666	MPR	Tune-up Limit
						3724.995 MHz	3771 MHz	3816.99 MHz	3862.995 MHz	3909 MHz	3954.99 MHz			3724.995 MHz	3771 MHz	3816.99 MHz	3862.995 MHz	3909 MHz	3954.99 MHz		
50	DFT-s	30	π/2 BPSK	1	66				16.7				18				15.5			0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						648000	651200	654400	657600	660800	664000	MPR	Tune-up Limit	648000	651200	654400	657600	660800	664000	MPR	Tune-up Limit
						3720 MHz	3768 MHz	3816 MHz	3864 MHz	3912 MHz	3960 MHz			3720 MHz	3768 MHz	3816 MHz	3864 MHz	3912 MHz	3960 MHz		
40	DFT-s	30	π/2 BPSK	1	53	17.2	16.6	16.6	16.9	17.0	16.0	0	18	15.3	15.4	15.6	15.8	15.8	14.8	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						647666	651000	654333	657666	661000	664333	MPR	Tune-up Limit	647666	651000	654333	657666	661000	664333	MPR	Tune-up Limit
						3714.99 MHz	3765 MHz	3814.995 MHz	3864.99 MHz	3915 MHz	3964.995 MHz			3714.99 MHz	3765 MHz	3814.995 MHz	3864.99 MHz	3915 MHz	3964.995 MHz		
30	DFT-s	30	π/2 BPSK	1	39	17.0	16.6	16.7	17.0	17.1	16.2	0	18	15.2	15.2	15.6	15.8	15.9	15.2	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						647500	650900	654300	657700	661100	664500	MPR	Tune-up Limit	647500	650900	654300	657700	661100	664500	MPR	Tune-up Limit
						3712.5 MHz	3763.5 MHz	3814.5 MHz	3865.5 MHz	3916.5 MHz	3967.5 MHz			3712.5 MHz	3763.5 MHz	3814.5 MHz	3865.5 MHz	3916.5 MHz	3967.5 MHz		
25	DFT-s	30	π/2 BPSK	1	32	17.0	16.6	16.8	17.1	16.7	16.1	0	18	15.2	15.3	15.6	15.8	15.6	15.2	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						647333	650800	654266	657733	661200	664666	MPR	Tune-up Limit	647333	650800	654266	657733	661200	664666	MPR	Tune-up Limit
						3709.995 MHz	3762 MHz	3813.99 MHz	3865.995 MHz	3918 MHz	3969.99 MHz			3709.995 MHz	3762 MHz	3813.99 MHz	3865.995 MHz	3918 MHz	3969.99 MHz		
20	DFT-s	30	π/2 BPSK	1	25	17.3	16.6	16.8	16.9	17.3	16.1	0	18	15.2	15.3	15.6	15.8	15.4	15.1	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						647166	650700	654233	657766	661300	664833	MPR	Tune-up Limit	647166	650700	654233	657766	661300	664833	MPR	Tune-up Limit
						3707.49 MHz	3760.5 MHz	3813.495 MHz	3866.49 MHz	3919.5 MHz	3972.495 MHz			3707.49 MHz	3760.5 MHz	3813.495 MHz	3866.49 MHz	3919.5 MHz	3972.495 MHz		
15	DFT-s	30	π/2 BPSK	1	19	17.3	16.5	16.8	17.0	17.3	16.2	0	18	15.3	15.2	15.6	15.8	15.9	15.3	0	16
BW (MHz)	OFDM Modulation Scheme	SCS (kHz)	Mode	RB Allocation	RB offset	RSI: 0, 1, 2, 3 Average Power (dBm)							RSI: 4 Average Power (dBm)						
						647000	650600	654200	657800	661400	665000	MPR	Tune-up Limit	647000	650600	654200	657800	661400	665000	MPR	Tune-up Limit
						3705 MHz	3759 MHz	3813 MHz	3867 MHz	3921 MHz	3975 MHz			3705 MHz	3759 MHz	3813 MHz	3867 MHz	3921 MHz	3975 MHz		
10	DFT-s	30	π/2 BPSK	1	12	17.1	17.8	16.7	17.1	17.4	16.5	0	18	15.2	15.6	15.5	15.9	16.0	15.6	0	16

9.6. Wi-Fi 2.4GHz (DTS Band)

Maximum Output Power (Tune-up Limit) for Wi-Fi 2.4 GHz

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

SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11b/g/n mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

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

Mode	Channel	Frequency (MHz)	Tune-up PowerLimit (dBm)	
			ANT H	
			Maximum	Reduced (RCV/Grip)
802.11b DSSS (SISO)	1	2412	19.0	12.0
	6	2437	19.0	12.0
	11	2462	19.0	12.0
	12	2467	9.0	9.0
	13	2472	9.0	9.0
802.11g OFDM (SISO)	1	2412	17.0	12.0
	6	2437	17.0	12.0
	11	2462	17.0	12.0
	12	2467	9.0	9.0
	13	2472	9.0	9.0
802.11n HT20 OFDM (SISO)	1	2412	17.0	12.0
	6	2437	17.0	12.0
	11	2462	17.0	12.0
	12	2467	9.0	9.0
	13	2472	9.0	9.0

Wi-Fi 2.4GHz Measured Results

Band	Mode	Ch #	Freq. (MHz)	ANT H Max Power (dBm)			ANT H Reduced Power-RCV (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
DSSS 2.4 GHz	802.11b	1	2412	17.5	19.0	Yes	10.8	12.0	Yes
		6	2437	17.8	19.0		11.2	12.0	
		11	2462	17.5	19.0		11.0	12.0	

Note(s):

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

Duty Factor Measured Results

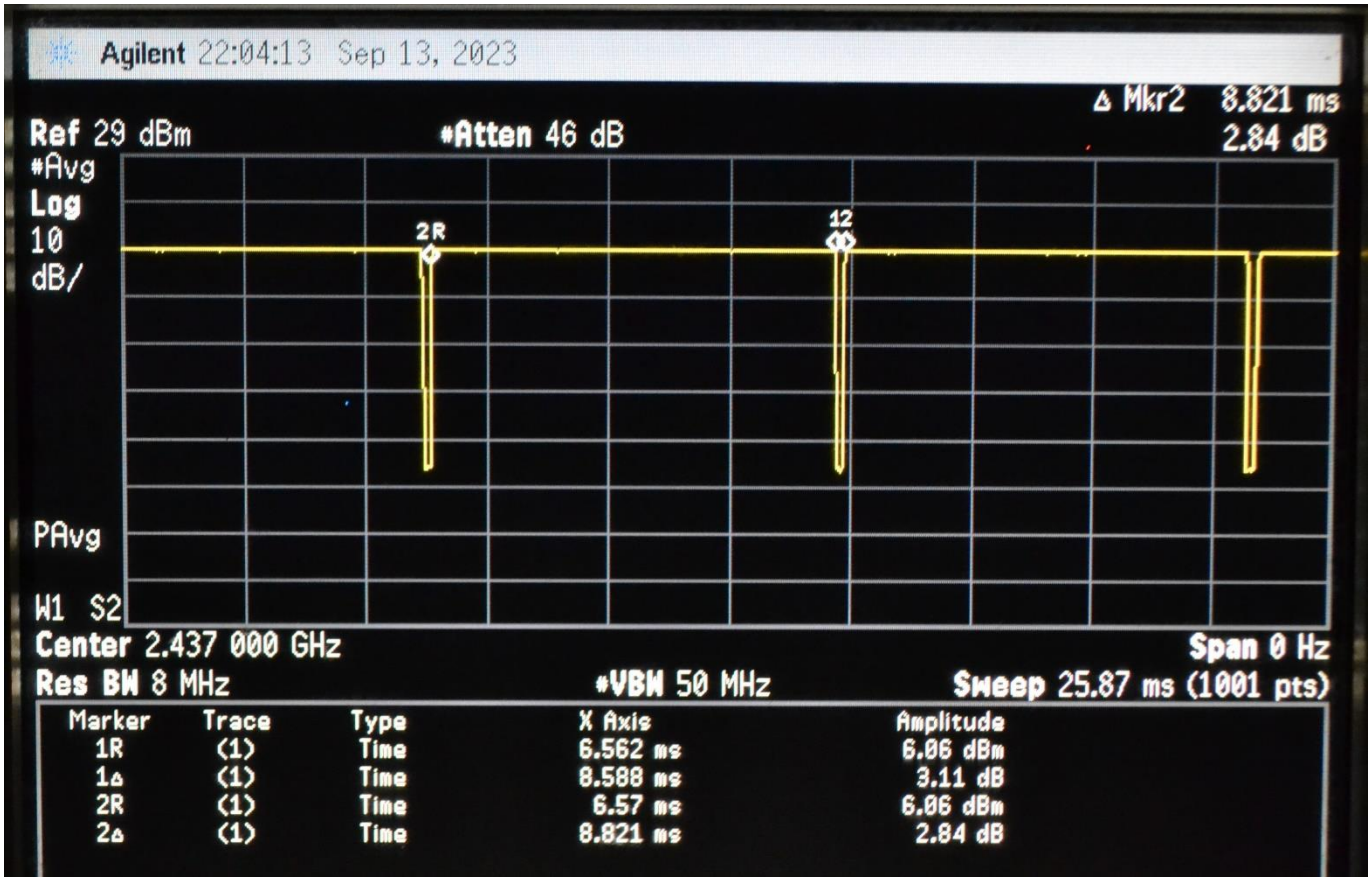
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
802.11b	1 Mbps	8.588	8.821	97.36%	1.03

Note(s):

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

Duty Cycle plot

802.11b



9.7. Wi-Fi 5GHz (U-NII 1-3 Bands)

Maximum Output Power (Tune-up Limit) for Wi-Fi 5 GHz

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

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

SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

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.

Hotspot/Wi-Fi Direct is supported only on U-NII-1 and U-NII-3. Therefore, Hotspot/Wi-Fi Direct SAR testing was performed on these U-NII bands only.

Mode	Bandwidth	Channel	Frequency (MHz)	Tune-up PowerLimit (dBm)	
				ANT H	
				Maximum	Reduced (RCV/Grip)
U-NII-1 5.2 GHz	802.11a/n/ac 20 MHz	36	5180	16.0	11.0
		40	5200	16.0	11.0
		44	5220	16.0	11.0
		48	5240	16.0	11.0
	802.11n/ac 40 MHz	38	5190	15.0	11.0
		46	5230	15.0	11.0
	802.11ac 80 MHz	42	5210	11.5	11.0
U-NII-2A 5.3 GHz	802.11a/n/ac 20 MHz	52	5260	16.0	11.0
		56	5280	16.0	11.0
		60	5300	16.0	11.0
		64	5320	16.0	11.0
	802.11n/ac 40 MHz	54	5270	15.0	11.0
		62	5310	13.0	11.0
	802.11ac 80 MHz	58	5290	9.5	9.5
U-NII-2C 5.5 GHz	802.11a/n/ac 20 MHz	100	5500	16.0	11.0
		116	5580	16.0	11.0
		124	5620	16.0	11.0
		144	5720	16.0	11.0
	802.11n/ac 40 MHz	102	5510	14.0	11.0
		118	5590	15.0	11.0
		126	5630	15.0	11.0
		142	5710	15.0	11.0
	802.11ac 80 MHz	106	5530	11.0	11.0
		122	5610	13.0	11.0
		138	5690	13.0	11.0
U-NII-3 5.8 GHz	802.11a/n/ac 20 MHz	149	5745	16.0	11.0
		157	5785	16.0	11.0
		165	5825	16.0	11.0
	802.11n/ac 40 MHz	151	5755	15.0	11.0
		159	5795	15.0	11.0
	802.11ac 80 MHz	155	5775	13.0	11.0

Wi-Fi 5 GHz Measured Results

Band	Mode	Ch #	Freq. (MHz)	ANT H Max Power (dBm)			ANT H Reduced Power-RCV/Grip (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-1 5.2 GHz	802.11a	36	5180	14.8	16.0	Yes			
		40	5200	14.8	16.0				
		44	5220	15.0	16.0				
		48	5240	14.9	16.0				
Band	Mode	Ch #	Freq. (MHz)	ANT H Max Power (dBm)			ANT H Reduced Power-RCV/Grip (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-2A 5.3 GHz	802.11a	52	5260	14.6	16.0	Yes			
		56	5280	15.0	16.0				
		60	5300	15.0	16.0				
		64	5320	15.0	16.0				
	802.11n (HT40)	54	5270				9.8	11.0	Yes
		62	5310				9.9	11.0	
Band	Mode	Ch #	Freq. (MHz)	ANT H Max Power (dBm)			ANT H Reduced Power-RCV/Grip (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-2C 5.5 GHz	802.11a	100	5500	15.0	16.0	Yes			
		116	5580	14.3	16.0				
		124	5620	14.5	16.0				
		144	5720	14.7	16.0				
	802.11ac (VHT80)	106	5530				9.7	11.0	Yes
		122	5610				10.0	11.0	
		138	5690				10.0	11.0	
Band	Mode	Ch #	Freq. (MHz)	ANT H Max Power (dBm)			ANT H Reduced Power-RCV/Grip (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)	Meas Pwr	Tune-up	SAR Test (Yes/No)
UNII-3 5.8 GHz	802.11a	149	5745	14.5	16.0	Yes			
		157	5785	14.6	16.0				
		165	5825	14.5	16.0				
	802.11ac (VHT80)	155	5775				10.1	11.0	Yes

