FCC 47 CFR § 2.1093
IEEE Std 1528-2013

SAR EVALUATION REPORT

FOR

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

MODEL NUMBER: SM-G996B/DS, SM-G996B

FCC ID: A3LSMG996B

REPORT NUMBER: 4789633488-S1V2

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IAS ACCREDITED

Testing Laboratory

TL-637

Revision History

Rev.	Date	Revisions	Revised By
V1	11/17/2020	Initial Issue	--
V2	12/4/2020	Revised Sec.1 and Sec.12	Eunji Choi

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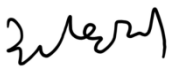
1. Attestation of Test Results

Applicant Name		SAMSUNG ELECTRONICS CO.,LTD.			
FCC ID		A3LSMG996B			
Model Number		SM-G996B/DS, SM-G996B			
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)		Product Specific 10g (10g of tissue)	
General population / Uncontrolled exposure		1.6		4.0	
RF Exposure Conditions		Equipment Class - The Highest Reported SAR (W/kg)			
		PCE	DTS	NII	DSS
Head		0.24	0.40	0.31	0.48
Body-worn		0.75	0.15	0.68	< 0.1
Hotspot		1.26	0.44	0.80	0.15
Product Specific 10g		1.91	N/A	1.96	N/A
Simultaneous TX	Head	1.11	1.03	1.11	1.11
	Body-worn	1.55	1.41	1.55	1.55
	Hotspot	1.59	1.59	1.58	1.52
	Product Specific 10g	3.59	N/A	3.59	N/A
Date Tested		9/14/2020 to 11/12/2020			
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: SM-G996B/DS and SM-G996B have the same hardware but number of SIM card slot is different. SM-G996B is single SIM version and SM-G996B/DS is dual SIM version. This application was tested with SM-G996B/DS in all bands. 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	Eunji Choi 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			10g of tissue
		Head Exposure condition	Body-worn Exposure condition	Hotspot Exposure condition	Product Specific Exposure condition
PCE	GSM 850	0.185	0.316	0.684	N/A
	GSM 1900	0.058	0.216	0.475	N/A
	WCDMA Band II	0.186	0.462	**1.263**	1.745
	WCDMA Band IV	0.154	0.715	1.062	**1.909**
	WCDMA Band V	**0.237**	0.361	0.780	N/A
	LTE Band 2	0.127	0.671	1.056	1.875
	LTE Band 4	N/A	N/A	N/A	N/A
	LTE Band 5	0.210	0.344	0.728	N/A
	LTE Band 12	0.118	0.164	0.240	N/A
	LTE Band 13	0.146	0.201	0.428	N/A
	LTE Band 17	N/A	N/A	N/A	N/A
	LTE Band 25	0.167	0.676	0.990	1.877
	LTE Band 26	0.154	0.253	0.526	N/A
	LTE Band 41	0.066	0.390	0.462	N/A
	LTE Band 66	0.141	**0.746**	1.161	1.834
	NR Band n5	0.218	0.307	0.645	N/A
	NR Band n66	0.159	0.647	1.086	1.835
DTS	2.4GHz WLAN	**0.403**	**0.147**	**0.437**	N/A
UNII	5GHz WLAN	**0.305**	**0.680**	**0.796**	**1.959**
DSS	Bluetooth	**0.479**	**0.064**	**0.148**	N/A

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
- 648474 D04 Handset SAR v01r03
- 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
- 941225 D07 UMPC Mini Tablet v01r02
- 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, 2014; Page 37, RF Exposure Procedures Update (Other LTE Considerations)
- 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 April, 2018; Page 3, RF Exposure Procedures (LTE DL CA SAR Test Exclusion Update)
- TCB workshop April, 2019 Page 10, RF Exposure Procedures (802.11ax SAR Testing)
- 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)

