FCC 47 CFR § 2.1093
IEEE Std 1528-2013

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

FOR

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

MODEL NUMBER: SM-T738U

FCC ID: A3LSMT738U

REPORT NUMBER: 4789867826-S1V3

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Prepared for
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IAS ACCREDITED

Testing Laboratory

TL-637

Revision History

Rev.	Date	Revisions	Revised By
V1	5/26/2021	Initial Issue	--
V2	6/2/2021	Revised Section 9.4 & 9.5 in Report	Sunghoon kim
V3	6/11/2021	1. Added note.4 in Section 6.4. 2. Revised EN-DC combinations in Section 6.7. 3. Changed NR Band n66 Spec. Revised Section 1& 1.1& 6.3& 6.4& 6.7& 8& 9.3& 10.18& 11& 12.18& Appendix B& I, J. related NR Band n66 results.	Sunghoon kim

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1. Attestation of Test Results

Applicant Name	SAMSUNG ELECTRONICS CO.,LTD.
FCC ID	A3LSMT738U
Model Number	SM-T738U
Applicable Standards	FCC 47 CFR § 2.1093 IEEE Std 1528-2013 Published RF exposure KDB procedures
Exposure Category	SAR Limits (W/Kg) Peak spatial-average (1g of tissue)
General population / Uncontrolled exposure	1.6

RF Exposure Conditions	Equipment Class - The Highest Reported SAR (W/kg)				
	PCB	CBE	DTS	U-NII	DSS
Standalone	1.24	1.23	0.62	1.13	0.35
Simultaneous TX	1.59	1.53	1.53	1.59	1.59

Date Tested	4/6/2021 to 6/11/2021
Test Results	Pass

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

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

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

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

Equipment Class	Band	The Highest Reported SAR (W/kg)
		1g of tissue
		Standalone exposure condition
PCB	WCDMA Band II	1.133
	WCDMA Band IV	1.198
	WCDMA Band V	0.645
	LTE Band 2	N/A
	LTE Band 4	N/A
	LTE Band 5	N/A
	LTE Band 7	1.132
	LTE Band 12	0.568
	LTE Band 13	0.532
	LTE Band 14	0.953
	LTE Band 25	**1.235**
	LTE Band 26	0.904
	LTE Band 30	1.076
	LTE Band 41	0.672
	LTE Band 66	1.006
	LTE Band 71	0.699
	NR Band n2	N/A
	NR Band n5	1.014
	NR Band n25	1.166
	NR Band n41	1.126
	NR Band n66	1.132
	NR Band n71	1.029
	NR Band n77	0.739
CBE	LTE Band 48	**1.234**
DTS	2.4GHz WLAN	**0.618**
UNII	5GHz WLAN	**1.127**
DSS	Bluetooth	**0.346**

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, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 616217 D04 SAR for laptop and tablets v01r02
- 690783 D01 SAR Listings on Grants v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- 941225 D06 Hotspot Mode v02r01
- 971168 D01 Power Meas License Digital System v03r01

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

- TCB workshop October, 2014; Page 36, RF Exposure Procedures Update (Overlapping LTE Bands)
- TCB workshop October, 2016; Page 7, RF Exposure Procedures (Bluetooth Duty Factor)
- TCB workshop October, 2016; Page 18, RF Exposure Procedures (DUT Holder Perturbations)
- TCB workshop May, 2017; Page 6, RF Exposure Procedures (LTE Test Conditions)
- TCB workshop May, 2017; Page 7, RF Exposure Procedures (LTE Band 41 Power Class 2)
- TCB workshop November, 2017; Page 4, RF Exposure Procedures (LTE UL/DL Carrier Aggregation SAR)
- TCB workshop April, 2018; Page 3, RF Exposure Procedures (LTE DL CA SAR Test Exclusion Update)
- TCB workshop April, 2019 Page 19, RF Exposure Procedures (Tissue Simulating Liquids (TSL))
- TCB workshop November, 2019 Page 5, RF Exposure Procedures (SPLSR Hotspot Combination)
- TCB workshop November, 2019 Page 3, RF Exposure Policy Updates (5G NR FR1 NSA EN-DC UE SAR Evaluations)

Additional Guidance: KDB inquiry

- Additional SAR test of corner side – KDB guidance to identify that SAR test when sensor and antenna is located near corner side.

3. Facilities and Accreditation

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

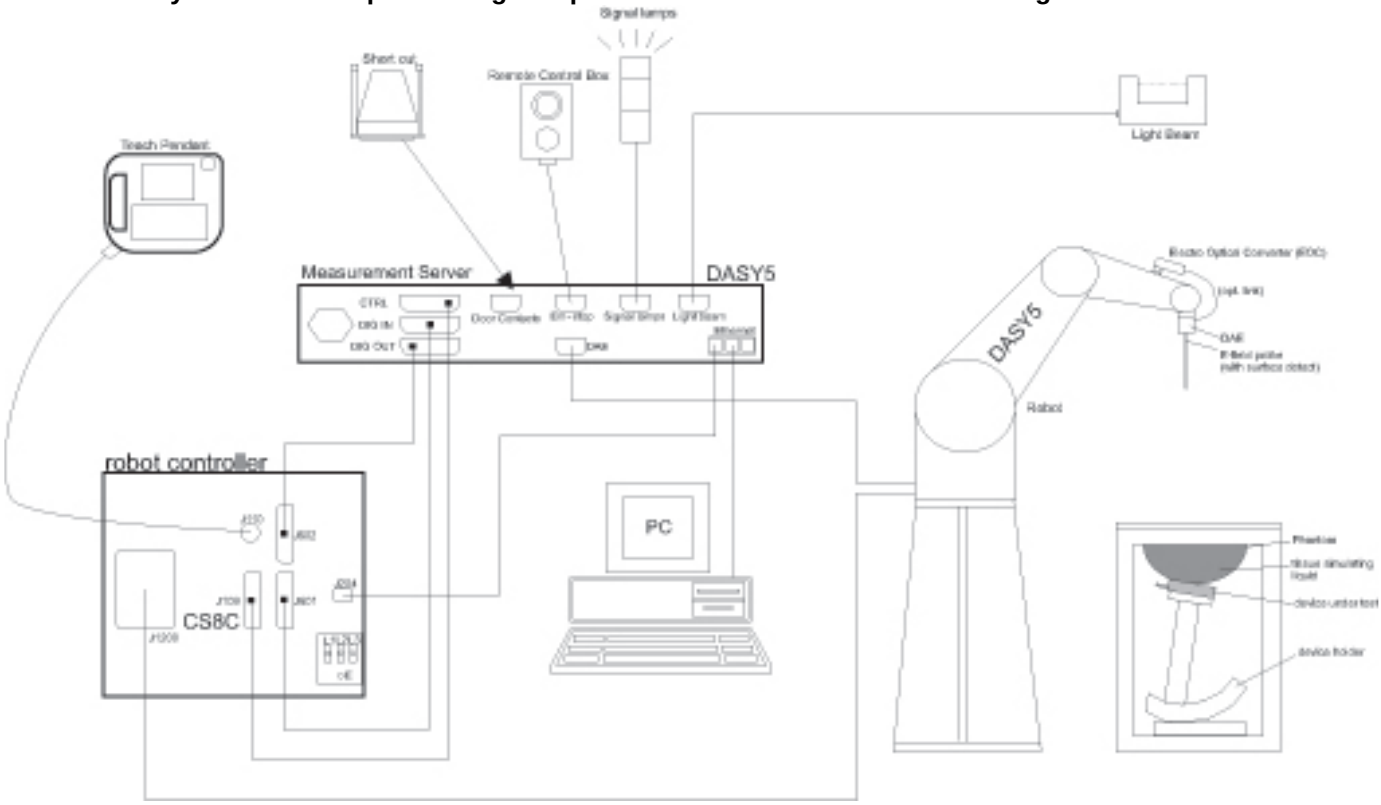
Suwon
SAR 1 Room
SAR 2 Room
SAR 3 Room
SAR 4 Room
SAR 5 Room

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637.
The full scope of accreditation can be viewed at https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf.

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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



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

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

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

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

Step 3: Zoom Scan

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

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

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

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

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

Step 4: Power drift measurement

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

Step 5: Z-Scan (FCC only)

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

4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	E5071C	MY46522054	8-4-2021
Dielectric Assessment Kit	SPEAG	DAK-3.5	1196	6-17-2021
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	LKM	DTM3000	3424	8-11-2021

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
MXG Analog Signal Generator	Agilent	N5181A	MY50145882	8-4-2021
Power Sensor	Agilent	U2000A	MY54260007	8-5-2021
Power Sensor	Agilent	U2000A	MY60180020	9-9-2021
Power Amplifier	EXODUS	1410025-AMP2027-10003	10003	8-4-2021
Directional Coupler	Agilent	772D	MY52180193	8-4-2021
Directional Coupler	Agilent	778D	MY52180432	8-4-2021
Low Pass Filter	MICROLAB	LA-15N	3943	8-4-2021
Low Pass Filter	FILTRON	L14012FL	1410003S	8-4-2021
Low Pass Filter	MICROLAB	LA-60N	3942	8-4-2021
Attenuator	Agilent	8491B/003	MY39271969	12-3-2021
Attenuator	MINI-CIRCUITS	BW-N3W5+	N/A	4-21-2022
Attenuator	Agilent	8491B/010	MY39271981	9-9-2021
Attenuator	Agilent	8491B/020	MY39271973	9-9-2021
E-Field Probe	SPEAG	EX3DV4	7330	1-26-2022
E-Field Probe	SPEAG	EX3DV4	7314	5-29-2021
E-Field Probe	SPEAG	EX3DV4	7376	7-31-2021
E-Field Probe	SPEAG	EX3DV4	7545	11-23-2021
E-Field Probe	SPEAG	EX3DV4	7313	2-23-2022
E-Field Probe	SPEAG	EX3DV4	7645	4-15-2022
E-Field Probe	SPEAG	EX3DV4	3871	8-28-2021
Data Acquisition Electronics (SAR2)	SPEAG	DAE4	1343	8-25-2021
Data Acquisition Electronics (SAR3)	SPEAG	DAE4	1494	7-31-2021
Data Acquisition Electronics (SAR4)	SPEAG	DAE4	1591	3-26-2022
Data Acquisition Electronics (SAR5)	SPEAG	DAE4	1447	3-23-2022
Data Acquisition Electronics (SAR5)	SPEAG	DAE4	479	10-21-2021
System Validation Dipole	SPEAG	D750V3	1122	2-24-2022
System Validation Dipole	SPEAG	D835V2	4d194	3-20-2022
System Validation Dipole	SPEAG	D835V2	4d174	3-17-2023
System Validation Dipole	SPEAG	D1750V2	1125	2-21-2022
System Validation Dipole	SPEAG	D1900V2	5d199	3-19-2022
System Validation Dipole	SPEAG	D2300V2	1090	11-18-2022
System Validation Dipole	SPEAG	D2450V2	939	7-25-2021
System Validation Dipole	SPEAG	D2600V2	1097	9-19-2021
System Validation Dipole	SPEAG	D3500V2	1121	4-21-2023
System Validation Dipole	SPEAG	D3700V2	1026	9-18-2022
System Validation Dipole	SPEAG	D3900V2	1069	4-21-2023
System Validation Dipole	SPEAG	D5GHzV2	1209	2-27-2022
Thermometer (SAR2)	Lutron	MHB-382SD	AH.50215	8-7-2021
Thermometer (SAR3)	Lutron	MHB-382SD	AH.50213	8-11-2021
Thermometer (SAR4),(SAR5)	Lutron	MHB-382SD	AH.91463	8-11-2021

Others

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Base Station Simulator	R & S	CMW500	150313	8-4-2021
Base Station Simulator	R & S	CMW500	150314	8-4-2021
Base Station Simulator	R & S	CMW500	162790	8-4-2021
Wireless Connectivity Tester	R & S	CMW270	100982	8-3-2021
UXM 5G Wireless Test Platform	Keysight	E7515B	MY57510596	1-13-2022

Note(s):

1. For System Validation Dipole, Calibration interval applied every 2 years according to referencing KDB 865664 guidance.
2. Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations. (for blue box items)

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.

5.1. DECISION RULE

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

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	Refer to Appendix A.		
Back Cover	☒ The Back Cover is not removable.		
Battery Options	☒ The rechargeable battery is not user accessible		
Accessory	Keyboard		
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 5.8 GHz_UNII-3 (Ch.149(20Mhz)/Ch.151(40Mhz)))		
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other ☒ Wi-Fi Direct (Wi-Fi 2.4 GHz) ☒ Wi-Fi Direct (Wi-Fi 5 GHz : Ch.36 – Ch.48, Ch.149 – Ch.165))		
Test Sample Information	**No.**	**S/N**	**Notes**
	1	5135f0543b1d7ece	Main Conducted
	2	5135f054211d7ece	Main Conducted
	3	5135f051161d7ece	Main Conducted
	4	5135f054211d7ece	Wi-Fi & BT Conducted
	5	5135f0516e1d7ece	SAR
	6	5135f051231d7ece	SAR
	7	5135e168471d7ece	SAR
	8	5135f050281d7ece	SAR
	9	R32R4004PDX	SAR
	10	R32R4004NSR	SAR
	11	R32R4004WTD	SAR
	12	R32R4004X8F	SAR
	13	R32R400GQ9K	SAR

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Category 24) HSUPA (Category 6) DC-HSDPA (Category 24) HSPA+ (DL only)	100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 14 FDD Band 25 FDD Band 26 FDD Band 30 TDD Band 41 Power Class 3 TDD Band 41 Power Class 2 TDD Band 48 FDD Band 66 FDD Band 71	QPSK 16QAM 64QAM Rel. 15 Carrier Aggregation (2 Uplink and 4 Downlinks)	100% (FDD) 63.3% (TDD) Power Class 3 43.3% (TDD) Power Class 2
	FDD Band 5 (2CC) FDD Band 66 (2CC) TDD Band 41 (2CC)		
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No		
5G NR (Sub 6)	NR Band n2 NR Band n5 NR Band n25 NR Band n41 NR Band n66 NR Band n71 NR Band n77	DFT-s-ODFM: ■ π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-ODFM: ■QPSK, 16QAM, 64QAM, 256QAM	100%
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)	SISO mode : 98.8% (802.11b) MIMO mode : 98.7% (802.11g)
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)	SISO mode: 98.7% (802.11a) 98.6% (802.11ac VHT80) MIMO mode: 98.7% (802.11a) 97.3% (802.11ac VHT80
	Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No		
	Does this device support Band gap channel(s)? ☒ Yes ☐ No		
Bluetooth	2.4 GHz	Version 5.0 LE	77.1% (DH5)

Notes:

1. The Bluetooth protocol is considered source-based averaging. Bluetooth GFSK (DH5) was verified to have the highest duty cycle of 77.1% and was considered and used for SAR Testing.
2. Duty cycle for Wi-Fi is referenced from the DTS and UNII report.
3. This device supports Power Class 2(HPUE) and Power Class 3 for LTE Band 41. And LTE Band 41-2CC is only support Power Class 3.
4. NR Band SAR test were evaluated using 100% duty cycle.

6.3. Time-Averaging feature

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

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target* or *PD_design_target*, below the predefined time-average power limit, for each characterized technology and band.

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

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

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

Device State Index (DSI)		0	1	Pmax (Maximum tune-up Power) (dBm)
Exposure scenario		Standalone SAR without triggering sensor	Standalone SAR with triggering sensor	
Test Distance (mm)		Refet to Section 6.3.		
Spatial-average		1g	1g	
WWAN Bands	Antenna	PLimit (dBm)		
WCDMA Band II	Main.1	27.6	12.5	**22.5**
WCDMA Band IV	Main.1	28.2	12.5	**22.5**
WCDMA Band V	Main.1	27.6	14.0	**24.0**
LTE Band 7	Main.1	27.5	13.0	**24.0**
LTE Band 12	Main.1	29.2	14.0	**24.5**
LTE Band 13	Main.1	27.7	14.0	**24.0**
LTE Band 14	Main.1	28.2	16.0	**24.0**
LTE Band 25/2	Main.1	29.5	14.0	**24.0**
LTE Band 26/5	Main.1	29.6	16.5	**24.5**
LTE Band 30	Main.1	25.6	13.0	**22.0**
LTE Band 41-PC3	Main.1	29.8	11.0	**22.0**
LTE Band 41-PC2	Main.1	29.7	10.4	**22.9**
LTE Band 66/4	Main.1	28.9	13.0	**24.0**
LTE Band 71	Main.1	31.5	16.0	**24.5**
NR Band n5	Main.1	28.2	18.0	**24.0**
NR Band n25/n2	Main.1	30.6	14.0	**24.0**
NR Band n66	Main.1	29.3	13.5	**24.0**
NR Band n71	Main.1	30.5	20.0	**24.5**
NR Band n41	Main.2	29.4	14.0	**25.5**
LTE Band 48	Main.3	20.6	11.0	**20.5**
NR Band n77	Main.3	20.5	11.0	**24.5**

Notes:

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

6.4. Maximum Allowed Output Power

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

RF Air interface	Antenna	Mode	Maximum allowed output power (dBm)	
			DSI = 0	DSI = 1
W-CDMA Band II	Main 1 Ant.	R99	**23.5**	**13.5**
		HSDPA	**22.5**	**12.5**
		HSUPA	**22.5**	**12.5**
		DC-HSDPA	**22.5**	**12.5**
W-CDMA Band IV	Main 1 Ant.	R99	**23.5**	**13.5**
		HSDPA	**22.5**	**12.5**
		HSUPA	**22.5**	**12.5**
		DC-HSDPA	**22.5**	**12.5**
W-CDMA Band V	Main 1 Ant.	R99	**25.0**	**15.0**
		HSDPA	**24.0**	**14.0**
		HSUPA	**24.0**	**14.0**
		DC-HSDPA	**24.0**	**14.0**

RF Air interface	Antenna	Mode	Maximum allowed output Power (dBm)	
			DSI = 0	DSI =1
LTE Band 2	Main.1	QPSK	**25.0**	**15.0**
LTE Band 4	Main.1	QPSK	**25.0**	**14.0**
LTE Band 5	Main.1	QPSK	**25.5**	**16.0**
LTE Band 7	Main.1	QPSK	**25.0**	**14.0**
LTE Band 12	Main.1	QPSK	**25.5**	**15.0**
LTE Band 13	Main.1	QPSK	**25.0**	**15.0**
LTE Band 14	Main.1	QPSK	**25.0**	**17.0**
LTE Band 25	Main.1	QPSK	**25.0**	**15.0**
LTE Band 26	Main.1	QPSK	**25.5**	**17.5**
LTE Band 30	Main.1	QPSK	**23.0**	**14.0**
LTE Band 41-PC3	Main.2	QPSK	**25.0**	**14.0**
LTE Band 41-PC2	Main.2	QPSK	**27.5**	**15.0**
LTE Band 48	Main.3	QPSK	**21.0** (Ch55240 - Ch55340)	**14.0**
			23.0 (Ch55341 - Ch55990)	
			23.5 (Ch55991 - Ch56739)	
LTE Band 66	Main.1	QPSK	**25.0**	**14.0**
LTE Band 71	Main.1	QPSK	**25.5**	**17.0**

RF Air interface	Antenna	Mode	Maximum allowed output Power (dBm)	
			DSI = 0	DSI =1
NR Band n2	Main.1	DFT-s-OFDM QPSK	**25.0**	**15.0**
NR Band n5	Main.1	DFT-s-OFDM QPSK	**25.0**	**19.0**
NR Band n25	Main.1	DFT-s-OFDM QPSK	**25.0**	**15.0**
NR Band n41	Main.2	DFT-s-OFDM QPSK	**26.5**	**15.0**
NR Band n66	Main.1	DFT-s-OFDM QPSK	**25.0**	**14.5**
NR Band n71	Main.1	DFT-s-OFDM QPSK	**25.5**	**21.0**
NR Band n77	Main.3	DFT-s-OFDM QPSK	**21.5**	**12.0**

Note(s):

1. Detail of DSI(Device State Index) conditions, please refer to Sec.6.5.
2. LTE Band 5, 66, 41-PC3 has support UL CA intra-band-continues mode with same target power in each standalone LTE bands. Details of configuration are refer to sec.6.9.
3. NR Bands support SA and NSA mode as same target power.

WLAN maximum output power

RF Air interface	Mode	Max. RF Output Power (dBm)		Reduced. RF Output Power (dBm) *-Note.2-*		Reduced. RF Output Power (dBm) *-Note.3-*	
		Wi-Fi SISO (Ant.1 / Ant.2)	Wi-Fi MIMO (Ant.1 + Ant.2)	Wi-Fi SISO (Ant.1 / Ant.2)	Wi-Fi SISO (Ant.1 / Ant.2)	Wi-Fi SISO (Ant.1 / Ant.2)	Wi-Fi SISO (Ant.1 / Ant.2)
WiFi 2.4 GHz (Ch.1)	802.11b	19.0		12.0			
	802.11g	16.0	19.0	12.0	15.0		
	802.11n HT20	16.0	19.0	12.0	15.0		
WiFi 2.4 GHz (Ch.2~10)	802.11b	19.0		12.0			
	802.11g	19.0	22.0	12.0	15.0		
	802.11n HT20	18.0	21.0	12.0	15.0		
WiFi 2.4 GHz (Ch11)	802.11b	19.0		12.0			
	802.11g	16.0	19.0	12.0	15.0		
	802.11n HT20	16.0	19.0	12.0	15.0		
WiFi 2.4 GHz (Ch.12)	802.11b	5.0		5.0			
	802.11g	5.0	8.0	5.0	8.0		
	802.11n HT20	5.0	8.0	5.0	8.0		
WiFi 2.4 GHz (Ch.13)	802.11b	2.0		2.0			
	802.11g	2.0	5.0	2.0	5.0		
	802.11n HT20	2.0	5.0	2.0	5.0		
WiFi 5 GHz (UNII-1 & UNII-2A)	802.11a	17.0	20.0	9.0	12.0	7.0	10.0
	802.11n HT20	17.0	20.0	9.0	12.0	7.0	10.0
	802.11n HT40	14.0	17.0	9.0	12.0	7.0	10.0
	802.11ac VHT20	17.0	20.0	9.0	12.0	7.0	10.0
	802.11ac VHT40	14.0	17.0	9.0	12.0	7.0	10.0
	802.11ac VHT80	13.0	16.0	9.0	12.0	7.0	10.0
WiFi 5 GHz (UNII-2A & UNII-3)	802.11a	17.0	20.0	9.5	12.5	7.0	10.0
	802.11n HT20	17.0	20.0	9.5	12.5	7.0	10.0
	802.11n HT40	14.0	17.0	9.5	12.5	7.0	10.0
	802.11ac VHT20	17.0	20.0	9.5	12.5	7.0	10.0
	802.11ac VHT40	14.0	17.0	9.5	12.5	7.0	10.0
	802.11ac VHT80	13.0	16.0	9.5	12.5	7.0	10.0
Bluetooth-BR		18.0		10.0			
Bluetooth-EDR		16.0		10.0			
Bluetooth-LE_1Mbps		8.0		8.0			
Bluetooth-LE 2Mbps		8.0		8.0			

Notes:

1. Only Wi-Fi Ant.1 has support Bluetooth tech.
2. When proximity sensor are triggering for 2.4GHz/5GHz antennas, Output power operates as table of Note.2.
3. When 5GHz UNII Bands operates at the same time as 5G mmW bands with triggering proximity sensor, Output power operate as table of Note.3.
4. 2.4GHz DTS Bands operates same reduced power(When triggering Proximity sensor), even if 5G mmW band work at the same time or not. Output power operate as table of Note.2.

6.5. Power Back-off Operation

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

Technologies Supported	Power Back-off mode	Standalone Exposure Conditions
All WWAN bands	Proximity sensor triggering	O
Wi-Fi 2.4GHz & 5GHz Bluetooth	Proximity sensor triggering	O

Note(s):

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

RF exposure Conditions	Technologuies Supported	DSI conditions	Supportd Power Back-off mode	Description
Standalone	All WWAN bands	DSI = 0	Proximity sensor -Not triggering-	When Device is not within certain distance of user, Proximity sensor is not triggered.
Standalone	All WWAN bands	DSI = 1	Proximity sensor -Triggering-	When Device is within certain distance of user, Proximity sensor is triggered.

Note(s):

This device uses different Device State Index (DSI) to configure different time averaged power levels based on exposure scenarios for WWAN bands.

6.6. General LTE SAR Test and Reporting Considerations

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

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies

Band 14	Frequency range: 788 - 798 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low				23305/ 790.5		
Mid			23330/ 793	23330/ 793		
High				23355/ 795.5		

Band 25	Frequency range: 1850 - 1915 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7
Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5
High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5	26683/ 1914.3

Band 26	Frequency range: 814 - 849 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low		26765/ 821.5	26740/ 819	26715/ 816.5	26705/ 815.5	26697/ 814.7
Mid		26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5
High		26965/ 841.5	26990/ 844	27015/ 846.5	27025/ 847.5	27033/ 848.3

Band 30	Frequency range: 2305 - 2315 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low				27685/ 2307.5		
Mid			27710/ 2310	27710/ 2310		
High				27735/ 2312.5		

Band 41	Frequency range: 2496 - 2690 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	39750 / 2506.0					
Low-Mid	40185 / 2549.5					
Mid	40620 / 2593.0					
Mid-High	41055 / 2636.5					
High	41490 / 2680.0					

Band 48	Frequency range: 3550 - 3700 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	55340/ 3560	55315/ 3557.5	55290/ 3555	55265/ 3552.5		
Low-Mid	55773/ 3603.3	55765/ 3602.5	55757/ 3601.7	55748/ 3600.8		
Mid-high	56207/ 3646.7	56215/ 3647.5	56223/ 3648.3	56232/ 3649.2		
High	56640/ 3690	56665/ 3692.5	56690/ 3695	56715/ 3697.5		

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies

Band 66	Frequency range: 1710 - 1780 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	132072/ 1720	132047/ 1717.5	132022/ 1715	131997/ 1712.5	131987/ 1711.5	131979/ 1710.7
Mid	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745
High	132572/ 1770	132597/ 1772.5	132622/ 1775	132647/ 1777.5	132657/ 1778.5	132665/ 1779.3

Band 71	Frequency range: 663 - 698 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	133222/ 673	133197/ 670.5	133172/ 668	133147/ 665.5		
Mid	133297/ 680.5	133297/ 680.5	133297/ 680.5	133297/ 680.5		
High	133372/ 688	133397/ 690.5	133422/ 693	133447/ 695.5		

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

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

Item	Description												
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band n2	Frequency range: 1850 - 1910 MHz											
		Channel Bandwidth (MHz)											
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low										372000 /1860	371500 /1857.5	371000 /1855	370500 /1852.5
	Mid										376000 /1880	376000 /1880	376000 /1880	376000 /1880
	High										380000 /1900	380500 /1902.5	381000 /1905	381500 /1907.5
	Band n5	Frequency range: 824 - 849 MHz											
		Channel Bandwidth (MHz)											
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low										166800 /834	166300 /831.5	165800 /829	165300 /826.5
	Mid										167300 /836.5	167300 /836.5	167300 /836.5	167300 /836.5
	High										167800 /839	168300 /841.5	168800 /844	169300 /846.5
	Band n25	Frequency range: 1850 - 1915 MHz											
		Channel Bandwidth (MHz)											
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low										372000 /1860	371500 /1857.5	371000 /1855	370500 /1852.5
	Mid										376500 /1882.5	376500 /1882.5	376500 /1882.5	376500 /1882.5
	High										381000 /1905	381500 /1907.5	382000 /1910	382500 /1912.5
	Band n41	Frequency range: 2496 - 2690 MHz											
		Channel Bandwidth (MHz)											
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low	509202 /2546.01	508200 /2541	507204 /2536.02		505200 /2526	504204 /2512.02	503202 /2516.01			501204 /2506.02			
	Low-Mid							513468 /2567.34			509898 /2549.49			
	Mid	518598 /2592.99				518598 /2592.99	518598 /2592.99				518598 /2592.99			
	Mid-High	528000 /2640	528996 /2644.98	529998 /2649.99		532998 /2664.99	523734 /2618.67	523734 /2618.67			527298 /2636.49			
	High							534000 /2670			535998 /2679.99			
	Band n66	Frequency range: 1710 - 1780 MHz											
		Channel Bandwidth (MHz)											
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low							346000 /1730	345000 /1725		344000 /1720	343500 /1717.5	343000 /1715	342500 /1712.5
	Mid							349000 /1745	349000 /1745		349000 /1745	349000 /1745	349000 /1745	349000 /1745
	High							352000 /1760	353000 /1765		354000 /1770	354500 /1772.5	355000 /1775	355500 /1777.5
	Band n71	Frequency range: 663 - 698 MHz											
		Channel Bandwidth (MHz)											
		100	90	80	70	60	50	40	30	25	20	15	10	5
	Low										134600 /673	134100 /670.5	133600 /668	133147 /665.5
	Mid										136100 /680.5	136100 /680.5	136100 /680.5	136100 /680.5
	High										137600 /688	138100 /690.5	138600 /693	133447 /695.5

<table>
<tr><th>Item</th><th colspan="14">Description</th></tr>
<tr><td rowspan="16">Frequency range, Channel Bandwidth, Numbers and Frequencies</td><td rowspan="2">Band n77
-Lower Band-</td><td colspan="14">Frequency range: 3450 - 3550 MHz</td></tr>
<tr><td colspan="14">Channel Bandwidth (MHz)</td></tr>
<tr><td></td><td>100</td><td>90</td><td>80</td><td>70</td><td>60</td><td>50</td><td>40</td><td>30</td><td>25</td><td>20</td><td>15</td><td>10</td><td>5</td></tr>
<tr><td>Low</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>630667
/3460</td><td></td><td></td><td></td></tr>
<tr><td>Mid</td><td>633333
/3500</td><td>633333
/3500</td><td>633333
/3500</td><td></td><td>633333
/3500</td><td>633333
/3500</td><td>633333
/3500</td><td></td><td></td><td>633333
/3500</td><td></td><td></td><td></td></tr>
<tr><td>High</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>635999
/3540</td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Band n77
-Upper Band-</td><td colspan="14">Frequency range: 3700 - 3980 MHz</td></tr>
<tr><td colspan="14">Channel Bandwidth (MHz)</td></tr>
<tr><td></td><td>100</td><td>90</td><td>80</td><td>70</td><td>60</td><td>50</td><td>40</td><td>30</td><td>25</td><td>20</td><td>15</td><td>10</td><td>5</td></tr>
<tr><td>Low</td><td rowspan="2">650000
/3750</td><td rowspan="2">649668
/3745.02</td><td rowspan="2">649334
/3740.01</td><td></td><td>648668
/3730.02</td><td>648334
/3725.01</td><td>648000
/3720</td><td></td><td></td><td>647334
/3710.01</td><td></td><td></td><td></td></tr>
<tr><td>Low-Mid</td><td></td><td>653556
/3803.34</td><td>652166
/3782.49</td><td>651200
/3768</td><td></td><td></td><td>650800
/3762</td><td></td><td></td><td></td></tr>
<tr><td>Mid-A</td><td rowspan="2">656000
/3840</td><td rowspan="2">656000
/3840</td><td rowspan="2">656000
/3840</td><td></td><td></td><td rowspan="2">656000
/3840</td><td>654400
/3816</td><td></td><td></td><td>654266
/3813.99</td><td></td><td></td><td></td></tr>
<tr><td>Mid-B</td><td></td><td></td><td>657600
/3864</td><td></td><td></td><td>657734
/3866.01</td><td></td><td></td><td></td></tr>
<tr><td>Mid-High</td><td rowspan="2">662000
/3930</td><td rowspan="2">662332
/3934.98</td><td rowspan="2">662666
/3939.99</td><td></td><td>658444
/3876.66</td><td>659834
/3897.51</td><td>660800
/3912</td><td></td><td></td><td>661200
/3918</td><td></td><td></td><td></td></tr>
<tr><td>High</td><td></td><td>663332
/3949.98</td><td>663666
/3954.99</td><td>664000
/3960</td><td></td><td></td><td>664666
/3969.99</td><td></td><td></td><td></td></tr>
<tr><td>SCS</td><td colspan="15">NR FDD Bands (n2, n5, n25, n66, n77): 15 kHz, NR TDD Bands (n41, n77): 30 kHz</td></tr>
<tr><td>Modulations Supported in UL</td><td colspan="15">DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM
CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM</td></tr>
<tr><td>A-MPR (Additional MPR) disabled for SAR Testing?</td><td colspan="15">Yes</td></tr>
<tr><td colspan="16">EN-DC Carrier Aggregation Possible Combinations</td></tr>
<tr><td>LTE Anchor Bands for NR Band n2</td><td colspan="15">LTE Band 5 / 12 / 13 / 14</td></tr>
<tr><td>LTE Anchor Bands for NR Band n5</td><td colspan="15">LTE Band 2 / 30 / 66</td></tr>
<tr><td>LTE Anchor Bands for NR Band n25</td><td colspan="15">LTE Band 12</td></tr>
<tr><td>LTE Anchor Bands for NR Band n41</td><td colspan="15">LTE Band 2 / 4 / 12 / 25 / 66</td></tr>
<tr><td>LTE Anchor Bands for NR Band n66</td><td colspan="15">LTE Band 5 / 12 / 13 / 14 / 71</td></tr>
<tr><td>LTE Anchor Bands for NR Band n71</td><td colspan="15">LTE Band 2 / 66</td></tr>
<tr><td>LTE Anchor Bands for NR Band n77</td><td colspan="15">LTE Band 2 / 5 / 12 / 13 / 14 / 30 / 66</td></tr>
</table>

Notes:

1. SAR test for NR bands and LTE anchor Bands were performed separately due to limitations in SAR probe calibration factors. And, Due to test setup limitations, SAR testing for NR was performed using test mode software to establish the connection.
2. NR configurations of SAR test were determined according to Section 5.2 of KDB 941225 D05.
3. Except NR Band n77(Only NAS mode), NR Bands has supports both SA and NSA mode.

6.8. LTE (TDD) Considerations

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

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

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

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

Calculated Duty Cycle

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

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

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

Note(s):
This device supports uplink-downlink configurations 0-6. The configuration with highest duty cycle was used for SAR Testing: configuration 0 at 63.3% duty cycle. Only LTE Band 41 $_{\text{Power Class 2}}$ was used configuration 1 at 43.3% duty cycle for SAR testing.

6.9. Dynamic Antenna tuner testing – For PAG REUSE

This Device applies Qualcomm chipset solution's Dynamic Antenna tuning technology to some 3G / 4G / 5G sub6 bands. (WCDMA BII/BIV/BV, LTE B2/B4/B5/B12/B13/B14/B17/B25/B26/B66/B71 and NR Bn2/n5/n25/n66/n71) Dynamic Antenna tuning was tested in accordance with the April 2019 FCC TCBC Workshop notes.

Per 2019, April TCBC Workshop document

- SAR is measured according to required procedures with dynamic tuner active allowing device to automatically tune. Auto-tune state determined by device during normal SAR measurement verified and listed alongside the reported SAR results.
- Additional single point SAR (time-sweep) measurements were evaluated for other tuner states to determine that the other configurations would result in equivalent or lower SAR values.
- Single point measurements performed at the peak SAR location of the highest measured SAR configuration for each combination. SAR probe remains stationary throughout the entire series of single point measurements for each combination.
- Total number tuner states divided evenly among each supported band / air interface and exposure condition combination. If any single point SAR measurement result is > 1.2 W/kg for a band / exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination. Tuner state is established remotely so that the device is not moved for the entire series of single point SAR measurements for the tuner states in each combination.

The following test procedures were followed to demonstrate that the SAR results in Section 10 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuning active to allow the device to automatically to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements were evaluated for other tuner states to determine that the other configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence on the antenna characteristics, other impedance matching.

To evaluate all the tuner states, the 144 tuner states were divided among the aggregate band, mode and exposure combinations so that each combination was evaluated for at least 24 tuner states and also so that at least 3 single point SAR measurements were made for every available tuner state. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band / mode / exposure condition, point SAR measurements were made for all 144 states.

This Device supports LTE & NR capabilities with overlapping transmission frequency ranges.

LTE Band 2 (1850 MHz – 1910 MHz) is covered by LTE Band 25 (1850 MHz – 1915 MHz)

LTE Band 4 (1710 MHz – 1755 MHz) is covered by LTE Band 66 (1710 MHz – 1780 MHz)

LTE Band 5 (824 MHz – 849 MHz) is covered by LTE Band 26 (814 MHz – 849 MHz)

NR Band n2 (1850 MHz – 1910 MHz) is covered by LTE Band n25 (1850 MHz – 1915 MHz)

Each both LTE bands share the same transmission path and signal characteristics. The Evaluation of Dynamic antenna tuner was only evaluated for the band with the larger transmission frequency range. The operational description contains more information about the design and implementation of the dynamic antenna tuning.

Note(s):

All test results are refer to Appendix I "Dynamic Antenna tuner testing".

7. RF Exposure Conditions (Test Configurations)

Refer to “SAR Photos and Ant locations” Appendix for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

7.1 Standalone SAR Test Exclusion Considerations

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

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

SAR Test Exclusion Calculations for WWAN

Antennas < 50mm to adjacent edges

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Calculated Threshold Value				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Full Power, Proximity Sensor Off														
Main 1	W-CDMA V	846.6	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	W-CDMA IV	1752.6	23.5	224	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	W-CDMA II	1907.6	23.5	224	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 7	2560	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 12	711	25.5	355	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 13	782	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 14	793	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 25(2)	1905	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 26(5)	841.5	25.5	355	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 30	2310	23.0	200	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 41	2680	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 66(4)	1770	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	LTE Band 71	688	25.5	355	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	NR Band n5	839	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	NR Band n25(n2)	1895	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	NR Band n66	1760	25.0	316	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 1	NR Band n71	688	25.5	355	0	0	283.7	71	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 2	NR Band n41	2640	26.5	447	0	0	272.1	138	0	Measure	Measure	> 50 mm	> 50 mm	Measure
Main 3	LTE Band 48	3690	23.5	224	0	115.6	283.7	0	0	Measure	> 50 mm	> 50 mm	Measure	Measure
Main 3	NR Band n77	3930	21.5	141	0	115.6	283.7	0	0	Measure	> 50 mm	> 50 mm	Measure	Measure
Power Back-off, Proximity Sensor On														
Main 1	W-CDMA V	846.6	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	W-CDMA IV	1752.6	13.5	22	0	0			0	Measure	Measure			Measure
Main 1	W-CDMA II	1907.6	13.5	22	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 7	2560	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 12	711	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 13	782	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 14	793	17.0	50	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 25(2)	1905	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 26(5)	841.5	17.5	56	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 30	2310	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 41	2680	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 66(4)	1770	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 71	688	17.0	50	0	0			0	Measure	Measure			Measure
Main 1	NR Band n5	839	19.0	79	0	0			0	Measure	Measure			Measure
Main 1	NR Band n25(n2)	1895	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	NR Band n66	1760	14.5	28	0	0			0	Measure	Measure			Measure
Main 1	NR Band n71	688	21.0	126	0	0			0	Measure	Measure			Measure
Main 2	NR Band n41	2640	15.0	32	0	0			0	Measure	Measure			Measure
Main 3	LTE Band 48	3690	14.0	25	0				0	Measure				Measure
Main 3	NR Band n77	3930	12.0	16	0				0	Measure				Measure

Note(s):

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

Antennas > 50mm to adjacent edges

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Calculated Threshold Value				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Full Power, Proximity Sensor Off														
Main 1	W-CDMA V	846.6	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	1482 mW -EXEMPT-	Measure	< 50 mm
Main 1	W-CDMA IV	1752.6	23.5	224	0	0	283.7	71	0	< 50 mm	< 50 mm	2450.3 mW -EXEMPT-	323.3 mW -EXEMPT-	< 50 mm
Main 1	W-CDMA II	1907.6	23.5	224	0	0	283.7	71	0	< 50 mm	< 50 mm	2445.6 mW -EXEMPT-	318.6 mW -EXEMPT-	< 50 mm
Main 1	LTE Band 7	2560	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	2430.8 mW -EXEMPT-	Measure	< 50 mm
Main 1	LTE Band 12	711	25.5	355	0	0	283.7	71	0	< 50 mm	< 50 mm	1285.6 mW -EXEMPT-	Measure	< 50 mm
Main 1	LTE Band 13	782	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	1388 mW -EXEMPT-	Measure	< 50 mm
Main 1	LTE Band 14	793	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	1403.9 mW -EXEMPT-	Measure	< 50 mm
Main 1	LTE Band 25(2)	1905	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	2445.7 mW -EXEMPT-	318.7 mW -EXEMPT-	< 50 mm
Main 1	LTE Band 26(5)	841.5	25.5	355	0	0	283.7	71	0	< 50 mm	< 50 mm	1474.6 mW -EXEMPT-	Measure	< 50 mm
Main 1	LTE Band 30	2310	23.0	200	0	0	283.7	71	0	< 50 mm	< 50 mm	2435.7 mW -EXEMPT-	308.7 mW -EXEMPT-	< 50 mm
Main 1	LTE Band 41	2680	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	2428.6 mW -EXEMPT-	Measure	< 50 mm
Main 1	LTE Band 66(4)	1770	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	2449.7 mW -EXEMPT-	322.7 mW -EXEMPT-	< 50 mm
Main 1	LTE Band 71	688	25.5	355	0	0	283.7	71	0	< 50 mm	< 50 mm	1252.7 mW -EXEMPT-	Measure	< 50 mm
Main 1	NR Band n5	839	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	1470.9 mW -EXEMPT-	Measure	< 50 mm
Main 1	NR Band n25(n2)	1895	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	2446 mW -EXEMPT-	319 mW -EXEMPT-	< 50 mm
Main 1	NR Band n66	1760	25.0	316	0	0	283.7	71	0	< 50 mm	< 50 mm	2450.1 mW -EXEMPT-	323.1 mW -EXEMPT-	< 50 mm
Main 1	NR Band n71	688	25.5	355	0	0	283.7	71	0	< 50 mm	< 50 mm	1252.7 mW -EXEMPT-	Measure	< 50 mm
Main 2	NR Band n41	2640	26.5	447	0	0	272.1	138	0	< 50 mm	< 50 mm	2313.3 mW -EXEMPT-	972.3 mW -EXEMPT-	< 50 mm
Main 3	LTE Band 48	3690	23.5	224	0	115.6	283.7	0	0	< 50 mm	734.1 mW -EXEMPT-	2415.1 mW -EXEMPT-	< 50 mm	< 50 mm
Main 3	NR Band n77	3930	21.5	141	0	115.6	283.7	0	0	< 50 mm	731.7 mW -EXEMPT-	2412.7 mW -EXEMPT-	< 50 mm	< 50 mm
Power Back-off, Proximity Sensor On														
Main 1	W-CDMA V	846.6	15.0	32	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	W-CDMA IV	1752.6	13.5	22	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	W-CDMA II	1907.6	13.5	22	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 7	2560	14.0	25	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 12	711	15.0	32	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 13	782	15.0	32	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 14	793	17.0	50	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 25(2)	1905	15.0	32	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 26(5)	841.5	17.5	56	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 30	2310	14.0	25	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 41	2680	14.0	25	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 66(4)	1770	14.0	25	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	LTE Band 71	688	17.0	50	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	NR Band n5	839	19.0	79	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	NR Band n25(n2)	1895	15.0	32	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	NR Band n66	1760	14.5	28	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 1	NR Band n71	688	21.0	126	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 2	NR Band n41	2640	15.0	32	0	0			0	< 50 mm	< 50 mm			< 50 mm
Main 3	LTE Band 48	3690	14.0	25	0				0	< 50 mm				< 50 mm
Main 3	NR Band n77	3930	12.0	16	0				0	< 50 mm				< 50 mm

Note(s):

1. According to KDB 447498, If the Output Power is less than the calculated Power threshold then SAR testing is not required.

SAR Test Exclusion Calculations for WLAN

Antennas < 50mm to adjacent edges

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Calculated Threshold Value				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Full power, Proximity Sensor Off														
WLAN/BT Ant.1	Wi-Fi 2.4 GHz	2462	19.00	79	0	0	272.1	138	0	Measure	Measure	> 50 mm	> 50 mm	Measure
	Wi-Fi 5.3 GHz	5320	17.00	50	0	0	272.1	138	0	Measure	Measure	> 50 mm	> 50 mm	Measure
	Wi-Fi 5.5 GHz	5700	17.00	50	0	0	272.1	138	0	Measure	Measure	> 50 mm	> 50 mm	Measure
	Wi-Fi 5.8 GHz	5825	17.00	50	0	0	272.1	138	0	Measure	Measure	> 50 mm	> 50 mm	Measure
	Bluetooth	2480	18.00	63	0	0	272.1	138	0	Measure	Measure	> 50 mm	> 50 mm	Measure
WLAN Ant.2	Wi-Fi 2.4 GHz	2462	19.00	79	0	138	272.1	0	0	Measure	> 50 mm	> 50 mm	Measure	Measure
	Wi-Fi 5.3 GHz	5320	17.00	50	0	138	272.1	0	0	Measure	> 50 mm	> 50 mm	Measure	Measure
	Wi-Fi 5.5 GHz	5700	17.00	50	0	138	272.1	0	0	Measure	> 50 mm	> 50 mm	Measure	Measure
	Wi-Fi 5.8 GHz	5825	17.00	50	0	138	272.1	0	0	Measure	> 50 mm	> 50 mm	Measure	Measure
Power Back-off, Proximity Sensor On														
WLAN/BT Ant.1	Wi-Fi 2.4 GHz	2462	12.00	16	0	0			0	Measure	Measure			Measure
	Wi-Fi 5.3 GHz	5320	9.00	8	0	0			0	Measure	Measure			Measure
	Wi-Fi 5.5 GHz	5700	9.50	9	0	0			0	Measure	Measure			Measure
	Wi-Fi 5.8 GHz	5825	9.50	9	0	0			0	Measure	Measure			Measure
	Bluetooth	2480	10.00	10	0	0			0	Measure	Measure			Measure
WLAN Ant.2	Wi-Fi 2.4 GHz	2462	12.00	16	0			0	0	Measure			Measure	Measure
	Wi-Fi 5.3 GHz	5320	9.00	8	0			0	0	Measure			Measure	Measure
	Wi-Fi 5.5 GHz	5700	9.50	9	0			0	0	Measure			Measure	Measure
	Wi-Fi 5.8 GHz	5825	9.50	9	0			0	0	Measure			Measure	Measure

Note(s):

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

Antennas > 50mm to adjacent edges

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Calculated Threshold Value				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Full power, Proximity Sensor Off														
WLAN/BT Ant.1	Wi-Fi 2.4 GHz	2462	19.00	79	0	0	272.1	138	0	< 50 mm	< 50 mm	2316.6 mW -EXEMPT-	975.6 mW -EXEMPT-	< 50 mm
	Wi-Fi 5.3 GHz	5320	17.00	50	0	0	272.1	138	0	< 50 mm	< 50 mm	2286 mW -EXEMPT-	945 mW -EXEMPT-	< 50 mm
	Wi-Fi 5.5 GHz	5700	17.00	50	0	0	272.1	138	0	< 50 mm	< 50 mm	2283.8 mW -EXEMPT-	942.8 mW -EXEMPT-	< 50 mm
	Wi-Fi 5.8 GHz	5825	17.00	50	0	0	272.1	138	0	< 50 mm	< 50 mm	2283.2 mW -EXEMPT-	942.2 mW -EXEMPT-	< 50 mm
	Bluetooth	2480	18.00	63	0	0	272.1	138	0	< 50 mm	< 50 mm	2316.3 mW -EXEMPT-	975.3 mW -EXEMPT-	< 50 mm
WLAN Ant.2	Wi-Fi 2.4 GHz	2462	19.00	79	0	138	272.1	0	0	< 50 mm	975.6 mW -EXEMPT-	2316.6 mW -EXEMPT-	< 50 mm	< 50 mm
	Wi-Fi 5.3 GHz	5320	17.00	50	0	138	272.1	0	0	< 50 mm	945 mW -EXEMPT-	2286 mW -EXEMPT-	< 50 mm	< 50 mm
	Wi-Fi 5.5 GHz	5700	17.00	50	0	138	272.1	0	0	< 50 mm	942.8 mW -EXEMPT-	2283.8 mW -EXEMPT-	< 50 mm	< 50 mm
	Wi-Fi 5.8 GHz	5825	17.00	50	0	138	272.1	0	0	< 50 mm	942.2 mW -EXEMPT-	2283.2 mW -EXEMPT-	< 50 mm	< 50 mm
Power Back-off, Proximity Sensor On														
WLAN/BT Ant.1	Wi-Fi 2.4 GHz	2462	12.00	16	0	0			0	< 50 mm	< 50 mm			< 50 mm
	Wi-Fi 5.3 GHz	5320	9.00	8	0	0			0	< 50 mm	< 50 mm			< 50 mm
	Wi-Fi 5.5 GHz	5700	9.50	9	0	0			0	< 50 mm	< 50 mm			< 50 mm
	Wi-Fi 5.8 GHz	5825	9.50	9	0	0			0	< 50 mm	< 50 mm			< 50 mm
	Bluetooth	2462	10.00	10	0	0			0	< 50 mm	< 50 mm			< 50 mm
WLAN Ant.2	Wi-Fi 2.4 GHz	2462	12.00	16	0			0	0	< 50 mm			< 50 mm	< 50 mm
	Wi-Fi 5.3 GHz	5320	9.00	8	0			0	0	< 50 mm			< 50 mm	< 50 mm
	Wi-Fi 5.5 GHz	5700	9.50	9	0			0	0	< 50 mm			< 50 mm	< 50 mm
	Wi-Fi 5.8 GHz	5825	9.50	9	0			0	0	< 50 mm			< 50 mm	< 50 mm

Note(s):

1. According to KDB 447498, If the Output Power is less than the calculated Power threshold then SAR testing is not required.

7.2 Required Test Configurations

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

WWAN Bands

Antenna	Tx Interface	Pwr Back-off	Rear	Edge 1 (Right Edge)	Edge 2 (Bottom Edge)	Edge 3 (Left Edge)	Edge 4 (Top Edge)	Corner A Note 2	Corner B Note 3
Main 1	W-CDMA Band V	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	W-CDMA Band IV	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	W-CDMA Band II	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 7	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 12	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 13	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 14	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 25(2)	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 26(5)	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 30	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 41	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 66(4)	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	LTE Band 71	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	NR Band n5	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	NR Band n25(n2)	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	NR Band n66	OFF	Yes	Yes	No	No	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 1	NR Band n71	OFF	Yes	Yes	No	Yes	Yes		
		ON	Yes	Yes	No	No	Yes		
Main 2	NR Band n 41	OFF	Yes	Yes	No	No	Yes	Yes	
		ON	Yes	Yes	No	No	Yes	Yes	
Main 3	LTE Band 48	OFF	Yes	No	No	Yes	Yes		
		ON	Yes	No	No	YEs	Yes		
Main 3	NR Band n77	OFF	Yes	No	No	Yes	Yes		
		On	Yes	No	No	YEs	Yes		

Note(s):

1. Yes = Testing is required. No = Testing is not required.
2. Corner A side is located between Edge 1(Right Edge) and Edge 4(Top Edge).
3. Corner B side is located between Edge 3(Left Edge) and Edge 4(Top Edge).
4. If Antenna and Sensor are located near corner region in device, Additional Corner SAR tests are evaluated.
5. The laptop configuration with the accessory keyboard connected was not evaluated as this was considered to be covered by the edge 3 tests (edge 3 is the bottom surface in laptop mode).

WLAN Bands

Antenna	Tx Interface	Pwr Back-off	Rear	Edge 1 (Right Edge)	Edge 2 (Bottom Edge)	Edge 3 (Left Edge)	Edge 4 (Top Edge)	Corner A Note 2	Corner B Note 3
WLAN/BT SISO Ant.1	2.4GHz DTS	OFF	Yes	Yes	No	No	Yes	Yes	
		ON	Yes	Yes	No	No	Yes	Yes	
	Bluetooth	OFF	Yes	Yes	No	No	Yes	Yes	
		ON	Yes	Yes	No	No	Yes	Yes	
	5GHz UNII	OFF	Yes	Yes	No	No	Yes	Yes	
		ON	Yes	Yes	No	No	Yes	Yes	
WLAN SISO Ant.2	2.4GHz DTS	OFF	Yes	No	No	Yes	Yes		Yes
		ON	Yes	No	No	Yes	Yes		Yes
	5GHz UNII	OFF	Yes	No	No	Yes	Yes		Yes
		ON	Yes	No	No	Yes	Yes		Yes
WLAN MIMO (Ant.1 + Ant.2)	2.4GHz DTS	OFF	Yes	Yes	No	Yes	Yes	Yes	Yes
		ON	Yes	Yes	No	Yes	Yes	Yes	Yes
	5GHz UNII	OFF	Yes	Yes	No	Yes	Yes	Yes	Yes
		ON	Yes	Yes	No	Yes	Yes	Yes	Yes

Note(s):

1. Yes = Testing is required. No = Testing is not required.
2. Corner A side is located between Edge 1(Right Edge) and Edge 4(Top Edge).
3. Corner B side is located between Edge 3(Left Edge) and Edge 4(Top Edge).
4. If Antenna and Sensor are located near corner region in device, Additional Corner SAR tests are evaluated.
5. The laptop configuration with the accessory keyboard connected was not evaluated as this was considered to be covered by the edge 3 tests (edge 3 is the bottom surface in laptop mode).
6. WLAN MIMO test are evaluated to all positions of Both WLAN SISO Ant.1 and WLAN SISO Ant.2.

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.

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

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

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:

SAR 2 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
4-26-2021	Head 5250	e'	35.6300	Relative Permittivity (ϵ_r):	35.63	35.93	-0.84	5
		e"	16.1100	Conductivity (σ):	4.70	4.70	0.01	5
	Head 5260	e'	35.6100	Relative Permittivity (ϵ_r):	35.61	35.92	-0.87	5
		e"	16.1100	Conductivity (σ):	4.71	4.71	-0.01	5
	Head 5600	e'	34.9800	Relative Permittivity (ϵ_r):	34.98	35.53	-1.56	5
		e"	16.4100	Conductivity (σ):	5.11	5.06	0.98	5
	Head 5750	e'	34.6700	Relative Permittivity (ϵ_r):	34.67	35.36	-1.96	5
		e"	16.5400	Conductivity (σ):	5.29	5.21	1.43	5
	Head 5825	e'	34.5600	Relative Permittivity (ϵ_r):	34.56	35.30	-2.10	5
		e"	16.5900	Conductivity (σ):	5.37	5.27	1.96	5
4-28-2021	Head 5250	e'	35.9800	Relative Permittivity (ϵ_r):	35.98	35.93	0.13	5
		e"	16.3900	Conductivity (σ):	4.78	4.70	1.75	5
	Head 5260	e'	35.9600	Relative Permittivity (ϵ_r):	35.96	35.92	0.11	5
		e"	16.4000	Conductivity (σ):	4.80	4.71	1.79	5
	Head 5600	e'	35.3200	Relative Permittivity (ϵ_r):	35.32	35.53	-0.60	5
		e"	16.6200	Conductivity (σ):	5.18	5.06	2.27	5
	Head 5750	e'	35.0300	Relative Permittivity (ϵ_r):	35.03	35.36	-0.94	5
		e"	16.7200	Conductivity (σ):	5.35	5.21	2.53	5
	Head 5825	e'	34.9000	Relative Permittivity (ϵ_r):	34.90	35.30	-1.13	5
		e"	16.7600	Conductivity (σ):	5.43	5.27	3.01	5
5-3-2021	Head 5250	e'	35.7900	Relative Permittivity (ϵ_r):	35.79	35.93	-0.40	5
		e"	16.1300	Conductivity (σ):	4.71	4.70	0.14	5
	Head 5260	e'	35.7700	Relative Permittivity (ϵ_r):	35.77	35.92	-0.42	5
		e"	16.1400	Conductivity (σ):	4.72	4.71	0.17	5
	Head 5600	e'	35.1800	Relative Permittivity (ϵ_r):	35.18	35.53	-1.00	5
		e"	16.2800	Conductivity (σ):	5.07	5.06	0.18	5
	Head 5750	e'	34.8900	Relative Permittivity (ϵ_r):	34.89	35.36	-1.34	5
		e"	16.3700	Conductivity (σ):	5.23	5.21	0.38	5
	Head 5825	e'	34.7800	Relative Permittivity (ϵ_r):	34.78	35.30	-1.47	5
		e"	16.4400	Conductivity (σ):	5.32	5.27	1.04	5
5-6-2021	Head 5250	e'	35.0900	Relative Permittivity (ϵ_r):	35.09	35.93	-2.35	5
		e"	16.4600	Conductivity (σ):	4.80	4.70	2.19	5
	Head 5260	e'	35.0800	Relative Permittivity (ϵ_r):	35.08	35.92	-2.34	5
		e"	16.4700	Conductivity (σ):	4.82	4.71	2.22	5
	Head 5600	e'	34.4000	Relative Permittivity (ϵ_r):	34.40	35.53	-3.19	5
		e"	16.6500	Conductivity (σ):	5.18	5.06	2.45	5
	Head 5750	e'	34.1200	Relative Permittivity (ϵ_r):	34.12	35.36	-3.51	5
		e"	16.7500	Conductivity (σ):	5.36	5.21	2.71	5
	Head 5825	e'	33.9800	Relative Permittivity (ϵ_r):	33.98	35.30	-3.74	5
		e"	16.8100	Conductivity (σ):	5.44	5.27	3.31	5
5-10-2021	Head 3500	e'	38.8500	Relative Permittivity (ϵ_r):	38.85	37.93	2.43	5
		e"	15.2200	Conductivity (σ):	2.96	2.91	1.73	5
	Head 3560	e'	38.7000	Relative Permittivity (ϵ_r):	38.70	37.86	2.22	5
		e"	15.2800	Conductivity (σ):	3.02	2.97	1.74	5
	Head 3600	e'	38.5900	Relative Permittivity (ϵ_r):	38.59	37.82	2.05	5
		e"	15.3200	Conductivity (σ):	3.07	3.01	1.75	5
	Head 3690	e'	38.3800	Relative Permittivity (ϵ_r):	38.38	37.71	1.77	5
		e"	15.3700	Conductivity (σ):	3.15	3.11	1.53	5
	Head 3700	e'	38.3600	Relative Permittivity (ϵ_r):	38.36	37.70	1.75	5
		e"	15.3700	Conductivity (σ):	3.16	3.12	1.47	5

SAR 2 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
5-10-2021	Head 3600	e'	38.5900	Relative Permittivity (ϵ_r):	38.59	37.82	2.05	5
		e"	15.3200	Conductivity (σ):	3.07	3.01	1.75	5
	Head 3650	e'	38.4600	Relative Permittivity (ϵ_r):	38.46	37.76	1.86	5
		e"	15.3400	Conductivity (σ):	3.11	3.07	1.57	5
	Head 3700	e'	38.3600	Relative Permittivity (ϵ_r):	38.36	37.70	1.75	5
		e"	15.3700	Conductivity (σ):	3.16	3.12	1.47	5
	Head 3750	e'	38.1900	Relative Permittivity (ϵ_r):	38.19	37.64	1.45	5
		e"	15.4200	Conductivity (σ):	3.22	3.17	1.51	5
	Head 3800	e'	38.0800	Relative Permittivity (ϵ_r):	38.08	37.59	1.31	5
		e"	15.4900	Conductivity (σ):	3.27	3.22	1.69	5
5-10-2021	Head 3600	e'	38.5900	Relative Permittivity (ϵ_r):	38.59	37.82	2.05	5
		e"	15.3200	Conductivity (σ):	3.07	3.01	1.75	5
	Head 3650	e'	38.4600	Relative Permittivity (ϵ_r):	38.46	37.76	1.86	5
		e"	15.3400	Conductivity (σ):	3.11	3.07	1.57	5
	Head 3700	e'	38.3600	Relative Permittivity (ϵ_r):	38.36	37.70	1.75	5
		e"	15.3700	Conductivity (σ):	3.16	3.12	1.47	5
	Head 3750	e'	38.1900	Relative Permittivity (ϵ_r):	38.19	37.64	1.45	5
		e"	15.4200	Conductivity (σ):	3.22	3.17	1.51	5
	Head 3800	e'	38.0800	Relative Permittivity (ϵ_r):	38.08	37.59	1.31	5
		e"	15.4900	Conductivity (σ):	3.27	3.22	1.69	5
5-12-2021	Head 5250	e'	35.7300	Relative Permittivity (ϵ_r):	35.73	35.93	-0.57	5
		e"	16.3100	Conductivity (σ):	4.76	4.70	1.26	5
	Head 5260	e'	35.7200	Relative Permittivity (ϵ_r):	35.72	35.92	-0.56	5
		e"	16.3200	Conductivity (σ):	4.77	4.71	1.29	5
	Head 5600	e'	35.1100	Relative Permittivity (ϵ_r):	35.11	35.53	-1.19	5
		e"	16.4800	Conductivity (σ):	5.13	5.06	1.41	5
	Head 5750	e'	34.7900	Relative Permittivity (ϵ_r):	34.79	35.36	-1.62	5
		e"	16.5900	Conductivity (σ):	5.30	5.21	1.73	5
	Head 5825	e'	34.6700	Relative Permittivity (ϵ_r):	34.67	35.30	-1.78	5
		e"	16.6300	Conductivity (σ):	5.39	5.27	2.21	5
5-16-2021	Head 5250	e'	36.8000	Relative Permittivity (ϵ_r):	36.80	35.93	2.41	5
		e"	15.7300	Conductivity (σ):	4.59	4.70	-2.35	5
	Head 5260	e'	36.7700	Relative Permittivity (ϵ_r):	36.77	35.92	2.36	5
		e"	15.7300	Conductivity (σ):	4.60	4.71	-2.37	5
	Head 5600	e'	36.1300	Relative Permittivity (ϵ_r):	36.13	35.53	1.68	5
		e"	16.0900	Conductivity (σ):	5.01	5.06	-0.99	5
	Head 5750	e'	35.8900	Relative Permittivity (ϵ_r):	35.89	35.36	1.49	5
		e"	16.2800	Conductivity (σ):	5.21	5.21	-0.17	5
	Head 5825	e'	35.7900	Relative Permittivity (ϵ_r):	35.79	35.30	1.39	5
		e"	16.3400	Conductivity (σ):	5.29	5.27	0.42	5
5-17-2021	Head 3500	e'	37.8500	Relative Permittivity (ϵ_r):	37.85	37.93	-0.21	5
		e"	15.2000	Conductivity (σ):	2.96	2.91	1.60	5
	Head 3560	e'	37.6900	Relative Permittivity (ϵ_r):	37.69	37.86	-0.45	5
		e"	15.2600	Conductivity (σ):	3.02	2.97	1.60	5
	Head 3600	e'	37.6300	Relative Permittivity (ϵ_r):	37.63	37.82	-0.49	5
		e"	15.2900	Conductivity (σ):	3.06	3.01	1.55	5
	Head 3690	e'	37.4200	Relative Permittivity (ϵ_r):	37.42	37.71	-0.78	5
		e"	15.3500	Conductivity (σ):	3.15	3.11	1.40	5
	Head 3700	e'	37.4000	Relative Permittivity (ϵ_r):	37.40	37.70	-0.80	5
		e"	15.3500	Conductivity (σ):	3.16	3.12	1.34	5

SAR 2 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
5-17-2021	Head 3600	e'	37.6300	Relative Permittivity (ε_r):	37.63	37.82	-0.49	5
		e"	15.2900	Conductivity (σ):	3.06	3.01	1.55	5
	Head 3650	e'	37.5200	Relative Permittivity (ε_r):	37.52	37.76	-0.63	5
		e"	15.3100	Conductivity (σ):	3.11	3.07	1.37	5
	Head 3700	e'	37.4000	Relative Permittivity (ε_r):	37.40	37.70	-0.80	5
		e"	15.3500	Conductivity (σ):	3.16	3.12	1.34	5
	Head 3750	e'	37.2900	Relative Permittivity (ε_r):	37.29	37.64	-0.94	5
		e"	15.4100	Conductivity (σ):	3.21	3.17	1.45	5
	Head 3800	e'	37.1700	Relative Permittivity (ε_r):	37.17	37.59	-1.11	5
		e"	15.4900	Conductivity (σ):	3.27	3.22	1.69	5
5-18-2021	Head 2600	e'	37.9100	Relative Permittivity (ε_r):	37.91	39.01	-2.82	5
		e"	13.7400	Conductivity (σ):	1.99	1.96	1.23	5
	Head 2500	e'	38.1200	Relative Permittivity (ε_r):	38.12	39.14	-2.60	5
		e"	13.7300	Conductivity (σ):	1.91	1.85	2.94	5
	Head 2700	e'	37.7100	Relative Permittivity (ε_r):	37.71	38.88	-3.02	5
		e"	13.7000	Conductivity (σ):	2.06	2.07	-0.65	5
5-20-2021	Head 3500	e'	38.1800	Relative Permittivity (ε_r):	38.18	37.93	0.66	5
		e"	14.9500	Conductivity (σ):	2.91	2.91	-0.07	5
	Head 3560	e'	38.0700	Relative Permittivity (ε_r):	38.07	37.86	0.55	5
		e"	14.9800	Conductivity (σ):	2.97	2.97	-0.26	5
	Head 3600	e'	37.9900	Relative Permittivity (ε_r):	37.99	37.82	0.46	5
		e"	15.0100	Conductivity (σ):	3.00	3.01	-0.31	5
	Head 3690	e'	37.8000	Relative Permittivity (ε_r):	37.80	37.71	0.23	5
		e"	15.0500	Conductivity (σ):	3.09	3.11	-0.58	5
	Head 3700	e'	37.7800	Relative Permittivity (ε_r):	37.78	37.70	0.21	5
		e"	15.0600	Conductivity (σ):	3.10	3.12	-0.57	5
5-20-2021	Head 3600	e'	37.9900	Relative Permittivity (ε_r):	37.99	37.82	0.46	5
		e"	15.0100	Conductivity (σ):	3.00	3.01	-0.31	5
	Head 3650	e'	37.8900	Relative Permittivity (ε_r):	37.89	37.76	0.35	5
		e"	15.0300	Conductivity (σ):	3.05	3.07	-0.48	5
	Head 3700	e'	37.7800	Relative Permittivity (ε_r):	37.78	37.70	0.21	5
		e"	15.0600	Conductivity (σ):	3.10	3.12	-0.57	5
	Head 3750	e'	37.6700	Relative Permittivity (ε_r):	37.67	37.64	0.07	5
		e"	15.1000	Conductivity (σ):	3.15	3.17	-0.60	5
	Head 3800	e'	37.5400	Relative Permittivity (ε_r):	37.54	37.59	-0.13	5
		e"	15.1600	Conductivity (σ):	3.20	3.22	-0.48	5
5-20-2021	Head 2600	e'	39.9300	Relative Permittivity (ε_r):	39.93	39.01	2.36	5
		e"	13.7500	Conductivity (σ):	1.99	1.96	1.31	5
	Head 2500	e'	40.2000	Relative Permittivity (ε_r):	40.20	39.14	2.72	5
		e"	13.7000	Conductivity (σ):	1.90	1.85	2.72	5
	Head 2700	e'	39.7400	Relative Permittivity (ε_r):	39.74	38.88	2.20	5
		e"	13.7500	Conductivity (σ):	2.06	2.07	-0.29	5
5-24-2021	Head 3600	e'	38.1600	Relative Permittivity (ε_r):	38.16	37.82	0.91	5
		e"	15.0000	Conductivity (σ):	3.00	3.01	-0.38	5
	Head 3650	e'	38.0800	Relative Permittivity (ε_r):	38.08	37.76	0.85	5
		e"	15.0400	Conductivity (σ):	3.05	3.07	-0.41	5
	Head 3700	e'	37.9800	Relative Permittivity (ε_r):	37.98	37.70	0.74	5
		e"	15.0700	Conductivity (σ):	3.10	3.12	-0.51	5
	Head 3750	e'	37.9000	Relative Permittivity (ε_r):	37.90	37.64	0.68	5
		e"	15.1200	Conductivity (σ):	3.15	3.17	-0.46	5
	Head 3800	e'	37.7800	Relative Permittivity (ε_r):	37.78	37.59	0.51	5
		e"	15.1500	Conductivity (σ):	3.20	3.22	-0.54	5
6-10-2021	Head 1750	e'	39.1000	Relative Permittivity (ε_r):	39.10	40.08	-2.46	5
		e"	14.3900	Conductivity (σ):	1.40	1.37	2.28	5
	Head 1710	e'	39.1800	Relative Permittivity (ε_r):	39.18	40.15	-2.41	5
		e"	14.5600	Conductivity (σ):	1.38	1.35	2.82	5
	Head 1755	e'	39.0900	Relative Permittivity (ε_r):	39.09	40.08	-2.46	5
		e"	14.3600	Conductivity (σ):	1.40	1.37	2.15	5

SAR 3 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
4-12-2021	Head 750	e'	41.1200	Relative Permittivity (ϵ_r):	41.12	41.96	-2.01	5
		e"	20.8500	Conductivity (σ):	0.87	0.89	-2.64	5
	Head 680	e'	41.3700	Relative Permittivity (ϵ_r):	41.37	42.32	-2.25	5
		e"	22.4700	Conductivity (σ):	0.85	0.89	-4.29	5
	Head 790	e'	41.0900	Relative Permittivity (ϵ_r):	41.09	41.76	-1.60	5
		e"	20.1300	Conductivity (σ):	0.88	0.90	-1.33	5
4-12-2021	Head 835	e'	41.0900	Relative Permittivity (ϵ_r):	41.09	41.50	-0.99	5
		e"	19.4700	Conductivity (σ):	0.90	0.90	0.44	5
	Head 820	e'	41.1000	Relative Permittivity (ϵ_r):	41.10	41.60	-1.21	5
		e"	19.6900	Conductivity (σ):	0.90	0.90	-0.08	5
	Head 850	e'	41.0700	Relative Permittivity (ϵ_r):	41.07	41.50	-1.04	5
		e"	19.2200	Conductivity (σ):	0.91	0.92	-0.72	5
4-28-2021	Head 1750	e'	39.2900	Relative Permittivity (ϵ_r):	39.29	40.08	-1.98	5
		e"	13.7400	Conductivity (σ):	1.34	1.37	-2.34	5
	Head 1710	e'	39.5100	Relative Permittivity (ϵ_r):	39.51	40.15	-1.58	5
		e"	13.8600	Conductivity (σ):	1.32	1.35	-2.12	5
	Head 1755	e'	39.2600	Relative Permittivity (ϵ_r):	39.26	40.08	-2.04	5
		e"	13.7200	Conductivity (σ):	1.34	1.37	-2.40	5
5-3-2021	Head 1750	e'	39.0800	Relative Permittivity (ϵ_r):	39.08	40.08	-2.51	5
		e"	13.8100	Conductivity (σ):	1.34	1.37	-1.84	5
	Head 1710	e'	39.2100	Relative Permittivity (ϵ_r):	39.21	40.15	-2.33	5
		e"	13.8800	Conductivity (σ):	1.32	1.35	-1.98	5
	Head 1755	e'	39.0700	Relative Permittivity (ϵ_r):	39.07	40.08	-2.51	5
		e"	13.8000	Conductivity (σ):	1.35	1.37	-1.83	5
5-3-2021	Head 1900	e'	38.8400	Relative Permittivity (ϵ_r):	38.84	40.00	-2.90	5
		e"	13.4500	Conductivity (σ):	1.42	1.40	1.50	5
	Head 1850	e'	38.8700	Relative Permittivity (ϵ_r):	38.87	40.00	-2.83	5
		e"	13.5300	Conductivity (σ):	1.39	1.40	-0.59	5
	Head 1910	e'	38.8400	Relative Permittivity (ϵ_r):	38.84	40.00	-2.90	5
		e"	13.4400	Conductivity (σ):	1.43	1.40	1.95	5
5-4-2021	head 2250	e'	38.2100	Relative Permittivity (ϵ_r):	38.21	39.56	-3.41	5
		e"	13.4400	Conductivity (σ):	1.68	1.62	3.81	5
	head 2300	e'	38.1400	Relative Permittivity (ϵ_r):	38.14	39.47	-3.38	5
		e"	13.4500	Conductivity (σ):	1.72	1.66	3.39	5
	head 2350	e'	38.0300	Relative Permittivity (ϵ_r):	38.03	39.38	-3.44	5
		e"	13.4700	Conductivity (σ):	1.76	1.71	3.07	5
5-6-2021	Head 1900	e'	38.5900	Relative Permittivity (ϵ_r):	38.59	40.00	-3.52	5
		e"	13.7700	Conductivity (σ):	1.45	1.40	3.91	5
	Head 1850	e'	38.6200	Relative Permittivity (ϵ_r):	38.62	40.00	-3.45	5
		e"	13.8500	Conductivity (σ):	1.42	1.40	1.76	5
	Head 1910	e'	38.5700	Relative Permittivity (ϵ_r):	38.57	40.00	-3.58	5
		e"	13.7500	Conductivity (σ):	1.46	1.40	4.31	5
5-10-2021	head 2250	e'	38.0900	Relative Permittivity (ϵ_r):	38.09	39.56	-3.72	5
		e"	13.4500	Conductivity (σ):	1.68	1.62	3.88	5
	head 2300	e'	37.9400	Relative Permittivity (ϵ_r):	37.94	39.47	-3.88	5
		e"	13.5300	Conductivity (σ):	1.73	1.66	4.00	5
	head 2350	e'	37.8200	Relative Permittivity (ϵ_r):	37.82	39.38	-3.97	5
		e"	13.6000	Conductivity (σ):	1.78	1.71	4.06	5

SAR 3 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
5-10-2021	Head 5250	e'	35.0200	Relative Permittivity (ε_r):	35.02	35.93	-2.54	5
		e"	15.8400	Conductivity (σ):	4.62	4.70	-1.66	5
	Head 5260	e'	35.0100	Relative Permittivity (ε_r):	35.01	35.92	-2.54	5
		e"	15.8600	Conductivity (σ):	4.64	4.71	-1.57	5
	Head 5600	e'	34.3400	Relative Permittivity (ε_r):	34.34	35.53	-3.36	5
		e"	16.1100	Conductivity (σ):	5.02	5.06	-0.87	5
	Head 5750	e'	34.0700	Relative Permittivity (ε_r):	34.07	35.36	-3.66	5
		e"	16.2300	Conductivity (σ):	5.19	5.21	-0.47	5
	Head 5825	e'	33.9400	Relative Permittivity (ε_r):	33.94	35.30	-3.85	5
		e"	16.2600	Conductivity (σ):	5.27	5.27	-0.07	5
5-12-2021	Head 835	e'	42.9800	Relative Permittivity (ε_r):	42.98	41.50	3.57	5
		e"	19.2400	Conductivity (σ):	0.89	0.90	-0.75	5
	Head 820	e'	43.0000	Relative Permittivity (ε_r):	43.00	41.60	3.36	5
		e"	19.4700	Conductivity (σ):	0.89	0.90	-1.19	5
	Head 850	e'	42.9800	Relative Permittivity (ε_r):	42.98	41.50	3.57	5
		e"	18.9900	Conductivity (σ):	0.90	0.92	-1.91	5
5-13-2021	Head 750	e'	42.3000	Relative Permittivity (ε_r):	42.30	41.96	0.81	5
		e"	22.2300	Conductivity (σ):	0.93	0.89	3.80	5
	Head 680	e'	42.3300	Relative Permittivity (ε_r):	42.33	42.32	0.02	5
		e"	23.8200	Conductivity (σ):	0.90	0.89	1.46	5
	Head 795	e'	42.3100	Relative Permittivity (ε_r):	42.31	41.73	1.39	5
		e"	21.1000	Conductivity (σ):	0.93	0.90	4.04	5
5-14-2021	Head 1900	e'	41.2800	Relative Permittivity (ε_r):	41.28	40.00	3.20	5
		e"	12.9900	Conductivity (σ):	1.37	1.40	-1.98	5
	Head 1850	e'	41.1900	Relative Permittivity (ε_r):	41.19	40.00	2.97	5
		e"	13.0900	Conductivity (σ):	1.35	1.40	-3.82	5
	Head 1910	e'	41.3000	Relative Permittivity (ε_r):	41.30	40.00	3.25	5
		e"	12.9600	Conductivity (σ):	1.38	1.40	-1.69	5
5-16-2021	Head 5250	e'	37.2800	Relative Permittivity (ε_r):	37.28	35.93	3.75	5
		e"	15.8000	Conductivity (σ):	4.61	4.70	-1.91	5
	Head 5260	e'	37.2500	Relative Permittivity (ε_r):	37.25	35.92	3.70	5
		e"	15.8000	Conductivity (σ):	4.62	4.71	-1.94	5
	Head 5600	e'	36.6100	Relative Permittivity (ε_r):	36.61	35.53	3.03	5
		e"	16.1200	Conductivity (σ):	5.02	5.06	-0.81	5
	Head 5750	e'	36.3300	Relative Permittivity (ε_r):	36.33	35.36	2.74	5
		e"	16.2700	Conductivity (σ):	5.20	5.21	-0.23	5
	Head 5825	e'	36.2000	Relative Permittivity (ε_r):	36.20	35.30	2.55	5
		e"	16.3300	Conductivity (σ):	5.29	5.27	0.36	5
5-17-2021	Head 1750	e'	40.1400	Relative Permittivity (ε_r):	40.14	40.08	0.14	5
		e"	13.5000	Conductivity (σ):	1.31	1.37	-4.04	5
	Head 1710	e'	40.2200	Relative Permittivity (ε_r):	40.22	40.15	0.18	5
		e"	13.6000	Conductivity (σ):	1.29	1.35	-3.96	5
	Head 1755	e'	40.1300	Relative Permittivity (ε_r):	40.13	40.08	0.13	5
		e"	13.4900	Conductivity (σ):	1.32	1.37	-4.04	5
5-17-2021	Head 1900	e'	39.9400	Relative Permittivity (ε_r):	39.94	40.00	-0.15	5
		e"	13.2300	Conductivity (σ):	1.40	1.40	-0.16	5
	Head 1850	e'	39.9900	Relative Permittivity (ε_r):	39.99	40.00	-0.02	5
		e"	13.3400	Conductivity (σ):	1.37	1.40	-1.98	5
	Head 1910	e'	39.9200	Relative Permittivity (ε_r):	39.92	40.00	-0.20	5
		e"	13.2200	Conductivity (σ):	1.40	1.40	0.28	5