Duty Factor Measured Results

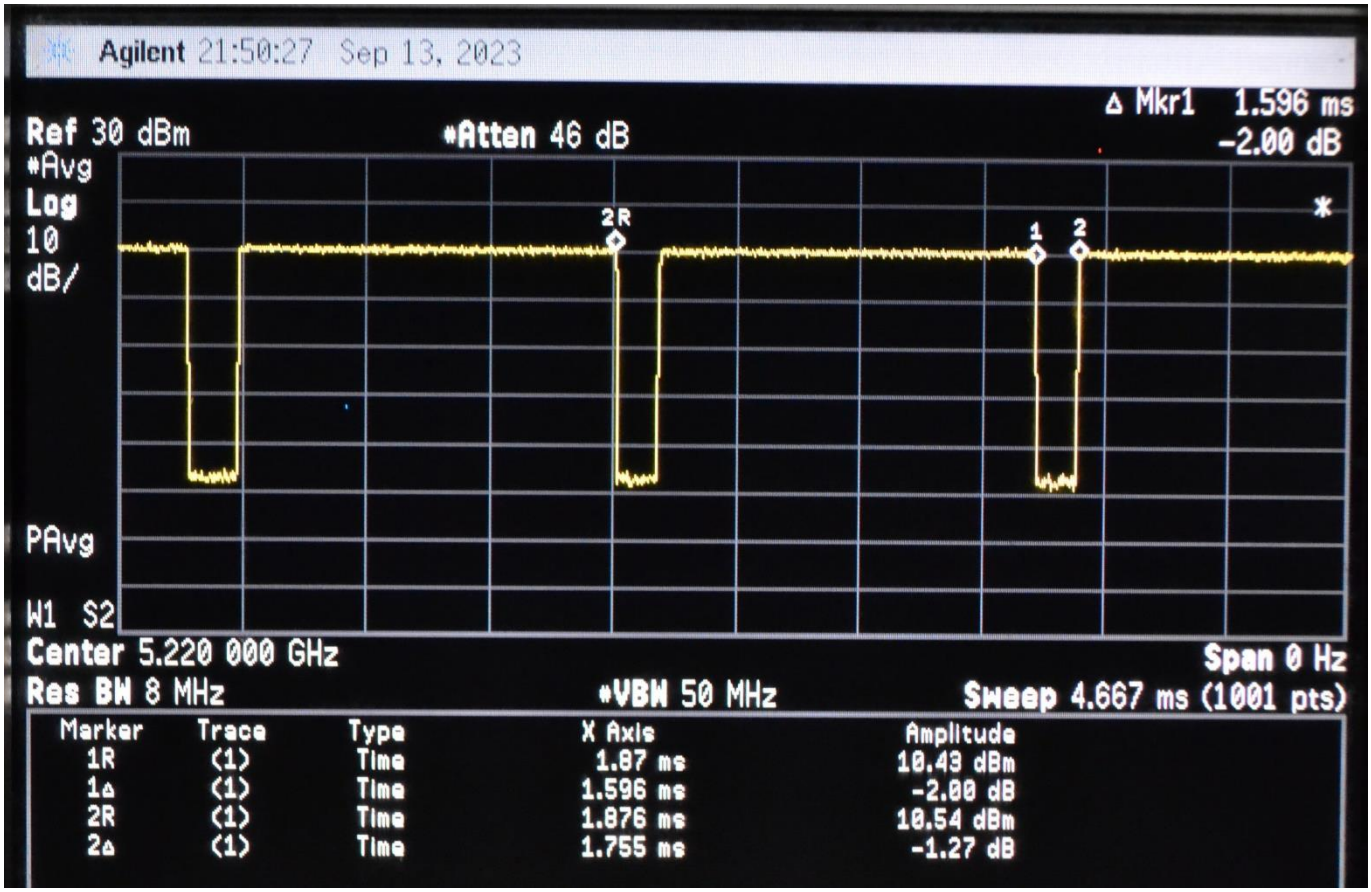
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
802.11a	6 Mbps	1.596	1.755	90.94%	1.10
802.11n HT40	MCS0	1.336	1.499	89.13%	1.12
802.11ac VHT80	MCS0	2.2	2.39	92.05%	1.09

Note(s):

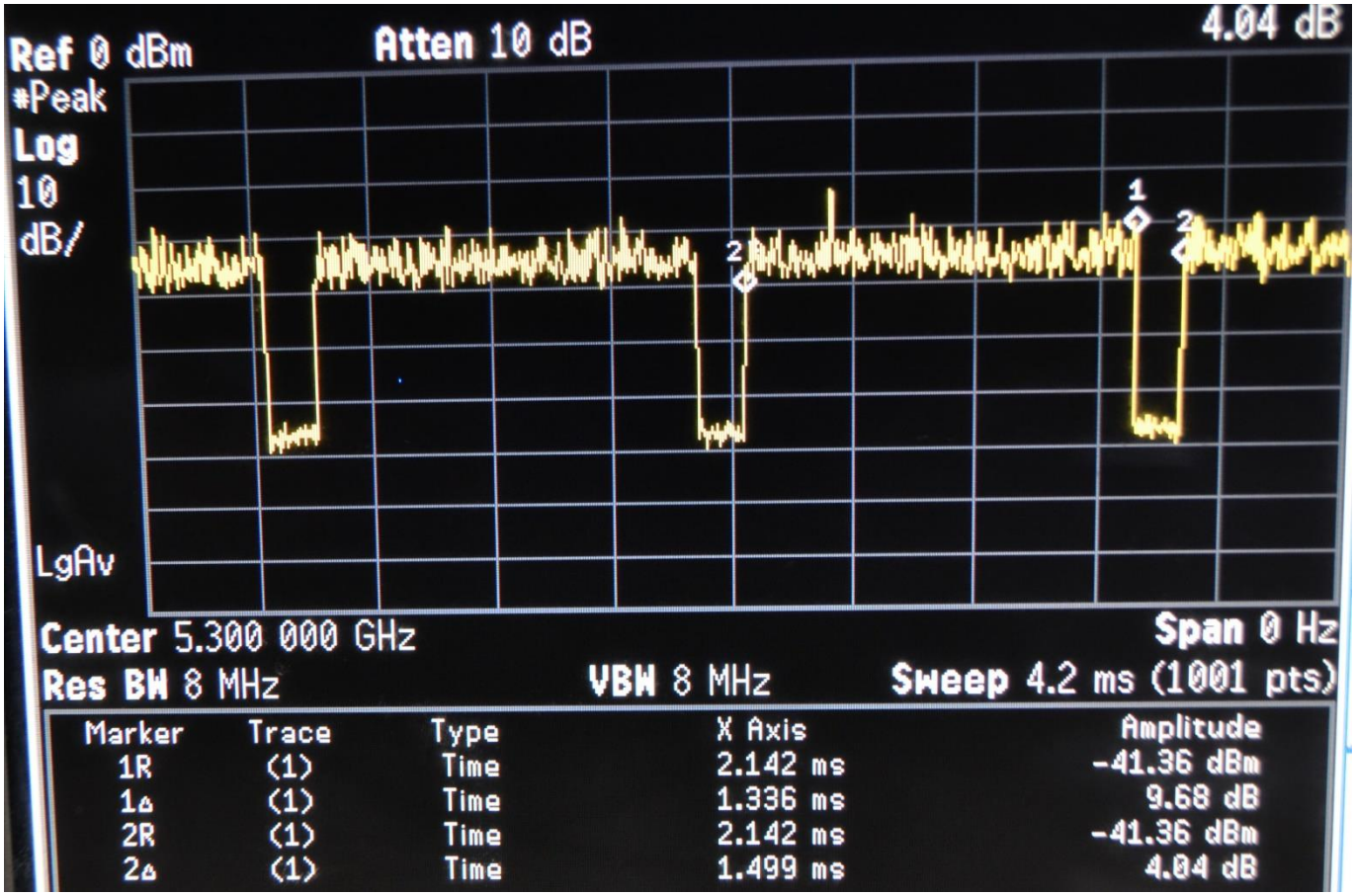
Duty Cycle = (T on / period) * 100%

Duty Cycle plots

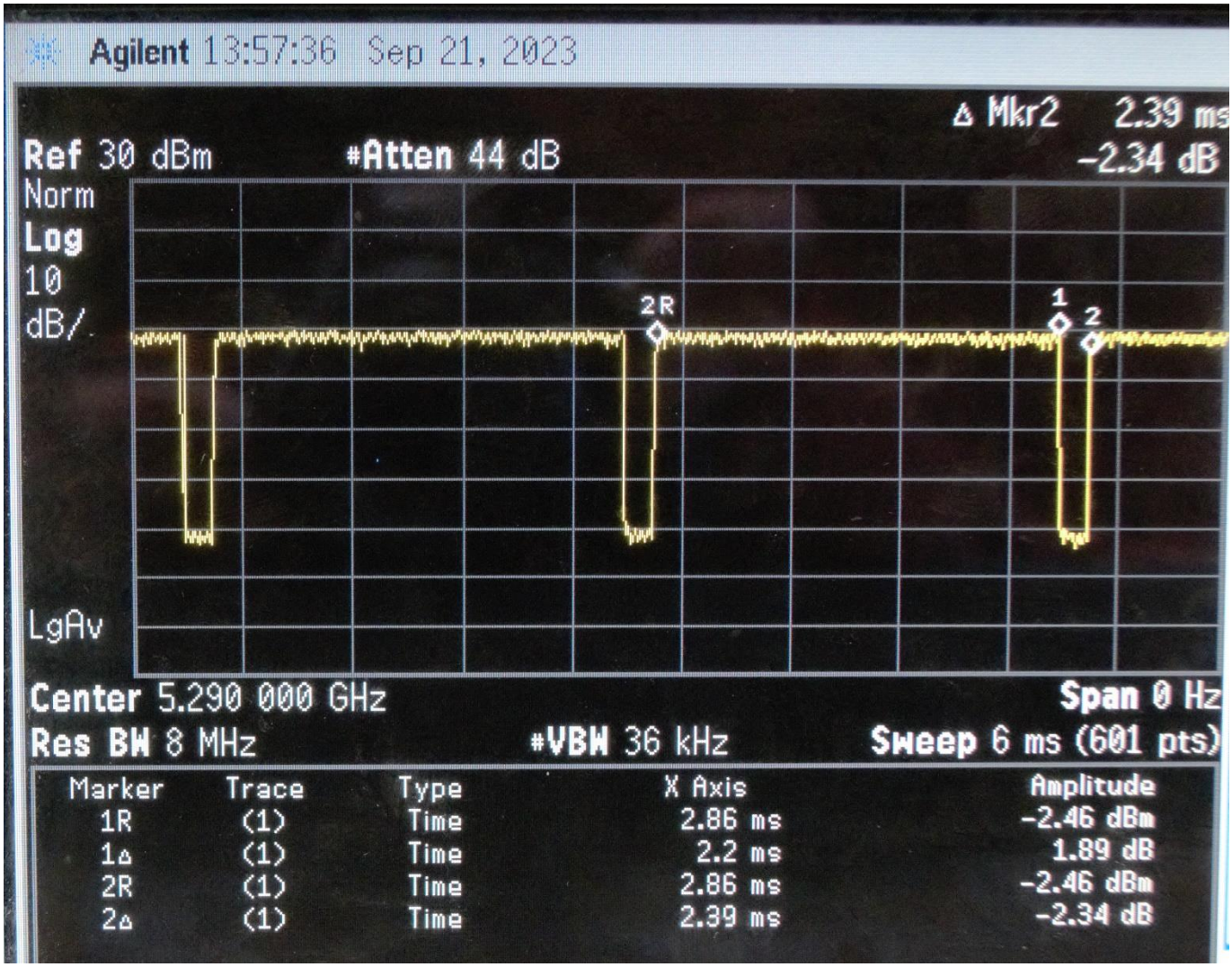
802.11a



802.11n



802.11ac



9.8. Bluetooth

Maximum Output Power (Tune-up Limit) for Bluetooth

From October 2016 TCB workshop, Power and SAR were measured with the device connected to a call box with hopping disabled using DH5 modulation. The duty cycle value from the device is taken from the Duty Cycle plot below.

SAR measurement is not required for the EDR and LE. When the secondary mode is ≤ ¼ dB higher than the primary mode.

Band	Mode	Channel	Frequency (MHz)	Tune-up PowerLimit (dBm)
				ANT H
				Maximum
Bluetooth 2.4 GHz	BR	0	2402	11.0
		39	2441	11.0
		78	2480	11.0
	EDR	0	2402	8.0
		39	2441	8.0
		78	2480	8.0
	LE	0	2402	6.0
		19	2440	6.0
		39	2480	6.0

Bluetooth Measured Results

Band	Mode	Ch #	Freq. (MHz)	ANT H Max Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
Bluetooth 2.4 GHz	BR GFSK	0	2402	10.0	11.0	Yes
		39	2441	10.2	11.0	
		78	2480	9.0	11.0	

Duty Factor Measured Results

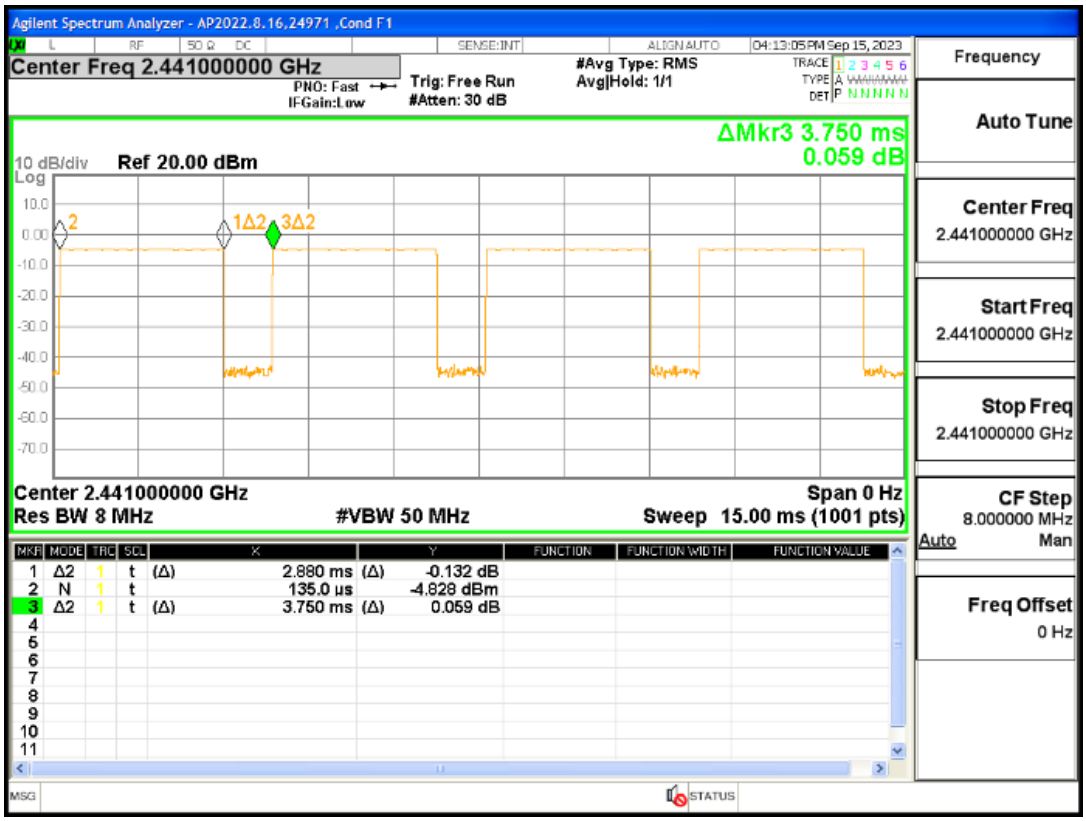
Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.88	3.75	76.80%	1.30

Note(s):

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

Duty Cycle plot

GFSK



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for WWAN and Bluetooth = 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.