3. Facilities and Accreditation

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

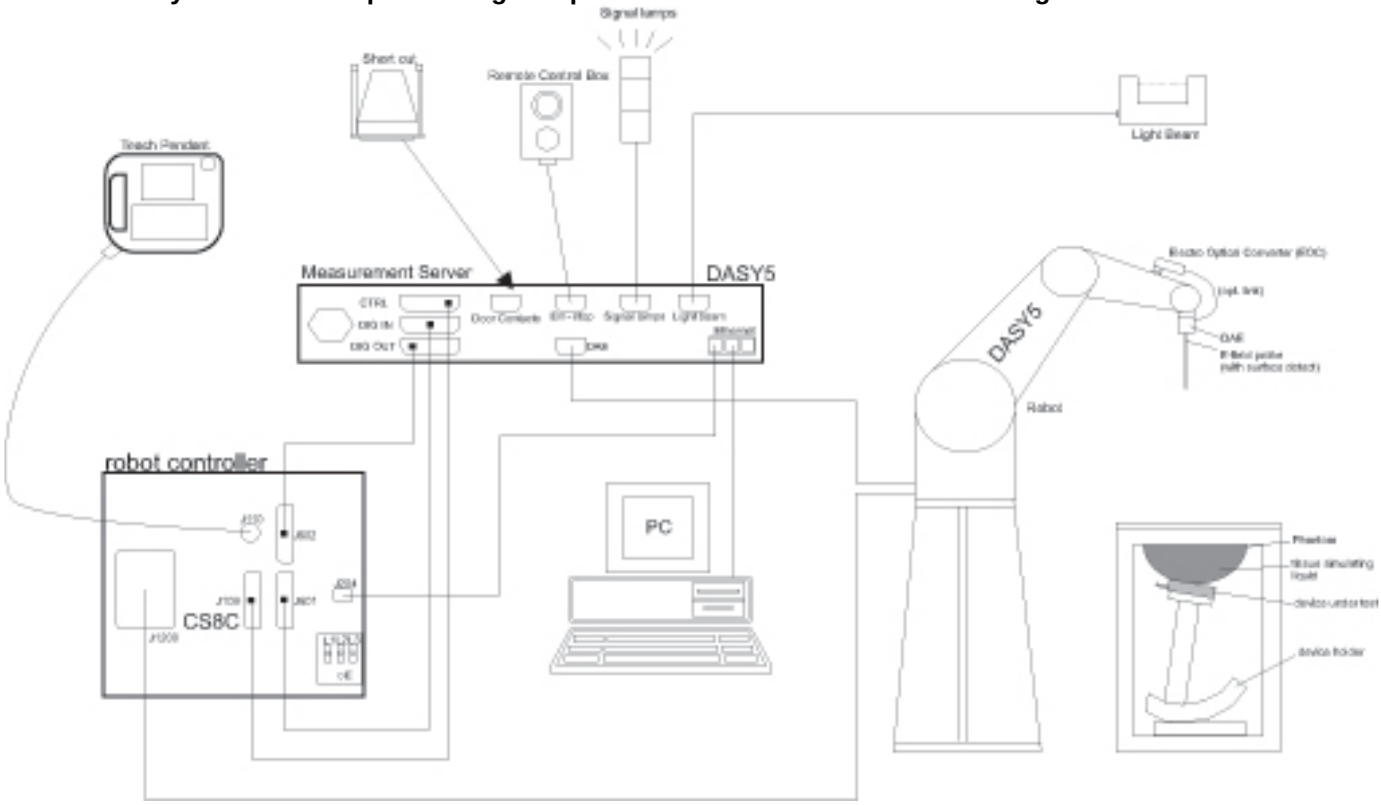
Suwon
SAR 1 Room
SAR 3 Room
SAR 5 Room

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	7-17-2021
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	MY60180020	9-9-2021
Power Sensor	Agilent	U2000A	MY54260007	8-7-2021
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	MY39269292	8-4-2021
Attenuator	Agilent	8491B/003	MY39271969	9-9-2021
Attenuator	Agilent	8491B/010	MY39271981	9-9-2021
Attenuator	Agilent	8491B/020	MY39271973	9-9-2021
E-Field Probe (SAR1)	SPEAG	EX3DV4	7376	7-31-2021
E-Field Probe (SAR3)	SPEAG	EX3DV4	7313	2-25-2021
E-Field Probe (SAR5)	SPEAG	EX3DV4	3871	8-28-2021
Data Acquisition Electronics (SAR1)	SPEAG	DAE4	1468	8-25-2021
Data Acquisition Electronics (SAR3)	SPEAG	DAE4	1494	7-23-2021
Data Acquisition Electronics (SAR5)	SPEAG	DAE4	1343	8-25-2021
System Validation Dipole	SPEAG	D750V3	1122	2-24-2022
System Validation Dipole	SPEAG	D835V2	4d174	2-24-2022
System Validation Dipole	SPEAG	D1750V2	1125	2-21-2022
System Validation Dipole	SPEAG	D1900V2	5d199	3-19-2022
System Validation Dipole	SPEAG	D2450V2	939	7-25-2021
System Validation Dipole	SPEAG	D2600V2	1097	9-19-2021
System Validation Dipole	SPEAG	D5GHzV2	1209	2-27-2022
Thermometer (SAR1)	Lutron	MHB-382SD	AH.50215	8-11-2021
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

Note(s):

Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations. (D2450V2 (SN : 939), D2600V2 (SN : 1097))