SAR 3 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
5-17-2021	head 2250	e'	39.4600	Relative Permittivity (ϵ_r):	39.46	39.56	-0.25	5
		e"	12.9500	Conductivity (σ):	1.62	1.62	0.02	5
	head 2300	e'	39.4200	Relative Permittivity (ϵ_r):	39.42	39.47	-0.13	5
		e"	13.0100	Conductivity (σ):	1.66	1.66	0.00	5
	head 2350	e'	39.3500	Relative Permittivity (ϵ_r):	39.35	39.38	-0.09	5
		e"	13.0200	Conductivity (σ):	1.70	1.71	-0.37	5
5-17-2021	Head 2450	e'	39.0500	Relative Permittivity (ϵ_r):	39.05	39.20	-0.38	5
		e"	12.8800	Conductivity (σ):	1.75	1.80	-2.52	5
	Head 2400	e'	39.0900	Relative Permittivity (ϵ_r):	39.09	39.30	-0.53	5
		e"	12.9100	Conductivity (σ):	1.72	1.75	-1.65	5
	Head 2480	e'	39.0100	Relative Permittivity (ϵ_r):	39.01	39.16	-0.39	5
		e"	12.8500	Conductivity (σ):	1.77	1.83	-3.30	5
5-17-2021	Head 2600	e'	38.9200	Relative Permittivity (ϵ_r):	38.92	39.01	-0.23	5
		e"	13.1300	Conductivity (σ):	1.90	1.96	-3.26	5
	Head 2500	e'	39.0900	Relative Permittivity (ϵ_r):	39.09	39.14	-0.12	5
		e"	13.0600	Conductivity (σ):	1.82	1.85	-2.08	5
	Head 2700	e'	38.7100	Relative Permittivity (ϵ_r):	38.71	38.88	-0.45	5
		e"	13.1900	Conductivity (σ):	1.98	2.07	-4.35	5
5-23-2021	Head 1750	e'	39.2000	Relative Permittivity (ϵ_r):	39.20	40.08	-2.21	5
		e"	14.2100	Conductivity (σ):	1.38	1.37	1.00	5
	Head 1710	e'	39.3000	Relative Permittivity (ϵ_r):	39.30	40.15	-2.11	5
		e"	14.3000	Conductivity (σ):	1.36	1.35	0.98	5
	Head 1755	e'	39.1900	Relative Permittivity (ϵ_r):	39.19	40.08	-2.21	5
		e"	14.2000	Conductivity (σ):	1.39	1.37	1.01	5
5-24-2021	Head 5180	e'	36.0400	Relative Permittivity (ϵ_r):	36.04	36.01	0.07	5
		e"	15.9500	Conductivity (σ):	4.59	4.63	-0.79	5
	Head 5200	e'	36.0100	Relative Permittivity (ϵ_r):	36.01	35.99	0.06	5
		e"	16.0300	Conductivity (σ):	4.63	4.65	-0.35	5
	Head 5600	e'	35.3900	Relative Permittivity (ϵ_r):	35.39	35.53	-0.40	5
		e"	16.1100	Conductivity (σ):	5.02	5.06	-0.87	5
	Head 5800	e'	35.0200	Relative Permittivity (ϵ_r):	35.02	35.30	-0.79	5
		e"	16.3300	Conductivity (σ):	5.27	5.27	-0.07	5
	Head 5825	e'	34.9700	Relative Permittivity (ϵ_r):	34.97	35.30	-0.93	5
		e"	16.2700	Conductivity (σ):	5.27	5.27	-0.01	5
5-26-2021	Head 5250	e'	35.3800	Relative Permittivity (ϵ_r):	35.38	35.93	-1.54	5
		e"	15.5300	Conductivity (σ):	4.53	4.70	-3.59	5
	Head 5260	e'	35.3500	Relative Permittivity (ϵ_r):	35.35	35.92	-1.59	5
		e"	15.5300	Conductivity (σ):	4.54	4.71	-3.61	5
	Head 5600	e'	34.5900	Relative Permittivity (ϵ_r):	34.59	35.53	-2.66	5
		e"	15.9200	Conductivity (σ):	4.96	5.06	-2.04	5
	Head 5750	e'	34.1900	Relative Permittivity (ϵ_r):	34.19	35.36	-3.32	5
		e"	16.0400	Conductivity (σ):	5.13	5.21	-1.64	5
	Head 5825	e'	34.1200	Relative Permittivity (ϵ_r):	34.12	35.30	-3.34	5
		e"	16.1000	Conductivity (σ):	5.21	5.27	-1.05	5
6-11-2021	Head 1750	e'	39.0600	Relative Permittivity (ϵ_r):	39.06	40.08	-2.56	5
		e"	13.7800	Conductivity (σ):	1.34	1.37	-2.05	5
	Head 1710	e'	39.0800	Relative Permittivity (ϵ_r):	39.08	40.15	-2.66	5
		e"	13.7800	Conductivity (σ):	1.31	1.35	-2.69	5
	Head 1755	e'	39.0600	Relative Permittivity (ϵ_r):	39.06	40.08	-2.54	5
		e"	13.7800	Conductivity (σ):	1.34	1.37	-1.98	5

SAR 4 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
4-12-2021	Head 2600	e'	38.1000	Relative Permittivity (ϵ_r):	38.10	39.01	-2.33	5
		e"	13.5500	Conductivity (σ):	1.96	1.96	-0.17	5
	Head 2500	e'	38.4500	Relative Permittivity (ϵ_r):	38.45	39.14	-1.76	5
		e"	13.3500	Conductivity (σ):	1.86	1.85	0.09	5
	Head 2700	e'	37.7400	Relative Permittivity (ϵ_r):	37.74	38.88	-2.94	5
		e"	13.7500	Conductivity (σ):	2.06	2.07	-0.29	5
5-3-2021	Head 2600	e'	38.5900	Relative Permittivity (ϵ_r):	38.59	39.01	-1.08	5
		e"	13.7600	Conductivity (σ):	1.99	1.96	1.38	5
	Head 2500	e'	38.8600	Relative Permittivity (ϵ_r):	38.86	39.14	-0.71	5
		e"	13.4500	Conductivity (σ):	1.87	1.85	0.84	5
	Head 2700	e'	38.2400	Relative Permittivity (ϵ_r):	38.24	38.88	-1.66	5
		e"	14.0200	Conductivity (σ):	2.10	2.07	1.67	5
4-26-2021	Head 2450	e'	38.9500	Relative Permittivity (ϵ_r):	38.95	39.20	-0.64	5
		e"	13.2300	Conductivity (σ):	1.80	1.80	0.13	5
	Head 2400	e'	39.0800	Relative Permittivity (ϵ_r):	39.08	39.30	-0.55	5
		e"	13.1200	Conductivity (σ):	1.75	1.75	-0.05	5
	Head 2480	e'	38.8700	Relative Permittivity (ϵ_r):	38.87	39.16	-0.75	5
		e"	13.2800	Conductivity (σ):	1.83	1.83	-0.06	5
5-5-2021	Head 2450	e'	39.6300	Relative Permittivity (ϵ_r):	39.63	39.20	1.10	5
		e"	13.5700	Conductivity (σ):	1.85	1.80	2.70	5
	Head 2400	e'	39.8200	Relative Permittivity (ϵ_r):	39.82	39.30	1.33	5
		e"	13.3700	Conductivity (σ):	1.78	1.75	1.86	5
	Head 2480	e'	39.5100	Relative Permittivity (ϵ_r):	39.51	39.16	0.89	5
		e"	13.6600	Conductivity (σ):	1.88	1.83	2.80	5
5-5-2021	Head 2600	e'	39.0000	Relative Permittivity (ϵ_r):	39.00	39.01	-0.03	5
		e"	14.0000	Conductivity (σ):	2.02	1.96	3.15	5
	Head 2500	e'	39.4200	Relative Permittivity (ϵ_r):	39.42	39.14	0.72	5
		e"	13.7200	Conductivity (σ):	1.91	1.85	2.87	5
	Head 2700	e'	38.5800	Relative Permittivity (ϵ_r):	38.58	38.88	-0.78	5
		e"	14.1800	Conductivity (σ):	2.13	2.07	2.83	5
5-11-2021	Head 2450	e'	38.8100	Relative Permittivity (ϵ_r):	38.81	39.20	-0.99	5
		e"	13.5500	Conductivity (σ):	1.85	1.80	2.55	5
	Head 2400	e'	38.8700	Relative Permittivity (ϵ_r):	38.87	39.30	-1.09	5
		e"	13.5700	Conductivity (σ):	1.81	1.75	3.38	5
	Head 2480	e'	38.7800	Relative Permittivity (ϵ_r):	38.78	39.16	-0.98	5
		e"	13.5400	Conductivity (σ):	1.87	1.83	1.89	5
5-11-2021	Head 2600	e'	38.6900	Relative Permittivity (ϵ_r):	38.69	39.01	-0.82	5
		e"	13.6900	Conductivity (σ):	1.98	1.96	0.87	5
	Head 2500	e'	38.7700	Relative Permittivity (ϵ_r):	38.77	39.14	-0.94	5
		e"	13.5600	Conductivity (σ):	1.88	1.85	1.67	5
	Head 2700	e'	38.5000	Relative Permittivity (ϵ_r):	38.50	38.88	-0.99	5
		e"	13.8400	Conductivity (σ):	2.08	2.07	0.36	5

SAR 5 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
4-6-2021	Head 835	e'	41.7500	Relative Permittivity (ϵ_r):	41.75	41.50	0.60	5
		e"	19.2700	Conductivity (σ):	0.89	0.90	-0.59	5
	Head 820	e'	41.8100	Relative Permittivity (ϵ_r):	41.81	41.60	0.50	5
		e"	19.5300	Conductivity (σ):	0.89	0.90	-0.89	5
	Head 850	e'	41.7000	Relative Permittivity (ϵ_r):	41.70	41.50	0.48	5
		e"	19.0100	Conductivity (σ):	0.90	0.92	-1.81	5
4-5-2021	Head 750	e'	41.9000	Relative Permittivity (ϵ_r):	41.90	41.96	-0.15	5
		e"	21.7700	Conductivity (σ):	0.91	0.89	1.66	5
	Head 700	e'	42.0900	Relative Permittivity (ϵ_r):	42.09	42.22	-0.30	5
		e"	22.9300	Conductivity (σ):	0.89	0.89	0.37	5
	Head 790	e'	41.7100	Relative Permittivity (ϵ_r):	41.71	41.76	-0.11	5
		e"	20.9700	Conductivity (σ):	0.92	0.90	2.79	5
4-6-2021	Head 1900	e'	39.6200	Relative Permittivity (ϵ_r):	39.62	40.00	-0.95	5
		e"	13.1400	Conductivity (σ):	1.39	1.40	-0.84	5
	Head 1850	e'	39.6900	Relative Permittivity (ϵ_r):	39.69	40.00	-0.78	5
		e"	13.2900	Conductivity (σ):	1.37	1.40	-2.35	5
	Head 1910	e'	39.6100	Relative Permittivity (ϵ_r):	39.61	40.00	-0.98	5
		e"	13.1200	Conductivity (σ):	1.39	1.40	-0.47	5
4-9-2021	Head 1900	e'	40.1200	Relative Permittivity (ϵ_r):	40.12	40.00	0.30	5
		e"	13.2900	Conductivity (σ):	1.40	1.40	0.29	5
	Head 1850	e'	40.1300	Relative Permittivity (ϵ_r):	40.13	40.00	0.33	5
		e"	13.3700	Conductivity (σ):	1.38	1.40	-1.76	5
	Head 1910	e'	40.1100	Relative Permittivity (ϵ_r):	40.11	40.00	0.27	5
		e"	13.2800	Conductivity (σ):	1.41	1.40	0.74	5
4-12-2021	Head 1750	e'	41.0300	Relative Permittivity (ϵ_r):	41.03	40.08	2.36	5
		e"	13.5600	Conductivity (σ):	1.32	1.37	-3.62	5
	Head 1710	e'	40.9700	Relative Permittivity (ϵ_r):	40.97	40.15	2.05	5
		e"	13.6300	Conductivity (σ):	1.30	1.35	-3.75	5
	Head 1755	e'	41.0400	Relative Permittivity (ϵ_r):	41.04	40.08	2.40	5
		e"	13.5500	Conductivity (σ):	1.32	1.37	-3.61	5
4-12-2021	Head 1900	e'	41.3500	Relative Permittivity (ϵ_r):	41.35	40.00	3.38	5
		e"	13.2600	Conductivity (σ):	1.40	1.40	0.06	5
	Head 1850	e'	41.2200	Relative Permittivity (ϵ_r):	41.22	40.00	3.05	5
		e"	13.3600	Conductivity (σ):	1.37	1.40	-1.84	5
	Head 1910	e'	41.3600	Relative Permittivity (ϵ_r):	41.36	40.00	3.40	5
		e"	13.2500	Conductivity (σ):	1.41	1.40	0.51	5
4-14-2021	Head 750	e'	43.8200	Relative Permittivity (ϵ_r):	43.82	41.96	4.43	5
		e"	21.1500	Conductivity (σ):	0.88	0.89	-1.24	5
	Head 680	e'	44.0400	Relative Permittivity (ϵ_r):	44.04	42.32	4.06	5
		e"	22.7100	Conductivity (σ):	0.86	0.89	-3.27	5
	Head 795	e'	43.7200	Relative Permittivity (ϵ_r):	43.72	41.73	4.77	5
		e"	20.3400	Conductivity (σ):	0.90	0.90	0.29	5
5-3-2021	Head 750	e'	41.6900	Relative Permittivity (ϵ_r):	41.69	41.96	-0.65	5
		e"	21.4900	Conductivity (σ):	0.90	0.89	0.35	5
	Head 680	e'	41.9500	Relative Permittivity (ϵ_r):	41.95	42.32	-0.88	5
		e"	23.0400	Conductivity (σ):	0.87	0.89	-1.86	5
	Head 795	e'	41.5000	Relative Permittivity (ϵ_r):	41.50	41.73	-0.55	5
		e"	20.6100	Conductivity (σ):	0.91	0.90	1.62	5
5-10-2021	Head 750	e'	41.9900	Relative Permittivity (ϵ_r):	41.99	41.96	0.07	5
		e"	21.3300	Conductivity (σ):	0.89	0.89	-0.40	5
	Head 700	e'	42.1000	Relative Permittivity (ϵ_r):	42.10	42.22	-0.28	5
		e"	22.4800	Conductivity (σ):	0.87	0.89	-1.60	5
	Head 790	e'	42.1200	Relative Permittivity (ϵ_r):	42.12	41.76	0.87	5
		e"	20.6400	Conductivity (σ):	0.91	0.90	1.17	5

SAR 5 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
5-10-2021	Head 835	e'	42.0000	Relative Permittivity (ϵ_r):	42.00	41.50	1.20	5
		e"	19.6100	Conductivity (σ):	0.91	0.90	1.16	5
	Head 820	e'	42.0700	Relative Permittivity (ϵ_r):	42.07	41.60	1.12	5
		e"	19.9800	Conductivity (σ):	0.91	0.90	1.39	5
	Head 850	e'	41.9200	Relative Permittivity (ϵ_r):	41.92	41.50	1.01	5
		e"	19.2400	Conductivity (σ):	0.91	0.92	-0.62	5
5-10-2021	Head 1750	e'	39.7000	Relative Permittivity (ϵ_r):	39.70	40.08	-0.96	5
		e"	13.5000	Conductivity (σ):	1.31	1.37	-4.04	5
	Head 1710	e'	39.8500	Relative Permittivity (ϵ_r):	39.85	40.15	-0.74	5
		e"	13.6100	Conductivity (σ):	1.29	1.35	-3.89	5
	Head 1755	e'	39.6900	Relative Permittivity (ϵ_r):	39.69	40.08	-0.97	5
		e"	13.5000	Conductivity (σ):	1.32	1.37	-3.97	5
5-10-2021	Head 1900	e'	39.5500	Relative Permittivity (ϵ_r):	39.55	40.00	-1.13	5
		e"	12.9300	Conductivity (σ):	1.37	1.40	-2.43	5
	Head 1850	e'	39.6100	Relative Permittivity (ϵ_r):	39.61	40.00	-0.98	5
		e"	13.1200	Conductivity (σ):	1.35	1.40	-3.60	5
	Head 1910	e'	39.5700	Relative Permittivity (ϵ_r):	39.57	40.00	-1.08	5
		e"	12.9100	Conductivity (σ):	1.37	1.40	-2.07	5
5-11-2021	Head 2600	e'	39.1000	Relative Permittivity (ϵ_r):	39.10	39.01	0.23	5
		e"	13.3700	Conductivity (σ):	1.93	1.96	-1.49	5
	Head 2500	e'	39.2300	Relative Permittivity (ϵ_r):	39.23	39.14	0.24	5
		e"	13.4000	Conductivity (σ):	1.86	1.85	0.47	5
	Head 2700	e'	38.8800	Relative Permittivity (ϵ_r):	38.88	38.88	-0.01	5
		e"	13.5000	Conductivity (σ):	2.03	2.07	-2.10	5
5-13-2021	Head 1750	e'	38.9300	Relative Permittivity (ϵ_r):	38.93	40.08	-2.88	5
		e"	14.2700	Conductivity (σ):	1.39	1.37	1.43	5
	Head 1710	e'	39.0300	Relative Permittivity (ϵ_r):	39.03	40.15	-2.78	5
		e"	14.4200	Conductivity (σ):	1.37	1.35	1.83	5
	Head 1755	e'	38.9200	Relative Permittivity (ϵ_r):	38.92	40.08	-2.89	5
		e"	14.2500	Conductivity (σ):	1.39	1.37	1.37	5
5-13-2021	Head 1900	e'	38.8000	Relative Permittivity (ϵ_r):	38.80	40.00	-3.00	5
		e"	13.7200	Conductivity (σ):	1.45	1.40	3.53	5
	Head 1850	e'	38.8100	Relative Permittivity (ϵ_r):	38.81	40.00	-2.97	5
		e"	13.9000	Conductivity (σ):	1.43	1.40	2.13	5
	Head 1910	e'	38.8000	Relative Permittivity (ϵ_r):	38.80	40.00	-3.00	5
		e"	13.7000	Conductivity (σ):	1.45	1.40	3.93	5
5-16-2021	Head 835	e'	41.3900	Relative Permittivity (ϵ_r):	41.39	41.50	-0.27	5
		e"	19.6800	Conductivity (σ):	0.91	0.90	1.52	5
	Head 820	e'	41.4300	Relative Permittivity (ϵ_r):	41.43	41.60	-0.41	5
		e"	19.9400	Conductivity (σ):	0.91	0.90	1.19	5
	Head 850	e'	41.3600	Relative Permittivity (ϵ_r):	41.36	41.50	-0.34	5
		e"	19.4300	Conductivity (σ):	0.92	0.92	0.36	5
5-24-2021	Head 2600	e'	39.2800	Relative Permittivity (ϵ_r):	39.28	39.01	0.69	5
		e"	13.7400	Conductivity (σ):	1.99	1.96	1.23	5
	Head 2500	e'	39.4200	Relative Permittivity (ϵ_r):	39.42	39.14	0.72	5
		e"	13.6500	Conductivity (σ):	1.90	1.85	2.34	5
	Head 2700	e'	39.0700	Relative Permittivity (ϵ_r):	39.07	38.88	0.48	5
		e"	13.8100	Conductivity (σ):	2.07	2.07	0.15	5
5-24-2021	Head 750	e'	43.0900	Relative Permittivity (ϵ_r):	43.09	41.96	2.69	5
		e"	21.4800	Conductivity (σ):	0.90	0.89	0.30	5
	Head 680	e'	43.3800	Relative Permittivity (ϵ_r):	43.38	42.32	2.50	5
		e"	22.9200	Conductivity (σ):	0.87	0.89	-2.38	5
	Head 795	e'	42.9400	Relative Permittivity (ϵ_r):	42.94	41.73	2.90	5
		e"	20.6700	Conductivity (σ):	0.91	0.90	1.91	5

8.2 System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification 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 2.5 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 1.4 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

Reference Target SAR Values

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

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (W/kg)	
				1g/10g	Head
D750V3	1122	2020-02-24	750	1g	8.54
				10g	5.59
D835V2	4d194	2020-03-20	835	1g	9.76
				10g	6.42
D835V2	4d174	2020-02-24	835	1g	9.70
				10g	6.29
D1750V2	1125	2020-02-21	1750	1g	36.50
				10g	19.20
D1900V2	5d199	2020-03-19	1900	1g	40.50
				10g	21.00
D2300V2	1090	2020-11-18	2300	1g	49.70
				10g	23.70
D2450V2	939	2019-07-25	2450	1g	53.20
				10g	25.10
D2600V2	1097	2019-09-19	2600	1g	57.30
				10g	25.70
D3500V2	1121	2021-04-21	3500	1g	66.30
				10g	25.00
D3700V2	1026	2020-09-18	3700	1g	67.10
				10g	24.30
D3900V2	1069	2021-04-21	3900	1g	70.10
				10g	24.30
D5GHzV2	1209	2020-02-27	5250	1g	79.90
				10g	22.60
	1209	2020-02-27	5600	1g	83.60
				10g	23.60
	1209	2020-02-27	5750	1g	80.20
				10g	22.60

System Check Results

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

SAR 2 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
4-26-2021	D5GHzV2	1209	Head	1g	7.36	73.6	79.90	-7.88	1, 2
				10g	2.08	20.8	22.60	-7.96	
4-26-2021	D5GHzV2	1209	Head	1g	8.41	84.1	83.60	0.60	
				10g	2.35	23.5	23.60	-0.42	
4-26-2021	D5GHzV2	1209	Head	1g	7.99	79.9	80.20	-0.37	
				10g	2.24	22.4	22.60	-0.88	
4-28-2021	D5GHzV2	1209	Head	1g	7.45	74.5	79.90	-6.76	
				10g	2.11	21.1	22.60	-6.64	
4-28-2021	D5GHzV2	1209	Head	1g	8.03	80.3	83.60	-3.95	
				10g	2.24	22.4	23.60	-5.08	
4-28-2021	D5GHzV2	1209	Head	1g	7.78	77.8	80.20	-2.99	
				10g	2.20	22.0	22.60	-2.65	
5-3-2021	D5GHzV2	1209	Head	1g	8.19	81.9	79.90	2.50	
				10g	2.33	23.3	22.60	3.10	
5-3-2021	D5GHzV2	1209	Head	1g	8.60	86.0	83.60	2.87	
				10g	2.41	24.1	23.60	2.12	
5-3-2021	D5GHzV2	1209	Head	1g	8.16	81.6	80.20	1.75	
				10g	2.29	22.9	22.60	1.33	
5-6-2021	D5GHzV2	1209	Head	1g	7.99	79.9	79.90	0.00	
				10g	2.26	22.6	22.60	0.00	
5-6-2021	D5GHzV2	1209	Head	1g	8.62	86.2	83.60	3.11	
				10g	2.45	24.5	23.60	3.81	
5-6-2021	D5GHzV2	1209	Head	1g	8.41	84.1	80.20	4.86	
				10g	2.36	23.6	22.60	4.42	
5-10-2021	D3500V2	1121	Head	1g	6.79	67.9	66.30	2.41	
				10g	2.60	26.0	25.00	4.00	
5-10-2021	D3700V2	1026	Head	1g	6.27	62.7	67.10	-6.56	3,4
				10g	2.32	23.2	24.30	-4.53	
5-10-2021	D3900V2	1069	Head	1g	6.47	64.7	70.10	-7.70	5,6
				10g	2.31	23.1	24.30	-4.94	
5-12-2021	D5GHzV2	1209	Head	1g	7.70	77.0	79.90	-3.63	
				10g	2.18	21.8	22.60	-3.54	
5-12-2021	D5GHzV2	1209	Head	1g	7.80	78.0	83.60	-6.70	
				10g	2.18	21.8	23.60	-7.63	
5-12-2021	D5GHzV2	1209	Head	1g	8.04	80.4	80.20	0.25	
				10g	2.26	22.6	22.60	0.00	
5-16-2021	D5GHzV2	1209	Head	1g	7.72	77.2	79.90	-3.38	
				10g	2.19	21.9	22.60	-3.10	
5-16-2021	D5GHzV2	1209	Head	1g	8.15	81.5	83.60	-2.51	
				10g	2.29	22.9	23.60	-2.97	
5-16-2021	D5GHzV2	1209	Head	1g	8.02	80.2	80.20	0.00	
				10g	2.27	22.7	22.60	0.44	
5-17-2021	D3500V2	1121	Head	1g	6.93	69.3	66.30	4.52	7,8
				10g	2.63	26.3	25.00	5.20	
5-17-2021	D3700V2	1026	Head	1g	6.55	65.5	67.10	-2.38	
				10g	2.40	24.0	24.30	-1.23	
5-18-2021	D2600V2	1097	Head	1g	5.81	58.1	57.30	1.40	
				10g	2.59	25.9	25.70	0.78	
5-20-2021	D3500V2	1121	Head	1g	6.88	68.8	66.30	3.77	
				10g	2.61	26.1	25.00	4.40	
5-20-2021	D3700V2	1026	Head	1g	6.80	68.0	67.10	1.34	
				10g	2.50	25.0	24.30	2.88	
5-20-2021	D2600V2	1097	Head	1g	5.82	58.2	57.30	1.57	
				10g	2.59	25.9	25.70	0.78	
5-24-2021	D3700V2	1026	Head	1g	6.78	67.8	67.10	1.04	
				10g	2.49	24.9	24.30	2.47	
6-10-2021	D1750V2	1125	Head	1g	3.87	38.7	36.50	6.03	
				10g	2.02	20.2	19.20	5.21	

SAR 3 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
4-12-2021	D750V3	1122	Head	1g	0.79	7.9	8.54	-7.85	9,10
				10g	0.53	5.3	5.59	-5.90	
4-12-2021	D835V2	4d194	Head	1g	0.96	9.6	9.76	-1.23	
				10g	0.64	6.4	6.42	-0.47	
4-28-2021	D1750V2	1125	Head	1g	3.68	36.8	36.50	0.82	
				10g	1.97	19.7	19.20	2.60	
5-3-2021	D1750V2	1125	Head	1g	3.65	36.5	36.50	0.00	
				10g	1.95	19.5	19.20	1.56	
5-3-2021	D1900V2	5d199	Head	1g	4.07	40.7	40.50	0.49	
				10g	2.13	21.3	21.00	1.43	
5-4-2021	D2300V2	1090	Head	1g	5.04	50.4	49.70	1.41	
				10g	2.45	24.5	23.70	3.38	
5-6-2021	D1900V2	5d199	Head	1g	3.97	39.7	40.50	-1.98	
				10g	2.07	20.7	21.00	-1.43	
5-10-2021	D2300V2	1090	Head	1g	4.80	48.0	49.70	-3.42	11,12
				10g	2.33	23.3	23.70	-1.69	
5-10-2021	D5GHzV2	1209	Head	1g	8.16	81.6	79.90	2.13	
				10g	2.33	23.3	22.60	3.10	
5-10-2021	D5GHzV2	1209	Head	1g	8.92	89.2	83.60	6.70	
				10g	2.50	25.0	23.60	5.93	
5-10-2021	D5GHzV2	1209	Head	1g	8.07	80.7	80.20	0.62	
				10g	2.29	22.9	22.60	1.33	
5-12-2021	D835V2	4d174	Head	1g	0.93	9.3	9.70	-4.02	
				10g	0.61	6.1	6.29	-2.86	
5-13-2021	D750V3	1122	Head	1g	0.80	8.0	8.54	-6.21	
				10g	0.53	5.3	5.59	-6.08	
5-14-2021	D1900V2	5d199	Head	1g	3.93	39.3	40.50	-2.96	
				10g	2.05	20.5	21.00	-2.38	
5-16-2021	D5GHzV2	1209	Head	1g	8.02	80.2	79.90	0.38	
				10g	2.31	23.1	22.60	2.21	
5-16-2021	D5GHzV2	1209	Head	1g	8.10	81.0	83.60	-3.11	
				10g	2.30	23.0	23.60	-2.54	
5-16-2021	D5GHzV2	1209	Head	1g	8.42	84.2	80.20	4.99	
				10g	2.42	24.2	22.60	7.08	
5-17-2021	D1750V2	1125	Head	1g	3.50	35.0	36.50	-4.11	
				10g	1.86	18.6	19.20	-3.12	
5-17-2021	D1900V2	5d199	Head	1g	3.97	39.7	40.50	-1.98	
				10g	2.07	20.7	21.00	-1.43	
5-17-2021	D2300V2	1090	Head	1g	5.08	50.8	49.70	2.21	
				10g	2.45	24.5	23.70	3.38	
5-17-2021	D2450V2	939	Head	1g	5.22	52.2	53.20	-1.88	
				10g	2.44	24.4	25.10	-2.79	
5-17-2021	D2600V2	1097	Head	1g	5.66	56.6	57.30	-1.22	
				10g	2.58	25.8	25.70	0.39	
5-23-2021	D1750V2	1125	Head	1g	3.61	36.1	36.50	-1.10	
				10g	1.93	19.3	19.20	0.52	
5-24-2021	D5GHzV2 (5250)	1209	Head	1g	8.01	80.1	79.90	0.25	
				10g	2.33	23.3	22.60	3.10	
5-26-2021	D5GHzV2 (5750)	1209	Head	1g	8.41	84.1	80.20	4.86	
				10g	2.40	24.0	22.60	6.19	
6-11-2021	D1750V2	1125	Head	1g	3.68	36.8	36.50	0.82	
				10g	1.96	19.6	19.20	2.08	

SAR 4 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
4-12-2021	D2600V2	1097	Head	1g	5.42	54.2	57.30	-5.41	
				10g	2.39	23.9	25.70	-7.00	
4-26-2021	D2450V2	939	Head	1g	5.08	50.8	53.20	-4.51	13,14
				10g	2.34	23.4	25.10	-6.77	
5-3-2021	D2600V2	1097	Head	1g	5.32	53.2	57.30	-7.16	15,16
				10g	2.34	23.4	25.70	-8.95	
5-5-2021	D2450V2	939	Head	1g	5.46	54.6	53.20	2.63	
				10g	2.51	25.1	25.10	0.00	
5-5-2021	D2600V2	1097	Head	1g	5.98	59.8	57.30	4.36	
				10g	2.65	26.5	25.70	3.11	
5-11-2021	D2450V2	939	Head	1g	5.38	53.8	53.20	1.13	
				10g	2.51	25.1	25.10	0.00	
5-11-2021	D2600V2	1097	Head	1g	5.60	56.0	57.30	-2.27	
				10g	2.51	25.1	25.70	-2.33	

SAR 5 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
4-5-2021	D750V3	1122	Head	1g	0.87	8.7	8.54	2.22	
				10g	0.58	5.8	5.59	3.40	
4-6-2021	D835V2	4d194	Head	1g	0.91	9.1	9.76	-7.27	17, 18
				10g	0.59	5.9	6.42	-7.94	
4-6-2021	D1900V2	5d199	Head	1g	4.31	43.1	40.50	6.42	19, 20
				10g	2.25	22.5	21.00	7.14	
4-9-2021	D1900V2	5d199	Head	1g	4.22	42.2	40.50	4.20	
				10g	2.20	22.0	21.00	4.76	
4-12-2021	D1750V2	1125	Head	1g	3.42	34.2	36.50	-6.30	
				10g	1.87	18.7	19.20	-2.60	
4-12-2021	D1900V2	5d199	Head	1g	4.28	42.8	40.50	5.68	
				10g	2.24	22.4	21.00	6.67	
4-14-2021	D750V3	1122	Head	1g	0.81	8.1	8.54	-5.15	
				10g	0.54	5.4	5.59	-3.76	
5-3-2021	D750V3	1122	Head	1g	0.85	8.5	8.54	-0.47	
				10g	0.56	5.6	5.59	0.54	
5-10-2021	D750V3	1122	Head	1g	0.80	8.0	8.54	-5.97	
				10g	0.53	5.3	5.59	-5.37	
5-10-2021	D835V2	4d174	Head	1g	0.99	9.9	9.70	1.65	
				10g	0.65	6.5	6.29	3.34	
5-10-2021	D1750V2	1125	Head	1g	3.80	38.0	36.50	4.11	
				10g	2.03	20.3	19.20	5.73	
5-10-2021	D1900V2	5d199	Head	1g	4.13	41.3	40.50	1.98	
				10g	2.16	21.6	21.00	2.86	
5-11-2021	D2600V2	1097	Head	1g	5.88	58.8	57.30	2.62	
				10g	2.67	26.7	25.70	3.89	
5-13-2021	D1750V2	1125	Head	1g	3.96	39.6	36.50	8.49	21, 22
				10g	2.09	20.9	19.20	8.85	
5-13-2021	D1900V2	5d199	Head	1g	4.16	41.6	40.50	2.72	
				10g	2.15	21.5	21.00	2.38	
5-16-2021	D835V2	4d174	Head	1g	1.02	10.2	9.70	5.15	23, 24
				10g	0.63	6.3	6.29	0.79	
5-24-2021	D750V3	1122	Head	1g	0.82	8.2	8.54	-4.33	
				10g	0.54	5.4	5.59	-3.58	
5-24-2021	D2600V2	1097	Head	1g	5.96	59.6	57.30	4.01	
				10g	2.70	27.0	25.70	5.06	

9. Conducted Output Power Measurements

9.1 W-CDMA

Release 99 Setup Procedures used to establish the test signals

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

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

HSDPA Setup Procedures used to establish the test signals

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

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

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

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

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

DC-HSDPA Setup Procedures used to establish the test signals

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

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

Table E.5.0: Levels for HSDPA connection setup

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

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

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

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

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

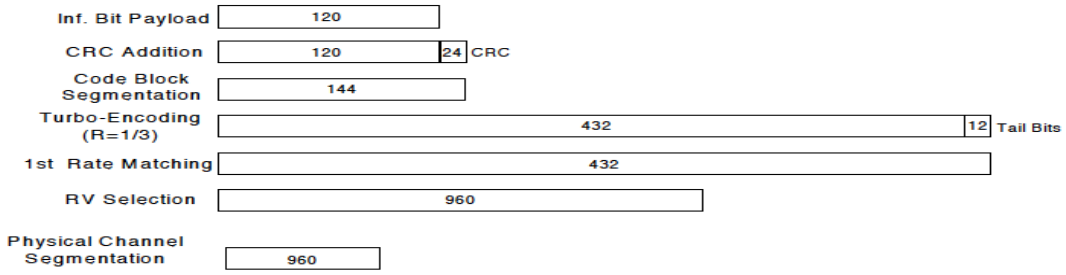


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 12			
	Power Control Algorithm	Algorithm2			
	βc	2/15	11/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/βd	2/15	11/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack Repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs = βhs/ βc	30/15			

HSPA+

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

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum allowed Averaged Output Power (dBm)					
				DSI = 0			DSI = 1		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.7	N/A	23.5	12.7	N/A	13.5
		9400	1880.0	22.6			12.5		
		9538	1907.6	22.9			12.8		
HSDPA	Subtest 1	9262	1852.4	21.7	0	22.5	11.6	0	12.5
		9400	1880.0	21.5			11.4		
		9538	1907.6	21.9			11.8		
	Subtest 2	9262	1852.4	21.7	0	22.5	11.6	0	12.5
		9400	1880.0	21.4			11.5		
		9538	1907.6	21.9			11.8		
	Subtest 3	9262	1852.4	21.2	0.5	22.0	11.1	0.5	12.0
		9400	1880.0	21.0			11.0		
		9538	1907.6	21.4			11.3		
	Subtest 4	9262	1852.4	21.2	0.5	22.0	11.1	0.5	12.0
		9400	1880.0	21.1			11.0		
		9538	1907.6	21.4			11.3		
HSUPA	Subtest 1	9262	1852.4	21.6	0	22.5	11.6	0	12.5
		9400	1880.0	21.5			11.5		
		9538	1907.6	21.9			11.8		
	Subtest 2	9262	1852.4	19.7	2	20.5	9.6	2	10.5
		9400	1880.0	19.5			9.5		
		9538	1907.6	19.9			9.8		
	Subtest 3	9262	1852.4	20.6	1	21.5	10.6	1	11.5
		9400	1880.0	20.5			10.5		
		9538	1907.6	20.9			10.8		
	Subtest 4	9262	1852.4	19.6	2	20.5	9.6	2	10.5
		9400	1880.0	19.6			9.5		
		9538	1907.6	19.9			9.8		
	Subtest 5	9262	1852.4	21.7	0	22.5	11.6	0	12.5
		9400	1880.0	21.6			11.5		
		9538	1907.6	21.9			11.8		
DC-HSDPA	Subtest 1	9262	1852.4	21.6	0	22.5	11.6	0	12.5
		9400	1880.0	21.5			11.5		
		9538	1907.6	22.0			11.9		
	Subtest 2	9262	1852.4	21.7	0	22.5	11.6	0	12.5
		9400	1880.0	21.5			11.4		
		9538	1907.6	21.9			11.8		
	Subtest 3	9262	1852.4	21.1	0.5	22.0	11.1	0.5	12.0
		9400	1880.0	21.0			11.0		
		9538	1907.6	21.4			11.3		
	Subtest 4	9262	1852.4	21.2	0.5	22.0	11.1	0.5	12.0
		9400	1880.0	21.0			10.9		
		9538	1907.6	21.4			11.4		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum allowed Average Output Power (dBm)					
				DSI = 0			DSI = 1		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.4	N/A	23.5	12.3	N/A	13.5
		1413	1732.6	22.1			12.0		
		1513	1752.6	22.6			12.6		
HSDPA	Subtest 1	1312	1712.4	21.4	0	22.5	11.4	0	12.5
		1413	1732.6	21.1			11.1		
		1513	1752.6	21.6			11.6		
	Subtest 2	1312	1712.4	21.3	0	22.5	11.3	0	12.5
		1413	1732.6	21.1			11.1		
		1513	1752.6	21.6			11.5		
	Subtest 3	1312	1712.4	20.9	0.5	22.0	10.9	0.5	12.0
		1413	1732.6	20.6			10.5		
		1513	1752.6	21.1			11.1		
	Subtest 4	1312	1712.4	20.9	0.5	22.0	10.8	0.5	12.0
		1413	1732.6	20.6			10.5		
		1513	1752.6	21.1			11.1		
HSUPA	Subtest 1	1312	1712.4	21.3	0	22.5	11.3	0	12.5
		1413	1732.6	21.0			11.1		
		1513	1752.6	21.6			11.6		
	Subtest 2	1312	1712.4	19.4	2	20.5	9.4	2	10.5
		1413	1732.6	19.1			9.0		
		1513	1752.6	19.6			9.5		
	Subtest 3	1312	1712.4	20.4	1	21.5	10.3	1	11.5
		1413	1732.6	20.1			10.0		
		1513	1752.6	20.6			10.5		
	Subtest 4	1312	1712.4	19.4	2	20.5	9.3	2	10.5
		1413	1732.6	19.2			9.0		
		1513	1752.6	19.6			9.6		
	Subtest 5	1312	1712.4	21.4	0	22.5	11.4	0	12.5
		1413	1732.6	21.1			11.1		
		1513	1752.6	21.7			11.6		
DC-HSDPA	Subtest 1	1312	1712.4	21.4	0	22.5	11.4	0	12.5
		1413	1732.6	21.1			11.1		
		1513	1752.6	21.6			11.6		
	Subtest 2	1312	1712.4	21.4	0	22.5	11.4	0	12.5
		1413	1732.6	21.1			11.0		
		1513	1752.6	21.6			11.6		
	Subtest 3	1312	1712.4	20.9	0.5	22.0	10.9	0.5	12.0
		1413	1732.6	20.6			10.6		
		1513	1752.6	21.1			11.1		
	Subtest 4	1312	1712.4	20.9	0.5	22.0	10.9	0.5	12.0
		1413	1732.6	20.6			10.6		
		1513	1752.6	21.1			11.1		

W-CDMA Band V Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Allowed Average Output Power (dBm)					
				DSI = 0			DSI = 1		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	24.0	N/A	25.0	14.5	N/A	15.0
		4183	836.6	24.1			14.5		
		4233	846.6	24.0			14.5		
HSDPA	Subtest 1	4132	826.4	23.0	0	24.0	13.5	0	14.0
		4183	836.6	23.1			13.5		
		4233	846.6	23.0			13.5		
	Subtest 2	4132	826.4	23.0	0	24.0	13.5	0	14.0
		4183	836.6	23.0			13.5		
		4233	846.6	23.0			13.4		
	Subtest 3	4132	826.4	22.5	0.5	23.5	13.0	0.5	13.5
		4183	836.6	22.6			13.0		
		4233	846.6	22.5			12.9		
	Subtest 4	4132	826.4	22.5	0.5	23.5	13.0	0.5	13.5
		4183	836.6	22.6			13.0		
		4233	846.6	22.5			12.9		
HSUPA	Subtest 1	4132	826.4	22.9	0	24.0	13.4	0	14.0
		4183	836.6	23.0			13.4		
		4233	846.6	22.9			13.6		
	Subtest 2	4132	826.4	21.0	2	22.0	11.5	2	12.0
		4183	836.6	21.0			11.7		
		4233	846.6	20.9			11.5		
	Subtest 3	4132	826.4	21.9	1	23.0	12.5	1	13.0
		4183	836.6	22.0			12.7		
		4233	846.6	21.9			12.6		
	Subtest 4	4132	826.4	20.9	2	22.0	11.5	2	12.0
		4183	836.6	21.0			11.4		
		4233	846.6	20.9			11.6		
	Subtest 5	4132	826.4	23.0	0	24.0	13.5	0	14.0
		4183	836.6	23.1			13.5		
		4233	846.6	23.0			13.5		
DC-HSDPA	Subtest 1	4132	826.4	23.0	0	24.0	13.5	0	14.0
		4183	836.6	23.1			13.5		
		4233	846.6	23.0			13.4		
	Subtest 2	4132	826.4	23.0	0	24.0	13.4	0	14.0
		4183	836.6	23.1			13.5		
		4233	846.6	23.0			13.4		
	Subtest 3	4132	826.4	22.5	0.5	23.5	13.0	0.5	13.5
		4183	836.6	22.5			13.0		
		4233	846.6	22.5			13.0		
	Subtest 4	4132	826.4	22.5	0.5	23.5	13.0	0.5	13.5
		4183	836.6	22.5			13.0		
		4233	846.6	22.5			13.0		

9.2 LTE

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

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

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

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

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

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

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

Maximum Output Power (Tune-up Limit) for LTE

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

a) The maximum output power, including tolerance, for the smaller band must be ≤ the larger band to qualify for the SAR test exclusion.
b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.

- LTE Band 2 (1850 – 1910 MHz) is covered by LTE Band 25 (1850 – 1915 MHz)
- LTE Band 4 (1710 – 1755 MHz) is covered by LTE Band 66 (1710 – 1780 MHz)
- LTE Band 5 (824 – 849 MHz) is covered by LTE Band 26 (814 – 849 MHz)

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

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

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

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

LTE Band 7 Measured Results

LTE Band 7 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
				DSI = 0					DSI =1					
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				20850	21100	21350			20850	21100	21350		
				2510 MHz	2535 MHz	2560 MHz			2510 MHz	2535 MHz	2560 MHz		
20 MHz	QPSK	1	0	23.3	23.4	23.6	0.0	25.0	12.8	12.8	13.1	0.0	14.0
		1	49	23.3	23.3	23.6	0.0	25.0	12.8	12.8	13.1	0.0	14.0
		1	99	23.3	23.4	23.6	0.0	25.0	12.8	12.9	13.1	0.0	14.0
		50	0	22.4	22.4	22.6	1.0	24.0	12.8	12.9	13.1	0.0	14.0
		50	24	22.5	22.4	22.7	1.0	24.0	12.9	13.0	13.2	0.0	14.0
		50	50	22.4	22.4	22.7	1.0	24.0	12.9	13.0	13.2	0.0	14.0
		100	0	22.4	22.4	22.5	1.0	24.0	12.8	12.9	13.0	0.0	14.0
	16QAM	1	0	23.0	22.8	23.1	1.0	24.0	13.2	13.2	13.5	0.0	14.0
		1	49	22.9	22.7	23.2	1.0	24.0	13.2	13.2	13.5	0.0	14.0
		1	99	22.9	22.8	23.2	1.0	24.0	13.2	13.3	13.5	0.0	14.0
		50	0	21.4	21.4	21.6	2.0	23.0	12.9	12.9	13.2	0.0	14.0
		50	24	21.5	21.4	21.6	2.0	23.0	12.9	12.9	13.1	0.0	14.0
		50	50	21.4	21.4	21.7	2.0	23.0	12.9	12.9	13.2	0.0	14.0
		100	0	21.4	21.4	21.6	2.0	23.0	12.8	12.9	13.1	0.0	14.0
	64QAM	1	0	22.9	22.3	22.2	2.0	23.0	13.3	13.0	13.2	0.0	14.0
		1	49	22.9	22.4	22.0	2.0	23.0	13.3	13.0	13.4	0.0	14.0
		1	99	22.9	22.1	21.8	2.0	23.0	13.4	13.0	13.3	0.0	14.0
		50	0	21.3	21.1	20.8	3.0	22.0	12.8	12.8	13.1	0.0	14.0
		50	24	21.4	21.1	20.8	3.0	22.0	12.9	12.9	13.1	0.0	14.0
		50	50	21.3	21.1	20.6	3.0	22.0	12.9	12.9	13.2	0.0	14.0
		100	0	21.2	21.0	20.7	3.0	22.0	12.7	12.8	12.9	0.0	14.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				20825	21100	21375			20825	21100	21375		
				2507.5 MHz	2535 MHz	2562.5 MHz			2507.5 MHz	2535 MHz	2562.5 MHz		
15 MHz	QPSK	1	0	23.4	23.4	23.6	0.0	25.0	12.8	12.9	13.1	0.0	14.0
		1	37	23.3	23.3	23.6	0.0	25.0	12.8	12.8	13.0	0.0	14.0
		1	74	23.4	23.4	23.5	0.0	25.0	12.8	12.9	13.1	0.0	14.0
		36	0	22.4	22.3	22.6	1.0	24.0	12.8	12.9	13.1	0.0	14.0
		36	20	22.4	22.4	22.7	1.0	24.0	12.9	12.9	13.2	0.0	14.0
		36	39	22.4	22.4	22.7	1.0	24.0	12.9	12.9	13.2	0.0	14.0
		75	0	22.3	22.4	22.6	1.0	24.0	12.8	12.8	13.1	0.0	14.0
	16QAM	1	0	22.8	22.8	22.6	1.0	24.0	13.2	13.3	13.0	0.0	14.0
		1	37	22.7	22.7	22.6	1.0	24.0	13.2	13.2	13.0	0.0	14.0
		1	74	22.7	22.8	22.6	1.0	24.0	13.2	13.3	13.0	0.0	14.0
		36	0	21.5	21.4	21.6	2.0	23.0	12.9	12.8	13.1	0.0	14.0
		36	20	21.5	21.4	21.7	2.0	23.0	13.0	12.9	13.2	0.0	14.0
		36	39	21.5	21.4	21.7	2.0	23.0	12.9	12.9	13.2	0.0	14.0
		75	0	21.4	21.4	21.6	2.0	23.0	12.9	12.9	13.1	0.0	14.0
	64QAM	1	0	22.4	22.7	22.1	2.0	23.0	12.8	13.3	13.3	0.0	14.0
		1	37	22.5	22.7	21.9	2.0	23.0	12.8	13.3	13.3	0.0	14.0
		1	74	22.5	22.6	21.8	2.0	23.0	12.8	13.4	13.3	0.0	14.0
		36	0	21.4	21.2	20.7	3.0	22.0	12.9	12.8	13.1	0.0	14.0
		36	20	21.4	21.1	20.7	3.0	22.0	12.9	12.9	13.1	0.0	14.0
		36	39	21.4	21.1	20.6	3.0	22.0	12.9	12.8	13.2	0.0	14.0
		75	0	21.3	21.1	20.7	3.0	22.0	12.8	12.8	13.0	0.0	14.0

LTE Band 7 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				20800	21100	21400			20800	21100	21400		
				2505 MHz	2535 MHz	2565 MHz			2505 MHz	2535 MHz	2565 MHz		
10 MHz	QPSK	1	0	23.5	23.5	23.6	0.0	25.0	12.9	13.0	13.2	0.0	14.0
		1	25	23.4	23.4	23.6	0.0	25.0	12.9	12.9	13.2	0.0	14.0
		1	49	23.4	23.5	23.6	0.0	25.0	12.9	13.0	13.2	0.0	14.0
		25	0	22.5	22.4	22.7	1.0	24.0	13.0	13.0	13.2	0.0	14.0
		25	12	22.5	22.5	22.8	1.0	24.0	13.0	13.1	13.3	0.0	14.0
		25	25	22.5	22.5	22.8	1.0	24.0	12.9	13.1	13.3	0.0	14.0
		50	0	22.4	22.5	22.6	1.0	24.0	12.9	13.0	13.2	0.0	14.0
	16QAM	1	0	22.9	22.5	22.8	1.0	24.0	13.3	13.0	13.2	0.0	14.0
		1	25	22.8	22.5	22.8	1.0	24.0	13.3	12.9	13.1	0.0	14.0
		1	49	22.9	22.5	22.8	1.0	24.0	13.3	13.0	13.2	0.0	14.0
		25	0	21.5	21.6	21.8	2.0	23.0	13.0	13.1	13.3	0.0	14.0
		25	12	21.6	21.7	21.8	2.0	23.0	13.1	13.1	13.3	0.0	14.0
		25	25	21.5	21.6	21.8	2.0	23.0	13.0	13.1	13.3	0.0	14.0
		50	0	21.5	21.5	21.7	2.0	23.0	12.9	13.0	13.1	0.0	14.0
	64QAM	1	0	22.6	22.6	22.1	2.0	23.0	12.9	13.1	13.4	0.0	14.0
		1	25	22.6	22.6	22.0	2.0	23.0	12.9	13.1	13.4	0.0	14.0
		1	49	22.6	22.5	22.0	2.0	23.0	13.0	13.1	13.5	0.0	14.0
		25	0	21.5	21.3	20.8	3.0	22.0	13.0	13.0	13.2	0.0	14.0
		25	12	21.5	21.3	20.8	3.0	22.0	13.0	13.0	13.2	0.0	14.0
		25	25	21.4	21.3	20.8	3.0	22.0	13.0	13.0	13.2	0.0	14.0
		50	0	21.4	21.2	20.7	3.0	22.0	12.9	12.9	13.1	0.0	14.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				20775	21100	21425			20775	21100	21425		
				2502.5 MHz	2535 MHz	2567.5 MHz			2502.5 MHz	2535 MHz	2567.5 MHz		
5 MHz	QPSK	1	0	23.5	23.4	23.7	0.0	25.0	12.9	13.1	13.2	0.0	14.0
		1	12	23.4	23.5	23.7	0.0	25.0	12.9	13.0	13.3	0.0	14.0
		1	24	23.5	23.5	23.6	0.0	25.0	12.9	13.1	13.2	0.0	14.0
		12	0	22.4	22.4	22.7	1.0	24.0	12.9	12.9	13.3	0.0	14.0
		12	7	22.5	22.5	22.8	1.0	24.0	13.0	13.1	13.3	0.0	14.0
		12	13	22.5	22.5	22.8	1.0	24.0	12.9	13.1	13.3	0.0	14.0
		25	0	22.5	22.5	22.8	1.0	24.0	12.9	13.1	13.3	0.0	14.0
	16QAM	1	0	22.7	23.0	22.9	1.0	24.0	13.1	13.2	13.4	0.0	14.0
		1	12	22.7	23.0	22.9	1.0	24.0	13.1	13.2	13.4	0.0	14.0
		1	24	22.6	23.0	22.9	1.0	24.0	13.1	13.3	13.4	0.0	14.0
		12	0	21.5	21.6	21.8	2.0	23.0	13.0	13.0	13.4	0.0	14.0
		12	7	21.6	21.7	21.9	2.0	23.0	13.0	13.1	13.5	0.0	14.0
		12	13	21.6	21.7	21.8	2.0	23.0	13.0	13.1	13.4	0.0	14.0
		25	0	21.5	21.6	21.7	2.0	23.0	12.9	13.0	13.4	0.0	14.0
	64QAM	1	0	22.4	22.6	22.0	2.0	23.0	13.4	13.2	13.2	0.0	14.0
		1	12	22.4	22.5	21.9	2.0	23.0	13.2	13.2	13.2	0.0	14.0
		1	24	22.4	22.5	21.9	2.0	23.0	13.3	13.3	13.1	0.0	14.0
		12	0	21.4	21.2	20.8	3.0	22.0	12.8	13.0	13.3	0.0	14.0
		12	7	21.5	21.2	20.8	3.0	22.0	12.9	13.0	13.3	0.0	14.0
		12	13	21.4	21.2	20.7	3.0	22.0	12.8	13.0	13.3	0.0	14.0
		25	0	21.4	21.2	20.7	3.0	22.0	12.9	13.0	13.2	0.0	14.0

LTE Band 12 Measured Results

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
				DSI = 0					DSI = 1					
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23060	23095	23130			23060	23095	23130		
				704 MHz	707.5 MHz	711 MHz			704 MHz	707.5 MHz	711 MHz		
10 MHz	QPSK	1	0	[redacted]	24.4	[redacted]	0.0	25.5	[redacted]	14.2	[redacted]	0.0	15.0
		1	25		24.3		0.0	25.5		14.1		0.0	15.0
		1	49		24.3		0.0	25.5		14.1		0.0	15.0
		25	0		23.5		1.0	24.5		14.1		0.0	15.0
		25	12		23.6		1.0	24.5		14.3		0.0	15.0
		25	25		23.5		1.0	24.5		14.2		0.0	15.0
		50	0		23.5		1.0	24.5		14.2		0.0	15.0
	16QAM	1	0		23.7		1.0	24.5		14.3		0.0	15.0
		1	25		23.6		1.0	24.5		14.2		0.0	15.0
		1	49		23.6		1.0	24.5		14.1		0.0	15.0
		25	0		22.5		2.0	23.5		14.2		0.0	15.0
		25	12		22.7		2.0	23.5		14.4		0.0	15.0
		25	25		22.6		2.0	23.5		14.3		0.0	15.0
		50	0		22.5		2.0	23.5		14.2		0.0	15.0
	64QAM	1	0		22.9		2.0	23.5		14.3		0.0	15.0
		1	25		22.9		2.0	23.5		14.3		0.0	15.0
		1	49		22.8		2.0	23.5		14.2		0.0	15.0
		25	0		21.5		3.0	22.5		13.9		0.0	15.0
		25	12		21.7		3.0	22.5		14.1		0.0	15.0
		25	25		21.6		3.0	22.5		14.0		0.0	15.0
		50	0		21.5		3.0	22.5		13.9		0.0	15.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23035	23095	23155			23035	23095	23155		
				701.5 MHz	707.5 MHz	713.5 MHz			701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	24.5	24.5	24.5	0.0	25.5	14.2	14.2	14.2	0.0	15.0
		1	12	24.5	24.5	24.4	0.0	25.5	14.3	14.2	14.2	0.0	15.0
		1	24	24.5	24.5	24.5	0.0	25.5	14.2	14.2	14.1	0.0	15.0
		12	0	23.5	23.6	23.5	1.0	24.5	14.2	14.3	14.2	0.0	15.0
		12	7	23.6	23.6	23.5	1.0	24.5	14.3	14.3	14.2	0.0	15.0
		12	13	23.6	23.6	23.5	1.0	24.5	14.3	14.2	14.1	0.0	15.0
		25	0	23.6	23.6	23.5	1.0	24.5	14.3	14.3	14.2	0.0	15.0
	16QAM	1	0	23.6	23.6	24.1	1.0	24.5	14.7	14.3	14.4	0.0	15.0
		1	12	23.6	23.6	23.9	1.0	24.5	14.7	14.3	14.3	0.0	15.0
		1	24	23.6	23.6	23.9	1.0	24.5	14.7	14.3	14.3	0.0	15.0
		12	0	22.6	22.6	22.7	2.0	23.5	14.4	14.3	14.2	0.0	15.0
		12	7	22.6	22.7	22.7	2.0	23.5	14.5	14.3	14.2	0.0	15.0
		12	13	22.6	22.6	22.6	2.0	23.5	14.4	14.3	14.2	0.0	15.0
		25	0	22.5	22.6	22.5	2.0	23.5	14.3	14.2	14.2	0.0	15.0
	64QAM	1	0	22.8	22.7	22.5	2.0	23.5	14.2	14.2	13.9	0.0	15.0
		1	12	22.9	22.7	22.4	2.0	23.5	14.3	14.2	13.8	0.0	15.0
		1	24	22.8	22.8	22.4	2.0	23.5	14.2	14.2	13.8	0.0	15.0
		12	0	21.5	21.6	21.6	3.0	22.5	13.9	14.0	14.0	0.0	15.0
		12	7	21.6	21.7	21.6	3.0	22.5	14.0	14.1	14.0	0.0	15.0
		12	13	21.5	21.6	21.5	3.0	22.5	13.9	14.1	13.9	0.0	15.0
		25	0	21.5	21.6	21.5	3.0	22.5	14.0	14.0	13.9	0.0	15.0

LTE Band 12 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23025	23095	23165			23025	23095	23165		
				700.5 MHz	707.5 MHz	714.5 MHz			700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	24.4	24.5	24.4	0.0	25.5	14.2	14.1	14.1	0.0	15.0
		1	8	24.4	24.5	24.4	0.0	25.5	14.1	14.1	14.1	0.0	15.0
		1	14	24.4	24.4	24.4	0.0	25.5	14.2	14.2	14.0	0.0	15.0
		8	0	23.5	23.6	23.5	1.0	24.5	14.2	14.3	14.1	0.0	15.0
		8	4	23.6	23.6	23.5	1.0	24.5	14.3	14.2	14.1	0.0	15.0
		8	7	23.6	23.6	23.5	1.0	24.5	14.3	14.3	14.2	0.0	15.0
		15	0	23.6	23.6	23.5	1.0	24.5	14.3	14.3	14.1	0.0	15.0
	16QAM	1	0	23.5	23.4	23.9	1.0	24.5	14.3	14.1	14.5	0.0	15.0
		1	8	23.5	23.4	23.8	1.0	24.5	14.2	14.1	14.4	0.0	15.0
		1	14	23.5	23.4	23.8	1.0	24.5	14.3	14.1	14.4	0.0	15.0
		8	0	22.6	22.7	22.6	2.0	23.5	14.3	14.4	14.2	0.0	15.0
		8	4	22.6	22.7	22.6	2.0	23.5	14.4	14.3	14.2	0.0	15.0
		8	7	22.6	22.7	22.6	2.0	23.5	14.4	14.4	14.2	0.0	15.0
		15	0	22.5	22.6	22.5	2.0	23.5	14.2	14.3	14.2	0.0	15.0
	64QAM	1	0	22.6	22.8	22.8	2.0	23.5	14.1	14.1	14.2	0.0	15.0
		1	8	22.6	22.8	22.7	2.0	23.5	14.1	14.2	14.1	0.0	15.0
		1	14	22.7	22.8	22.7	2.0	23.5	14.1	14.1	14.1	0.0	15.0
		8	0	21.6	21.6	21.6	3.0	22.5	14.0	14.0	14.0	0.0	15.0
		8	4	21.7	21.6	21.6	3.0	22.5	14.0	14.0	14.0	0.0	15.0
		8	7	21.6	21.6	21.6	3.0	22.5	14.1	14.0	14.0	0.0	15.0
		15	0	21.6	21.7	21.5	3.0	22.5	14.1	14.0	13.9	0.0	15.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23017	23095	23173			23017	23095	23173		
				699.7 MHz	707.5 MHz	715.3 MHz			699.7 MHz	707.5 MHz	715.3 MHz		
1.4 MHz	QPSK	1	0	24.4	24.5	24.3	0.0	25.5	14.1	14.0	14.0	0.0	15.0
		1	3	24.5	24.4	24.3	0.0	25.5	14.2	14.1	14.0	0.0	15.0
		1	5	24.4	24.5	24.3	0.0	25.5	14.2	14.1	14.0	0.0	15.0
		3	0	24.4	24.4	24.3	0.0	25.5	14.2	14.1	13.9	0.0	15.0
		3	1	24.5	24.4	24.3	0.0	25.5	14.2	14.1	14.0	0.0	15.0
		3	3	24.5	24.4	24.3	0.0	25.5	14.2	14.1	13.9	0.0	15.0
		6	0	23.5	23.5	23.3	1.0	24.5	14.2	14.2	14.0	0.0	15.0
	16QAM	1	0	23.6	23.9	23.3	1.0	24.5	14.5	14.2	14.1	0.0	15.0
		1	3	23.7	24.0	23.4	1.0	24.5	14.6	14.3	14.2	0.0	15.0
		1	5	23.7	23.8	23.3	1.0	24.5	14.5	14.2	14.1	0.0	15.0
		3	0	23.5	23.7	23.5	1.0	24.5	14.4	14.3	14.0	0.0	15.0
		3	1	23.5	23.7	23.6	1.0	24.5	14.4	14.3	14.1	0.0	15.0
		3	3	23.5	23.7	23.6	1.0	24.5	14.4	14.4	14.1	0.0	15.0
		6	0	22.7	22.4	22.6	2.0	23.5	14.1	14.3	14.2	0.0	15.0
	64QAM	1	0	22.7	22.9	22.5	2.0	23.5	14.2	14.0	13.9	0.0	15.0
		1	3	22.8	22.9	22.6	2.0	23.5	14.4	14.1	13.9	0.0	15.0
		1	5	22.8	22.8	22.4	2.0	23.5	14.2	14.0	13.9	0.0	15.0
		3	0	22.4	22.8	22.5	2.0	23.5	14.2	14.0	13.7	0.0	15.0
		3	1	22.4	22.9	22.6	2.0	23.5	14.3	14.1	13.8	0.0	15.0
		3	3	22.4	22.9	22.5	2.0	23.5	14.2	14.1	13.7	0.0	15.0
		6	0	21.6	21.5	21.7	3.0	22.5	13.9	14.2	13.9	0.0	15.0

LTE Band 13 Measured Results

LTE Band 13 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)								
				DSI = 0					DSI = 1			
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)		MPR	Tune-up Limit
					23230					23230		
					782 MHz					782 MHz		
10 MHz	QPSK	1	0		23.9		0.0	25.0		13.8	0.0	15.0
		1	25		24.0		0.0	25.0		14.0	0.0	15.0
		1	49		24.2		0.0	25.0		14.2	0.0	15.0
		25	0		23.1		1.0	24.0		14.1	0.0	15.0
		25	12		23.1		1.0	24.0		14.1	0.0	15.0
		25	25		23.2		1.0	24.0		14.1	0.0	15.0
		50	0		23.0		1.0	24.0		14.0	0.0	15.0
	16QAM	1	0		23.3		1.0	24.0		14.3	0.0	15.0
		1	25		23.4		1.0	24.0		14.4	0.0	15.0
		1	49		23.6		1.0	24.0		14.6	0.0	15.0
		25	0		22.1		2.0	23.0		14.2	0.0	15.0
		25	12		22.1		2.0	23.0		14.1	0.0	15.0
		25	25		22.1		2.0	23.0		14.1	0.0	15.0
		50	0		22.1		2.0	23.0		14.0	0.0	15.0
	64QAM	1	0		22.2		2.0	23.0		14.0	0.0	15.0
		1	25		22.4		2.0	23.0		14.2	0.0	15.0
		1	49		22.4		2.0	23.0		14.4	0.0	15.0
		25	0		21.1		3.0	22.0		14.2	0.0	15.0
		25	12		21.2		3.0	22.0		14.2	0.0	15.0
		25	25		21.2		3.0	22.0		14.3	0.0	15.0
		50	0		21.1		3.0	22.0		14.1	0.0	15.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23205	23230	23255			23205	23230	23255		
				779.5 MHz	782 MHz	784.5 MHz			779.5 MHz	782 MHz	784.5 MHz		
5 MHz	QPSK	1	0		24.1		0.0	25.0		14.1		0.0	15.0
		1	12		24.0		0.0	25.0		14.1		0.0	15.0
		1	24		24.2		0.0	25.0		14.1		0.0	15.0
		12	0		23.1		1.0	24.0		14.1		0.0	15.0
		12	7		23.1		1.0	24.0		14.1		0.0	15.0
		12	13		23.1		1.0	24.0		14.1		0.0	15.0
		25	0		23.1		1.0	24.0		14.0		0.0	15.0
	16QAM	1	0		23.2		1.0	24.0		14.3		0.0	15.0
		1	12		23.2		1.0	24.0		14.2		0.0	15.0
		1	24		23.3		1.0	24.0		14.3		0.0	15.0
		12	0		22.2		2.0	23.0		14.2		0.0	15.0
		12	7		22.2		2.0	23.0		14.1		0.0	15.0
		12	13		22.2		2.0	23.0		14.1		0.0	15.0
		25	0		22.0		2.0	23.0		14.1		0.0	15.0
	64QAM	1	0		22.5		2.0	23.0		14.4		0.0	15.0
		1	12		22.3		2.0	23.0		14.3		0.0	15.0
		1	24		22.5		2.0	23.0		14.4		0.0	15.0
		12	0		21.1		3.0	22.0		14.1		0.0	15.0
		12	7		21.1		3.0	22.0		14.1		0.0	15.0
		12	13		21.1		3.0	22.0		14.2		0.0	15.0
		25	0		21.1		3.0	22.0		14.1		0.0	15.0

LTE Band 14 Measured Results

LTE Band 14 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)								
				DSI = 0					DSI = 1			
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)		MPR	Tune-up Limit
					23330					23330		
					793 MHz					793 MHz		
10 MHz	QPSK	1	0		24.0		0.0	25.0		16.1	0.0	17.0
		1	25		24.0		0.0	25.0		16.0	0.0	17.0
		1	49		24.1		0.0	25.0		16.2	0.0	17.0
		25	0		22.9		1.0	24.0		16.0	0.0	17.0
		25	12		23.1		1.0	24.0		16.1	0.0	17.0
		25	25		23.0		1.0	24.0		16.1	0.0	17.0
		50	0		23.0		1.0	24.0		16.1	0.0	17.0
	16QAM	1	0		23.4		1.0	24.0		16.5	0.0	17.0
		1	25		23.4		1.0	24.0		16.4	0.0	17.0
		1	49		23.4		1.0	24.0		16.6	0.0	17.0
		25	0		22.0		2.0	23.0		16.1	0.0	17.0
		25	12		22.1		2.0	23.0		16.1	0.0	17.0
		25	25		22.0		2.0	23.0		16.1	0.0	17.0
		50	0		22.0		2.0	23.0		16.1	0.0	17.0
	64QAM	1	0		22.1		2.0	23.0		16.2	0.0	17.0
		1	25		22.3		2.0	23.0		16.2	0.0	17.0
		1	49		22.3		2.0	23.0		16.4	0.0	17.0
		25	0		20.9		3.0	22.0		16.1	0.0	17.0
		25	12		21.1		3.0	22.0		16.2	0.0	17.0
		25	25		21.1		3.0	22.0		16.2	0.0	17.0
		50	0		21.1		3.0	22.0		16.2	0.0	17.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				23305	23330	23355			23305	23330	23355		
				790.5 MHz	793 MHz	795.5 MHz			790.5 MHz	793 MHz	795.5 MHz		
5 MHz	QPSK	1	0		24.0		0.0	25.0		16.1		0.0	17.0
		1	12		24.0		0.0	25.0		16.1		0.0	17.0
		1	24		24.0		0.0	25.0		16.2		0.0	17.0
		12	0		23.0		1.0	24.0		16.1		0.0	17.0
		12	7		23.0		1.0	24.0		16.1		0.0	17.0
		12	13		23.0		1.0	24.0		16.1		0.0	17.0
		25	0		23.0		1.0	24.0		16.1		0.0	17.0
	16QAM	1	0		23.1		1.0	24.0		16.2		0.0	17.0
		1	12		23.1		1.0	24.0		16.2		0.0	17.0
		1	24		23.2		1.0	24.0		16.3		0.0	17.0
		12	0		22.0		2.0	23.0		16.1		0.0	17.0
		12	7		22.1		2.0	23.0		16.2		0.0	17.0
		12	13		22.1		2.0	23.0		16.2		0.0	17.0
		25	0		22.1		2.0	23.0		16.1		0.0	17.0
	64QAM	1	0		22.4		2.0	23.0		16.0		0.0	17.0
		1	12		22.3		2.0	23.0		16.0		0.0	17.0
		1	24		22.3		2.0	23.0		16.2		0.0	17.0
		12	0		21.0		3.0	22.0		16.1		0.0	17.0
		12	7		21.0		3.0	22.0		16.1		0.0	17.0
		12	13		21.0		3.0	22.0		16.1		0.0	17.0
		25	0		21.0		3.0	22.0		16.1		0.0	17.0