KDB 941225 D01 SAR test for 3G devices:

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

KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

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

KDB 248227 D01 SAR meas for 802.11:

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

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

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

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

10.1. GSM850

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	GPRS 2 Slots	RSI 4	0	Left Cheek	190	836.6	32.5	30.5	0.227	0.360	
ANT A	Head	GPRS 2 Slots	RSI 4	0	Left Tilt	190	836.6	32.5	30.5	0.138	0.219	
ANT A	Head	GPRS 2 Slots	RSI 4	0	Right Cheek	190	836.6	32.5	30.5	0.279	**0.442**	1
ANT A	Head	GPRS 2 Slots	RSI 4	0	Right Tilt	190	836.6	32.5	30.5	0.166	0.263	
ANT A	Body-worn	GPRS 2 Slots	RSI 0	15	Back	190	836.6	32.5	30.5	0.275	**0.436**	2
ANT A	Body-worn	GPRS 2 Slots	RSI 0	15	Front	190	836.6	32.5	30.5	0.187	0.296	
ANT A	Hotspot	GPRS 3 Slots	RSI 3	10	Back	190	836.6	25.3	23.9	0.222	**0.306**	3
ANT A	Hotspot	GPRS 3 Slots	RSI 3	10	Front	190	836.6	25.3	23.9	0.069	0.095	
ANT A	Hotspot	GPRS 3 Slots	RSI 3	10	Edge Right	190	836.6	25.3	23.9	0.112	0.155	
ANT A	Hotspot	GPRS 3 Slots	RSI 3	10	Edge Bottom	190	836.6	25.3	23.9	0.134	0.185	
ANT A	Hotspot	GPRS 3 Slots	RSI 3	10	Edge Left	190	836.6	25.3	23.9	0.040	0.055	
Antenna	**RF Exposure Condition**	**Mode**	**Power Mode**	**Dist (mm)**	**Test Position**	**Channel**	**Freq. (MHz)**	**Max Output Pwr (dBm)**	**Meas. (dBm)**	**10-g Meas. (W/kg)**	**10-g Scaled (W/kg)**	**Plot No.**
ANT A	Extremity	GPRS 3 Slots	RSI 2	0	Back	190	836.6	25.3	23.9	0.149	**0.206**	4
ANT A	Extremity	GPRS 3 Slots	RSI 0	16	Back	190	836.6	30.0	28.8	0.253	**0.332**	5

10.2. GSM1900

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	GPRS 1 Slot	RSI 4	0	Left Cheek	661	1880	30.5	28.5	0.083	**0.132**	6
ANT B	Head	GPRS 1 Slot	RSI 4	0	Left Tilt	661	1880	30.5	28.5	0.046	0.073	
ANT B	Head	GPRS 1 Slot	RSI 4	0	Right Cheek	661	1880	30.5	28.5	0.072	0.114	
ANT B	Head	GPRS 1 Slot	RSI 4	0	Right Tilt	661	1880	30.5	28.5	0.034	0.054	
ANT B	Body-worn	GPRS 1 Slot	RSI 0	15	Back	661	1880	30.5	28.5	0.115	**0.182**	7
ANT B	Body-worn	GPRS 1 Slot	RSI 0	15	Front	661	1880	30.5	28.5	0.107	0.170	
ANT B	Hotspot	GPRS 3 Slots	RSI 3	10	Back	661	1880	23.3	21.7	0.118	0.171	
ANT B	Hotspot	GPRS 3 Slots	RSI 3	10	Front	661	1880	23.3	21.7	0.097	0.140	
ANT B	Hotspot	GPRS 3 Slots	RSI 3	10	Edge Bottom	661	1880	23.3	21.7	0.168	**0.243**	8
ANT B	Hotspot	GPRS 3 Slots	RSI 3	10	Edge Left	661	1880	23.3	21.7	0.056	0.081	

10.3. W-CDMA Band II

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	Rel. 99	RSI 4	0	Left Cheek	9400	1880	24.5	23.1	0.201	**0.277**	9
ANT B	Head	Rel. 99	RSI 4	0	Left Tilt	9400	1880	24.5	23.1	0.137	0.189	
ANT B	Head	Rel. 99	RSI 4	0	Right Cheek	9400	1880	24.5	23.1	0.185	0.255	
ANT B	Head	Rel. 99	RSI 4	0	Right Tilt	9400	1880	24.5	23.1	0.092	0.127	
ANT B	Body-worn	Rel. 99	RSI 0	15	Back	9400	1880	24.5	23.1	0.353	**0.487**	10
ANT B	Body-worn	Rel. 99	RSI 0	15	Front	9400	1880	24.5	23.1	0.306	0.422	
ANT B	Hotspot	Rel. 99	RSI 3	10	Back	9400	1880	22.0	21.1	0.446	0.549	
ANT B	Hotspot	Rel. 99	RSI 3	10	Front	9400	1880	22.0	21.1	0.330	0.406	
ANT B	Hotspot	Rel. 99	RSI 3	10	Edge Bottom	9400	1880	22.0	21.1	0.500	**0.615**	11
ANT B	Hotspot	Rel. 99	RSI 3	10	Edge Left	9400	1880	22.0	21.1	0.188	0.231	

10.4. W-CDMA Band IV

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	Rel. 99	RSI 4	0	Left Cheek	1413	1732.6	24.5	22.8	0.153	**0.226**	12
ANT B	Head	Rel. 99	RSI 4	0	Left Tilt	1413	1732.6	24.5	22.8	0.107	0.158	
ANT B	Head	Rel. 99	RSI 4	0	Right Cheek	1413	1732.6	24.5	22.8	0.146	0.216	
ANT B	Head	Rel. 99	RSI 4	0	Right Tilt	1413	1732.6	24.5	22.8	0.094	0.139	
ANT B	Body-worn	Rel. 99	RSI 0	15	Back	1413	1732.6	24.5	22.8	0.247	**0.365**	13
ANT B	Body-worn	Rel. 99	RSI 0	15	Front	1413	1732.6	24.5	22.8	0.244	0.361	
ANT B	Hotspot	Rel. 99	RSI 3	10	Back	1413	1732.6	22.0	20.8	0.263	0.347	
ANT B	Hotspot	Rel. 99	RSI 3	10	Front	1413	1732.6	22.0	20.8	0.241	0.318	
ANT B	Hotspot	Rel. 99	RSI 3	10	Edge Bottom	1413	1732.6	22.0	20.8	0.276	**0.364**	14
ANT B	Hotspot	Rel. 99	RSI 3	10	Edge Left	1413	1732.6	22.0	20.8	0.150	0.198	

10.5. W-CDMA Band V

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	Rel. 99	RSI 4	0	Left Cheek	4183	836.6	25.0	23.8	0.216	0.285	
ANT A	Head	Rel. 99	RSI 4	0	Left Tilt	4183	836.6	25.0	23.8	0.120	0.158	
ANT A	Head	Rel. 99	RSI 4	0	Right Cheek	4183	836.6	25.0	23.8	0.230	**0.303**	15
ANT A	Head	Rel. 99	RSI 4	0	Right Tilt	4183	836.6	25.0	23.8	0.157	0.207	
ANT A	Body-worn	Rel. 99	RSI 0	15	Back	4183	836.6	25.0	23.8	0.299	**0.394**	16
ANT A	Body-worn	Rel. 99	RSI 0	15	Front	4183	836.6	25.0	23.8	0.203	0.268	
ANT A	Hotspot	Rel. 99	RSI 3	10	Back	4132	826.4	25.0	23.7	0.622	0.839	
ANT A	Hotspot	Rel. 99	RSI 3	10	Back	4183	836.6	25.0	23.8	0.718	0.947	
ANT A	Hotspot	Rel. 99	RSI 3	10	Back	4233	846.6	25.0	23.6	0.699	**0.965**	17
ANT A	Hotspot	Rel. 99	RSI 3	10	Front	4183	836.6	25.0	23.8	0.189	0.249	
ANT A	Hotspot	Rel. 99	RSI 3	10	Edge Right	4183	836.6	25.0	23.8	0.263	0.347	
ANT A	Hotspot	Rel. 99	RSI 3	10	Edge Bottom	4183	836.6	25.0	23.8	0.374	0.493	
ANT A	Hotspot	Rel. 99	RSI 3	10	Edge Left	4183	836.6	25.0	23.8	0.100	0.132	

10.6. LTE Band 2 (20MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	QPSK	RSI 4	0	Left Cheek	18900	1880	1	99	23.0	21.6	0.138	0.190	
ANT B	Head	QPSK	RSI 4	0	Left Cheek	18900	1880	50	50	23.0	21.8	0.135	0.178	
ANT B	Head	QPSK	RSI 4	0	Left Tilt	18900	1880	1	99	23.0	21.6	0.085	0.117	
ANT B	Head	QPSK	RSI 4	0	Left Tilt	18900	1880	50	50	23.0	21.8	0.085	0.112	
ANT B	Head	QPSK	RSI 4	0	Right Cheek	18900	1880	1	99	23.0	21.6	0.104	0.144	
ANT B	Head	QPSK	RSI 4	0	Right Cheek	18900	1880	50	50	23.0	21.8	0.102	0.134	
ANT B	Head	QPSK	RSI 4	0	Right Tilt	18900	1880	1	99	23.0	21.6	0.049	0.068	
ANT B	Head	QPSK	RSI 4	0	Right Tilt	18900	1880	50	50	23.0	21.8	0.049	0.065	
ANT B	Body-worn	QPSK	RSI 0	15	Back	18900	1880	1	49	22.0	20.8	0.175	**0.231**	18
ANT B	Body-worn	QPSK	RSI 0	15	Back	18900	1880	50	0	22.0	21.0	0.179	0.225	
ANT B	Body-worn	QPSK	RSI 0	15	Front	18900	1880	1	49	22.0	20.8	0.146	0.192	
ANT B	Body-worn	QPSK	RSI 0	15	Front	18900	1880	50	0	22.0	21.0	0.148	0.186	
ANT B	Hotspot	QPSK	RSI 3	10	Back	18900	1880	1	49	22.0	20.8	0.391	0.515	
ANT B	Hotspot	QPSK	RSI 3	10	Back	18900	1880	50	0	22.0	21.0	0.394	0.496	
ANT B	Hotspot	QPSK	RSI 3	10	Front	18900	1880	1	49	22.0	20.8	0.326	0.430	
ANT B	Hotspot	QPSK	RSI 3	10	Front	18900	1880	50	0	22.0	21.0	0.329	0.414	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Bottom	18900	1880	1	49	22.0	20.8	0.487	**0.642**	19
ANT B	Hotspot	QPSK	RSI 3	10	Edge Bottom	18900	1880	50	0	22.0	21.0	0.502	0.632	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Left	18900	1880	1	49	22.0	20.8	0.184	0.243	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Left	18900	1880	50	0	22.0	21.0	0.188	0.237	
Antenna	**RF Exposure Condition**	**Mode**	**Power Mode**	**Dist (mm)**	**Test Position**	**Channel**	**Freq. (MHz)**	**RB Allocation**	**RB Offset**	**Max Output Pwr (dBm)**	**Meas. (dBm)**	**1-g Meas. (W/kg)**	**1-g Scaled (W/kg)**	**Plot No.**
ANT E	Head	QPSK	RSI 4	0	Left Cheek	18900	1880	1	99	22.5	20.9	0.077	0.111	
ANT E	Head	QPSK	RSI 4	0	Left Cheek	18900	1880	50	24	22.5	21.1	0.069	0.095	
ANT E	Head	QPSK	RSI 4	0	Left Tilt	18900	1880	1	99	22.5	20.9	0.060	0.087	
ANT E	Head	QPSK	RSI 4	0	Left Tilt	18900	1880	50	24	22.5	21.1	0.056	0.077	
ANT E	Head	QPSK	RSI 4	0	Right Cheek	18900	1880	1	99	22.5	20.9	0.154	0.222	
ANT E	Head	QPSK	RSI 4	0	Right Cheek	18900	1880	50	24	22.5	21.1	0.168	**0.232**	20
ANT E	Head	QPSK	RSI 4	0	Right Tilt	18900	1880	1	99	22.5	20.9	0.068	0.098	
ANT E	Head	QPSK	RSI 4	0	Right Tilt	18900	1880	50	24	22.5	21.1	0.061	0.084	
ANT E	Body-worn	QPSK	RSI 0	15	Back	18900	1880	1	99	22.0	20.4	0.059	0.086	
ANT E	Body-worn	QPSK	RSI 0	15	Back	18900	1880	50	24	22.0	20.5	0.058	0.082	
ANT E	Body-worn	QPSK	RSI 0	15	Front	18900	1880	1	99	22.0	20.4	0.020	0.029	
ANT E	Body-worn	QPSK	RSI 0	15	Front	18900	1880	50	24	22.0	20.5	0.019	0.027	
ANT E	Hotspot	QPSK	RSI 3	10	Back	18900	1880	1	99	22.0	20.4	0.210	0.306	
ANT E	Hotspot	QPSK	RSI 3	10	Back	18900	1880	50	24	22.0	20.5	0.199	0.283	
ANT E	Hotspot	QPSK	RSI 3	10	Front	18900	1880	1	99	22.0	20.4	0.028	0.041	
ANT E	Hotspot	QPSK	RSI 3	10	Front	18900	1880	50	24	22.0	20.5	0.026	0.037	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Top	18900	1880	1	99	22.0	20.4	0.021	0.031	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Top	18900	1880	50	24	22.0	20.5	0.020	0.028	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Left	18900	1880	1	99	22.0	20.4	0.097	0.141	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Left	18900	1880	50	24	22.0	20.5	0.093	0.132	

10.7. LTE Band 5 (10MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	QPSK	RSI 4	0	Left Cheek	20525	836.5	1	25	25.0	23.6	0.204	0.282	
ANT A	Head	QPSK	RSI 4	0	Left Cheek	20525	836.5	25	12	24.0	22.7	0.166	0.224	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	20525	836.5	1	25	25.0	23.6	0.119	0.164	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	20525	836.5	25	12	24.0	22.7	0.096	0.130	
ANT A	Head	QPSK	RSI 4	0	Right Cheek	20525	836.5	1	25	25.0	23.6	0.246	**0.340**	21
ANT A	Head	QPSK	RSI 4	0	Right Cheek	20525	836.5	25	12	24.0	22.7	0.196	0.264	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	20525	836.5	1	25	25.0	23.6	0.131	0.181	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	20525	836.5	25	12	24.0	22.7	0.109	0.147	
ANT A	Body-worn	QPSK	RSI 0	15	Back	20525	836.5	1	25	25.0	23.6	0.241	**0.333**	22
ANT A	Body-worn	QPSK	RSI 0	15	Back	20525	836.5	25	12	24.0	22.7	0.199	0.268	
ANT A	Body-worn	QPSK	RSI 0	15	Front	20525	836.5	1	25	25.0	23.6	0.166	0.229	
ANT A	Body-worn	QPSK	RSI 0	15	Front	20525	836.5	25	12	24.0	22.7	0.136	0.183	
ANT A	Hotspot	QPSK	RSI 3	10	Back	20525	836.5	1	25	25.0	23.6	0.521	**0.719**	23
ANT A	Hotspot	QPSK	RSI 3	10	Back	20525	836.5	25	12	24.0	22.7	0.442	0.596	
ANT A	Hotspot	QPSK	RSI 3	10	Front	20525	836.5	1	25	25.0	23.6	0.179	0.247	
ANT A	Hotspot	QPSK	RSI 3	10	Front	20525	836.5	25	12	24.0	22.7	0.152	0.205	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	20525	836.5	1	25	25.0	23.6	0.291	0.402	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	20525	836.5	25	12	24.0	22.7	0.232	0.313	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	20525	836.5	1	25	25.0	23.6	0.319	0.440	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	20525	836.5	25	12	24.0	22.7	0.269	0.363	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	20525	836.5	1	25	25.0	23.6	0.108	0.149	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	20525	836.5	25	12	24.0	22.7	0.097	0.131	