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		
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 : Ch.1 – Ch.11) ☒ Mobile Hotspot (Wi-Fi 5.8 GHz_UNII-3 (Ch.149(20MHz)/Ch.151(40MHz)/Ch.155(80MHz)))		
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other ☒ Wi-Fi Direct (Wi-Fi 2.4 GHz : Ch.1 – Ch.11) ☒ Wi-Fi Direct (Wi-Fi 5.8 GHz_UNII-3 (Ch.149(20MHz)/Ch.151(40MHz)/Ch.155(80MHz)))		
Test Sample Information	**No.**	**S/N**	**Notes**
	1	R3CN811HYQN	Main Conducted
	2	R3CN80DGAXT	Main Conducted
	3	R3CN80DETVA	Wi-Fi & BT Conducted
	4	48a3a555901f7ece	SAR
	5	R3CN811J6DF	SAR
	6	48a3a554501f7ece	SAR
	7	R3CN811JE2Z	SAR
	8	R3CN811JBSE	SAR
	9	R3CN811PKHA	SAR
	10	R3CN811PKYR	SAR
	11	R3CN811PKDZ	SAR

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - 1 Up, 4 Down ☐ Class 10 - 2 Up, 4 Down ☐ Class 12 - 4 Up, 4 Down ☒ Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25% 3 Slots: 37.5% 4 Slots: 50%
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (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 12 FDD Band 13 FDD Band 17 FDD Band 25 FDD Band 26 FDD Band 66 TDD Band 41 [3]	QPSK 16QAM 64QAM 256QAM Rel. 15 Carrier Aggregation (1 Uplink and 5 Downlinks)		100% (FDD) 63.3% (TDD) Power Class 3 43.3% (TDD) Power Class 2 Refer to Sec.6.6
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
5G NR (FR1)	FDD Band n5 FDD Band n66	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM		100% (FDD)
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20) 802.11ax (HE20)		SISO mode : 99.5% (802.11b) MIMO mode : 96.5% (802.11g)
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80) 802.11ax (HE20) 802.11ax (HE40) 802.11ax (HE80)		MIMO mode: 96.6% (802.11a) 92.8% (802.11ac 80MHz BW)
	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		76.9% (DH5)
NFC	13.56 MHz	Type A/B/F		N/A[4]
UWB	6.24 – 8.24 GHz	BPM-BPSK		N/A[4]

Notes:

1. The Bluetooth protocol is considered source-based averaging. Bluetooth GFSK (DH5) was verified to have the highest duty cycle of 76.9% 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.
4. Measured Duty Cycle is not required due to SAR test exemption.

6.3. Nominal and Maximum Output Power

KDB 447498 sec.4.1. at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit

RF Air interface	Antenna	Mode	Time Slots	Max. RF Output Power (dBm)		Reduced. RF Output Power (Hotspot & Proximity sensor & Earjack back-off) (dBm)	
				Tune-up Limit	Frame Pwr	Tune-up Limit	Frame Pwr
GSM850	Main 1 Ant.	Voice	1	**33.5**	**24.5**		
		GPRS	1	**33.5**	**24.5**		
		GPRS	2	**30.5**	**24.5**		
		GPRS	3	**29.0**	**24.7**		
		GPRS	4	**27.5**	**24.5**		
		EGPRS	1	**30.0**	**21.0**		
		EGPRS	2	**28.5**	**22.5**		
		EGPRS	3	**27.5**	**23.2**		
		EGPRS	4	**26.0**	**23.0**		
GSM1900	Main 1 Ant.	Voice	1	**30.5**	**21.5**	**27.0**	**18.0**
		GPRS	1	**30.5**	**21.5**	**27.0**	**18.0**
		GPRS	2	**26.5**	**20.5**	**24.5**	**18.5**
		GPRS	3	**24.5**	**20.2**	**22.5**	**18.2**
		GPRS	4	**23.0**	**20.0**	**21.5**	**18.5**
		EGPRS	1	**27.5**	**18.5**	**26.0**	**17.0**
		EGPRS	2	**25.5**	**19.5**	**23.5**	**17.5**
		EGPRS	3	**24.0**	**19.7**	**22.0**	**17.7**
		EGPRS	4	**23.0**	**20.0**	**20.5**	**17.5**

RF Air interface	Antenna	Mode	Max. RF Output Power (dBm)	Reduced. RF Output Power (Hotspot & Proximity sensor & Earjack back-off) (dBm)
W-CDMA Band Ⅱ	Main 1 Ant.	R99	**24.0**	**20.0**
		HSDPA	**22.0**	**19.5**
		HSUPA	**22.0**	**19.5**
		DC-HSDPA	**22.0**	**19.5**
W-CDMA Band Ⅳ	Main 1 Ant.	R99	**23.5**	**20.0**
		HSDPA	**22.0**	**19.5**
		HSUPA	**22.0**	**19.5**
		DC-HSDPA	**22.0**	**19.5**
W-CDMA Band Ⅴ	Main 1 Ant.	R99	**25.0**	
		HSDPA	**22.5**	
		HSUPA	**23.0**	
		DC-HSDPA	**22.5**	