LTE Band 25 Measured Results

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26140	26365	26590			26140	26365	26590		
				1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	24.2	24.2	24.2	0.0	25.0	13.9	13.6	13.3	0.0	15.0
		1	49	24.2	24.2	24.2	0.0	25.0	13.8	13.4	13.3	0.0	15.0
		1	99	24.3	24.2	24.3	0.0	25.0	13.7	13.4	13.3	0.0	15.0
		50	0	23.4	23.2	23.3	1.0	24.0	13.9	13.6	13.4	0.0	15.0
		50	24	23.3	23.3	23.3	1.0	24.0	13.9	13.5	13.4	0.0	15.0
		50	50	23.3	23.3	23.3	1.0	24.0	13.8	13.5	13.4	0.0	15.0
		100	0	23.2	23.2	23.2	1.0	24.0	13.7	13.4	13.2	0.0	15.0
	16QAM	1	0	24.0	23.6	23.9	1.0	24.0	14.3	14.1	13.8	0.0	15.0
		1	49	23.9	23.6	23.9	1.0	24.0	14.3	14.0	13.7	0.0	15.0
		1	99	24.0	23.6	23.9	1.0	24.0	14.1	14.0	13.8	0.0	15.0
		50	0	22.4	22.2	22.3	2.0	23.0	13.9	13.6	13.4	0.0	15.0
		50	24	22.3	22.3	22.4	2.0	23.0	13.8	13.6	13.4	0.0	15.0
		50	50	22.3	22.2	22.4	2.0	23.0	13.8	13.6	13.4	0.0	15.0
		100	0	22.2	22.2	22.3	2.0	23.0	13.7	13.5	13.2	0.0	15.0
	64QAM	1	0	23.0	22.4	22.5	2.0	23.0	13.4	13.8	13.7	0.0	15.0
		1	49	23.0	22.5	22.6	2.0	23.0	13.4	13.6	13.7	0.0	15.0
		1	99	22.9	22.5	22.4	2.0	23.0	14.3	13.7	13.7	0.0	15.0
		50	0	21.4	21.2	21.3	3.0	22.0	14.0	13.5	13.4	0.0	15.0
		50	24	21.3	21.3	21.4	3.0	22.0	13.9	13.5	13.5	0.0	15.0
		50	50	21.3	21.3	21.4	3.0	22.0	13.8	13.5	13.4	0.0	15.0
		100	0	21.2	21.2	21.3	3.0	22.0	13.7	13.4	13.3	0.0	15.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26115	26365	26615			26115	26365	26615		
				1857.5 MHz	1882.5 MHz	1907.5 MHz			1857.5 MHz	1882.5 MHz	1907.5 MHz		
15 MHz	QPSK	1	0	24.1	24.3	24.2	0.0	25.0	13.7	13.5	13.3	0.0	15.0
		1	37	24.3	24.2	24.2	0.0	25.0	13.9	13.4	13.3	0.0	15.0
		1	74	24.2	24.3	24.2	0.0	25.0	13.7	13.5	13.3	0.0	15.0
		36	0	23.3	23.1	23.1	1.0	24.0	13.9	13.4	13.3	0.0	15.0
		36	20	23.4	23.3	23.3	1.0	24.0	14.0	13.5	13.4	0.0	15.0
		36	39	23.3	23.3	23.3	1.0	24.0	13.8	13.5	13.4	0.0	15.0
		75	0	23.2	23.2	23.3	1.0	24.0	13.8	13.5	13.3	0.0	15.0
	16QAM	1	0	23.5	23.6	23.2	1.0	24.0	14.0	13.9	13.3	0.0	15.0
		1	37	23.7	23.5	23.2	1.0	24.0	14.2	13.8	13.2	0.0	15.0
		1	74	23.6	23.6	23.3	1.0	24.0	14.1	13.8	13.2	0.0	15.0
		36	0	22.3	22.1	22.1	2.0	23.0	13.9	13.4	13.3	0.0	15.0
		36	20	22.4	22.2	22.3	2.0	23.0	14.0	13.5	13.4	0.0	15.0
		36	39	22.4	22.2	22.3	2.0	23.0	13.9	13.5	13.4	0.0	15.0
		75	0	22.2	22.2	22.3	2.0	23.0	13.8	13.5	13.3	0.0	15.0
	64QAM	1	0	22.4	22.8	22.6	2.0	23.0	13.7	14.1	13.6	0.0	15.0
		1	37	22.5	22.9	22.6	2.0	23.0	14.0	14.0	13.5	0.0	15.0
		1	74	22.4	22.9	22.4	2.0	23.0	13.7	14.0	13.6	0.0	15.0
		36	0	21.4	21.1	21.2	3.0	22.0	13.9	13.4	13.3	0.0	15.0
		36	20	21.5	21.3	21.4	3.0	22.0	13.9	13.5	13.4	0.0	15.0
		36	39	21.4	21.3	21.4	3.0	22.0	13.9	13.5	13.4	0.0	15.0
		75	0	21.3	21.2	21.2	3.0	22.0	13.8	13.4	13.3	0.0	15.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26090	26365	26640			26090	26365	26640		
				1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	24.2	24.0	24.3	0.0	25.0	13.7	13.3	13.4	0.0	15.0
		1	25	24.3	24.2	24.2	0.0	25.0	13.9	13.5	13.3	0.0	15.0
		1	49	24.1	24.1	24.2	0.0	25.0	13.7	13.3	13.3	0.0	15.0
		25	0	23.4	23.2	23.2	1.0	24.0	13.9	13.5	13.3	0.0	15.0
		25	12	23.5	23.4	23.4	1.0	24.0	14.0	13.6	13.4	0.0	15.0
		25	25	23.5	23.3	23.4	1.0	24.0	14.0	13.6	13.4	0.0	15.0
		50	0	23.5	23.3	23.3	1.0	24.0	14.0	13.5	13.4	0.0	15.0
	16QAM	1	0	23.7	23.0	23.5	1.0	24.0	13.7	13.2	13.8	0.0	15.0
		1	25	23.8	23.2	23.4	1.0	24.0	14.0	13.4	13.7	0.0	15.0
		1	49	23.6	23.0	23.3	1.0	24.0	13.7	13.2	13.7	0.0	15.0
		25	0	22.5	22.3	22.3	2.0	23.0	14.0	13.5	13.3	0.0	15.0
		25	12	22.5	22.4	22.4	2.0	23.0	14.1	13.6	13.4	0.0	15.0
		25	25	22.5	22.4	22.5	2.0	23.0	14.1	13.5	13.4	0.0	15.0
		50	0	22.4	22.3	22.3	2.0	23.0	14.0	13.5	13.4	0.0	15.0
	64QAM	1	0	22.3	22.2	22.7	2.0	23.0	13.8	13.5	13.6	0.0	15.0
		1	25	22.6	22.7	22.7	2.0	23.0	14.0	13.6	13.6	0.0	15.0
		1	49	22.4	22.3	22.4	2.0	23.0	13.8	13.4	13.6	0.0	15.0
		25	0	21.5	21.3	21.3	3.0	22.0	14.0	13.5	13.3	0.0	15.0
		25	12	21.6	21.5	21.4	3.0	22.0	14.1	13.6	13.5	0.0	15.0
		25	25	21.6	21.4	21.5	3.0	22.0	14.0	13.5	13.4	0.0	15.0
		50	0	21.5	21.3	21.3	3.0	22.0	14.0	13.5	13.3	0.0	15.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26065	26365	26665			26065	26365	26665		
				1852.5 MHz	1882.5 MHz	1912.5 MHz			1852.5 MHz	1882.5 MHz	1912.5 MHz		
5 MHz	QPSK	1	0	24.5	24.1	24.4	0.0	25.0	14.0	13.6	13.3	0.0	15.0
		1	12	24.5	24.2	24.4	0.0	25.0	14.0	13.5	13.4	0.0	15.0
		1	24	24.5	24.3	24.2	0.0	25.0	14.0	13.6	13.4	0.0	15.0
		12	0	23.5	23.3	23.4	1.0	24.0	14.0	13.6	13.4	0.0	15.0
		12	7	23.6	23.4	23.4	1.0	24.0	14.1	13.6	13.4	0.0	15.0
		12	13	23.6	23.4	23.5	1.0	24.0	14.1	13.6	13.4	0.0	15.0
		25	0	23.5	23.4	23.4	1.0	24.0	14.1	13.6	13.4	0.0	15.0
	16QAM	1	0	24.0	23.3	23.5	1.0	24.0	14.1	13.7	13.9	0.0	15.0
		1	12	23.9	23.4	23.6	1.0	24.0	14.2	13.7	13.9	0.0	15.0
		1	24	24.0	23.5	23.5	1.0	24.0	14.2	13.8	13.9	0.0	15.0
		12	0	22.7	22.3	22.4	2.0	23.0	14.1	13.6	13.6	0.0	15.0
		12	7	22.7	22.4	22.5	2.0	23.0	14.1	13.7	13.6	0.0	15.0
		12	13	22.7	22.4	22.5	2.0	23.0	14.1	13.7	13.6	0.0	15.0
		25	0	22.6	22.3	22.4	2.0	23.0	14.0	13.6	13.5	0.0	15.0
	64QAM	1	0	22.7	22.4	22.3	2.0	23.0	14.3	13.7	13.3	0.0	15.0
		1	12	22.6	22.6	22.2	2.0	23.0	14.3	13.8	13.3	0.0	15.0
		1	24	22.8	22.6	21.9	2.0	23.0	14.4	13.8	13.3	0.0	15.0
		12	0	21.5	21.4	21.4	3.0	22.0	13.9	13.6	13.4	0.0	15.0
		12	7	21.5	21.5	21.5	3.0	22.0	14.0	13.6	13.5	0.0	15.0
		12	13	21.5	21.4	21.3	3.0	22.0	14.0	13.6	13.5	0.0	15.0
		25	0	21.5	21.4	21.4	3.0	22.0	14.0	13.6	13.4	0.0	15.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26055	26365	26675			26055	26365	26675		
				1851.5 MHz	1882.5 MHz	1913.5 MHz			1851.5 MHz	1882.5 MHz	1913.5 MHz		
3 MHz	QPSK	1	0	24.4	24.1	24.3	0.0	25.0	13.9	13.5	13.3	0.0	15.0
		1	8	24.4	24.1	24.2	0.0	25.0	13.8	13.5	13.3	0.0	15.0
		1	14	24.5	24.2	24.2	0.0	25.0	13.9	13.6	13.4	0.0	15.0
		8	0	23.5	23.2	23.4	1.0	24.0	14.0	13.5	13.4	0.0	15.0
		8	4	23.5	23.3	23.4	1.0	24.0	14.0	13.6	13.4	0.0	15.0
		8	7	23.5	23.4	23.5	1.0	24.0	14.1	13.6	13.4	0.0	15.0
		15	0	23.5	23.3	23.4	1.0	24.0	14.0	13.6	13.4	0.0	15.0
	16QAM	1	0	23.8	23.2	23.2	1.0	24.0	14.1	13.5	13.7	0.0	15.0
		1	8	23.8	23.2	23.2	1.0	24.0	14.0	13.5	13.7	0.0	15.0
		1	14	23.9	23.3	23.2	1.0	24.0	14.1	13.5	13.8	0.0	15.0
		8	0	22.5	22.3	22.5	2.0	23.0	14.0	13.7	13.4	0.0	15.0
		8	4	22.6	22.4	22.5	2.0	23.0	14.1	13.7	13.5	0.0	15.0
		8	7	22.6	22.4	22.6	2.0	23.0	14.1	13.7	13.5	0.0	15.0
		15	0	22.6	22.3	22.4	2.0	23.0	14.0	13.6	13.4	0.0	15.0
	64QAM	1	0	22.6	22.5	22.7	2.0	23.0	14.1	13.8	13.7	0.0	15.0
		1	8	22.5	22.4	22.4	2.0	23.0	14.1	13.7	13.6	0.0	15.0
		1	14	22.6	22.6	22.3	2.0	23.0	14.2	13.8	13.7	0.0	15.0
		8	0	21.5	21.3	21.4	3.0	22.0	14.1	13.5	13.4	0.0	15.0
		8	4	21.6	21.3	21.4	3.0	22.0	14.1	13.5	13.5	0.0	15.0
		8	7	21.6	21.3	21.3	3.0	22.0	14.1	13.5	13.5	0.0	15.0
		15	0	21.6	21.4	21.3	3.0	22.0	14.1	13.6	13.4	0.0	15.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26047	26365	26683			26047	26365	26683		
				1850.7 MHz	1882.5 MHz	1914.3 MHz			1850.7 MHz	1882.5 MHz	1914.3 MHz		
1.4 MHz	QPSK	1	0	24.4	24.2	24.2	0.0	25.0	13.8	13.4	13.3	0.0	15.0
		1	3	24.4	24.3	24.2	0.0	25.0	13.9	13.5	13.3	0.0	15.0
		1	5	24.4	24.3	24.0	0.0	25.0	13.8	13.5	13.2	0.0	15.0
		3	0	24.4	24.1	24.1	0.0	25.0	13.8	13.4	13.2	0.0	15.0
		3	1	24.4	24.2	24.1	0.0	25.0	13.9	13.4	13.3	0.0	15.0
		3	3	24.4	24.2	24.0	0.0	25.0	13.9	13.4	13.3	0.0	15.0
		6	0	23.4	23.2	23.3	1.0	24.0	13.9	13.5	13.3	0.0	15.0
	16QAM	1	0	23.6	23.6	23.3	1.0	24.0	13.9	13.6	13.6	0.0	15.0
		1	3	23.7	23.7	23.3	1.0	24.0	14.0	13.7	13.7	0.0	15.0
		1	5	23.7	23.6	23.2	1.0	24.0	14.0	13.6	13.7	0.0	15.0
		3	0	23.5	23.4	23.5	1.0	24.0	14.1	13.5	13.5	0.0	15.0
		3	1	23.5	23.5	23.5	1.0	24.0	14.2	13.6	13.5	0.0	15.0
		3	3	23.5	23.5	23.5	1.0	24.0	14.2	13.6	13.6	0.0	15.0
		6	0	22.6	22.2	22.5	2.0	23.0	14.1	13.6	13.3	0.0	15.0
	64QAM	1	0	22.8	22.3	22.4	2.0	23.0	14.0	13.7	13.7	0.0	15.0
		1	3	22.9	22.4	22.3	2.0	23.0	14.1	13.7	13.8	0.0	15.0
		1	5	22.8	22.3	22.2	2.0	23.0	14.0	13.7	13.7	0.0	15.0
		3	0	22.8	22.4	22.0	2.0	23.0	14.1	13.4	13.6	0.0	15.0
		3	1	22.8	22.4	22.0	2.0	23.0	14.1	13.5	13.6	0.0	15.0
		3	3	22.8	22.5	22.0	2.0	23.0	14.1	13.5	13.6	0.0	15.0
		6	0	21.5	21.6	21.2	3.0	22.0	14.3	13.5	13.3	0.0	15.0

LTE Band 26 Measured Results

LTE Band 26 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26765	26865	26965			26765	26865	26965		
				821.5 MHz	831.5 MHz	841.5 MHz			821.5 MHz	831.5 MHz	841.5 MHz		
15 MHz	QPSK	1	0		24.6		0.0	25.5		16.3		0.0	17.5
		1	37		24.6		0.0	25.5		16.1		0.0	17.5
		1	74		24.7		0.0	25.5		16.3		0.0	17.5
		36	0		23.5		1.0	24.5		16.1		0.0	17.5
		36	20		23.6		1.0	24.5		16.2		0.0	17.5
		36	39		23.7		1.0	24.5		16.2		0.0	17.5
		75	0		23.5		1.0	24.5		16.1		0.0	17.5
	16QAM	1	0		23.9		1.0	24.5		16.6		0.0	17.5
		1	37		23.8		1.0	24.5		16.5		0.0	17.5
		1	74		23.9		1.0	24.5		16.6		0.0	17.5
		36	0		22.6		2.0	23.5		16.1		0.0	17.5
		36	20		22.6		2.0	23.5		16.1		0.0	17.5
		36	39		22.7		2.0	23.5		16.2		0.0	17.5
		75	0		22.5		2.0	23.5		16.1		0.0	17.5
	64QAM	1	0		23.2		2.0	23.5		16.8		0.0	17.5
		1	37		23.3		2.0	23.5		16.8		0.0	17.5
		1	74		23.3		2.0	23.5		16.8		0.0	17.5
		36	0		21.6		3.0	22.5		16.2		0.0	17.5
		36	20		21.6		3.0	22.5		16.2		0.0	17.5
		36	39		21.7		3.0	22.5		16.2		0.0	17.5
		75	0		21.6		3.0	22.5		16.2		0.0	17.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26740	26865	26990			26740	26865	26990		
				819 MHz	831.5 MHz	844 MHz			819 MHz	831.5 MHz	844 MHz		
10 MHz	QPSK	1	0	24.9	24.5	24.9	0.0	25.5	16.5	16.4	16.4	0.0	17.5
		1	25	24.9	24.5	24.7	0.0	25.5	16.4	16.3	16.3	0.0	17.5
		1	49	24.8	24.6	24.7	0.0	25.5	16.4	16.4	16.2	0.0	17.5
		25	0	23.8	23.6	23.7	1.0	24.5	16.4	16.2	16.3	0.0	17.5
		25	12	23.9	23.8	23.8	1.0	24.5	16.5	16.3	16.3	0.0	17.5
		25	25	23.8	23.8	23.8	1.0	24.5	16.5	16.4	16.3	0.0	17.5
		50	0	23.8	23.7	23.7	1.0	24.5	16.4	16.3	16.3	0.0	17.5
	16QAM	1	0	24.0	24.1	24.4	1.0	24.5	16.8	16.5	16.4	0.0	17.5
		1	25	23.9	24.2	24.2	1.0	24.5	16.8	16.4	16.3	0.0	17.5
		1	49	23.9	24.1	24.3	1.0	24.5	16.8	16.4	16.2	0.0	17.5
		25	0	22.9	22.7	22.7	2.0	23.5	16.4	16.3	16.3	0.0	17.5
		25	12	23.0	22.8	22.8	2.0	23.5	16.5	16.4	16.4	0.0	17.5
		25	25	23.0	22.8	22.8	2.0	23.5	16.5	16.4	16.3	0.0	17.5
		50	0	22.9	22.7	22.7	2.0	23.5	16.4	16.3	16.3	0.0	17.5
	64QAM	1	0	23.5	23.4	23.2	2.0	23.5	16.6	16.6	16.8	0.0	17.5
		1	25	23.4	23.1	23.2	2.0	23.5	16.6	16.6	16.7	0.0	17.5
		1	49	23.4	23.3	23.2	2.0	23.5	16.7	16.6	16.6	0.0	17.5
		25	0	21.9	21.8	21.8	3.0	22.5	16.4	16.4	16.4	0.0	17.5
		25	12	22.0	22.0	21.9	3.0	22.5	16.6	16.5	16.4	0.0	17.5
		25	25	22.0	21.9	21.9	3.0	22.5	16.6	16.5	16.4	0.0	17.5
		50	0	21.9	21.7	21.8	3.0	22.5	16.5	16.3	16.3	0.0	17.5

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26715	26865	27015			26715	26865	27015		
				816.5 MHz	831.5 MHz	846.5 MHz			816.5 MHz	831.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	24.8	24.8	24.9	0.0	25.5	16.3	16.4	16.5	0.0	17.5
		1	12	24.8	24.8	24.8	0.0	25.5	16.5	16.4	16.4	0.0	17.5
		1	24	24.8	24.8	24.9	0.0	25.5	16.4	16.4	16.4	0.0	17.5
		12	0	23.9	23.7	23.8	1.0	24.5	16.4	16.3	16.3	0.0	17.5
		12	7	23.9	23.8	23.8	1.0	24.5	16.5	16.4	16.4	0.0	17.5
		12	13	24.0	23.8	23.8	1.0	24.5	16.5	16.4	16.3	0.0	17.5
		25	0	23.9	23.8	23.8	1.0	24.5	16.5	16.3	16.3	0.0	17.5
	16QAM	1	0	23.9	23.9	24.3	1.0	24.5	16.8	16.5	16.6	0.0	17.5
		1	12	24.0	23.9	24.2	1.0	24.5	16.8	16.4	16.5	0.0	17.5
		1	24	24.0	24.0	24.3	1.0	24.5	16.8	16.6	16.5	0.0	17.5
		12	0	22.9	22.8	22.9	2.0	23.5	16.6	16.3	16.4	0.0	17.5
		12	7	23.0	22.9	23.0	2.0	23.5	16.6	16.4	16.5	0.0	17.5
		12	13	23.0	22.9	23.0	2.0	23.5	16.6	16.5	16.4	0.0	17.5
		25	0	22.8	22.8	22.9	2.0	23.5	16.5	16.3	16.4	0.0	17.5
	64QAM	1	0	23.0	23.0	22.8	2.0	23.5	16.7	16.7	16.4	0.0	17.5
		1	12	23.0	23.0	22.8	2.0	23.5	16.7	16.6	16.3	0.0	17.5
		1	24	23.1	23.1	22.8	2.0	23.5	16.8	16.7	16.3	0.0	17.5
		12	0	21.9	21.8	21.9	3.0	22.5	16.4	16.4	16.4	0.0	17.5
		12	7	21.9	21.9	21.9	3.0	22.5	16.5	16.5	16.4	0.0	17.5
		12	13	21.9	21.9	21.9	3.0	22.5	16.5	16.5	16.4	0.0	17.5
		25	0	21.9	21.8	21.8	3.0	22.5	16.4	16.4	16.3	0.0	17.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26705	26865	27025			26705	26865	27025		
				815.5 MHz	831.5 MHz	847.5 MHz			815.5 MHz	831.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	24.9	24.7	24.7	0.0	25.5	16.4	16.3	16.3	0.0	17.5
		1	8	24.8	24.6	24.5	0.0	25.5	16.4	16.2	16.2	0.0	17.5
		1	14	24.9	24.8	24.6	0.0	25.5	16.4	16.3	16.3	0.0	17.5
		8	0	23.9	23.7	23.8	1.0	24.5	16.5	16.3	16.3	0.0	17.5
		8	4	23.9	23.8	23.8	1.0	24.5	16.5	16.4	16.3	0.0	17.5
		8	7	23.9	23.9	23.8	1.0	24.5	16.5	16.4	16.4	0.0	17.5
		15	0	23.9	23.8	23.8	1.0	24.5	16.5	16.3	16.3	0.0	17.5
	16QAM	1	0	24.2	23.7	23.5	1.0	24.5	16.8	16.4	16.3	0.0	17.5
		1	8	24.2	23.7	23.5	1.0	24.5	16.8	16.4	16.2	0.0	17.5
		1	14	24.3	23.8	23.5	1.0	24.5	16.8	16.5	16.2	0.0	17.5
		8	0	22.9	22.9	22.8	2.0	23.5	16.6	16.4	16.4	0.0	17.5
		8	4	23.0	22.9	22.9	2.0	23.5	16.6	16.5	16.5	0.0	17.5
		8	7	23.0	22.9	22.9	2.0	23.5	16.6	16.5	16.5	0.0	17.5
		15	0	23.0	22.7	22.8	2.0	23.5	16.5	16.3	16.4	0.0	17.5
	64QAM	1	0	23.0	23.0	23.0	2.0	23.5	16.5	16.6	16.7	0.0	17.5
		1	8	22.9	22.9	23.0	2.0	23.5	16.6	16.5	16.6	0.0	17.5
		1	14	23.0	23.1	23.1	2.0	23.5	16.6	16.6	16.7	0.0	17.5
		8	0	22.0	21.7	21.9	3.0	22.5	16.6	16.3	16.4	0.0	17.5
		8	4	22.0	21.8	21.9	3.0	22.5	16.6	16.4	16.4	0.0	17.5
		8	7	22.0	21.9	21.9	3.0	22.5	16.6	16.4	16.5	0.0	17.5
		15	0	22.0	21.9	21.8	3.0	22.5	16.5	16.4	16.3	0.0	17.5

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				26697	26865	27033			26697	26865	27033		
				814.7 MHz	831.5 MHz	848.3 MHz			814.7 MHz	831.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	24.9	24.8	24.7	0.0	25.5	16.3	16.2	16.2	0.0	17.5
		1	3	24.9	24.9	24.7	0.0	25.5	16.4	16.3	16.3	0.0	17.5
		1	5	24.9	24.9	24.7	0.0	25.5	16.4	16.2	16.3	0.0	17.5
		3	0	25.0	24.7	24.7	0.0	25.5	16.3	16.2	16.2	0.0	17.5
		3	1	24.9	24.8	24.7	0.0	25.5	16.4	16.3	16.2	0.0	17.5
		3	3	24.9	24.8	24.7	0.0	25.5	16.4	16.3	16.2	0.0	17.5
		6	0	23.8	23.7	23.7	1.0	24.5	16.4	16.3	16.3	0.0	17.5
	16QAM	1	0	24.2	24.0	23.7	1.0	24.5	16.7	16.3	16.3	0.0	17.5
		1	3	24.3	24.2	23.8	1.0	24.5	16.8	16.4	16.4	0.0	17.5
		1	5	24.2	24.1	23.7	1.0	24.5	16.8	16.4	16.4	0.0	17.5
		3	0	24.0	24.0	23.9	1.0	24.5	16.6	16.5	16.3	0.0	17.5
		3	1	24.0	24.1	24.0	1.0	24.5	16.6	16.6	16.3	0.0	17.5
		3	3	24.0	24.1	24.0	1.0	24.5	16.7	16.6	16.4	0.0	17.5
		6	0	23.0	22.7	22.9	2.0	23.5	16.3	16.5	16.4	0.0	17.5
	64QAM	1	0	23.2	22.9	22.9	2.0	23.5	16.8	16.4	16.4	0.0	17.5
		1	3	23.3	23.0	22.9	2.0	23.5	16.8	16.5	16.5	0.0	17.5
		1	5	23.2	22.9	22.9	2.0	23.5	16.8	16.4	16.5	0.0	17.5
		3	0	23.3	22.9	22.6	2.0	23.5	16.7	16.4	16.2	0.0	17.5
		3	1	23.2	23.0	22.6	2.0	23.5	16.8	16.5	16.3	0.0	17.5
		3	3	23.3	23.0	22.7	2.0	23.5	16.8	16.5	16.3	0.0	17.5
		6	0	21.8	22.1	21.8	3.0	22.5	16.4	16.6	16.3	0.0	17.5

LTE Band 30 Measured Results

LTE Band 30 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)								
				DSI = 0					DSI = 1			
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)		MPR	Tune-up Limit
					27710					27710		
					2310 MHz					2310 MHz		
10 MHz	QPSK	1	0		21.8		0.0	23.0		12.7	0.0	14.0
		1	25		21.7		0.0	23.0		12.7	0.0	14.0
		1	49		21.6		0.0	23.0		12.6	0.0	14.0
		25	0		20.7		1.0	22.0		12.6	0.0	14.0
		25	12		20.8		1.0	22.0		12.7	0.0	14.0
		25	25		20.6		1.0	22.0		12.6	0.0	14.0
		50	0		20.7		1.0	22.0		12.6	0.0	14.0
	16QAM	1	0		20.9		1.0	22.0		13.1	0.0	14.0
		1	25		20.7		1.0	22.0		13.1	0.0	14.0
		1	49		20.7		1.0	22.0		13.0	0.0	14.0
		25	0		19.8		2.0	21.0		12.6	0.0	14.0
		25	12		19.9		2.0	21.0		12.7	0.0	14.0
		25	25		19.7		2.0	21.0		12.6	0.0	14.0
		50	0		19.7		2.0	21.0		12.6	0.0	14.0
	64QAM	1	0		20.2		2.0	21.0		13.0	0.0	14.0
		1	25		20.1		2.0	21.0		13.0	0.0	14.0
		1	49		19.8		2.0	21.0		12.8	0.0	14.0
		25	0		18.8		3.0	20.0		12.7	0.0	14.0
		25	12		18.9		3.0	20.0		12.7	0.0	14.0
		25	25		18.7		3.0	20.0		12.6	0.0	14.0
		50	0		18.7		3.0	20.0		12.6	0.0	14.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				27685	27710	27735			27685	27710	27735		
				2307.5 MHz	2310 MHz	2312.5 MHz			2307.5 MHz	2310 MHz	2312.5 MHz		
5 MHz	QPSK	1	0		21.8		0.0	23.0		12.8		0.0	14.0
		1	12		21.7		0.0	23.0		12.7		0.0	14.0
		1	24		21.7		0.0	23.0		12.7		0.0	14.0
		12	0		20.8		1.0	22.0		12.7		0.0	14.0
		12	7		20.8		1.0	22.0		12.7		0.0	14.0
		12	13		20.7		1.0	22.0		12.7		0.0	14.0
		25	0		20.8		1.0	22.0		12.7		0.0	14.0
	16QAM	1	0		21.0		1.0	22.0		12.9		0.0	14.0
		1	12		21.0		1.0	22.0		13.0		0.0	14.0
		1	24		20.9		1.0	22.0		12.8		0.0	14.0
		12	0		19.8		2.0	21.0		12.8		0.0	14.0
		12	7		19.9		2.0	21.0		12.8		0.0	14.0
		12	13		19.8		2.0	21.0		12.8		0.0	14.0
		25	0		19.8		2.0	21.0		12.7		0.0	14.0
	64QAM	1	0		19.7		2.0	21.0		12.7		0.0	14.0
		1	12		19.8		2.0	21.0		12.7		0.0	14.0
		1	24		19.6		2.0	21.0		12.6		0.0	14.0
		12	0		18.9		3.0	20.0		12.8		0.0	14.0
		12	7		18.9		3.0	20.0		12.8		0.0	14.0
		12	13		18.8		3.0	20.0		12.7		0.0	14.0
		25	0		18.8		3.0	20.0		12.7		0.0	14.0

LTE Band 41 – Power Class 3 Measured Results

LTE Band 41 – Power Class 3 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)													
				DSI = 0							DSI = 1						
				Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	23.2	23.5	23.5	23.2	22.7	0.0	25.0	12.9	12.7	12.0	12.1	12.0	0.0	14.0
		1	49	23.2	23.5	23.9	23.4	23.1	0.0	25.0	12.9	12.5	12.4	12.4	12.4	0.0	14.0
		1	99	23.3	23.6	23.6	22.9	23.0	0.0	25.0	13.0	12.5	12.1	12.1	12.3	0.0	14.0
		50	0	22.2	22.5	22.8	22.5	22.0	1.0	24.0	13.0	12.6	12.3	12.4	12.3	0.0	14.0
		50	24	22.2	22.5	22.9	22.5	22.1	1.0	24.0	13.1	12.6	12.5	12.4	12.5	0.0	14.0
		50	50	22.2	22.5	22.9	22.3	22.1	1.0	24.0	13.0	12.6	12.4	12.4	12.5	0.0	14.0
		100	0	22.2	22.4	22.8	22.4	22.0	1.0	24.0	12.9	12.5	12.4	12.4	12.4	0.0	14.0
	16QAM	1	0	22.1	22.3	22.5	22.2	21.5	1.0	24.0	13.1	12.7	12.1	12.2	12.1	0.0	14.0
		1	49	22.1	22.3	23.0	22.3	21.9	1.0	24.0	13.0	12.7	12.5	12.5	12.5	0.0	14.0
		1	99	22.2	22.4	22.7	21.8	21.8	1.0	24.0	12.9	12.6	12.2	12.2	12.4	0.0	14.0
		50	0	21.1	21.4	21.9	21.4	20.9	2.0	23.0	13.1	12.7	12.4	12.4	12.4	0.0	14.0
		50	24	21.2	21.5	22.0	21.5	21.1	2.0	23.0	13.0	12.7	12.5	12.5	12.5	0.0	14.0
		50	50	21.2	21.5	21.9	21.2	21.1	2.0	23.0	13.0	12.6	12.5	12.4	12.5	0.0	14.0
		100	0	21.1	21.4	21.8	21.4	21.1	2.0	23.0	12.9	12.5	12.4	12.3	12.4	0.0	14.0
	64QAM	1	0	21.5	21.4	21.3	21.6	20.6	2.0	23.0	13.3	13.0	12.4	12.5	12.5	0.0	14.0
		1	49	21.5	21.4	21.8	21.8	21.0	2.0	23.0	13.3	12.9	12.7	12.8	12.8	0.0	14.0
		1	99	21.6	21.5	21.4	21.2	21.0	2.0	23.0	13.2	12.9	12.5	12.5	12.7	0.0	14.0
		50	0	20.2	20.5	20.8	20.5	20.0	3.0	22.0	13.0	12.7	12.4	12.4	12.4	0.0	14.0
		50	24	20.3	20.6	21.0	20.5	20.2	3.0	22.0	13.0	12.6	12.5	12.5	12.5	0.0	14.0
		50	50	20.3	20.6	20.9	20.3	20.2	3.0	22.0	13.0	12.6	12.4	12.4	12.5	0.0	14.0
		100	0	20.2	20.5	20.8	20.4	20.1	3.0	22.0	12.9	12.5	12.4	12.3	12.4	0.0	14.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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 MHz	QPSK	1	0	23.1	23.1	23.6	23.3	22.7	0.0	25.0	13.0	12.4	12.2	12.3	12.1	0.0	14.0
		1	37	23.2	23.4	23.9	23.4	23.0	0.0	25.0	12.9	12.5	12.4	12.4	12.4	0.0	14.0
		1	74	23.2	23.3	23.7	23.1	23.0	0.0	25.0	12.9	12.3	12.3	12.2	12.4	0.0	14.0
		36	0	22.2	22.4	22.9	22.5	22.0	1.0	24.0	13.1	12.6	12.4	12.4	12.4	0.0	14.0
		36	20	22.2	22.6	23.0	22.5	22.2	1.0	24.0	13.0	12.6	12.5	12.5	12.5	0.0	14.0
		36	39	22.2	22.5	22.9	22.3	22.1	1.0	24.0	13.0	12.6	12.5	12.5	12.6	0.0	14.0
		75	0	22.2	22.5	22.9	22.4	22.1	1.0	24.0	12.9	12.5	12.4	12.4	12.5	0.0	14.0
	16QAM	1	0	22.2	22.2	22.6	22.4	21.8	1.0	24.0	13.1	12.5	12.3	12.4	12.2	0.0	14.0
		1	37	22.3	22.5	22.9	22.5	22.1	1.0	24.0	13.1	12.7	12.6	12.6	12.5	0.0	14.0
		1	74	22.3	22.3	22.7	22.2	22.0	1.0	24.0	13.0	12.4	12.4	12.3	12.5	0.0	14.0
		36	0	21.2	21.4	21.8	21.5	21.0	2.0	23.0	13.1	12.6	12.5	12.4	12.5	0.0	14.0
		36	20	21.2	21.5	21.9	21.5	21.1	2.0	23.0	13.0	12.7	12.5	12.5	12.5	0.0	14.0
		36	39	21.2	21.5	21.9	21.4	21.1	2.0	23.0	13.0	12.6	12.5	12.5	12.5	0.0	14.0
		75	0	21.2	21.5	21.9	21.4	21.1	2.0	23.0	13.0	12.6	12.5	12.4	12.4	0.0	14.0
	64QAM	1	0	21.4	20.7	21.4	21.6	20.5	2.0	23.0	12.6	12.1	11.8	11.8	11.8	0.0	14.0
		1	37	21.5	21.0	21.7	21.7	20.5	2.0	23.0	12.4	12.0	11.9	11.9	11.9	0.0	14.0
		1	74	21.5	20.8	21.5	21.3	20.5	2.0	23.0	12.3	11.7	11.7	11.7	11.9	0.0	14.0
		36	0	20.2	20.5	20.8	20.5	20.1	3.0	22.0	13.1	12.6	12.5	12.5	12.5	0.0	14.0
		36	20	20.3	20.6	20.9	20.6	20.2	3.0	22.0	13.0	12.7	12.5	12.5	12.6	0.0	14.0
		36	39	20.3	20.5	20.9	20.4	20.2	3.0	22.0	13.1	12.6	12.5	12.5	12.6	0.0	14.0
		75	0	20.2	20.5	20.9	20.4	20.1	3.0	22.0	13.0	12.6	12.4	12.4	12.4	0.0	14.0

LTE Band 41 – Power Class 3 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	23.3	23.3	23.7	23.4	22.9	0.0	25.0	13.1	12.5	12.3	12.3	12.4	0.0	14.0
		1	25	23.2	23.6	24.0	23.5	23.1	0.0	25.0	13.0	12.6	12.5	12.5	12.5	0.0	14.0
		1	49	23.3	23.3	23.8	23.3	22.8	0.0	25.0	13.0	12.5	12.4	12.4	12.3	0.0	14.0
		25	0	22.3	22.6	23.0	22.6	22.1	1.0	24.0	13.1	12.8	12.6	12.6	12.6	0.0	14.0
		25	12	22.4	22.7	23.1	22.6	22.3	1.0	24.0	13.2	12.8	12.6	12.6	12.6	0.0	14.0
		25	25	22.4	22.6	23.0	22.5	22.2	1.0	24.0	13.1	12.7	12.5	12.7	12.6	0.0	14.0
		50	0	22.3	22.6	23.0	22.5	22.1	1.0	24.0	13.1	12.7	12.6	12.5	12.6	0.0	14.0
	16QAM	1	0	22.4	22.2	22.7	22.5	21.9	1.0	24.0	13.2	12.6	12.5	12.4	12.4	0.0	14.0
		1	25	22.4	22.5	23.0	22.6	22.0	1.0	24.0	13.1	12.8	12.7	12.7	12.6	0.0	14.0
		1	49	22.4	22.4	22.7	22.3	21.9	1.0	24.0	13.2	12.6	12.4	12.5	12.4	0.0	14.0
		25	0	21.3	21.6	22.0	21.5	21.1	2.0	23.0	13.2	12.8	12.6	12.5	12.5	0.0	14.0
		25	12	21.4	21.7	22.1	21.6	21.3	2.0	23.0	13.1	12.8	12.7	12.6	12.6	0.0	14.0
		25	25	21.4	21.7	22.0	21.5	21.2	2.0	23.0	13.1	12.8	12.6	12.6	12.6	0.0	14.0
		50	0	21.3	21.6	22.0	21.6	21.2	2.0	23.0	13.1	12.8	12.6	12.5	12.5	0.0	14.0
	64QAM	1	0	20.8	21.4	22.0	20.9	20.9	2.0	23.0	12.8	12.1	11.9	11.9	11.8	0.0	14.0
		1	25	20.8	21.6	22.3	21.1	21.2	2.0	23.0	12.5	12.2	12.1	12.1	12.0	0.0	14.0
		1	49	20.8	21.5	22.0	20.7	20.9	2.0	23.0	12.4	12.0	11.8	11.8	11.7	0.0	14.0
		25	0	20.3	20.4	21.0	20.6	20.1	3.0	22.0	13.2	12.8	12.6	12.6	12.6	0.0	14.0
		25	12	20.4	20.6	21.1	20.7	20.1	3.0	22.0	13.2	12.9	12.6	12.6	12.7	0.0	14.0
		25	25	20.4	20.5	20.9	20.5	20.0	3.0	22.0	13.2	12.8	12.5	12.6	12.6	0.0	14.0
		50	0	20.3	20.6	21.0	20.6	20.1	3.0	22.0	13.1	12.7	12.5	12.5	12.5	0.0	14.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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 MHz	QPSK	1	0	23.2	23.5	24.1	23.5	23.1	0.0	25.0	13.1	12.7	12.5	12.5	12.6	0.0	14.0
		1	12	23.2	23.6	24.1	23.4	23.3	0.0	25.0	13.0	12.6	12.4	12.5	12.5	0.0	14.0
		1	24	23.2	23.6	24.1	23.4	23.1	0.0	25.0	13.1	12.7	12.6	12.6	12.6	0.0	14.0
		12	0	22.3	22.7	23.1	22.7	22.3	1.0	24.0	13.1	12.8	12.6	12.6	12.6	0.0	14.0
		12	7	22.3	22.7	23.1	22.7	22.3	1.0	24.0	13.1	12.8	12.7	12.6	12.7	0.0	14.0
		12	13	22.3	22.7	23.1	22.6	22.2	1.0	24.0	13.1	12.8	12.6	12.7	12.6	0.0	14.0
		25	0	22.4	22.7	23.1	22.6	22.2	1.0	24.0	13.1	12.8	12.6	12.6	12.6	0.0	14.0
	16QAM	1	0	22.2	22.6	23.1	22.5	22.2	1.0	24.0	13.2	12.9	12.7	12.6	12.7	0.0	14.0
		1	12	22.3	22.7	23.4	22.6	22.2	1.0	24.0	13.4	13.0	12.8	12.8	12.7	0.0	14.0
		1	24	22.3	22.6	23.2	22.4	22.1	1.0	24.0	13.3	12.9	12.7	12.7	12.7	0.0	14.0
		12	0	21.3	21.6	22.1	21.6	21.2	2.0	23.0	13.2	12.8	12.7	12.7	12.7	0.0	14.0
		12	7	21.4	21.7	22.2	21.6	21.2	2.0	23.0	13.2	12.9	12.7	12.7	12.7	0.0	14.0
		12	13	21.4	21.6	22.2	21.6	21.2	2.0	23.0	13.2	12.8	12.7	12.7	12.6	0.0	14.0
		25	0	21.3	21.8	22.1	21.6	21.3	2.0	23.0	13.1	12.8	12.7	12.6	12.7	0.0	14.0
	64QAM	1	0	21.9	21.2	22.2	22.1	20.8	2.0	23.0	12.8	12.5	12.3	12.3	12.3	0.0	14.0
		1	12	22.0	21.3	22.2	22.1	20.9	2.0	23.0	12.8	12.4	12.2	12.3	12.2	0.0	14.0
		1	24	22.0	21.3	22.1	22.0	20.8	2.0	23.0	12.7	12.3	12.2	12.3	12.2	0.0	14.0
		12	0	20.4	20.6	21.0	20.7	20.2	3.0	22.0	13.1	12.8	12.6	12.6	12.6	0.0	14.0
		12	7	20.5	20.7	21.0	20.7	20.2	3.0	22.0	13.2	12.8	12.6	12.7	12.6	0.0	14.0
		12	13	20.4	20.7	21.0	20.7	20.2	3.0	22.0	13.1	12.8	12.6	12.7	12.6	0.0	14.0
		25	0	20.4	20.7	21.0	20.6	20.3	3.0	22.0	13.1	12.8	12.6	12.6	12.6	0.0	14.0

LTE Band 41 – Power Class 2 Measured Results

LTE Band 41 – Power Class 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)														
				DSI = 0							DSI = 1							
				Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	26.1	26.6	26.5	26.2	25.7	0.0	27.5	14.5	14.3	13.6	13.7	13.6	0.0	15.0
		1	49	26.1	26.6	26.9	26.4	26.1	0.0	27.5	14.5	14.1	14.0	14.0	14.0	0.0	15.0
		1	99	26.2	26.6	26.6	25.9	26.1	0.0	27.5	14.5	14.1	13.7	13.7	13.9	0.0	15.0
		50	0	25.2	25.4	25.8	25.5	24.9	1.0	26.5	14.6	14.2	13.9	14.0	13.9	0.0	15.0
		50	24	25.2	25.5	25.9	25.5	25.1	1.0	26.5	14.6	14.2	14.1	14.1	14.1	0.0	15.0
		50	50	25.2	25.5	25.9	25.3	25.1	1.0	26.5	14.6	14.2	14.0	14.0	14.1	0.0	15.0
		100	0	25.2	25.4	25.8	25.4	25.0	1.0	26.5	14.5	14.1	14.0	14.0	14.0	0.0	15.0
	16QAM	1	0	25.4	25.5	25.9	25.4	24.7	1.0	26.5	14.7	14.6	13.9	14.1	14.0	0.0	15.0
		1	49	25.4	25.6	26.4	25.6	25.1	1.0	26.5	14.6	14.4	14.3	14.4	14.4	0.0	15.0
		1	99	25.5	25.7	26.1	25.1	25.1	1.0	26.5	14.6	14.4	14.0	14.1	14.3	0.0	15.0
		50	0	24.2	24.5	24.9	24.5	23.9	2.0	25.5	14.6	14.2	13.9	14.0	13.9	0.0	15.0
		50	24	24.2	24.6	25.0	24.5	24.1	2.0	25.5	14.6	14.2	14.0	14.1	14.1	0.0	15.0
		50	50	24.2	24.5	24.9	24.3	24.1	2.0	25.5	14.5	14.1	13.9	14.0	14.1	0.0	15.0
		100	0	24.2	24.4	24.8	24.4	24.0	2.0	25.5	14.5	14.0	13.8	13.9	14.0	0.0	15.0
	64QAM	1	0	24.8	24.7	25.0	24.9	23.9	2.0	25.5	14.9	14.8	14.1	14.2	14.2	0.0	15.0
		1	49	24.7	24.7	25.4	25.0	24.2	2.0	25.5	15.0	14.7	14.5	14.7	14.5	0.0	15.0
		1	99	24.8	24.7	25.0	24.5	24.2	2.0	25.5	14.9	14.5	14.2	14.3	14.5	0.0	15.0
		50	0	23.2	23.4	23.8	23.5	22.9	3.0	24.5	14.6	14.2	13.8	14.0	13.9	0.0	15.0
		50	24	23.3	23.5	23.9	23.5	23.1	3.0	24.5	14.6	14.2	14.0	14.1	14.1	0.0	15.0
		50	50	23.3	23.5	23.9	23.3	23.1	3.0	24.5	14.6	14.1	13.9	14.0	14.1	0.0	15.0
		100	0	23.1	23.4	23.9	23.4	23.1	3.0	24.5	14.5	14.0	13.9	13.9	14.0	0.0	15.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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 MHz	QPSK	1	0	26.1	26.2	26.6	26.3	25.8	0.0	27.5	14.5	13.9	13.8	13.8	13.7	0.0	15.0
		1	37	26.0	26.5	26.9	26.3	26.0	0.0	27.5	14.4	14.1	14.0	14.0	14.0	0.0	15.0
		1	74	26.2	26.3	26.8	26.0	26.0	0.0	27.5	14.4	13.8	13.8	13.8	13.9	0.0	15.0
		36	0	25.2	25.4	25.9	25.5	25.0	1.0	26.5	14.6	14.2	14.0	14.0	14.0	0.0	15.0
		36	20	25.3	25.5	26.0	25.5	25.1	1.0	26.5	14.6	14.2	14.1	14.1	14.1	0.0	15.0
		36	39	25.3	25.5	25.9	25.3	25.1	1.0	26.5	14.6	14.2	14.1	14.0	14.1	0.0	15.0
		75	0	25.2	25.5	25.9	25.4	25.0	1.0	26.5	14.5	14.2	14.0	14.0	14.0	0.0	15.0
	16QAM	1	0	25.5	25.7	26.1	25.7	25.3	1.0	26.5	14.7	14.4	14.2	14.3	14.1	0.0	15.0
		1	37	25.4	26.0	26.4	25.7	25.5	1.0	26.5	14.7	14.5	14.3	14.4	14.4	0.0	15.0
		1	74	25.5	25.8	26.2	25.4	25.5	1.0	26.5	14.6	14.3	14.2	14.2	14.4	0.0	15.0
		36	0	24.2	24.4	24.9	24.5	24.0	2.0	25.5	14.6	14.1	13.9	14.0	14.0	0.0	15.0
		36	20	24.2	24.5	25.0	24.5	24.1	2.0	25.5	14.6	14.2	14.0	14.1	14.1	0.0	15.0
		36	39	24.2	24.5	24.9	24.3	24.1	2.0	25.5	14.5	14.1	14.0	14.1	14.1	0.0	15.0
		75	0	24.2	24.5	24.9	24.4	24.0	2.0	25.5	14.5	14.1	13.9	13.9	14.0	0.0	15.0
	64QAM	1	0	23.9	24.9	24.8	24.2	24.5	2.0	25.5	14.4	13.8	13.6	13.7	13.6	0.0	15.0
		1	37	23.9	25.1	25.0	24.2	24.6	2.0	25.5	14.4	13.9	13.7	13.9	13.8	0.0	15.0
		1	74	24.0	25.0	24.8	23.9	24.6	2.0	25.5	14.3	13.7	13.6	13.7	13.8	0.0	15.0
		36	0	23.2	23.5	23.8	23.6	23.1	3.0	24.5	14.7	14.2	13.9	14.1	14.0	0.0	15.0
		36	20	23.3	23.6	23.9	23.6	23.2	3.0	24.5	14.7	14.2	14.0	14.1	14.1	0.0	15.0
		36	39	23.3	23.5	23.9	23.4	23.2	3.0	24.5	14.6	14.2	14.0	14.1	14.1	0.0	15.0
		75	0	23.2	23.5	23.9	23.4	23.1	3.0	24.5	14.5	14.1	13.9	14.0	14.0	0.0	15.0

LTE Band 41 – Power Class 2 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	26.3	26.4	26.7	26.3	25.9	0.0	27.5	14.5	14.1	13.9	13.9	13.9	0.0	15.0
		1	25	26.3	26.7	27.0	26.6	26.1	0.0	27.5	14.6	14.3	14.1	14.1	14.1	0.0	15.0
		1	49	26.3	26.4	26.7	26.2	25.9	0.0	27.5	14.5	14.0	13.9	13.9	13.9	0.0	15.0
		25	0	25.3	25.6	26.0	25.6	25.2	1.0	26.5	14.7	14.3	14.2	14.1	14.1	0.0	15.0
		25	12	25.4	25.7	26.1	25.7	25.2	1.0	26.5	14.7	14.4	14.2	14.2	14.2	0.0	15.0
		25	25	25.4	25.6	26.0	25.5	25.1	1.0	26.5	14.7	14.3	14.1	14.1	14.1	0.0	15.0
		50	0	25.3	25.7	26.0	25.5	25.1	1.0	26.5	14.6	14.3	14.1	14.1	14.1	0.0	15.0
	16QAM	1	0	25.8	25.8	26.1	25.9	25.5	1.0	26.5	14.8	14.6	14.4	14.5	14.4	0.0	15.0
		1	25	25.8	26.1	26.3	26.1	25.7	1.0	26.5	14.8	14.8	14.6	14.7	14.6	0.0	15.0
		1	49	25.9	26.0	26.1	25.8	25.4	1.0	26.5	14.9	14.6	14.4	14.5	14.4	0.0	15.0
		25	0	24.3	24.6	25.0	24.5	24.2	2.0	25.5	14.7	14.3	14.1	14.2	14.1	0.0	15.0
		25	12	24.4	24.8	25.1	24.6	24.2	2.0	25.5	14.7	14.4	14.1	14.2	14.2	0.0	15.0
		25	25	24.4	24.7	25.0	24.5	24.1	2.0	25.5	14.7	14.3	14.0	14.2	14.1	0.0	15.0
		50	0	24.3	24.7	25.0	24.6	24.2	2.0	25.5	14.7	14.3	14.1	14.2	14.1	0.0	15.0
	64QAM	1	0	24.6	24.2	25.4	24.6	23.8	2.0	25.5	14.5	13.9	13.7	13.8	13.7	0.0	15.0
		1	25	24.6	24.5	25.0	24.9	24.0	2.0	25.5	14.4	14.2	13.9	14.0	14.0	0.0	15.0
		1	49	24.6	24.3	25.4	24.5	23.8	2.0	25.5	14.4	13.9	13.7	13.9	13.7	0.0	15.0
		25	0	23.2	23.6	23.9	23.6	23.2	3.0	24.5	14.8	14.3	14.1	14.1	14.1	0.0	15.0
		25	12	23.3	23.8	24.0	23.6	23.2	3.0	24.5	14.7	14.4	14.1	14.3	14.2	0.0	15.0
		25	25	23.3	23.7	23.9	23.4	23.1	3.0	24.5	14.7	14.3	14.1	14.2	14.1	0.0	15.0
		50	0	23.2	23.6	23.9	23.5	23.2	3.0	24.5	14.6	14.2	14.1	14.1	14.1	0.0	15.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490			39750	40185	40620	41055	41490		
				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 MHz	QPSK	1	0	26.3	26.5	27.0	26.6	26.1	0.0	27.5	14.7	14.3	14.2	14.2	14.1	0.0	15.0
		1	12	26.2	26.7	27.2	26.4	26.1	0.0	27.5	14.7	14.3	14.0	14.2	14.0	0.0	15.0
		1	24	26.4	26.6	27.0	26.4	26.1	0.0	27.5	14.8	14.4	14.3	14.3	14.2	0.0	15.0
		12	0	25.3	25.7	26.1	25.7	25.2	1.0	26.5	14.7	14.4	14.2	14.2	14.2	0.0	15.0
		12	7	25.4	25.8	26.2	25.7	25.3	1.0	26.5	14.7	14.4	14.3	14.2	14.2	0.0	15.0
		12	13	25.4	25.8	26.1	25.6	25.2	1.0	26.5	14.7	14.4	14.3	14.3	14.2	0.0	15.0
		25	0	25.4	25.7	26.1	25.6	25.2	1.0	26.5	14.7	14.3	14.2	14.2	14.2	0.0	15.0
	16QAM	1	0	25.7	26.0	26.4	26.0	25.5	1.0	26.5	14.9	14.6	14.4	14.5	14.5	0.0	15.0
		1	12	25.8	26.0	26.4	26.0	25.6	1.0	26.5	14.9	14.8	14.5	14.6	14.6	0.0	15.0
		1	24	25.8	26.0	26.3	25.9	25.5	1.0	26.5	14.8	14.6	14.6	14.6	14.5	0.0	15.0
		12	0	24.4	24.6	25.1	24.8	24.2	2.0	25.5	14.8	14.4	14.2	14.3	14.3	0.0	15.0
		12	7	24.5	24.7	25.2	24.8	24.2	2.0	25.5	14.8	14.4	14.2	14.3	14.3	0.0	15.0
		12	13	24.5	24.7	25.2	24.7	24.2	2.0	25.5	14.8	14.4	14.2	14.4	14.3	0.0	15.0
		25	0	24.4	24.7	25.1	24.7	24.2	2.0	25.5	14.7	14.3	14.2	14.2	14.2	0.0	15.0
	64QAM	1	0	24.4	25.4	25.4	24.8	24.9	2.0	25.5	14.8	14.4	14.2	14.2	14.2	0.0	15.0
		1	12	24.5	25.4	25.5	24.9	24.7	2.0	25.5	14.8	14.5	14.2	14.3	14.4	0.0	15.0
		1	24	24.4	25.4	25.3	24.6	24.8	2.0	25.5	14.7	14.4	14.2	14.3	14.2	0.0	15.0
		12	0	23.3	23.7	24.0	23.7	23.2	3.0	24.5	14.7	14.4	14.2	14.2	14.2	0.0	15.0
		12	7	23.4	23.8	24.1	23.7	23.2	3.0	24.5	14.7	14.4	14.2	14.2	14.2	0.0	15.0
		12	13	23.4	23.8	24.0	23.7	23.2	3.0	24.5	14.7	14.4	14.1	14.3	14.2	0.0	15.0
		25	0	23.4	23.7	24.0	23.7	23.1	3.0	24.5	14.8	14.4	14.2	14.2	14.2	0.0	15.0

LTE Band 48 Measured Results

LTE Band 48 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)															
				DSI = 0										DSI = 1					
				Measured Pwr (dBm)										Measured Pwr (dBm)					
				55340	Tune-up Limit	55341	55773	Tune-up Limit	55991	56207	56640	Tune-up Limit	MPR	55340	55773	56207	56640	MPR	Tune-up Limit
				3560 MHz		3560.1	3603.3 MHz		3625.1	3646.7 MHz	3690 MHz			3560 MHz	3603.3 MHz	3646.7 MHz	3690 MHz		
20 MHz	QPSK	1	0	20.3	21.0	22.1	22.0	23.0	21.9	22.3	22.3	23.5	0.0	13.0	12.5	12.4	12.5	0.0	14.0
		1	49	20.2	21.0	22.1	22.0	23.0	21.9	22.1	22.1	23.5	0.0	13.0	12.4	12.4	12.5	0.0	14.0
		1	99	20.2	21.0	22.1	22.0	23.0	21.9	22.1	22.1	23.5	0.0	12.9	12.4	12.4	12.4	0.0	14.0
		50	0	19.2	20.0	21.0	21.0	22.0	21.3	21.4	21.5	22.5	1.0	12.9	12.6	12.3	12.4	0.0	14.0
		50	24	19.2	20.0	21.1	21.1	22.0	21.4	21.5	21.6	22.5	1.0	12.9	12.5	12.5	12.5	0.0	14.0
		50	50	19.1	20.0	21.0	20.9	22.0	21.5	21.6	21.6	22.5	1.0	12.8	12.3	12.4	12.4	0.0	14.0
		100	0	19.1	20.0	21.0	21.0	22.0	21.4	21.5	21.5	22.5	1.0	12.9	12.4	12.4	12.4	0.0	14.0
	16QAM	1	0	19.1	20.0	21.1	21.1	22.0	21.3	21.5	21.6	22.5	1.0	13.2	12.7	12.6	12.7	0.0	14.0
		1	49	19.0	20.0	21.1	21.1	22.0	21.2	21.5	21.6	22.5	1.0	13.1	12.6	12.6	12.6	0.0	14.0
		1	99	19.0	20.0	21.1	21.1	22.0	21.3	21.6	21.6	22.5	1.0	13.1	12.6	12.6	12.6	0.0	14.0
		50	0	18.1	19.0	20.0	20.1	21.0	20.3	20.4	20.5	21.5	2.0	13.0	12.6	12.3	12.5	0.0	14.0
		50	24	18.2	19.0	20.0	20.2	21.0	20.4	20.5	20.6	21.5	2.0	13.0	12.5	12.5	12.6	0.0	14.0
		50	50	18.1	19.0	20.0	20.0	21.0	20.5	20.5	20.6	21.5	2.0	12.9	12.4	12.5	12.5	0.0	14.0
		100	0	18.1	19.0	20.0	20.0	21.0	20.4	20.4	20.5	21.5	2.0	12.9	12.4	12.4	12.5	0.0	14.0
	64QAM	1	0	18.1	19.0	20.1	20.0	21.0	20.9	20.4	21.0	21.5	2.0	13.1	13.0	12.8	12.9	0.0	14.0
		1	49	18.1	19.0	20.1	20.1	21.0	20.8	20.5	21.0	21.5	2.0	13.1	12.9	12.8	12.9	0.0	14.0
		1	99	18.1	19.0	20.0	20.0	21.0	20.8	20.6	21.0	21.5	2.0	13.0	12.8	12.9	12.9	0.0	14.0
		50	0	17.2	18.0	19.1	19.1	20.0	19.3	19.5	19.6	20.5	3.0	13.0	12.6	12.3	12.4	0.0	14.0
		50	24	17.2	18.0	19.1	19.2	20.0	19.5	19.6	19.6	20.5	3.0	13.0	12.5	12.5	12.6	0.0	14.0
		50	50	17.2	18.0	19.1	18.9	20.0	19.5	19.6	19.6	20.5	3.0	12.9	12.4	12.5	12.4	0.0	14.0
		100	0	17.1	18.0	19.0	19.0	20.0	19.4	19.5	19.5	20.5	3.0	12.9	12.4	12.4	12.4	0.0	14.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)									MPR	Measured Pwr (dBm)				MPR	Tune-up Limit
				55315	Tune-up Limit		55765	Tune-up Limit		56215	56665	Tune-up Limit		55315	55765	56215	56665		
				3557.5 MHz			3602.5 MHz			3647.5 MHz	3692.5 MHz			3557.5 MHz	3602.5 MHz	3647.5 MHz	3692.5 MHz		
15 MHz	QPSK	1	0	20.2	21.0		21.9	23.0		22.0	22.1	23.5	0.0	12.9	12.5	12.4	12.5	0.0	14.0
		1	37	20.2	21.0		21.9	23.0		22.0	22.1	23.5	0.0	12.9	12.4	12.4	12.4	0.0	14.0
		1	74	20.2	21.0		22.0	23.0		22.0	22.1	23.5	0.0	12.9	12.4	12.4	12.5	0.0	14.0
		36	0	19.2	20.0		21.1	22.0		21.4	21.6	22.5	1.0	13.0	12.6	12.3	12.4	0.0	14.0
		36	20	19.3	20.0		21.1	22.0		21.6	21.7	22.5	1.0	13.0	12.5	12.4	12.5	0.0	14.0
		36	39	19.2	20.0		21.0	22.0		21.6	21.6	22.5	1.0	12.9	12.5	12.5	12.5	0.0	14.0
		75	0	19.2	20.0		21.0	22.0		21.5	21.6	22.5	1.0	12.9	12.4	12.3	12.3	0.0	14.0
	16QAM	1	0	19.3	20.0		21.0	22.0		21.6	21.6	22.5	1.0	12.9	12.5	12.4	12.6	0.0	14.0
		1	37	19.2	20.0		20.9	22.0		21.6	21.6	22.5	1.0	12.9	12.5	12.4	12.5	0.0	14.0
		1	74	19.2	20.0		20.9	22.0		21.6	21.6	22.5	1.0	12.9	12.4	12.5	12.5	0.0	14.0
		36	0	18.2	19.0		20.1	21.0		20.5	20.6	21.5	2.0	13.0	12.6	12.4	12.5	0.0	14.0
		36	20	18.3	19.0		20.1	21.0		20.6	20.7	21.5	2.0	13.0	12.5	12.4	12.6	0.0	14.0
		36	39	18.2	19.0		19.9	21.0		20.6	20.6	21.5	2.0	12.9	12.5	12.5	12.6	0.0	14.0
		75	0	18.2	19.0		20.0	21.0		20.5	20.6	21.5	2.0	12.9	12.5	12.4	12.4	0.0	14.0
	64QAM	1	0	18.5	19.0		19.8	21.0		20.1	20.2	21.5	2.0	12.6	12.1	12.0	12.1	0.0	14.0
		1	37	18.5	19.0		19.8	21.0		20.1	20.2	21.5	2.0	12.6	12.1	12.1	12.1	0.0	14.0
		1	74	18.4	19.0		19.8	21.0		20.2	20.2	21.5	2.0	12.5	12.0	12.1	12.1	0.0	14.0
		36	0	17.3	18.0		19.0	20.0		19.5	19.6	20.5	3.0	13.0	12.7	12.4	12.5	0.0	14.0
		36	20	17.3	18.0		19.0	20.0		19.6	19.8	20.5	3.0	13.1	12.6	12.5	12.6	0.0	14.0
		36	39	17.2	18.0		18.9	20.0		19.7	19.7	20.5	3.0	13.0	12.5	12.6	12.5	0.0	14.0
		75	0	17.2	18.0		19.1	20.0		19.5	19.7	20.5	3.0	12.9	12.4	12.4	12.4	0.0	14.0

LTE Band 48 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)									MPR	Measured Pwr (dBm)				MPR	Tune-up Limit
				55290	Tune-up Limit		55757	Tune-up Limit		56223	56690	Tune-up Limit		55290	55757	56223	56690		
				3555 MHz			3601.7 MHz			3648.3 MHz	3695 MHz			3555 MHz	3601.7 MHz	3648.3 MHz	3695 MHz		
10 MHz	QPSK	1	0	20.3	21.0		22.1	23.0		22.1	22.2	23.5	0.0	13.1	12.7	12.5	12.6	0.0	14.0
		1	25	20.2	21.0		22.1	23.0		22.1	22.2	23.5	0.0	13.1	12.7	12.5	12.6	0.0	14.0
		1	49	20.3	21.0		22.1	23.0		22.1	22.2	23.5	0.0	13.1	12.6	12.6	12.7	0.0	14.0
		25	0	19.3	20.0		21.0	22.0		21.5	21.6	22.5	1.0	13.1	12.6	12.4	12.5	0.0	14.0
		25	12	19.3	20.0		21.1	22.0		21.6	21.7	22.5	1.0	13.1	12.7	12.5	12.6	0.0	14.0
		25	25	19.3	20.0		21.1	22.0		21.7	21.8	22.5	1.0	13.1	12.6	12.6	12.7	0.0	14.0
		50	0	19.2	20.0		21.1	22.0		21.7	21.7	22.5	1.0	13.0	12.7	12.5	12.5	0.0	14.0
	16QAM	1	0	19.5	20.0		21.2	22.0		21.7	21.8	22.5	1.0	13.3	12.9	12.6	12.8	0.0	14.0
		1	25	19.5	20.0		21.1	22.0		21.6	21.7	22.5	1.0	13.3	12.8	12.7	12.8	0.0	14.0
		1	49	19.5	20.0		21.2	22.0		21.7	21.8	22.5	1.0	13.3	12.8	12.8	12.8	0.0	14.0
		25	0	18.2	19.0		20.1	21.0		20.5	20.6	21.5	2.0	13.1	12.6	12.4	12.5	0.0	14.0
		25	12	18.3	19.0		20.2	21.0		20.7	20.7	21.5	2.0	13.1	12.8	12.6	12.6	0.0	14.0
		25	25	18.3	19.0		20.1	21.0		20.7	20.8	21.5	2.0	13.1	12.6	12.6	12.7	0.0	14.0
		50	0	18.2	19.0		20.1	21.0		20.6	20.7	21.5	2.0	13.1	12.7	12.6	12.6	0.0	14.0
	64QAM	1	0	18.6	19.0		20.3	21.0		20.2	20.3	21.5	2.0	12.7	12.2	12.0	12.2	0.0	14.0
		1	25	18.6	19.0		20.2	21.0		20.2	20.4	21.5	2.0	12.8	12.3	12.1	12.2	0.0	14.0
		1	49	18.6	19.0		20.2	21.0		20.2	20.4	21.5	2.0	12.7	12.3	12.2	12.3	0.0	14.0
		25	0	17.2	18.0		19.0	20.0		19.6	19.7	20.5	3.0	13.1	12.6	12.4	12.5	0.0	14.0
		25	12	17.3	18.0		19.1	20.0		19.7	19.8	20.5	3.0	13.2	12.8	12.5	12.7	0.0	14.0
		25	25	17.2	18.0		19.0	20.0		19.7	19.8	20.5	3.0	13.1	12.7	12.6	12.7	0.0	14.0
		50	0	17.2	18.0		19.0	20.0		19.6	19.7	20.5	3.0	13.0	12.6	12.5	12.5	0.0	14.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)									MPR	Measured Pwr (dBm)				MPR	Tune-up Limit
				55265	Tune-up Limit		55748	Tune-up Limit		56232	56715	Tune-up Limit		55265	55748	56232	56715		
				3552.5 MHz			3600.8 MHz			3649.2 MHz	3697.5 MHz			3552.5 MHz	3600.8 MHz	3649.2 MHz	3697.5 MHz		
5 MHz	QPSK	1	0	20.2	21.0		22.0	23.0		22.0	22.1	23.5	0.0	12.9	12.6	12.3	12.4	0.0	14.0
		1	12	20.5	21.0		22.1	23.0		22.1	22.2	23.5	0.0	13.1	12.6	12.5	12.6	0.0	14.0
		1	24	20.3	21.0		22.0	23.0		22.2	22.2	23.5	0.0	13.1	12.6	12.5	12.5	0.0	14.0
		12	0	19.4	20.0		21.2	22.0		21.7	21.7	22.5	1.0	13.2	12.7	12.6	12.6	0.0	14.0
		12	7	19.5	20.0		21.2	22.0		21.8	21.8	22.5	1.0	13.2	12.8	12.6	12.7	0.0	14.0
		12	13	19.5	20.0		21.2	22.0		21.8	21.8	22.5	1.0	13.2	12.7	12.6	12.7	0.0	14.0
		25	0	19.4	20.0		21.1	22.0		21.7	21.8	22.5	1.0	13.2	12.7	12.6	12.7	0.0	14.0
	16QAM	1	0	19.2	20.0		21.0	22.0		21.7	21.8	22.5	1.0	13.1	12.7	12.5	12.6	0.0	14.0
		1	12	19.4	20.0		21.1	22.0		21.8	21.9	22.5	1.0	13.2	12.8	12.6	12.7	0.0	14.0
		1	24	19.3	20.0		21.0	22.0		21.8	21.9	22.5	1.0	13.3	12.8	12.7	12.7	0.0	14.0
		12	0	18.3	19.0		20.2	21.0		20.7	20.8	21.5	2.0	13.2	12.8	12.6	12.7	0.0	14.0
		12	7	18.4	19.0		20.3	21.0		20.8	20.9	21.5	2.0	13.3	12.8	12.7	12.8	0.0	14.0
		12	13	18.4	19.0		20.2	21.0		20.8	20.9	21.5	2.0	13.3	12.8	12.7	12.8	0.0	14.0
		25	0	18.4	19.0		20.1	21.0		20.7	20.8	21.5	2.0	13.2	12.7	12.6	12.7	0.0	14.0
	64QAM	1	0	18.0	19.0		19.8	21.0		20.8	20.4	21.5	2.0	12.8	12.4	12.2	12.3	0.0	14.0
		1	12	18.1	19.0		19.9	21.0		20.8	20.5	21.5	2.0	12.9	12.4	12.3	12.4	0.0	14.0
		1	24	18.1	19.0		19.8	21.0		20.9	20.5	21.5	2.0	12.9	12.3	12.3	12.4	0.0	14.0
		12	0	17.3	18.0		19.1	20.0		19.6	19.8	20.5	3.0	13.1	12.7	12.5	12.6	0.0	14.0
		12	7	17.4	18.0		19.2	20.0		19.7	19.9	20.5	3.0	13.2	12.8	12.6	12.7	0.0	14.0
		12	13	17.5	18.0		19.2	20.0		19.7	19.9	20.5	3.0	13.2	12.7	12.6	12.7	0.0	14.0
		25	0	17.4	18.0		19.2	20.0		19.6	19.8	20.5	3.0	13.2	12.7	12.6	12.7	0.0	14.0

LTE Band 66 Measured Results

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132072	132322	132572			132072	132322	132572		
				1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	23.5	24.0	24.7	0.0	25	12.7	12.8	13.3	0.0	14
		1	49	24.0	24.5	24.7	0.0	25	12.9	13.0	13.3	0.0	14
		1	99	24.0	24.3	24.6	0.0	25	12.7	12.8	13.3	0.0	14
		50	0	22.9	23.4	23.8	1.0	24	12.9	12.9	13.2	0.0	14
		50	24	23.1	23.5	24.0	1.0	24	13.1	13.1	13.4	0.0	14
		50	50	23.1	23.5	23.9	1.0	24	13.0	13.0	13.3	0.0	14
		100	0	23.1	23.4	23.8	1.0	24	13.0	13.0	13.3	0.0	14
	16QAM	1	0	23.0	23.6	23.7	1.0	24	13.1	13.2	13.7	0.0	14
		1	49	23.4	23.5	23.7	1.0	24	13.4	13.5	13.7	0.0	14
		1	99	23.4	24.0	23.8	1.0	24	13.1	13.4	13.8	0.0	14
		50	0	21.9	22.4	22.8	2.0	23	12.9	13.0	13.2	0.0	14
		50	24	22.1	22.6	22.4	2.0	23	13.1	13.1	13.4	0.0	14
		50	50	22.1	22.6	22.9	2.0	23	13.0	13.0	13.3	0.0	14
		100	0	22.1	22.5	22.8	2.0	23	13.0	13.1	13.3	0.0	14
	64QAM	1	0	21.8	22.7	22.9	2.0	23	12.9	13.0	13.9	0.0	14
		1	49	22.3	22.8	23.0	2.0	23	13.2	13.3	13.8	0.0	14
		1	99	22.3	22.7	23.0	2.0	23	13.0	13.2	13.8	0.0	14
		50	0	21.0	21.4	21.8	3.0	22	13.0	13.0	13.2	0.0	14
		50	24	21.2	21.5	22.0	3.0	22	13.1	13.2	13.4	0.0	14
		50	50	21.2	21.5	21.9	3.0	22	13.0	13.1	13.3	0.0	14
		100	0	21.1	21.4	21.8	3.0	22	13.0	13.0	13.3	0.0	14
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132047	132322	132597			132047	132322	132597		
				1717.5 MHz	1745 MHz	1772.5 MHz			1717.5 MHz	1745 MHz	1772.5 MHz		
15 MHz	QPSK	1	0	23.7	24.1	24.4	0.0	25	12.9	12.9	13.2	0.0	14
		1	37	24.0	24.4	24.4	0.0	25	13.0	12.9	13.3	0.0	14
		1	74	24.0	24.3	24.4	0.0	25	12.9	12.9	13.4	0.0	14
		36	0	22.9	23.4	23.5	1.0	24	13.0	13.0	13.3	0.0	14
		36	20	23.1	23.5	23.5	1.0	24	13.1	13.1	13.3	0.0	14
		36	39	23.0	23.5	23.5	1.0	24	13.0	13.0	13.4	0.0	14
		75	0	23.0	23.4	23.5	1.0	24	13.0	13.0	13.3	0.0	14
	16QAM	1	0	23.1	23.3	23.5	1.0	24	13.2	13.2	13.2	0.0	14
		1	37	23.3	23.5	23.4	1.0	24	13.4	13.3	13.2	0.0	14
		1	74	23.3	23.5	23.5	1.0	24	13.2	13.3	13.3	0.0	14
		36	0	21.9	22.4	22.5	2.0	23	13.0	13.0	13.3	0.0	14
		36	20	22.0	22.5	22.5	2.0	23	13.1	13.0	13.3	0.0	14
		36	39	22.0	22.5	22.6	2.0	23	13.1	13.0	13.4	0.0	14
		75	0	22.0	22.4	22.5	2.0	23	13.1	13.0	13.3	0.0	14
	64QAM	1	0	22.3	22.6	22.6	2.0	23	12.9	13.4	13.6	0.0	14
		1	37	22.6	22.9	22.3	2.0	23	13.1	13.5	13.6	0.0	14
		1	74	22.6	22.8	22.4	2.0	23	13.0	13.5	13.7	0.0	14
		36	0	21.0	21.5	21.5	3.0	22	13.1	13.0	13.4	0.0	14
		36	20	21.1	21.5	21.4	3.0	22	13.2	13.1	13.4	0.0	14
		36	39	21.0	21.6	21.5	3.0	22	13.1	13.0	13.5	0.0	14
		75	0	21.0	21.5	21.5	3.0	22	13.1	13.1	13.4	0.0	14

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				132022	132322	132622			132022	132322	132622		
				1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	23.7	24.0	24.5	0.0	25	12.8	12.7	13.4	0.0	14
		1	25	24.0	24.6	24.5	0.0	25	13.1	13.0	13.4	0.0	14
		1	49	24.1	24.6	24.4	0.0	25	13.2	13.1	13.2	0.0	14
		25	0	23.0	23.5	23.6	1.0	24	13.1	13.0	13.4	0.0	14
		25	12	23.1	23.6	23.7	1.0	24	13.2	13.1	13.6	0.0	14
		25	25	23.0	23.6	23.7	1.0	24	13.1	13.1	13.5	0.0	14
		50	0	23.0	23.5	23.7	1.0	24	13.1	13.1	13.5	0.0	14
	16QAM	1	0	22.7	23.2	23.4	1.0	24	13.2	12.8	13.2	0.0	14
		1	25	23.1	23.7	23.6	1.0	24	13.5	13.1	13.4	0.0	14
		1	49	22.9	23.4	23.7	1.0	24	13.3	12.9	13.2	0.0	14
		25	0	22.0	22.6	22.6	2.0	23	13.1	13.1	13.4	0.0	14
		25	12	22.2	22.7	22.8	2.0	23	13.2	13.3	13.6	0.0	14
		25	25	22.1	22.6	22.7	2.0	23	13.1	13.2	13.5	0.0	14
		50	0	22.1	22.5	22.7	2.0	23	13.1	13.1	13.4	0.0	14
	64QAM	1	0	21.8	22.5	22.5	2.0	23	12.9	13.0	13.5	0.0	14
		1	25	22.3	22.8	22.5	2.0	23	13.2	13.3	13.8	0.0	14
		1	49	22.1	22.6	22.7	2.0	23	13.0	13.1	13.6	0.0	14
		25	0	21.1	21.6	21.6	3.0	22	13.2	13.1	13.5	0.0	14
		25	12	21.2	21.7	21.6	3.0	22	13.2	13.3	13.6	0.0	14
		25	25	21.1	21.7	21.7	3.0	22	13.1	13.2	13.5	0.0	14
		50	0	21.1	21.5	21.7	3.0	22	13.2	13.1	13.5	0.0	14

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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 MHz	QPSK	1	0	23.8	24.5	24.6	0.0	25	13.0	13.1	13.5	0.0	14
		1	12	24.0	24.6	24.7	0.0	25	13.1	13.1	13.6	0.0	14
		1	24	23.9	24.6	24.6	0.0	25	13.0	13.1	13.5	0.0	14
		12	0	23.1	23.6	23.7	1.0	24	13.2	13.1	13.5	0.0	14
		12	7	23.1	23.6	23.7	1.0	24	13.2	13.2	13.5	0.0	14
		12	13	23.1	23.6	23.7	1.0	24	13.1	13.1	13.5	0.0	14
		25	0	23.1	23.6	23.7	1.0	24	13.2	13.1	13.5	0.0	14
	16QAM	1	0	23.0	23.6	23.8	1.0	24	13.6	13.2	13.7	0.0	14
		1	12	23.1	23.7	23.8	1.0	24	13.7	13.3	13.7	0.0	14
		1	24	23.2	23.7	23.9	1.0	24	13.6	13.2	13.7	0.0	14
		12	0	22.1	22.7	22.8	2.0	23	13.4	13.2	13.6	0.0	14
		12	7	22.2	22.7	22.8	2.0	23	13.3	13.2	13.6	0.0	14
		12	13	22.1	22.7	22.8	2.0	23	13.2	13.2	13.6	0.0	14
		25	0	22.0	22.6	22.6	2.0	23	13.2	13.1	13.5	0.0	14
	64QAM	1	0	22.3	22.8	22.8	2.0	23	13.4	13.4	13.4	0.0	14
		1	12	22.3	22.9	22.8	2.0	23	13.4	13.4	13.5	0.0	14
		1	24	22.3	22.8	22.9	2.0	23	13.4	13.4	13.4	0.0	14
		12	0	21.0	21.7	21.7	3.0	22	13.1	13.2	13.6	0.0	14
		12	7	21.1	21.7	21.7	3.0	22	13.2	13.3	13.6	0.0	14
		12	13	21.0	21.7	21.7	3.0	22	13.1	13.2	13.6	0.0	14
		25	0	21.0	21.6	21.7	3.0	22	13.2	13.2	13.5	0.0	14

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				131987	132322	132657			131987	132322	132657		
				1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	23.9	24.4	24.6	0.0	25	13.1	13.0	13.4	0.0	14
		1	8	23.8	24.4	24.6	0.0	25	13.1	13.0	13.5	0.0	14
		1	14	23.9	24.5	24.6	0.0	25	13.0	13.0	13.4	0.0	14
		8	0	23.0	23.6	23.7	1.0	24	13.2	13.1	13.5	0.0	14
		8	4	23.0	23.6	23.7	1.0	24	13.2	13.2	13.6	0.0	14
		8	7	23.0	23.6	23.7	1.0	24	13.2	13.2	13.6	0.0	14
		15	0	23.0	23.6	23.7	1.0	24	13.2	13.2	13.6	0.0	14
	16QAM	1	0	23.0	23.4	23.7	1.0	24	13.5	13.2	13.5	0.0	14
		1	8	22.9	23.5	23.6	1.0	24	13.5	13.2	13.5	0.0	14
		1	14	23.0	23.4	23.7	1.0	24	13.5	13.1	13.4	0.0	14
		8	0	22.1	22.7	22.7	2.0	23	13.3	13.2	13.6	0.0	14
		8	4	22.1	22.7	22.9	2.0	23	13.3	13.2	13.7	0.0	14
		8	7	22.1	22.7	22.8	2.0	23	13.3	13.2	13.7	0.0	14
		15	0	22.0	22.6	22.7	2.0	23	13.2	13.1	13.6	0.0	14
	64QAM	1	0	22.1	22.9	22.9	2.0	23	13.2	13.4	13.9	0.0	14
		1	8	22.1	22.8	22.7	2.0	23	13.3	13.3	13.8	0.0	14
		1	14	22.1	22.9	22.8	2.0	23	13.2	13.3	13.8	0.0	14
		8	0	21.0	21.6	21.6	3.0	22	13.3	13.1	13.6	0.0	14
		8	4	21.2	21.6	21.6	3.0	22	13.3	13.2	13.6	0.0	14
		8	7	21.1	21.6	21.7	3.0	22	13.2	13.2	13.7	0.0	14
		15	0	21.1	21.7	21.7	3.0	22	13.2	13.2	13.6	0.0	14

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (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 MHz	QPSK	1	0	23.8	24.4	24.6	0.0	25	12.9	13.0	13.4	0.0	14
		1	3	24.0	24.5	24.7	0.0	25	13.1	13.1	13.5	0.0	14
		1	5	23.9	24.5	24.6	0.0	25	13.0	13.1	13.5	0.0	14
		3	0	23.9	24.4	24.5	0.0	25	13.0	13.0	13.4	0.0	14
		3	1	23.9	24.5	24.5	0.0	25	13.0	13.0	13.5	0.0	14
		3	3	23.9	24.5	24.5	0.0	25	13.0	13.0	13.5	0.0	14
		6	0	22.9	23.5	23.6	1.0	24	13.1	13.1	13.4	0.0	14
	16QAM	1	0	23.3	23.5	23.8	1.0	24	13.1	13.2	13.9	0.0	14
		1	3	23.4	23.6	23.8	1.0	24	13.2	13.3	13.8	0.0	14
		1	5	23.3	23.5	23.8	1.0	24	13.1	13.2	13.8	0.0	14
		3	0	23.1	23.7	23.7	1.0	24	13.3	13.1	13.6	0.0	14
		3	1	23.2	23.7	23.7	1.0	24	13.3	13.1	13.7	0.0	14
		3	3	23.1	23.7	23.8	1.0	24	13.3	13.1	13.7	0.0	14
		6	0	21.8	22.7	22.7	2.0	23	13.3	13.2	13.3	0.0	14
	64QAM	1	0	22.3	22.6	22.6	2.0	23	13.5	13.2	13.6	0.0	14
		1	3	22.4	22.8	22.6	2.0	23	13.6	13.3	13.7	0.0	14
		1	5	22.3	22.6	22.5	2.0	23	13.4	13.1	13.7	0.0	14
		3	0	22.3	22.7	22.5	2.0	23	13.4	13.2	13.4	0.0	14
		3	1	22.4	22.8	22.6	2.0	23	13.4	13.3	13.5	0.0	14
		3	3	22.3	22.8	22.6	2.0	23	13.4	13.2	13.5	0.0	14
		6	0	20.9	21.9	21.8	3.0	22	13.0	13.4	13.5	0.0	14

LTE Band 71 Measured Results

LTE Band 71 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
				DSI = 0					DSI = 1				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				133222	133297	133372			133222	133297	133372		
				673 MHz	680.5 MHz	688 MHz			673 MHz	680.5 MHz	688 MHz		
20 MHz	QPSK	1	0	[redacted]	24.8	[redacted]	0.0	25.5	[redacted]	16.3	[redacted]	0.0	17
		1	49		24.7		0.0	25.5		16.2		0.0	17
		1	99		24.6		0.0	25.5		16.1		0.0	17
		50	0		23.8		1.0	24.5		16.4		0.0	17
		50	24		23.7		1.0	24.5		16.3		0.0	17
		50	50		23.6		1.0	24.5		16.3		0.0	17
		100	0		23.6		1.0	24.5		16.2		0.0	17
	16QAM	1	0		24.4		1.0	24.5		16.7		0.0	17
		1	49		24.3		1.0	24.5		16.7		0.0	17
		1	99		24.2		1.0	24.5		16.6		0.0	17
		50	0		22.8		2.0	23.5		16.4		0.0	17
		50	24		22.8		2.0	23.5		16.3		0.0	17
		50	50		22.7		2.0	23.5		16.3		0.0	17
		100	0		22.7		2.0	23.5		16.3		0.0	17
	64QAM	1	0		23.0		2.0	23.5		16.5		0.0	17
		1	49		22.9		2.0	23.5		16.5		0.0	17
		1	99		22.8		2.0	23.5		16.4		0.0	17
		50	0		21.9		3.0	22.5		16.5		0.0	17
		50	24		21.7		3.0	22.5		16.3		0.0	17
		50	50		21.7		3.0	22.5		16.3		0.0	17
		100	0		21.7		3.0	22.5		16.3		0.0	17
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				133197	133297	133397			133197	133297	133397		
				670.5 MHz	680.5 MHz	690.5 MHz			670.5 MHz	680.5 MHz	690.5 MHz		
15 MHz	QPSK	1	0	[redacted]	24.7	[redacted]	0.0	25.5	[redacted]	16.3	[redacted]	0.0	17
		1	37		24.8		0.0	25.5		16.4		0.0	17
		1	74		24.6		0.0	25.5		16.2		0.0	17
		36	0		23.8		1.0	24.5		16.4		0.0	17
		36	20		23.8		1.0	24.5		16.4		0.0	17
		36	39		23.8		1.0	24.5		16.4		0.0	17
		75	0		23.7		1.0	24.5		16.3		0.0	17
	16QAM	1	0		24.1		1.0	24.5		16.6		0.0	17
		1	37		24.1		1.0	24.5		16.6		0.0	17
		1	74		23.9		1.0	24.5		16.5		0.0	17
		36	0		22.8		2.0	23.5		16.4		0.0	17
		36	20		22.8		2.0	23.5		16.4		0.0	17
		36	39		22.7		2.0	23.5		16.3		0.0	17
		75	0		22.7		2.0	23.5		16.3		0.0	17
	64QAM	1	0		23.3		2.0	23.5		16.9		0.0	17
		1	37		23.4		2.0	23.5		15.9		0.0	17
		1	74		23.2		2.0	23.5		16.8		0.0	17
		36	0		21.9		3.0	22.5		16.4		0.0	17
		36	20		21.8		3.0	22.5		16.5		0.0	17
		36	39		21.8		3.0	22.5		16.4		0.0	17
		75	0		21.8		3.0	22.5		16.4		0.0	17

LTE Band 71 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				133172	133297	133422			133172	133297	133422		
				668 MHz	680.5 MHz	693 MHz			668 MHz	680.5 MHz	693 MHz		
10 MHz	QPSK	1	0	24.9	24.7	24.7	0.0	25.5	16.4	16.4	16.3	0.0	17
		1	25	24.8	24.7	24.7	0.0	25.5	16.2	16.3	16.3	0.0	17
		1	49	24.8	24.6	24.7	0.0	25.5	16.3	16.2	16.4	0.0	17
		25	0	23.8	23.9	23.7	1.0	24.5	16.3	16.5	16.4	0.0	17
		25	12	23.8	23.8	23.7	1.0	24.5	16.4	16.5	16.4	0.0	17
		25	25	23.8	23.8	23.8	1.0	24.5	16.3	16.4	16.4	0.0	17
		50	0	23.8	23.7	23.7	1.0	24.5	16.3	16.3	16.4	0.0	17
	16QAM	1	0	23.8	24.1	24.2	1.0	24.5	16.4	16.5	16.7	0.0	17
		1	25	23.8	24.0	24.1	1.0	24.5	16.2	16.3	16.7	0.0	17
		1	49	23.8	23.8	24.0	1.0	24.5	16.4	16.3	16.8	0.0	17
		25	0	22.9	22.9	22.7	2.0	23.5	16.5	16.5	16.4	0.0	17
		25	12	23.0	22.9	22.7	2.0	23.5	16.5	16.4	16.4	0.0	17
		25	25	22.9	22.8	22.8	2.0	23.5	16.5	16.4	16.5	0.0	17
		50	0	22.8	22.8	22.7	2.0	23.5	16.4	16.3	16.4	0.0	17
	64QAM	1	0	22.5	23.1	23.1	2.0	23.5	16.5	16.8	16.6	0.0	17
		1	25	22.9	23.1	23.0	2.0	23.5	16.3	16.7	16.7	0.0	17
		1	49	23.2	22.9	23.1	2.0	23.5	16.6	16.6	16.7	0.0	17
		25	0	21.8	22.0	21.8	3.0	22.5	16.4	16.6	16.4	0.0	17
		25	12	21.9	21.9	21.8	3.0	22.5	16.5	16.5	16.5	0.0	17
		25	25	21.8	21.9	21.8	3.0	22.5	16.4	16.5	16.5	0.0	17
		50	0	21.9	21.7	21.8	3.0	22.5	16.4	16.3	16.4	0.0	17

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				133147	133297	133447			133147	133297	133447		
				665.5 MHz	680.5 MHz	695.5 MHz			665.5 MHz	680.5 MHz	695.5 MHz		
5 MHz	QPSK	1	0	24.8	24.8	24.6	0.0	25.5	16.4	16.4	16.2	0.0	17
		1	12	24.8	24.9	24.7	0.0	25.5	16.4	16.6	16.5	0.0	17
		1	24	24.8	24.9	24.7	0.0	25.5	16.4	16.4	16.4	0.0	17
		12	0	23.9	23.9	23.7	1.0	24.5	16.3	16.5	16.3	0.0	17
		12	7	23.9	23.9	23.8	1.0	24.5	16.4	16.5	16.4	0.0	17
		12	13	23.9	24.0	23.8	1.0	24.5	16.3	16.6	16.5	0.0	17
		25	0	23.9	23.9	23.8	1.0	24.5	16.4	16.5	16.4	0.0	17
	16QAM	1	0	24.0	24.3	23.7	1.0	24.5	16.6	16.9	16.4	0.0	17
		1	12	24.0	24.4	23.8	1.0	24.5	16.5	16.9	16.5	0.0	17
		1	24	24.0	24.4	23.8	1.0	24.5	16.5	16.8	16.5	0.0	17
		12	0	22.9	23.0	22.8	2.0	23.5	16.5	16.6	16.4	0.0	17
		12	7	23.0	23.1	22.9	2.0	23.5	16.5	16.7	16.5	0.0	17
		12	13	23.0	23.1	22.8	2.0	23.5	16.4	16.7	16.5	0.0	17
		25	0	22.9	22.9	22.7	2.0	23.5	16.4	16.6	16.4	0.0	17
	64QAM	1	0	22.7	23.2	22.8	2.0	23.5	16.3	16.7	16.6	0.0	17
		1	12	22.8	23.2	23.0	2.0	23.5	16.4	16.8	16.6	0.0	17
		1	24	22.8	23.2	23.0	2.0	23.5	16.3	16.8	16.7	0.0	17
		12	0	21.7	21.8	21.8	3.0	22.5	16.4	16.5	16.4	0.0	17
		12	7	21.9	21.9	21.9	3.0	22.5	16.5	16.5	16.6	0.0	17
		12	13	21.9	21.9	21.9	3.0	22.5	16.4	16.6	16.6	0.0	17
		25	0	21.8	21.9	21.8	3.0	22.5	16.4	16.5	16.5	0.0	17

9.3 NR (Sub 6GHz)

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

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS138.521-1.