10.8. LTE Band 12 (10MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	QPSK	RSI 4	0	Left Cheek	23095	707.5	1	0	24.5	22.9	0.137	0.198	
ANT A	Head	QPSK	RSI 4	0	Left Cheek	23095	707.5	25	0	23.5	22.2	0.111	0.150	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	23095	707.5	1	0	24.5	22.9	0.060	0.087	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	23095	707.5	25	0	23.5	22.2	0.051	0.069	
ANT A	Head	QPSK	RSI 4	0	Right Cheek	23095	707.5	1	0	24.5	22.9	0.160	**0.231**	24
ANT A	Head	QPSK	RSI 4	0	Right Cheek	23095	707.5	25	0	23.5	22.2	0.130	0.175	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	23095	707.5	1	0	24.5	22.9	0.073	0.106	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	23095	707.5	25	0	23.5	22.2	0.062	0.084	
ANT A	Body-worn	QPSK	RSI 0	15	Back	23095	707.5	1	0	24.5	22.9	0.246	**0.356**	25
ANT A	Body-worn	QPSK	RSI 0	15	Back	23095	707.5	25	0	23.5	22.2	0.224	0.302	
ANT A	Body-worn	QPSK	RSI 0	15	Front	23095	707.5	1	0	24.5	22.9	0.178	0.257	
ANT A	Body-worn	QPSK	RSI 0	15	Front	23095	707.5	25	0	23.5	22.2	0.157	0.212	
ANT A	Hotspot	QPSK	RSI 3	10	Back	23095	707.5	1	0	24.5	22.9	0.328	**0.474**	26
ANT A	Hotspot	QPSK	RSI 3	10	Back	23095	707.5	25	0	23.5	22.2	0.268	0.362	
ANT A	Hotspot	QPSK	RSI 3	10	Front	23095	707.5	1	0	24.5	22.9	0.153	0.221	
ANT A	Hotspot	QPSK	RSI 3	10	Front	23095	707.5	25	0	23.5	22.2	0.125	0.169	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	23095	707.5	1	0	24.5	22.9	0.292	0.422	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	23095	707.5	25	0	23.5	22.2	0.243	0.328	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	23095	707.5	1	0	24.5	22.9	0.154	0.223	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	23095	707.5	25	0	23.5	22.2	0.127	0.171	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	23095	707.5	1	0	24.5	22.9	0.162	0.234	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	23095	707.5	25	0	23.5	22.2	0.133	0.179	

10.9. LTE Band 13 (10MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	QPSK	RSI 4	0	Left Cheek	23230	782	1	49	24.5	23.0	0.070	0.099	
ANT A	Head	QPSK	RSI 4	0	Left Cheek	23230	782	25	12	23.5	22.3	0.061	0.080	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	23230	782	1	49	24.5	23.0	0.044	0.062	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	23230	782	25	12	23.5	22.3	0.038	0.050	
ANT A	Head	QPSK	RSI 4	0	Right Cheek	23230	782	1	49	24.5	23.0	0.098	**0.138**	27
ANT A	Head	QPSK	RSI 4	0	Right Cheek	23230	782	25	12	23.5	22.3	0.083	0.109	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	23230	782	1	49	24.5	23.0	0.052	0.073	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	23230	782	25	12	23.5	22.3	0.044	0.058	
ANT A	Body-worn	QPSK	RSI 0	15	Back	23230	782	1	49	24.5	23.0	0.168	**0.237**	28
ANT A	Body-worn	QPSK	RSI 0	15	Back	23230	782	25	12	23.5	22.3	0.150	0.198	
ANT A	Body-worn	QPSK	RSI 0	15	Front	23230	782	1	49	24.5	23.0	0.098	0.138	
ANT A	Body-worn	QPSK	RSI 0	15	Front	23230	782	25	12	23.5	22.3	0.087	0.115	
ANT A	Hotspot	QPSK	RSI 3	10	Back	23230	782	1	49	24.5	23.0	0.322	**0.455**	29
ANT A	Hotspot	QPSK	RSI 3	10	Back	23230	782	25	12	23.5	22.3	0.268	0.353	
ANT A	Hotspot	QPSK	RSI 3	10	Front	23230	782	1	49	24.5	23.0	0.087	0.123	
ANT A	Hotspot	QPSK	RSI 3	10	Front	23230	782	25	12	23.5	22.3	0.076	0.100	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	23230	782	1	49	24.5	23.0	0.177	0.250	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	23230	782	25	12	23.5	22.3	0.149	0.196	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	23230	782	1	49	24.5	23.0	0.141	0.199	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	23230	782	25	12	23.5	22.3	0.119	0.157	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	23230	782	1	49	24.5	23.0	0.061	0.086	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	23230	782	25	12	23.5	22.3	0.049	0.065	

10.10. LTE Band 26 (15MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	QPSK	RSI 4	0	Left Cheek	26865	831.5	1	0	25.0	23.6	0.176	0.243	
ANT A	Head	QPSK	RSI 4	0	Left Cheek	26865	831.5	36	0	24.0	22.8	0.156	0.206	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	26865	831.5	1	0	25.0	23.6	0.093	0.128	
ANT A	Head	QPSK	RSI 4	0	Left Tilt	26865	831.5	36	0	24.0	22.8	0.083	0.109	
ANT A	Head	QPSK	RSI 4	0	Right Cheek	26865	831.5	1	0	25.0	23.6	0.227	**0.313**	30
ANT A	Head	QPSK	RSI 4	0	Right Cheek	26865	831.5	36	0	24.0	22.8	0.201	0.265	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	26865	831.5	1	0	25.0	23.6	0.119	0.164	
ANT A	Head	QPSK	RSI 4	0	Right Tilt	26865	831.5	36	0	24.0	22.8	0.107	0.141	
ANT A	Body-worn	QPSK	RSI 0	15	Back	26865	831.5	1	0	25.0	23.6	0.214	**0.295**	31
ANT A	Body-worn	QPSK	RSI 0	15	Back	26865	831.5	36	0	24.0	22.8	0.189	0.249	
ANT A	Body-worn	QPSK	RSI 0	15	Front	26865	831.5	1	0	25.0	23.6	0.163	0.225	
ANT A	Body-worn	QPSK	RSI 0	15	Front	26865	831.5	36	0	24.0	22.8	0.145	0.191	
ANT A	Hotspot	QPSK	RSI 3	10	Back	26865	831.5	1	0	25.0	23.6	0.474	**0.654**	32
ANT A	Hotspot	QPSK	RSI 3	10	Back	26865	831.5	36	0	24.0	22.8	0.422	0.556	
ANT A	Hotspot	QPSK	RSI 3	10	Front	26865	831.5	1	0	25.0	23.6	0.173	0.239	
ANT A	Hotspot	QPSK	RSI 3	10	Front	26865	831.5	36	0	24.0	22.8	0.149	0.196	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	26865	831.5	1	0	25.0	23.6	0.229	0.316	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Right	26865	831.5	36	0	24.0	22.8	0.199	0.262	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	26865	831.5	1	0	25.0	23.6	0.252	0.348	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Bottom	26865	831.5	36	0	24.0	22.8	0.230	0.303	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	26865	831.5	1	0	25.0	23.6	0.102	0.141	
ANT A	Hotspot	QPSK	RSI 3	10	Edge Left	26865	831.5	36	0	24.0	22.8	0.089	0.117	

10.11. LTE Band 41 (20MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	QPSK	RSI 4	0	Left Cheek	40620	2593	1	49	24.0	23.2	0.176	**0.212**	33
ANT B	Head	QPSK	RSI 4	0	Left Cheek	40620	2593	50	24	23.0	22.3	0.149	0.175	
ANT B	Head	QPSK	RSI 4	0	Left Tilt	40620	2593	1	49	24.0	23.2	0.052	0.063	
ANT B	Head	QPSK	RSI 4	0	Left Tilt	40620	2593	50	24	23.0	22.3	0.044	0.052	
ANT B	Head	QPSK	RSI 4	0	Right Cheek	40620	2593	1	49	24.0	23.2	0.124	0.149	
ANT B	Head	QPSK	RSI 4	0	Right Cheek	40620	2593	50	24	23.0	22.3	0.105	0.123	
ANT B	Head	QPSK	RSI 4	0	Right Tilt	40620	2593	1	49	24.0	23.2	0.092	0.111	
ANT B	Head	QPSK	RSI 4	0	Right Tilt	40620	2593	50	24	23.0	22.3	0.078	0.092	
ANT B	Body-worn	QPSK	RSI 0	15	Back	40620	2593	1	49	24.0	23.2	0.197	**0.237**	34
ANT B	Body-worn	QPSK	RSI 0	15	Back	40620	2593	50	24	23.0	22.3	0.166	0.195	
ANT B	Body-worn	QPSK	RSI 0	15	Front	40620	2593	1	49	24.0	23.2	0.155	0.186	
ANT B	Body-worn	QPSK	RSI 0	15	Front	40620	2593	50	24	23.0	22.3	0.131	0.154	
ANT B	Hotspot	QPSK	RSI 3	10	Back	40620	2593	1	49	20.5	20.4	0.251	0.257	
ANT B	Hotspot	QPSK	RSI 3	10	Back	40620	2593	50	0	20.5	20.3	0.246	**0.258**	35
ANT B	Hotspot	QPSK	RSI 3	10	Front	40620	2593	1	49	20.5	20.4	0.183	0.187	
ANT B	Hotspot	QPSK	RSI 3	10	Front	40620	2593	50	0	20.5	20.3	0.176	0.184	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Bottom	40620	2593	1	49	20.5	20.4	0.212	0.217	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Bottom	40620	2593	50	0	20.5	20.3	0.210	0.220	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Left	40620	2593	1	49	20.5	20.4	0.101	0.103	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Left	40620	2593	50	0	20.5	20.3	0.101	0.106	

10.12. LTE Band 66 (20MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	QPSK	RSI 4	0	Left Cheek	132322	1745	1	49	24.0	23.1	0.141	0.173	
ANT B	Head	QPSK	RSI 4	0	Left Cheek	132322	1745	50	0	23.0	22.0	0.115	0.145	
ANT B	Head	QPSK	RSI 4	0	Left Tilt	132322	1745	1	49	24.0	23.1	0.088	0.108	
ANT B	Head	QPSK	RSI 4	0	Left Tilt	132322	1745	50	0	23.0	22.0	0.070	0.088	
ANT B	Head	QPSK	RSI 4	0	Right Cheek	132322	1745	1	49	24.0	23.1	0.118	0.145	
ANT B	Head	QPSK	RSI 4	0	Right Cheek	132322	1745	50	0	23.0	22.0	0.097	0.122	
ANT B	Head	QPSK	RSI 4	0	Right Tilt	132322	1745	1	49	24.0	23.1	0.064	0.079	
ANT B	Head	QPSK	RSI 4	0	Right Tilt	132322	1745	50	0	23.0	22.0	0.053	0.067	
ANT B	Body-worn	QPSK	RSI 0	15	Back	132322	1745	1	49	22.0	21.5	0.140	0.157	
ANT B	Body-worn	QPSK	RSI 0	15	Back	132322	1745	50	0	22.0	21.5	0.143	0.160	
ANT B	Body-worn	QPSK	RSI 0	15	Front	132322	1745	1	49	22.0	21.5	0.130	0.146	
ANT B	Body-worn	QPSK	RSI 0	15	Front	132322	1745	50	0	22.0	21.5	0.132	0.148	
ANT B	Hotspot	QPSK	RSI 3	10	Back	132322	1745	1	49	22.0	21.5	0.276	0.310	
ANT B	Hotspot	QPSK	RSI 3	10	Back	132322	1745	50	0	22.0	21.5	0.293	0.329	
ANT B	Hotspot	QPSK	RSI 3	10	Front	132322	1745	1	49	22.0	21.5	0.252	0.283	
ANT B	Hotspot	QPSK	RSI 3	10	Front	132322	1745	50	0	22.0	21.5	0.267	0.300	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Bottom	132322	1745	1	49	22.0	21.5	0.292	0.328	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Bottom	132322	1745	50	0	22.0	21.5	0.304	0.341	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Left	132322	1745	1	49	22.0	21.5	0.106	0.119	
ANT B	Hotspot	QPSK	RSI 3	10	Edge Left	132322	1745	50	0	22.0	21.5	0.113	0.127	
Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT E	Head	QPSK	RSI 4	0	Left Cheek	132322	1745	1	0	24.0	23.5	0.242	0.272	
ANT E	Head	QPSK	RSI 4	0	Left Cheek	132322	1745	50	0	23.0	22.5	0.194	0.218	
ANT E	Head	QPSK	RSI 4	0	Left Tilt	132322	1745	1	0	24.0	23.5	0.180	0.202	
ANT E	Head	QPSK	RSI 4	0	Left Tilt	132322	1745	50	0	23.0	22.5	0.144	0.162	
ANT E	Head	QPSK	RSI 4	0	Right Cheek	132322	1745	1	0	24.0	23.5	0.642	**0.720**	36
ANT E	Head	QPSK	RSI 4	0	Right Cheek	132322	1745	50	0	23.0	22.5	0.537	0.603	
ANT E	Head	QPSK	RSI 4	0	Right Tilt	132322	1745	1	0	24.0	23.5	0.217	0.243	
ANT E	Head	QPSK	RSI 4	0	Right Tilt	132322	1745	50	0	23.0	22.5	0.181	0.203	
ANT E	Body-worn	QPSK	RSI 0	15	Back	132322	1745	1	99	22.0	21.3	0.241	**0.283**	37
ANT E	Body-worn	QPSK	RSI 0	15	Back	132322	1745	50	50	22.0	21.4	0.235	0.269	
ANT E	Body-worn	QPSK	RSI 0	15	Front	132322	1745	1	99	22.0	21.3	0.052	0.061	
ANT E	Body-worn	QPSK	RSI 0	15	Front	132322	1745	50	50	22.0	21.4	0.051	0.058	
ANT E	Hotspot	QPSK	RSI 3	10	Back	132322	1745	1	99	22.0	21.3	0.631	**0.741**	38
ANT E	Hotspot	QPSK	RSI 3	10	Back	132322	1745	50	50	22.0	21.4	0.613	0.701	
ANT E	Hotspot	QPSK	RSI 3	10	Front	132322	1745	1	99	22.0	21.3	0.116	0.136	
ANT E	Hotspot	QPSK	RSI 3	10	Front	132322	1745	50	50	22.0	21.4	0.114	0.130	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Top	132322	1745	1	99	22.0	21.3	0.021	0.025	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Top	132322	1745	50	50	22.0	21.4	0.021	0.024	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Left	132322	1745	1	99	22.0	21.3	0.368	0.432	
ANT E	Hotspot	QPSK	RSI 3	10	Edge Left	132322	1745	50	50	22.0	21.4	0.362	0.414	