RF Air interface	Antenna	Mode	Max. RF Output Power (dBm)	Reduced. RF Output Power (Hotspot & Proximity sensor & Earjack back-off) (dBm)
LTE Band 2	Main 1 Ant.	QPSK	**24.0**	**20.5**
LTE Band 4	Main 1 Ant.	QPSK	**24.0**	**20.7**
LTE Band 5	Main 1 Ant.	QPSK	**25.0**	
LTE Band 12	Main 1 Ant.	QPSK	**24.5**	
LTE Bans 13	Main 1 Ant.	QPSK	**24.5**	
LTE Band 17	Main 1 Ant.	QPSK	**24.5**	
LTE Band 25	Main 1 Ant.	QPSK	**24.0**	**20.5**
LTE Band 26	Main 1 Ant.	QPSK	**25.0**	
LTE Band 66	Main 1 Ant.	QPSK	**24.0**	**20.7**
LTE Band 41 Power Class 3	Main 2 Ant.	QPSK	**24.0**	**22.0**
LTE Band 41 Power Class 2	Main 2 Ant.	QPSK	**25.5**	**22.0** *

Notes:

Once power back-off mode has been operated, Power class 2 switches to Power class 3.

RF Air interface	Antenna	Mode	Max. RF Output Power (dBm)	Reduced. RF Output Power (Hotspot & Proximity sensor & Earjack back-off) (dBm)
NR Band n5	Main 1 Ant.	DFT-s-OFDM QPSK	**25.0**	
NR Band n66	Main 1 Ant.	DFT-s-OFDM QPSK	**24.5**	**21.5**

RF Air interface	Mode	Normal WLAN mode power (dBm)					
		Max. RF Output Power			Reduced RF Output Power		
		SISO	MIMO		SISO	MIMO	
		Ant.1, Ant.2	Ant.1, Ant.2	TOTAL	Ant.1, Ant.2	Ant.1, Ant.2	TOTAL
WiFi 2.4 GHz (Ch.1)	802.11b	20.0			17.0		
	802.11g		17.0	20.0			
	802.11n HT20		13.0	16.0			
	802.11ax HE20		13.0	16.0			
WiFi 2.4 GHz (Ch.2 - Ch.9)	802.11b	20.0			17.0		
	802.11g		17.0	20.0			
	802.11n HT20		17.0	20.0			
	802.11ax HE20		17.0	20.0			
WiFi 2.4 GHz (Ch.10)	802.11b	20.0			17.0		
	802.11g		17.0	20.0			
	802.11n HT20		17.0	20.0			
	802.11ax HE20		16.0	19.0			
WiFi 2.4 GHz (Ch.11)	802.11b	20.0			17.0		
	802.11g		13.0	16.0			
	802.11n HT20		11.0	14.0			
	802.11ax HE20		11.0	14.0			
WiFi 2.4 GHz (Ch.12)	802.11b	11.0					
	802.11g		11.0	14.0			
	802.11n HT20		11.0	14.0			
	802.11ax HE20		11.0	14.0			
WiFi 2.4 GHz (Ch.13)	802.11b	9.0					
	802.11g		9.0	12.0			
	802.11n HT20		9.0	12.0			
	802.11ax HE20		9.0	12.0			
WiFi 5 GHz (UNII-1)	802.11a		18.0	21.0		15.0	18.0
	802.11n HT20		18.0	21.0		15.0	18.0
	802.11n HT40		16.0	19.0		15.0	18.0
	802.11ac VHT20		18.0	21.0		15.0	18.0
	802.11ac VHT40		16.0	19.0		15.0	18.0
	802.11ac VHT80		15.0	18.0			
	802.11ax HE20		18.0	21.0		15.0	18.0
	802.11ax HE40		16.0	19.0		15.0	18.0
	802.11ax HE80		15.0	18.0			
WiFi 5 GHz (UNII-2A)	802.11a		18.0	21.0		15.0	18.0
	802.11n HT20		18.0	21.0		15.0	18.0
	802.11n HT40		17.0	20.0		15.0	18.0
	802.11ac VHT20		18.0	21.0		15.0	18.0
	802.11ac VHT40		17.0	20.0		15.0	18.0
	802.11ac VHT80		16.0	19.0		15.0	18.0
	802.11ax HE20		18.0	21.0		15.0	18.0
	802.11ax HE40		17.0	20.0		15.0	18.0
	802.11ax HE80		16.0	19.0		15.0	18.0
WiFi 5 GHz (UNII-2C)	802.11a		18.0 (ch.140: 17.0)	21.0 (ch.140: 20.0)		15.0	18.0
	802.11n HT20		18.0 (ch.140: 17.0)	21.0 (ch.140: 20.0)		15.0	18.0
	802.11n HT40		17.0	20.0		15.0	18.0
	802.11ac VHT20		18.0 (ch.140: 17.0)	21.0 (ch.140: 20.0)		15.0	18.0
	802.11ac VHT40		17.0	20.0		15.0	18.0
	802.11ac VHT80		16.0	19.0		15.0	18.0
	802.11ax HE20		18.0 (ch.140: 15.0)	21.0 (ch.140: 18.0)		15.0	18.0
	802.11ax HE40		17.0	20.0		15.0	18.0
	802.11ax HE80		16.0	19.0		15.0	18.0
WiFi 5 GHz (UNII-3)	802.11a		18.0	21.0		15.0	18.0
	802.11n HT20		18.0	21.0		15.0	18.0
	802.11n HT40		17.0	20.0		15.0	18.0
	802.11ac VHT20		18.0	21.0		15.0	18.0
	802.11ac VHT40		17.0	20.0		15.0	18.0
	802.11ac VHT80		16.0	19.0		15.0	18.0
	802.11ax HE20		18.0	21.0		15.0	18.0
	802.11ax HE40		17.0	20.0		15.0	18.0
	802.11ax HE80		16.0	19.0		15.0	18.0
Bluetooth (Ch.0 - Ch.78)		17.5					
Bluetooth-EDR (Ch.0 - Ch.78)		11.5					
Bluetooth-LE_1Mbps, 37 pkt		6.5					
Bluetooth-LE_2Mbps, 37 pkt		7.5					