Table 6.2.2.3-1: 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.

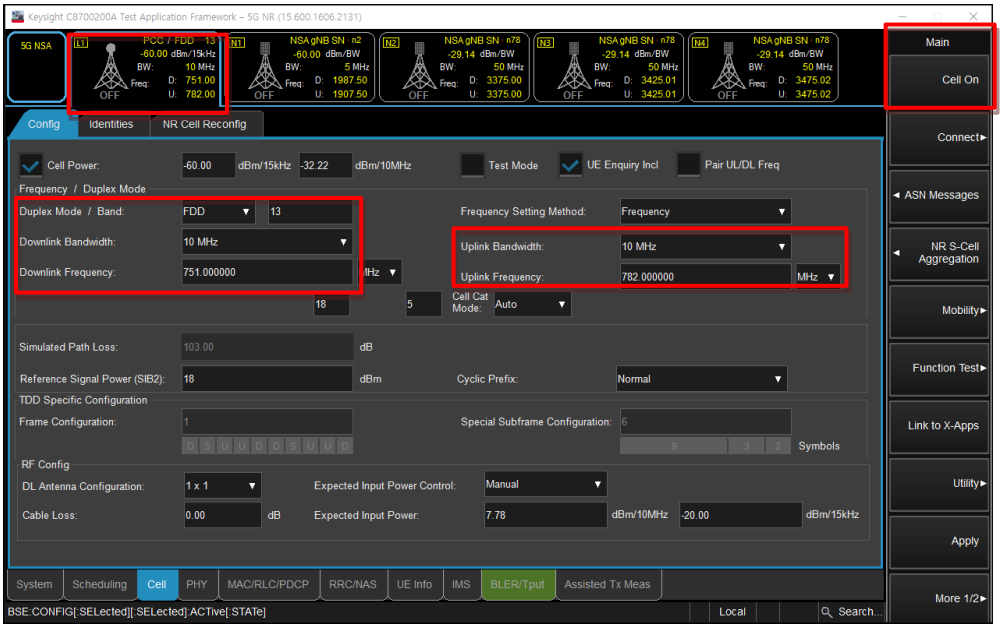
Channel Bandwidth	SCS(kHz)	OFDM	RB allocation							
			Edge_Full_Left	Edge_Full_Right	Edge_1RB_Left	Edge_1RB_Right	Outer_Full	Inner_Full	Inner_1RB_Left	Inner_1RB_Right
5MHz	15	DFT-s	2@0	2@23	1@0	1@24	25@0	12@6	1@1	1@23
		CP	2@0	2@23	1@0	1@24	25@0	13@6	1@1	1@23
	30	DFT-s	2@0	2@9	1@0	1@10	10@0	5@2[1]	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

Procedure used to establish power measurement for NR Bands of SA mode.

- FTM mode was used to measure output power.

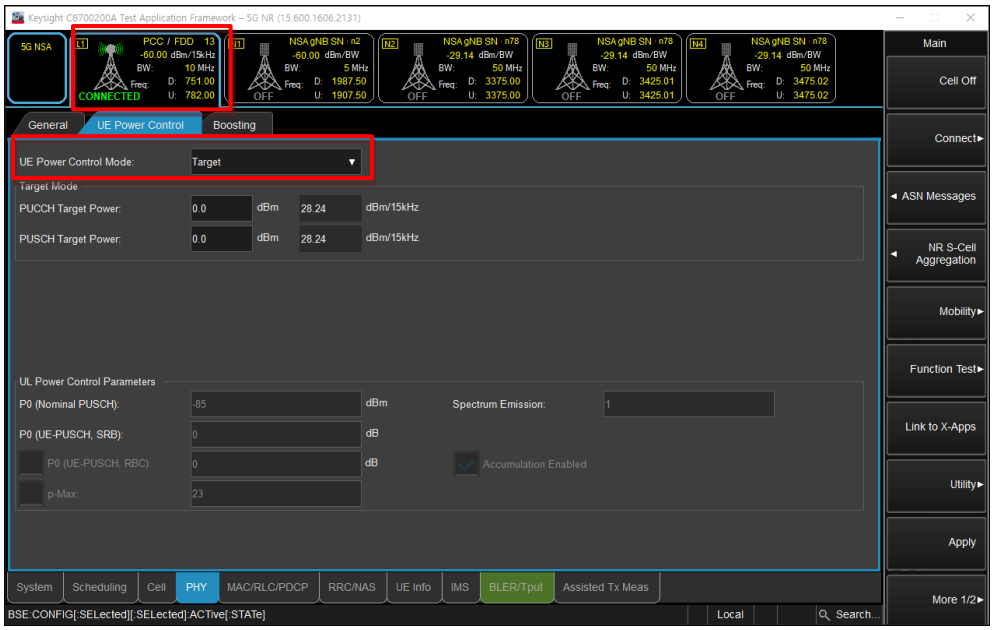
Procedure used to establish power measurement for NR Bands of NSA mode.

- Select operating band, BW and Channel.
- Click Cell on button in the right of Test application screen.
- Turn the LTE Cell On using “ON I OFF” Key.



(Figure-1)

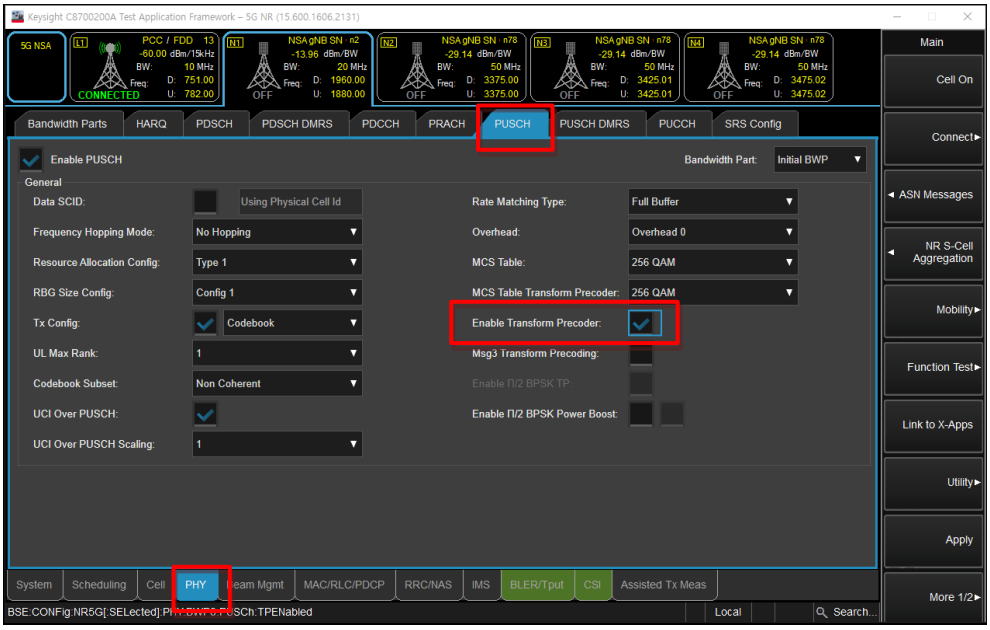
- Turn the Airplane Mode On and then turn the Airplane mode off.
- Select All down bits for UL Power control Mode in LTE.



(Figure-2)

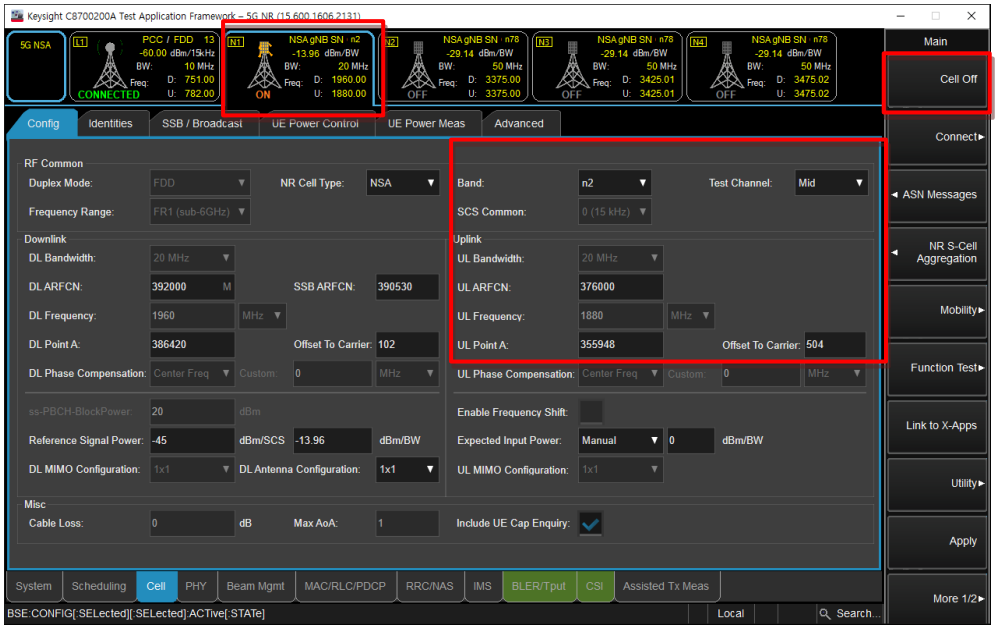
Setup for NR Band

- Select waveform for Setting NR Band (PHY -> PUSCH -> Enable Transform Precoder).
  - Enable : DFT-s-OFDM, Disable : CP-OFDM



(Figure-3)

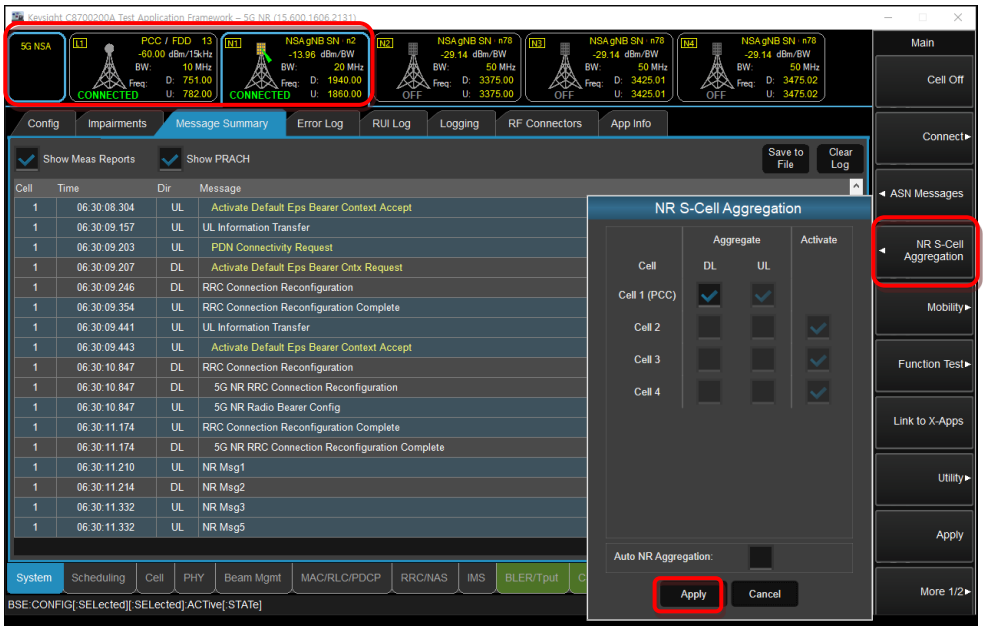
- Select operating band, BW, SCS and Channel.
- Turn the NR Cell On using “ON I OFF” Key.



(Figure-4)

Connect NR S-Cell Aggregation

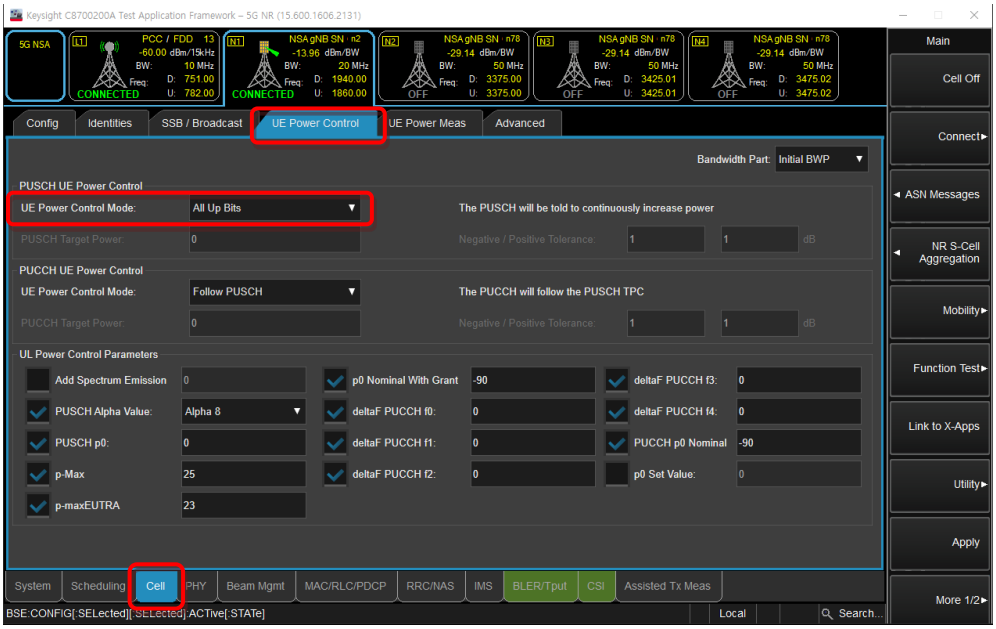
- Click NR S-Cell Aggregation.
- Check the Cell 1's DL and UL box (PCC) and than Click Apply.
- Check the message summary If message shows NR Msg 5, It is connected.



(Figure-5)

Max power setting

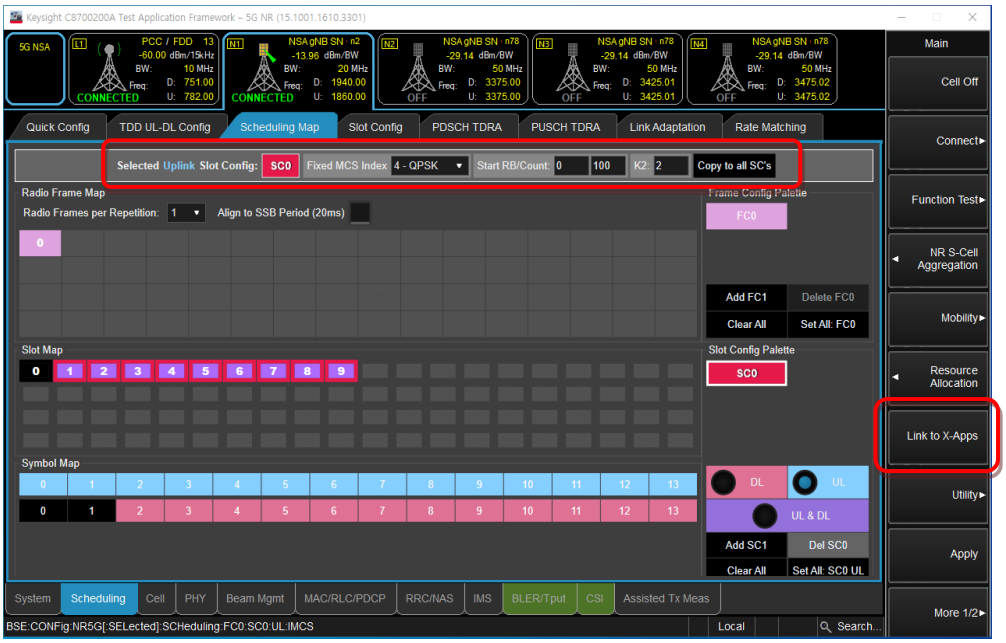
- Click "Cell" in the bottom of screen.
- Click "UE Power control" than change UE Power control mode to All Up bits.



(Figure-6)

Selecting Start RB/Count/MCS

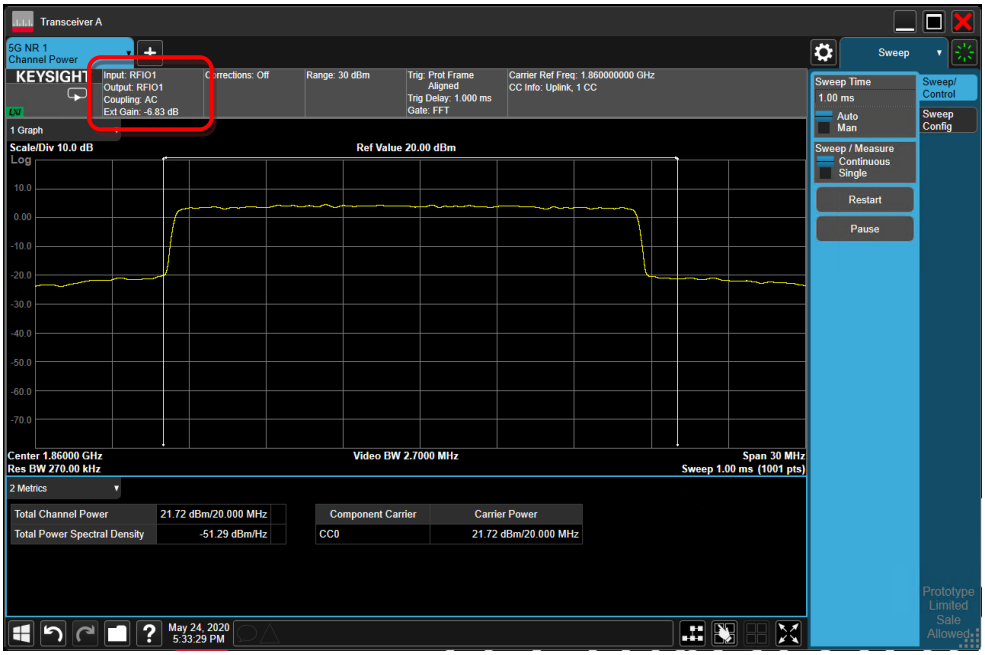
- Select the each test configuration (Start RB, Count, MCS).



(Figure-7)

View Tx Power

- Click “Link to X-Apps”. (Please refer to Figure-7)
- Select “ Channel Power”.



(Figure-8)

NR Band n5 Measured Results

NR Band n5 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
					DSI = 0					DSI = 1					
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					166800	167300	167800			166800	167300	167800		
					834 MHz	836.5 MHz	839 MHz			834 MHz	836.5 MHz	839 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1		24.4		0.0	25.0		18.2		0.0	19.0
			1	53		24.5		0.0	25.0		18.2		0.0	19.0
			1	104		24.4		0.0	25.0		18.2		0.0	19.0
			50	0		23.9		0.5	24.5		18.3		0.0	19.0
			50	28		24.5		0.0	25.0		18.3		0.0	19.0
			50	56		24.0		0.5	24.5		18.2		0.0	19.0
			100	0		23.8		0.5	24.5		18.3		0.0	19.0
		QPSK	1	1		24.4		0.0	25.0		18.2		0.0	19.0
			1	53		24.5		0.0	25.0		18.2		0.0	19.0
			1	104		24.4		0.0	25.0		18.1		0.0	19.0
			50	0		23.4		1.0	24.0		18.2		0.0	19.0
			50	28		24.4		0.0	25.0		18.2		0.0	19.0
			50	56		23.6		1.0	24.0		18.2		0.0	19.0
			100	0		23.4		1.0	24.0		18.3		0.0	19.0
		16QAM	1	1		23.3		1.0	24.0		18.1		0.0	19.0
		64QAM	1	1		21.9		2.5	22.5		18.4		0.0	19.0
		256QAM	1	1		19.5		4.5	20.5		18.3		0.0	19.0
	CP-OFDM	QPSK	1	1		22.7		1.5	23.5		18.3		0.0	19.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					166300	167300	168300			166300	167300	168300		
					831.5 MHz	836.5 MHz	841.5 MHz			831.5 MHz	836.5 MHz	841.5 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1		24.4		0.0	25.0		18.3		0.0	19.0
			1	40		24.6		0.0	25.0		18.2		0.0	19.0
			1	77		24.5		0.0	25.0		18.3		0.0	19.0
			36	0		23.9		0.5	24.5		18.2		0.0	19.0
			36	22		24.5		0.0	25.0		18.2		0.0	19.0
			36	43		24.1		0.5	24.5		18.3		0.0	19.0
			75	0		24.0		0.5	24.5		18.3		0.0	19.0
		QPSK	1	1		24.5		0.0	25.0		18.2		0.0	19.0
			1	40		24.5		0.0	25.0		18.1		0.0	19.0
			1	77		24.5		0.0	25.0		18.2		0.0	19.0
			36	0		23.5		1.0	24.0		18.2		0.0	19.0
			36	22		24.5		0.0	25.0		18.2		0.0	19.0
			36	43		23.6		1.0	24.0		18.2		0.0	19.0
			75	0		23.4		1.0	24.0		18.3		0.0	19.0
		16QAM	1	1		23.4		1.0	24.0		18.2		0.0	19.0
		64QAM	1	1		21.9		2.5	22.5		18.7		0.0	19.0
		256QAM	1	1		19.6		4.5	20.5		18.3		0.0	19.0
	CP-OFDM	QPSK	1	1		22.8		1.5	23.5		18.3		0.0	19.0

NR Band n5 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					165800	167300	168800			165800	167300	168800		
					829 MHz	836.5 MHz	844 MHz			829 MHz	836.5 MHz	844 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1		24.3		0.0	25.0		18.2		0.0	19.0
			1	26		24.4		0.0	25.0		18.3		0.0	19.0
			1	50		24.3		0.0	25.0		18.3		0.0	19.0
			25	0		23.8		0.5	24.5		18.2		0.0	19.0
			25	14		24.4		0.0	25.0		18.4		0.0	19.0
			25	27		23.9		0.5	24.5		18.3		0.0	19.0
			50	0		23.9		0.5	24.5		18.3		0.0	19.0
		QPSK	1	1		24.3		0.0	25.0		18.2		0.0	19.0
			1	26		24.4		0.0	25.0		18.3		0.0	19.0
			1	50		24.3		0.0	25.0		18.2		0.0	19.0
			25	0		23.2		1.0	24.0		18.2		0.0	19.0
			25	14		24.4		0.0	25.0		18.4		0.0	19.0
			25	27		23.4		1.0	24.0		18.3		0.0	19.0
			50	0		23.4		1.0	24.0		18.4		0.0	19.0
		16QAM	1	1		23.2		1.0	24.0		18.2		0.0	19.0
		64QAM	1	1		21.6		2.5	22.5		18.4		0.0	19.0
		256QAM	1	1		19.6		4.5	20.5		18.1		0.0	19.0
	CP-OFDM	QPSK	1	1		22.7		1.5	23.5		18.1		0.0	19.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					165300	167300	169300			165300	167300	169300		
					826.5 MHz	836.5 MHz	846.5 MHz			826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.9	23.8	23.7	0.0	25.0	18.4	18.3	18.3	0.0	19.0
			1	13	23.7	23.8	23.7	0.0	25.0	18.3	18.3	18.2	0.0	19.0
			1	23	23.8	23.8	23.8	0.0	25.0	18.3	18.4	18.2	0.0	19.0
			12	0	23.7	23.6	23.5	0.5	24.5	18.3	18.3	18.2	0.0	19.0
			12	7	23.8	24.0	23.8	0.0	25.0	18.3	18.3	18.2	0.0	19.0
			12	13	23.6	23.7	23.5	0.5	24.5	18.2	18.3	18.2	0.0	19.0
			25	0	23.6	23.6	23.5	0.5	24.5	18.3	18.3	18.2	0.0	19.0
		QPSK	1	1	24.0	23.8	23.7	0.0	25.0	18.3	18.2	18.2	0.0	19.0
			1	13	23.9	23.8	23.8	0.0	25.0	18.2	18.3	18.1	0.0	19.0
			1	23	23.8	23.9	23.7	0.0	25.0	18.2	18.3	18.2	0.0	19.0
			12	0	23.4	23.4	23.2	1.0	24.0	18.3	18.3	18.3	0.0	19.0
			12	7	23.6	23.9	23.7	0.0	25.0	18.3	18.3	18.2	0.0	19.0
			12	13	23.3	23.4	23.2	1.0	24.0	18.2	18.3	18.2	0.0	19.0
			25	0	23.3	23.3	23.2	1.0	24.0	18.3	18.3	18.2	0.0	19.0
		16QAM	1	1	23.2	22.7	23.0	1.0	24.0	18.4	18.3	18.4	0.0	19.0
		64QAM	1	1	22.4	22.2	22.2	2.5	22.5	18.6	18.5	18.6	0.0	19.0
		256QAM	1	1	19.3	19.2	19.3	4.5	20.5	18.2	18.1	18.2	0.0	19.0
	CP-OFDM	QPSK	1	1	22.3	22.5	22.3	1.5	23.5	18.5	18.2	18.2	0.0	19.0

NR Band n25 Measured Results

NR Band n25 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)								
					DSI = 0					DSI = 1			
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					372000	376500	381000			372000	376500	381000		
					1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.4	24.4	24.2	0.0	25.0	14.5	14.2	14.1	0.0	15.0
			1	53	24.4	24.2	24.0	0.0	25.0	14.4	14.1	14.0	0.0	15.0
			1	104	24.4	24.2	24.0	0.0	25.0	14.4	14.2	14.0	0.0	15.0
			50	0	24.0	23.9	23.7	0.5	24.5	14.5	14.3	14.1	0.0	15.0
			50	28	24.5	24.3	24.2	0.0	25.0	14.4	14.3	14.1	0.0	15.0
			50	56	24.0	23.8	23.6	0.5	24.5	14.4	14.3	14.2	0.0	15.0
			100	0	24.0	23.9	23.7	0.5	24.5	14.4	14.3	14.1	0.0	15.0
		QPSK	1	1	24.5	24.4	24.2	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			1	53	24.4	24.2	24.0	0.0	25.0	14.3	14.1	13.9	0.0	15.0
			1	104	24.4	24.2	24.0	0.0	25.0	14.3	14.1	14.0	0.0	15.0
			50	0	23.5	23.4	23.3	1.0	24.0	14.5	14.2	14.2	0.0	15.0
			50	28	24.6	24.3	24.2	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			50	56	23.5	23.4	23.1	1.0	24.0	14.4	14.2	14.1	0.0	15.0
			100	0	23.5	23.4	23.2	1.0	24.0	14.5	14.3	14.1	0.0	15.0
		16QAM	1	1	23.4	23.4	23.4	1.0	24.0	14.8	14.2	14.5	0.0	15.0
		64QAM	1	1	22.1	21.4	22.1	2.5	22.5	14.7	14.1	14.2	0.0	15.0
		256QAM	1	1	19.8	19.7	19.5	4.5	20.5	14.4	14.2	14.1	0.0	15.0
	CP-OFDM	QPSK	1	1	22.8	22.8	22.6	1.5	23.5	14.4	14.1	14.1	0.0	15.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					371500	376500	381500			371500	376500	381500		
					1857.5 MHz	1882.5 MHz	1907.5 MHz			1857.5 MHz	1882.5 MHz	1907.5 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.4	24.3	24.2	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			1	40	24.5	24.3	24.0	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			1	77	24.5	24.3	24.0	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			36	0	24.0	23.8	23.7	0.5	24.5	14.5	14.3	14.1	0.0	15.0
			36	22	24.0	23.8	23.7	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			36	43	24.0	23.9	23.6	0.5	24.5	14.5	14.3	14.2	0.0	15.0
			75	0	24.0	23.9	23.7	0.5	24.5	14.6	14.3	14.1	0.0	15.0
		QPSK	1	1	24.5	24.4	24.2	0.0	25.0	14.5	14.3	14.1	0.0	15.0
			1	40	24.5	24.3	24.1	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			1	77	24.5	24.3	24.0	0.0	25.0	14.4	14.2	14.1	0.0	15.0
			36	0	23.5	23.3	23.2	1.0	24.0	14.5	14.3	14.1	0.0	15.0
			36	22	23.5	23.4	23.1	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			36	43	23.5	23.4	23.1	1.0	24.0	14.5	14.3	14.2	0.0	15.0
			75	0	23.5	23.4	23.3	1.0	24.0	14.6	14.3	14.1	0.0	15.0
		16QAM	1	1	23.6	23.2	23.3	1.0	24.0	14.5	14.2	14.3	0.0	15.0
		64QAM	1	1	22.0	21.7	22.0	2.5	22.5	14.5	14.3	14.2	0.0	15.0
		256QAM	1	1	19.8	19.6	19.5	4.5	20.5	14.3	14.1	14.1	0.0	15.0
	CP-OFDM	QPSK	1	1	22.9	22.7	22.7	1.5	23.5	14.5	14.3	14.1	0.0	15.0

Note(s):

Of NR Band n2 and NR Band n25, NR Band n25 was only measured output power. because NR Band n2 is covered by NR Band n25.

NR Band n25 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					371000	376500	382000			371000	376500	382000		
					1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.6	24.3	24.2	0.0	25.0	14.4	14.3	14.2	0.0	15.0
			1	26	24.6	24.3	24.2	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			1	50	24.6	24.3	24.2	0.0	25.0	14.5	14.2	14.2	0.0	15.0
			25	0	24.1	23.9	23.8	0.5	24.5	14.5	14.4	14.3	0.0	15.0
			25	14	24.1	23.9	23.7	0.0	25.0	14.5	14.4	14.3	0.0	15.0
			25	27	24.1	23.9	23.7	0.5	24.5	14.6	14.3	14.2	0.0	15.0
			50	0	24.3	23.9	23.8	0.5	24.5	14.5	14.4	14.3	0.0	15.0
		QPSK	1	1	24.6	24.4	24.2	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			1	26	24.6	24.4	24.2	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			1	50	24.6	24.4	24.2	0.0	25.0	14.5	14.3	14.1	0.0	15.0
			25	0	23.6	23.4	23.3	1.0	24.0	14.5	14.4	14.3	0.0	15.0
			25	14	23.6	23.4	23.2	0.0	25.0	14.6	14.4	14.2	0.0	15.0
			25	27	23.6	23.4	23.2	1.0	24.0	14.6	14.3	14.2	0.0	15.0
			50	0	23.7	23.4	23.3	1.0	24.0	14.5	14.4	14.3	0.0	15.0
		16QAM	1	1	23.6	23.5	22.9	1.0	24.0	14.8	14.2	14.2	0.0	15.0
		64QAM	1	1	22.1	21.9	21.6	2.5	22.5	14.6	14.5	14.1	0.0	15.0
		256QAM	1	1	19.8	19.6	19.6	4.5	20.5	14.4	14.2	13.9	0.0	15.0
	CP-OFDM	QPSK	1	1	23.0	22.8	22.6	1.5	23.5	14.4	14.2	14.2	0.0	15.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					370500	376500	382500			370500	376500	382500		
					1852.5 MHz	1882.5 MHz	1912.5 MHz			1852.5 MHz	1882.5 MHz	1912.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.6	24.3	24.1	0.0	25.0	14.6	14.3	14.2	0.0	15.0
			1	13	24.6	24.4	24.1	0.0	25.0	14.6	14.3	14.2	0.0	15.0
			1	23	24.6	24.4	24.1	0.0	25.0	14.6	14.4	14.1	0.0	15.0
			12	0	24.1	23.9	23.6	0.5	24.5	14.5	14.4	14.3	0.0	15.0
			12	7	24.2	23.9	23.7	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			12	13	24.2	23.9	23.7	0.5	24.5	14.5	14.3	14.2	0.0	15.0
			25	0	24.2	23.9	23.7	0.5	24.5	14.5	14.3	14.2	0.0	15.0
		QPSK	1	1	24.7	24.4	24.1	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			1	13	24.6	24.4	24.0	0.0	25.0	14.5	14.3	14.2	0.0	15.0
			1	23	24.7	24.4	24.0	0.0	25.0	14.5	14.3	14.1	0.0	15.0
			12	0	23.7	23.4	23.1	1.0	24.0	14.6	14.3	14.2	0.0	15.0
			12	7	23.7	23.4	23.1	0.0	25.0	14.6	14.3	14.2	0.0	15.0
			12	13	23.7	23.4	23.1	1.0	24.0	14.6	14.3	14.2	0.0	15.0
			25	0	23.7	23.4	23.1	1.0	24.0	14.6	14.3	14.2	0.0	15.0
		16QAM	1	1	23.7	23.5	23.0	1.0	24.0	14.8	14.4	14.3	0.0	15.0
		64QAM	1	1	22.3	22.0	21.8	2.5	22.5	14.6	14.4	14.2	0.0	15.0
		256QAM	1	1	19.8	19.6	19.5	4.5	20.5	14.4	14.0	14.1	0.0	15.0
	CP-OFDM	QPSK	1	1	23.1	22.9	22.6	1.5	23.5	14.5	14.3	14.2	0.0	15.0

Note(s):

Of NR Band n2 and NR Band n25, NR Band n25 was only measured output power. because NR Band n2 is covered by NR Band n25.

NR Band n41 Measured Results

NR Band n41 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)									
					DSI = 0					DSI = 1				
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					509202	518598	528000			509202	518598	528000		
					2546.01 MHz	2592.99 MHz	2640 MHz			2546.01 MHz	2592.99 MHz	2640 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	[redacted]	24.9	[redacted]	0.0	26.5	[redacted]	13.8	[redacted]	0.0	15.0
			1	137		24.9		0.0	26.5		13.7		0.0	15.0
			1	271		24.8		0.0	26.5		13.6		0.0	15.0
			135	0		25.0		0.5	26.0		13.9		0.0	15.0
			135	69		25.0		0.0	26.5		13.8		0.0	15.0
			135	138		24.9		0.5	26.0		13.8		0.0	15.0
			270	0		25.1		0.5	26.0		13.9		0.0	15.0
		QPSK	1	1		25.0		0.0	26.5		13.9		0.0	15.0
			1	137		24.9		0.0	26.5		13.8		0.0	15.0
			1	271		24.8		0.0	26.5		13.7		0.0	15.0
			135	0		25.0		1.0	25.5		13.9		0.0	15.0
			135	69		25.0		0.0	26.5		13.8		0.0	15.0
			135	138		24.9		1.0	25.5		13.8		0.0	15.0
			270	0		24.9		1.0	25.5		13.9		0.0	15.0
		16QAM	1	1		25.0		1.0	25.5		14.1		0.0	15.0
		64QAM	1	1		23.4		2.5	24.0		13.8		0.0	15.0
		256QAM	1	1		21.8		4.5	22.0		14.1		0.0	15.0
	CP-OFDM	QPSK	1	1		24.3		1.5	25.0		14.0		0.0	15.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)		MPR	Tune-up Limit	Measured Pwr (dBm)		MPR	Tune-up Limit
					508200	528996			508200	528996		
					2541 MHz	2644.98 MHz			2541 MHz	2644.98 MHz		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.4	24.8	0.0	26.5	13.2	13.7	0.0	15.0
			1	123	25.0	24.6	0.0	26.5	13.9	13.5	0.0	15.0
			1	243	25.0	25.1	0.0	26.5	13.8	14.0	0.0	15.0
			120	0	24.9	24.9	0.5	26.0	13.9	13.7	0.0	15.0
			120	63	25.1	24.9	0.0	26.5	13.9	13.7	0.0	15.0
			120	125	25.0	24.9	0.5	26.0	13.9	13.7	0.0	15.0
			243	0	25.0	24.9	0.5	26.0	13.9	13.8	0.0	15.0
		QPSK	1	1	24.4	24.9	0.0	26.5	13.3	13.8	0.0	15.0
			1	123	25.1	24.8	0.0	26.5	14.0	13.6	0.0	15.0
			1	243	25.0	25.1	0.0	26.5	13.8	14.0	0.0	15.0
			120	0	24.6	25.0	1.0	25.5	13.9	13.8	0.0	15.0
			120	63	25.1	24.9	0.0	26.5	13.9	13.7	0.0	15.0
			120	125	24.7	24.9	1.0	25.5	13.9	13.7	0.0	15.0
			243	0	24.7	24.9	1.0	25.5	13.9	13.8	0.0	15.0
		16QAM	1	1	24.4	25.0	1.0	25.5	13.2	13.8	0.0	15.0
		64QAM	1	1	22.6	23.5	2.5	24.0	13.2	13.8	0.0	15.0
		256QAM	1	1	20.6	21.9	4.5	22.0	13.5	14.0	0.0	15.0
	CP-OFDM	QPSK	1	1	23.7	24.4	1.5	25.0	13.4	13.8	0.0	15.0

NR Band n41 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					507204		529998			507204		529998		
					2536.02 MHz		2649.99 MHz			2536.02 MHz		2649.99 MHz		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.3		24.8	0.0	26.5	13.2		13.7	0.0	15.0
			1	109	24.9		24.6	0.0	26.5	13.9		13.5	0.0	15.0
			1	215	25.0		25.0	0.0	26.5	13.8		13.9	0.0	15.0
			108	0	24.9		24.9	0.5	26.0	13.8		13.7	0.0	15.0
			108	55	25.1		24.9	0.0	26.5	14.0		13.7	0.0	15.0
			108	109	25.1		24.9	0.5	26.0	14.0		13.7	0.0	15.0
			216	0	25.1		24.9	0.5	26.0	13.9		13.7	0.0	15.0
		QPSK	1	1	24.4		24.9	0.0	26.5	13.3		13.7	0.0	15.0
			1	109	25.0		24.7	0.0	26.5	13.9		13.6	0.0	15.0
			1	215	25.0		25.0	0.0	26.5	13.9		13.9	0.0	15.0
			108	0	24.6		24.9	1.0	25.5	13.8		13.7	0.0	15.0
			108	55	25.1		24.8	0.0	26.5	14.0		13.7	0.0	15.0
			108	109	24.8		24.8	1.0	25.5	14.0		13.7	0.0	15.0
			216	0	24.7		24.9	1.0	25.5	13.8		13.7	0.0	15.0
		16QAM	1	1	24.4		24.8	1.0	25.5	13.2		14.1	0.0	15.0
		64QAM	1	1	22.5		23.7	2.5	24.0	13.3		13.5	0.0	15.0
		256QAM	1	1	20.7		22.0	4.5	22.0	13.5		13.8	0.0	15.0
	CP-OFDM	QPSK	1	1	23.6		24.4	1.5	25.0	13.3		13.8	0.0	15.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					505200	518598	531996			505200	518598	531996		
					2526 MHz	2592.99 MHz	2659.98 MHz			2526 MHz	2592.99 MHz	2659.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.5	24.5	24.3	0.0	26.5	13.4	13.3	13.1	0.0	15.0
			1	81	25.1	25.0	24.7	0.0	26.5	14.0	13.8	13.6	0.0	15.0
			1	160	25.1	24.4	24.6	0.0	26.5	13.9	13.2	13.4	0.0	15.0
			81	0	24.9	24.9	24.7	0.5	26.0	13.9	13.7	13.5	0.0	15.0
			81	41	25.2	25.0	24.8	0.0	26.5	14.1	13.8	13.7	0.0	15.0
			81	81	25.1	24.8	24.8	0.5	26.0	14.1	13.7	13.6	0.0	15.0
			162	0	25.0	24.9	24.7	0.5	26.0	14.0	13.7	13.6	0.0	15.0
		QPSK	1	1	24.5	24.6	24.4	0.0	26.5	13.5	13.4	13.3	0.0	15.0
			1	81	25.1	25.0	24.8	0.0	26.5	14.0	13.8	13.7	0.0	15.0
			1	160	25.2	24.4	24.6	0.0	26.5	14.0	13.3	13.5	0.0	15.0
			81	0	24.4	24.8	24.6	1.0	25.5	13.9	13.7	13.6	0.0	15.0
			81	41	25.1	25.0	24.8	0.0	26.5	14.0	13.8	13.7	0.0	15.0
			81	81	24.6	24.9	24.8	1.0	25.5	14.1	13.7	13.7	0.0	15.0
			162	0	24.5	24.9	24.7	1.0	25.5	14.1	13.7	13.6	0.0	15.0
		16QAM	1	1	23.9	24.6	24.5	1.0	25.5	13.5	13.7	13.4	0.0	15.0
		64QAM	1	1	22.3	23.3	23.3	2.5	24.0	13.6	13.4	13.3	0.0	15.0
		256QAM	1	1	20.5	21.5	21.4	4.5	22.0	13.6	13.6	13.4	0.0	15.0
	CP-OFDM	QPSK	1	1	23.5	24.2	24.4	1.5	25.0	13.5	13.4	13.2	0.0	15.0

NR Band n41 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					504204	518598	532998			504204	518598	532998		
					2521.02 MHz	2592.99 MHz	2664.99 MHz			2521.02 MHz	2592.99 MHz	2664.99 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.5	24.7	24.8	0.0	26.5	13.5	13.5	13.7	0.0	15.0
			1	67	25.1	25.0	24.8	0.0	26.5	14.1	13.8	13.7	0.0	15.0
			1	131	25.1	24.6	25.2	0.0	26.5	14.1	13.5	14.1	0.0	15.0
			64	0	24.8	25.0	24.8	0.5	26.0	13.9	13.8	13.8	0.0	15.0
			64	35	25.2	25.0	24.9	0.0	26.5	14.1	13.8	13.8	0.0	15.0
			64	69	25.1	24.9	25.0	0.5	26.0	14.1	13.7	13.9	0.0	15.0
			128	0	25.1	24.9	24.9	0.5	26.0	14.1	13.8	13.8	0.0	15.0
		QPSK	1	1	24.6	24.8	24.9	0.0	26.5	13.6	13.6	13.8	0.0	15.0
			1	67	25.1	25.0	24.9	0.0	26.5	14.1	13.9	13.7	0.0	15.0
			1	131	25.2	24.7	25.2	0.0	26.5	14.2	13.5	14.1	0.0	15.0
			64	0	24.4	24.9	24.8	1.0	25.5	13.9	13.7	13.7	0.0	15.0
			64	35	25.2	25.0	24.9	0.0	26.5	14.2	13.9	13.8	0.0	15.0
			64	69	24.6	24.9	24.9	1.0	25.5	14.1	13.7	13.9	0.0	15.0
			128	0	24.6	24.9	24.9	1.0	25.5	14.1	13.7	13.8	0.0	15.0
		16QAM	1	1	24.1	24.8	24.9	1.0	25.5	14.0	13.7	14.1	0.0	15.0
		64QAM	1	1	22.2	23.3	23.5	2.5	24.0	13.3	13.6	13.9	0.0	15.0
		256QAM	1	1	20.5	21.5	21.9	4.5	22.0	13.7	13.7	13.8	0.0	15.0
	CP-OFDM	QPSK	1	1	23.6	24.5	24.5	1.5	25.0	13.6	13.6	13.8	0.0	15.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)				MPR	Tune-up Limit
					503202	513468	523734	534000			503202	513468	523734	534000		
					2516.01 MHz	2567.34 MHz	2618.67 MHz	2670 MHz			2516.01 MHz	2567.34 MHz	2618.67 MHz	2670 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.2	25.5	25.4	25.2	0.0	26.5	13.3	14.5	14.3	14.2	0.0	15.0
			1	53	24.8	25.4	25.2	25.2	0.0	26.5	13.8	14.4	14.2	14.2	0.0	15.0
			1	104	25.0	25.5	25.3	25.5	0.0	26.5	14.0	14.5	14.3	14.6	0.0	15.0
			50	0	24.6	24.8	25.4	25.2	0.5	26.0	13.6	14.5	14.3	14.3	0.0	15.0
			50	28	24.9	24.7	25.4	25.3	0.0	26.5	13.9	14.5	14.3	14.3	0.0	15.0
			50	56	25.0	24.9	25.4	25.5	0.5	26.0	14.0	14.5	14.4	14.5	0.0	15.0
			100	0	24.8	24.8	25.4	25.4	0.5	26.0	13.8	14.5	14.4	14.3	0.0	15.0
		QPSK	1	1	24.4	24.8	25.4	25.3	0.0	26.5	13.3	14.5	14.4	14.3	0.0	15.0
			1	53	24.8	24.8	25.3	25.3	0.0	26.5	13.7	14.4	14.3	14.3	0.0	15.0
			1	104	25.1	24.8	25.4	25.5	0.0	26.5	14.0	14.4	14.4	14.6	0.0	15.0
			50	0	24.2	25.1	25.3	25.0	1.0	25.5	13.7	14.5	14.4	14.2	0.0	15.0
			50	28	24.9	24.8	25.4	25.3	0.0	26.5	13.9	14.5	14.4	14.3	0.0	15.0
			50	56	24.5	25.2	25.2	25.3	1.0	25.5	14.0	14.5	14.3	14.5	0.0	15.0
			100	0	24.3	25.1	25.2	25.1	1.0	25.5	13.8	14.5	14.4	14.4	0.0	15.0
		16QAM	1	1	23.6	24.8	24.5	25.2	1.0	25.5	13.4	14.4	14.4	14.4	0.0	15.0
		64QAM	1	1	21.8	23.5	23.8	23.7	2.5	24.0	13.2	14.6	14.5	14.2	0.0	15.0
		256QAM	1	1	20.5	21.9	21.9	22.0	4.5	22.0	13.5	14.6	14.5	14.4	0.0	15.0
	CP-OFDM	QPSK	1	1	23.4	23.7	24.5	24.4	1.5	25.0	13.3	14.5	14.5	14.3	0.0	15.0

NR Band n41 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
					501204	509898	518598	527298	535998			501204	509898	518598	527298	535998		
					2506.02 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz			2506.02 MHz	2549.49 MHz	2592.99 MHz	2636.49 MHz	2679.99 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.8	25.1	25.0	24.9	24.9	0.0	26.5	13.8	14.1	14.0	13.9	13.9	0.0	15.0
			1	26	25.2	25.2	24.9	24.8	24.8	0.0	26.5	14.3	14.0	13.9	13.8	13.9	0.0	15.0
			1	49	25.3	25.1	25.0	24.8	25.1	0.0	26.5	14.4	14.1	14.0	13.8	14.1	0.0	15.0
			25	0	24.8	24.8	25.1	25.0	24.9	0.5	26.0	14.2	14.2	14.0	13.9	14.0	0.0	15.0
			25	13	25.3	25.1	25.0	24.9	25.0	0.0	26.5	14.2	14.1	14.0	13.9	14.0	0.0	15.0
			25	26	25.0	24.8	25.0	24.9	25.0	0.5	26.0	14.3	14.2	14.0	13.9	14.1	0.0	15.0
			50	0	24.8	24.8	25.0	24.9	25.0	0.5	26.0	14.2	14.1	14.0	13.9	14.0	0.0	15.0
		QPSK	1	1	24.9	25.2	25.1	25.0	24.9	0.0	26.5	13.8	14.2	14.0	13.9	14.0	0.0	15.0
			1	26	25.2	25.2	24.9	24.8	24.9	0.0	26.5	14.3	14.0	13.9	13.8	13.9	0.0	15.0
			1	49	25.3	25.2	25.0	24.8	25.1	0.0	26.5	14.4	14.1	14.0	13.9	14.2	0.0	15.0
			25	0	24.3	24.3	25.1	24.9	24.9	1.0	25.5	14.2	14.2	14.0	14.0	14.0	0.0	15.0
			25	13	25.3	25.1	25.1	24.9	25.0	0.0	26.5	14.3	14.1	14.0	13.9	14.0	0.0	15.0
			25	26	24.5	24.3	25.1	24.9	25.1	1.0	25.5	14.4	14.2	14.0	13.9	14.0	0.0	15.0
			50	0	24.3	24.3	25.1	24.9	25.0	1.0	25.5	14.2	14.2	14.0	13.9	14.0	0.0	15.0
		16QAM	1	1	24.1	24.7	25.2	25.5	25.2	1.0	25.5	13.7	14.0	14.3	14.1	14.0	0.0	15.0
		64QAM	1	1	22.5	23.0	23.9	23.9	23.6	2.5	24.0	14.0	14.3	14.3	14.0	14.0	0.0	15.0
		256QAM	1	1	20.7	20.9	21.9	21.9	21.0	4.5	22.0	14.1	14.4	14.2	14.1	14.0	0.0	15.0
	CP-OFDM	QPSK	1	1	23.5	23.8	24.8	24.9	25.0	1.5	25.0	13.9	14.2	14.0	14.0	13.9	0.0	15.0

NR Band n66 Measured Results

NR Band n66 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Output Power (dBm)										
					DSI = 0					DSI = 1					
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					346000	349000	352000			346000	349000	352000		
					1730 MHz	1745 MHz	1760 MHz			1730 MHz	1745 MHz	1760 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1		23.9		0.0	25		13.7		0.0	14.5
			1	108		24.1		0.0	25		14.0		0.0	14.5
			1	214		23.8		0.0	25		14.0		0.0	14.5
			108	0		23.8		0.5	24.5		13.9		0.0	14.5
			108	54		24.1		0.0	25		13.9		0.0	14.5
			108	108		23.4		0.5	24.5		14.0		0.0	14.5
			216	0		23.5		0.5	24.5		13.9		0.0	14.5
		QPSK	1	1		23.9		0.0	25		13.6		0.0	14.5
			1	108		24.1		0.0	25		14.0		0.0	14.5
			1	214		23.8		0.0	25		13.9		0.0	14.5
			108	0		23.7		1.0	24		13.8		0.0	14.5
			108	54		24.0		0.0	25		14.2		0.0	14.5
			108	108		23.3		1.0	24		14.1		0.0	14.5
			216	0		23.4		1.0	24		13.8		0.0	14.5
		16QAM	1	1		23.5		1.0	24		13.6		0.0	14.5
		64QAM	1	1		21.7		2.5	22.5		13.6		0.0	14.5
		256QAM	1	1		20.3		4.5	20.5		13.5		0.0	14.5
	CP-OFDM	QPSK	1	1		23.2		1.5	23.5		13.5		0.0	14.5
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					345000	349000	353000			345000	349000	353000		
					1725 MHz	1745 MHz	1765 MHz			1725 MHz	1745 MHz	1765 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.9	24.0	24.3	0.0	25	13.6	13.7	14.2	0.0	14.5
			1	80	24.4	24.0	24.3	0.0	25	13.6	13.8	14.1	0.0	14.5
			1	158	24.3	23.6	24.3	0.0	25	13.7	14.0	14.0	0.0	14.5
			80	0	23.7	23.7	24.3	0.5	24.5	13.7	13.7	14.2	0.0	14.5
			80	40	24.4	24.0	24.3	0.0	25	13.7	13.8	14.1	0.0	14.5
			80	80	24.2	23.4	24.1	0.5	24.5	13.9	14.0	14.1	0.0	14.5
			160	0	23.9	23.5	24.2	0.5	24.5	13.7	13.8	14.2	0.0	14.5
		QPSK	1	1	23.7	24.0	24.3	0.0	25	13.7	13.7	14.3	0.0	14.5
			1	80	24.2	23.9	24.4	0.0	25	13.6	13.8	14.2	0.0	14.5
			1	158	24.4	23.5	24.2	0.0	25	13.8	13.9	14.1	0.0	14.5
			80	0	23.1	23.2	23.8	1.0	24	13.6	13.7	14.2	0.0	14.5
			80	40	24.2	24.0	24.4	0.0	25	13.6	13.8	14.1	0.0	14.5
			80	80	23.7	22.9	23.6	1.0	24	13.8	14.0	14.2	0.0	14.5
			160	0	23.4	23.1	23.7	1.0	24	13.7	13.9	14.2	0.0	14.5
		16QAM	1	1	22.8	23.1	23.9	1.0	24	13.6	13.7	13.9	0.0	14.5
		64QAM	1	1	22.0	22.0	22.5	2.5	22.5	14.2	14.0	14.6	0.0	14.5
		256QAM	1	1	19.9	20.2	20.5	4.5	20.5	14.1	13.5	13.9	0.0	14.5
	CP-OFDM	QPSK	1	1	23.2	23.4	23.5	1.5	23.5	13.8	13.6	14.2	0.0	14.5

NR Band n66 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					344000	349000	354000			344000	349000	354000		
					1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.0	23.8	23.9	0.0	25	13.6	13.5	13.7	0.0	14.5
			1	53	23.9	24.4	24.2	0.0	25	13.5	14.1	14.0	0.0	14.5
			1	104	24.1	24.0	23.8	0.0	25	13.7	13.8	13.5	0.0	14.5
			50	0	23.6	23.8	23.8	0.5	24.5	13.7	14.0	14.0	0.0	14.5
			50	28	24.1	24.3	24.3	0.0	25	13.6	14.1	14.1	0.0	14.5
			50	56	23.6	23.8	23.7	0.5	24.5	13.6	14.0	13.9	0.0	14.5
			100	0	23.6	23.8	23.8	0.5	24.5	13.7	14.0	14.0	0.0	14.5
		QPSK	1	1	24.0	23.8	23.9	0.0	25	13.6	13.6	13.7	0.0	14.5
			1	53	24.0	24.3	24.3	0.0	25	13.5	14.1	14.0	0.0	14.5
			1	104	24.1	24.0	23.8	0.0	25	13.7	13.8	13.6	0.0	14.5
			50	0	23.1	23.2	23.3	1.0	24	13.7	14.0	14.0	0.0	14.5
			50	28	24.0	24.4	24.3	0.0	25	13.6	14.1	14.0	0.0	14.5
			50	56	23.1	23.3	23.2	1.0	24	13.6	14.1	14.0	0.0	14.5
			100	0	23.1	23.2	23.3	1.0	24	13.7	14.0	14.0	0.0	14.5
		16QAM	1	1	22.7	22.9	22.8	1.0	24	13.8	13.9	14.1	0.0	14.5
		64QAM	1	1	21.6	21.4	21.7	2.5	22.5	13.3	13.7	13.8	0.0	14.5
		256QAM	1	1	19.3	19.2	19.4	4.5	20.5	13.4	13.5	13.6	0.0	14.5
	CP-OFDM	QPSK	1	1	22.5	22.3	22.4	1.5	23.5	13.6	13.5	13.6	0.0	14.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					343500	349000	354500			343500	349000	354500		
					1717.5 MHz	1745 MHz	1772.5 MHz			1717.5 MHz	1745 MHz	1772.5 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.0	24.0	24.1	0.0	25	13.6	13.7	13.8	0.0	14.5
			1	40	24.0	24.4	24.3	0.0	25	13.6	14.1	14.0	0.0	14.5
			1	77	24.1	24.2	24.1	0.0	25	13.7	13.9	13.8	0.0	14.5
			36	0	23.6	23.8	23.8	0.5	24.5	13.7	14.0	14.0	0.0	14.5
			36	22	24.0	24.3	24.4	0.0	25	13.6	14.0	14.0	0.0	14.5
			36	43	23.6	23.9	23.8	0.5	24.5	13.7	14.1	14.0	0.0	14.5
			75	0	23.6	23.8	23.9	0.5	24.5	13.7	14.0	14.0	0.0	14.5
		QPSK	1	1	24.0	24.0	24.2	0.0	25	13.6	13.7	13.8	0.0	14.5
			1	40	23.9	24.4	24.3	0.0	25	13.6	14.1	13.9	0.0	14.5
			1	77	24.1	24.2	24.1	0.0	25	13.7	13.9	13.7	0.0	14.5
			36	0	23.1	23.3	23.4	1.0	24	13.7	14.1	14.0	0.0	14.5
			36	22	24.0	24.4	24.3	0.0	25	13.6	14.1	14.0	0.0	14.5
			36	43	23.1	23.4	23.3	1.0	24	13.7	14.1	14.0	0.0	14.5
			75	0	23.1	23.3	23.4	1.0	24	13.7	14.0	14.0	0.0	14.5
		16QAM	1	1	23.0	22.9	23.0	1.0	24	13.8	14.0	13.8	0.0	14.5
		64QAM	1	1	21.8	21.8	22.0	2.5	22.5	13.7	13.7	13.9	0.0	14.5
		256QAM	1	1	19.4	19.5	19.6	4.5	20.5	13.6	13.6	13.7	0.0	14.5
	CP-OFDM	QPSK	1	1	22.4	22.5	22.6	1.5	23.5	13.5	13.6	13.8	0.0	14.5

NR Band n66 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					343000	349000	355000			343000	349000	355000		
					1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.1	24.1	24.0	0.0	25	13.7	13.8	13.8	0.0	15
			1	26	24.1	24.2	24.0	0.0	25	13.7	13.9	13.8	0.0	15
			1	50	24.1	24.2	24.0	0.0	25	13.7	13.9	13.8	0.0	15
			25	0	23.6	23.7	23.6	0.5	24.5	13.7	13.8	13.8	0.0	15
			25	14	24.1	24.3	24.1	0.0	25	13.7	13.9	13.8	0.0	15
			25	27	23.6	23.7	23.6	0.5	24.5	13.7	13.9	13.8	0.0	15
			50	0	23.6	23.7	23.6	0.5	24.5	13.7	13.9	13.8	0.0	15
		QPSK	1	1	24.0	24.1	24.1	0.0	25	13.7	13.8	13.8	0.0	15
			1	26	24.0	24.2	24.1	0.0	25	13.7	13.9	13.7	0.0	15
			1	50	24.0	24.2	24.0	0.0	25	13.7	13.9	13.7	0.0	15
			25	0	23.1	23.2	23.1	1.0	24	13.7	13.8	13.8	0.0	15
			25	14	24.1	24.3	24.1	0.0	25	13.7	14.0	13.8	0.0	15
			25	27	23.1	23.2	23.0	1.0	24	13.7	13.9	13.8	0.0	15
			50	0	23.1	23.2	23.1	1.0	24	13.7	13.9	13.8	0.0	15
		16QAM	1	1	23.2	23.1	23.1	1.0	24	14.1	13.9	13.8	0.0	15
		64QAM	1	1	21.5	21.8	22.0	2.5	22.5	13.8	13.7	13.6	0.0	15
		256QAM	1	1	19.4	19.4	19.7	4.5	20.5	13.6	13.5	13.6	0.0	15
	CP-OFDM	QPSK	1	1	22.5	22.6	22.5	1.5	23.5	13.6	13.8	13.7	0.0	15
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					342500	349000	355500			342500	349000	355500		
					1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.0	24.1	24.0	0.0	25	13.7	13.7	13.7	0.0	15
			1	13	24.0	24.2	24.1	0.0	25	13.8	13.9	13.7	0.0	15
			1	23	24.0	24.1	24.0	0.0	25	13.8	13.8	13.7	0.0	15
			12	0	23.5	23.8	23.6	0.5	24.5	13.8	13.9	13.8	0.0	15
			12	7	24.1	24.2	24.1	0.0	25	13.8	13.9	13.8	0.0	15
			12	13	23.6	23.7	23.5	0.5	24.5	13.8	13.9	13.8	0.0	15
			25	0	23.5	23.7	23.6	0.5	24.5	13.7	13.9	13.8	0.0	15
		QPSK	1	1	24.0	24.2	24.0	0.0	25	13.7	13.7	13.7	0.0	15
			1	13	24.1	24.2	24.0	0.0	25	13.7	13.8	13.8	0.0	15
			1	23	24.0	24.2	24.0	0.0	25	13.7	13.8	13.7	0.0	15
			12	0	23.1	23.2	23.1	1.0	24	13.8	13.9	13.8	0.0	15
			12	7	24.0	24.2	24.0	0.0	25	13.8	13.9	13.8	0.0	15
			12	13	23.1	23.2	23.1	1.0	24	13.8	13.9	13.8	0.0	15
			25	0	23.1	23.2	23.1	1.0	24	13.8	13.9	13.8	0.0	15
		16QAM	1	1	23.0	22.8	22.9	1.0	24	13.7	14.1	13.8	0.0	15
		64QAM	1	1	21.7	22.1	21.4	2.5	22.5	14.0	13.9	13.8	0.0	15
		256QAM	1	1	19.4	19.5	19.5	4.5	20.5	13.6	13.6	13.7	0.0	15
	CP-OFDM	QPSK	1	1	22.5	22.7	22.5	1.5	23.5	13.7	13.8	13.7	0.0	15

NR Band n71 Measured Results

NR Band n71 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Output Power (dBm)								
					DSI = 0					DSI = 1			
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					134600	136100	137600			134600	136100	137600		
					673 MHz	680.5 MHz	688 MHz			673 MHz	680.5 MHz	688 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	[redacted]	24.8	[redacted]	0.0	25.5	[redacted]	20.3	[redacted]	0.0	21
			1	53		25.1		0.0	25.5		20.7		0.0	21
			1	104		25.1		0.0	25.5		20.6		0.0	21
			50	0		24.6		0.5	25		20.6		0.0	21
			50	28		25.1		0.0	25.5		20.7		0.0	21
			50	56		24.5		0.5	25		20.6		0.0	21
			100	0		24.7		0.5	25		20.7		0.0	21
		QPSK	1	1		24.8		0.0	25.5		20.3		0.0	21
			1	53		25.1		0.0	25.5		20.6		0.0	21
			1	104		25.0		0.0	25.5		20.6		0.0	21
			50	0		24.0		1.0	24.5		20.6		0.0	21
			50	28		25.1		0.0	25.5		20.6		0.0	21
			50	56		24.0		1.0	24.5		20.6		0.0	21
			100	0		24.1		1.0	24.5		20.7		0.0	21
		16QAM	1	1		23.7		1.0	24.5		20.3		0.0	21
		64QAM	1	1		22.5		2.5	23		20.3		0.0	21
		256QAM	1	1		20.2		4.5	21		20.1		0.0	21
	CP-OFDM	QPSK	1	1		23.2		1.5	24		20.3		0.0	21
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					134100	136100	138100			134100	136100	138100		
					670.5 MHz	680.5 MHz	690.5 MHz			670.5 MHz	680.5 MHz	690.5 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	[redacted]	24.9	[redacted]	0.0	25.5	[redacted]	20.5	[redacted]	0.0	21
			1	40		25.1		0.0	25.5		20.6		0.0	21
			1	77		25.1		0.0	25.5		20.7		0.0	21
			36	0		24.6		0.5	25		20.7		0.0	21
			36	22		25.1		0.0	25.5		20.6		0.0	21
			36	43		24.6		0.5	25		20.6		0.0	21
			75	0		24.6		0.5	25		20.7		0.0	21
		QPSK	1	1		24.9		0.0	25.5		20.5		0.0	21
			1	40		25.1		0.0	25.5		20.6		0.0	21
			1	77		25.1		0.0	25.5		20.6		0.0	21
			36	0		24.1		1.0	24.5		20.7		0.0	21
			36	22		25.0		0.0	25.5		20.6		0.0	21
			36	43		24.1		1.0	24.5		20.7		0.0	21
			75	0		24.1		1.0	24.5		20.7		0.0	21
		16QAM	1	1		23.8		1.0	24.5		20.9		0.0	21
		64QAM	1	1		22.6		2.5	23		20.7		0.0	21
		256QAM	1	1		20.3		4.5	21		20.2		0.0	21
	CP-OFDM	QPSK	1	1		23.3		1.5	24		20.6		0.0	21

NR Band n71 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					133600	136100	138600			133600	136100	138600		
					668 MHz	680.5 MHz	693 MHz			668 MHz	680.5 MHz	693 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.1	25.2	25.2	0.0	25.5	20.7	20.7	20.7	0.0	21
			1	26	24.8	25.3	25.3	0.0	25.5	20.4	20.8	20.9	0.0	21
			1	50	24.9	25.2	25.4	0.0	25.5	20.5	20.7	21.0	0.0	21
			25	0	24.4	24.7	24.8	0.5	25	20.5	20.8	20.8	0.0	21
			25	14	24.9	25.2	25.3	0.0	25.5	20.5	20.8	20.9	0.0	21
			25	27	24.4	24.6	24.9	0.5	25	20.4	20.7	21.0	0.0	21
			50	0	24.4	24.7	24.8	0.5	25	20.5	20.8	20.9	0.0	21
		QPSK	1	1	25.0	25.1	25.2	0.0	25.5	20.6	20.7	20.7	0.0	21
			1	26	24.8	25.2	25.3	0.0	25.5	20.4	20.7	20.8	0.0	21
			1	50	25.0	25.1	25.3	0.0	25.5	20.5	20.7	20.9	0.0	21
			25	0	23.9	24.2	24.3	1.0	24.5	20.5	20.8	20.8	0.0	21
			25	14	24.9	25.3	25.3	0.0	25.5	20.4	20.8	20.9	0.0	21
			25	27	23.9	24.2	24.4	1.0	24.5	20.4	20.7	21.0	0.0	21
			50	0	23.9	24.2	24.3	1.0	24.5	20.5	20.8	20.9	0.0	21
		16QAM	1	1	24.2	24.2	24.1	1.0	24.5	20.9	20.7	20.7	0.0	21
		64QAM	1	1	22.8	22.4	22.7	2.5	23	21.0	20.7	20.8	0.0	21
		256QAM	1	1	20.5	20.6	20.6	4.5	21	20.5	20.5	20.6	0.0	21
	CP-OFDM	QPSK	1	1	23.5	23.7	23.6	1.5	24	20.6	20.8	20.8	0.0	21

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					133100	136100	139100			133100	136100	139100		
					665.5 MHz	680.5 MHz	695.5 MHz			665.5 MHz	680.5 MHz	695.5 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.0	25.1	25.3	0.0	25.5	20.6	20.7	20.9	0.0	21
			1	13	24.9	25.3	25.4	0.0	25.5	20.6	20.8	21.0	0.0	21
			1	23	24.8	25.1	25.3	0.0	25.5	20.4	20.7	20.9	0.0	21
			12	0	24.5	24.7	24.9	0.5	25	20.6	20.7	21.0	0.0	21
			12	7	25.0	25.3	25.4	0.0	25.5	20.5	20.8	21.0	0.0	21
			12	13	24.4	24.7	24.9	0.5	25	20.5	20.7	21.0	0.0	21
			25	0	24.4	24.7	24.9	0.5	25	20.5	20.8	20.9	0.0	21
		QPSK	1	1	25.0	25.1	25.3	0.0	25.5	20.6	20.7	20.8	0.0	21
			1	13	24.9	25.3	25.4	0.0	25.5	20.5	20.8	21.0	0.0	21
			1	23	24.8	25.1	25.2	0.0	25.5	20.4	20.6	20.8	0.0	21
			12	0	24.0	24.2	24.4	1.0	24.5	20.6	20.7	21.0	0.0	21
			12	7	24.9	25.2	25.3	0.0	25.5	20.5	20.8	21.0	0.0	21
			12	13	23.9	24.2	24.4	1.0	24.5	20.5	20.7	20.9	0.0	21
			25	0	23.9	24.3	24.4	1.0	24.5	20.5	20.8	20.9	0.0	21
		16QAM	1	1	24.2	24.2	24.3	1.0	24.5	20.9	21.0	21.0	0.0	21
		64QAM	1	1	22.4	22.7	22.8	2.5	23	20.4	20.5	20.7	0.0	21
		256QAM	1	1	20.5	20.8	20.8	4.5	21	20.4	20.6	20.8	0.0	21
	CP-OFDM	QPSK	1	1	23.5	23.5	23.8	1.5	24	20.6	20.7	20.8	0.0	21