10.13. NR Band n5 (20MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	167300	836.5	1	53	25.0	24.3	0.220	0.258	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	167300	836.5	50	28	25.0	24.2	0.219	0.263	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	167300	836.5	1	53	25.0	24.3	0.130	0.153	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	167300	836.5	50	28	25.0	24.2	0.126	0.151	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	167300	836.5	1	53	25.0	24.3	0.247	**0.290**	39
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	167300	836.5	50	28	25.0	24.2	0.233	0.280	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	167300	836.5	1	53	25.0	24.3	0.127	0.149	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	167300	836.5	50	28	25.0	24.2	0.128	0.154	
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	167300	836.5	1	53	25.0	24.3	0.194	0.228	
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	167300	836.5	50	28	25.0	24.2	0.193	**0.232**	40
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	167300	836.5	1	53	25.0	24.3	0.110	0.129	
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	167300	836.5	50	28	25.0	24.2	0.108	0.130	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	167300	836.5	1	53	25.0	24.3	0.436	**0.512**	41
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	167300	836.5	50	28	25.0	24.2	0.411	0.494	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	167300	836.5	1	53	25.0	24.3	0.180	0.211	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	167300	836.5	50	28	25.0	24.2	0.182	0.219	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	167300	836.5	1	53	25.0	24.3	0.258	0.303	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	167300	836.5	50	28	25.0	24.2	0.257	0.309	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	167300	836.5	1	53	25.0	24.3	0.363	0.426	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	167300	836.5	50	28	25.0	24.2	0.354	0.426	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	167300	836.5	1	53	25.0	24.3	0.061	0.072	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	167300	836.5	50	28	25.0	24.2	0.061	0.073	

10.14. NR Band n26 (20MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	166300	831.5	1	53	24.5	23.6	0.175	0.215	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	166300	831.5	50	28	24.5	23.5	0.164	0.206	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	166300	831.5	1	53	24.5	23.6	0.098	0.121	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	166300	831.5	50	28	24.5	23.5	0.099	0.125	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	166300	831.5	1	53	24.5	23.6	0.204	0.251	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	166300	831.5	50	28	24.5	23.5	0.210	**0.264**	42
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	166300	831.5	1	53	24.5	23.6	0.108	0.133	
ANT A	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	166300	831.5	50	28	24.5	23.5	0.106	0.133	
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	166300	831.5	1	53	24.5	23.6	0.259	**0.319**	43
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	166300	831.5	50	28	24.5	23.5	0.248	0.312	
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	166300	831.5	1	53	24.5	23.6	0.160	0.197	
ANT A	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	166300	831.5	50	28	24.5	23.5	0.155	0.195	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	166300	831.5	1	53	24.5	23.6	0.562	**0.691**	44
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	166300	831.5	50	28	24.5	23.5	0.520	0.655	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	166300	831.5	1	53	24.5	23.6	0.170	0.209	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	166300	831.5	50	28	24.5	23.5	0.159	0.200	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	166300	831.5	1	53	24.5	23.6	0.261	0.321	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	166300	831.5	50	28	24.5	23.5	0.246	0.310	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	166300	831.5	1	53	24.5	23.6	0.301	0.370	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	166300	831.5	50	28	24.5	23.5	0.287	0.361	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	166300	831.5	1	53	24.5	23.6	0.104	0.128	
ANT A	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	166300	831.5	50	28	24.5	23.5	0.098	0.123	

10.15. NR Band n41 (100MHz Bandwidth)

NR Band n41 ANT B

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	1	136	24.0	23.7	0.298	**0.319**	45
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	135	69	24.0	23.5	0.256	0.287	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	1	136	24.0	23.7	0.056	0.060	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	135	69	24.0	23.5	0.054	0.061	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	1	136	24.0	23.7	0.170	0.182	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	135	69	24.0	23.5	0.164	0.184	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	1	136	24.0	23.7	0.130	0.139	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	135	69	24.0	23.5	0.114	0.128	
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	1	136	24.0	23.7	0.373	0.400	
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	135	69	24.0	23.5	0.371	**0.416**	46
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	1	136	24.0	23.7	0.235	0.252	
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	135	69	24.0	23.5	0.211	0.237	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	1	136	18.0	17.8	0.214	0.224	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	135	69	18.0	17.6	0.209	0.229	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	1	136	18.0	17.8	0.165	0.173	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	135	69	18.0	17.6	0.165	0.181	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	518598	2592.99	1	136	18.0	17.8	0.184	0.193	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	518598	2592.99	135	69	18.0	17.6	0.171	0.187	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	518598	2592.99	1	136	18.0	17.8	0.093	0.097	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	518598	2592.99	135	69	18.0	17.6	0.085	0.093	

NR Band n41 SRS 1 ANT C

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	1	271	17.5	17.0	0.088	0.099	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	135	69	17.5	16.4	0.086	0.111	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	1	271	17.5	17.0	0.092	0.103	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	135	69	17.5	16.4	0.107	0.138	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	1	271	17.5	17.0	0.048	0.054	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	135	69	17.5	16.4	0.047	0.061	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	1	271	17.5	17.0	0.064	0.072	
ANT C	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	135	69	17.5	16.4	0.049	0.063	
ANT C	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	1	271	17.5	17.0	0.010	0.011	
ANT C	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	135	69	17.5	16.4	0.008	0.010	
ANT C	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	1	271	17.5	17.0	0.008	0.009	
ANT C	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	135	69	17.5	16.4	0.004	0.005	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	1	271	17.5	17.0	0.021	0.024	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	135	69	17.5	16.4	0.017	0.022	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	1	271	17.5	17.0	0.017	0.019	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	135	69	17.5	16.4	0.013	0.017	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	518598	2592.99	1	271	17.5	17.0	0.019	0.021	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	518598	2592.99	135	69	17.5	16.4	0.016	0.021	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	518598	2592.99	1	271	17.5	17.0	0.002	0.002	
ANT C	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	518598	2592.99	135	69	17.5	16.4	0.003	0.004	

NR Band n41 SRS 2 ANT G

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	1	271	18.0	17.8	0.180	0.188	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	135	69	18.0	17.5	0.157	0.176	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	1	271	18.0	17.8	0.102	0.107	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	135	69	18.0	17.5	0.087	0.098	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	1	271	18.0	17.8	0.101	0.106	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	135	69	18.0	17.5	0.090	0.101	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	1	271	18.0	17.8	0.038	0.040	
ANT G	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	135	69	18.0	17.5	0.047	0.053	
ANT G	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	1	271	18.0	17.8	0.138	0.145	
ANT G	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	135	69	18.0	17.5	0.141	0.158	
ANT G	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	1	271	18.0	17.8	0.028	0.029	
ANT G	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	135	69	18.0	17.5	0.033	0.037	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	1	271	18.0	17.8	0.431	0.451	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	135	69	18.0	17.5	0.470	**0.527**	47
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	1	271	18.0	17.8	0.067	0.070	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	135	69	18.0	17.5	0.075	0.084	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	518598	2592.99	1	271	18.0	17.8	0.034	0.036	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	518598	2592.99	135	69	18.0	17.5	0.036	0.040	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	518598	2592.99	1	271	18.0	17.8	0.176	0.184	
ANT G	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Right	518598	2592.99	135	69	18.0	17.5	0.144	0.162	

NR Band n41 SRS 3 ANT H

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	1	136	18.0	17.8	0.044	0.046	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	518598	2592.99	135	69	18.0	17.7	0.059	0.063	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	1	136	18.0	17.8	0.070	0.073	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	518598	2592.99	135	69	18.0	17.7	0.078	0.084	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	1	136	18.0	17.8	0.022	0.023	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	518598	2592.99	135	69	18.0	17.7	0.031	0.033	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	1	136	18.0	17.8	0.023	0.024	
ANT H	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	518598	2592.99	135	69	18.0	17.7	0.029	0.031	
ANT H	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	1	136	18.0	17.8	0.045	0.047	
ANT H	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	518598	2592.99	135	69	18.0	17.7	0.045	0.048	
ANT H	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	1	136	18.0	17.8	0.003	0.003	
ANT H	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	518598	2592.99	135	69	18.0	17.7	0.004	0.004	
ANT H	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	1	136	18.0	17.8	0.145	0.152	
ANT H	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	518598	2592.99	135	69	18.0	17.7	0.141	0.151	
ANT H	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	1	136	18.0	17.8	0.009	0.009	
ANT H	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	518598	2592.99	135	69	18.0	17.7	0.011	0.012	
ANT H	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	518598	2592.99	1	136	18.0	17.8	0.020	0.021	
ANT H	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	518598	2592.99	135	69	18.0	17.7	0.021	0.023	

10.16. NR Band n66 (20MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	349000	1745	1	53	22.0	21.0	0.079	0.099	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	349000	1745	50	28	22.0	20.7	0.077	**0.104**	48
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	349000	1745	1	53	22.0	21.0	0.051	0.064	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	349000	1745	50	28	22.0	20.7	0.042	0.057	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	349000	1745	1	53	22.0	21.0	0.066	0.083	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	349000	1745	50	28	22.0	20.7	0.066	0.089	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	349000	1745	1	53	22.0	21.0	0.038	0.048	
ANT B	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	349000	1745	50	28	22.0	20.7	0.030	0.040	
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	349000	1745	1	53	22.0	21.0	0.109	**0.137**	49
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	349000	1745	50	28	22.0	20.7	0.087	0.117	
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	349000	1745	1	53	22.0	21.0	0.070	0.088	
ANT B	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	349000	1745	50	28	22.0	20.7	0.072	0.097	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	349000	1745	1	53	22.0	21.0	0.210	0.264	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	349000	1745	50	28	22.0	20.7	0.208	**0.281**	50
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	349000	1745	1	53	22.0	21.0	0.133	0.167	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	349000	1745	50	28	22.0	20.7	0.131	0.177	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	349000	1745	1	53	22.0	21.0	0.196	0.247	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Bottom	349000	1745	50	28	22.0	20.7	0.189	0.255	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	349000	1745	1	53	22.0	21.0	0.076	0.096	
ANT B	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	349000	1745	50	28	22.0	20.7	0.088	0.119	

10.17. NR Band n77 (Block A) (100MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	633333	3499.995	1	1	16.0	15.6	0.144	0.158	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	633333	3499.995	135	69	16.0	15.2	0.157	0.189	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	633333	3499.995	1	1	16.0	15.6	0.181	0.198	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	633333	3499.995	135	69	16.0	15.2	0.178	0.214	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	633333	3499.995	1	1	16.0	15.6	0.308	0.338	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	633333	3499.995	135	69	16.0	15.2	0.311	**0.374**	51
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	633333	3499.995	1	1	16.0	15.6	0.276	0.303	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	633333	3499.995	135	69	16.0	15.2	0.294	0.353	
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	633333	3499.995	1	1	18.0	17.4	0.144	**0.165**	52
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	633333	3499.995	135	69	18.0	17.2	0.135	0.162	
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	633333	3499.995	1	1	18.0	17.4	0.069	0.079	
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	633333	3499.995	135	69	18.0	17.2	0.064	0.077	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	633333	3499.995	1	1	18.0	17.4	0.314	0.361	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	633333	3499.995	135	69	18.0	17.2	0.331	**0.398**	53
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	633333	3499.995	1	1	18.0	17.4	0.129	0.148	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	633333	3499.995	135	69	18.0	17.2	0.130	0.156	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	633333	3499.995	1	1	18.0	17.4	0.205	0.235	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	633333	3499.995	135	69	18.0	17.2	0.190	0.228	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	633333	3499.995	1	1	18.0	17.4	0.202	0.232	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	633333	3499.995	135	69	18.0	17.2	0.219	0.263	

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	10-g Meas. (W/kg)	10-g Scaled (W/kg)	Plot No.
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Back	633333	3499.995	1	1	18.0	17.4	0.976	**1.121**	54
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Back	633333	3499.995	135	69	18.0	17.2	0.833	1.001	
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Edge Left	633333	3499.995	1	1	18.0	17.4	0.485	0.557	
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Edge Left	633333	3499.995	135	69	18.0	17.2	0.646	0.777	

10.18. NR Band n77 (Block C) (100MHz Bandwidth)

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	657200	3858	1	1	16.0	16.0	0.082	0.082	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Cheek	657200	3858	135	69	16.0	15.6	0.059	0.065	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	657200	3858	1	1	16.0	16.0	0.069	0.069	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Left Tilt	657200	3858	135	69	16.0	15.6	0.058	0.064	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	657200	3858	1	1	16.0	16.0	0.237	**0.237**	55
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Cheek	657200	3858	135	69	16.0	15.6	0.200	0.219	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	657200	3858	1	1	16.0	16.0	0.170	0.170	
ANT F	Head	DFT-s-OFDM π/2 BPSK	RSI 4	0	Right Tilt	657200	3858	135	69	16.0	15.6	0.128	0.140	
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	657200	3858	1	1	18.0	17.5	0.148	0.166	
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Back	657200	3858	135	69	18.0	16.7	0.128	**0.173**	56
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	657200	3858	1	1	18.0	17.5	0.055	0.062	
ANT F	Body-worn	DFT-s-OFDM π/2 BPSK	RSI 0	15	Front	657200	3858	135	69	18.0	16.7	0.035	0.047	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	657200	3858	1	1	18.0	17.5	0.325	0.365	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Back	657200	3858	135	69	18.0	16.7	0.275	**0.371**	57
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	657200	3858	1	1	18.0	17.5	0.106	0.119	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Front	657200	3858	135	69	18.0	16.7	0.076	0.103	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	657200	3858	1	1	18.0	17.5	0.064	0.072	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Top	657200	3858	135	69	18.0	16.7	0.045	0.061	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	657200	3858	1	1	18.0	17.5	0.255	0.286	
ANT F	Hotspot	DFT-s-OFDM π/2 BPSK	RSI 3	10	Edge Left	657200	3858	135	69	18.0	16.7	0.198	0.267	

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	RB Allocation	RB Offset	Max Output Pwr (dBm)	Meas. (dBm)	10-g Meas. (W/kg)	10-g Scaled (W/kg)	Plot No.
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Back	657200	3858	1	1	18.0	17.5	0.864	**0.969**	58
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Back	657200	3858	135	69	18.0	16.7	0.673	0.908	
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Edge Left	657200	3858	1	1	18.0	17.5	0.686	0.770	
ANT F	Extremity	DFT-s-OFDM π/2 BPSK	RSI 0	0	Edge Left	657200	3858	135	69	18.0	16.7	0.557	0.751	

10.19. Wi-Fi (DTS Band)

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

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

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Duty Cycle (%)	Area Scan Max. SAR (W/kg)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT H	Head	802.11b	RCV	0	Left Cheek	6	2437	97.36%	0.044	12.0	11.2			
ANT H	Head	802.11b	RCV	0	Left Tilt	6	2437	97.36%	0.043	12.0	11.2			
ANT H	Head	802.11b	RCV	0	Right Cheek	6	2437	97.36%	0.079	12.0	11.2			
ANT H	Head	802.11b	RCV	0	Right Tilt	6	2437	97.36%	0.082	12.0	11.2	0.077	**0.095**	59
ANT H	Body-worn	802.11b	Max Power	15	Back	6	2437	97.36%	0.091	19.0	17.8	0.098	**0.133**	60
ANT H	Body-worn	802.11b	Max Power	15	Front	6	2437	97.36%	0.035	19.0	17.8			
ANT H	Hotspot	802.11b	Max Power	10	Back	6	2437	97.36%	0.241	19.0	17.8	0.250	**0.339**	61
ANT H	Hotspot	802.11b	Max Power	10	Front	6	2437	97.36%	0.072	19.0	17.8			
ANT H	Hotspot	802.11b	Max Power	10	Edge Top	6	2437	97.36%	0.126	19.0	17.8			

10.20. Wi-Fi (U-NII 1-3 Bands)

U-NII 1 & 2A

When the specified maximum output power is the same for both U-NII band 1 and U-NII band 2A, begin SAR measurement in U-NII band 2A; and if the highest *reported* SAR for U-NII band 2A is

- ≤ 1.2 W/kg, SAR is not required for U-NII band I
- > 1.2 W/kg, both bands should be tested independently for SAR.