RF Air interface	Mode	RSDB WLAN mode power (dBm)					
		Max. RF Output Power			Reduced RF Output Power		
		SISO	MIMO		SISO	MIMO	
		Ant.1, Ant.2	Ant.1, Ant.2	TOTAL	Ant.1, Ant.2	Ant.1, Ant.2	TOTAL
WiFi 2.4 GHz (Ch.1)	802.11b	17.0			14.0		
	802.11g		17.0	20.0		14.0	17.0
	802.11n HT20		13.0	16.0			
	802.11ax HE20		13.0	16.0			
WiFi 2.4 GHz (Ch.2 - Ch.9)	802.11b	17.0			14.0		
	802.11g		17.0	20.0		14.0	17.0
	802.11n HT20		17.0	20.0		14.0	17.0
	802.11ax HE20		17.0	20.0		14.0	17.0
WiFi 2.4 GHz (Ch.10)	802.11b	17.0			14.0		
	802.11g		17.0	20.0		14.0	17.0
	802.11n HT20		17.0	20.0		14.0	17.0
	802.11ax HE20		16.0	19.0		14.0	17.0
WiFi 2.4 GHz (Ch.11)	802.11b	17.0			14.0		
	802.11g		13.0	16.0			
	802.11n HT20		11.0	14.0			
	802.11ax HE20		11.0	14.0			
WiFi 2.4 GHz (Ch.12)	802.11b	11.0					
	802.11g		11.0	14.0			
	802.11n HT20		11.0	14.0			
	802.11ax HE20		11.0	14.0			
WiFi 2.4 GHz (Ch.13)	802.11b	9.0					
	802.11g		9.0	12.0			
	802.11n HT20		9.0	12.0			
	802.11ax HE20		9.0	12.0			
WiFi 5 GHz (UNII-1)	802.11a		14.0	17.0			
	802.11n HT20		14.0	17.0			
	802.11n HT40		14.0	17.0			
	802.11ac VHT20		14.0	17.0			
	802.11ac VHT40		14.0	17.0			
	802.11ac VHT80		14.0	17.0			
	802.11ax HE20		14.0	17.0			
	802.11ax HE40		14.0	17.0			
	802.11ax HE80		14.0	17.0			
WiFi 5 GHz (UNII-2A)	802.11a		14.0	17.0			
	802.11n HT20		14.0	17.0			
	802.11n HT40		14.0	17.0			
	802.11ac VHT20		14.0	17.0			
	802.11ac VHT40		14.0	17.0			
	802.11ac VHT80		14.0	17.0			
	802.11ax HE20		14.0	17.0			
	802.11ax HE40		14.0	17.0			
	802.11ax HE80		14.0	17.0			
WiFi 5 GHz (UNII-2C)	802.11a		14.0	17.0			
	802.11n HT20		14.0	17.0			
	802.11n HT40		14.0	17.0			
	802.11ac VHT20		14.0	17.0			
	802.11ac VHT40		14.0	17.0			
	802.11ac VHT80		14.0	17.0			
	802.11ax HE20		14.0	17.0			
	802.11ax HE40		14.0	17.0			
	802.11ax HE80		14.0	17.0			
WiFi 5 GHz (UNII-3)	802.11a		14.0	17.0			
	802.11n HT20		14.0	17.0			
	802.11n HT40		14.0	17.0			
	802.11ac VHT20		14.0	17.0			
	802.11ac VHT40		14.0	17.0			
	802.11ac VHT80		14.0	17.0			
	802.11ax HE20		14.0	17.0			
	802.11ax HE40		14.0	17.0			
	802.11ax HE80		14.0	17.0			

Note(s):.