NR Band n77 – Lower Band Measured Results

NR Band n77 – Lower Band Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)					
					DSI = 0			DSI = 1		
					Measured Pwr (dBm) 633333 3500 MHz	MPR	Tune-up Limit	Measured Pwr (dBm) 633333 3500 MHz	MPR	Tune-up Limit
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.1	0.0	21.5	10.6	0.0	12.0
			1	137	20.6	0.0	21.5	10.9	0.0	12.0
			1	271	20.6	0.0	21.5	10.8	0.0	12.0
			135	0	20.6	0.0	21.5	10.8	0.0	12.0
			135	69	20.8	0.0	21.5	10.8	0.0	12.0
			135	138	20.8	0.0	21.5	10.9	0.0	12.0
			270	0	20.7	0.0	21.5	10.9	0.0	12.0
		QPSK	1	1	20.0	0.0	21.5	10.8	0.0	12.0
			1	137	20.6	0.0	21.5	10.6	0.0	12.0
			1	271	20.6	0.0	21.5	10.8	0.0	12.0
			135	0	20.6	0.0	21.5	10.8	0.0	12.0
			135	69	20.8	0.0	21.5	10.8	0.0	12.0
			135	138	20.7	0.0	21.5	10.9	0.0	12.0
			270	0	20.7	0.0	21.5	10.8	0.0	12.0
		16QAM	1	1	20.2	0.0	21.5	10.8	0.0	12.0
		64QAM	1	1	19.9	0.0	21.5	10.7	0.0	12.0
		256QAM	1	1	19.6	0.0	21.5	10.6	0.0	12.0
	CP-OFDM	QPSK	1	1	20.1	0.0	21.5	10.5	0.0	12.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm) 633333 3500 MHz	MPR	Tune-up Limit	Measured Pwr (dBm) 633333 3500 MHz	MPR	Tune-up Limit
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.1	0.0	21.5	10.7	0.0	12.0
			1	123	20.3	0.0	21.5	10.7	0.0	12.0
			1	243	20.4	0.0	21.5	10.7	0.0	12.0
			120	0	20.4	0.0	21.5	10.8	0.0	12.0
			120	63	20.5	0.0	21.5	10.8	0.0	12.0
			120	125	20.4	0.0	21.5	10.8	0.0	12.0
			243	0	20.4	0.0	21.5	10.8	0.0	12.0
		QPSK	1	1	20.2	0.0	21.5	10.8	0.0	12.0
			1	123	20.4	0.0	21.5	10.9	0.0	12.0
			1	243	20.5	0.0	21.5	10.8	0.0	12.0
			120	0	20.5	0.0	21.5	10.8	0.0	12.0
			120	63	20.5	0.0	21.5	10.8	0.0	12.0
			120	125	20.4	0.0	21.5	10.8	0.0	12.0
			243	0	20.4	0.0	21.5	10.7	0.0	12.0
		16QAM	1	1	20.2	0.0	21.5	10.7	0.0	12.0
		64QAM	1	1	20.2	0.0	21.5	10.7	0.0	12.0
		256QAM	1	1	19.9	0.0	21.5	10.9	0.0	12.0
	CP-OFDM	QPSK	1	1	20.5	0.0	21.5	10.8	0.0	12.0

NR Band n77 – Lower Band Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)	MPR	Tune-up Limit	Measured Pwr (dBm)	MPR	Tune-up Limit
					633333			633333		
					3500 MHz			3500 MHz		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.2	0.0	21.5	10.8	0.0	12.0
			1	109	20.4	0.0	21.5	10.8	0.0	12.0
			1	215	20.3	0.0	21.5	10.7	0.0	12.0
			108	0	20.5	0.0	21.5	10.9	0.0	12.0
			108	55	20.6	0.0	21.5	10.8	0.0	12.0
			108	109	20.5	0.0	21.5	10.9	0.0	12.0
			216	0	20.5	0.0	21.5	10.8	0.0	12.0
		QPSK	1	1	20.2	0.0	21.5	10.7	0.0	12.0
			1	109	20.3	0.0	21.5	10.8	0.0	12.0
			1	215	20.3	0.0	21.5	10.7	0.0	12.0
			108	0	20.6	0.0	21.5	10.9	0.0	12.0
			108	55	20.6	0.0	21.5	10.9	0.0	12.0
			108	109	20.6	0.0	21.5	10.8	0.0	12.0
			216	0	20.5	0.0	21.5	10.8	0.0	12.0
		16QAM	1	1	20.3	0.0	21.5	10.8	0.0	12.0
		64QAM	1	1	20.1	0.0	21.5	10.5	0.0	12.0
		256QAM	1	1	19.9	0.0	21.5	10.8	0.0	12.0
	CP-OFDM	QPSK	1	1	20.2	0.0	21.5	10.7	0.0	12.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)	MPR	Tune-up Limit	Measured Pwr (dBm)	MPR	Tune-up Limit
					633333			633333		
					3500 MHz			3500 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.4	0.0	21.5	10.9	0.0	12.0
			1	81	20.5	0.0	21.5	11.0	0.0	12.0
			1	160	20.4	0.0	21.5	10.8	0.0	12.0
			81	0	20.7	0.0	21.5	11.0	0.0	12.0
			81	41	20.7	0.0	21.5	11.1	0.0	12.0
			81	81	20.6	0.0	21.5	11.0	0.0	12.0
			162	0	20.6	0.0	21.5	10.9	0.0	12.0
		QPSK	1	1	20.5	0.0	21.5	10.8	0.0	12.0
			1	81	20.6	0.0	21.5	10.9	0.0	12.0
			1	160	20.4	0.0	21.5	10.7	0.0	12.0
			81	0	20.6	0.0	21.5	10.9	0.0	12.0
			81	41	20.7	0.0	21.5	10.9	0.0	12.0
			81	81	20.6	0.0	21.5	10.9	0.0	12.0
			162	0	20.7	0.0	21.5	10.9	0.0	12.0
		16QAM	1	1	20.6	0.0	21.5	10.9	0.0	12.0
		64QAM	1	1	20.2	0.0	21.5	10.7	0.0	12.0
		256QAM	1	1	20.0	0.0	21.5	10.9	0.0	12.0
	CP-OFDM	QPSK	1	1	20.4	0.0	21.5	10.8	0.0	12.0

NR Band n77 – Lower Band Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)	MPR	Tune-up Limit	Measured Pwr (dBm)	MPR	Tune-up Limit
					633333			633333		
					3500 MHz			3500 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.6	0.0	21.5	11.0	0.0	12.0
			1	67	20.5	0.0	21.5	11.0	0.0	12.0
			1	131	20.5	0.0	21.5	11.0	0.0	12.0
			64	0	20.6	0.0	21.5	11.0	0.0	12.0
			64	35	20.6	0.0	21.5	11.0	0.0	12.0
			64	69	20.6	0.0	21.5	11.0	0.0	12.0
			128	0	20.7	0.0	21.5	11.0	0.0	12.0
		QPSK	1	1	20.6	0.0	21.5	11.0	0.0	12.0
			1	67	20.5	0.0	21.5	10.9	0.0	12.0
			1	131	20.4	0.0	21.5	10.9	0.0	12.0
			64	0	20.7	0.0	21.5	11.0	0.0	12.0
			64	35	20.7	0.0	21.5	11.0	0.0	12.0
			64	69	20.6	0.0	21.5	11.0	0.0	12.0
			128	0	20.6	0.0	21.5	11.0	0.0	12.0
		16QAM	1	1	20.7	0.0	21.5	11.0	0.0	12.0
		64QAM	1	1	20.4	0.0	21.5	10.7	0.0	12.0
		256QAM	1	1	20.2	0.0	21.5	11.0	0.0	12.0
	CP-OFDM	QPSK	1	1	20.6	0.0	21.5	10.9	0.0	12.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)	MPR	Tune-up Limit	Measured Pwr (dBm)	MPR	Tune-up Limit
					633333			633333		
					3500 MHz			3500 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.1	0.0	21.5	10.6	0.0	12.0
			1	53	20.2	0.0	21.5	10.6	0.0	12.0
			1	104	20.2	0.0	21.5	10.5	0.0	12.0
			50	0	20.4	0.0	21.5	10.7	0.0	12.0
			50	28	20.4	0.0	21.5	10.7	0.0	12.0
			50	56	20.4	0.0	21.5	10.7	0.0	12.0
			100	0	20.4	0.0	21.5	10.7	0.0	12.0
		QPSK	1	1	20.2	0.0	21.5	10.5	0.0	12.0
			1	53	20.3	0.0	21.5	10.5	0.0	12.0
			1	104	20.2	0.0	21.5	10.4	0.0	12.0
			50	0	20.4	0.0	21.5	10.7	0.0	12.0
			50	28	20.3	0.0	21.5	10.7	0.0	12.0
			50	56	20.4	0.0	21.5	10.7	0.0	12.0
			100	0	20.3	0.0	21.5	10.7	0.0	12.0
		16QAM	1	1	20.2	0.0	21.5	10.4	0.0	12.0
		64QAM	1	1	20.1	0.0	21.5	10.4	0.0	12.0
		256QAM	1	1	19.0	0.0	21.5	10.6	0.0	12.0
	CP-OFDM	QPSK	1	1	20.1	0.0	21.5	10.5	0.0	12.0

NR Band n77 – Lower Band Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					630667	633333	635999			630667	633333	635999		
					3460 MHz	3500 MHz	3540 MHz			3460 MHz	3500 MHz	3540 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.7	20.5	20.6	0.0	21.5	11.1	10.9	11.0	0.0	12.0
			1	26	20.6	20.5	20.5	0.0	21.5	11.0	10.9	10.8	0.0	12.0
			1	49	20.7	20.7	20.6	0.0	21.5	11.1	11.1	10.9	0.0	12.0
			25	0	20.7	20.6	20.6	0.0	21.5	11.0	10.9	11.0	0.0	12.0
			25	13	20.7	20.6	20.6	0.0	21.5	11.0	10.9	10.9	0.0	12.0
			25	26	20.8	20.6	20.6	0.0	21.5	11.1	11.0	11.0	0.0	12.0
			50	0	20.7	20.6	20.7	0.0	21.5	11.0	11.0	11.0	0.0	12.0
		QPSK	1	1	20.7	20.6	20.8	0.0	21.5	11.0	11.0	11.1	0.0	12.0
			1	26	20.6	20.7	20.6	0.0	21.5	10.9	11.0	10.9	0.0	12.0
			1	49	20.7	20.7	20.7	0.0	21.5	11.1	11.2	11.0	0.0	12.0
			25	0	20.7	20.6	20.7	0.0	21.5	11.0	10.9	11.0	0.0	12.0
			25	13	20.7	20.6	20.6	0.0	21.5	10.9	11.0	11.0	0.0	12.0
			25	26	20.7	20.7	20.6	0.0	21.5	11.0	11.0	11.0	0.0	12.0
			50	0	20.7	20.6	20.6	0.0	21.5	11.0	11.0	11.0	0.0	12.0
		16QAM	1	1	20.7	20.7	20.8	0.0	21.5	11.1	11.1	11.2	0.0	12.0
		64QAM	1	1	20.4	20.6	20.7	0.0	21.5	10.9	10.8	11.1	0.0	12.0
		256QAM	1	1	20.1	20.1	20.6	0.0	21.5	11.1	11.0	11.3	0.0	12.0
	CP-OFDM	QPSK	1	1	20.6	20.5	20.8	0.0	21.5	11.0	10.7	11.2	0.0	12.0

NR Band n77 – Upper Band Measured Results

NR Band n77 – Upper Band Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Allowed Average Power (dBm)										
					DSI = 0					DSI = 1					
					Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					650000	656000	662000			650000	656000	662000		
					3750 MHz	3840 MHz	3930 MHz			3750 MHz	3840 MHz	3930 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.1	20.4	20.2	0.0	21.5	10.8	11.0	10.8	0.0	12.0
			1	137	20.4	20.2	20.2	0.0	21.5	11.1	10.8	11.0	0.0	12.0
			1	271	20.3	20.2	20.6	0.0	21.5	10.9	11.0	11.4	0.0	12.0
			135	0	20.5	20.4	20.4	0.0	21.5	11.0	11.1	10.9	0.0	12.0
			135	69	20.2	20.3	20.4	0.0	21.5	11.2	10.9	11.2	0.0	12.0
			135	138	20.4	20.2	20.5	0.0	21.5	11.0	10.9	11.3	0.0	12.0
			270	0	20.4	20.2	20.4	0.0	21.5	11.0	10.9	11.1	0.0	12.0
		QPSK	1	1	20.2	20.4	20.2	0.0	21.5	10.9	11.1	10.9	0.0	12.0
			1	137	20.5	20.2	20.3	0.0	21.5	11.1	10.9	11.1	0.0	12.0
			1	271	20.3	20.2	20.5	0.0	21.5	11.0	11.0	11.5	0.0	12.0
			135	0	20.4	20.4	20.4	0.0	21.5	11.1	11.1	11.0	0.0	12.0
			135	69	20.6	20.3	20.4	0.0	21.5	11.2	10.9	11.2	0.0	12.0
			135	138	20.4	20.2	20.5	0.0	21.5	11.1	10.9	11.4	0.0	12.0
			270	0	20.5	20.2	20.4	0.0	21.5	11.0	10.9	11.1	0.0	12.0
		16QAM	1	1	20.4	20.5	20.3	0.0	21.5	11.2	11.1	10.9	0.0	12.0
		64QAM	1	1	20.1	20.5	20.3	0.0	21.5	10.6	11.1	10.9	0.0	12.0
		256QAM	1	1	20.2	19.8	19.8	0.0	21.5	11.0	11.2	11.0	0.0	12.0
	CP-OFDM	QPSK	1	1	20.2	20.4	20.1	0.0	21.5	10.8	11.1	10.9	0.0	12.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					649668	656000	662332			649668	656000	662332		
					3745.02 MHz	3840 MHz	3934.98 MHz			3745.02 MHz	3840 MHz	3934.98 MHz		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.2	20.4	20.2	0.0	21.5	10.7	10.6	10.9	0.0	12.0
			1	123	20.5	20.2	20.3	0.0	21.5	11.1	10.8	11.1	0.0	12.0
			1	243	20.3	20.3	20.6	0.0	21.5	11.0	11.0	11.4	0.0	12.0
			120	0	20.4	20.4	20.4	0.0	21.5	11.1	11.0	11.0	0.0	12.0
			120	63	20.6	20.3	20.5	0.0	21.5	11.2	10.9	11.3	0.0	12.0
			120	125	20.5	20.2	20.5	0.0	21.5	11.1	10.8	11.3	0.0	12.0
			243	0	20.5	20.2	20.4	0.0	21.5	11.0	10.9	11.2	0.0	12.0
		QPSK	1	1	20.3	20.4	20.3	0.0	21.5	10.9	11.1	10.9	0.0	12.0
			1	123	20.6	20.2	20.4	0.0	21.5	11.2	10.8	11.2	0.0	12.0
			1	243	20.4	20.3	20.6	0.0	21.5	11.0	11.0	11.5	0.0	12.0
			120	0	20.4	20.4	20.4	0.0	21.5	11.1	11.1	11.0	0.0	12.0
			120	63	20.6	20.3	20.5	0.0	21.5	11.2	10.9	11.2	0.0	12.0
			120	125	20.5	20.2	20.6	0.0	21.5	11.1	10.8	11.3	0.0	12.0
			243	0	20.5	20.3	20.4	0.0	21.5	11.0	10.9	11.2	0.0	12.0
		16QAM	1	1	20.1	20.5	20.3	0.0	21.5	10.7	11.1	11.3	0.0	12.0
		64QAM	1	1	20.4	20.6	20.2	0.0	21.5	11.0	11.1	11.1	0.0	12.0
		256QAM	1	1	20.0	19.9	19.9	0.0	21.5	11.1	11.1	11.0	0.0	12.0

NR Band n77 – Upper Band Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
					649334	656000	662666			649334	656000	662666		
					3740.01 MHz	3840 MHz	3939.99 MHz			3740.01 MHz	3840 MHz	3939.99 MHz		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.2	20.3	20.3	0.0	21.5	10.8	11.0	10.9	0.0	12.0
			1	109	20.5	20.2	20.4	0.0	21.5	11.1	10.8	11.1	0.0	12.0
			1	215	20.3	20.1	20.5	0.0	21.5	10.9	10.8	11.3	0.0	12.0
			108	0	20.5	20.4	20.3	0.0	21.5	10.9	11.0	11.0	0.0	12.0
			108	55	20.6	20.3	20.5	0.0	21.5	11.1	10.9	11.2	0.0	12.0
			108	109	20.5	20.2	20.5	0.0	21.5	11.1	10.8	11.3	0.0	12.0
			216	0	20.5	20.3	20.5	0.0	21.5	11.0	10.8	11.2	0.0	12.0
		QPSK	1	1	20.3	20.4	20.3	0.0	21.5	10.9	11.0	10.9	0.0	12.0
			1	109	20.5	20.2	20.4	0.0	21.5	11.1	10.8	11.2	0.0	12.0
			1	215	20.4	20.2	20.5	0.0	21.5	11.0	10.8	11.3	0.0	12.0
			108	0	20.4	20.4	20.3	0.0	21.5	10.9	11.0	11.1	0.0	12.0
			108	55	20.6	20.2	20.4	0.0	21.5	11.1	10.9	11.2	0.0	12.0
			108	109	20.5	20.2	20.5	0.0	21.5	11.1	10.8	11.3	0.0	12.0
			216	0	20.5	20.3	20.4	0.0	21.5	11.0	10.9	11.2	0.0	12.0
		16QAM	1	1	20.1	20.5	20.4	0.0	21.5	11.1	11.1	10.9	0.0	12.0
		64QAM	1	1	20.3	20.5	20.6	0.0	21.5	10.9	11.1	11.0	0.0	12.0
		256QAM	1	1	20.0	19.7	19.9	0.0	21.5	11.0	11.1	11.1	0.0	12.0
	CP-OFDM	QPSK	1	1	20.2	20.4	20.2	0.0	21.5	10.9	11.0	10.9	0.0	12.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				MPR	Tune-up Limit	Measured Pwr (dBm)				MPR	Tune-up Limit
					648668	653556	658444	663332			648668	653556	658444	663332		
					3730.02 MHz	3803.34 MHz	3876.66 MHz	3949.98 MHz			3730.02 MHz	3803.34 MHz	3876.66 MHz	3949.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.2	20.6	20.3	20.3	0.0	21.5	10.8	11.2	10.8	11.1	0.0	12.0
			1	81	20.5	20.5	20.2	20.6	0.0	21.5	10.9	11.0	10.9	11.4	0.0	12.0
			1	160	20.5	20.3	20.3	20.6	0.0	21.5	11.0	10.9	10.9	11.4	0.0	12.0
			81	0	20.5	20.7	20.3	20.6	0.0	21.5	10.9	11.2	10.9	11.3	0.0	12.0
			81	41	20.6	20.6	20.3	20.7	0.0	21.5	11.0	11.1	10.9	11.5	0.0	12.0
			81	81	20.6	20.4	20.4	20.7	0.0	21.5	11.1	11.0	10.9	11.5	0.0	12.0
			162	0	20.5	20.6	20.3	20.6	0.0	21.5	11.0	11.1	10.9	11.4	0.0	12.0
		QPSK	1	1	20.3	20.7	20.3	20.4	0.0	21.5	10.9	11.3	11.0	11.1	0.0	12.0
			1	81	20.5	20.5	20.3	20.7	0.0	21.5	11.0	11.0	10.9	11.4	0.0	12.0
			1	160	20.5	20.4	20.3	20.7	0.0	21.5	11.1	11.0	11.0	11.5	0.0	12.0
			81	0	20.5	20.7	20.3	20.6	0.0	21.5	11.0	11.2	10.9	11.3	0.0	12.0
			81	41	20.6	20.6	20.3	20.7	0.0	21.5	11.0	11.1	10.9	11.5	0.0	12.0
			81	81	20.5	20.5	20.4	20.8	0.0	21.5	11.1	11.0	10.9	11.5	0.0	12.0
			162	0	20.5	20.5	20.3	20.6	0.0	21.5	11.0	11.1	11.0	11.4	0.0	12.0
		16QAM	1	1	20.2	20.7	20.3	20.5	0.0	21.5	11.2	11.4	11.0	11.1	0.0	12.0
		64QAM	1	1	20.4	20.9	20.4	20.5	0.0	21.5	10.9	11.4	11.0	11.2	0.0	12.0
		256QAM	1	1	19.8	20.3	19.7	19.7	0.0	21.5	11.0	11.4	11.1	11.2	0.0	12.0
	CP-OFDM	QPSK	1	1	20.3	20.7	20.3	20.3	0.0	21.5	10.9	11.2	10.9	11.1	0.0	12.0

NR Band n77 – Upper Band Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit	Measured Pwr (dBm)					MPR	Tune-up Limit
					648334	652166	656000	659834	663666			648334	652166	656000	659834	663666		
					3725.01 MHz	3782.49 MHz	3840 MHz	3897.51 MHz	3954.99 MHz			3725.01 MHz	3782.49 MHz	3840 MHz	3897.51 MHz	3954.99 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.3	20.8	20.4	20.3	20.8	0.0	21.5	10.9	11.3	11.0	10.9	11.3	0.0	12.0
			1	67	20.5	20.7	20.4	20.3	20.7	0.0	21.5	11.0	11.2	10.9	10.9	11.4	0.0	12.0
			1	131	20.5	20.5	20.2	20.4	21.0	0.0	21.5	11.1	11.0	10.8	11.1	11.5	0.0	12.0
			64	0	20.5	20.8	20.5	20.4	20.8	0.0	21.5	10.9	11.3	11.1	11.0	11.4	0.0	12.0
			64	35	20.6	20.8	20.5	20.4	20.9	0.0	21.5	11.1	11.3	11.0	11.0	11.4	0.0	12.0
			64	69	20.6	20.6	20.3	20.3	21.0	0.0	21.5	11.1	11.1	10.9	11.1	11.4	0.0	12.0
			128	0	20.5	20.7	20.4	20.3	20.8	0.0	21.5	11.0	11.2	11.0	10.9	11.4	0.0	12.0
		QPSK	1	1	20.4	20.8	20.5	20.3	20.8	0.0	21.5	10.9	11.4	11.1	10.8	11.4	0.0	12.0
			1	67	20.5	20.7	20.4	20.3	20.8	0.0	21.5	11.0	11.2	10.9	10.8	11.3	0.0	12.0
			1	131	20.5	20.6	20.3	20.4	20.9	0.0	21.5	11.1	11.1	10.8	11.1	11.5	0.0	12.0
			64	0	20.5	20.8	20.5	20.4	20.8	0.0	21.5	10.9	11.3	11.1	11.0	11.4	0.0	12.0
			64	35	20.5	20.8	20.5	20.3	20.9	0.0	21.5	11.1	11.3	11.0	11.0	11.4	0.0	12.0
			64	69	20.6	20.6	20.4	20.3	21.0	0.0	21.5	11.0	11.1	10.9	11.0	11.4	0.0	12.0
			128	0	20.5	20.7	20.4	20.4	20.8	0.0	21.5	11.0	11.2	11.0	11.0	11.4	0.0	12.0
		16QAM	1	1	20.2	21.0	20.6	20.3	20.8	0.0	21.5	10.7	11.6	11.3	11.0	11.6	0.0	12.0
		64QAM	1	1	20.0	20.7	20.5	20.4	20.9	0.0	21.5	10.5	11.3	11.2	10.8	11.7	0.0	12.0
		256QAM	1	1	20.0	20.7	20.1	19.9	20.3	0.0	21.5	11.0	11.4	11.1	10.9	11.5	0.0	12.0
	CP-OFDM	QPSK	1	1	20.3	20.9	20.4	20.3	20.8	0.0	21.5	10.9	11.3	11.0	10.7	11.3	0.0	12.0

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit	Measured Pwr (dBm)						MPR	Tune-up Limit
					648000	651200	654400	657600	660800	664000			648000	651200	654400	657600	660800	664000		
					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 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.2	20.6	20.7	20.9	21.0	20.2	0.0	21.5	10.8	11.1	11.7	11.5	11.6	10.6	0.0	12.0
			1	53	20.3	20.5	20.9	20.8	20.9	20.3	0.0	21.5	10.9	11.1	11.5	11.4	11.5	10.7	0.0	12.0
			1	104	20.5	20.3	20.8	20.8	21.0	20.4	0.0	21.5	11.0	10.8	11.4	11.5	11.6	10.9	0.0	12.0
			50	0	20.4	20.6	20.7	20.9	21.0	20.3	0.0	21.5	10.9	11.1	11.6	11.5	11.6	10.8	0.0	12.0
			50	28	20.5	20.7	21.0	20.9	21.0	20.5	0.0	21.5	10.9	11.1	11.6	11.5	11.6	10.8	0.0	12.0
			50	56	20.4	20.6	20.9	20.9	21.0	20.6	0.0	21.5	10.9	11.1	11.5	11.5	11.7	10.9	0.0	12.0
			100	0	20.4	20.6	21.0	20.9	21.0	20.5	0.0	21.5	10.8	11.1	11.6	11.5	11.6	10.9	0.0	12.0
		QPSK	1	1	20.2	20.6	20.7	20.9	21.0	20.2	0.0	21.5	10.8	11.2	11.8	11.5	11.7	10.6	0.0	12.0
			1	53	20.3	20.6	20.9	20.8	20.9	20.2	0.0	21.5	10.9	11.1	11.5	11.4	11.5	10.8	0.0	12.0
			1	104	20.6	20.4	20.9	20.9	20.3	20.5	0.0	21.5	11.0	10.9	11.4	11.5	11.7	11.0	0.0	12.0
			50	0	20.4	20.6	20.7	20.9	21.0	20.5	0.0	21.5	10.8	11.2	11.6	11.5	11.6	10.8	0.0	12.0
			50	28	20.4	20.6	21.0	20.9	21.0	20.5	0.0	21.5	10.9	11.1	11.5	11.5	11.6	10.9	0.0	12.0
			50	56	20.5	20.5	20.9	20.9	21.0	20.5	0.0	21.5	11.0	11.1	11.5	11.4	11.6	10.9	0.0	12.0
			100	0	20.4	20.6	21.0	20.9	21.0	20.5	0.0	21.5	10.9	11.1	11.6	11.5	11.7	10.8	0.0	12.0
		16QAM	1	1	20.3	20.5	20.8	21.0	20.5	20.3	0.0	21.5	10.8	11.3	11.8	11.6	11.6	10.7	0.0	12.0
		64QAM	1	1	20.2	20.7	20.6	21.0	21.0	20.1	0.0	21.5	10.8	11.1	11.8	11.6	11.7	10.5	0.0	12.0
		256QAM	1	1	20.0	20.5	20.8	20.6	20.4	19.6	0.0	21.5	11.0	11.2	11.3	11.6	11.8	10.5	0.0	12.0
	CP-OFDM	QPSK	1	1	20.2	20.6	20.7	20.9	21.0	20.2	0.0	21.5	10.8	11.2	11.8	11.5	11.7	10.6	0.0	12.0

NR Band n77 – Upper Band Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit	Measured Pwr (dBm)						MPR	Tune-up Limit
					647334	650800	654266	657734	661200	664666			647334	650800	654266	657734	661200	664666		
					3710.01 MHz	3762 MHz	3813.99 MHz	3866.01 MHz	3918 MHz	3969.99 MHz			3710.01 MHz	3762 MHz	3813.99 MHz	3866.01 MHz	3918 MHz	3969.99 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	20.5	20.9	20.7	20.4	20.6	20.4	0.0	21.5	11.0	11.5	11.3	11.0	11.2	11.6	0.0	12.0
			1	26	20.5	20.8	20.6	20.4	20.5	20.4	0.0	21.5	11.0	11.4	11.2	10.9	11.1	11.5	0.0	12.0
			1	49	20.7	21.0	20.7	20.5	20.7	20.7	0.0	21.5	11.1	11.5	11.2	11.0	11.4	11.7	0.0	12.0
			25	0	20.5	21.0	20.7	20.4	20.6	20.5	0.0	21.5	11.0	11.5	11.4	11.0	11.3	11.6	0.0	12.0
			25	13	20.5	21.0	20.7	20.5	20.7	20.5	0.0	21.5	11.1	11.6	11.2	11.0	11.3	11.6	0.0	12.0
			25	26	20.6	21.0	20.7	20.5	20.7	20.6	0.0	21.5	11.1	11.6	11.3	11.1	11.4	11.7	0.0	12.0
			50	0	20.6	21.0	20.7	20.5	20.8	20.6	0.0	21.5	11.1	11.6	11.3	11.0	11.3	11.6	0.0	12.0
		QPSK	1	1	20.6	21.0	20.8	20.4	20.6	20.5	0.0	21.5	11.0	11.5	11.3	11.0	11.3	11.7	0.0	12.0
			1	26	20.5	20.8	20.6	20.4	20.6	20.4	0.0	21.5	11.0	11.4	11.2	10.9	11.2	11.5	0.0	12.0
			1	49	20.7	21.0	20.7	20.5	20.8	20.8	0.0	21.5	11.1	11.5	11.2	11.1	11.4	11.7	0.0	12.0
			25	0	20.5	21.0	20.7	20.4	20.6	20.5	0.0	21.5	11.0	11.5	11.3	11.1	11.3	11.6	0.0	12.0
			25	13	20.5	21.0	20.7	20.4	20.7	20.5	0.0	21.5	11.0	11.5	11.2	11.0	11.3	11.6	0.0	12.0
			25	26	20.6	21.0	20.7	20.4	20.7	20.6	0.0	21.5	11.1	11.6	11.3	11.1	11.4	11.6	0.0	12.0
			50	0	20.5	21.0	20.7	20.5	20.7	20.6	0.0	21.5	11.1	11.6	11.3	11.0	11.3	11.6	0.0	12.0
		16QAM	1	1	20.6	20.7	20.8	20.7	20.7	20.6	0.0	21.5	11.0	11.7	11.4	10.9	11.3	11.8	0.0	12.0
		64QAM	1	1	20.1	20.7	20.2	20.3	20.9	20.3	0.0	21.5	11.2	11.8	11.4	11.1	11.5	11.4	0.0	12.0
		256QAM	1	1	20.1	21.0	20.2	20.0	20.3	20.7	0.0	21.5	11.2	11.7	11.4	11.1	11.3	10.5	0.0	12.0
	CP-OFDM	QPSK	1	1	20.6	21.0	20.8	20.5	20.7	20.1	0.0	21.5	11.0	11.4	11.4	11.0	11.3	11.7	0.0	12.0

9.4 Wi-Fi 2.4 GHz (DTS Band)

Measured Results

Band (GHz)	Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Meas. Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Reduced. Output Power (dBm)	SAR Test (Yes/No)
2.4	WiFi SISO Ant.1	802.11b	1 Mbps	1	2412.0	18.3	19.0	Yes	11.4	12.0	Yes
				6	2437.0	18.5			11.8		
				11	2462.0	18.5			11.7		
				12	2467.0	4.2	5.0	No	4.2	5.0	No
				13	2472.0	0.8	2.0		0.8	2.0	
		802.11g	6 Mbps	1	2412.0	Not Required	16.0	No	Not Required	12.0	No
				6	2437.0		19.0				
				11	2462.0		16.0				
				12	2467.0		5.0			5.0	
				13	2472.0		2.0			2.0	
		802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	16.0	No	Not Required	12.0	No
				6	2437.0		18.0				
				11	2462.0		16.0				
				12	2467.0		5.0			5.0	
				13	2472.0		2.0			2.0	
	WiFi SISO Ant.2	802.11b	1 Mbps	1	2412.0	18.0	19.0	Yes	11.1	12.0	Yes
				6	2437.0	18.5			11.7		
				11	2462.0	18.1			11.6		
				12	2467.0	4.5	5.0	No	4.2	5.0	No
				13	2472.0	0.6	2.0		0.8	2.0	
		802.11g	6 Mbps	1	2412.0	Not Required	16.0	No	Not Required	12.0	No
				6	2437.0		19.0				
				11	2462.0		16.0				
				12	2467.0		5.0			5.0	
				13	2472.0		2.0			2.0	
		802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	16.0	No	Not Required	12.0	No
				6	2437.0		18.0				
				11	2462.0		16.0				
				12	2467.0		5.0			5.0	
				13	2472.0		2.0			2.0	

Band (GHz)	Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	[redacted]	Meas. Avg Pwr (dBm)	Reduced. Output Power (dBm)	SAR Test (Yes/No)
2.4	WiFi MIMO Ant.1	802.11g	6 Mbps	1	2412.0		10.7	12.0	No
				6	2437.0		10.6		
				11	2462.0		10.6		
				12	2467.0		3.2	5.0	
				13	2472.0		0.1	2.0	
		802.11n (HT20)	6.5 Mbps	1	2412.0		Not Required	12.0	No
				6	2437.0				
				11	2462.0				
				12	2467.0			5.0	
				13	2472.0			2.0	
	WiFi MIMO Ant.2	802.11g	6 Mbps	1	2412.0		10.1	12.0	No
				6	2437.0		10.5		
				11	2462.0		10.5		
				12	2467.0		3.7	5.0	
				13	2472.0		1.2	2.0	
		802.11n (HT20)	6.5 Mbps	1	2412.0		Not Required	12.0	No
				6	2437.0				
				11	2462.0				
				12	2467.0			5.0	
				13	2472.0			2.0	

Note(s):

1. SAR is not required for 802.11g/n modes when the adjusted SAR for 802.11b is < 1.2 W/kg.
2. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11n/g/ax mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.
3. For Reduced power condition, MIMO DTS SAR test were additionally evaluated to satisfy TER(Total Exposure Ratio) analysis.

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

Measured Results of Max power (SISO Ant.1)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Max Pwr.		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
SISO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	15.6	17.0	Yes
				56	5280.0	15.6		
				60	5300.0	15.3		
				64	5320.0	15.2		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	13.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	15.3	17.0	Yes
				120	5600.0	15.2		
				124	5620.0	15.1		
				144	5720.0	15.0		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	13.0	No
				122	5610.0	Not Required		
				138	5690.0	Not Required		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	15.3	17.0	Yes
				157	5785.0	15.2		
				165	5825.0	15.5		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	Not Required	13.0	No

Measured Results of Max power (SISO Ant.2)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Max Pwr.		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
SISO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	15.2	17.0	Yes
				56	5280.0	15.3		
				60	5300.0	15.2		
				64	5320.0	15.1		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	13.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	15.4	17.0	Yes
				120	5600.0	15.6		
				124	5620.0	15.6		
				144	5720.0	15.4		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	13.0	No
				122	5610.0	Not Required		
				138	5690.0	Not Required		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	15.2	17.0	Yes
				157	5785.0	15.2		
				165	5825.0	15.3		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	Not Required	13.0	No

Measured Results of Max power (MIMO Ant.1)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Max Pwr.		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
MIMO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	15.5	17.0	Yes
				56	5280.0	15.5		
				60	5300.0	15.2		
				64	5320.0	15.1		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	13.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	15.3	17.0	Yes
				120	5600.0	15.0		
				124	5620.0	14.8		
				144	5720.0	14.8		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	13.0	No
				122	5610.0	Not Required		
				138	5690.0	Not Required		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	14.9	17.0	Yes
				157	5785.0	15.1		
				165	5825.0	14.9		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	Not Required	13.0	No

Measured Results of Max power (MIMO Ant.2)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Max Pwr.		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
MIMO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	15.3	17.0	Yes
				56	5280.0	15.3		
				60	5300.0	15.2		
				64	5320.0	15.1		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	17.0	No
				56	5280.0	Not Required		
				60	5300.0	Not Required		
				64	5320.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	14.0	No
				62	5310.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	Not Required	13.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	15.5	17.0	Yes
				120	5600.0	15.7		
				124	5620.0	15.6		
				144	5720.0	15.3		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	17.0	No
				120	5600.0	Not Required		
				124	5620.0	Not Required		
				144	5720.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	14.0	No
				118	5590.0	Not Required		
				126	5630.0	Not Required		
				142	5710.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	Not Required	13.0	No
				122	5610.0	Not Required		
				138	5690.0	Not Required		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	15.2	17.0	Yes
				157	5785.0	15.2		
				165	5825.0	15.2		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	17.0	No
				157	5785.0	Not Required		
				165	5825.0	Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	14.0	No
				159	5795.0	Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	Not Required	13.0	No

Measured Results of Reduced power (SISO Ant.1)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Reduced Pwr. - **Note.1-**			Reduced Pwr. - **Note.2-**		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
SISO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	8.7	9.0	No	5.4	7.0	Yes
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	8.1	9.5	No	5.1	7.0	Yes
				122	5610.0	8.0			5.8		
				138	5690.0	8.1			5.1		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	7.8	9.5	No	5.0	7.0	Yes

Notes:

1. When proximity sensor are triggering for 2.4GHz/5GHz antennas, Output power operates as table of Note.2.
2. When 5GHz UNII Bands operates at the same time as 5G mmW bands with triggering proximity sensor, Output power operate as table of Note.3.

Measured Results of Reduced power (SISO Ant.2)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Reduced Pwr. - **Note.1-**			Reduced Pwr. - **Note.2-**		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
SISO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	8.5	9.0	No	5.0	7.0	Yes
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	8.5	9.5	No	5.6	7.0	Yes
				122	5610.0	8.8			6.0		
				138	5690.0	8.7			5.9		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	8.4	9.5	No	5.7	7.0	Yes

Notes:

1. When proximity sensor are triggering for 2.4GHz/5GHz antennas, Output power operates as table of Note.2.
2. When 5GHz UNII Bands operates at the same time as 5G mmW bands with triggering proximity sensor, Output power operate as table of Note.3.

Measured Results of Reduced power (MIMO Ant.1)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Reduced Pwr. - **Note.1-**			Reduced Pwr. - **Note.2-**		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
MIMO Ant.1	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	8.8	9.0	No	5.3	7.0	Yes
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	8.2	9.5	No	5.0	7.0	Yes
				122	5610.0	8.0			5.7		
				138	5690.0	8.0			4.9		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	7.8	9.5	No	5.0	7.0	Yes

Notes:

1. When proximity sensor are triggering for 2.4GHz/5GHz antennas, Output power operates as table of Note.2.
2. When 5GHz UNII Bands operates at the same time as 5G mmW bands with triggering proximity sensor, Output power operate as table of Note.3.

Measured Results of Reduced power (MIMO Ant.2)

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Reduced Pwr. - **Note.1-**			Reduced Pwr. - **Note.2-**		
						Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max Output Power (dBm)	SAR Test (Yes/No)
MIMO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	52	5260.0	Not Required	9.0	No	Not Required	7.0	No
				56	5280.0	Not Required			Not Required		
				60	5300.0	Not Required			Not Required		
				64	5320.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	54	5270.0	Not Required	9.0	No	Not Required	7.0	No
				62	5310.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	58	5290.0	8.4	9.0	No	5.0	7.0	Yes
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	100	5500.0	Not Required	9.5	No	Not Required	7.0	No
				120	5600.0	Not Required			Not Required		
				124	5620.0	Not Required			Not Required		
				144	5720.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	102	5510.0	Not Required	9.5	No	Not Required	7.0	No
				118	5590.0	Not Required			Not Required		
				126	5630.0	Not Required			Not Required		
				142	5710.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	106	5530.0	8.5	9.5	No	5.6	7.0	Yes
				122	5610.0	8.7			6.0		
				138	5690.0	8.6			5.9		
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11n (HT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT20)	6.5 Mbps	149	5745.0	Not Required	9.5	No	Not Required	7.0	No
				157	5785.0	Not Required			Not Required		
				165	5825.0	Not Required			Not Required		
		802.11ac (VHT40)	13.5 Mbps	151	5755.0	Not Required	9.5	No	Not Required	7.0	No
				159	5795.0	Not Required			Not Required		
		802.11ac (VHT80)	29.3 Mbps	155	5775.0	8.2	9.5	No	5.5	7.0	Yes

Notes:

1. When proximity sensor are triggering for 2.4GHz/5GHz antennas, Output power operates as table of Note.2.
2. When 5GHz UNII Bands operates at the same time as 5G mmW bands with triggering proximity sensor, Output power operate as table of Note.3.

Note(s):

1. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
3. When the specified maximum output power is the same for both UNII band I and UNII band 2A, begin SAR measurement in UNII band 2A; and if the highest *reported* SAR for UNII band 2A is
   - ≤ 1.2 W/kg, SAR is not required for UNII band I
   - > 1.2 W/kg, both bands should be tested independently for SAR.
4. MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.

9.6 Bluetooth

Measured Results

Band (GHz)	Mode	Ch #	Freq. (MHz)	Maximum Average Power (dBm)	
				Meas Pwr	Tune-up Limit
2.4	GFSK	0	2402	16.1	18.0
		39	2441	17.5	
		78	2480	16.1	
	EDR, 8-DPSK	0	2402	13.6	16.0
		39	2441	15.4	
		78	2480	14.4	
	LE, GFSK-1M, 125/500 kbps	0	2402	6.4	8.0
		19	2440	7.2	
		39	2480	7.3	
	LE, GFSK-2M	0	2402	6.2	8.0
		19	2440	7.0	
		39	2480	7.1	

Note(s):

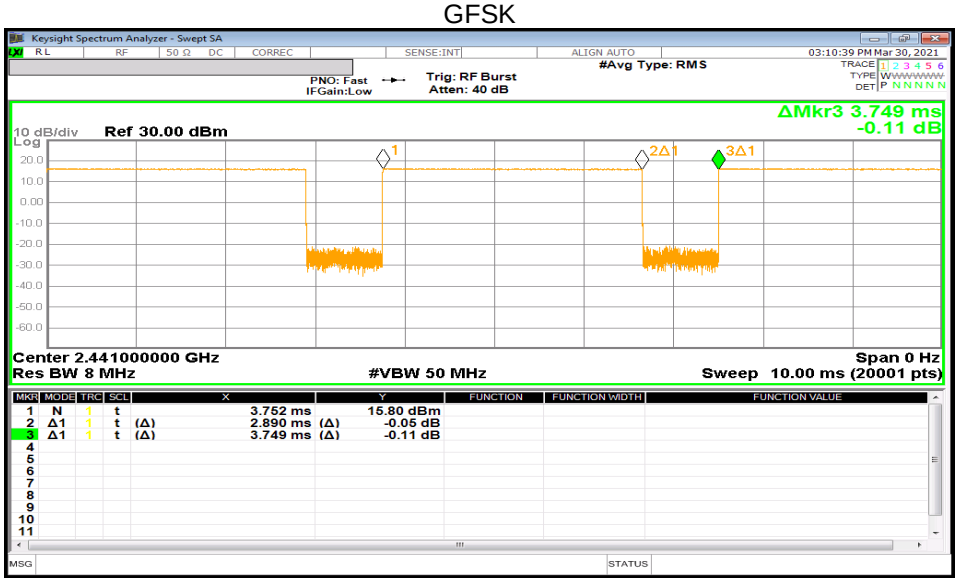
SAR test is evaluated at GFSK mode in Bluetooth

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.890	3.749	77.1%	1.30

Duty Cycle plots

GFSK



10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

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

KDB 447498 D01 General RF Exposure Guidance:

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

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

KDB 648474 D04 Handset SAR:

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

KDB 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 ≤ 25mm
From that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg;
However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, Including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

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

KDB 941225 D01 SAR test for 3G devices:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ 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 W-CDMA Band II

RF Exposure Conditions	Antenna	Mode	Pwr back Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	Rel 99 RMC	Off	19	Rear	9400	1880.0	23.5	22.6	0.313	0.389	
				9	Edge 1	9400	1880.0	23.5	22.6	0.106	0.132	
				23	Edge 4	9400	1880.0	23.5	22.6	0.211	0.262	
		Rel 99 RMC	On	0	Rear	9400	1880.0	13.5	12.5	0.465	0.589	
					Edge 1	9400	1880.0	13.5	12.5	0.030	0.039	
					Edge 4	9262	1852.4	13.5	12.7	0.834	1.013	
						9400	1880.0	13.5	12.5	0.894	1.133	1
						9538	1907.6	13.5	12.8	0.854	0.992	

10.2 W-CDMA Band IV

RF Exposure Conditions	Antenna	Mode	Pwr back Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Note
								Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	Rel 99 RMC	Off	19	Rear	1513	1752.6	23.5	22.6	0.274	0.335	
				9	Edge 1	1513	1752.6	23.5	22.6	0.131	0.160	
				23	Edge 4	1513	1752.6	23.5	22.6	0.191	0.234	
		Rel 99 RMC	On	0	Rear	1513	1752.6	13.5	12.6	0.409	0.508	
					Edge 1	1513	1752.6	13.5	12.6	0.044	0.055	
					Edge 4	1312	1712.4	13.5	12.3	0.816	1.066	
						1413	1732.6	13.5	12.0	0.857	1.198	
						1513	1752.6	13.5	12.6	0.929	1.155	
		Rel 99 RMC	On	0	Edge 4	1413	1732.6	13.5	12.0	0.585	0.818	1

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.

10.3 W-CDMA Band V

RF Exposure Conditions	Antenna	Mode	Pwr back Off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	Rel 99 RMC	Off	19	Rear	4183	836.6	25.0	24.1	0.433	0.537	
				9	Edge 1	4183	836.6	25.0	24.1	0.102	0.126	
				0	Edge 3	4183	836.6	25.0	24.1	0.144	0.178	
				23	Edge 4	4183	836.6	25.0	24.1	0.290	0.359	
		Rel 99 RMC	On	0	Rear	4183	836.6	15.0	14.5	0.374	0.415	
					Edge 1	4183	836.6	15.0	14.5	0.028	0.031	
					Edge 4	4183	836.6	15.0	14.5	0.581	0.645	3

10.4 LTE Band 7 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	21350	2560.0	1	0	25.0	23.6	0.304	0.422		
								50	24	24.0	22.7	0.250	0.338		
				9	Edge 1	21350	2560.0	1	0	25.0	23.6	0.165	0.229		
								50	24	24.0	22.7	0.129	0.174		
				0	Edge 3	21350	2560.0	1	0	25.0	23.6	0.409	0.567		
								50	24	24.0	22.7	0.346	0.467		
				23	Edge 4	21350	2560.0	1	0	25.0	23.6	0.284	0.394		
								50	24	24.0	22.7	0.229	0.309		
		QPSK	On	0	Rear	21350	2560.0	1	0	14.0	13.1	0.604	0.737		
								50	24	14.0	13.2	0.604	0.724		
					Edge 1	21350	2560.0	1	0	14.0	13.1	0.065	0.079		
								50	24	14.0	13.2	0.060	0.072		
					Edge 4	20850	2510.0	1	0	14.0	12.8	0.830	1.086		
								50	24	14.0	12.9	0.851	1.096		
						21100	2535.0	1	0	14.0	12.8	0.820	1.073		
								50	24	14.0	13.0	0.843	1.073		
						21350	2560.0	1	0	14.0	13.1	0.928	1.132		4
								50	24	14.0	13.2	0.943	1.130		
								100	0	14.0	13.0	0.874	1.094		
		QPSK	On	0	Edge 4	21350	2560	1	0	14.0	13.1	0.786	0.958	1	

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.

10.5 LTE Band 12 (10MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	23095	707.5	1	0	25.5	24.4	0.334	0.430	
								25	12	24.5	23.6	0.287	0.352	
				9	Edge 1	23095	707.5	1	0	25.5	24.4	0.078	0.100	
								25	12	24.5	23.6	0.068	0.084	
				0	Edge 3	23095	707.5	1	0	25.5	24.4	0.064	0.082	
								25	12	24.5	23.6	0.056	0.069	
				23	Edge 4	23095	707.5	1	0	25.5	24.4	0.308	0.397	
								25	12	24.5	23.6	0.268	0.329	
		QPSK	On	0	Rear	23095	707.5	1	0	15.0	14.2	0.270	0.323	
								25	12	15.0	14.3	0.297	0.350	
					Edge 1	23095	707.5	1	0	15.0	14.2	0.015	0.018	
								25	12	15.0	14.3	0.016	0.019	
					Edge 4	23095	707.5	1	0	15.0	14.2	0.456	0.545	
								25	12	15.0	14.3	0.482	0.568	5

10.6 LTE Band 13 (10MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	23230	782.0	1	49	25.0	24.2	0.447	0.532	6
								25	25	24.0	23.2	0.362	0.436	
				9	Edge 1	23230	782.0	1	49	25.0	24.2	0.094	0.112	
								25	25	24.0	23.2	0.072	0.086	
				0	Edge 3	23230	782.0	1	49	25.0	24.2	0.092	0.110	
								25	25	24.0	23.2	0.080	0.096	
				23	Edge 4	23230	782.0	1	49	25.0	24.2	0.309	0.368	
								25	25	24.0	23.2	0.254	0.306	
		QPSK	On	0	Rear	23230	782.0	1	49	15.0	14.2	0.337	0.408	
								25	25	15.0	14.1	0.341	0.418	
					Edge 1	23230	782.0	1	49	15.0	14.2	0.022	0.027	
								25	25	15.0	14.1	0.023	0.028	
					Edge 4	23230	782.0	1	49	15.0	14.2	0.407	0.493	
								25	25	15.0	14.1	0.414	0.508	

10.7 LTE Band 14 (10MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	23330	793.0	1	49	25.0	24.1	0.389	0.483	
								25	12	24.0	23.1	0.319	0.396	
				9	Edge 1	23330	793.0	1	49	25.0	24.1	0.094	0.116	
								25	12	24.0	23.1	0.064	0.080	
				0	Edge 3	23330	793.0	1	49	25.0	24.1	0.086	0.107	
								25	12	24.0	23.1	0.063	0.078	
				23	Edge 4	23330	793.0	1	49	25.0	24.1	0.293	0.364	
								25	12	24.0	23.1	0.229	0.284	
		QPSK	On	0	Rear	23330	793.0	1	49	17.0	16.2	0.493	0.593	
								25	12	17.0	16.1	0.486	0.594	
					Edge 1	23330	793.0	1	49	17.0	16.2	0.024	0.029	
								25	12	17.0	16.1	0.022	0.027	
					Edge 4	23330	793.0	1	49	17.0	16.2	0.791	0.952	
								25	12	17.0	16.1	0.780	0.953	7
								50	0	17.0	16.1	0.677	0.840	

10.8 LTE Band 25 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	26140	1860.0	1	99	25.0	24.3	0.302	0.355		
								50	0	24.0	23.4	0.243	0.278		
				9	Edge 1	26140	1860.0	1	99	25.0	24.3	0.134	0.157		
								50	0	24.0	23.4	0.109	0.125		
				23	Edge 4	26140	1860.0	1	99	25.0	24.3	0.277	0.325		
								50	0	24.0	23.4	0.218	0.250		
		QPSK	On	0	Rear	26140	1860.0	1	0	15.0	13.9	0.468	0.603		
								50	0	15.0	13.9	0.472	0.602		
					Edge 1	26140	1860.0	1	0	15.0	13.9	0.042	0.055		
								50	0	15.0	13.9	0.044	0.057		
					Edge 4	26140	1860.0	1	0	15.0	13.9	0.845	1.089		
								50	0	15.0	13.9	0.875	1.116		
								100	0	15.0	13.7	0.835	1.116		
						26365	1882.5	1	0	15.0	13.6	0.840	1.172		
								50	0	15.0	13.6	0.843	1.170		
						26590	1905.0	1	0	15.0	13.3	0.815	1.192		
								50	0	15.0	13.4	0.847	1.235		8
		QPSK	On	0	Edge 4	26590	1905	50	0	15.0	13.4	0.562	0.820	1	

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.

10.9 LTE Band 26 (15MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	26865	831.5	1	74	25.5	24.7	0.288	0.347	
								36	39	24.5	23.7	0.228	0.277	
				9	Edge 1	26865	831.5	1	74	25.5	24.7	0.101	0.122	
								36	39	24.5	23.7	0.083	0.100	
				0	Edge 3	26865	831.5	1	74	25.5	24.7	0.102	0.123	
								36	39	24.5	23.7	0.079	0.095	
				23	Edge 4	26865	831.5	1	74	25.5	24.7	0.323	0.389	
								36	39	24.5	23.7	0.269	0.326	
		QPSK	On	0	Rear	26865	831.5	1	74	17.5	16.3	0.410	0.543	
								36	39	17.5	16.2	0.400	0.537	
					Edge 1	26865	831.5	1	74	17.5	16.3	0.041	0.054	
								36	39	17.5	16.2	0.041	0.055	
					Edge 4	26865	831.5	1	74	17.5	16.3	0.682	0.904	9
								36	39	17.5	16.2	0.620	0.832	
								75	0	17.5	16.1	0.622	0.854	

UL CA 5B

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	On	0	Edge 4	20525	836.5	1	49	20597	843.7	1	0	16.0	15.0	0.440	0.556	10

Note(s):
UL CA 5B SAR test is based on worst configuration of LTE Band 26, because LTE Band 5 covered by LTE Band 26.

10.10 LTE Band 30 (10MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	27710	2310.0	1	0	23.0	21.8	0.421	0.555		
								25	12	22.0	20.8	0.342	0.455		
				9	Edge 1	27710	2310.0	1	0	23.0	21.8	0.128	0.169		
								25	12	22.0	20.8	0.099	0.132		
				23	Edge 4	27710	2310.0	1	0	23.0	21.8	0.363	0.479		
								25	12	22.0	20.8	0.317	0.422		
		QPSK	On	0	Rear	27710	2310.0	1	0	14.0	12.7	0.660	0.883		
								25	12	14.0	12.7	0.652	0.889		
								50	0	14.0	12.6	0.645	0.887		
					Edge 1	27710	2310.0	1	0	14.0	12.7	0.102	0.136		
								25	12	14.0	12.7	0.100	0.136		
					Edge 4	27710	2310.0	1	0	14.0	12.7	0.797	1.066		
								25	12	14.0	12.7	0.789	1.076		11
								50	0	14.0	12.6	0.782	1.076		
		QPSK	On	0	Edge 4	27710	2310	25	12	14.0	12.7	0.406	0.554	1	

Note(s):
1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.

10.11 LTE Band 41 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	40620	2593.0	1	49	25.0	23.9	0.097	0.124	
								50	24	24.0	22.9	0.076	0.097	
				9	Edge 1	40620	2593.0	1	49	25.0	23.9	0.120	0.154	
								50	24	24.0	22.9	0.096	0.123	
				0	Edge 3	40620	2593.0	1	49	25.0	23.9	0.102	0.131	
								50	24	24.0	22.9	0.083	0.106	
				23	Edge 4	40620	2593.0	1	49	25.0	23.9	0.162	0.208	
								50	24	24.0	22.9	0.131	0.167	
		QPSK	On	0	Rear	39750	2506.0	1	99	14.0	13.0	0.306	0.385	
								50	24	14.0	13.1	0.313	0.382	
					Edge 1	39750	2506.0	1	99	14.0	13.0	0.030	0.038	
								50	24	14.0	13.1	0.031	0.037	
					Edge 4	39750	2506.0	1	99	14.0	13.0	0.421	0.530	12
								50	24	14.0	13.1	0.432	0.528	

LTE Band 41 Power Class 2

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	23	Edge 4	39750	2506.0	1	49	27.5	26.9	0.229	0.260	
		QPSK	On	0	Edge 4	39750	2506.0	1	49	15.0	14.5	0.406	0.453	

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

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

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

Reported SAR vs. Output power linearly scaled

RF Exposure Conditions	Antenna	Power Class 2				Power Class 3				PC2 linearly scaled Reported SAR (W/kg)	Linearly scaled (<10%)
		Duty Cycle (%)	Tune-up Power (dBm)	Fram Avg. Power (dBm)	Reported SAR (W/kg)	Duty Cycle	Tune-up Power (dBm)	Fram Avg. Power (dBm)	Reported SAR (W/kg)		
Standalone	Main 2 Ant.	43.3	27.5	243.5	0.26	63.3	25.0	200.2	0.208	0.253	2.8
		43.3	15.0	13.7	0.453	63.3	14.0	15.9	0.53	0.456	-0.7

Note(s):

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

UL CA 41C

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	On	0	Edge 4	39750	2506.0	1	99	39948	2525.8	1	0	14.0	12.9	0.522	0.672	13

10.12 LTE Band 48 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 3 Ant.	QPSK	Off	8	Rear	55340	3560.0	1	0	21.0	20.3	0.822	0.973		
								50	24	20.0	19.2	0.647	0.781		
						55341	3560.1	1	0	23.0	22.1	0.873	1.069		
								50	24	22.0	21.1	0.681	0.841		
						55773	3603.3	1	0	23.0	22.0	0.900	1.124		
								50	24	22.5	21.1	0.702	0.966		
						55991	3625.1	1	0	23.5	21.9	0.580	0.830		
								50	24	22.5	21.4	0.516	0.658		
						56207	3646.7	1	0	23.5	22.3	0.775	1.032		
								50	24	22.5	21.5	0.699	0.871		
						56640	3690.0	1	0	23.5	22.3	0.810	1.056		
								50	24	22.5	21.6	0.718	0.883		
								100	0	22.5	21.5	0.714	0.899		
				0	Edge 1	56640	3690.0	1	0	23.5	22.3	0.056	0.073		
								50	24	22.5	21.6	0.047	0.058		
				0	Edge 3	56640	3690.0	1	0	23.5	22.3	0.095	0.123		
								50	24	22.5	21.6	0.092	0.113		
				10	Edge 4	55340	3560.0	1	0	21.0	20.3	0.877	1.038		
								50	24	20.0	19.2	0.691	0.834		
						55341	3560.1	1	0	23.0	22.1	0.952	1.166		
								50	24	22.0	21.1	0.751	0.927		
						55773	3603.3	1	0	23.0	22.0	0.700	0.874		
								50	24	22.5	21.1	0.553	0.761		
						55991	3625.1	1	0	23.5	21.9	0.644	0.922		
								50	24	22.5	21.4	0.565	0.720		
						56207	3646.7	1	0	23.5	22.3	0.927	1.234		14
								50	24	22.5	21.5	0.825	1.028		
						56640	3690.0	1	0	23.5	22.3	0.944	1.231		
								50	24	22.5	21.6	0.928	1.141		
								100	0	22.5	21.5	0.918	1.156		
		QPSK	On	0	Rear	55340	3560.0	1	0	14.0	13.0	0.345	0.432		
								50	24	14.0	12.9	0.347	0.443		
					Edge 4	55340	3560.0	1	0	14.0	13.0	0.391	0.490		
								50	24	14.0	12.9	0.398	0.508		
		QPSK	Off	10	Edge 4	56207	3646.7	1	0	23.0	22.3	0.613	0.726	1	

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.

10.13 LTE Band 66 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	132572	1770.0	1	0	25.0	24.7	0.386	0.409	
								50	24	24.0	24.0	0.312	0.313	
				9	Edge 1	132572	1770.0	1	0	25.0	24.7	0.195	0.207	
								50	24	24.0	24.0	0.138	0.138	
				23	Edge 4	132572	1770.0	1	0	25.0	24.7	0.352	0.373	
								50	24	24.0	24.0	0.286	0.287	
		QPSK	On	0	Rear	132572	1770.0	1	0	14.0	13.3	0.488	0.568	
								50	24	14.0	13.4	0.483	0.557	
					Edge 1	132572	1770.0	1	0	14.0	13.3	0.046	0.053	
								50	24	14.0	13.4	0.046	0.053	
					Edge 4	132072	1720.0	1	0	14.0	12.7	0.664	0.906	
								50	24	14.0	13.1	0.679	0.835	
						132322	1745.0	1	0	14.0	12.8	0.721	0.951	
								50	24	14.0	13.1	0.735	0.910	
						132572	1770.0	1	0	14.0	13.3	0.834	0.971	15
								50	24	14.0	13.4	0.819	0.944	
								100	0	14.0	13.3	0.795	0.933	

UL CA 66B

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	On	0	Edge 4	132622	1775.0	1	0	132523	1765.1	1	49	14.0	13.4	0.744	0.862	16

UL CA 66C

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	PCC UL				SCC UL				Power (dBm)		1-g SAR (W/kg)		Plot No.
						Ch #.	Freq. (MHz)	RB Allocation	RB offest	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Standalone	QPSK	On	0	Edge 4	132572	1770.0	1	0	132374	1750.2	1	99	14.0	13.3	0.862	1.006	17

10.14 LTE Band 71 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	QPSK	Off	19	Rear	133297	680.5	1	0	25.5	24.8	0.187	0.221	
								50	0	24.5	23.8	0.155	0.181	
				9	Edge 1	133297	680.5	1	0	25.5	24.8	0.036	0.042	
								50	0	24.5	23.8	0.029	0.034	
				0	Edge 3	133297	680.5	1	0	25.5	24.8	0.065	0.077	
								50	0	24.5	23.8	0.059	0.068	
				23	Edge 4	133297	680.5	1	0	25.5	24.8	0.212	0.251	
								50	0	24.5	23.8	0.169	0.198	
		QPSK	On	0	Rear	133297	680.5	1	0	17.0	16.3	0.276	0.326	
								50	0	17.0	16.4	0.257	0.294	
					Edge 1	133297	680.5	1	0	17.0	16.3	0.014	0.017	
								50	0	17.0	16.4	0.015	0.018	
					Edge 4	133297	680.5	1	0	17.0	16.3	0.587	0.694	
								50	0	17.0	16.4	0.612	0.699	18

10.15 NR Band n5 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 1 Ant.	DFT-s-OFDM	QPSK	Off	19	Rear	167300	836.5	1	53	25.0	24.5	0.430	0.482		
									50	28	25.0	24.4	0.440	0.499		
					9	Edge 1	167300	836.5	1	53	25.0	24.5	0.110	0.123		
									50	28	25.0	24.4	0.113	0.128		
					0	Edge 3	167300	836.5	1	53	25.0	24.5	0.070	0.079		
									50	28	25.0	24.4	0.075	0.085		
					23	Edge 4	167300	836.5	1	53	25.0	24.5	0.216	0.242		
									50	28	25.0	24.4	0.226	0.257		
		DFT-s-OFDM	QPSK	On	0	Rear	167300	836.5	1	53	19.0	18.2	0.731	0.882		
									50	28	19.0	18.2	0.729	0.868		
									100	0	19.0	18.3	0.720	0.850		
						Edge 1	167300	836.5	1	53	19.0	18.2	0.046	0.056		
									50	28	19.0	18.2	0.046	0.054		
						Edge 4	167300	836.5	1	53	19.0	18.2	0.840	1.014		19
									50	28	19.0	18.2	0.809	0.963		
									100	0	19.0	18.3	0.819	0.967		
		CP-OFDM	QPSK	On	0	Edge 4	167300	836.5	1	1	19.0	18.3	0.764	0.900		
		DFT-s-OFDM	QPSK	On	0	Edge 4	167300	836.5	1	53	19.0	18.2	0.733	0.885	1	

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.
2. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.16 NR Band n25 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	DFT-s-OFDM	QPSK	Off	19	Rear	372000	1860.0	1	1	25.0	24.5	0.245	0.277	
									50	28	25.0	24.6	0.213	0.236	
					9	Edge 1	372000	1860.0	1	1	25.0	24.5	0.129	0.146	
									50	28	25.0	24.6	0.139	0.154	
					23	Edge 4	372000	1860.0	1	1	25.0	24.5	0.233	0.264	
									50	28	25.0	24.6	0.214	0.237	
		DFT-s-OFDM	QPSK	On	0	Rear	372000	1860.0	1	1	15.0	14.4	0.503	0.572	
									50	0	15.0	14.5	0.503	0.561	
						Edge 1	372000	1860.0	1	1	15.0	14.4	0.043	0.049	
									50	0	15.0	14.5	0.045	0.050	
						Edge 4	372000	1860.0	1	1	15.0	14.4	0.791	0.899	
									50	0	15.0	14.5	0.826	0.922	
									100	0	15.0	14.5	0.828	0.938	
							376500	1882.5	1	1	15.0	14.2	0.849	1.017	
									50	0	15.0	14.2	0.859	1.021	
							381000	1905.0	1	1	15.0	14.1	0.952	1.166	20
									50	0	15.0	14.2	0.877	1.063	
Standalone	Main 1 Ant.	CP-OFDM	QPSK	On	0	Edge 4	372000	1860	1	1	15.0	14.4	0.793	0.920	

Note(s):

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

10.17 NR Band n41 (100MHz Bandwidth)

RF Exposure Conditions	Antenna	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 2 Ant.	DFT-s-OFDM	QPSK	Off	17	Rear	518598	2592.99	1	1	26.5	25.0	0.364	0.514		
									135	69	26.5	25.0	0.370	0.523		
					9	Edge 1	518598	2592.99	1	1	26.5	25.0	0.145	0.205		
									135	69	26.5	25.0	0.147	0.208		
					0	Edge 3	518598	2592.99	1	1	26.5	25.0	0.204	0.288		
									135	0	26.5	25.0	0.170	0.240		
					20	Edge 4	518598	2592.99	1	1	26.5	25.0	0.291	0.411		
									135	69	26.5	25.0	0.307	0.434		
					15	Corner A	518598	2592.99	1	1	26.5	25.0	0.239	0.338		
									135	0	26.5	25.0	0.216	0.305		
			QPSK	On	0	Rear	518598	2592.99	1	1	15.0	13.9	0.436	0.559		
									135	0	15.0	13.9	0.397	0.512		
						Edge 1	518598	2592.99	1	1	15.0	13.9	0.066	0.085		
									135	0	15.0	13.9	0.079	0.102		
						Edge 4	518598	2592.99	1	1	15.0	13.9	0.878	1.126		21
									135	0	15.0	13.9	0.812	1.047		
									270	0	15.0	13.9	0.790	1.029		
						Corner A	518598	2592.99	1	1	15.0	13.9	0.243	0.312		
									135	0	15.0	13.9	0.232	0.299		
		CP-OFDM	QPSK	On	0	Edge 4	518598	2592.99	1	1	15.0	14.0	0.818	1.029		
		DFT-s-OFDM	QPSK	On	0	Edge 4	518598	2592.99	1	1	15.0	13.9	0.696	0.892	1	

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.
2. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.18 NR Band n66 (40MHz Bandwidth)

RF Exposure Conditions	Antenna	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	
Standalone	Main 1 Ant.	DFT-s-OFDM	QPSK	Off	19	Rear	349000	1745.0	1	108	25.0	24.1	0.225	0.276	
									108	54	25.0	24.0	0.272	0.342	
					9	Edge 1	349000	1745.0	1	108	25.0	24.1	0.140	0.171	
									108	54	25.0	24.0	0.184	0.232	
					23	Edge 4	349000	1745.0	1	108	25.0	24.1	0.300	0.367	
									108	54	25.0	24.0	0.306	0.385	
		DFT-s-OFDM	QPSK	On	0	Rear	349000	1745.0	1	108	14.5	14.0	0.763	0.866	
									108	54	14.5	14.2	0.712	0.772	
						Edge 1	349000	1745.0	1	108	14.5	14.0	0.058	0.066	
									108	54	14.5	14.2	0.055	0.060	
						Edge 4	349000	1745.0	1	108	14.5	14.0	0.916	1.040	
									108	54	14.5	14.2	0.966	1.047	
									216	0	14.5	13.8	0.970	1.132	22
		CP-OFDM	QPSK	On	0	Edge 4	349000	1745.0	1	1	14.5	13.5	0.896	1.131	

Note(s):

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

10.19 NR Band n71 (20MHz Bandwidth)

RF Exposure Conditions	Antenna	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 1 Ant.	DFT-s-OFDM	QPSK	Off	19	Rear	136100	680.5	1	53	25.5	25.1	0.254	0.279		
									50	28	25.5	24.6	0.259	0.321		
					9	Edge 1	136100	680.5	1	53	25.5	25.1	0.047	0.052		
									50	28	25.5	24.6	0.046	0.057		
					0	Edge 3	136100	680.5	1	53	25.5	25.1	0.072	0.079		
									50	28	25.5	24.6	0.068	0.084		
					23	Edge 4	136100	680.5	1	53	25.5	25.1	0.213	0.234		
									50	28	25.5	24.6	0.235	0.291		
		DFT-s-OFDM	QPSK	On	0	Rear	136100	680.5	1	53	21.0	20.6	0.785	0.858		
									50	28	21.0	20.6	0.758	0.826		
									100	0	21.0	20.7	0.836	0.903		
						Edge 1	136100	680.5	1	53	21.0	20.6	0.062	0.068		
									50	28	21.0	20.6	0.060	0.065		
						Edge 4	136100	680.5	1	53	21.0	20.6	0.917	1.002		
									50	28	21.0	20.6	0.944	1.029		23
									100	0	21.0	20.7	0.940	1.015		
		CP-OFDM	QPSK	On	0	Edge 4	136100	680.5	50	28	21.0	20.3	0.772	0.906		
		DFT-s-OFDM	QPSK	On	0	Edge 4	136100	680.5	50	28	21.0	20.6	0.645	0.703	1	

Note(s):

1. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.
2. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.20 NR Band n77 (100MHz Bandwidth)

RF Exposure Conditions	Antenna	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled		
Standalone	Main 3 Ant.	DFT-s-OFDM	QPSK	Off	8	Rear	650000	3750.0	1	137	21.5	20.5	0.440	0.549		
									135	69	21.5	20.6	0.491	0.608		
									270	0	21.5	20.5	0.452	0.572		
							656000	3840.0	1	137	21.5	20.2	0.498	0.672		
									135	69	21.5	20.3	0.556	0.739		24
							662000	3930.0	1	137	21.5	20.3	0.434	0.575		
									135	69	21.5	20.4	0.462	0.598		
					0	Edge 1	650000	3750.0	1	137	21.5	20.5	0.113	0.141		
									135	69	21.5	20.6	0.110	0.136		
					0	Edge 3	650000	3750.0	1	137	21.5	20.5	0.119	0.148		
									135	69	21.5	20.6	0.106	0.131		
					10	Edge 4	650000	3750.0	1	137	21.5	20.5	0.453	0.565		
									135	69	21.5	20.6	0.431	0.534		
									270	0	21.5	20.5	0.434	0.550		
							656000	3840.0	1	137	21.5	20.2	0.358	0.483		
									135	69	21.5	20.3	0.352	0.468		
							662000	3930.0	1	137	21.5	20.3	0.379	0.502		
									135	69	21.5	20.4	0.367	0.475		
		DFT-s-OFDM	QPSK	On	0	Rear	662000	3930.0	1	271	12.0	11.5	0.263	0.298		
									135	138	12.0	11.4	0.309	0.358		
						Edge 4	650000	3750.0	1	271	12.0	11.0	0.476	0.606		
									135	138	12.0	11.1	0.500	0.622		
							656000	3840.0	1	271	12.0	11.0	0.471	0.594		
									135	138	12.0	10.9	0.443	0.570		
							662000	3930.0	1	271	12.0	11.5	0.491	0.556		
									135	138	12.0	11.4	0.427	0.494		
									270	0	12.0	11.1	0.453	0.556		
Standalone	Main 1 Ant.	CP-OFDM	QPSK	Off	8	Rear	656000	3840	135	69	21.5	20.4	0.392	0.503		
Standalone	Main 1 Ant.	DFT-s-OFDM	QPSK	Off	8	Rear	633333	3500	135	69	21.5	20.8	0.469	0.550	1	
			QPSK	On	0	Edge 4	633333	3500	135	138	12.0	10.9	0.428	0.554	1	

Note(s):

1. NR Band n77-Lower Band- are tested at worst configuration of NR Band n77-Upper band.
2. CP-OFDM mode were evaluated at worst configuration of DFT-s-OFDM in standalone exposure conditions.

10.21 Wi-Fi (DTS Band)

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
2.4GHz SISO Ant 1	802.11b 1 Mbps	Standalone	Off	17	Rear	6	2437.0	0.181	98.8%	19.0	18.5	0.126	0.142	4	
				9	Edge 1	6	2437.0	0.392	98.8%	19.0	18.5	0.297	0.334	1	
				0	Edge 2	6	2437.0	0.086	98.8%	19.0	18.5	0.063	0.071	4	
				0	Edge 3	6	2437.0	0.019	98.8%	19.0	18.5	0.019	0.022	4	
				20	Edge 4	6	2437.0	0.136	98.8%	19.0	18.5	0.086	0.097	4	
				15	Corner A	6	2437.0	0.116	98.8%	19.0	18.5	0.081	0.092	4	
			On	0	Rear	6	2437.0	1.126	98.8%	12.0	11.8	0.509	0.545		
					Edge 1	6	2437.0	0.280	98.8%	12.0	11.8	0.294	0.315	4	
					Edge 4	6	2437.0	0.227	98.8%	12.0	11.8	0.259	0.277	4	
					Corner A	6	2437.0	0.398	98.8%	12.0	11.8	0.215	0.230	2	
2.4GHz SISO Ant 2	802.11b 1 Mbps	Standalone	Off	16	Rear	6	2437.0	0.077	98.8%	19.0	18.5	0.049	0.056	4	
				0	Edge 1	6	2437.0	0.006	98.8%	19.0	18.5	0.004	0.004	4	
				6	Edge 3	6	2437.0	0.383	98.8%	19.0	18.5	0.336	0.382	1	
				19	Edge 4	6	2437.0	0.029	98.8%	19.0	18.5	0.031	0.036	4	
				13	Corner B	6	2437.0	0.039	98.8%	19.0	18.5	0.025	0.028	4	
			On	0	Rear	6	2437.0	0.367	98.8%	12.0	11.7	0.233	0.252	2	
					Edge 3	6	2437.0	0.765	98.8%	12.0	11.7	0.571	0.618		25
					Edge 4	6	2437.0	0.171	98.8%	12.0	11.7	0.120	0.130	4	
					Corner B	6	2437.0	0.326	98.8%	12.0	11.7	0.138	0.149	4	
2.4G MIMO Ant.1	802.11g 6 Mbps	Standalone	On	0	Rear	1	2412.0	0.813	98.7%	12.0	10.7	0.374	0.517	6	26
					Edge 4	1	2412.0	0.215	98.7%	12.0	10.7	0.213	0.295		
2.4G MIMO Ant.2	802.11g 6 Mbps	Standalone	On	0	Rear	1	2412.0	0.813	98.7%	12.0	10.1				
					Edge 4	1	2412.0	0.215	98.7%	12.0	10.1				
SISO Ant.1	802.11b 1 Mbps	Standalone	On	0	Rear	6	2437.0	0.496	98.8%	12.0	11.8	0.260	0.278	7	
SISO Ant.2	802.11b 1 Mbps	Standalone	On	0	Edge 3	6	2437.0	0.095	98.8%	12.0	11.7	0.033	0.035		

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
5. 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.
6. For Rear & Edge 4 positions with 0mm reduced power of Standalone exposure condition, MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.
7. Accessory SAR(Tablet with keyboard section) test performed at worst configuration.