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Duty Cycle (%)	Area Scan Max. SAR (W/kg)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT H	Head	802.11n (HT40)	RCV	0	Left Cheek	62	5310	89.13%	0.164	11.0	9.9			
ANT H	Head	802.11n (HT40)	RCV	0	Left Tilt	62	5310	89.13%	0.222	11.0	9.9	0.204	**0.295**	62
ANT H	Head	802.11n (HT40)	RCV	0	Right Cheek	62	5310	89.13%	0.153	11.0	9.9			
ANT H	Head	802.11n (HT40)	RCV	0	Right Tilt	62	5310	89.13%	0.190	11.0	9.9			
ANT H	Body-worn	802.11a	Max Power	15	Back	60	5300	90.94%	0.266	16.0	15.0	0.281	**0.389**	63
ANT H	Body-worn	802.11a	Max Power	15	Front	60	5300	90.94%	0.075	16.0	15.0			
Antenna	**RF Exposure Condition**	**Mode**	**Power Mode**	**Dist (mm)**	**Test Position**	**Channel**	**Freq. (MHz)**	**Duty Cycle (%)**	**Area Scan Max. SAR (W/kg)**	**Max Output Pwr (dBm)**	**Meas. (dBm)**	**1-g Meas. (W/kg)**	**1-g Scaled (W/kg)**	**Plot No.**
ANT H	Hotspot	802.11a	Max Power	10	Back	44	5220	90.94%	0.426	16.0	15.0	0.482	**0.667**	64
ANT H	Hotspot	802.11a	Max Power	10	Front	44	5220	90.94%	0.091	16.0	15.0			
ANT H	Hotspot	802.11a	Max Power	10	Edge Top	44	5220	90.94%	0.439	16.0	15.0	0.468	0.648	
Antenna	**RF Exposure Condition**	**Mode**	**Power Mode**	**Dist (mm)**	**Test Position**	**Channel**	**Freq. (MHz)**	**Duty Cycle (%)**	**Area Scan Max. SAR (W/kg)**	**Max Output Pwr (dBm)**	**Meas. (dBm)**	**10-g Meas. (W/kg)**	**10-g Scaled (W/kg)**	**Plot No.**
ANT H	Extremity	802.11n (HT40)	Grip	0	Back	62	5310	89.13%	0.761	11.0	9.9			
ANT H	Extremity	802.11n (HT40)	Grip	0	Front	62	5310	89.13%	0.181	11.0	9.9			
ANT H	Extremity	802.11n (HT40)	Grip	0	Edge Top	62	5310	89.13%	1.060	11.0	9.9	0.251	0.363	
ANT H	Extremity	802.11a	Max Power	6	Back	60	5300	90.94%	9.220	16.0	15.0	0.284	0.401	
ANT H	Extremity	802.11a	Max Power	0	Front	60	5300	90.94%	0.435	16.0	15.0	0.133	0.188	
ANT H	Extremity	802.11a	Max Power	4	Edge Top	60	5300	90.94%	0.964	16.0	15.0	0.305	**0.431**	65

Notes:

Hotspot mode is only supported for U-NII 1 band. Therefore, U-NII 1 band was selected for Hotspot mode SAR testing.

U-NII 2C

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Duty Cycle (%)	Area Scan Max. SAR (W/kg)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT H	Head	802.11ac (VHT80)	RCV	0	Left Cheek	122	5610	92.05%	0.183	11.0	10.0			
ANT H	Head	802.11ac (VHT80)	RCV	0	Left Tilt	122	5610	92.05%	0.209	11.0	10.0	0.222	**0.304**	66
ANT H	Head	802.11ac (VHT80)	RCV	0	Right Cheek	122	5610	92.05%	0.160	11.0	10.0			
ANT H	Head	802.11ac (VHT80)	RCV	0	0	122	5610	92.05%	0.170	11.0	10.0			
ANT H	Body-worn	802.11a	Max Power	15	Back	100	5500	90.94%	0.105	16.0	15.0	0.111	**0.154**	67
ANT H	Body-worn	802.11a	Max Power	15	Front	100	5500	90.94%	0.044	16.0	15.0			
Antenna	**RF Exposure Condition**	**Mode**	**Power Mode**	**Dist (mm)**	**Test Position**	**Channel**	**Freq. (MHz)**	**Duty Cycle (%)**	**Area Scan Max. SAR (W/kg)**	**Max Output Pwr (dBm)**	**Meas. (dBm)**	**10-g Meas. (W/kg)**	**10-g Scaled (W/kg)**	**Plot No.**
ANT H	Extremity	802.11ac (VHT80)	Grip	0	Back	122	5610	92.05%	0.688	11.0	10.0			
ANT H	Extremity	802.11ac (VHT80)	Grip	0	Front	122	5610	92.05%	0.199	11.0	10.0			
ANT H	Extremity	802.11ac (VHT80)	Grip	0	Edge Top	122	5610	92.05%	0.771	11.0	10.0	0.171	0.237	
ANT H	Extremity	802.11a	Max Power	6	Back	100	5500	90.94%	0.689	16.0	15.0	0.206	0.285	
ANT H	Extremity	802.11a	Max Power	0	Front	100	5500	90.94%	0.325	16.0	15.0	0.132	0.183	
ANT H	Extremity	802.11a	Max Power	4	Edge Top	100	5500	90.94%	0.770	16.0	15.0	0.243	**0.336**	68

Notes:

Since Hotspot mode is not supported for U-NII 2C band, Extremity SAR was measured on this band to satisfy Phablet SAR requirements.

U-NII 3

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Duty Cycle (%)	Area Scan Max. SAR (W/kg)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT H	Head	802.11ac (VHT80)	RCV	0	Left Cheek	155	5775	92.05%	0.108	11.0	10.1			
ANT H	Head	802.11ac (VHT80)	RCV	0	Left Tilt	155	5775	92.05%	0.150	11.0	10.1	0.349	**0.466**	69
ANT H	Head	802.11ac (VHT80)	RCV	0	Right Cheek	155	5775	92.05%	0.087	11.0	10.1			
ANT H	Head	802.11ac (VHT80)	RCV	0	Right Tilt	155	5775	92.05%	0.116	11.0	10.1	0.292	0.390	
ANT H	Body-worn	802.11a	Max Power	15	Back	157	5785	90.94%	0.186	16.0	14.6	0.201	**0.305**	70
ANT H	Body-worn	802.11a	Max Power	15	Front	157	5785	90.94%	0.082	16.0	14.6			
ANT H	Hotspot	802.11a	Max Power	10	Back	157	5785	90.94%	0.323	16.0	14.6	0.349	0.530	
ANT H	Hotspot	802.11a	Max Power	10	Front	157	5785	90.94%	0.090	16.0	14.6			
ANT H	Hotspot	802.11a	Max Power	10	Edge Top	157	5785	90.94%	0.333	16.0	14.6	0.357	**0.542**	71
ANT H	Hotspot	802.11a	Max Power	10	Edge Left	157	5785	90.94%	0.041	16.0	14.6			

10.21. Bluetooth

Antenna	RF Exposure Condition	Mode	Power Mode	Dist (mm)	Test Position	Channel	Freq. (MHz)	Duty Cycle (%)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
ANT H	Head	GFSK (BDR)	Max Power	0	Left Cheek	39	2441	76.80%	11.0	10.2	0.028	0.034	
ANT H	Head	GFSK (BDR)	Max Power	0	Left Tilt	39	2441	76.80%	11.0	10.2	0.029	0.035	
ANT H	Head	GFSK (BDR)	Max Power	0	Right Cheek	39	2441	76.80%	11.0	10.2	0.047	0.057	
ANT H	Head	GFSK (BDR)	Max Power	0	Right Tilt	39	2441	76.80%	11.0	10.2	0.051	**0.061**	72
ANT H	Body-worn	GFSK (BDR)	Max Power	15	Back	39	2441	76.80%	11.0	10.2	0.014	**0.017**	73
ANT H	Body-worn	GFSK (BDR)	Max Power	15	Front	39	2441	76.80%	11.0	10.2	0.005	0.006	
ANT H	Hotspot	GFSK (BDR)	Max Power	10	Back	39	2441	76.80%	11.0	10.2	0.039	**0.047**	74
ANT H	Hotspot	GFSK (BDR)	Max Power	10	Front	39	2441	76.80%	11.0	10.2	0.009	0.011	
ANT H	Hotspot	GFSK (BDR)	Max Power	10	Edge Top	39	2441	76.80%	11.0	10.2	0.021	0.025	
ANT H	Hotspot	GFSK (BDR)	Max Power	10	Edge Left	39	2441	76.80%	11.0	10.2	0.004	0.005	

10.22. NFC

Antenna	RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #	Freq. (MHz)	1-g Meas. (W/kg)	10-g Meas. (W/kg)	Plot No.
NFC	Extremity	Type A PRBS 424 kbps	0	Back	0	13.56	0.098	**0.034**	75
				Front	0	13.56	0.000	0.000	
				Edge Top	0	13.56	0.000	0.000	
				Edge Left	0	13.56	0.000	0.000	

11. SAR Measurement Variability

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

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

Note(s):

Repeated measurement is not required since the original highest measured SAR is <0.8 W/kg (1-g) or 2 W/kg (10-g) .

12. Simultaneous Transmission Conditions

RF Exposure Condition	Item	Simultaneous Tx Scenarios
Head Body-worn Hotspot	1	WWAN + DTS
	2	WWAN + NII
	3	WWAN + BT
	4	WWAN + NII + BT
	5	WWAN[6] + WWAN[6] + NII + BT
Extremity	6	WWAN + DTS + NFC
	7	WWAN + NII + NFC
	8	WWAN + BT + NFC
	9	WWAN + NII + BT + NFC
	10	WWAN[6] + WWAN[6] + NII + BT + NFC

Note(s):

1. Only DTS 2.4GHz Ch. 1-11 & NII 5GHz Ch. 36-48, 149-161) supports Hotspot.
2. GPRS/EDGE, W-CDMA, LTE and FR1 support Hotspot.
3. VoIP is supported in GPRS/EDGE, W-CDMA, LTE and FR1.
4. DTS Radio cannot transmit simultaneously with Bluetooth Radio.
5. NII Radio can transmit simultaneous with Bluetooth Radio.
6. DUT supports 7 WWAN Tx Antennas. WWAN antennas can transmit simultaneously via EN-DC with LTE and FR1. Refer to §12.8 for EN-DC Sum of SAR assessment.

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.

Antenna Group Considerations

In WWAN TAS algorithm, it was assumed that all antennas are correlated regardless of their direction of transmission in space. Thus, the main concept was to split the SAR/TER on the transmitting RATs even if they are transmitting on different antennas. Such approach is considered as a worst-case scenario in terms of transmitting power. In order, to enhance the performance of the transmission power RATs, we should consider the spatial properties of each antenna and the correlation between the transmitting antennas.

For a DUT with N antennas, a spatial correlation matrix (R) can be constructed to map the correlation between each two antennas when they transmit simultaneously. The correlation matrix is as follows:

$$R = \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1N} \\ r_{21} & r_{22} & \cdots & r_{2N} \\ \vdots & \vdots & \ddots & \vdots \\ r_{N1} & r_{N2} & \cdots & r_{NN} \end{bmatrix}$$

And it has the following characteristics

a) r_{ij} is the correlation between antenna i and antenna j

b) The value of r_{ij} is either 0 or 1, where 1 means fully correlated and 0 means fully uncorrelated.

c) r_{ii} is the self-correlation of each antenna and it is always 1.

Since the R matrix entries depends on the antenna distribution of each DUT, the spatial TAS algorithm is implemented to operate with any R matrix (antenna distribution agnostic).
The values of the R matrix entries should be determined by the OEM based on the DUT used. One way to determine the values of the R matrix entries is to use SPLSR analysis per KDB 447498.

The table below shows the antenna groups and R matrix declared by manufacturer:

Antenna Group	Antenna	Supported Bands List
AG0	ANT A	GSM 850 WCDMA B5 LTE B5, B12, B13, B17, B26 NR Bn5, Bn26
	ANT B	GSM 1900 WCDMA B2, B4 LTE B2, B4, B41, B66 NR Bn66, Bn41
AG1	ANT E	LTE B2, B4, B66 NR Bn66
	ANT C	NR Bn41 SRS 1
	ANT G	NR Bn41 SRS 2
	ANT H	NR Bn41 SRS 3
	ANT F	NR Bn77

R =

Antenna Group		AG0		AG1				
	Antenna	Ant A	Ant B	Ant E	Ant C	Ant G	Ant H	Ant F
AG0	Ant A	1	1	0	0	0	0	0
	Ant B	1	1	0	0	0	0	0
AG1	Ant E	0	0	1	1	1	1	1
	Ant C	0	0	1	1	1	1	1
	Ant G	0	0	1	1	1	1	1
	Ant H	0	0	1	1	1	1	1
	Ant F	0	0	1	1	1	1	1

Per R matrix, SPLSR verification is only required when sum of SAR for AG0+AG1 or AG0+AG1+WLAN/BT/NFC exceeds the FCC limit. Refer to §12.8 for AG0+AG1 and AG0+AG1+WLAN/BT/NFC Sum of SAR analysis.