1. This device uses an independent fixed level power reduction mechanism for WLAN mode operations during RCV operation. Detailed descriptions of the power reduction mechanism are included in the operational description.
2. 802.11g/n/a/ac/ax modes operate MIMO mode only.
3. The per stream (antenna) power is the same for SISO and MIMO, but the total MIMO power is 3 dB higher than the individual stream (antenna) power. But this should not impact the simultaneous evaluation because it is already adding the SAR values, per stream (antenna).
4. WLAN mode supports RSDB operation. Detail of RSDB operation scenario is mentioned in Sec.13.

6.4. Power Back-off Operation

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

Power Back-off mode	Technologies Supported	Exposure Conditions Active			
		Head	Body-worn	Hotspot	Product Specific 10-g
WWAN (Ear-jack)	GSM 1900 W-CDMA B2/4 LTE B2/4/25/41[4]/66 NR n66	N/A	✓	N/A	✓
WWAN (Hotspot)[1]	GSM 1900 W-CDMA B2/4 LTE B2/4/25/41[4]/66 NR n66	N/A	N/A	✓	N/A
WWAN (Proximity sensor)[1]	GSM 1900 W-CDMA B2/4 LTE B2/4/25/41[4]/66 NR n66	N/A	N/A	N/A	✓
WLAN (RCV)	Wi-Fi 2.4GHz Wi-Fi 5GHz	✓	N/A	N/A	N/A

Note(s):
1. Tune-up Limits for WWAN (Hotspot) and WWAN (Proximity Sensor) are all Reduced Average Powers. Please refer to Sec.9 for all conducted power measurements.
2. WWAN Back-off priority: Ear-jack → Proximity Sensor → Hotspot
3. Body-worn SAR with ear-jack connected at reduced power is not required due to Body-worn measured at max power is not over 1.2 W/kg.
4. LTE Band 41 Power Class 3.
5. Ear-jack and Proximity sensor back-off mode have the same reduced power level.

Product Specific 10g Adjusted SAR Calculation

Wireless technologies	Max Tune-up Limit (dBm)	Reduced Tune-Up Limit (dBm)	Power Factor	Reported SAR Limit (W/kg)
GSM 1900	21.5	18.5	2.00	0.601
W-CDMA B2	24.0	20.0	2.51	0.478
W-CDMA B4	23.5	20.0	2.24	0.536
LTE B2	24.0	20.5	2.24	0.536
LTE B4	24.0	20.7	2.14	0.561
LTE B25	24.0	20.5	2.24	0.536
LTE B66	24.0	20.7	2.14	0.561
LTE B41	24.0	22.0	1.58	0.757
NR n66	24.5	21.5	2.00	0.601

Note(s):
1. Tune-up limit powers for GSM 1900 are frame power(dBm).
2. This device supports power reduction in Hotspot mode. According to KDB 648474 D01 §2.5 b, extremity 10-g SAR testing is not required if the adjusted SAR is < 1.2 W/kg when the measured SAR is scaled to the maximum tune-up limit. Refer to §10 for Reported SAR results. If the Reported SAR 1g value in §10 is less than the Reported SAR Limit listed above, then Extremity SAR is not required.
3. LTE 50% RB is scaled up to the Max Tune-Up Limit with MPR included.
4. For Reported SAR limit in above table, it was calculated using Max tune-up Limit & Reduced Tune-up limit & Reported SAR 1.2 W/kg. (Reported SAR Limit = 1.2 W/kg / Power factor, Power factor = 10^((Max tune-up limit – Reduced tune-up limit)/10)

6.5. 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 12	Frequency range: 699 – 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			23060/ 704	23035/ 701.5	23025/ 700.5	23017/ 699.7
	Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5	23095/ 707.5
	High			23130/ 711	23155/ 713.5	23165/ 714.5	23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low				23205/ 779.5		
	Mid			23230/ 782	23230/ 782		
	High				23255/ 784.5		
	Band 17	Frequency range: 704 - 716 MHz					
		Channel Bandwidth					
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
	Low			23780/ 709	23755/ 706.5		
	Mid			23790/ 710	23790/ 710		
	High			23800/ 711	23825/ 713.5		

General LTE SAR Test and Reporting Considerations (Continued)

Frequency range, Channel Bandwidth, Numbers and Frequencies

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

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

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

LTE transmitter and antenna implementation

Refer to Appendix A.

Maximum power reduction (MPR)

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

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

MPR Built-in by design

The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values.

A-MPR (additional MPR) was disabled during SAR testing

Power reduction

Yes

Spectrum plots for RB configurations

A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.