10.22 Wi-Fi (U-NII Bands)

U-NII 2A Results

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.3 GHz U-NII 2A SISO Ant 1	802.11a 6 Mbps	Standalone	Off	17	Rear	56	5280.0	0.120	98.7%	17.0	15.6	0.047	0.066	4	
				9	Edge 1	56	5280.0	1.269	98.7%	17.0	15.6	0.541	0.762		
				20	Edge 4	56	5280.0	0.165	98.7%	17.0	15.6	0.080	0.112	4	
				15	Corner A	56	5280.0	0.443	98.7%	17.0	15.6	0.205	0.289	2	
	802.11ac (VHT80) MCS0		On	0	Rear	58	5290.0	0.844	98.6%	9.0	8.7	0.435	0.472	2	
					Edge 1	58	5290.0	3.216	98.6%	9.0	8.7	1.030	1.117		27
					Edge 4	58	5290.0	0.372	98.6%	9.0	8.7	0.273	0.296	4	
					Corner A	58	5290.0	1.068	98.6%	9.0	8.7	0.357	0.387	4	
5.3 GHz U-NII 2A SISO Ant 2	802.11a 6 Mbps	Standalone	Off	16	Rear	56	5280.0	0.086	98.7%	17.0	15.3	0.035	0.053	4	
				6	Edge 3	56	5280.0	0.797	98.7%	17.0	15.3	0.328	0.495	1	
				19	Edge 4	56	5280.0	0.157	98.7%	17.0	15.3	0.075	0.114	4	
				13	Corner B	56	5280.0	0.168	98.7%	17.0	15.3	0.081	0.122	4	
	802.11ac (VHT80) MCS0		On	0	Rear	58	5290.0	1.678	98.6%	9.0	8.5	0.453	0.516		
					Edge 3	58	5290.0	1.602	98.6%	9.0	8.5	0.488	0.555	2	
					Edge 4	58	5290.0	0.547	98.6%	9.0	8.5	0.329	0.374	4	
					Corner B	58	5290.0	0.380	98.6%	9.0	8.5	0.171	0.195	4	
5.3 GHz U-NII 2A MIMO Ant 1	802.11a 6 Mbps	Standalone	Off	16	Rear	56	5280.0	0.134	98.7%	17.0	15.5	0.060	0.086	4	
				9	Edge 1	56	5280.0	0.807	98.7%	17.0	15.5	0.363	0.520		
				0	Edge 2	56	5280.0	0.068	98.7%	17.0	15.5	0.038	0.055	4	
				6	Edge 3	56	5280.0	0.609	98.7%	17.0	15.5				
				19	Edge 4	56	5280.0	0.179	98.7%	17.0	15.5				
				15	Corner A	56	5280.0	0.279	98.7%	17.0	15.5	0.124	0.177	4	
				13	Corner B	56	5280.0	0.158	98.7%	17.0	15.5				
5.3 GHz U-NII 2A MIMO Ant 2	802.11a 6 Mbps			16	Rear	56	5280.0	0.134	98.7%	17.0	15.3	0.047	0.071		
				9	Edge 1	56	5280.0	0.807	98.7%	17.0	15.3				
				0	Edge 2	56	5280.0	0.068	98.7%	17.0	15.3				
				6	Edge 3	56	5280.0	0.609	98.7%	17.0	15.3	0.280	0.421	2	
				19	Edge 4	56	5280.0	0.179	98.7%	17.0	15.3	0.082	0.123	4	
				15	Corner A	56	5280.0	0.279	98.7%	17.0	15.3				
				13	Corner B	56	5280.0	0.158	98.7%	17.0	15.3	0.067	0.100	4	
5.3 GHz U-NII 2A MIMO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	58	5290.0	1.275	97.3%	9.0	8.8	0.435	0.472		
					Edge 1	58	5290.0	3.188	97.3%	9.0	8.8	1.040	1.127		28
					Edge 3	58	5290.0	0.874	97.3%	9.0	8.8				
					Edge 4	58	5290.0	0.458	97.3%	9.0	8.8	0.241	0.261		
					Corner A	58	5290.0	1.024	97.3%	9.0	8.8	0.448	0.486	4	
					Corner B	58	5290.0	0.413	97.3%	9.0	8.8				
5.3 GHz U-NII 2A MIMO Ant 2	802.11ac (VHT80) MCS0			0	Rear	58	5290.0	1.275	97.3%	9.0	8.4	0.457	0.536	2	
					Edge 1	58	5290.0	3.188	97.3%	9.0	8.4				
					Edge 3	58	5290.0	0.874	97.3%	9.0	8.4	0.452	0.530	4	
					Edge 4	58	5290.0	0.458	97.3%	9.0	8.4	0.249	0.292	4	
					Corner A	58	5290.0	1.024	97.3%	9.0	8.4				
					Corner B	58	5290.0	0.413	97.3%	9.0	8.4	0.207	0.243	4	

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
5. MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.

U-NII 2C Results

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.5 GHz U-NII 2C SISO Ant 1	802.11a 6 Mbps	Standalone	Off	17	Rear	100	5500.0	0.144	98.7%	17.0	15.3	0.064	0.095	4	
				9	Edge 1	100	5500.0	1.243	98.7%	17.0	15.3	0.531	0.796		
				20	Edge 4	100	5500.0	0.141	98.7%	17.0	15.3	0.061	0.091	4	
				15	Corner A	100	5500.0	0.506	98.7%	17.0	15.3	0.220	0.330	2	
	802.11ac (VHT80) MCS0		On	0	Rear	138	5690.0	0.950	98.6%	9.5	8.1	0.447	0.633	4	
					Edge 1	138	5690.0	2.315	98.6%	9.5	8.1	0.740	1.048		29
					Edge 4	138	5690.0	0.331	98.6%	9.5	8.1	0.194	0.275	4	
					Corner A	138	5690.0	1.351	98.6%	9.5	8.1	0.482	0.683	2	
5.5 GHz U-NII 2C SISO Ant 2	802.11a 6 Mbps	Standalone	Off	16	Rear	124	5620.0	0.104	98.7%	17.0	15.6	0.043	0.061	4	
				6	Edge 3	124	5620.0	0.518	98.7%	17.0	15.6	0.242	0.343	1	
				19	Edge 4	124	5620.0	0.192	98.7%	17.0	15.6	0.084	0.118	4	
				13	Corner B	124	5620.0	0.166	98.7%	17.0	15.6	0.063	0.088	4	
	802.11ac (VHT80) MCS0		On	0	Rear	122	5610.0	1.350	98.6%	9.5	8.8	0.420	0.498		
					Edge 3	122	5610.0	0.667	98.6%	9.5	8.8	0.233	0.276	2	
					Edge 4	122	5610.0	0.364	98.6%	9.5	8.8	0.236	0.280	4	
					Corner B	122	5610.0	0.576	98.6%	9.5	8.8	0.151	0.179	4	
5.5 GHz U-NII 2C MIMO Ant 1	802.11a 6 Mbps	Standalone	Off	16	Rear	120	5600.0	0.108	98.7%	17.0	15.0	0.045	0.072	4	
				9	Edge 1	120	5600.0	0.656	98.7%	17.0	15.0	0.285	0.455	2	
				0	Edge 2	120	5600.0	0.033	98.7%	17.0	15.0	0.017	0.027	4	
				6	Edge 3	120	5600.0	0.994	98.7%	17.0	15.0				
				19	Edge 4	120	5600.0	0.170	98.7%	17.0	15.0				
				15	Corner A	120	5600.0	0.235	98.7%	17.0	15.0	0.102	0.163	4	
				13	Corner B	120	5600.0	0.133	98.7%	17.0	15.0				
5.5 GHz U-NII 2C MIMO Ant 2	802.11a 6 Mbps			16	Rear	120	5600.0	0.108	98.7%	17.0	15.7	0.046	0.063		
				9	Edge 1	120	5600.0	0.656	98.7%	17.0	15.7				
				0	Edge 2	120	5600.0	0.033	98.7%	17.0	15.7				
				6	Edge 3	120	5600.0	0.994	98.7%	17.0	15.7	0.371	0.513		
				19	Edge 4	120	5600.0	0.170	98.7%	17.0	15.7	0.076	0.105	4	
				15	Corner A	120	5600.0	0.235	98.7%	17.0	15.7				
				13	Corner B	120	5600.0	0.133	98.7%	17.0	15.7	0.056	0.077	4	
5.5 GHz U-NII 2C MIMO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	122	5610.0	1.443	97.3%	9.5	8.0	0.424	0.613		30
					Edge 1	122	5610.0	1.035	97.3%	9.5	8.0	0.330	0.477	2	
					Edge 3	122	5610.0	0.862	97.3%	9.5	8.0				
					Edge 4	122	5610.0	0.257	97.3%	9.5	8.0	0.110	0.159	4	
					Corner A	122	5610.0	0.648	97.3%	9.5	8.0	0.234	0.338	4	
					Corner B	122	5610.0	0.584	97.3%	9.5	8.0				
5.5 GHz U-NII 2C MIMO Ant 2	802.11ac (VHT80) MCS0			0	Rear	122	5610.0	1.443	97.3%	9.5	8.7	0.418	0.513		
					Edge 1	122	5610.0	1.035	97.3%	9.5	8.7				
					Edge 3	122	5610.0	0.862	97.3%	9.5	8.7	0.242	0.297	4	
					Edge 4	122	5610.0	0.257	97.3%	9.5	8.7	0.105	0.129		
					Corner A	122	5610.0	0.648	97.3%	9.5	8.7				
					Corner B	122	5610.0	0.584	97.3%	9.5	8.7	0.174	0.214	4	

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
5. MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.

U-NII 3 Results

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.8 GHz U-NII 3 SISO Ant 1	802.11a 6 Mbps	Standalone	Off	17	Rear	165	5825.0	0.112	98.66%	17.0	15.5	0.048	0.069	4	
				9	Edge 1	165	5825.0	0.941	98.66%	17.0	15.5	0.462	0.661		
				20	Edge 4	165	5825.0	0.132	98.66%	17.0	15.5	0.049	0.070	4	
				15	Corner A	165	5825.0	0.243	98.66%	17.0	15.5	0.111	0.159	2	
	802.11ac (VHT80) MCS0		On	0	Rear	155	5775.0	1.234	98.6%	9.5	7.8	0.428	0.644	2	
					Edge 1	155	5775.0	1.006	98.6%	9.5	7.8	0.713	1.072		31
					Edge 4	155	5775.0	0.391	98.6%	9.5	7.8	0.153	0.230	4	
					Corner A	155	5775.0	1.884	98.6%	9.5	7.8	0.563	0.847	2	
5.8 GHz U-NII 3 SISO Ant 2	802.11a 6 Mbps	Standalone	Off	16	Rear	165	5825.0	0.059	98.7%	17.0	15.3	0.022	0.033	4	
				6	Edge 3	165	5825.0	0.562	98.7%	17.0	15.3	0.202	0.306	1	
				19	Edge 4	165	5825.0	0.060	98.7%	17.0	15.3	0.026	0.039	4	
				13	Corner B	165	5825.0	0.108	98.7%	17.0	15.3	0.042	0.063	4	
	802.11ac (VHT80) MCS0		On	0	Rear	155	5775.0	0.957	98.6%	9.5	8.4	0.307	0.398	1	
					Edge 3	155	5775.0	0.722	98.6%	9.5	8.4	0.200	0.259	4	
					Edge 4	155	5775.0	0.312	98.6%	9.5	8.4	0.123	0.159	4	
					Corner B	155	5775.0	0.357	98.6%	9.5	8.4	0.097	0.126	4	
5.8 GHz U-NII 3 MIMO Ant 1	802.11a 6 Mbps	Standalone	Off	16	Rear	157	5785.0	0.112	98.7%	17.0	15.1	0.039	0.062	4	
				9	Edge 1	157	5785.0	1.005	98.7%	17.0	15.1	0.426	0.675		
				0	Edge 2	157	5785.0	0.071	98.7%	17.0	15.1	0.043	0.067	4	
				6	Edge 3	157	5785.0	0.373	98.7%	17.0	15.1				
				19	Edge 4	157	5785.0	0.111	98.7%	17.0	15.1	0.041	0.065		
				15	Corner A	157	5785.0	0.230	98.7%	17.0	15.1	0.109	0.173	2	
				13	Corner B	157	5785.0	0.063	98.7%	17.0	15.1				
5.8 GHz U-NII 3 MIMO Ant 2	802.11a 6 Mbps	Standalone	Off	16	Rear	157	5785.0	0.112	98.7%	17.0	15.2				
				9	Edge 1	157	5785.0	1.005	98.7%	17.0	15.2				
				0	Edge 2	157	5785.0	0.071	98.7%	17.0	15.2				
				6	Edge 3	157	5785.0	0.373	98.7%	17.0	15.2	0.140	0.216		
				19	Edge 4	157	5785.0	0.111	98.7%	17.0	15.2	0.048	0.074	4	
				15	Corner A	157	5785.0	0.230	98.7%	17.0	15.2				
				13	Corner B	157	5785.0	0.063	98.7%	17.0	15.2	0.028	0.044	4	
5.8 GHz U-NII 3 MIMO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	155	5775.0	1.079	97.3%	9.5	7.8	0.410	0.621		
					Edge 1	155	5775.0	1.594	97.3%	9.5	7.8	0.525	0.795		32
					Edge 3	155	5775.0	0.461	97.3%	9.5	7.8				
					Edge 4	155	5775.0	0.381	97.3%	9.5	7.8				
					Corner A	155	5775.0	1.057	97.3%	9.5	7.8	0.444	0.672	4	
					Corner B	155	5775.0	0.342	97.3%	9.5	7.8				
5.8 GHz U-NII 3 MIMO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	155	5775.0	1.079	97.3%	9.5	8.2	0.452	0.623	2	
					Edge 1	155	5775.0	1.594	97.3%	9.5	8.2				
					Edge 3	155	5775.0	0.461	97.3%	9.5	8.2	0.127	0.175	4	
					Edge 4	155	5775.0	0.381	97.3%	9.5	8.2	0.215	0.296	4	
					Corner A	155	5775.0	1.057	97.3%	9.5	8.2				
					Corner B	155	5775.0	0.342	97.3%	9.5	8.2	0.096	0.133	4	

Note(s):

6. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
7. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
8. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
9. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
10. MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.

Additional UNII bands Results

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.3 GHz U-NII 2A SISO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	58	5290.0	0.541	98.6%	7.0	5.4	0.179	0.262	4	
					Edge 1	58	5290.0	1.371	98.6%	7.0	5.4	0.456	0.669		
					Edge 4	58	5290.0	0.169	98.6%	7.0	5.4	0.105	0.154	4	
					Corner A	58	5290.0	0.546	98.6%	7.0	5.4	0.158	0.232	2	
5.3 GHz U-NII 2A SISO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	58	5290.0	0.485	98.6%	7.0	5.0	0.160	0.257	1	
					Edge 3	58	5290.0	0.381	98.6%	7.0	5.0	0.186	0.298	4	
					Edge 4	58	5290.0	0.111	98.6%	7.0	5.0	0.078	0.126	4	
					Corner B	58	5290.0	0.115	98.6%	7.0	5.0	0.046	0.073	4	
5.3 GHz U-NII 2A MIMO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	58	5290.0	1.275	97.3%	7.0	5.3	0.118	0.181		
					Edge 1	58	5290.0	3.188	97.3%	7.0	5.3	0.300	0.459		
					Edge 3	58	5290.0	0.874	97.3%	7.0	5.3				
					Edge 4	58	5290.0	0.458	97.3%	7.0	5.3	0.051	0.078	4	
					Corner A	58	5290.0	0.298	97.3%	7.0	5.3	0.094	0.144	4	
					Corner B	58	5290.0	0.413	97.3%	7.0	5.3				
5.3 GHz U-NII 2A MIMO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	58	5290.0	1.275	97.3%	7.0	5.0	0.198	0.320	2	
					Edge 1	58	5290.0	3.188	97.3%	7.0	5.0				
					Edge 3	58	5290.0	0.874	97.3%	7.0	5.0	0.215	0.348	4	
					Edge 4	58	5290.0	0.458	97.3%	7.0	5.0	0.037	0.059		
					Corner A	58	5290.0	0.298	97.3%	7.0	5.0				
					Corner B	58	5290.0	0.413	97.3%	7.0	5.0	0.052	0.085	4	

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.5 GHz U-NII 2A SISO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	122	5610.0	0.407	98.6%	7.0	5.8	0.257	0.344	2	
					Edge 1	122	5610.0	1.099	98.6%	7.0	5.8	0.336	0.449		
					Edge 4	122	5610.0	0.141	98.6%	7.0	5.8	0.063	0.084	4	
					Corner A	122	5610.0	0.303	98.6%	7.0	5.8	0.149	0.199	4	
5.5 GHz U-NII 2A SISO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	122	5610.0	0.394	98.6%	7.0	6.0	0.127	0.161	1	
					Edge 3	122	5610.0	0.277	98.6%	7.0	6.0	0.110	0.139	4	
					Edge 4	122	5610.0	0.074	98.6%	7.0	6.0	0.074	0.093	4	
					Corner B	122	5610.0	0.216	98.6%	7.0	6.0	0.057	0.073	4	
5.5 GHz U-NII 2A MIMO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	122	5610.0	0.514	97.3%	7.0	5.7	0.245	0.340	2	
					Edge 1	122	5610.0	0.962	97.3%	7.0	5.7	0.295	0.409		
					Edge 3	122	5610.0	0.360	97.3%	7.0	5.7				
					Edge 4	122	5610.0	0.140	97.3%	7.0	5.7	0.062	0.086	4	
					Corner A	122	5610.0	0.360	97.3%	7.0	5.7	0.155	0.215	4	
					Corner B	122	5610.0	0.183	97.3%	7.0	5.7				
5.5 GHz U-NII 2A MIMO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	122	5610.0	0.514	97.3%	7.0	6.0	0.205	0.265		
					Edge 1	122	5610.0	0.962	97.3%	7.0	6.0				
					Edge 3	122	5610.0	0.360	97.3%	7.0	6.0	0.115	0.149	4	
					Edge 4	122	5610.0	0.140	97.3%	7.0	6.0	0.036	0.046		
					Corner A	122	5610.0	0.360	97.3%	7.0	6.0				
					Corner B	122	5610.0	0.183	97.3%	7.0	6.0	0.069	0.089	4	

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
5. MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.
6. This UNII bands SAR test were additionally evaluated for satisfy TER(Total Exposure Ratio) analysis for 5G mmW bands. The target power are mentioned in Sec.6.4.

Additional UNII bands Results(continued)

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Area Scan Max. SAR (W/kg)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Note	Plot No.
										Tune-up limit	Meas.	Meas.	Scaled		
5.8 GHz U-NII 2A SISO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	155	5775.0	0.427	98.6%	7.0	5.0	0.206	0.330	2	
					Edge 1	155	5775.0	0.504	98.6%	7.0	5.0	0.355	0.569		
					Edge 4	155	5775.0	0.199	98.6%	7.0	5.0	0.069	0.110	4	
					Corner A	155	5775.0	0.408	98.6%	7.0	5.0	0.202	0.324	4	
5.8 GHz U-NII 2A SISO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	155	5775.0	0.374	98.6%	7.0	5.7	0.145	0.201	1	
					Edge 3	155	5775.0	0.241	98.6%	7.0	5.7	0.062	0.086	4	
					Edge 4	155	5775.0	0.263	98.6%	7.0	5.7	0.077	0.107	4	
					Corner B	155	5775.0	0.250	98.6%	7.0	5.7	0.065	0.090	4	
5.8 GHz U-NII 2A MIMO Ant 1	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	155	5775.0	0.365	97.3%	7.0	5.0	0.140	0.227	4	
					Edge 1	155	5775.0	0.317	97.3%	7.0	5.0	0.206	0.334	4	
					Edge 3	155	5775.0	0.220	97.3%	7.0	5.0				
					Edge 4	155	5775.0	0.116	97.3%	7.0	5.0	0.044	0.071	4	
					Corner A	155	5775.0	0.378	97.3%	7.0	5.0	0.174	0.282	1	
					Corner B	155	5775.0	0.175	97.3%	7.0	5.0				
5.8 GHz U-NII 2A MIMO Ant 2	802.11ac (VHT80) MCS0	Standalone	On	0	Rear	155	5775.0	0.365	97.3%	7.0	5.5				
					Edge 1	155	5775.0	0.317	97.3%	7.0	5.5				
					Edge 3	155	5775.0	0.220	97.3%	7.0	5.5	0.052	0.076	4	
					Edge 4	155	5775.0	0.116	97.3%	7.0	5.5				
					Corner A	155	5775.0	0.378	97.3%	7.0	5.5				
					Corner B	155	5775.0	0.175	97.3%	7.0	5.5	0.041	0.060	4	

Note(s):

1. When the Highest reported SAR is ≤ 0.4 or 1.0 W/kg (1-g or 10-g respectively). Therefore, further SAR measurements within this exposure condition are not required.
2. Highest reported SAR is > 0.4 or 1.0 W/kg (1-g or 10-g respectively). Due to the highest reported SAR for this test position, other test positions in this exposure condition were evaluated until a SAR ≤ 0.8 or 2.0 W/kg (1-g or 10-g respectively) was reported.
3. Testing for a second channel was required because the reported SAR for this test position was > 0.8 or 2.0 W/kg (1-g or 10-g respectively).
4. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
5. MIMO SAR test were additionally evaluated for determining simultaneous transmission SAR test exclusion.
6. This UNII bands SAR test were additionally evaluated for satisfy TER(Total Exposure Ratio) analysis for 5G mmW bands. The target power are mentioned in Sec.6.4.

10.23 Bluetooth

Frequency Band	Mode	RF Exposure Conditions	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle (%)	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up limit	Meas.	Meas.	Scaled	
2.4GHz	GFSK	Standalone	Off	17	Rear	39	2441.0	77.1%	18.0	17.5	0.033	0.048	
				9	Edge 1	39	2441.0	77.1%	18.0	17.5	0.164	0.238	
				0	Edge 2	39	2441.0	77.1%	18.0	17.5	0.002	0.003	
				0	Edge 3	39	2441.0	77.1%	18.0	17.5	<0.001	<0.001	
				20	Edge 4	39	2441.0	77.1%	18.0	17.5	0.037	0.053	
				15	Corner A	39	2441.0	77.1%	18.0	17.5	0.027	0.039	
			On	0	Rear	78	2480.0	77.1%	10.0	9.1	0.216	0.346	33
					Edge 1	78	2480.0	77.1%	10.0	9.1	0.130	0.208	
					Edge 4	78	2480.0	77.1%	10.0	9.1	0.125	0.200	
					Corner A	78	2480.0	77.1%	10.0	9.1	0.114	0.183	

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.

Peak spatial-average (1g of tissue)

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Repeated Measured SAR (W/kg)	Largest to Smallest SAR Ratio
700	LTE Band 12	Standalone	Edge 4	No	0.482	N/A	N/A
	LTE Band 13	Standalone	Rear	No	0.447	N/A	N/A
	LTE Band 14	Standalone	Edge 4	No	0.791	N/A	N/A
	LTE Band 71	Standalone	Edge 4	No	0.612	N/A	N/A
	NR Band n71	Standalone	Edge 4	Yes	0.944	0.908	1.04
835	WCDMA Band V	Standalone	Edge 4	No	0.581	N/A	N/A
	LTE Band 26	Standalone	Edge 4	No	0.682	N/A	N/A
	NR Band n5	Standalone	Edge 4	Yes	0.840	0.835	1.01
1750	WCDMA Band IV	Standalone	Edge 4	No	0.929	N/A	N/A
	LTE Band 66	Standalone	Edge 4	No	0.862	N/A	N/A
	NR Band n66	Standalone	Edge 4	Yes	0.970	0.966	1.00
1900	WCDMA Band II	Standalone	Edge 4	No	0.894	N/A	N/A
	LTE Band 25	Standalone	Edge 4	No	0.875	N/A	N/A
	NR Band n25	Standalone	Edge 4	Yes	0.952	0.920	1.03
2300	LTE Band 30	Standalone	Edge 4	No	0.797	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Standalone	Edge 3	No	0.571	N/A	N/A
	Bluetooth	Standalone	Rear	No	0.261	N/A	N/A
2600	LTE Band 7	Standalone	Edge 4	Yes	0.943	0.936	1.01
	LTE Band 41	Standalone	Edge 4	No	0.522	N/A	N/A
	NR Band n41	Standalone	Edge 4	No	0.878	N/A	N/A
3700	LTE Band 48	Standalone	Edge 4	Yes	0.952	0.949	1.00
	NR Band n77	Standalone	Rear	No	0.556	N/A	N/A
5250	Wi-Fi 802.11a/n	Standalone	Edge 1	Yes	1.040	1.04	1.00
5500	Wi-Fi 802.11a/n	Standalone	Edge 1	No	0.740	N/A	N/A
5800	Wi-Fi 802.11a/n	Standalone	Edge 1	No	0.713	N/A	N/A

Note(s):

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

12. Simultaneous Transmission SAR Analysis

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations				
Standalone	1	W-CDMA or LTE	+	DTS_Ant.1	or/and	DTS_Ant.2
	2	W-CDMA or LTE	+	U-NII_Ant.1	or/and	U-NII_Ant.2
	3	W-CDMA or LTE	+	BT		
	4	W-CDMA or LTE	+	U-NII_Ant.1 or 2	+	BT
	5	W-CDMA or LTE	+	U-NII_MIMO	+	BT
	6	NR	+	DTS_Ant.1	or/and	DTS_Ant.2
	7	NR	+	U-NII_Ant.1	or/and	U-NII_Ant.2
	8	NR	+	BT		
	9	NR	+	U-NII_Ant.1 or 2	+	BT
	10	NR	+	U-NII_MIMO	+	BT
	11	EN-DC (LTE + NR)	+	DTS_Ant.1	or/and	DTS_Ant.2
	12	EN-DC (LTE + NR)	+	U-NII_Ant.1	or/and	U-NII_Ant.2
	13	EN-DC (LTE + NR)	+	BT		
	14	EN-DC (LTE + NR)	+	U-NII_Ant.1 or 2	+	BT
	15	EN-DC (LTE + NR)	+	U-NII_MIMO	+	BT

Notes:

1. DTS supports Wi-Fi Direct, Hotspot and VoIP.
2. U-NII supports Wi-Fi Direct, Hotspot and VoIP.
3. U-NII Radio can transmit simultaneously with Bluetooth Radio.
4. DTS Radio cannot transmit simultaneously with Bluetooth Radio.
5. NR Radio can transmit through both SA & NSA(EN-DC) modes.

Note(s):

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

Simultaneous transmission SAR test exclusion considerations

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

Sum of SAR

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

SAR to Peak Location 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

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

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

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

When an individual antenna transmits at on two bands simultaneously, the sum of the highest *reported* SAR for the frequency bands should be used to determine 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

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

Simultaneous transmission SAR measurement

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

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

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

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

Combined Multi Band Averaged SAR allows - in addition to the data extraction - an evaluation of the 1 g, 10 g and/or arbitrary averaged mass SAR.
Power Scaling Factor is used to allow the volume scans to be scaled by a value other than "1", this is important when the results need to be scaled to different maximum power levels. The Power Scaling Factor is applied to each individual point of the scan. When power scaling is used in multi-band combinations the scaling factor is applied to each individual point of the first scan, the second factor is then applied to each individual point of the second scan and so on. The scans are then combined.

SPLSR Hotspot Combination

Per November 2019 TCB Workshop Notes, SPLSR Hotspot Combination procedure can be applied to evaluate to simultaneous transmission SAR analysis.
Hybrid SPLSR and enlarged zoom scan (Volume scan) can be applied when Simultaneous transmission SAR is over 1.6 or 4.0 W/kg (1-g or 10-g respectively), it does not meet SPLSR criteria, and antenna pair is co-located. Antenna co-location means that SAR distributions overlap because the antennas are not significantly spatially separated.

Test procedure

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

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

Estimated SAR for WWAN

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Calculated Threshold Value				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Full Power, Proximity Sensor Off														
Main 1	W-CDMA V	846.6	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	W-CDMA IV	1752.6	23.5	224	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	W-CDMA II	1907.6	23.5	224	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	LTE Band 7	2560	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	LTE Band 12	711	25.5	355	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	LTE Band 13	782	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	LTE Band 14	793	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	LTE Band 25(2)	1905	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	LTE Band 26(5)	841.5	25.5	355	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	LTE Band 30	2310	23.0	200	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	LTE Band 41	2680	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	LTE Band 66(4)	1770	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	LTE Band 71	688	25.5	355	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	NR Band n5	839	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 1	NR Band n25(n2)	1895	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	NR Band n66	1760	25.0	316	0	0	283.7	71	0	Measure	Measure	0.400	0.400	Measure
Main 1	NR Band n71	688	25.5	355	0	0	283.7	71	0	Measure	Measure	0.400	Measure	Measure
Main 2	NR Band n41	2640	26.5	447	0	0	272.1	138	0	Measure	Measure	0.400	0.400	Measure
Main 3	LTE Band 48	3690	23.5	224	0	115.6	283.7	0	0	Measure	0.400	0.400	Measure	Measure
Main 3	NR Band n77	3930	21.5	141	0	115.6	283.7	0	0	Measure	0.400	0.400	Measure	Measure
Power Back-off, Proximity Sensor On														
Main 1	W-CDMA V	846.6	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	W-CDMA IV	1752.6	13.5	22	0	0			0	Measure	Measure			Measure
Main 1	W-CDMA II	1907.6	13.5	22	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 7	2560	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 12	711	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 13	782	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 14	793	17.0	50	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 25(2)	1905	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 26(5)	841.5	17.5	56	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 30	2310	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 41	2680	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 66(4)	1770	14.0	25	0	0			0	Measure	Measure			Measure
Main 1	LTE Band 71	688	17.0	50	0	0			0	Measure	Measure			Measure
Main 1	NR Band n5	839	19.0	79	0	0			0	Measure	Measure			Measure
Main 1	NR Band n25(n2)	1895	15.0	32	0	0			0	Measure	Measure			Measure
Main 1	NR Band n66	1760	14.5	28	0	0			0	Measure	Measure			Measure
Main 1	NR Band n71	688	21.0	126	0	0			0	Measure	Measure			Measure
Main 2	NR Band n41	2640	15.0	32	0	0			0	Measure	Measure			Measure
Main 3	LTE Band 48	3690	14.0	25	0				0	Measure				Measure
Main 3	NR Band n77	3930	12.0	16	0				0	Measure				Measure

Estimated SAR for WLAN

Antenna	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)					Calculated Threshold Value				
			dBm	mW	Rear	Edge 1	Edge 2	Edge 3	Edge 4	Rear	Edge 1	Edge 2	Edge 3	Edge 4
Full power, Proximity Sensor Off														
WLAN/BT Ant.1	Wi-Fi 2.4 GHz	2462	19.00	79	0	0	272.1	138	0	Measure	Measure	0.400	0.400	Measure
	Wi-Fi 5.3 GHz	5320	17.00	50	0	0	272.1	138	0	Measure	Measure	0.400	0.400	Measure
	Wi-Fi 5.5 GHz	5700	17.00	50	0	0	272.1	138	0	Measure	Measure	0.400	0.400	Measure
	Wi-Fi 5.8 GHz	5825	17.00	50	0	0	272.1	138	0	Measure	Measure	0.400	0.400	Measure
	Bluetooth	2480	18.00	63	0	0	272.1	138	0	Measure	Measure	0.400	0.400	Measure
WLAN Ant.2	Wi-Fi 2.4 GHz	2462	19.00	79	0	138	272.1	0	0	Measure	0.400	0.400	Measure	Measure
	Wi-Fi 5.3 GHz	5320	17.00	50	0	138	272.1	0	0	Measure	0.400	0.400	Measure	Measure
	Wi-Fi 5.5 GHz	5700	17.00	50	0	138	272.1	0	0	Measure	0.400	0.400	Measure	Measure
	Wi-Fi 5.8 GHz	5825	17.00	50	0	138	272.1	0	0	Measure	0.400	0.400	Measure	Measure
Power Back-off, Proximity Sensor On														
WLAN/BT Ant.1	Wi-Fi 2.4 GHz	2462	12.00	16	0	0			0	Measure	Measure			Measure
	Wi-Fi 5.3 GHz	5320	9.00	8	0	0			0	Measure	Measure			Measure
	Wi-Fi 5.5 GHz	5700	9.50	9	0	0			0	Measure	Measure			Measure
	Wi-Fi 5.8 GHz	5825	9.50	9	0	0			0	Measure	Measure			Measure
	Bluetooth	2480	10.00	10	0	0			0	Measure	Measure			Measure
WLAN Ant.2	Wi-Fi 2.4 GHz	2462	12.00	16	0			0	0	Measure			Measure	Measure
	Wi-Fi 5.3 GHz	5320	9.00	8	0			0	0	Measure			Measure	Measure
	Wi-Fi 5.5 GHz	5700	9.50	9	0			0	0	Measure			Measure	Measure
	Wi-Fi 5.8 GHz	5825	9.50	9	0			0	0	Measure			Measure	Measure

Note(s):

Additional SAR test evaluated for some test positions even if SAR test is not required. Because it is to satisfy Simultaneous transmission SAR test exclusion.

12.1 Sum of the SAR for WCDMA Band II & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.589	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.134	0.841	1.106	1.233	1.105	1.212	0.935	1.579	1.451	1.558
Edge 1	0.132	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.466	0.136	0.470	1.249	0.532	1.259	0.370	1.487	0.770	1.497
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.133	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.410	1.263	1.428	1.429	1.507	1.429	1.333	1.629	1.707	1.629

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Edge 4	1.133				0.296			0.200	1+5+8	1.629				1
	1.133				0.296				1+5	1.429	44.5	0.04	No	
	1.133							0.200	1+8	1.333	44.2	0.03	No	
					0.296			0.200	5+8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.133				0.385				1+(5+8)	1.518	42.5	0.04	No	1-a
Edge 4	1.133					0.374		0.200	1+6+8	1.707				2
	1.133					0.374			1+6	1.507	94.4	0.02	No	
	1.133							0.200	1+8	1.333	44.2	0.03	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	
Edge 4	1.133						0.296	0.200	1+7+8	1.629				3
	1.133						0.296		1+7	1.429	85.9	0.02	No	
	1.133							0.200	1+8	1.333	44.2	0.03	No	
							0.296	0.200	7+8	0.496	129	0.00	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.2 Sum of the SAR for WCDMA Band IV & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.508	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.053	0.760	1.025	1.152	1.024	1.131	0.854	1.498	1.370	1.477
Edge 1	0.160	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.494	0.164	0.498	1.277	0.560	1.287	0.398	1.515	0.798	1.525
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.198	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.475	1.328	1.493	1.494	1.572	1.494	1.398	1.694	1.772	1.694

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Edge 4	1.198				0.296			0.200	1 + 5 + 8	1.694				4
	1.198				0.296				1 + 5	1.494	43.0	0.04	No	
	1.198							0.200	1 + 8	1.398	42.4	0.04	No	
					0.296			0.200	5 + 8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.198				0.385				1 + (5 + 8)	1.583	41.1	0.05	Yes	4-a
	0.749								(1 + (5 + 8))	0.749				4-b
Edge 4	1.198					0.374		0.200	1 + 6 + 8	1.772				5
	1.198					0.374			1 + 6	1.572	95.8	0.02	No	
	1.198							0.200	1 + 8	1.398	41.8	0.04	No	
						0.374		0.200	6 + 8	0.574	137.5	0.00	No	
Edge 4	1.198						0.296	0.200	1 + 7 + 8	1.694				6
	1.198						0.296		1 + 7	1.494	87.5	0.02	No	
	1.198							0.200	1 + 8	1.398	42.4	0.04	No	
							0.296	0.200	7 + 8	0.496	129.0	0.00	No	

12.3 Sum of the SAR for WCDMA Band V & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.537	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.082	0.789	1.054	1.181	1.053	1.160	0.883	1.527	1.399	1.506
Edge 1	0.126	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.460	0.130	0.464	1.243	0.526	1.253	0.364	1.481	0.764	1.491
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.178	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.200	0.796	0.818	0.578	0.733	0.708	0.179	0.579	0.734	0.709
Edge 4	0.645	0.277	0.130	0.295	0.296	0.374	0.296	0.200	0.922	0.775	0.940	0.941	1.019	0.941	0.845	1.141	1.219	1.141

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.4 Sum of the SAR for LTE Band 7 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.737	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.282	0.989	1.254	1.381	1.253	1.360	1.083	1.727	1.599	1.706
Edge 1	0.229	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.563	0.233	0.567	1.346	0.629	1.356	0.467	1.584	0.867	**1.594**
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.567	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.589	1.185	1.207	0.967	1.122	1.097	0.568	0.968	1.123	1.098
Edge 4	1.132	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.409	1.262	1.427	1.428	1.506	1.428	1.332	1.628	1.706	1.628

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	0.737				0.644			0.346	1+5+8	1.727				7
	0.737				0.644				1+5	1.381	47.2	0.03	No	
	0.737							0.346	1+8	1.083	53.0	0.02	No	
					0.644			0.346	5+8	0.990	8.9	0.11	Yes	
Hybrid SPLSR Note 4	0.737				0.912				1+(5+8)	1.649	54.7	0.04	No	7-a
Rear	0.737					0.516		0.346	1+6+8	1.599				8
	0.737					0.516			1+6	1.253	84.7	0.02	No	
	0.737							0.346	1+8	1.083	54	0.02	No	
						0.516		0.346	6+8	0.862	138.7	0.01	No	
Rear	0.737						0.623	0.346	1+7+8	1.706				9
	0.737						0.623		1+7	1.360	115.6	0.01	No	
	0.737							0.346	1+8	1.083	54	0.02	No	
							0.623	0.346	7+8	0.969	169.6	0.01	No	
Edge 4	1.132				0.296			0.200	1+5+8	1.628				10
	1.132				0.296				1+5	1.428	40.8	0.04	No	
	1.132							0.200	1+8	1.332	40.1	0.04	No	
					0.296			0.200	5+8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.132				0.385				1+(5+8)	1.517	39.1	0.05	Yes	10-a
	1.170								(1+(5+8))	1.170				10-b
Edge 4	1.132					0.374		0.200	1+6+8	1.706				11
	1.132					0.374			1+6	1.506	97.9	0.02	No	
	1.132							0.200	1+8	1.332	40.1	0.04	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	
Edge 4	1.132						0.296	0.200	1+7+8	1.628				12
	1.132						0.296		1+7	1.428	89.2	0.02	No	
	1.132							0.200	1+8	1.332	40.1	0.04	No	
							0.296	0.200	7+8	0.496	129	0.00	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.5 Sum of the SAR for LTE Band 12 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.430	0.545	0.252	0.517	0.644	0.516	0.623	0.346	0.975	0.682	0.947	1.074	0.946	1.053	0.776	1.420	1.292	1.399
Edge 1	0.100	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.434	0.104	0.438	1.217	0.500	1.227	0.338	1.455	0.738	1.465
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.082	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.104	0.700	0.722	0.482	0.637	0.612	0.083	0.483	0.638	0.613
Edge 4	0.568	0.277	0.130	0.295	0.296	0.374	0.296	0.200	0.845	0.698	0.863	0.864	0.942	0.864	0.768	1.064	1.142	1.064

12.6 Sum of the SAR for LTE Band 13 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.532	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.077	0.784	1.049	1.176	1.048	1.155	0.878	1.522	1.394	1.501
Edge 1	0.112	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.446	0.116	0.450	1.229	0.512	1.239	0.350	1.467	0.750	1.477
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.110	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.132	0.728	0.750	0.510	0.665	0.640	0.111	0.511	0.666	0.641
Edge 4	0.508	0.277	0.130	0.295	0.296	0.374	0.296	0.200	0.785	0.638	0.803	0.804	0.882	0.804	0.708	1.004	1.082	1.004

12.7 Sum of the SAR for LTE Band 14 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.594	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.139	0.846	1.111	1.238	1.110	1.217	0.940	1.584	1.456	1.563
Edge 1	0.116	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.450	0.120	0.454	1.233	0.516	1.243	0.354	1.471	0.754	1.481
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.107	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.129	0.725	0.747	0.507	0.662	0.637	0.108	0.508	0.663	0.638
Edge 4	0.953	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.230	1.083	1.248	1.249	1.327	1.249	1.153	1.449	1.527	1.449

Note(s):
1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2

12.8 Sum of the SAR for LTE Band 25 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.603	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.148	0.855	1.120	1.247	1.119	1.226	0.949	1.593	1.465	1.572
Edge 1	0.157	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.491	0.161	0.495	1.274	0.557	1.284	0.395	1.512	0.795	1.522
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.235	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.512	1.365	**1.530**	1.531	1.609	1.531	1.435	1.731	1.809	1.731

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Edge 4	1.235				0.296			0.200	1+5+8	1.731				13
	1.235				0.296				1+5	1.531	41.5	0.05	Yes	
	1.235							0.200	1+8	1.435	41.2	0.04	No	
					0.296			0.200	5+8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.235				0.385				1+(5+8)	1.620	46	0.04	Yes	13-a
	1.110								(1+(5+8))	1.110				13-b
Edge 4	1.235					0.374		0.200	1+6+8 (1+6)	1.809				14
	1.235					0.374			1+6	1.609	97.3	0.02	No	
	1.235							0.200	1+8	1.435	41.2	0.04	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	
Edge 4	1.235						0.296	0.200	1+7+8	1.731				15
	1.235						0.296		1+7	1.531	88.7	0.02	No	
	1.235							0.200	1+8	1.435	41.2	0.04	No	
							0.296	0.200	7+8	0.496	129	0.00	No	

12.9 Sum of the SAR for LTE Band 26 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.543	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.088	0.795	1.060	1.187	1.059	1.166	0.889	1.533	1.405	1.512
Edge 1	0.122	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.456	0.126	0.460	1.239	0.522	1.249	0.360	1.477	0.760	1.487
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.123	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.145	0.741	0.763	0.523	0.678	0.653	0.124	0.524	0.679	0.654
Edge 4	0.904	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.181	1.034	1.199	1.200	1.278	1.200	1.104	1.400	1.478	1.400

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.
5. For Sec.12.9, It also considered to LTE UL CA 5B.

12.10 Sum of the SAR for LTE Band 30 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.889	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.434	1.141	1.406	1.533	1.405	1.512	1.235	1.879	1.751	1.858
Edge 1	0.169	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.503	0.173	0.507	1.286	0.569	1.296	0.407	1.524	0.807	1.534
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.076	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.353	1.206	1.371	1.372	1.450	1.372	1.276	1.572	1.650	1.572

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	0.889				0.644			0.346	1+5+8	1.879				16
	0.889				0.644				1+5	1.533	46.6	0.04	No	
	0.889							0.346	1+8	1.235	52.5	0.03	No	
					0.644			0.346	5+8	0.990	8.8	0.11	Yes	
Hybrid SPLSR Note 4	0.889				0.912				1+(5+8)	1.801	55.7	0.04	No	16-a
Rear	0.889					0.516		0.346	1+6+8	1.751				17
	0.889					0.516			1+6	1.405	86	0.02	No	
	0.889							0.346	1+8	1.235	52.7	0.03	No	
						0.516		0.346	6+8	0.862	138.7	0.01	No	
Rear	0.889						0.623	0.346	1+7+8	1.858				18
	0.889						0.623		1+7	1.512	117	0.02	No	
	0.889							0.346	1+8	1.235	52.7	0.03	No	
							0.623	0.346	7+8	0.969	169.6	0.01	No	
Edge 4	1.076					0.374		0.200	1+6+8	1.650				19
	1.076					0.374			1+6	1.450	95.4	0.02	No	
	1.076							0.200	1+8	1.276	42.3	0.03	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	

12.11 Sum of the SAR for LTE Band 41 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.385	0.545	0.252	0.517	0.644	0.516	0.623	0.346	0.930	0.637	0.902	1.029	0.901	1.008	0.731	1.375	1.247	1.354
Edge 1	0.154	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.488	0.158	0.492	1.271	0.554	1.281	0.392	1.509	0.792	1.519
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.131	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.153	0.749	0.771	0.531	0.686	0.661	0.132	0.532	0.687	0.662
Edge 4	0.672	0.277	0.130	0.295	0.296	0.374	0.296	0.200	0.949	0.802	0.967	0.968	1.046	0.968	0.872	1.168	1.246	1.168

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.
5. For Sec.12.11, It also considered to LTE UL CA 41C and LTE 41-PC2.

12.12 Sum of the SAR for LTE Band 48 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	1.124	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.669	1.376	1.641	1.768	1.640	1.747	1.470	2.114	1.986	2.093
Edge 1	0.073	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.407	0.077	0.411	1.190	0.473	1.200	0.311	1.428	0.711	1.438
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.123	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.145	0.741	0.763	0.523	0.678	0.653	0.124	0.524	0.679	0.654
Edge 4	1.234	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.511	1.364	1.529	1.530	1.608	1.530	1.434	1.730	1.808	1.730

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	1.124	0.545							1 + 2	1.669	109.3	0.02	No	20
Rear	1.124			0.517					1 + 4	1.641	109.3	0.02	No	21
Rear	1.124				0.644			0.346	1 + 5 + 8 (1 + 5)	2.114				22
	1.124				0.644				1 + 5	1.768	101.7	0.02	No	
	1.124							0.346	1 + 8	1.47	107.9	0.02	No	
					0.644			0.346	5 + 8	0.990	8.8	0.11	Yes	
Hybrid SPLSR Note 4	1.124				0.912				1 + (5 + 8)	2.036	109.7	0.03	No	22-a
Rear	1.124					0.516		0.346	1 + 6 + 8 (1 + 6)	1.986				23
	1.124					0.516			1 + 6	1.640	31.0	0.07	Yes	
	1.124							0.346	1 + 8	1.470	108.1	0.02	No	
						0.516		0.346	6 + 8	0.862	138.7	0.01	No	
Hybrid SPLSR Note 4	1.010							0.346	(1 + 6) + 8)	1.356	108.1	0.01	No	23-a
Rear	1.124						0.623	0.346	1 + 7 + 8 (1 + 7)	2.093				24
	1.124						0.623		1 + 7	1.747	61.6	0.04	No	
	1.124							0.346	1 + 8	1.470	108.1	0.02	No	
							0.623	0.346	7 + 8	0.969	169.6	0.01	No	
Edge 4	1.234				0.296			0.200	1 + 5 + 8	1.730				25
	1.234				0.296				1 + 5	1.530	106.8	0.02	No	
	1.234							0.200	1 + 8	1.434	105.9	0.02	No	
					0.296			0.200	5 + 8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.234				0.385				1 + (5 + 8)	1.619	106.2	0.02	No	25-a
Edge 4	1.234					0.374		0.200	1 + 6 + 8 (1 + 6)	1.808				26
	1.234					0.374			1 + 6	1.608	31.6	0.06	Yes	
	1.234							0.200	1 + 8	1.434	105.9	0.02	No	
						0.374		0.200	6 + 8	0.574	137.5	0.00	No	
Hybrid SPLSR Note 4	1.410							0.200	(1 + 6) + 8	1.610	110.9	0.02	No	26-a
Edge 4	1.234						0.296	0.200	1 + 7 + 8	1.730				27
	1.234						0.296		1 + 7	1.530	23.7	0.08	Yes	
	1.234							0.200	1 + 8	1.434	105.9	0.02	No	
							0.296	0.200	7 + 8	0.496	129.0	0.00	No	
Hybrid SPLSR Note 4	1.380							0.200	(1 + 7) + 8	1.580	110.9	0.02	No	27-a

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.13 Sum of the SAR for LTE Band 66 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.568	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.113	0.820	1.085	1.212	1.084	1.191	0.914	1.558	1.430	1.537
Edge 1	0.207	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.541	0.211	0.545	1.324	0.607	1.334	0.445	1.562	0.845	1.572
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.006	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.283	1.136	1.301	1.302	1.380	1.302	1.206	1.502	1.580	1.502

12.14 Sum of the SAR for LTE Band 71 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.326	0.545	0.252	0.517	0.644	0.516	0.623	0.346	0.871	0.578	0.843	0.970	0.842	0.949	0.672	1.316	1.188	1.295
Edge 1	0.042	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.376	0.046	0.380	1.159	0.442	1.169	0.280	1.397	0.680	1.407
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.077	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.099	0.695	0.717	0.477	0.632	0.607	0.078	0.478	0.633	0.608
Edge 4	0.699	0.277	0.130	0.295	0.296	0.374	0.296	0.200	0.976	0.829	0.994	0.995	1.073	0.995	0.899	1.195	1.273	1.195

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. For Sec.12.13, It also considered to LTE UL CA 66B and LTE UL CA 66C.

12.15 Sum of the SAR for NR Band n5 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.882	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.427	1.134	1.399	1.526	1.398	1.505	1.228	1.872	1.744	1.851
Edge 1	0.128	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.462	0.132	0.466	1.245	0.528	1.255	0.366	1.483	0.766	1.493
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.085	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.107	0.703	0.725	0.485	0.640	0.615	0.086	0.486	0.641	0.616
Edge 4	1.014	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.291	1.144	1.309	1.310	1.388	1.310	1.214	1.510	1.588	1.510

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	0.882				0.644			0.346	1+5+8	1.872				28
	0.882				0.644				1+5	1.526	92.6	0.02	No	
	0.882							0.346	1+8	1.228	98.9	0.01	No	
					0.644			0.346	5+8	0.990	8.9	0.11	Yes	
Hybrid SPLSR Note 4	0.882				0.912				1+(5+8)	1.794	105.4	0.02	No	28-a
Rear	0.882					0.516		0.346	1+6+8	1.744				29
	0.882					0.516			1+6	1.398	40.3	0.04	No	
	0.882							0.346	1+8	1.228	98.9	0.01	No	
						0.516		0.346	6+8	0.862	138.7	0.01	No	
Rear	0.882						0.623	0.346	1+7+8	1.851				30
	0.882						0.623		1+7	1.505	67.4	0.03	No	
	0.882							0.346	1+8	1.228	102.8	0.01	No	
							0.623	0.346	7+8	0.969	169.6	0.01	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.16 Sum of the SAR for NR Band n25 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.572	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.117	0.824	1.089	1.216	1.088	1.195	0.918	1.562	1.434	1.541
Edge 1	0.154	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.488	0.158	0.492	1.271	0.554	1.281	0.392	1.509	0.792	1.519
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.166	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.443	1.296	1.461	1.462	1.540	1.462	1.366	1.662	1.740	1.662

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Edge 4	1.166				0.296			0.200	1+5+8	1.662				31
	1.166				0.296				1+5	1.462	43	0.04	No	
	1.166							0.200	1+8	1.366	42.6	0.04	No	
					0.296			0.200	5+8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.166				0.385				1+(5+8)	1.551	47.6	0.04	No	31-a
Edge 4	1.166					0.374		0.200	1+6+8	1.740				32
	1.166					0.374			1+6	1.540	95.8	0.02	No	
	1.166							0.200	1+8	1.366	42.6	0.04	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	
Edge 4	1.166						0.296	0.200	1+7+8	1.662				33
	1.166						0.296		1+7	1.462	87.3	0.02	No	
	1.166							0.200	1+8	1.366	42.6	0.04	No	
							0.296	0.200	7+8	0.496	129	0.00	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.17 Sum of the SAR for NR Band n41 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.559	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.104	0.811	1.076	1.203	1.075	1.182	0.905	1.549	1.421	1.528
Edge 1 at 9mm	0.208	0.334	0.004	0.338	0.796	0.400	0.675	0.238	0.542	0.212	0.546	1.004	0.608	0.883	0.446	1.242	0.846	1.121
Edge 1 at 0mm	0.102	0.315	0.004	0.319	1.117	0.400	1.127	0.208	0.417	0.106	0.421	1.219	0.502	1.229	0.310	1.427	0.710	1.437
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.288	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.310	0.906	0.928	0.688	0.843	0.818	0.289	0.689	0.844	0.819
Edge 4	1.126	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.403	1.256	1.421	1.422	1.500	1.422	1.326	1.622	1.700	1.622

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Edge 4	1.126				0.296			0.200	1+5+8	1.622				34
	1.126				0.296				1+5	1.422	40	0.04	No	
	1.126							0.200	1+8	1.326	38.9	0.04	No	
					0.296			0.200	5+8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.126				0.385				1+(5+8)	1.511	39.1	0.05	Yes	34-a
	1.220								(1+(5+8))	1.220				34-b
Edge 4	1.126					0.374		0.200	1+6+8	1.700				35
	1.126					0.374			1+6	1.500	99	0.02	No	
	1.126							0.200	1+8	1.326	38.9	0.04	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	
Edge 4	1.126						0.296	0.200	1+7+8	1.622				36
	1.126						0.296		1+7	1.422	90.3	0.02	No	
	1.126							0.200	1+8	1.326	38.9	0.04	No	
							0.296	0.200	7+8	0.496	129	0.00	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.
5. For Sec.12.17, Edge was considered by subdividing into 9mm distance and 0mm distance.

12.18 Sum of the SAR for NR Band n66 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.866	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.411	1.118	1.383	1.510	1.382	1.489	1.212	1.856	1.728	1.835
Edge 1	0.232	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.566	0.236	0.570	1.349	0.632	1.359	0.470	1.587	0.870	1.597
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.400	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.422	1.018	1.040	0.800	0.955	0.930	0.401	0.801	0.956	0.931
Edge 4	1.132	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.409	1.262	1.427	1.428	1.506	1.428	1.332	1.628	1.706	1.628

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	0.866				0.644			0.346	1+5+8	1.856				37
	0.866				0.644				1+5	1.510	47.8	0.04	No	
	0.866							0.346	1+8	1.212	53.4	0.02	No	
					0.644			0.346	5+8	0.990	8.9	0.11	Yes	
Hybrid SPLSR Note 4	0.866				0.912				1+(5+8)	1.778	58.3	0.04	No	37-a
Rear	0.866					0.516		0.346	1+6+8	1.728				38
	0.866					0.516			1+6	1.382	85.5	0.02	No	
	0.866							0.346	1+8	1.212	53.4	0.02	No	
						0.516		0.346	6+8	0.862	138.7	0.01	No	
Rear	0.866						0.623	0.346	1+7+8	1.835				39
	0.866						0.623		1+7	1.489	116.6	0.02	No	
	0.866							0.346	1+8	1.212	53.4	0.02	No	
							0.623	0.346	7+8	0.969	169.6	0.01	No	
Edge 4	1.132				0.296			0.200	1+5+8	1.628				40
	1.132				0.296				1+5	1.428	43.6	0.04	No	
	1.132							0.200	1+8	1.332	43.1	0.04	No	
					0.296			0.200	5+8	0.496	6.4	0.05	Yes	
Hybrid SPLSR Note 4	1.132				0.385				1+(5+8)	1.517	184.4	0.01	No	40-a
Edge 4	1.132					0.374		0.200	1+6+8 (1+6)	1.706				41
	1.132					0.374			1+6	1.506	94.8	0.02	No	
	1.132							0.200	1+8	1.332	43.1	0.04	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	
Edge 4	1.132						0.296	0.200	1+7+8	1.628				42
	1.132						0.296		1+7	1.428	86.1	0.02	No	
	1.132							0.200	1+8	1.332	43.1	0.04	No	
							0.296	0.200	7+8	0.496	129	0.00	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.19 Sum of the SAR for NR Band n71 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.903	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.448	1.155	1.420	1.547	1.419	1.526	1.249	1.893	1.765	1.872
Edge 1	0.068	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.402	0.072	0.406	1.185	0.468	1.195	0.306	1.423	0.706	1.433
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.084	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.106	0.702	0.724	0.484	0.639	0.614	0.085	0.485	0.640	0.615
Edge 4	1.029	0.277	0.130	0.295	0.296	0.374	0.296	0.200	1.306	1.159	1.324	1.325	1.403	1.325	1.229	1.525	1.603	1.525

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	0.903				0.644			0.346	1+5+8	1.893				43
	0.903				0.644				1+5	1.547	93.5	0.02	No	
	0.903							0.346	1+8	1.249	99.8	0.01	No	
					0.644			0.346	5+8	0.990	8.9	0.11	Yes	
Hybrid SPLSR Note 4	0.903				0.912				1+(5+8)	1.815	100.4	0.02	No	43-a
Rear	0.903					0.516		0.346	1+6+8	1.765				44
	0.903					0.516			1+6	1.419	39.2	0.04	No	
	0.903							0.346	1+8	1.249	99.8	0.01	No	
						0.516		0.346	6+8	0.862	138.7	0.01	No	
Rear	0.903						0.623	0.346	1+7+8	1.872				45
	0.903						0.623		1+7	1.526	70.1	0.03	No	
	0.903							0.346	1+8	1.249	99.8	0.01	No	
							0.623	0.346	7+8	0.969	169.6	0.01	No	
Edge 4	1.029					0.374		0.200	1+6+8	1.603				46
	1.029					0.374			1+6	1.403	39.1	0.04	No	
	1.029							0.200	1+8	1.229	98.8	0.01	No	
						0.374		0.200	6+8	0.574	137.5	0.00	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2
3. SPLSR Hotspot Combination Step.1) Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR. Refer to the Sec.12.21 for detailed Volume Scan Result.
4. SPLSR Hotspot Combination Step.2) Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair. Hybrid SPLSR procedure was applied for the spatially separated main bands and unlicensed bands for Multi-band Combined results.

12.20 Sum of the SAR for NR Band n77 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)								∑ 1-g SAR (W/kg)									
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT	WWAN + DTS Ant 1	WWAN + DTS Ant 2	WWAN + DTS MIMO	WWAN + U-NII Ant 1	WWAN + U-NII Ant 2	WWAN + U-NII MIMO	WWAN + BT	WWAN + BT + U-NII Ant 1	WWAN + BT + U-NII Ant 2	WWAN + BT + U-NII MIMO
	1	2	3	4	5	6	7	8	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+5+8	1+6+8	1+7+8
Rear	0.739	0.545	0.252	0.517	0.644	0.516	0.623	0.346	1.284	0.991	1.256	1.383	1.255	1.362	1.085	1.729	1.601	1.708
Edge 1	0.141	0.334	0.004	0.338	1.117	0.400	1.127	0.238	0.475	0.145	0.479	1.258	0.541	1.268	0.379	1.496	0.779	1.506
Edge 2	0.400	0.071	0.400	0.471	0.400	0.400	0.067	0.003	0.471	0.800	0.871	0.800	0.800	0.467	0.403	0.803	0.803	0.470
Edge 3	0.148	0.022	0.618	0.640	0.400	0.555	0.530	0.001	0.170	0.766	0.788	0.548	0.703	0.678	0.149	0.549	0.704	0.679
Edge 4	0.622	0.277	0.130	0.295	0.296	0.374	0.296	0.200	0.899	0.752	0.917	0.918	0.996	0.918	0.822	1.118	1.196	1.118

SAR to Peak Location Separation Ratio (SPLSR)

Test Position	Standalone SAR (W/kg)								SUM 1-g SAR (W/kg)		Calculated distance (mm)	SPLSR (=< 0.04)	Volume Scan (Yes/No) Note 3	Figure
	WWAN	DTS Ant 1	DTS Ant 2	DTS MIMO	U-NII Ant 1	U-NII Ant 2	U-NII MIMO	BT						
	1	2	3	4	5	6	7	8						
Rear	0.739				0.644			0.346	1+5+8	1.729				47
	0.739				0.644				1+5	1.383	110	0.01	No	
	0.739							0.346	1+8	1.085	116.5	0.01	No	
					0.644			0.346	5+8	0.990	8.9	0.11	Yes	
Hybrid SPLSR Note 4	0.739				0.912				1+(5+8)	1.651	119.1	0.02	No	47-a
Rear	0.739					0.516		0.346	1+6+8	1.601				48
	0.739					0.516			1+6	1.255	22.7	0.06	Yes	
	0.739							0.346	1+8	1.085	116.5	0.01	No	
						0.516		0.346	6+8	0.862	138.7	0.01	No	
Hybrid SPLSR Note 4	0.836							0.346	(1+6)+8	1.182	140.8	0.01	No	48-a
Rear	0.739						0.623	0.346	1+7+8	1.708				49
	0.739						0.623		1+7	1.362	53.3	0.03	No	
	0.739							0.346	1+8	1.085	116.5	0.01	No	
							0.623	0.346	7+8	0.969	169.6	0.01	No	

Note(s):

1. Green value is estimated SAR value.
2. Blue values are summation of DTS Ant.1 and DTS Ant.2.

12.21 Volume Scan Results

RF Exposure	Test Position	Configuration	Band	Original Measured SAR (W/kg)	Volume Scan Result	Plot No.	Multi-Band Combined factor	Multi-Band Combined Result	Plot No.
Standalone	Rear	UNII Ant 1 + Bluetooth	UNII Ant 1	0.428	0.441	1	1.504	**0.912**	16
			Bluetooth	0.216	0.207	2	1.601		
		LTE Band 48 + UNII Ant 2	LTE Band 48	0.900	0.803	3	1.249	**1.010**	17
			UNII Ant 2	0.453	0.387	4	1.138		
		NR Band n77 + UNII Ant 2	NR Band n77	0.556	0.612	5	1.329	**0.836**	18
			UNII Ant 2	0.453	0.387		1.138		
	Edge 1	UNII Ant 1 + Bluetooth	UNII Ant 1	0.273	0.177	6	1.084	**0.385**	19
			Bluetooth	0.125	0.131	7	1.601		
		WCDMA Band IV + UNII Ant 1 + Bluetooth	WCDMA Band IV	0.857	0.537	8	1.398	**0.749**	20, 21
			UNII Ant 1	0.273	0.177		1.084		
			Bluetooth	0.125	0.131		1.601		
		LTE Band 7 + UNII Ant 1 + Bluetooth	LTE Band 7	0.928	0.957	9	1.219	**1.170**	22, 23
			UNII Ant 1	0.273	0.177		1.084		
			Bluetooth	0.125	0.131		1.601		
		LTE Band 25 + UNII Ant 1 + Bluetooth	LTE Band 25	0.847	0.776	10	1.458	**1.110**	24 25
			UNII Ant 1	0.273	0.177		1.084		
			Bluetooth	0.125	0.131		1.601		
		LTE Band 48 + UNII Ant 2	LTE Band 48	0.927	1.080	11	1.331	**1.410**	26
			UNII Ant 2	0.329	0.236	12	1.138		
		LTE Band 48 + UNII MIMO	LTE Band 48	0.927	1.080		1.331	**1.380**	27
			UNII MIMO	0.215	0.185	13	1.377		
		NR Band n41 + UNII Ant 1 + Bluetooth	NR Band n41	0.878	0.968	14	1.282	**1.220**	28, 29
			UNII Ant 1	0.273	0.177		1.084		
			Bluetooth	0.125	0.131		1.601		

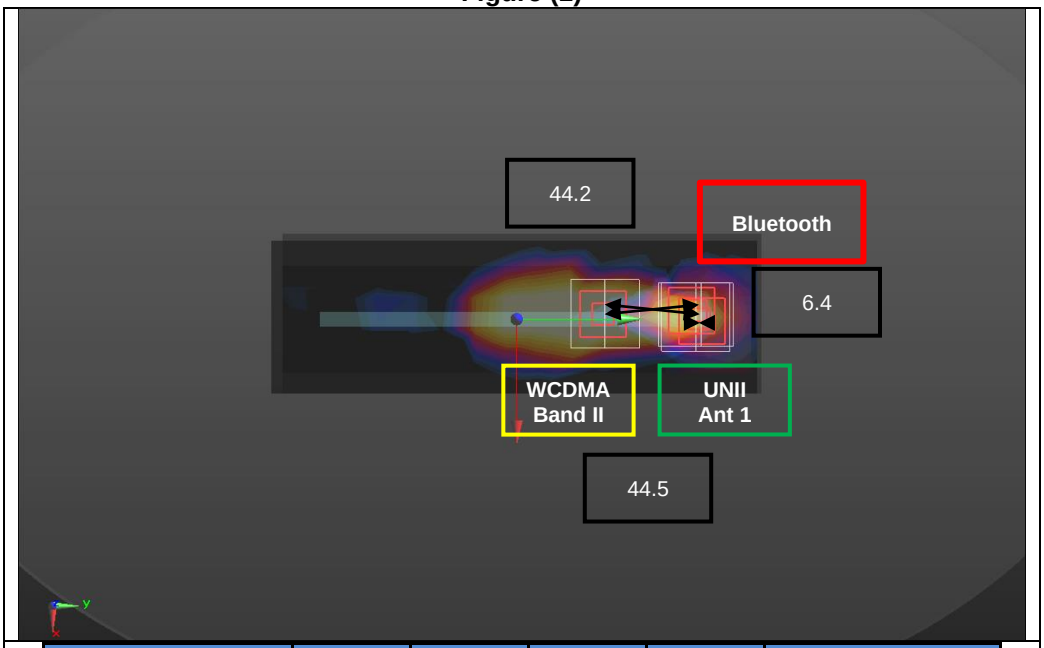
Note(s):

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

Conclusion:

Simultaneous Transmission SAR analysis results is satisfied the FCC Limit requirement according to follow procedures with “Sum of SAR” or “SPLSR” or “SPLSR Hotspot combination(including Volume Scan)”.

Figure (1)

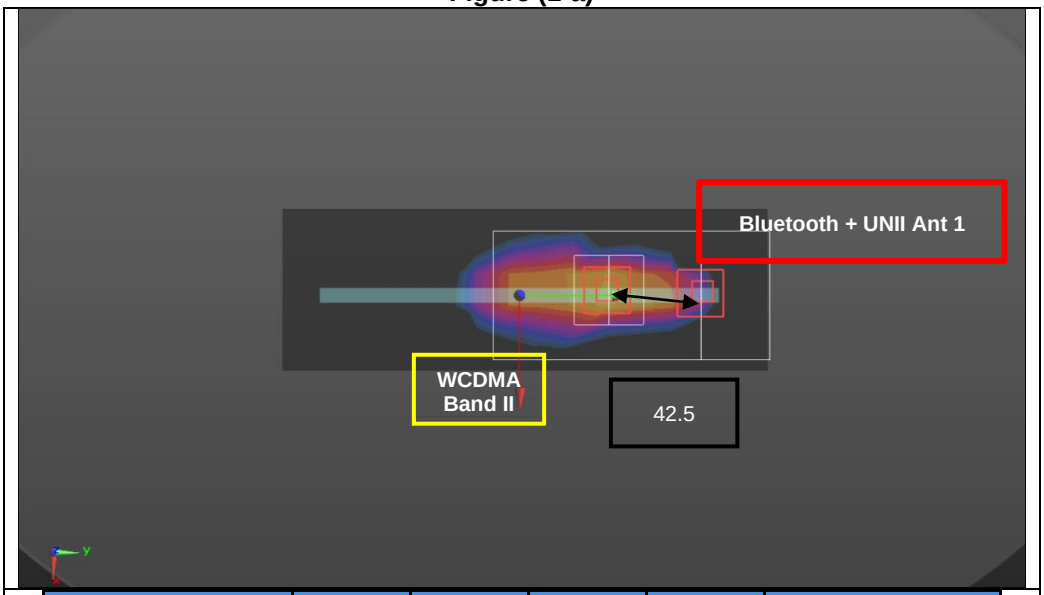


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band II	1	1.133	-0.0025	0.0415	-0.0070	1 + 2	44.5
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	44.2
BT	3	0.200	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (1-a)

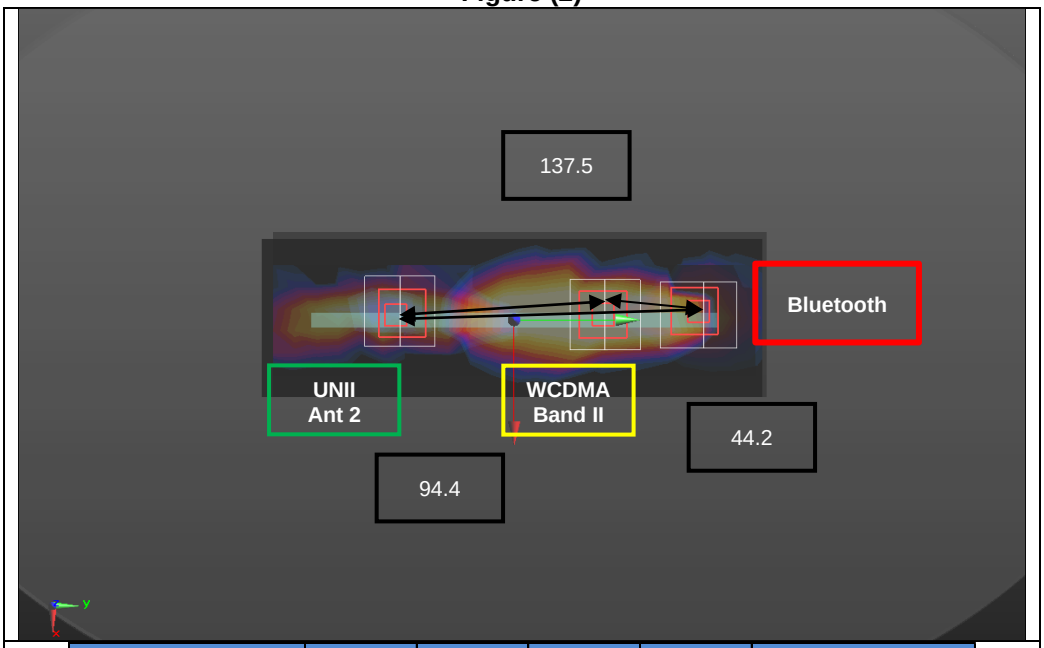


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band II	1	1.133	-0.0025	0.0415	-0.1830	1 + 2	42.5
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (2)

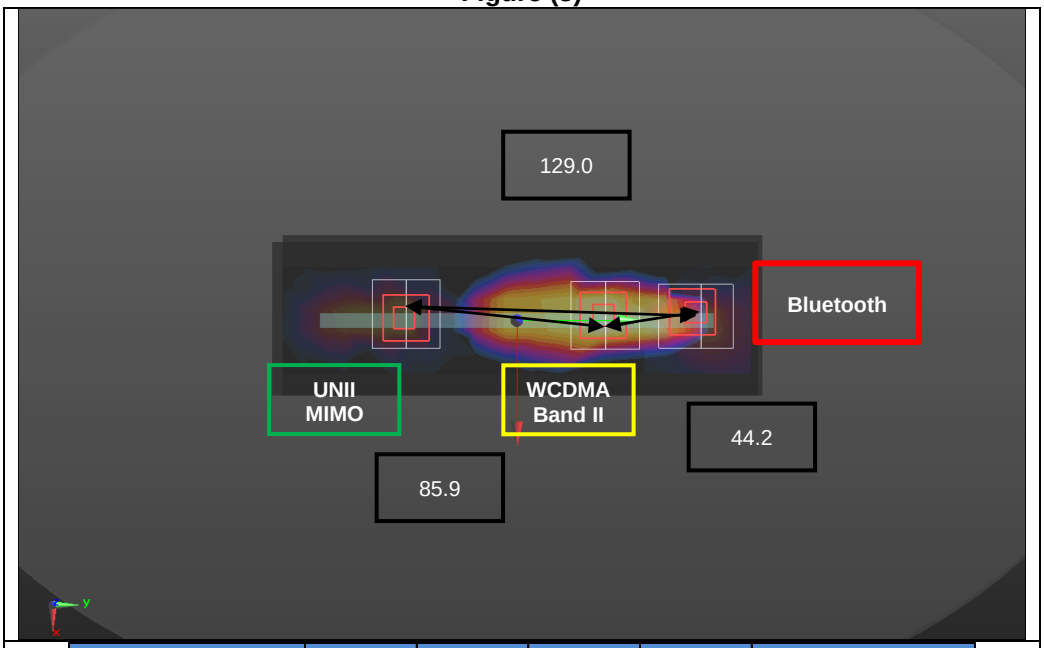


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band II	1	1.133	-0.0025	0.0415	-0.0070	1 + 2	94.4
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	44.2
BT	3	0.200	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (3)

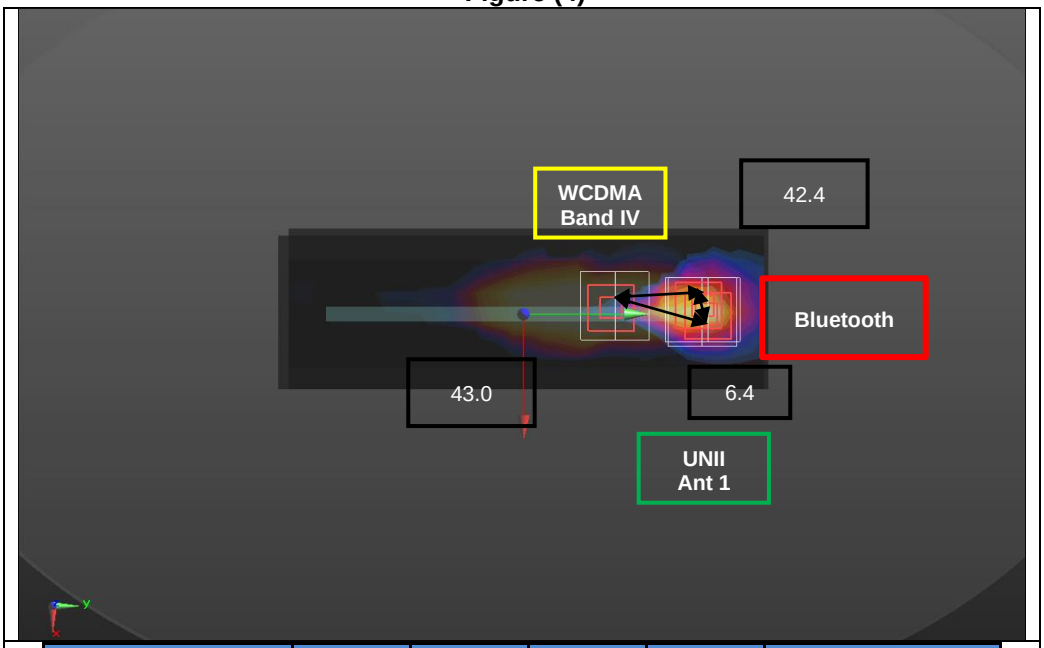


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band II	1	1.133	-0.0025	0.0415	-0.0070	1 + 2	85.9
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	44.2
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (4)

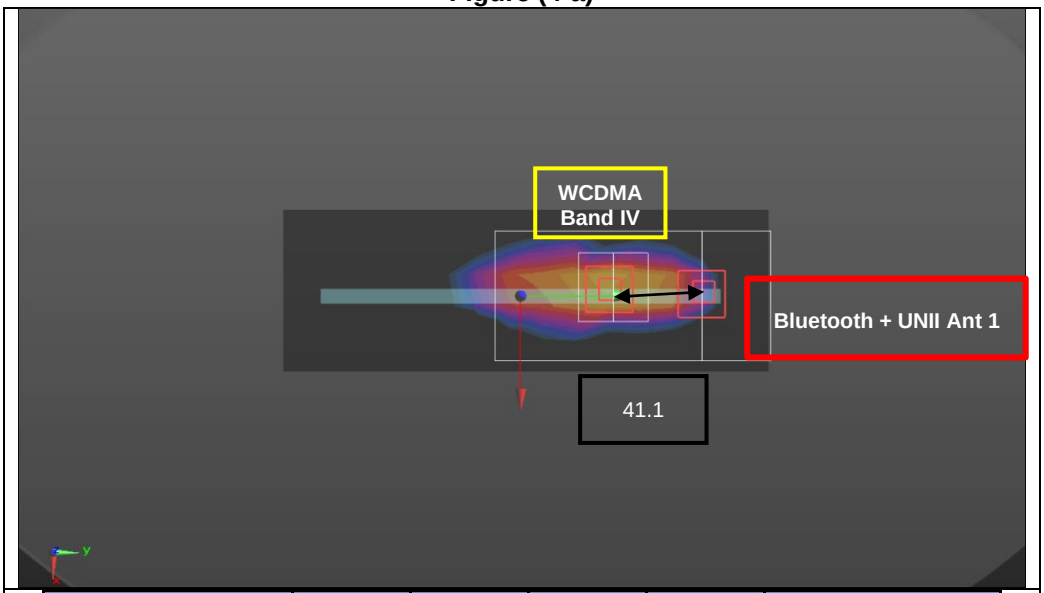


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band IV	1	1.198	-0.0040	0.0430	-0.0060	1 + 2	43.0
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	42.4
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (4-a)