SAR to Peak Location Ratio (SPLSR)

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

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

Where:

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

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

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

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

For a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 (1g) or 4 (10g) W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / Ri \leq 0.04 \text{ (1g) or } 0.10 \text{ (10g)}$$

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 SAR_1.or SAR_2. 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

12.1. Sum of the SAR for WWAN ANT A & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT A	ANT H	ANT H	ANT H				
Head	Left Cheek	0.360	0.095	0.390	0.034	0.455	0.750	0.394	0.784
	Left Tilt	0.219	0.095	0.466	0.035	0.314	0.685	0.254	0.720
	Right Cheek	0.442	0.095	0.390	0.057	0.537	0.832	0.499	0.889
	Right Tilt	0.263	0.095	0.390	0.061	0.358	0.653	0.324	0.714
Body-worn	Back	0.436	0.133	0.389	0.017	0.569	0.825	0.453	0.842
	Front	0.296	0.133	0.389	0.006	0.429	0.685	0.302	0.691
Hotspot	Back	0.965	0.339	0.667	0.047	1.304	1.632	1.012	1.679
	Front	0.249	0.339	0.648	0.011	0.588	0.897	0.260	0.908
	Edge Top		0.339	0.648	0.076	0.339	0.648	0.076	0.724
	Edge Right	0.422	0.339	0.648		0.761	1.070	0.422	1.070
	Edge Bottom	0.493	0.339	0.648		0.832	1.141	0.493	1.141
	Edge Left	0.234	0.339	0.648	0.005	0.573	0.882	0.239	0.887

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		1	3	5	1+3+5
		WWAN	NII	NFC	
		ANT A	ANT H		
Extremity	Back	0.332	0.401	0.034	0.767

RF Exposure conditions	Test Position	Technology/ Band	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
			1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
			WWAN	DTS	NII	DSS				
			ANT A	ANT H	ANT H	ANT H				
Hotspot	Back	GSM 850	0.306	0.339	0.667	0.047	0.645	0.973	0.353	1.020
Hotspot	Back	WCDMA B5	0.965	0.339	0.667	0.047	1.304	1.632	1.012	1.679
Hotspot	Back	LTE B5	0.719	0.339	0.667	0.047	1.058	1.386	0.766	1.433
Hotspot	Back	LTE B12	0.414	0.339	0.667	0.047	0.753	1.081	0.461	1.128
Hotspot	Back	LTE B13	0.455	0.339	0.667	0.047	0.794	1.122	0.502	1.169
Hotspot	Back	LTE B26	0.654	0.339	0.667	0.047	0.993	1.321	0.701	1.368
Hotspot	Back	NR n5	0.512	0.339	0.667	0.047	0.851	1.179	0.559	1.226
Hotspot	Back	NR n26	0.691	0.339	0.667	0.047	1.030	1.358	0.738	1.405

Note(s):

1. Additional Sum of SAR evaluation was performed for WWAN ANT A simultaneous to show compliance when original Sum of SAR is over 1.6 W/kg.
2. Sum of SAR is >1.6W/kg. Refer to §12.1.1 for SPLSR analysis.
3. Additional Sum of SAR evaluation only shows ANT A supported bands.

12.1.1. SAR to Peak Location Ratio (SPLSR) for ANT A & WLAN & BT

RF Exposure Conditions	Test Position	Standalone SAR (W/kg)			∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
		1	3	4					
		WWAN	NII	DSS					
		ANT A	ANT H	ANT H					
Hotspot	Back	0.965	0.667	0.047	1 + 3 + 4	1.679	156.0	0.01	No
		0.965	0.667		1 + 3	1.632	156.0	0.01	No
		0.965		0.047	1 + 4	0.714	164.5	0.00	No

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

RF Exposure Conditions	Test Position	Mode		Peak SAR	X	Y	Z	d: Calculated distance (mm)	
				W/kg	mm	mm	mm		
Hotspot	Back	WWAN	ANT A	1.07	-29.5	-79.5	-207.0	1 + 3	156.0
		NII	ANT H	1.69	-9.2	75.2	-207.0		
		WWAN	ANT A	1.07	-29.5	-79.5	-207.0	1 + 4	164.5
		DSS	ANT H	0.080	-4.0	83.0	-207.0		
		NII	ANT H	1.69	-9.2	75.2	-207.0	3 + 4	9.4
		DSS	ANT H	0.080	-4.0	83.0	-207.0		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

12.2. Sum of the SAR for WWAN ANT B & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT B	ANT H	ANT H	ANT H				
Head	Left Cheek	0.319	0.095	0.390	0.034	0.414	0.709	0.353	0.743
	Left Tilt	0.220	0.095	0.466	0.035	0.315	0.686	0.255	0.721
	Right Cheek	0.298	0.095	0.390	0.057	0.393	0.688	0.355	0.745
	Right Tilt	0.139	0.095	0.390	0.061	0.234	0.529	0.200	0.590
Body-worn	Back	0.487	0.133	0.389	0.017	0.620	0.876	0.504	0.893
	Front	0.422	0.133	0.389	0.006	0.555	0.811	0.428	0.817
Hotspot	Back	0.549	0.339	0.667	0.047	0.888	1.216	0.596	1.263
	Front	0.430	0.339	0.648	0.011	0.769	1.078	0.441	1.089
	Edge Top		0.339	0.648	0.076	0.339	0.648	0.076	0.724
	Edge Right		0.339	0.648		0.339	0.648		0.648
	Edge Bottom	0.642	0.339	0.648		0.981	1.290	0.642	1.290
	Edge Left	0.243	0.339	0.648	0.005	0.582	0.891	0.248	0.896

12.3. Sum of the SAR for WWAN ANT C & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT C	ANT H	ANT H	ANT H				
Head	Left Cheek	0.111	0.095	0.390	0.034	0.206	0.501	0.145	0.535
	Left Tilt	0.138	0.095	0.466	0.035	0.233	0.604	0.173	0.639
	Right Cheek	0.061	0.095	0.390	0.057	0.156	0.451	0.118	0.508
	Right Tilt	0.072	0.095	0.390	0.061	0.167	0.462	0.133	0.523
Body-worn	Back	0.011	0.133	0.389	0.017	0.144	0.400	0.028	0.417
	Front	0.009	0.133	0.389	0.006	0.142	0.398	0.015	0.404
Hotspot	Back	0.024	0.339	0.667	0.047	0.363	0.691	0.071	0.738
	Front	0.019	0.339	0.648	0.011	0.358	0.667	0.030	0.678
	Edge Top	0.021	0.339	0.648	0.076	0.360	0.669	0.097	0.745
	Edge Right	0.004	0.339	0.648		0.343	0.652	0.004	0.652
	Edge Bottom		0.339	0.648		0.339	0.648		0.648
	Edge Left		0.339	0.648	0.005	0.339	0.648	0.005	0.653

12.4. Sum of the SAR for WWAN ANT E & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT E	ANT H	ANT H	ANT H				
Head	Left Cheek	0.272	0.095	0.390	0.034	0.367	0.662	0.306	0.696
	Left Tilt	0.202	0.095	0.466	0.035	0.297	0.668	0.237	0.703
	Right Cheek	0.720	0.095	0.390	0.057	0.815	1.110	0.777	1.167
	Right Tilt	0.243	0.095	0.390	0.061	0.338	0.633	0.304	0.694
Body-worn	Back	0.283	0.133	0.389	0.017	0.416	0.672	0.300	0.689
	Front	0.061	0.133	0.389	0.006	0.194	0.450	0.067	0.456
Hotspot	Back	0.741	0.339	0.667	0.047	1.080	1.408	0.788	1.455
	Front	0.136	0.339	0.648	0.011	0.475	0.784	0.147	0.795
	Edge Top		0.339	0.648	0.076	0.339	0.648	0.076	0.724
	Edge Right		0.339	0.648		0.339	0.648		0.648
	Edge Bottom		0.339	0.648		0.339	0.648		0.648
	Edge Left	0.432	0.339	0.648	0.005	0.771	1.080	0.437	1.085

12.5. Sum of the SAR for WWAN ANT F & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT F	ANT H	ANT H	ANT H				
Head	Left Cheek	0.189	0.095	0.390	0.034	0.284	0.579	0.223	0.613
	Left Tilt	0.214	0.095	0.466	0.035	0.309	0.680	0.249	0.715
	Right Cheek	0.374	0.095	0.390	0.057	0.469	0.764	0.431	0.821
	Right Tilt	0.353	0.095	0.390	0.061	0.448	0.743	0.414	0.804
Body-worn	Back	0.173	0.133	0.389	0.017	0.306	0.562	0.190	0.579
	Front	0.079	0.133	0.389	0.006	0.212	0.468	0.085	0.474
Hotspot	Back	0.398	0.339	0.667	0.047	0.737	1.065	0.445	1.112
	Front	0.156	0.339	0.648	0.011	0.495	0.804	0.167	0.815
	Edge Top	0.235	0.339	0.648	0.076	0.574	0.883	0.311	0.959
	Edge Right		0.339	0.648		0.339	0.648		0.648
	Edge Bottom		0.339	0.648		0.339	0.648		0.648
	Edge Left	0.286	0.339	0.648	0.005	0.625	0.934	0.291	0.939

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			∑ 10-g SAR (W/kg)
		1	3	5	1+3+5
		WWAN	NII	NFC	
		ANT F	ANT H		
Extremity	Back	1.121	0.401	0.034	**1.556**

12.6. Sum of the SAR for WWAN ANT G & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT G	ANT H	ANT H	ANT H				
Head	Left Cheek	0.188	0.095	0.390	0.034	0.283	0.578	0.222	0.612
	Left Tilt	0.107	0.095	0.466	0.035	0.202	0.573	0.142	0.608
	Right Cheek	0.106	0.095	0.390	0.057	0.201	0.496	0.163	0.553
	Right Tilt	0.053	0.095	0.390	0.061	0.148	0.443	0.114	0.504
Body-worn	Back	0.158	0.133	0.389	0.017	0.291	0.547	0.175	0.564
	Front	0.037	0.133	0.389	0.006	0.170	0.426	0.043	0.432
Hotspot	Back	0.527	0.339	0.667	0.047	0.866	1.194	0.574	1.241
	Front	0.084	0.339	0.648	0.011	0.423	0.732	0.095	0.743
	Edge Top	0.040	0.339	0.648	0.076	0.379	0.688	0.116	0.764
	Edge Right	0.184	0.339	0.648		0.523	0.832	0.184	0.832
	Edge Bottom		0.339	0.648		0.339	0.648		0.648
	Edge Left		0.339	0.648	0.005	0.339	0.648	0.005	0.653

12.7. Sum of the SAR for WWAN ANT H & Wi-Fi & BT

RF Exposure conditions	Test Position	Standalone SAR (W/kg)				∑ 1-g SAR (W/kg)			
		1	2	3	4	1 + 2	1 + 3	1 + 4	1 + 3 + 4
		WWAN	DTS	NII	DSS				
		ANT H	ANT H	ANT H	ANT H				
Head	Left Cheek	0.063	0.095	0.390	0.034	0.158	0.453	0.097	0.487
	Left Tilt	0.084	0.095	0.466	0.035	0.179	0.550	0.119	0.585
	Right Cheek	0.033	0.095	0.390	0.057	0.128	0.423	0.090	0.480
	Right Tilt	0.031	0.095	0.390	0.061	0.126	0.421	0.092	0.482
Body-worn	Back	0.048	0.133	0.389	0.017	0.181	0.437	0.065	0.454
	Front	0.004	0.133	0.389	0.006	0.137	0.393	0.010	0.399
Hotspot	Back	0.152	0.339	0.667	0.047	0.491	0.819	0.199	0.866
	Front	0.012	0.339	0.648	0.011	0.351	0.660	0.023	0.671
	Edge Top	0.023	0.339	0.648	0.076	0.362	0.671	0.099	0.747
	Edge Right		0.339	0.648		0.339	0.648		0.648
	Edge Bottom		0.339	0.648		0.339	0.648		0.648
	Edge Left		0.339	0.648	0.005	0.339	0.648	0.005	0.653

12.8. Sum of the SAR for EN-DC (WWAN AG0 & WWAN AG1) & Wi-Fi & BT

For EN-DC (WWAN + WWAN) simultaneous transmission conditions only those combinations of LTE and 5GNR antennas in different spatial groups are assessed. When both LTE and 5GNR transmissions are within the same antenna group the TAS algorithm controls power to ensure the total SAR between the two transmitters does not exceed the stand-alone SAR value for each individual transmitter when operating alone. For EN-DC Extremity conditions, Sum of SAR is not considered as SAR was only required to be measured for some 5GNR bands where adjusted SAR for Hotspot mode >1.2 W/kg. For LTE anchor bands, adjusted SAR for Hotspot mode is <1.2 W/kg, therefore there are no LTE extremity SAR values to use in the EN-DC Sum of SAR assessment.