Notes:

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

6.6. General 5G NR (FR1) SAR Test and Reporting Considerations

Item	Description				
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band n5	Frequency range: 824 - 849 MHz			
		Channel Bandwidth			
		20 MHz	15 MHz	10 MHz	5 MHz
	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 n66	Frequency range: 1710 - 1780 MHz			
		Channel Bandwidth			
		20 MHz	15 MHz	10 MHz	5 MHz
	Low	344000/ 1720	343500/ 1717.5	343000/ 1715	342500/ 1712.5
	Mid	349000/ 1745	349000/ 1745	349000/ 1745	349000/ 1745
	High	354000/ 1770	354500/ 1772.5	355000/ 1775	355500/ 1777.5
SCS	15 kHz				
Modulations Supported in UL	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM / CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
A-MPR (Additional MPR) disabled for SAR testing?	Yes				
EN-DC Carrier Aggregation Possible Combinations					
LTE Anchor Bands for NR Band n5	LTE Band 2 / 66				
LTE Anchor Bands for NR Band n66	LTE Band 5 / 12				

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.

6.7. LTE (TDD) Considerations

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

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

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

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
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% (Power Class 3) and configuration 1 at 43.3% (Power Class 2) duty cycle.

6.8. LTE Carrier Aggregation

DL Inter-Band

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_2A-4A (0)(1)(2)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 2			Yes	Yes			20 MHz
	Band 4			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 4			Yes	Yes	Yes	Yes	
CA_2A-5A (0)(1)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 5			Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 5			Yes	Yes			
CA_2A-12A (0)(1)(2)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 12		Yes	Yes	Yes			
	Band 2			Yes	Yes			20 MHz
	Band 12			Yes	Yes			
CA_2A-13A (0)(1)	Band 2			Yes	Yes	Yes	Yes	30 MHz
	Band 13				Yes			
	Band 2			Yes	Yes			20 MHz
	Band 13				Yes			
CA_2A-17A (0)	Band 2			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA_2A-66A (0)(1)(2)	Band 2	Yes	Yes	Yes	Yes	Yes	Yes	40 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 2			Yes	Yes			20 MHz
	Band 66			Yes	Yes			
	Band 2			Yes	Yes	Yes	Yes	40 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_4A-5A (0)(1)	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 5			Yes	Yes			
	Band 4			Yes	Yes			20 MHz
	Band 5			Yes	Yes			
CA_4A-12A (0)(1)(2)(3)(4)(5)	Band 4	Yes	Yes	Yes	Yes			20 MHz
	Band 12			Yes	Yes			
	Band 4	Yes	Yes	Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes			20 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 12			Yes	Yes			
	Band 4			Yes	Yes	Yes		20 MHz
	Band 12			Yes				

DL Inter-Band (Continued)

E-UTRA CA configuration (BCS)	E-UTRA Band	Bandwidth						Max Aggregated BW
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
CA_4A-13A (0)(1)	Band 4			Yes	Yes	Yes	Yes	30 MHz
	Band 13				Yes			
	Band 4			Yes	Yes			20 MHz
	Band 13				Yes			
CA_4A-17A (0)	Band 4			Yes	Yes			20 MHz
	Band 17			Yes	Yes			
CA_5A-41A (0)	Band 5			Yes	Yes			30 MHz
	Band 41						Yes	
CA_5A-66A (0)	Band 5			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
CA_12A-66A (0)(1)(2)(3)(4)(5)	Band 12			Yes	Yes			20 MHz
	Band 66	Yes	Yes	Yes	Yes			
	Band 12			Yes	Yes			30 MHz
	Band 66	Yes	Yes	Yes	Yes	Yes	Yes	
	Band 12		Yes	Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 12			Yes	Yes			20 MHz
	Band 66			Yes	Yes			
	Band 12			Yes	Yes			30 MHz
	Band 66			Yes	Yes	Yes	Yes	
	Band 12			Yes				20 MHz
	Band 66			Yes	Yes	Yes		
CA_26A-41A (0)	Band 26			Yes	Yes	Yes		35 MHz
	Band 41			Yes	Yes	Yes	Yes	
CA_2A-4A-5A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 5			Yes	Yes			
CA_2A-4A-13A (0)	Band 2			Yes	Yes	Yes	Yes	50 MHz
	Band 4			Yes	Yes	Yes	Yes	
	Band 13				Yes			
CA_4A-4A-12A (0)	Band 4	4A-4A BCS 0						50 MHz
	Band 12			Yes	Yes			
CA_4A-4A-17A (0)	Band 4	See CA_4A-4A (0)						50 MHz
	Band 17				Yes			
CA_5A-66A-66A (0)	Band 5			Yes	Yes			50 MHz
	Band 66	66A-66A BCS 0						
CA_12A-66A-66A (0)	Band 12			Yes	Yes			50 MHz
	Band 66	66A-66A BCS 0						
CA_26A-41C (0)	Band 26			Yes	Yes	Yes		55 MHz
	Band 41	41C BCS 1						

DL Inter-Band (Non-Contiguous)