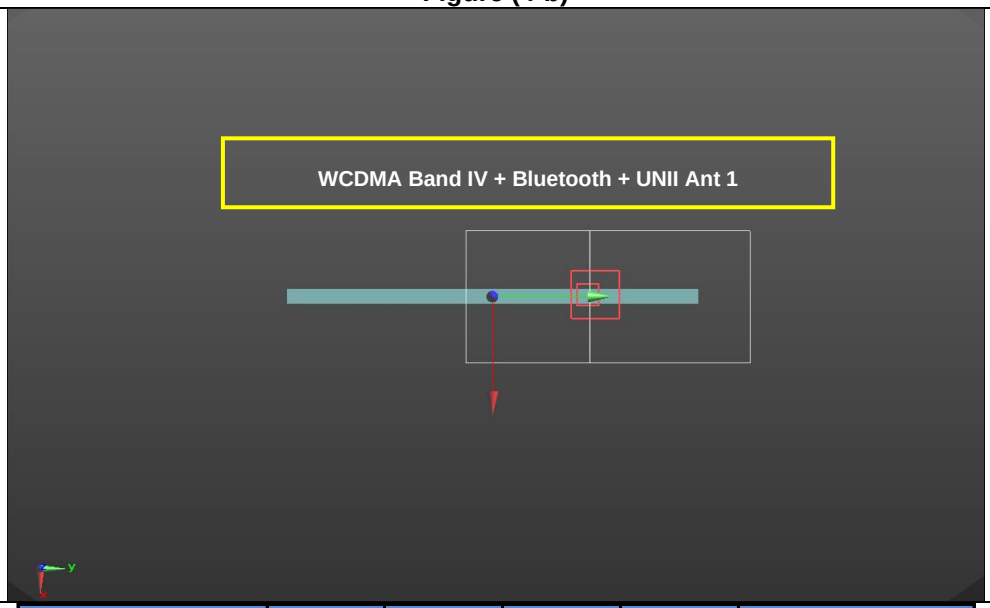


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band IV	1	1.198	-0.0040	0.0430	-0.1820	1 + 2	41.1
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (4-b)

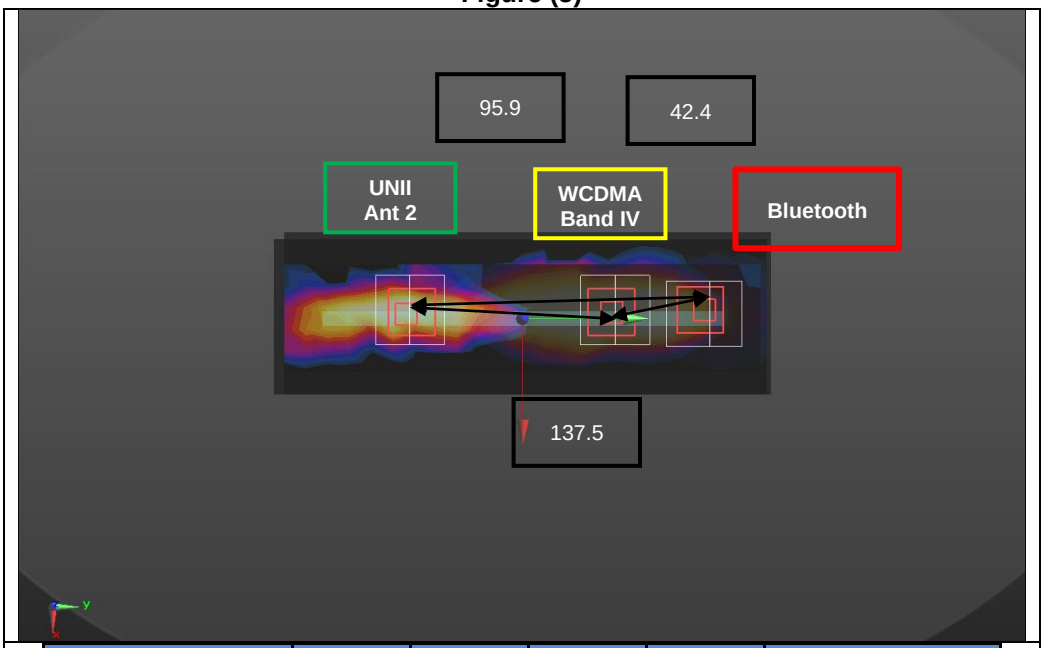


Mode		SAR	X	Y	Z	d: Calculated distance (mm)
		W/kg	m	m	m	
WCDMA Band IV	1	0.749				
UNII Ant 1 + BT	2					

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (5)

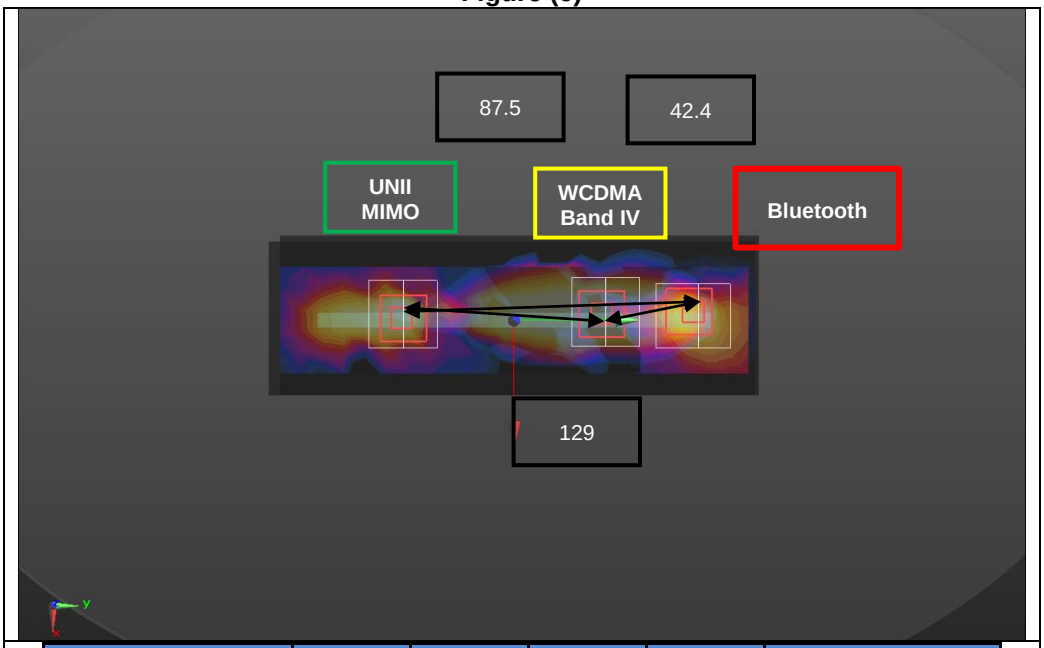


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band IV	1	1.198	-0.001	-0.0040	0.0430	1 + 2	95.8
UNII Ant 2	2	0.374	-0.002	-0.0016	-0.0528	1 + 3	41.8
BT	3	0.200	-0.0052	-0.0052	0.0846	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (6)

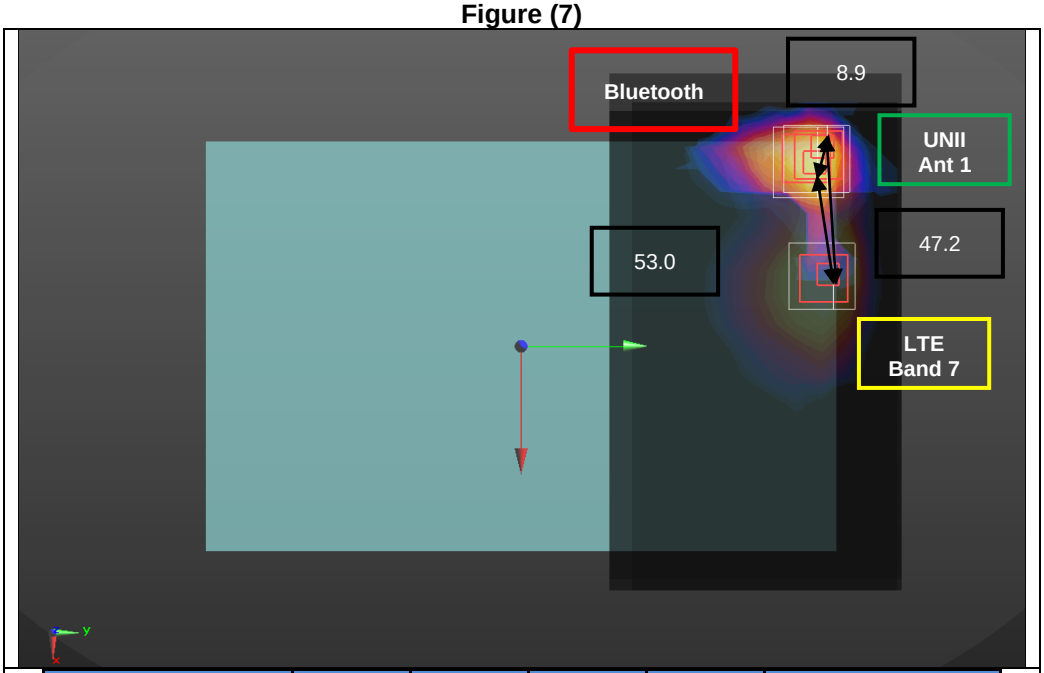


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA Band IV	1	1.198	-0.0040	0.0430	-0.0060	1 + 2	87.5
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	42.4
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (7)

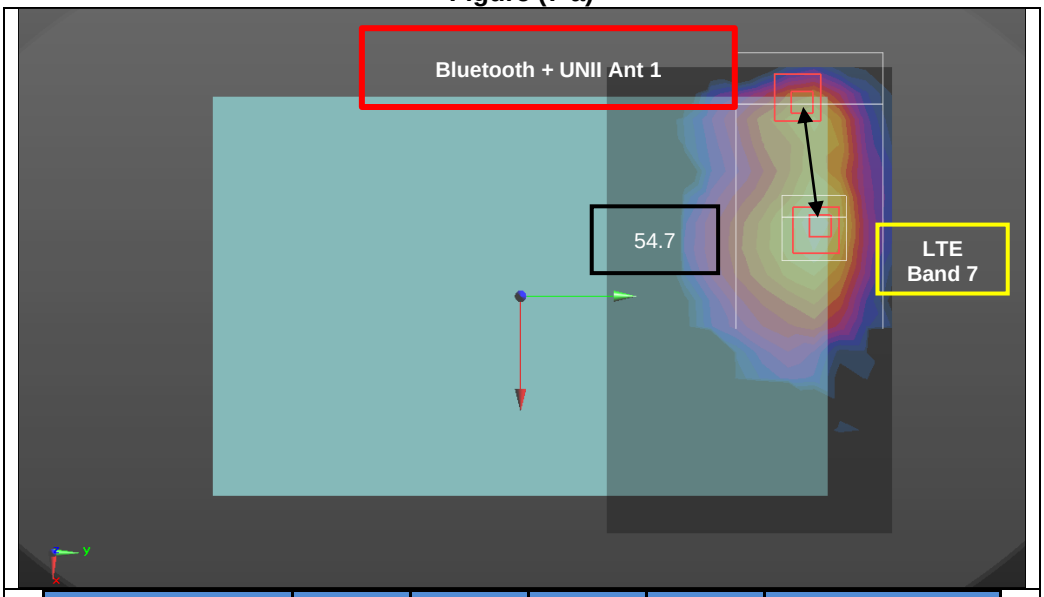


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	0.737	-0.0356	0.1392	0.0023	1 + 2	47.2
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	53.0
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	8.9

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (7-a)

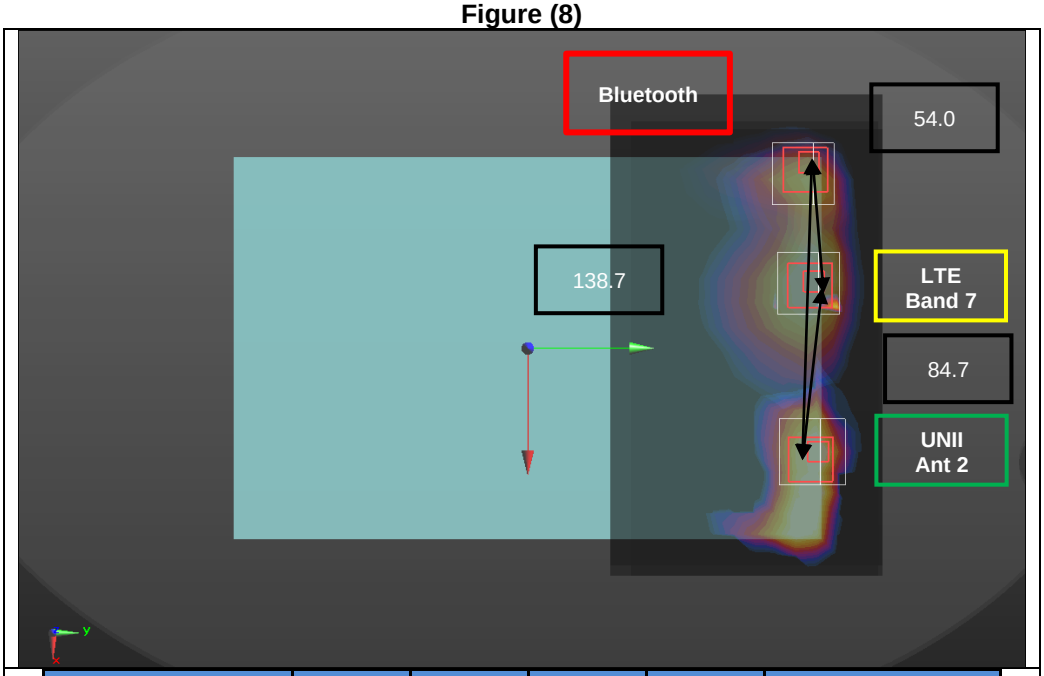


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	0.737	-0.0366	0.1410	-0.1720	1 + 2	54.7
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (8)

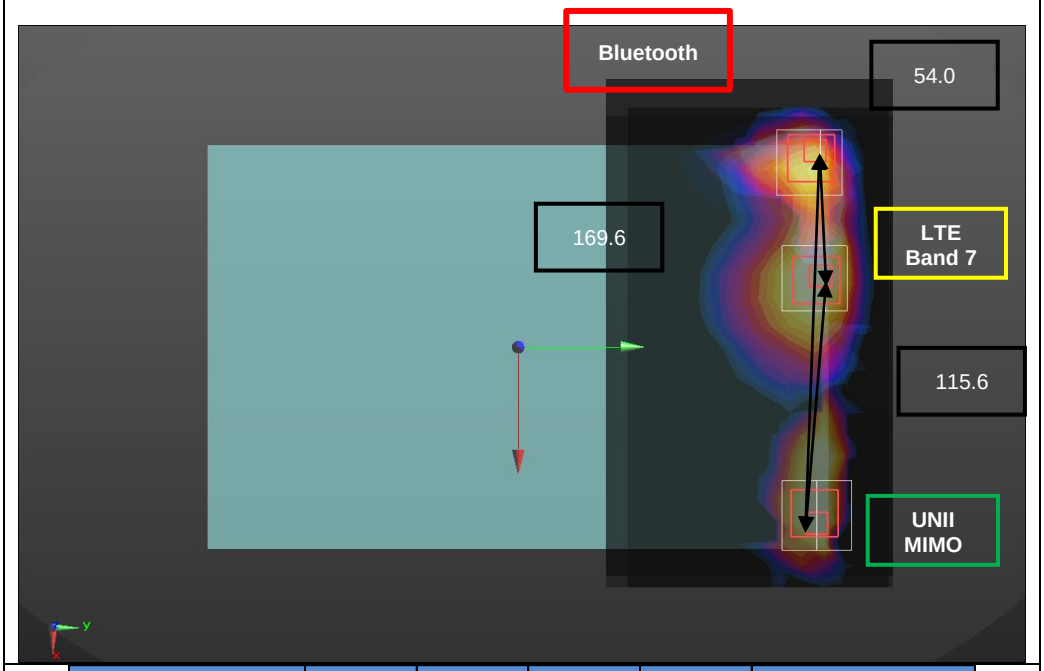


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	0.737	-0.0346	0.1390	0.0023	1 + 2	84.7
UNII Ant 2	2	0.516	0.0500	0.1404	-0.0010	1 + 3	54.0
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (9)

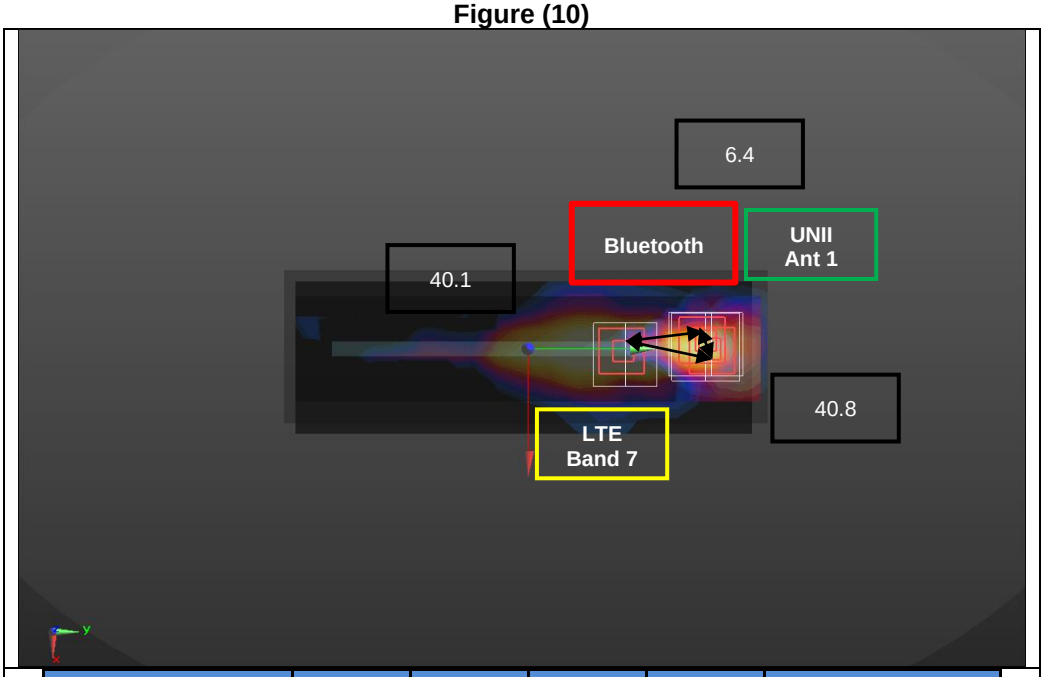


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	0.737	-0.0346	0.1390	0.0023	1 + 2	115.6
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	54.0
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (10)

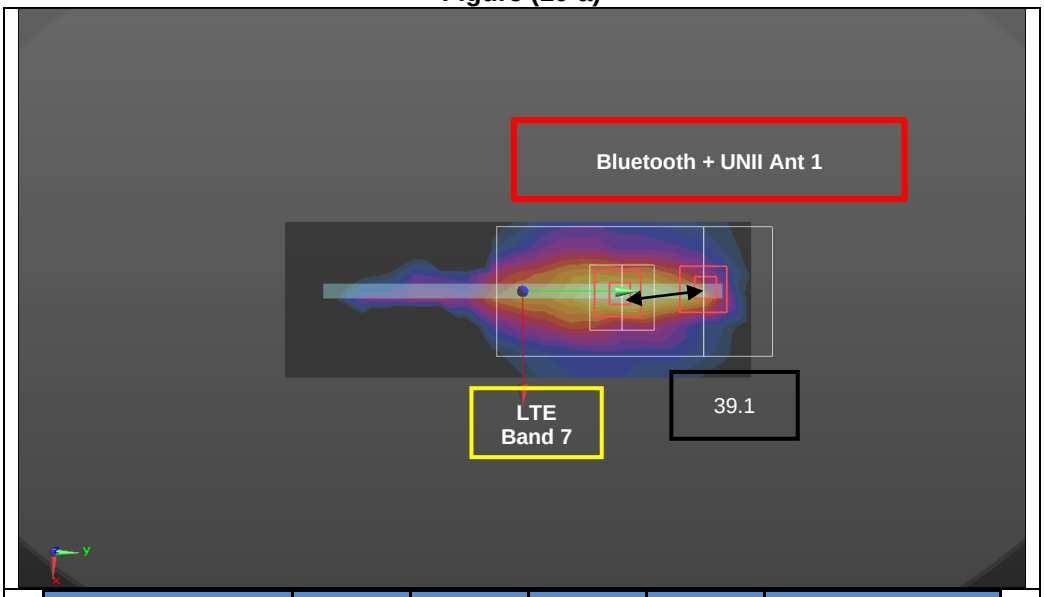


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	1.132	0.0008	0.0450	0.0024	1 + 2	40.8
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	40.1
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (10-a)

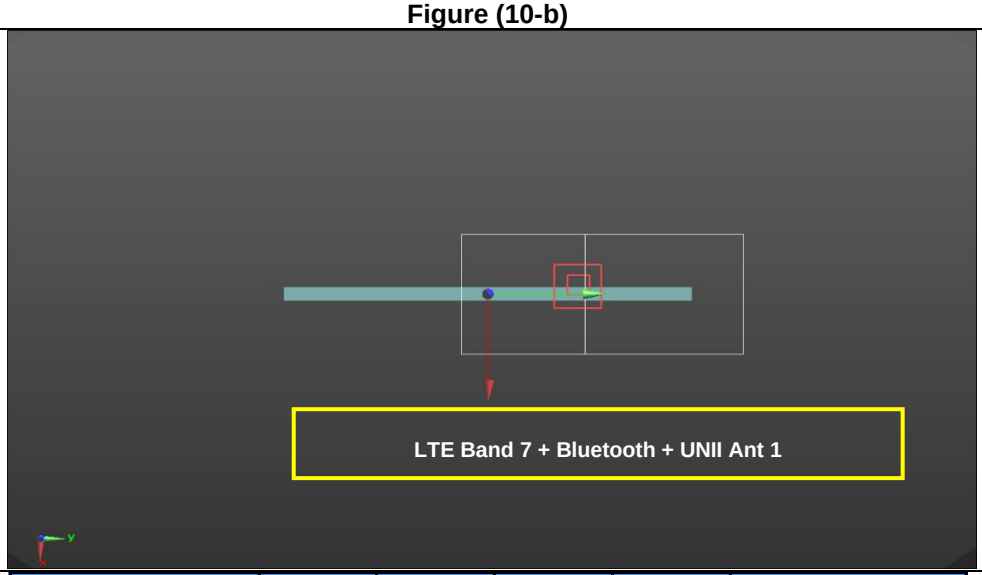


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	1.132	0.0028	0.0460	-0.1730	1 + 2	39.1
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (10-b)

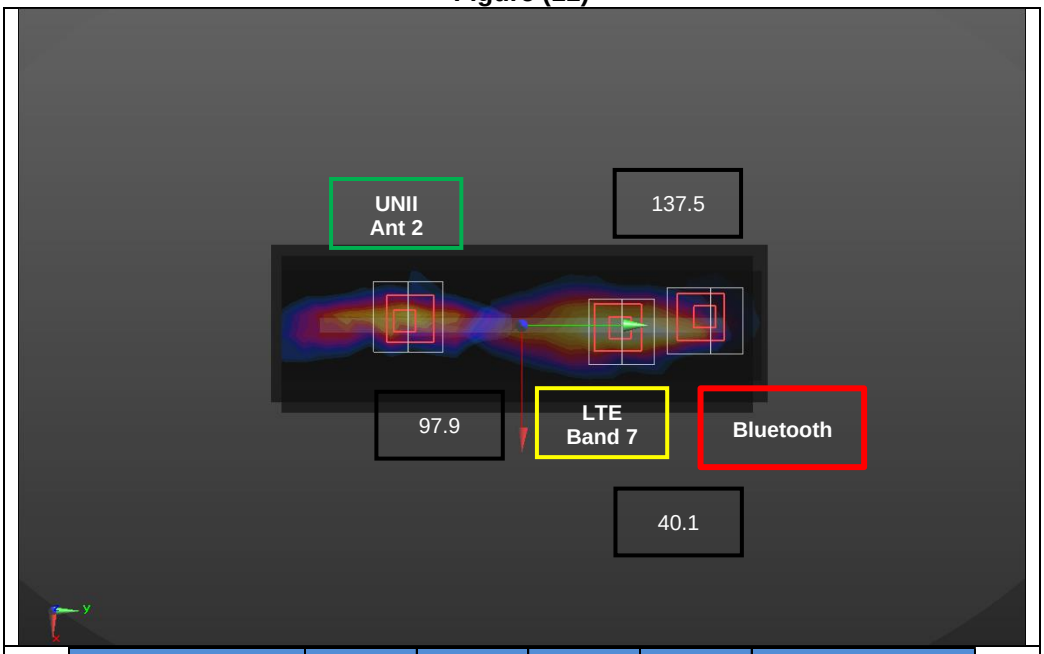


Mode		SAR	X	Y	Z	d: Calculated distance (mm)
		W/kg	m	m	m	
LTE Band 7	1	1.170				
UNII Ant 1 + BT	2					

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (11)

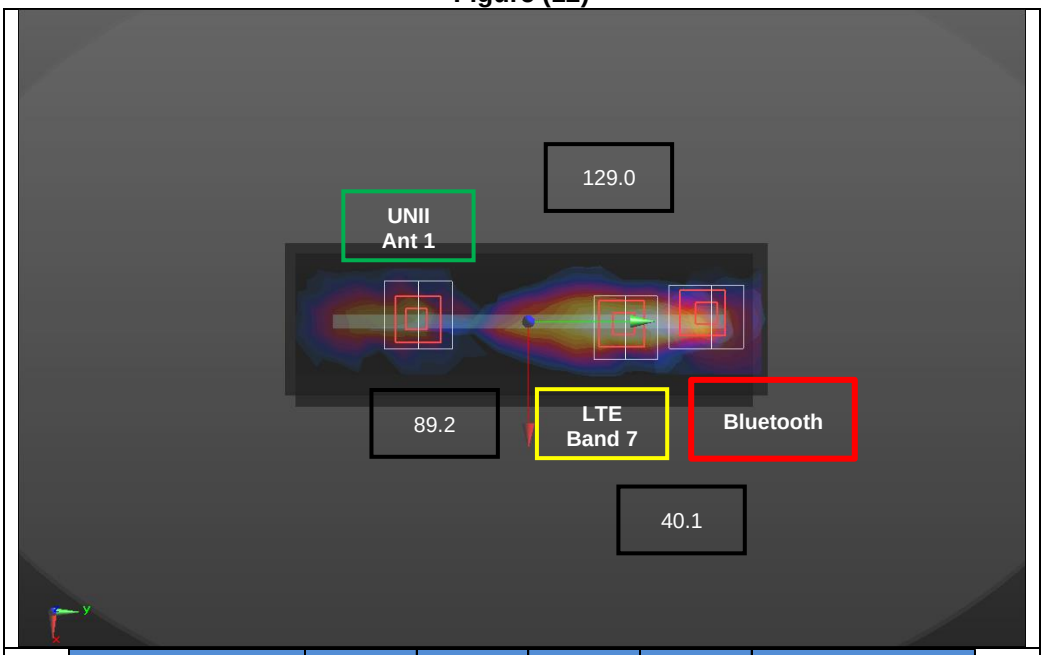


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	1.132	0.0008	0.0450	0.0024	1 + 2	97.9
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	40.1
BT	3	0.200	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (12)

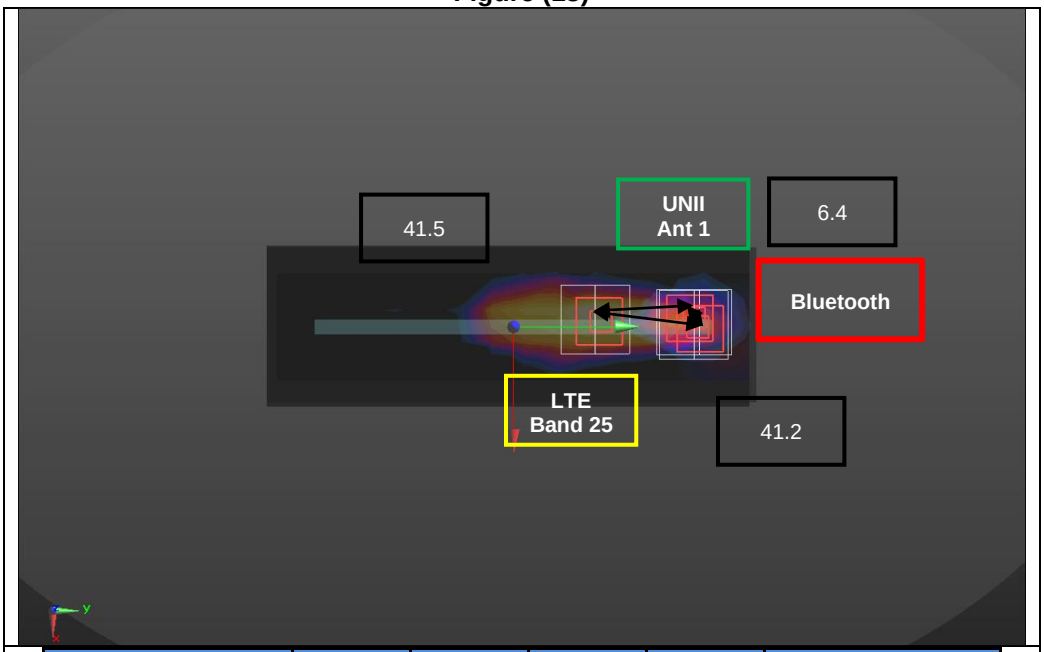


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 7	1	1.132	0.0008	0.0450	0.0024	1 + 2	89.2
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	40.1
BT	3	0.200	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (13)

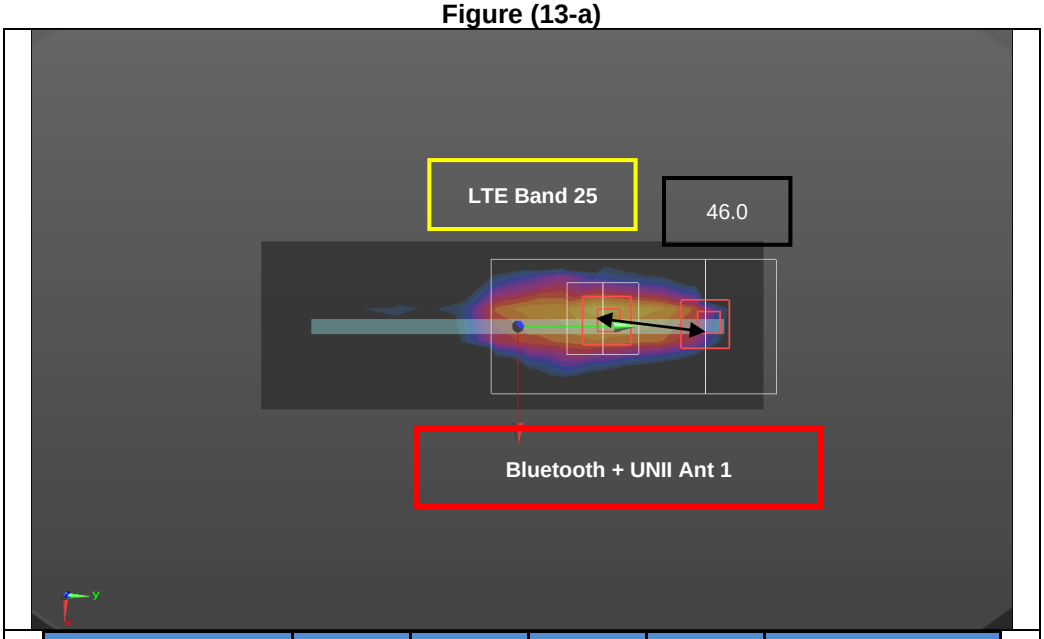


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 25	1	1.235	-0.0019	0.0444	-0.0062	1 + 2	41.5
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	41.2
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (13-a)

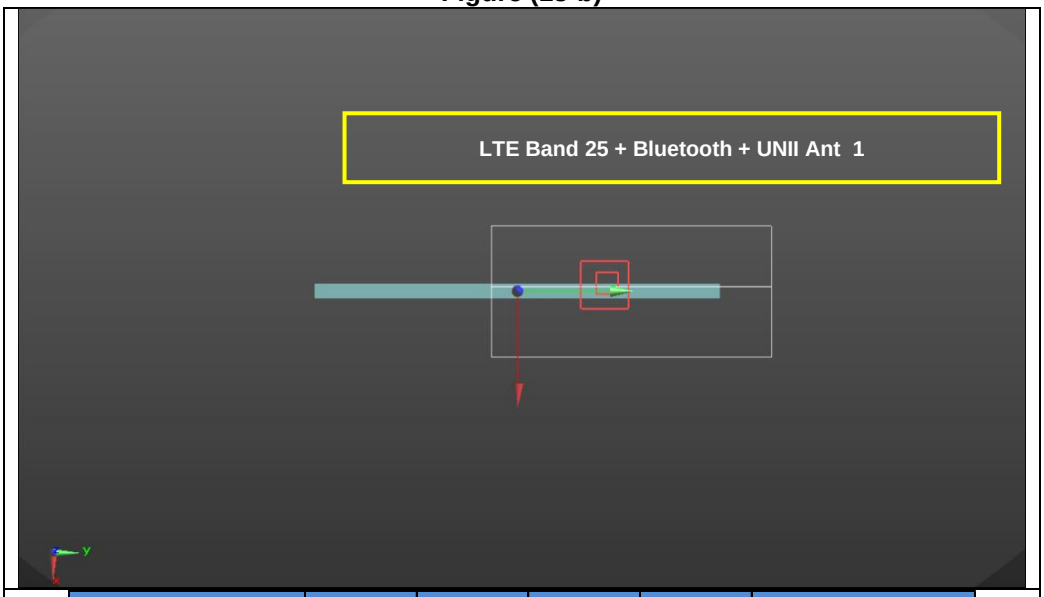


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 25	1	1.235	-0.0035	0.0380	-0.1820	1 + 2	46.0
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (13-b)

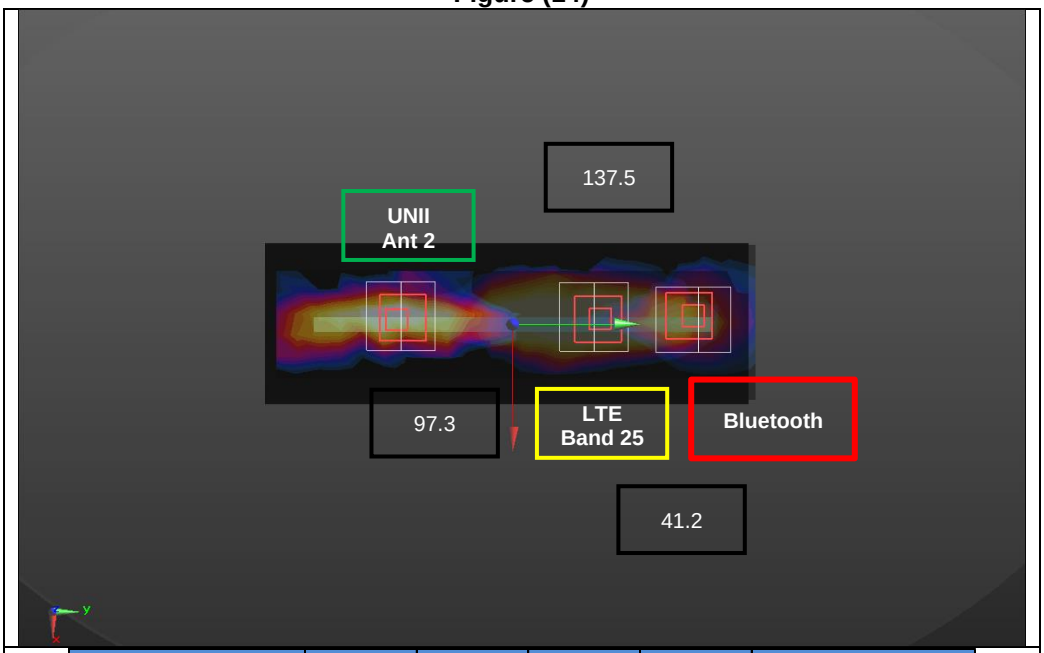


Mode		SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)
LTE Band 25	1	1.110				
UNII Ant 1 + BT	2					

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (14)

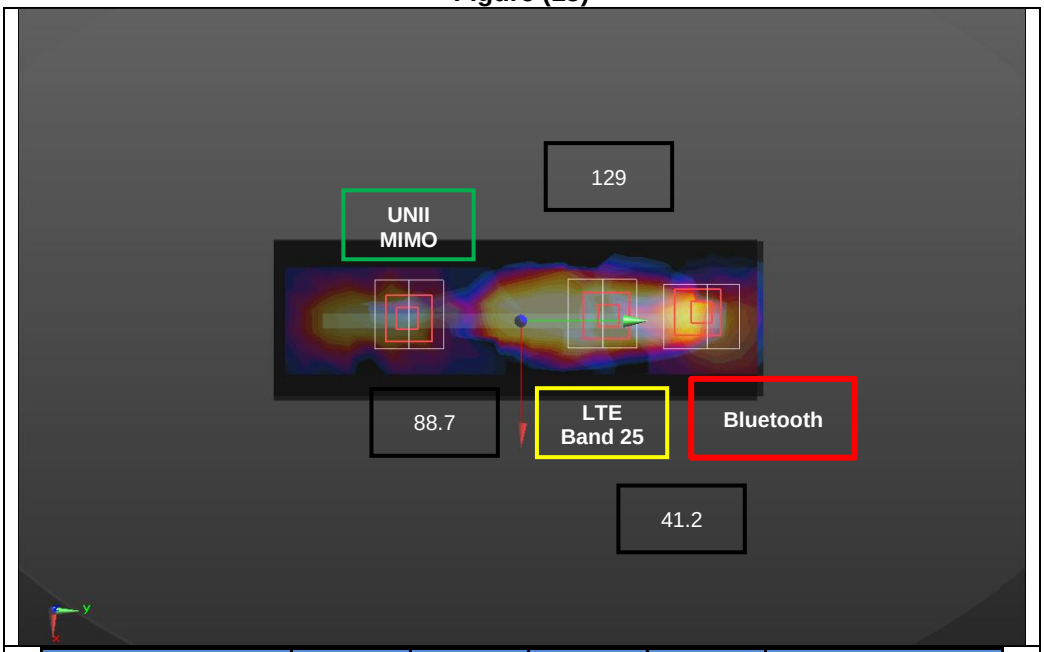


Mode		SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
LTE Band 25	1	1.235	-0.0019	0.0444	-0.0062	1 + 2	97.3
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	41.2
BT	3	0.200	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (15)

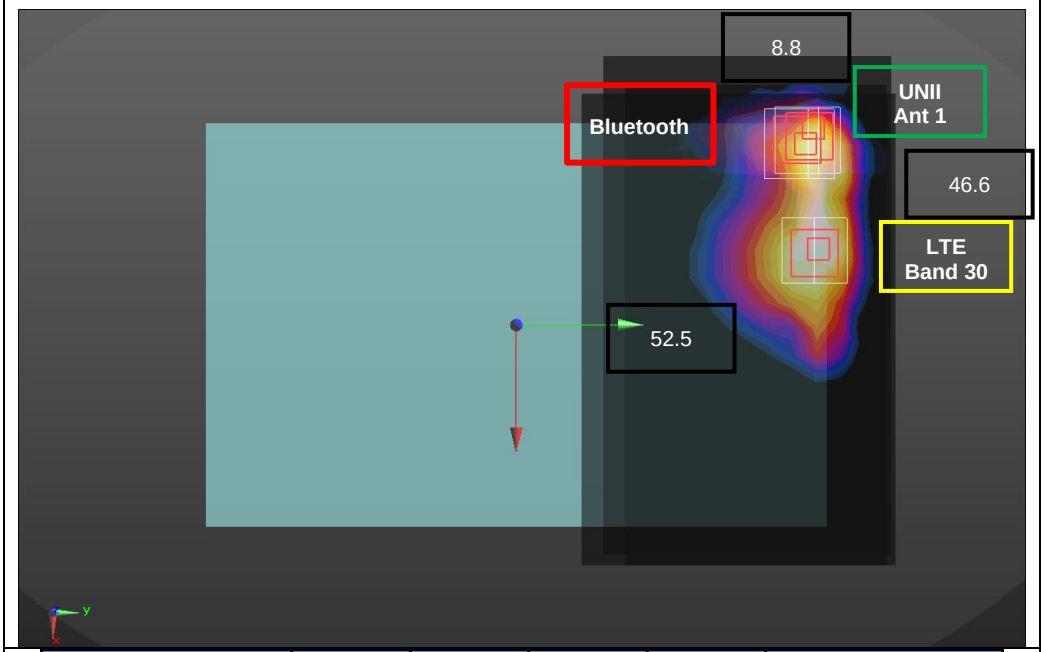


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 25	1	1.235	-0.0019	0.0444	-0.0062	1 + 2	88.7
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	41.2
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (16)

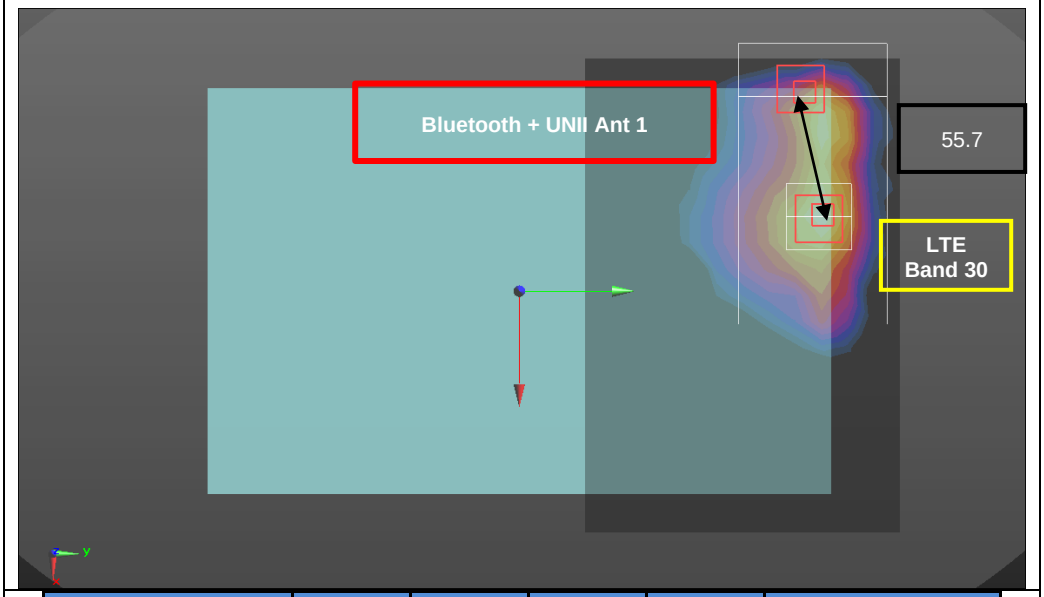


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 30	1	0.889	-0.0360	0.1388	-0.0010	1 + 2	46.6
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	52.5
BT	3	0.346	-0.0884	0.1376	0.0022	2 + 3	8.8

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (16-a)

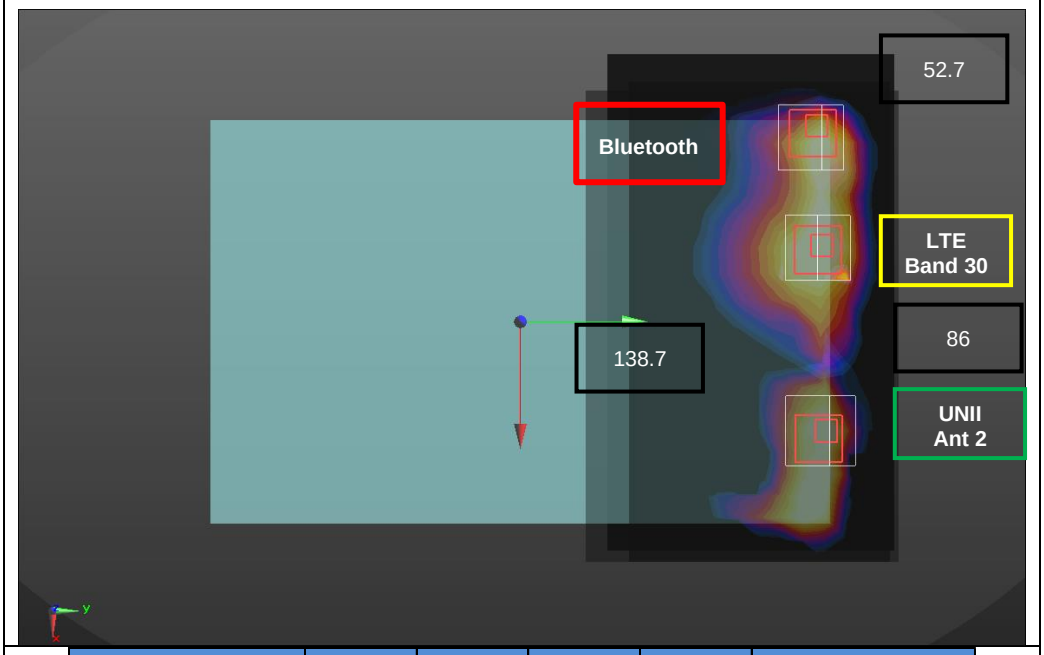


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 30	1	0.889	-0.0340	0.1370	-0.1800	1 + 2	55.7
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (17)

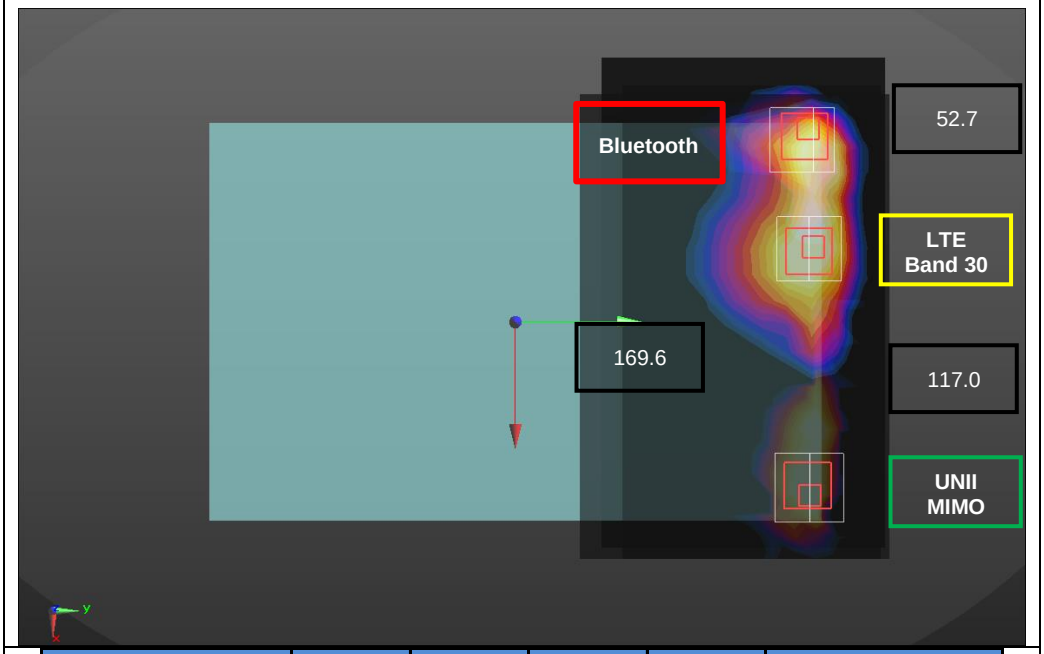


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 30	1	0.889	-0.0360	0.1388	-0.0010	1 + 2	86.0
UNII Ant 2	2	0.516	0.0500	0.1404	-0.0010	1 + 3	52.7
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (18)

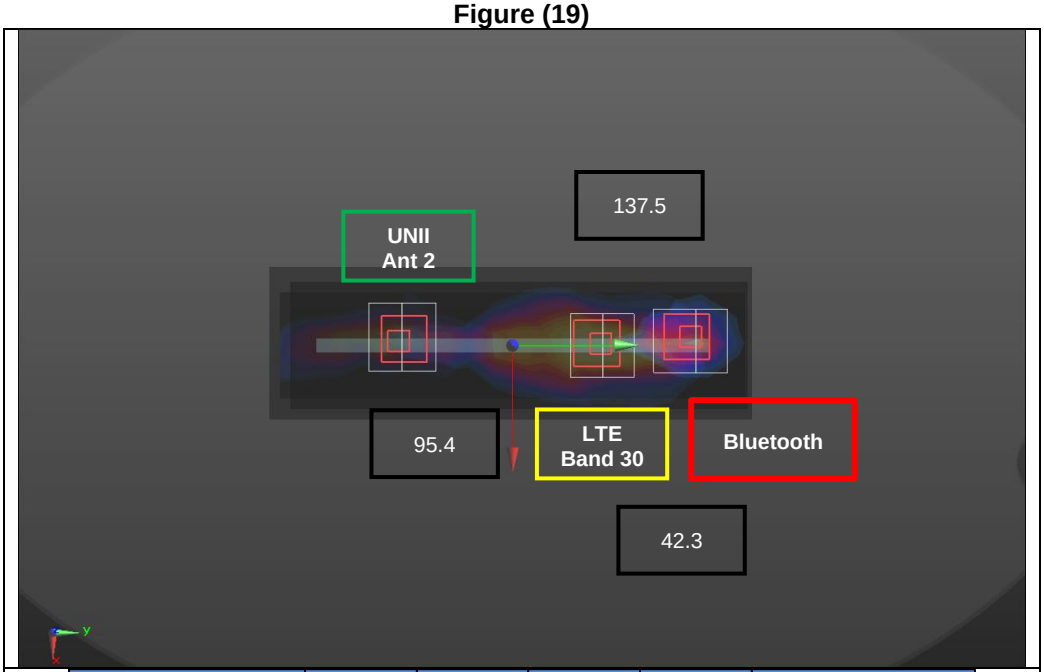


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 30	1	0.889	-0.0360	0.1388	-0.0010	1 + 2	117.0
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	52.7
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (19)

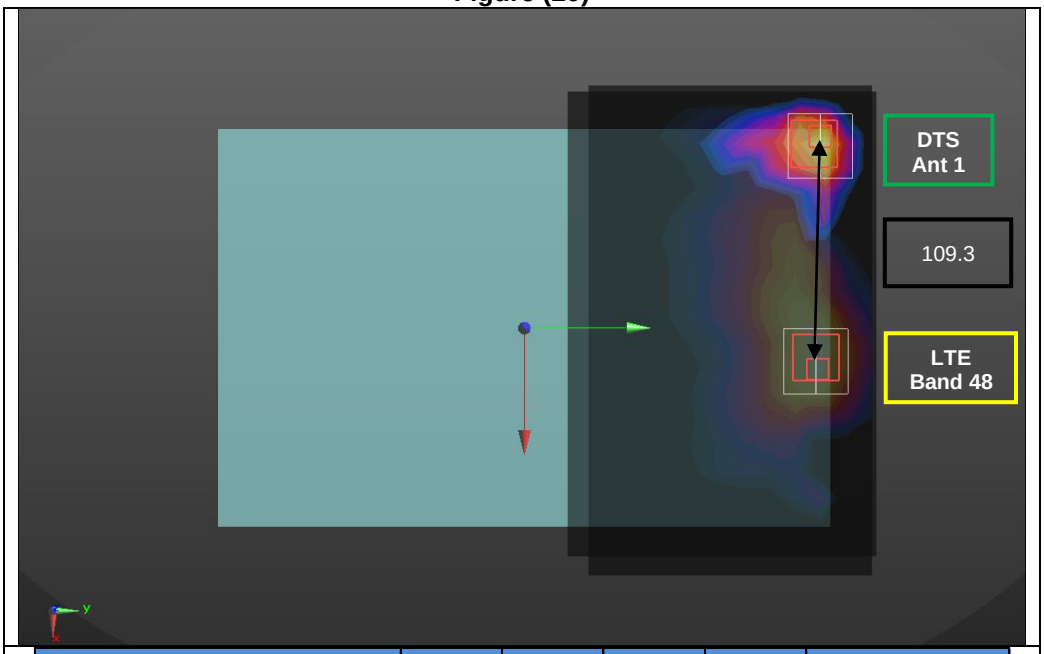


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 30	1	1.076	-0.0010	0.0426	-0.0008	1 + 2	95.4
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	42.3
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

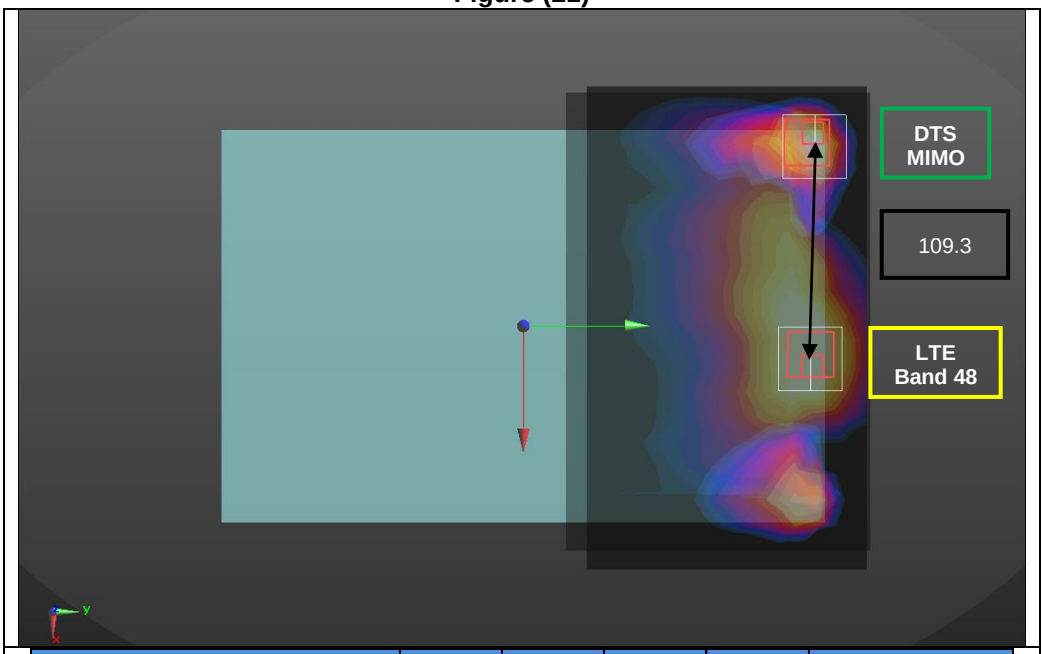
Figure (20)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.124	0.0194	0.1356	-0.0015	1 + 2	109.3
DTS Ant 1	2	0.545	-0.0898	0.1376	0.0023		

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

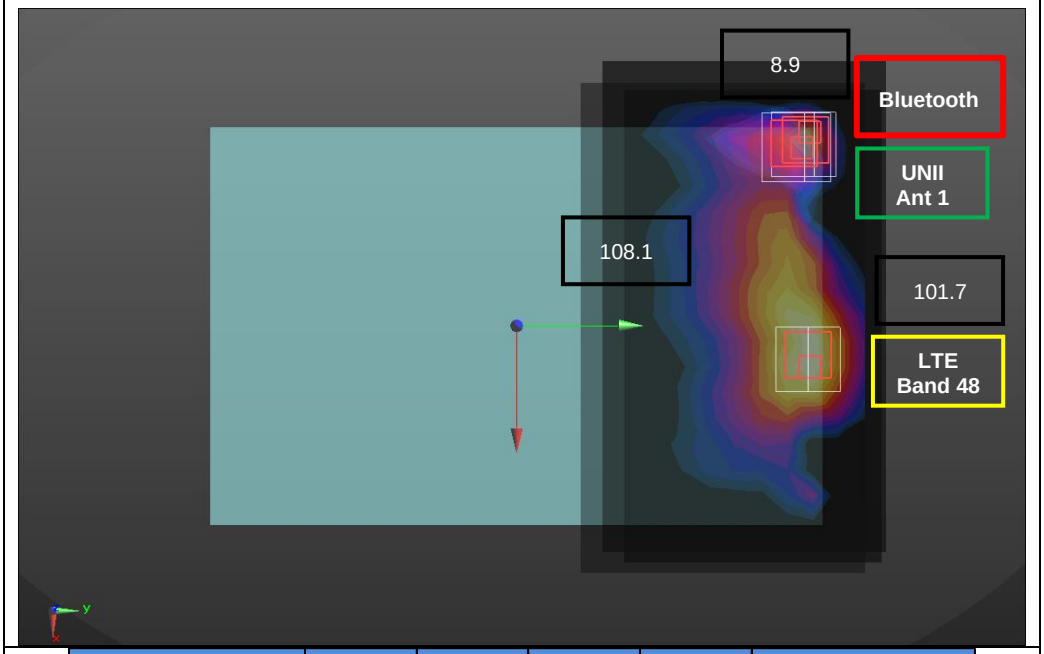
Figure (21)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.124	0.0194	0.1356	-0.0015	1 + 2	109.3
DTS MIMO	2	0.517	-0.0898	0.1376	0.0018		

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

Figure (22)

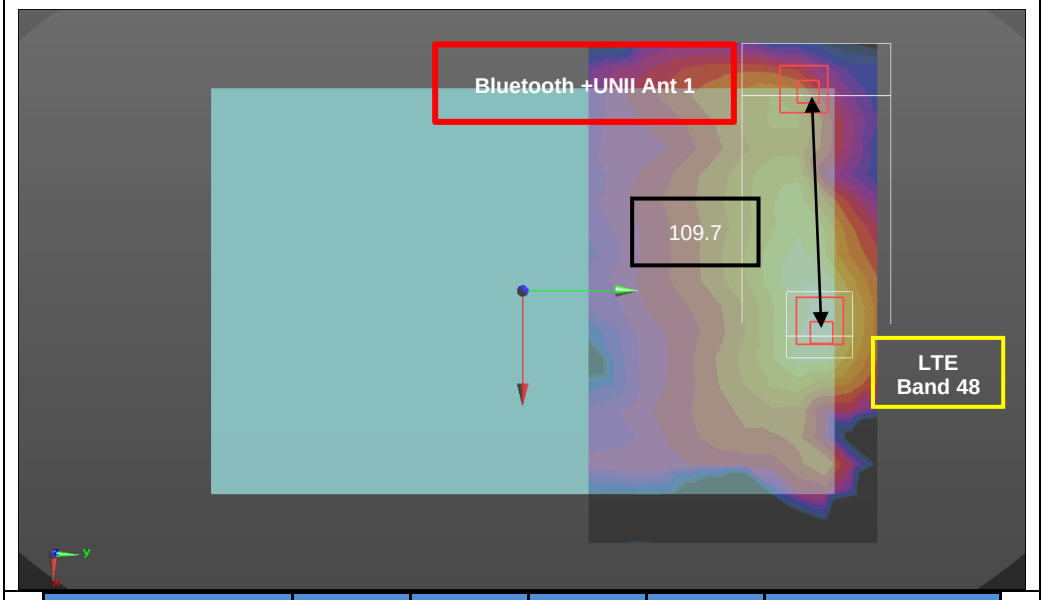


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.124	0.0194	0.1356	-0.0015	1 + 2	101.7
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	107.9
BT	3	0.346	-0.0884	0.1376	0.0022	2 + 3	8.8

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (22-a)

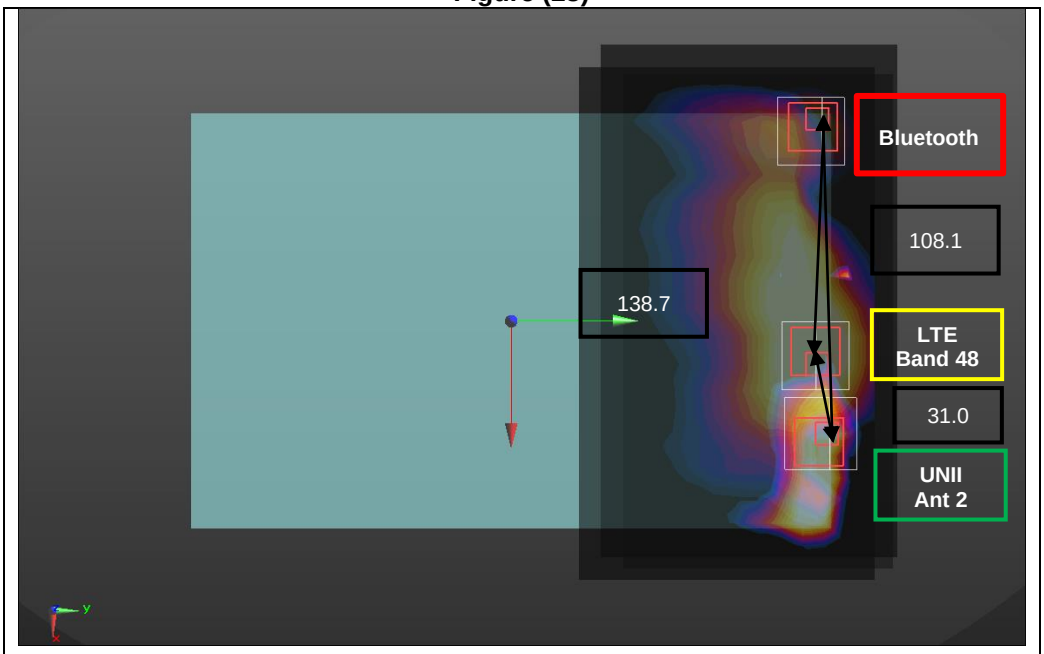


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.124	0.0204	0.1360	-0.1800	1 + 2	109.7
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (23)

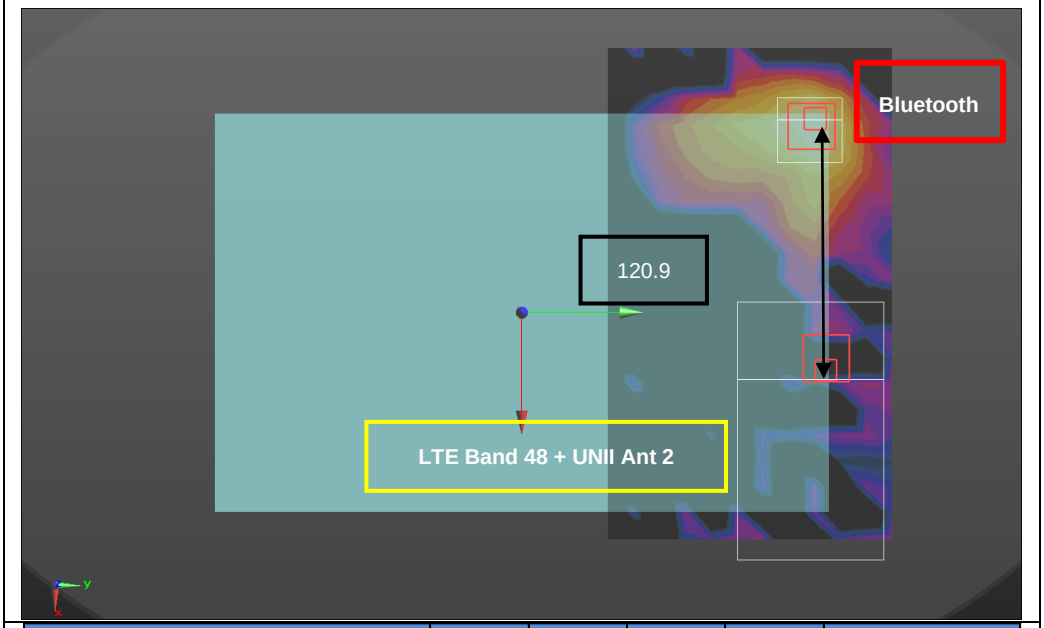


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.124	0.0194	0.1356	-0.0015	1 + 2	31.0
UNII Ant 2	2	0.516	0.0500	0.1404	-0.0010	1 + 3	108.1
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (23-a)

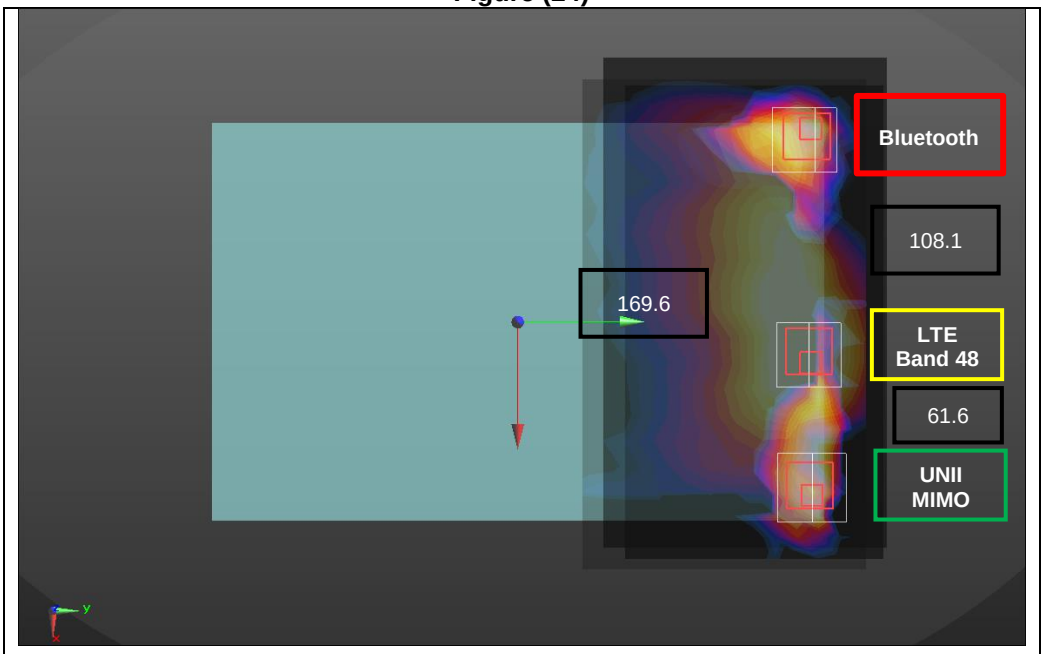


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48 + UNII Ant 2	1	1.01	0.0310	0.1400	-0.1810	1 + 2	120.9
BT	2	0.346	-0.0896	0.1390	-0.1730		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (24)

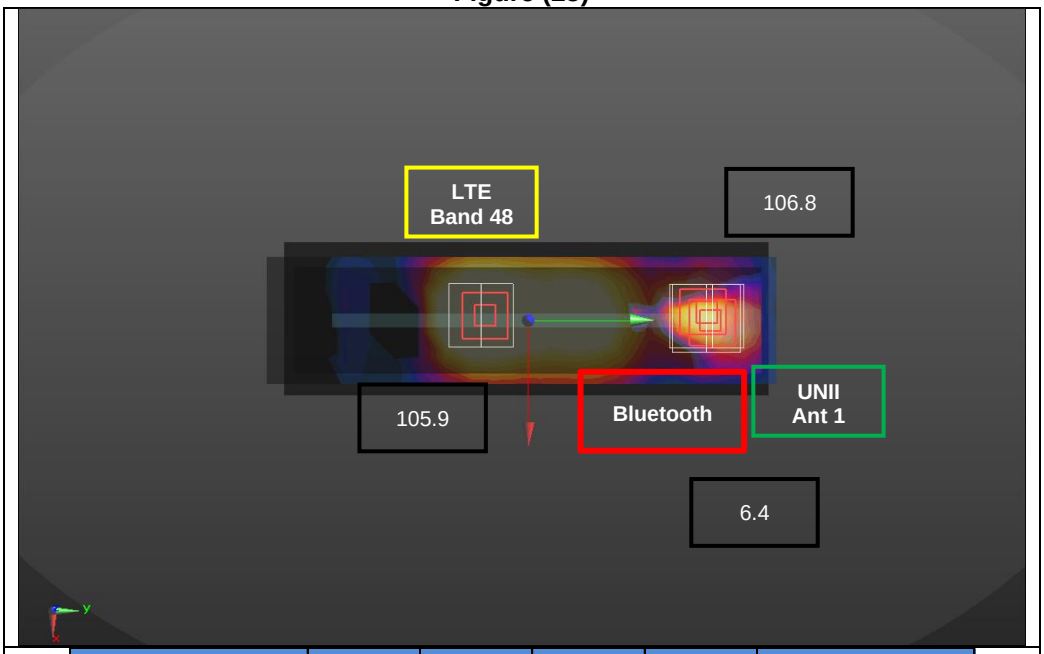


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.124	0.0194	0.1356	-0.0015	1 + 2	61.6
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	108.1
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (25)

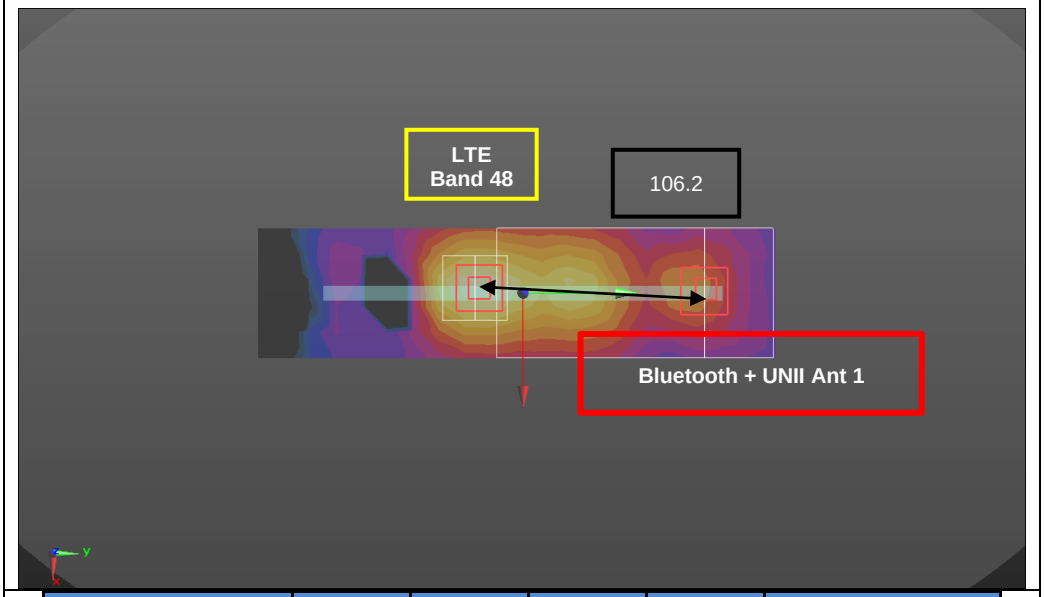


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.234	-0.0024	-0.0212	-0.0021	1 + 2	106.8
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	105.9
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (25-a)

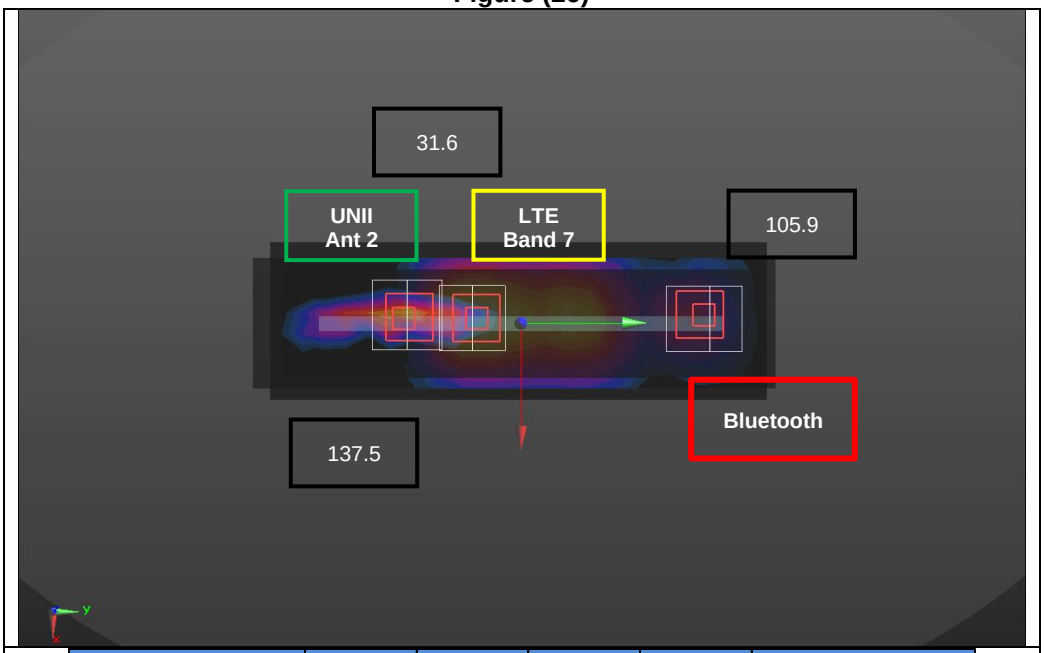


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.234	-0.0024	-0.0222	-0.1810	1 + 2	106.2
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (26)

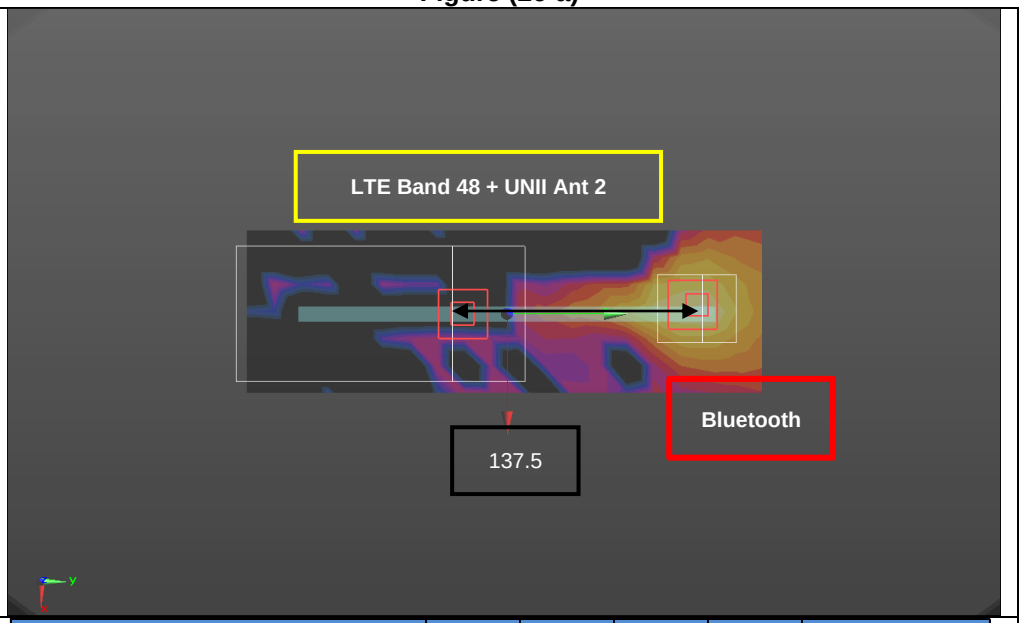


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.234	-0.0024	-0.0212	-0.0021	1 + 2	31.6
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	105.9
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (26-a)