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG1	WWAN AG0	DTS	NII	DSS					
		ANT E	ANT B								
		LTE B2	NR Bn41	ANT H	ANT H	ANT H					
Head	Left Cheek	0.111	0.319	0.095	0.390	0.034	0.430	0.525	0.820	0.464	0.854
	Left Tilt	0.087	0.061	0.095	0.466	0.035	0.148	0.243	0.614	0.183	0.649
	Right Cheek	0.232	0.184	0.095	0.390	0.057	0.416	0.511	0.806	0.473	0.863
	Right Tilt	0.098	0.139	0.095	0.390	0.061	0.237	0.332	0.627	0.298	0.688
Body-worn	Back	0.086	0.416	0.133	0.389	0.017	0.502	0.635	0.891	0.519	0.908
	Front	0.029	0.252	0.133	0.389	0.006	0.281	0.414	0.670	0.287	0.676
Hotspot	Back	0.306	0.229	0.339	0.667	0.047	0.535	0.874	1.202	0.582	1.249
	Front	0.041	0.181	0.339	0.648	0.011	0.222	0.561	0.870	0.233	0.881
	Edge Top	0.031		0.339	0.648	0.076	0.031	0.370	0.679	0.107	0.755
	Edge Right			0.339	0.648			0.339	0.648		0.648
	Edge Bottom		0.193	0.339	0.648		0.193	0.532	0.841	0.193	0.841
	Edge Left	0.141	0.097	0.339	0.648	0.005	0.238	0.577	0.886	0.243	0.891

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG1	WWAN AG0	DTS	NII	DSS					
		ANT E	ANT B								
		LTE B2	NR Bn66	ANT H	ANT H	ANT H					
Head	Left Cheek	0.111	0.104	0.095	0.390	0.034	0.215	0.310	0.605	0.249	0.639
	Left Tilt	0.087	0.064	0.095	0.466	0.035	0.151	0.246	0.617	0.186	0.652
	Right Cheek	0.232	0.089	0.095	0.390	0.057	0.321	0.416	0.711	0.378	0.768
	Right Tilt	0.098	0.048	0.095	0.390	0.061	0.146	0.241	0.536	0.207	0.597
Body-worn	Back	0.086	0.137	0.133	0.389	0.017	0.223	0.356	0.612	0.240	0.629
	Front	0.029	0.097	0.133	0.389	0.006	0.126	0.259	0.515	0.132	0.521
Hotspot	Back	0.306	0.281	0.339	0.667	0.047	0.587	0.926	1.254	0.634	1.301
	Front	0.041	0.177	0.339	0.648	0.011	0.218	0.557	0.866	0.229	0.877
	Edge Top	0.031		0.339	0.648	0.076	0.031	0.370	0.679	0.107	0.755
	Edge Right			0.339	0.648			0.339	0.648		0.648
	Edge Bottom		0.255	0.339	0.648		0.255	0.594	0.903	0.255	0.903
	Edge Left	0.141	0.119	0.339	0.648	0.005	0.260	0.599	0.908	0.265	0.913

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG0	WWAN AG1	DTS	NII	DSS					
		ANT A	ANT F								
		LTE B5	NR Bn77	ANT H	ANT H	ANT H					
Head	Left Cheek	0.282	0.189	0.095	0.390	0.034	0.471	0.566	0.861	0.505	0.895
	Left Tilt	0.164	0.214	0.095	0.466	0.035	0.378	0.473	0.844	0.413	0.879
	Right Cheek	0.340	0.374	0.095	0.390	0.057	0.714	0.809	1.104	0.771	1.161
	Right Tilt	0.181	0.353	0.095	0.390	0.061	0.534	0.629	0.924	0.595	0.985
Body-worn	Back	0.333	0.173	0.133	0.389	0.017	0.506	0.639	0.895	0.523	0.912
	Front	0.229	0.079	0.133	0.389	0.006	0.308	0.441	0.697	0.314	0.703
Hotspot	Back	0.719	0.398	0.339	0.667	0.047	1.117	**1.456**	**1.784**	1.164	**1.831**
	Front	0.247	0.156	0.339	0.648	0.011	0.403	0.742	1.051	0.414	1.062
	Edge Top		0.235	0.339	0.648	0.076	0.235	0.574	0.883	0.311	0.959
	Edge Right	0.402		0.339	0.648		0.402	0.741	1.050	0.402	1.050
	Edge Bottom	0.440		0.339	0.648		0.440	0.779	1.088	0.440	1.088
	Edge Left	0.149	0.286	0.339	0.648	0.005	0.435	0.774	1.083	0.440	1.088

Note:

Sum of SAR is >1.6W/kg. Refer to §12.8.1 Scenario 1 for SPLSR analysis.

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG1	WWAN AG0	DTS	NII	DSS					
		ANT E	ANT B								
		LTE B66	NR Bn41	ANT H	ANT H	ANT H					
Head	Left Cheek	0.272	0.319	0.095	0.390	0.034	0.591	0.686	0.981	0.625	1.015
	Left Tilt	0.202	0.061	0.095	0.466	0.035	0.263	0.358	0.729	0.298	0.764
	Right Cheek	0.720	0.184	0.095	0.390	0.057	0.904	**0.999**	1.294	0.961	**1.351**
	Right Tilt	0.243	0.139	0.095	0.390	0.061	0.382	0.477	0.772	0.443	0.833
Body-worn	Back	0.283	0.416	0.133	0.389	0.017	0.699	**0.832**	1.088	0.716	**1.105**
	Front	0.061	0.252	0.133	0.389	0.006	0.313	0.446	0.702	0.319	0.708
Hotspot	Back	0.741	0.229	0.339	0.667	0.047	0.970	1.309	**1.637**	1.017	**1.684**
	Front	0.136	0.181	0.339	0.648	0.011	0.317	0.656	0.965	0.328	0.976
	Edge Top	0.025		0.339	0.648	0.076	0.025	0.364	0.673	0.101	0.749
	Edge Right			0.339	0.648			0.339	0.648		0.648
	Edge Bottom		0.193	0.339	0.648		0.193	0.532	0.841	0.193	0.841
	Edge Left	0.432	0.097	0.339	0.648	0.005	0.529	0.868	1.177	0.534	1.182

Note:

Sum of SAR is >1.6W/kg. Refer to §12.8.1 Scenario 2 for SPLSR analysis.

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG0	WWAN AG1	DTS	NII	DSS					
		ANT B	ANT F								
		LTE B12	NR Bn77	ANT H	ANT H	ANT H					
Head	Left Cheek	0.198	0.189	0.095	0.390	0.034	0.387	0.482	0.777	0.421	0.811
	Left Tilt	0.087	0.214	0.095	0.466	0.035	0.301	0.396	0.767	0.336	0.802
	Right Cheek	0.231	0.374	0.095	0.390	0.057	0.605	0.700	0.995	0.662	1.052
	Right Tilt	0.106	0.353	0.095	0.390	0.061	0.459	0.554	0.849	0.520	0.910
Body-worn	Back	0.356	0.173	0.133	0.389	0.017	0.529	0.662	0.918	0.546	0.935
	Front	0.257	0.079	0.133	0.389	0.006	0.336	0.469	0.725	0.342	0.731
Hotspot	Back	0.474	0.398	0.339	0.667	0.047	0.872	1.211	1.539	0.919	**1.586**
	Front	0.221	0.156	0.339	0.648	0.011	0.377	0.716	1.025	0.388	1.036
	Edge Top		0.235	0.339	0.648	0.076	0.235	0.574	0.883	0.311	0.959
	Edge Right	0.422		0.339	0.648		0.422	0.761	1.070	0.422	1.070
	Edge Bottom	0.223		0.339	0.648		0.223	0.562	0.871	0.223	0.871
	Edge Left	0.234	0.286	0.339	0.648	0.005	0.520	0.859	1.168	0.525	1.173

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG0	WWAN AG1	DTS	NII	DSS					
		ANT A	ANT F								
		LTE B13	NR Bn77	ANT H	ANT H	ANT H					
Head	Left Cheek	0.099	0.189	0.095	0.390	0.034	0.288	0.383	0.678	0.322	0.712
	Left Tilt	0.062	0.214	0.095	0.466	0.035	0.276	0.371	0.742	0.311	0.777
	Right Cheek	0.138	0.374	0.095	0.390	0.057	0.512	0.607	0.902	0.569	0.959
	Right Tilt	0.073	0.353	0.095	0.390	0.061	0.426	0.521	0.816	0.487	0.877
Body-worn	Back	0.237	0.173	0.133	0.389	0.017	0.410	0.543	0.799	0.427	0.816
	Front	0.138	0.079	0.133	0.389	0.006	0.217	0.350	0.606	0.223	0.612
Hotspot	Back	0.455	0.398	0.339	0.667	0.047	0.853	1.192	1.520	0.900	1.567
	Front	0.123	0.156	0.339	0.648	0.011	0.279	0.618	0.927	0.290	0.938
	Edge Top		0.235	0.339	0.648	0.076	0.235	0.574	0.883	0.311	0.959
	Edge Right	0.250		0.339	0.648		0.250	0.589	0.898	0.250	0.898
	Edge Bottom	0.199		0.339	0.648		0.199	0.538	0.847	0.199	0.847
	Edge Left	0.086	0.286	0.339	0.648	0.005	0.372	0.711	1.020	0.377	1.025

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG0	WWAN AG1	DTS	NII	DSS					
		ANT B	ANT F								
		LTE B2	NR Bn77	ANT H	ANT H	ANT H					
Head	Left Cheek	0.190	0.189	0.095	0.390	0.034	0.379	0.474	0.769	0.413	0.803
	Left Tilt	0.117	0.214	0.095	0.466	0.035	0.331	0.426	0.797	0.366	0.832
	Right Cheek	0.144	0.374	0.095	0.390	0.057	0.518	0.613	0.908	0.575	0.965
	Right Tilt	0.068	0.353	0.095	0.390	0.061	0.421	0.516	0.811	0.482	0.872
Body-worn	Back	0.231	0.173	0.133	0.389	0.017	0.404	0.537	0.793	0.421	0.810
	Front	0.192	0.079	0.133	0.389	0.006	0.271	0.404	0.660	0.277	0.666
Hotspot	Back	0.515	0.398	0.339	0.667	0.047	0.913	1.252	1.580	0.960	**1.627**
	Front	0.430	0.156	0.339	0.648	0.011	0.586	0.925	1.234	0.597	1.245
	Edge Top		0.235	0.339	0.648	0.076	0.235	0.574	0.883	0.311	0.959
	Edge Right			0.339	0.648			0.339	0.648		0.648
	Edge Bottom	0.642		0.339	0.648		0.642	0.981	1.290	0.642	1.290
	Edge Left	0.243	0.286	0.339	0.648	0.005	0.529	0.868	1.177	0.534	1.182

Note:

Sum of SAR is >1.6W/kg. Refer to §12.8.1 Scenario 3 for SPLSR analysis.

RF Exposure	Test Position	Standalone SAR (W/kg)					∑ 1-g SAR (W/kg)				
		1	2	3	4	5	1 + 2	1 + 2 + 3	1 + 2 + 4	1 + 2 + 5	1 + 2 + 4 + 5
		WWAN AG0	WWAN AG1	DTS	NII	DSS					
		ANT B	ANT F								
		LTE B66	NR Bn77	ANT H	ANT H	ANT H					
Head	Left Cheek	0.173	0.189	0.095	0.390	0.034	0.362	0.457	0.752	0.396	0.786
	Left Tilt	0.108	0.214	0.095	0.466	0.035	0.322	0.417	0.788	0.357	0.823
	Right Cheek	0.145	0.374	0.095	0.390	0.057	0.519	0.614	0.909	0.576	0.966
	Right Tilt	0.079	0.353	0.095	0.390	0.061	0.432	0.527	0.822	0.493	0.883
Body-worn	Back	0.160	0.173	0.133	0.389	0.017	0.333	0.466	0.722	0.350	0.739
	Front	0.148	0.079	0.133	0.389	0.006	0.227	0.360	0.616	0.233	0.622
Hotspot	Back	0.329	0.398	0.339	0.667	0.047	0.727	1.066	1.394	0.774	1.441
	Front	0.300	0.156	0.339	0.648	0.011	0.456	0.795	1.104	0.467	1.115
	Edge Top		0.235	0.339	0.648	0.076	0.235	0.574	0.883	0.311	0.959
	Edge Right			0.339	0.648			0.339	0.648		0.648
	Edge Bottom	0.341		0.339	0.648		0.341	0.680	0.989	0.341	0.989
	Edge Left	0.127	0.286	0.339	0.648	0.005	0.413	0.752	1.061	0.418	1.066

12.8.1. SAR to Peak Location Ratio (SPLSR) for EN-DC (WWAN AG0 & WWAN AG1) & Wi-Fi & BT

Scenario	RF Exposure Conditions	Test Position	Standalone SAR (W/kg)						∑ 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (≤ 0.04)	Volume Scan (Yes/ No)
			1	2	3	4	5	6					
			WWAN (AG0)		WWAN (AG1)		NII	DSS					
			ANT A	ANT B	ANT E	ANT F	ANT H	ANT H					
1	Hotspot	Back	0.719			0.398	0.667	0.047	1 + 4 + 5 + 6	1.831	146.3	0.02	No
2	Hotspot	Back		0.229	0.741		0.667	0.047	2 + 3 + 5 + 6	1.684	120.2	0.02	No
3	Hotspot	Back		0.515		0.398	0.667	0.047	2 + 4 + 5 + 6	1.627	140.2	0.01	No

Conclusion:

- AG1 (ANT E/F) & ANT H (NII/BT) are co-located antennas. For SPLSR analysis, per TCB workshop April 2022 Sum-Peak Location Separation Ration guidance, *you may algebraically sum the SAR values of the co located pair and use that value in SPLSR calculation. In the calculation you must use the minimum distance between the spatially separated antenna and the closest antenna of the co located antenna pair to be conservative*. The minimum distance between AG0 and AG1/ANT H was determined and used for SPLSR calculation. Please refer to table below for minimum distance calculations.
- Simultaneous transmission SAR measurement (Volume Scan) is not required because the SPLSR is ≤ 0.04.

Scenario	RF Exposure Conditions	Test Position	Mode		Peak SAR	X	Y	Z	d: Calculated distance (mm)	
					W/kg	mm	mm	mm		
1	Hotspot	Back	WWAN (AG0)	ANT A	0.863	-31.9	-76.8	-207.0	1 + 4	146.3
			WWAN (AG1)	ANT F	0.830	4.0	65.0	-207.0		
			WWAN (AG0)	ANT A	0.863	-31.9	-76.8	-207.0	1 + 5	153.7
			NII	ANT H	1.69	-9.2	75.2	-207.0		
			WWAN (AG0)	ANT A	0.863	-31.9	-76.8	-207.0	1 + 6	162.2
			DSS	ANT H	0.080	-4.0	83.0	-207.0		
2	Hotspot	Back	WWAN (AG0)	ANT B	0.394	0.0	-69.0	-207.0	2 + 3	120.2
			WWAN (AG1)	ANT E	1.22	10.4	50.7	-207.0		
			WWAN (AG0)	ANT B	0.394	0.0	-69.0	-207.0	2 + 5	144.5
			NII	ANT H	1.69	-9.2	75.2	-207.0		
			WWAN (AG0)	ANT B	0.394	0.0	-69.0	-207.0	2 + 6	152.1
			DSS	ANT H	0.080	-4.0	83.0	-207.0		
3	Hotspot	Back	WWAN (AG0)	ANT B	0.635	-3.1	-75.0	-207.0	2 + 4	140.2
			WWAN (AG1)	ANT F	0.830	4.0	65.0	-207.0		
			WWAN (AG0)	ANT B	0.635	-3.1	-75.0	-207.0	2 + 5	150.3
			NII	ANT H	1.69	-9.2	75.2	-207.0		
			WWAN (AG0)	ANT B	0.635	-3.1	-75.0	-207.0	2 + 6	158.0
			DSS	ANT H	0.080	-4.0	83.0	-207.0		

The Peak Location Separation Distance is computed by using the formula: SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Appendixes

Refer to separated files for the following appendixes.

Appendix A: SAR Setup Photos

Appendix B: SAR System Check Plots

Appendix C: SAR Highest Test Plots

Appendix D: SAR Tissue Ingredients

Appendix E: SAR Probe Certificates

Appendix F: SAR Dipole Certificates

Appendix G: SAR Dipole Impedance Measurement

Appendix H: Supplemental 10g Data

END OF REPORT