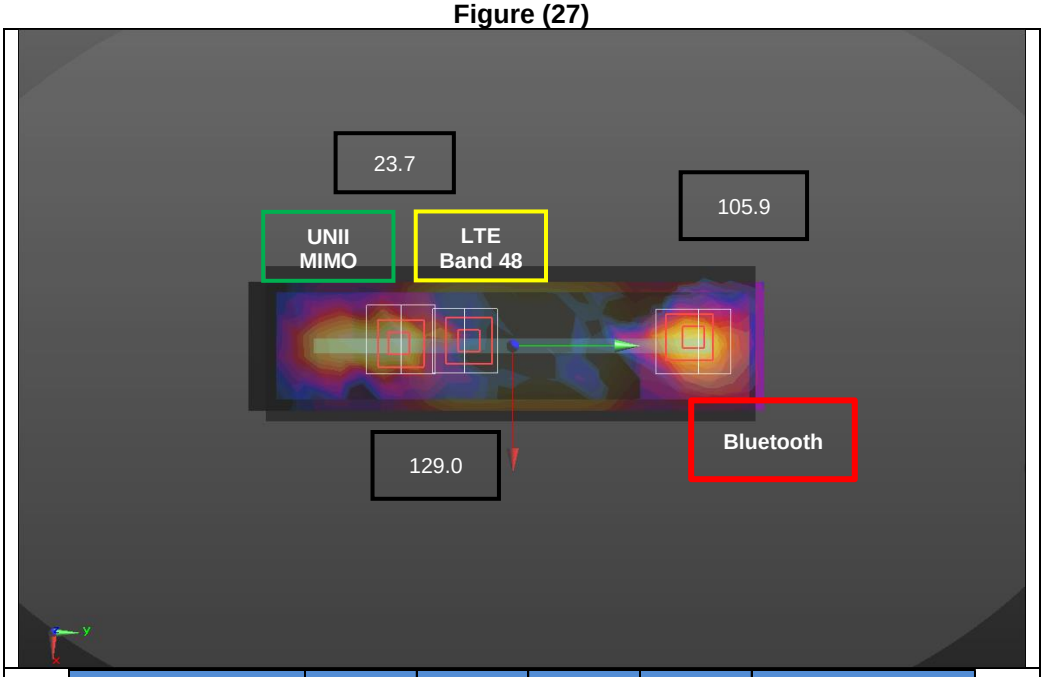


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48 + UNII Ant 2	1	1.410	-0.0020	-0.0240	-0.1810	1 + 2	110.9
BT	2	0.200	-0.0022	0.0866	-0.1730		

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (27)

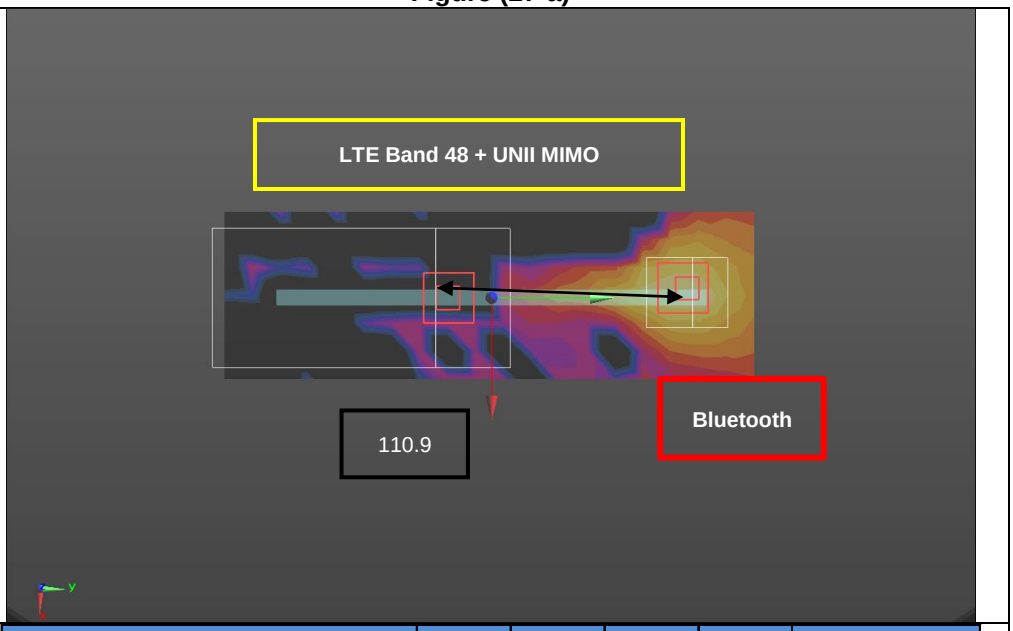


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48	1	1.234	-0.0024	-0.0212	-0.0021	1 + 2	23.7
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	105.9
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (27-a)

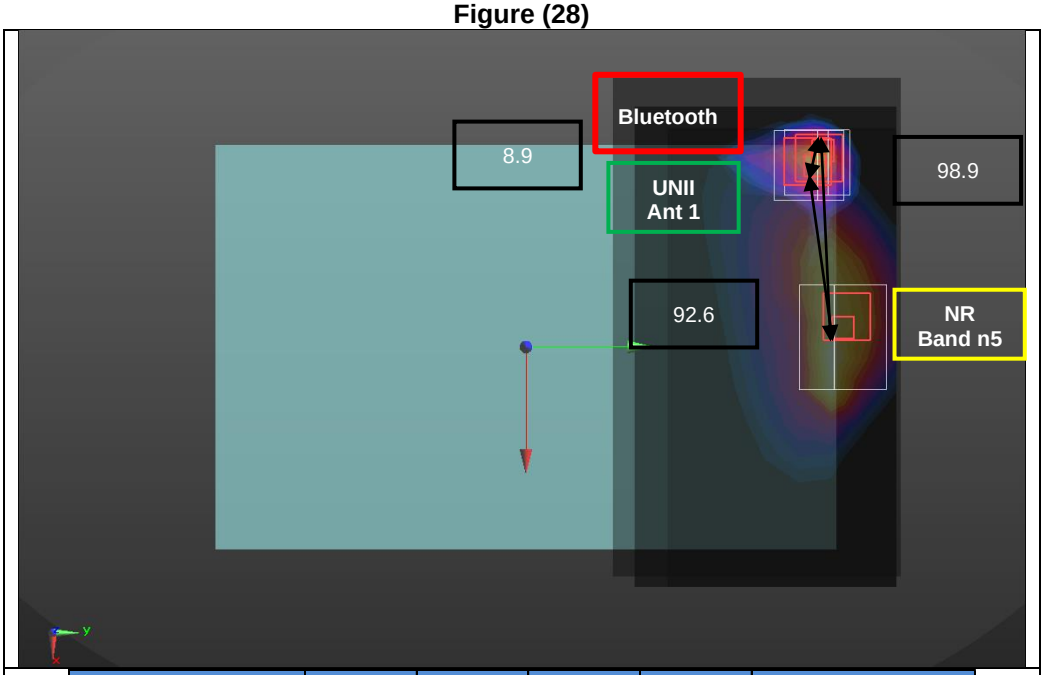


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 48 + UNII MIMO	1	1.380	-0.0020	-0.0240	-0.1810	1 + 2	110.9
BT	2	0.200	-0.0022	0.0866	-0.1730		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (28)

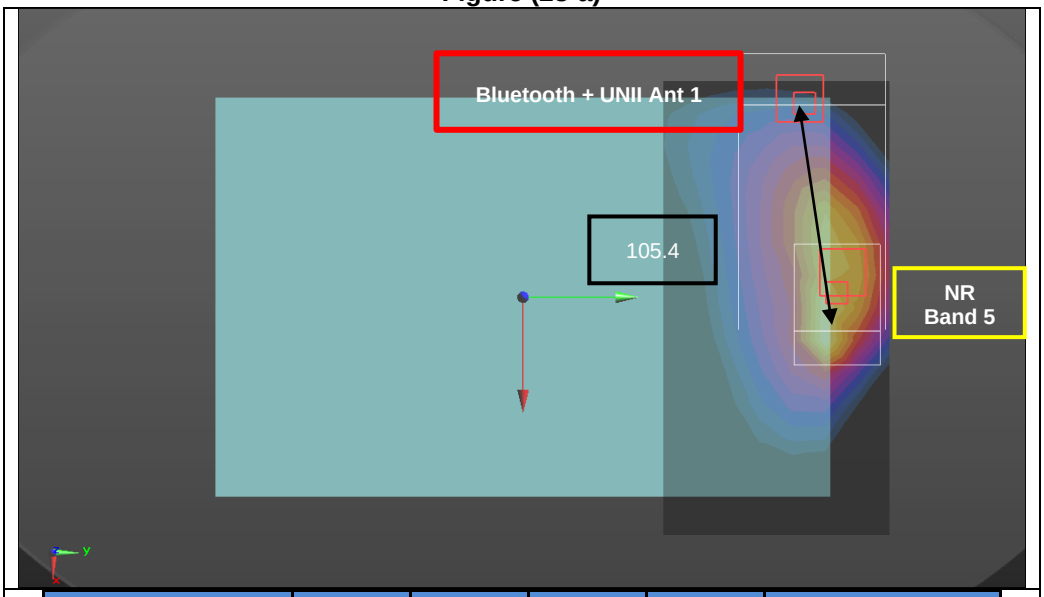


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n5	1	0.882	0.0099	0.1415	-0.0053	1 + 2	92.6
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	98.9
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	8.9

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (28-a)

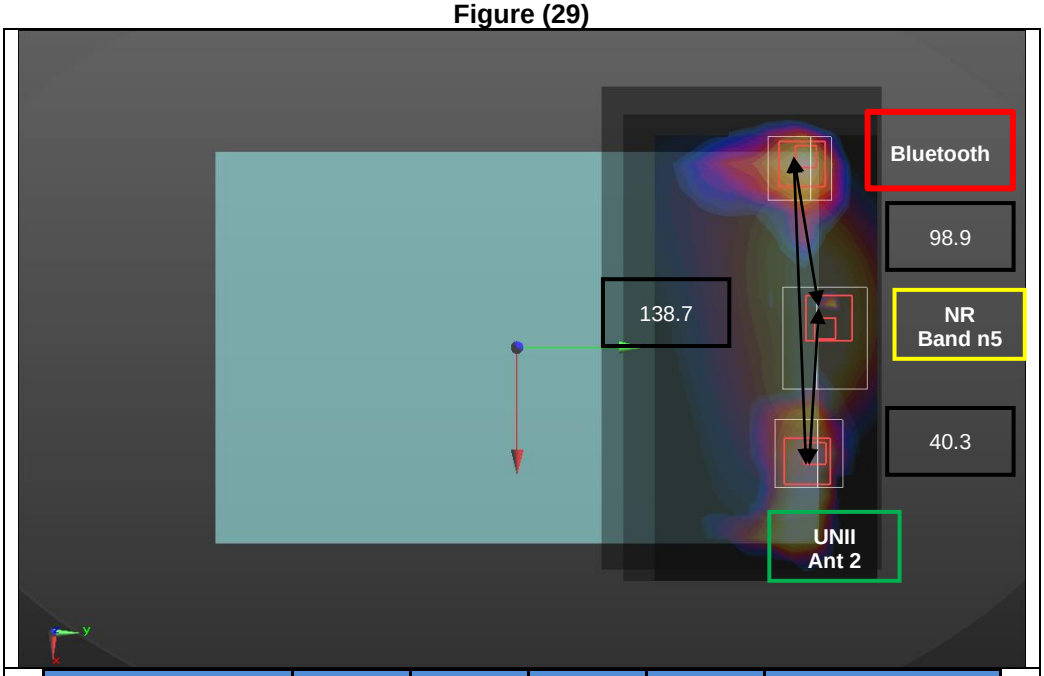


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 5	1	0.882	0.0155	0.1420	-0.1810	1 + 2	105.4
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (29)

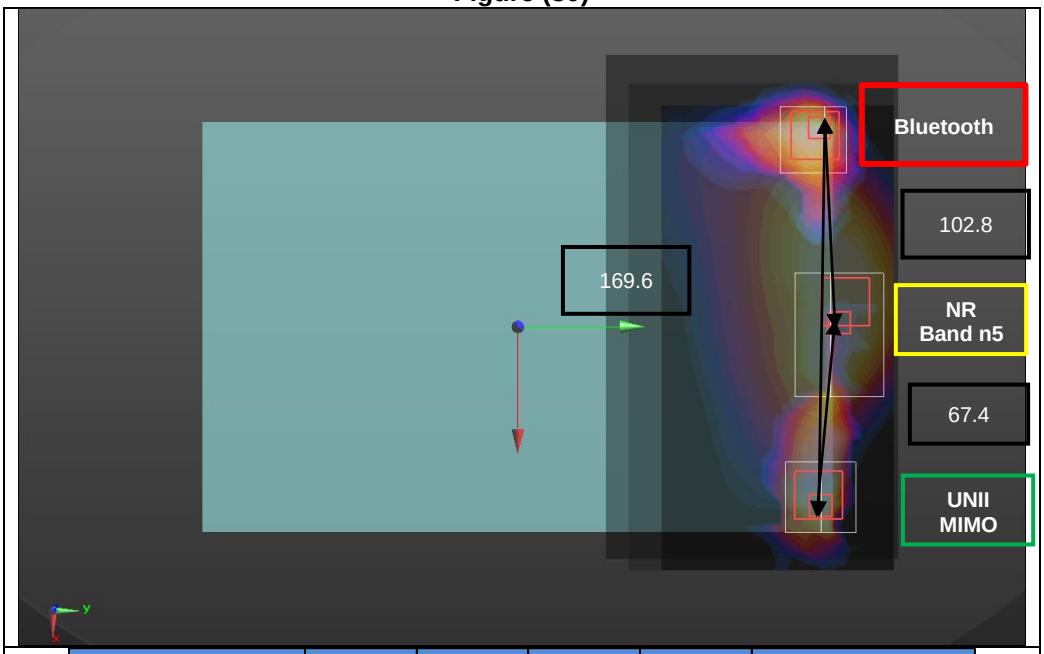


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n5	1	0.882	0.0099	0.1415	-0.0053	1 + 2	40.3
UNII Ant 2	2	0.516	0.0500	0.1404	-0.0010	1 + 3	98.9
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (30)

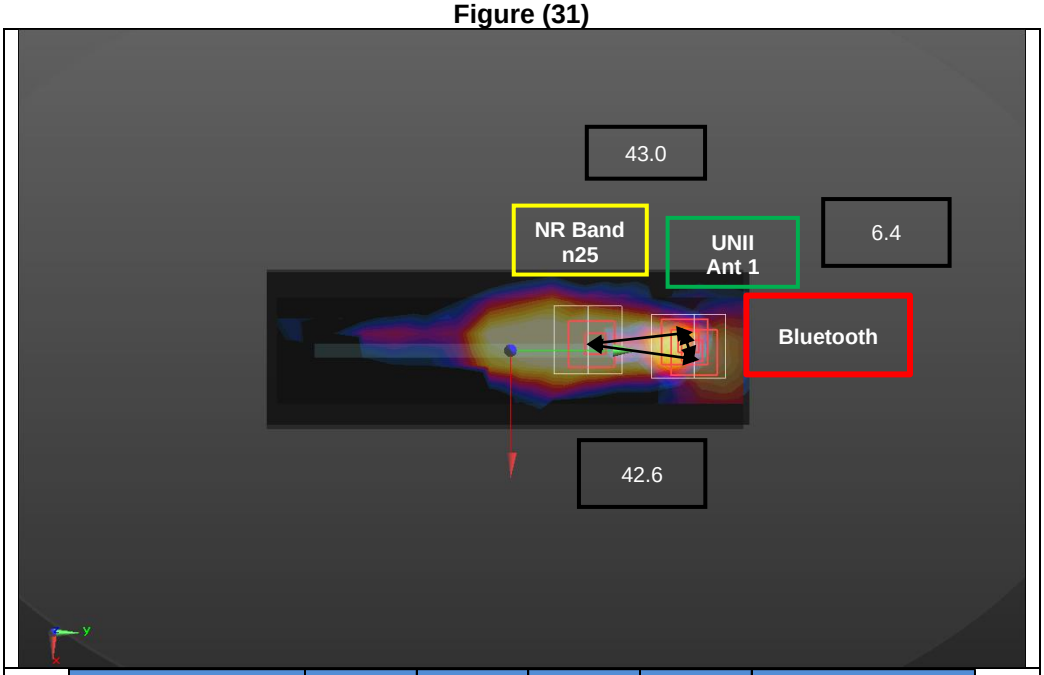


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n5	1	0.882	0.0139	0.1415	-0.0053	1 + 2	67.4
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	102.8
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (31)

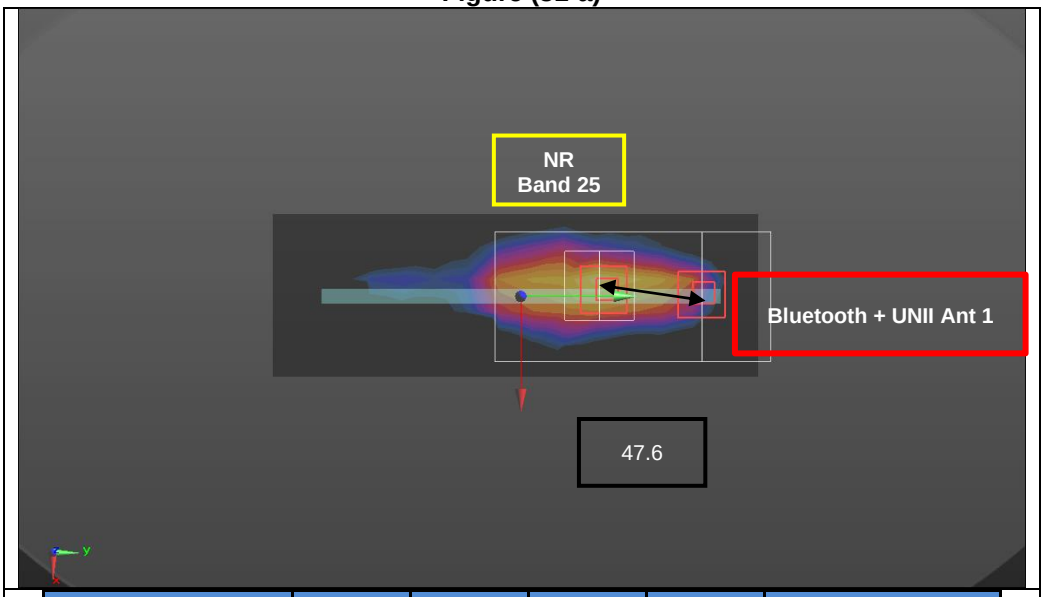


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n25	1	1.166	-0.0034	0.0429	-0.0060	1 + 2	43.0
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	42.6
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (31-a)

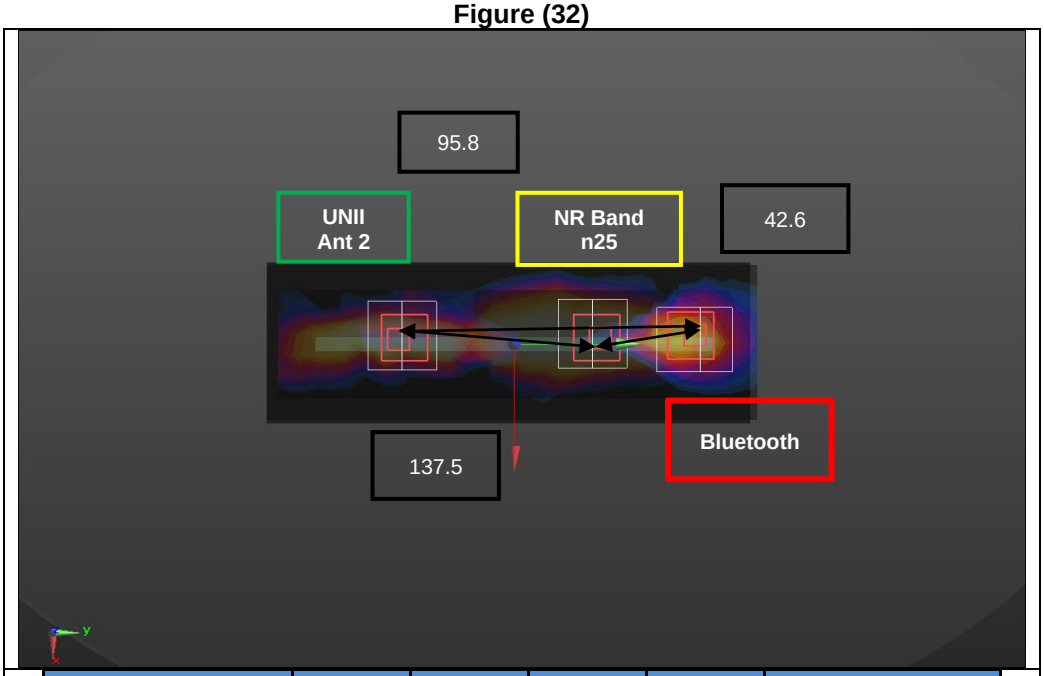


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 25	1	1.166	-0.0050	0.0365	-0.1820	1 + 2	47.6
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (32)

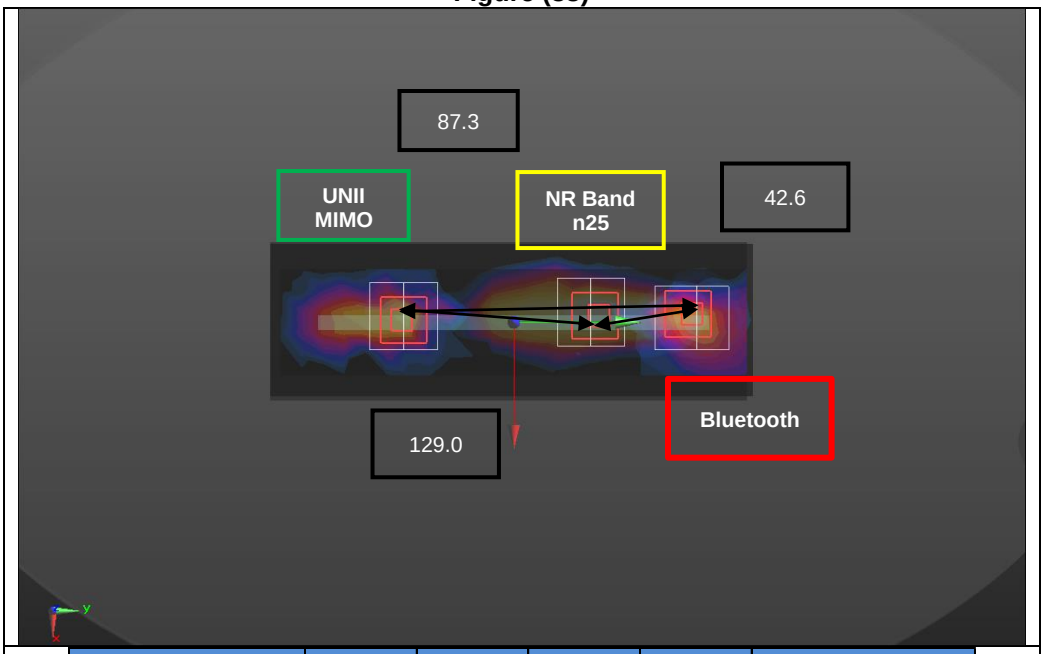


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n25	1	1.166	-0.0034	0.0429	-0.0060	1 + 2	95.8
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	42.6
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (33)

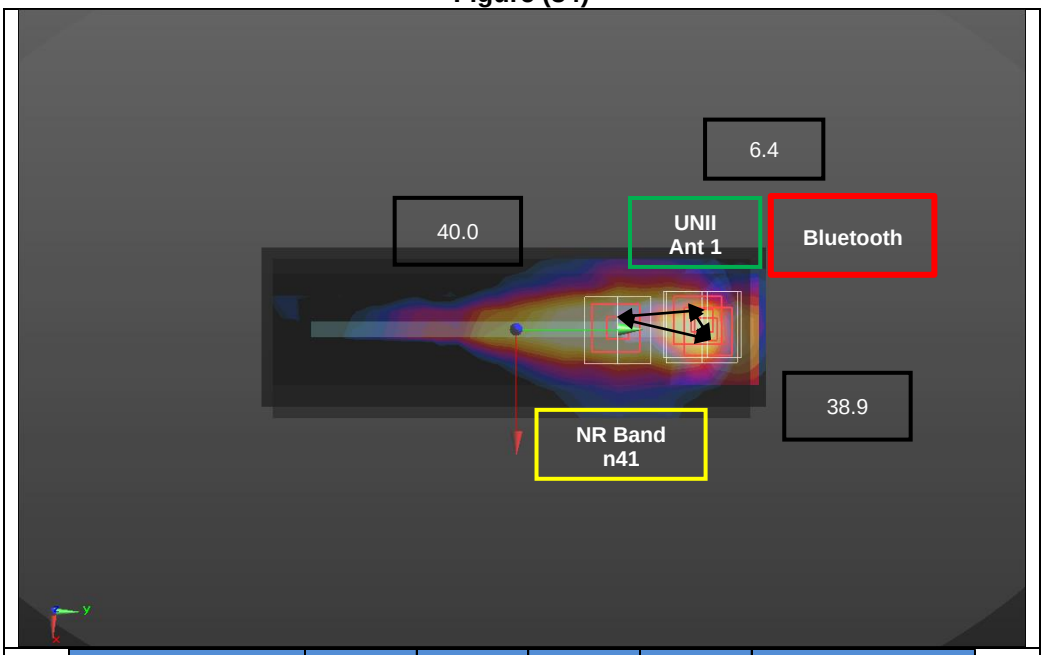


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n25	1	1.166	-0.0034	0.0429	-0.0060	1 + 2	87.3
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	42.6
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (34)

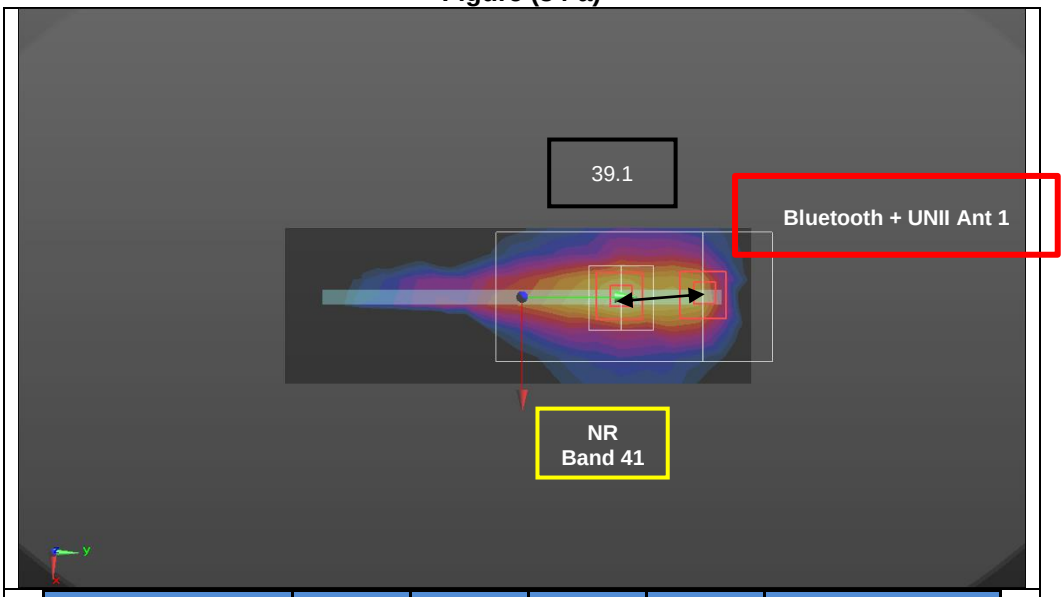


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n41	1	1.126	-0.0006	0.0460	0.0038	1 + 2	40.0
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	38.9
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (34-a)

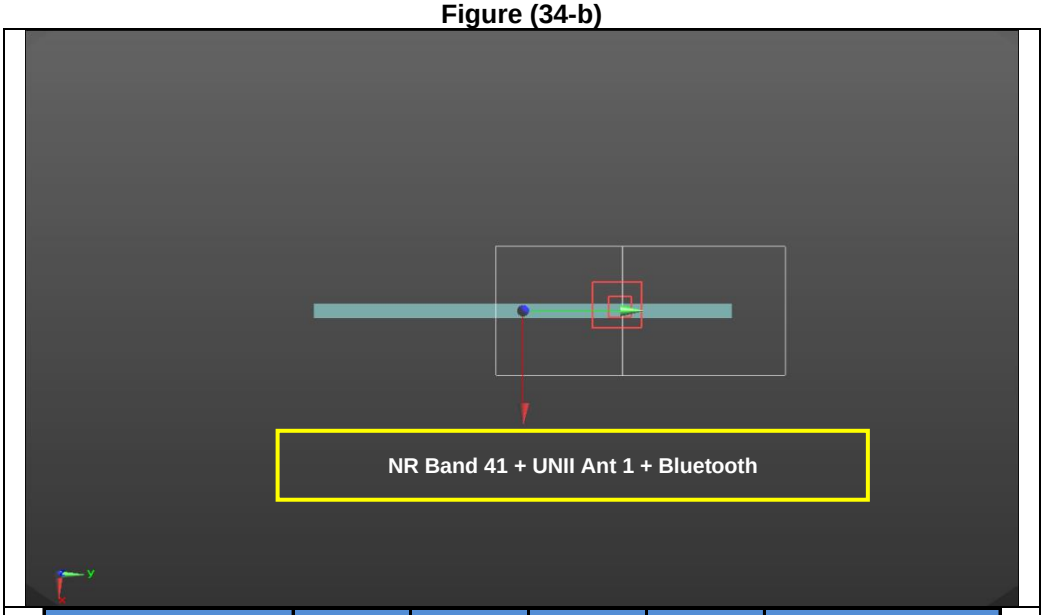


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 41	1	1.126	0.0004	0.0460	-0.1720	1 + 2	39.1
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (34-b)

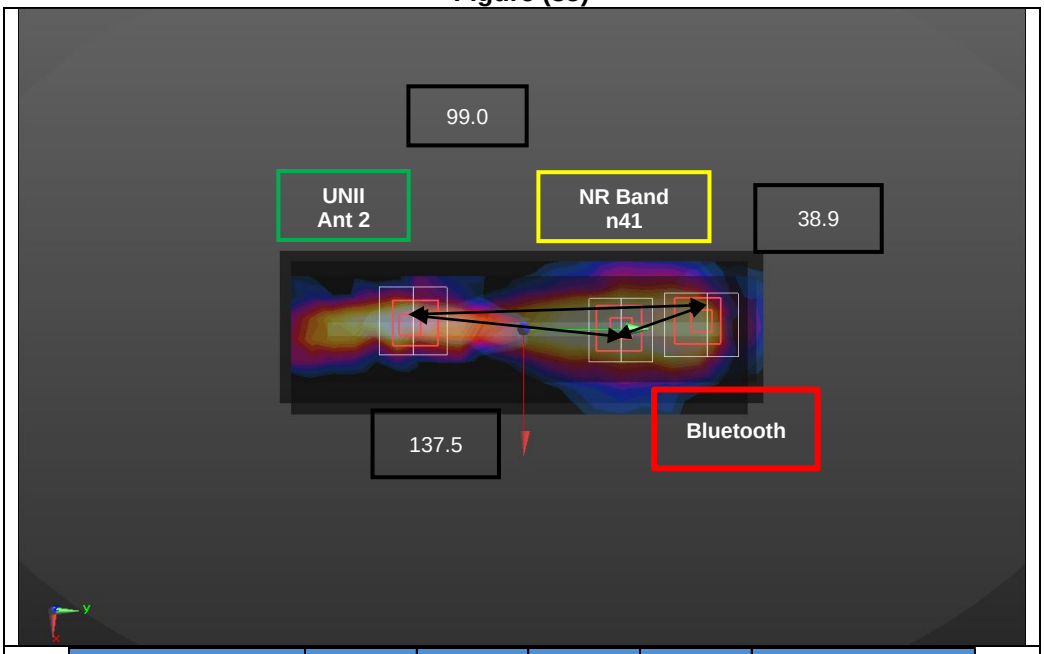


Mode		SAR	X	Y	Z	d: Calculated distance (mm)
		W/kg	m	m	m	
NR Band n41	1	1.220				
UNII Ant 1 + BT	2					

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (35)

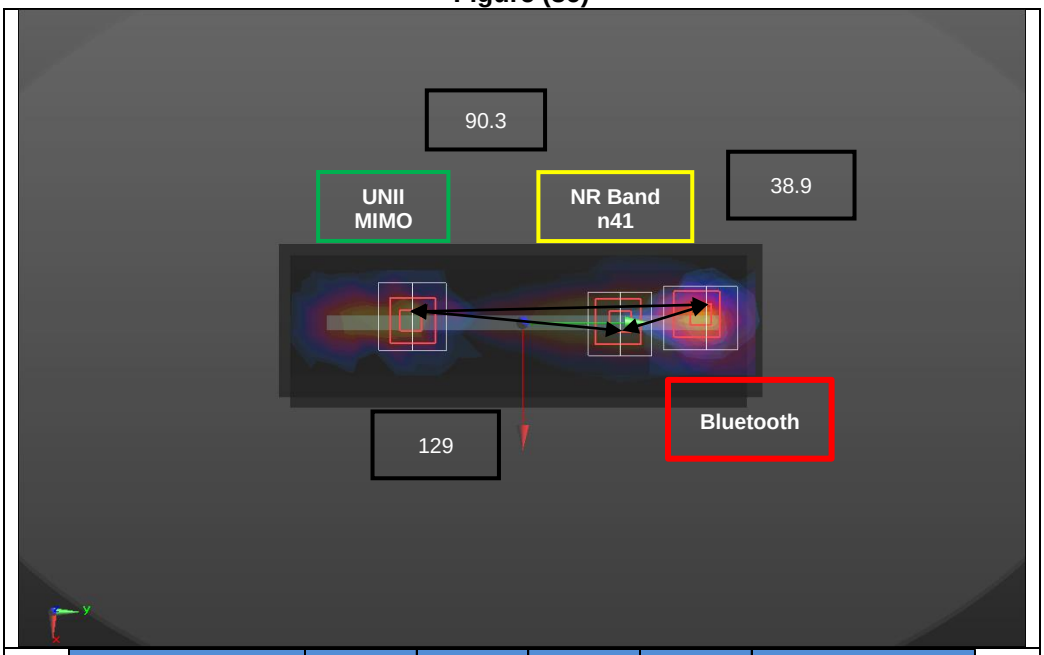


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n41	1	1.126	-0.0006	0.0460	0.0038	1 + 2	99.0
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	38.9
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (36)

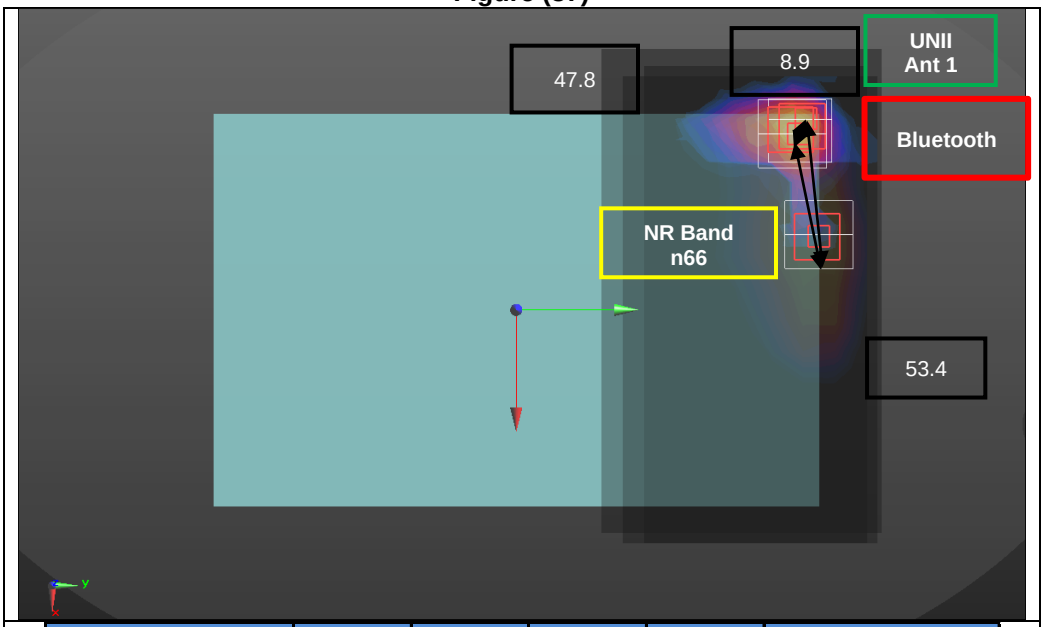


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n41	1	1.126	-0.0006	0.0460	0.0038	1 + 2	90.3
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	38.9
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (37)

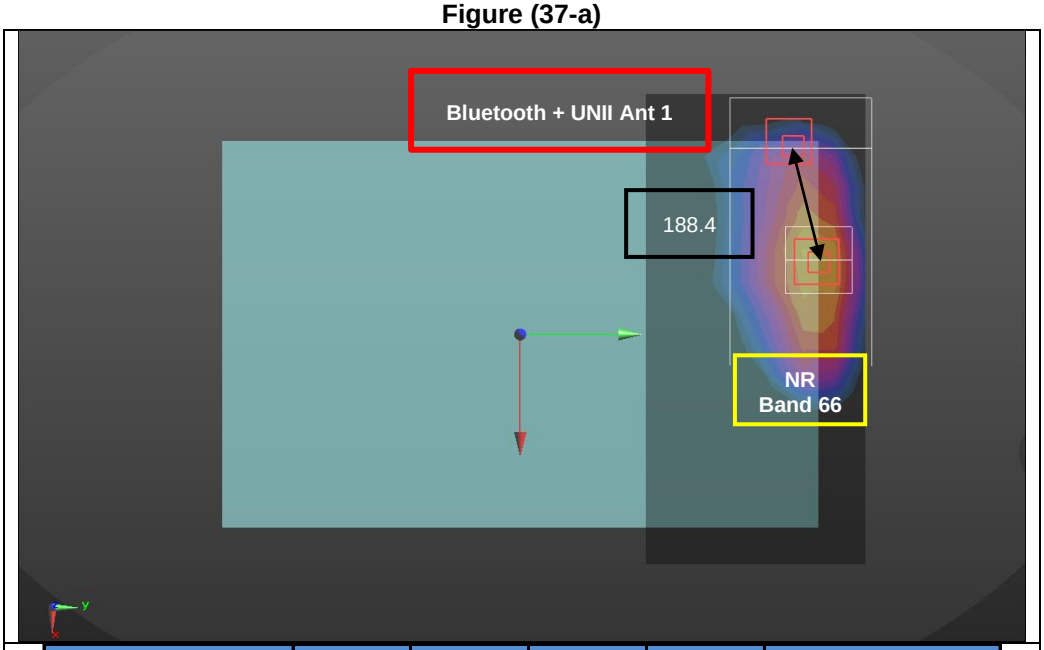


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n66	1	0.866	-0.0355	0.1425	-0.0009	1 + 2	47.8
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	53.4
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	8.9

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (37-a)

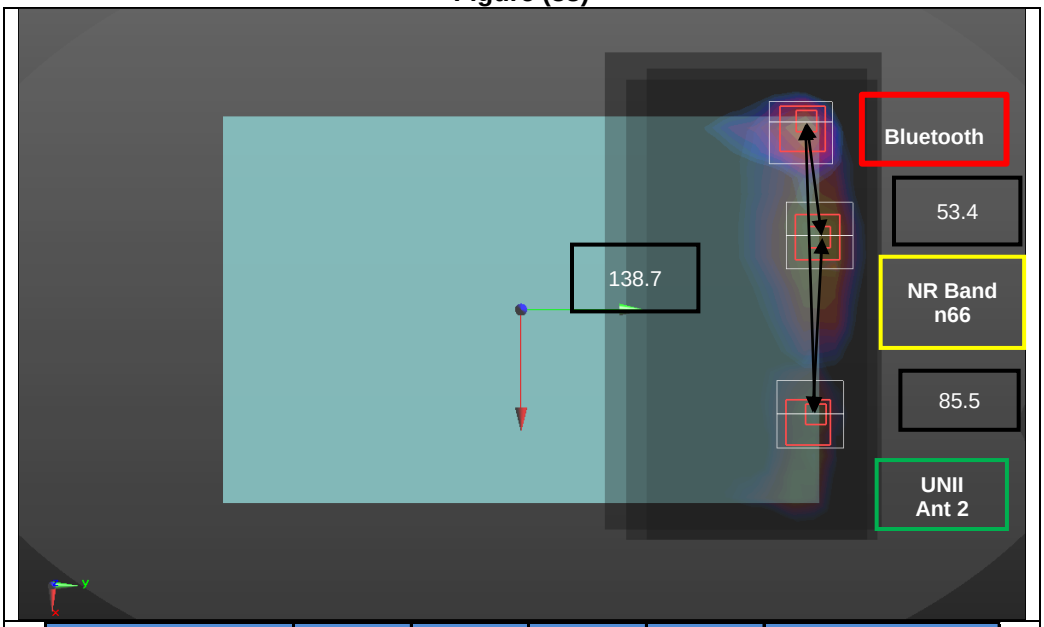


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 66	1	0.866	-0.0355	0.1425	-0.0009	1 + 2	188.4
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (38)

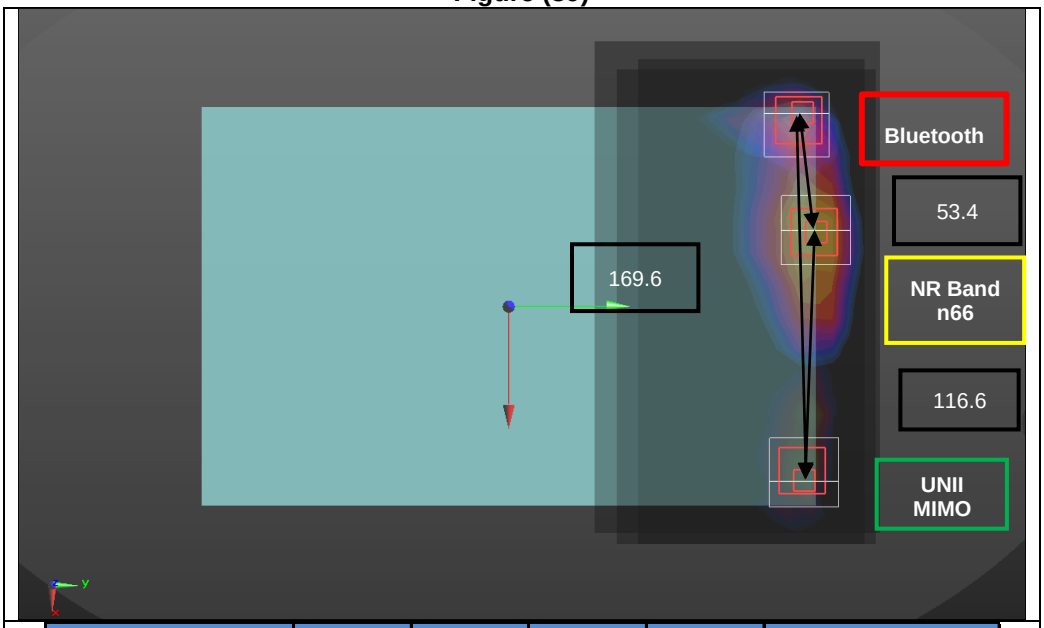


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n66	1	0.866	-0.0355	0.1425	-0.0009	1 + 2	85.5
UNII Ant 2	2	0.516	0.0500	0.1400	-0.0010	1 + 3	53.4
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (39)

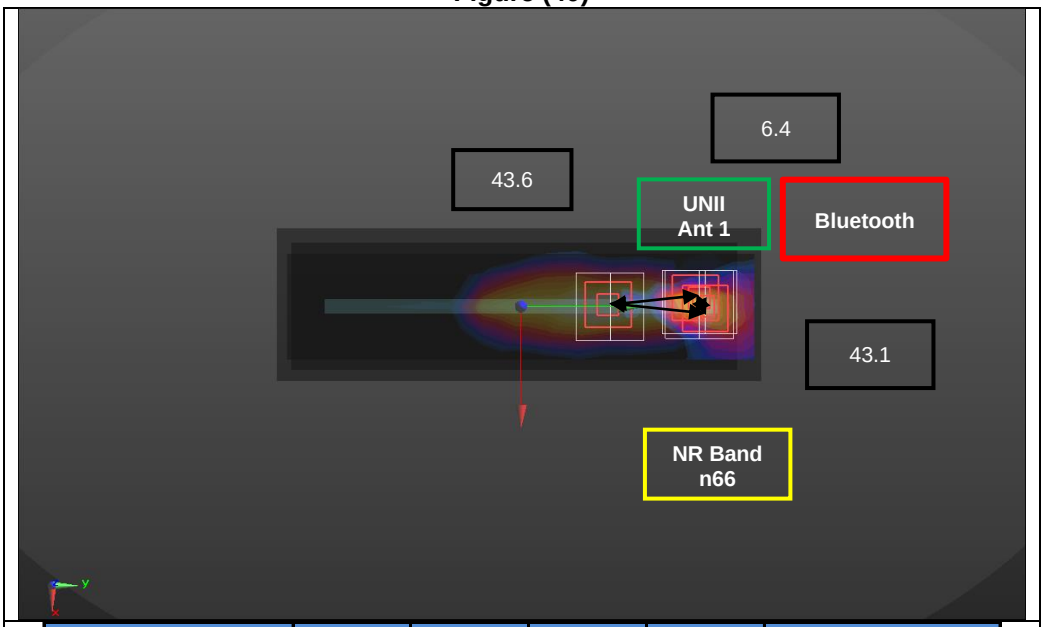


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n66	1	0.866	-0.0355	0.1425	-0.0009	1 + 2	116.6
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	53.4
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (40)

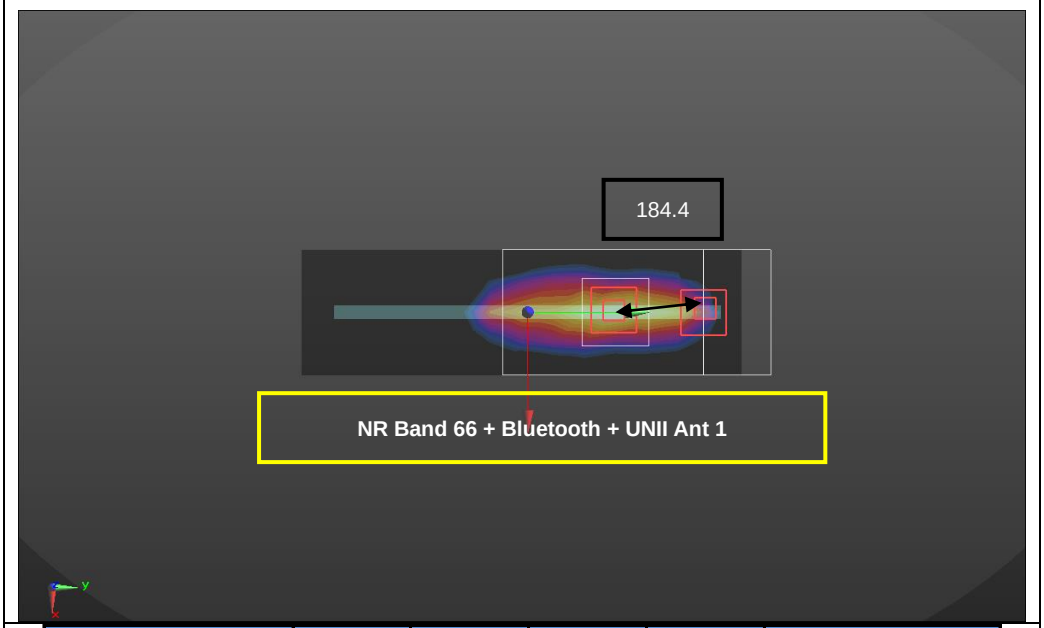


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n66	1	1.132	0.0000	0.0420	-0.0015	1 + 2	43.6
UNII Ant 1	2	0.296	-0.0002	0.0856	-0.0017	1 + 3	43.1
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	6.4

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (40-a)

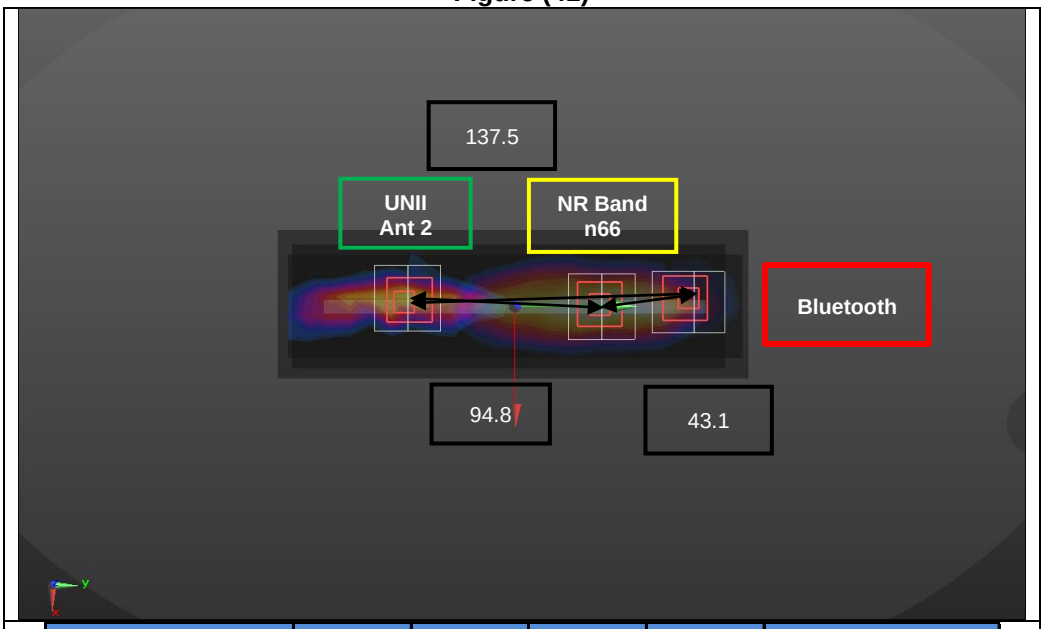


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 66	1	1.132	0.0000	0.0420	-0.0015	1 + 2	184.4
UNII Ant 1 + BT	2	0.385	-0.0020	0.0840	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (41)

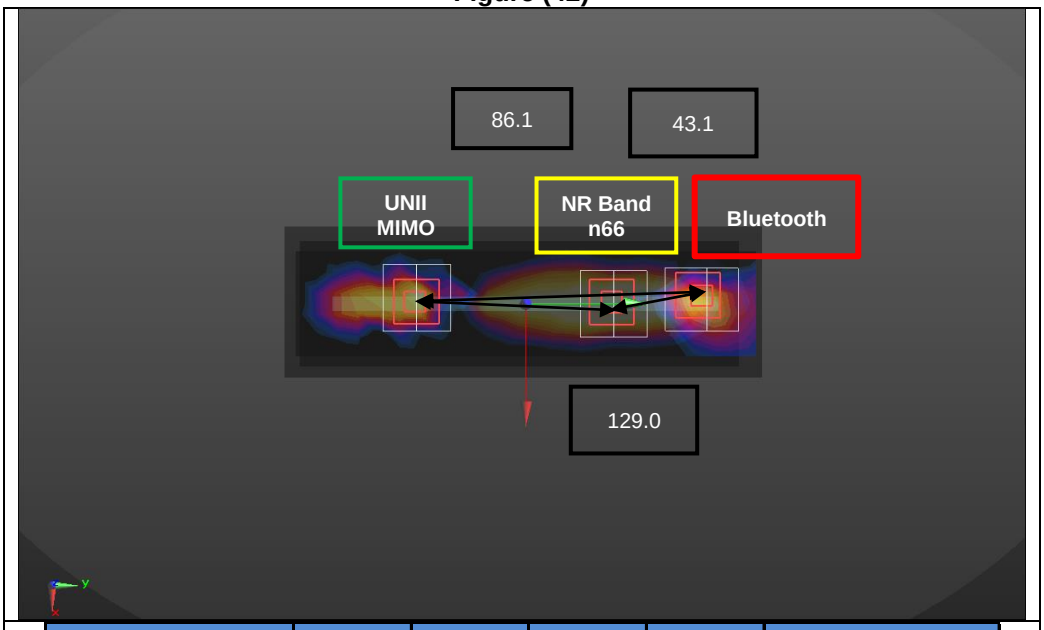


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n66	1	1.132	0.0000	0.0420	-0.0015	1 + 2	94.8
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	43.1
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (42)

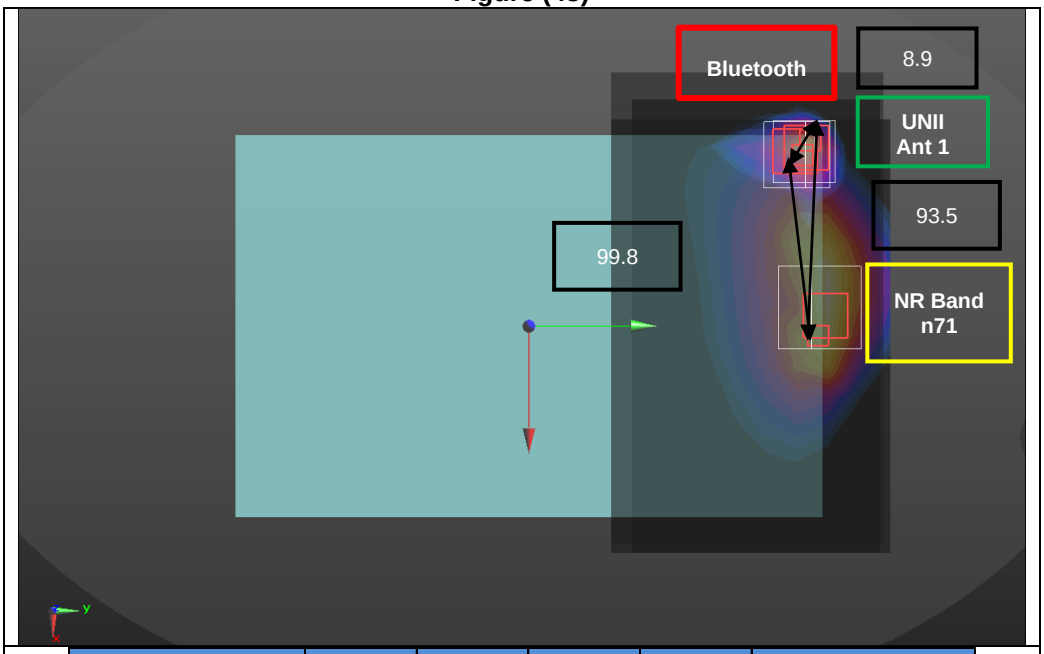


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n66	1	1.132	0.0000	0.0420	-0.0015	1 + 2	86.1
UNII MIMO	2	0.296	0.0042	-0.0440	-0.0019	1 + 3	43.1
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	129.0

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (43)

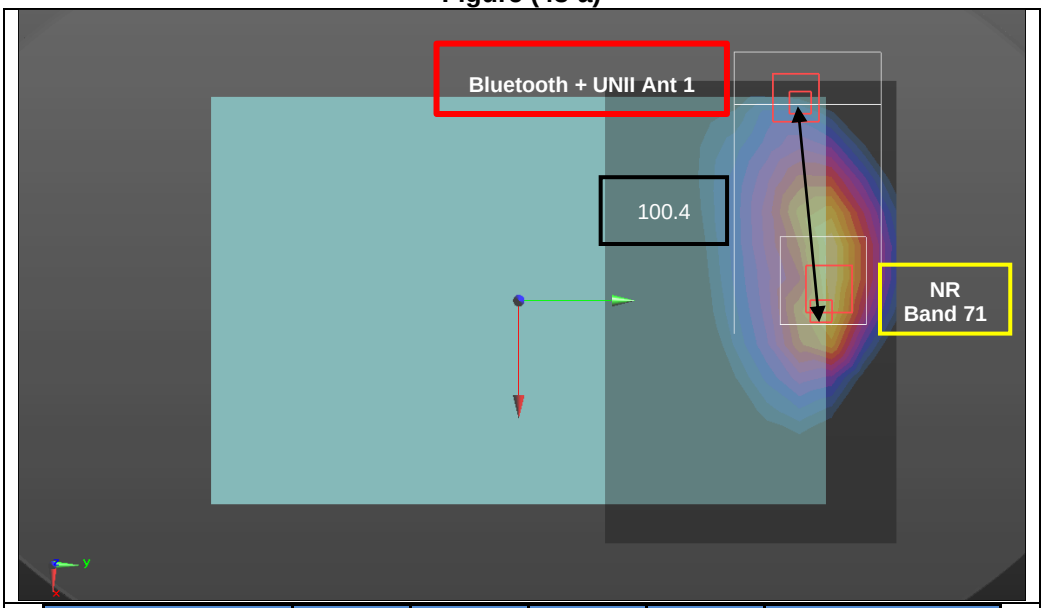


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n71	1	0.903	0.0110	0.1386	-0.0047	1 + 2	93.5
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	99.8
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	8.9

The Peak Location Separation Distance is computed by using the formula below :

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (43-a)

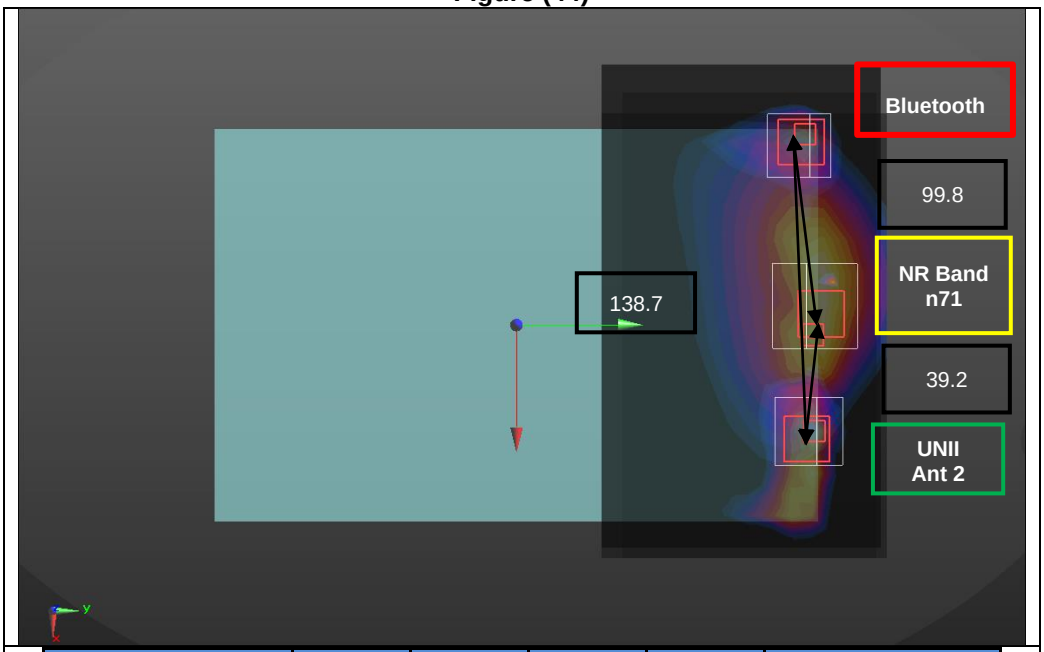


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 71	1	0.903	0.0110	0.1370	-0.1800	1 + 2	100.4
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (44)

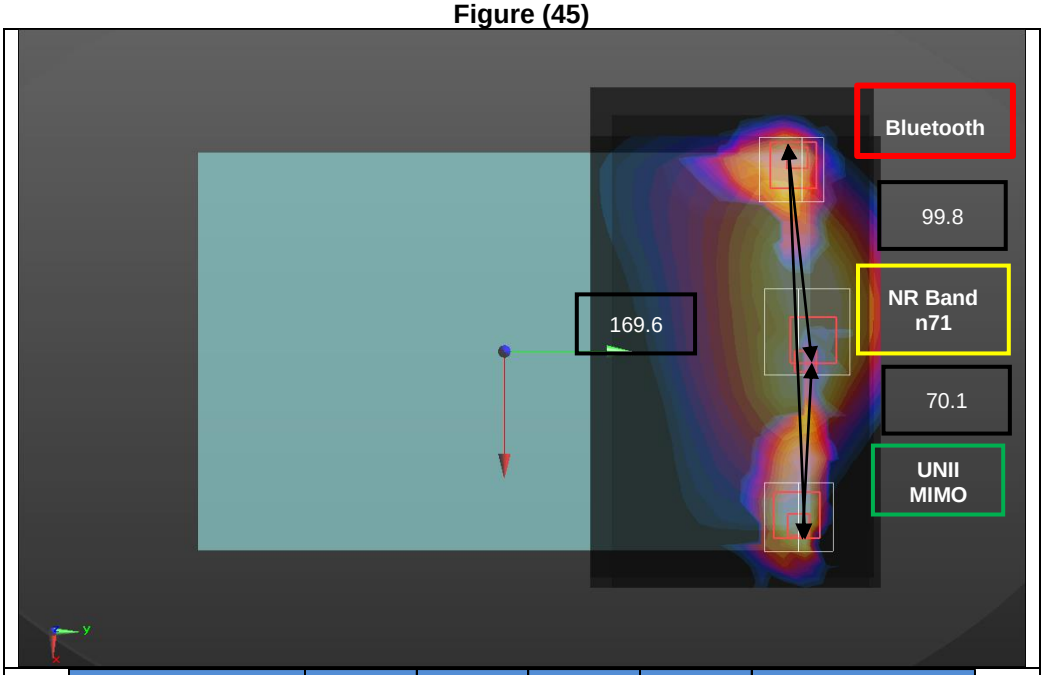


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n71	1	0.903	0.0110	0.1386	-0.0047	1 + 2	39.2
UNII Ant 2	2	0.516	0.0500	0.1404	-0.0010	1 + 3	99.8
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (45)

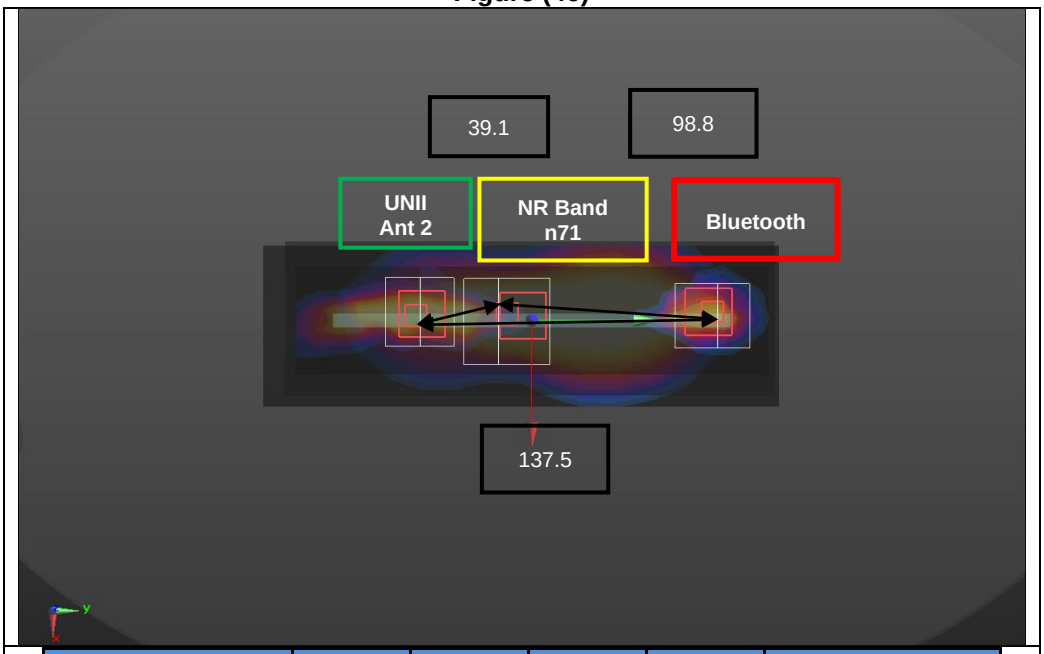


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n71	1	0.903	0.0110	0.1386	-0.0047	1 + 2	70.1
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	99.8
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (46)

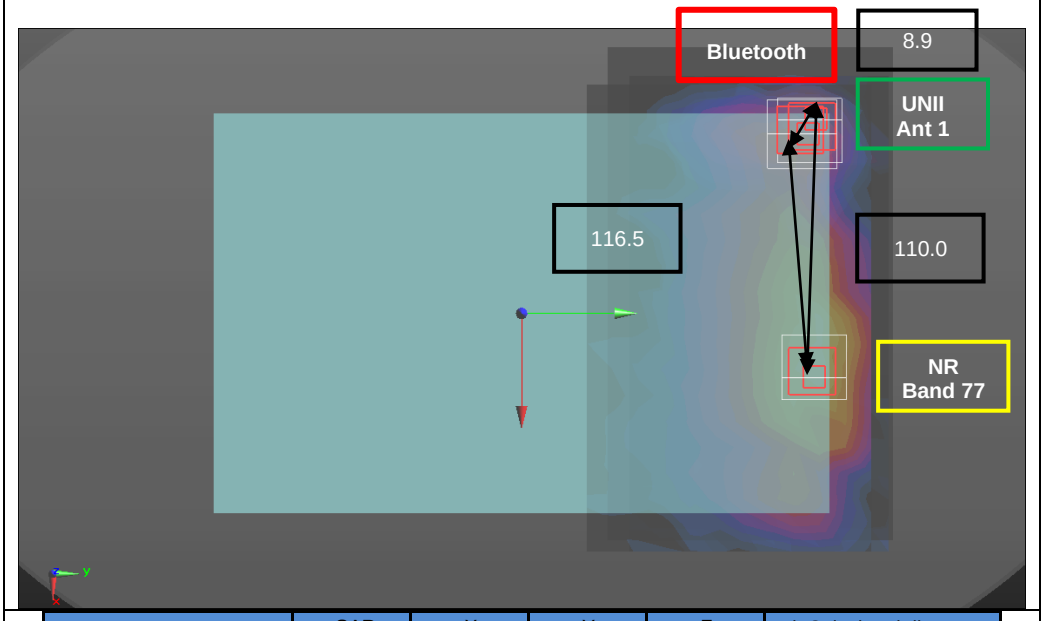


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band n71	1	1.029	-0.0035	-0.0139	-0.0056	1 + 2	39.1
UNII Ant 2	2	0.374	-0.0016	-0.0528	-0.0021	1 + 3	98.8
BT	3	0.2	-0.0052	0.0846	0.0023	2 + 3	137.5

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (47)

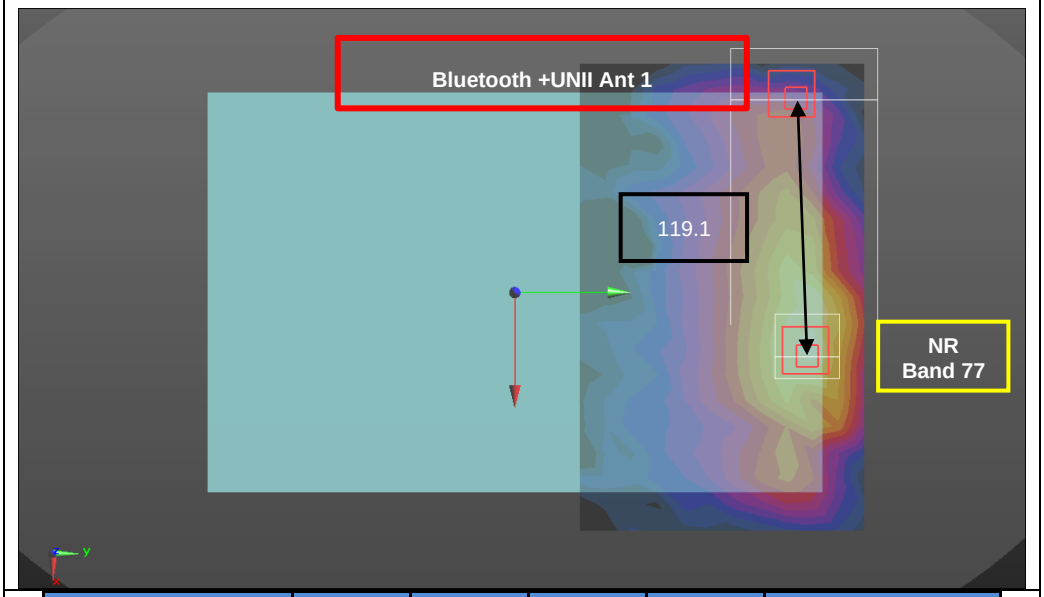


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 77	1	0.739	0.0278	0.1356	-0.0014	1 + 2	110.0
UNII Ant 1	2	0.644	-0.0822	0.1324	-0.0011	1 + 3	116.5
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	8.9

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (47-a)

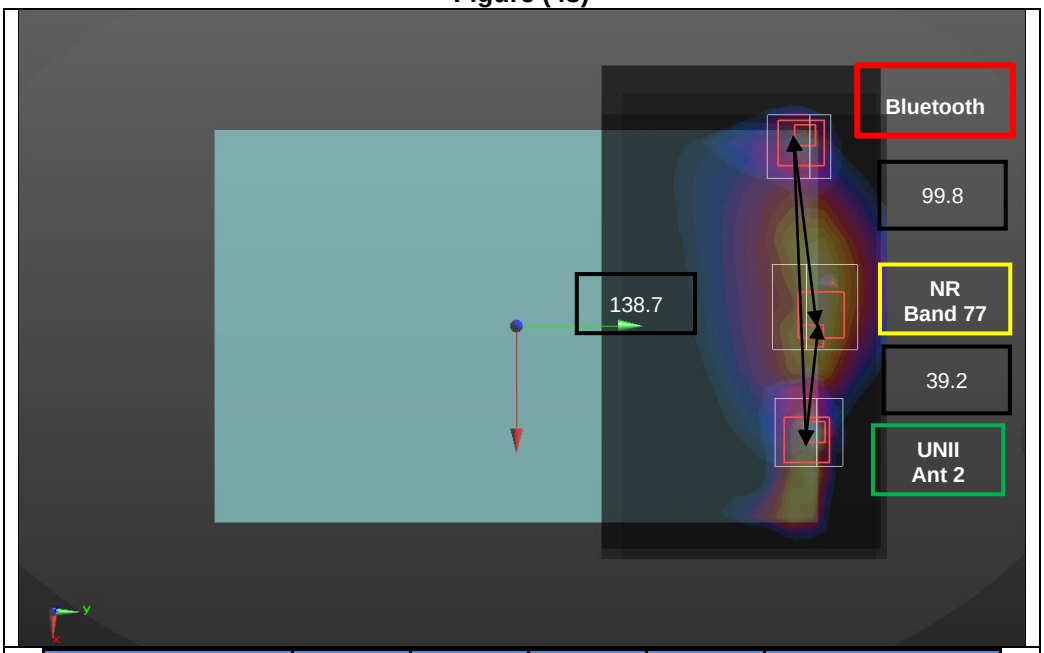


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 77	1	0.739	0.0298	0.1360	-0.1800	1 + 2	119.1
UNII Ant 1 + BT	2	0.912	-0.0890	0.1280	-0.1810		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (48)

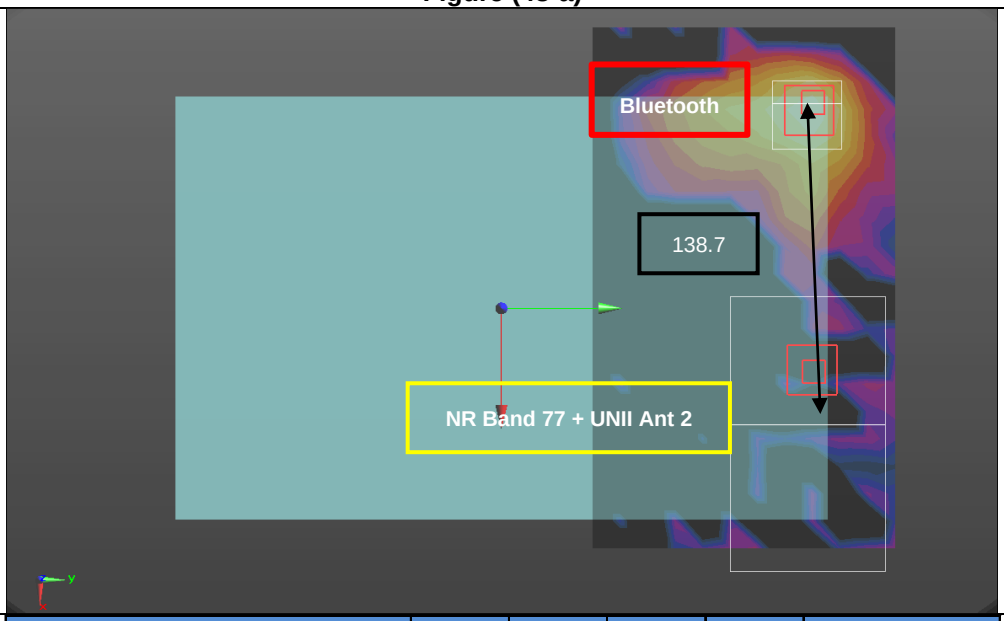


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 77	1	0.739	0.0278	0.1356	-0.0014	1 + 2	22.7
UNII Ant 2	2	0.516	0.0500	0.1404	-0.0010	1 + 3	116.5
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	138.7

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (48-a)

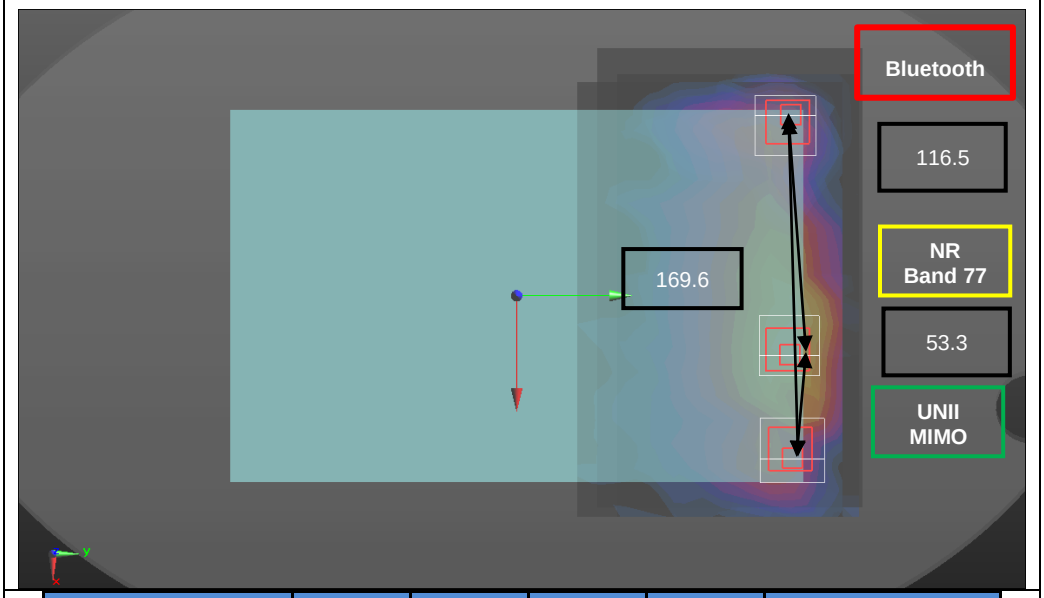


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 77 + UNII Ant 2	1	0.836	0.0510	0.1400	-0.1810	1 + 2	140.8
BT	3	0.346	-0.0896	0.1390	-0.1730		

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Figure (49)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
NR Band 77	1	0.739	0.0278	0.1356	-0.0014	1 + 2	53.3
UNII MIMO	2	0.623	0.0810	0.1378	-0.0006	1 + 3	116.5
BT	3	0.346	-0.0886	0.1376	0.0022	2 + 3	169.6

The Peak Location Separation Distance is computed by using the formula below:

SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

Appendixes

Refer to separated files for the following appendixes.

4789867826-S1 FCC Report SAR_App A_Photos & Ant. Locations

4789867826-S1 FCC Report SAR_App B_Highest SAR Test Plots

4789867826-S1 FCC Report SAR_App C_System Check Plots

4789867826-S1 FCC Report SAR_App D_SAR Tissue Ingredients

4789867826-S1 FCC Report SAR_App E_Probe Cal. Certificates

4789867826-S1 FCC Report SAR_App F_Dipole Cal. Certificates

4789867826-S1 FCC Report SAR_App G_Proximity Sensor feature

4789867826-S1 FCC Report SAR_App H_LTE Carrier Aggregation

4789867826-S1 FCC Report SAR_App I_Dynamic Antenna tuner testing

4789867826-S1 FCC Report SAR_App J_Volume Scan Results

END OF REPORT