E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)				Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	4th Carrier	
CA_2A-2A (0)	Band 2	5, 10, 15. 20	5, 10, 15. 20			40 MHz
CA_4A-4A (0)(1)	Band 4	5, 10, 15, 20	5, 10, 15, 20			40 MHz
		5, 10	5, 10			20 MHz
CA_41A-41A (0)(1)	Band 41	10, 15, 20	10, 15, 20			40 MHz
		5, 10, 15. 20	5, 10, 15. 20			
CA_66A-66A (0)	Band 66	5, 10, 15, 20	5, 10, 15, 20			40 MHz
CA_41A-41C (0)	Band 41	5, 10, 15. 20	41C BCS 1			60 MHz
		41C BCS 1	5, 10, 15. 20			
CA_41C-41C (0)	Band 41	41C BCS 0	41C BCS 0			80 MHz
CA_41A-41D (0)	Band 41	5, 10, 15, 20	41D BCS 0			80 MHz
		41D BCS 0	5, 10, 15, 20			

DL Intra-Band (Contiguous)

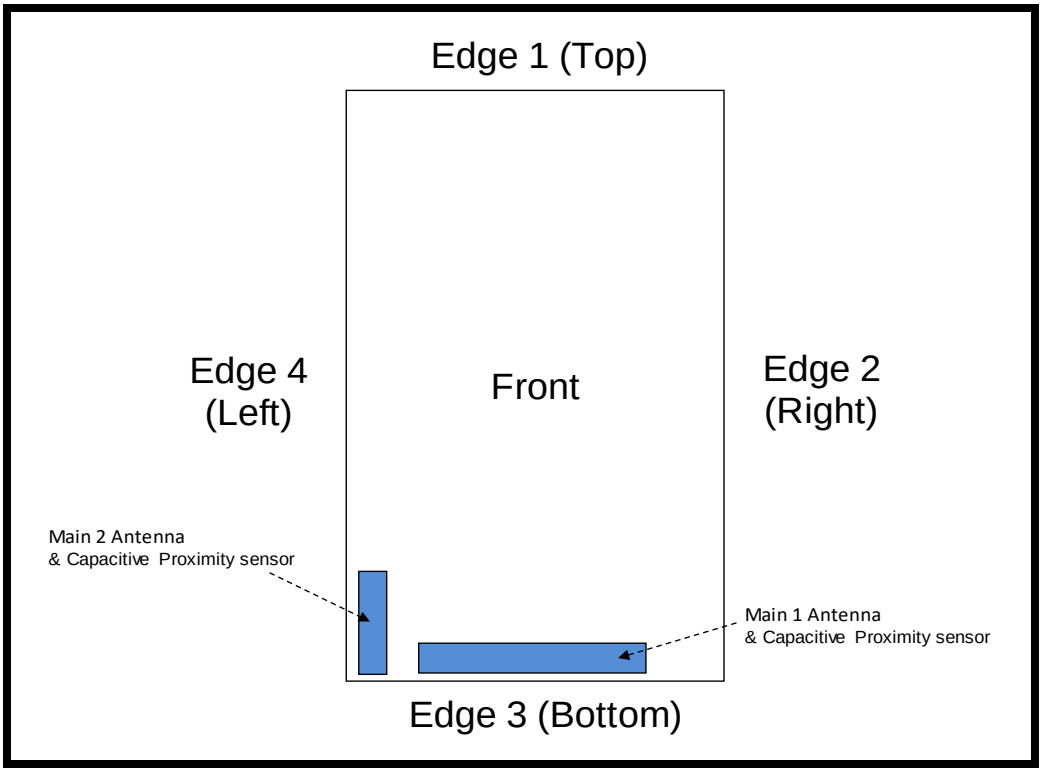
E-UTRA CA configuration (BCS)	E-UTRA Band	Allowed Channel BW Per Carrier (MHz)				Max Aggregated BW
		1st Carrier	2nd Carrier	3rd Carrier	4th Carrier	
CA_2C(0)	Band 2	5	20			40 MHz
		10	15,20			
		15	10,15,20			
		20	5,10,15,20			
CA_66B (0)	Band 66	5	5, 10, 15			20 MHz
		10	5, 10			
		15	5			
CA_66C (0)	Band 66	5	20			40 MHz
		10	15, 20			
		15	10, 15, 20			
		20	5, 10, 15, 20			
CA_41C (0),(1),(2),(3)	Band 41	10	20			40 MHz
		15	15,20			
		20	10,15,20			
	Band 41	5,10	20			40 MHz
		15	15,20			
		20	5,10,15,20			
	Band 41	10	15,20			40 MHz
		15	10,15,20			
		20	10,15,20			
	Band 41	10	20			40 MHz
		20	20			
CA_41D	Band 41	10	20	15		60 MHz
		10	15,20	20		
		15	20	10,15		
		15	10,15,20	20		
		20	15,20	10		
		20	10,15,20	15,20		
CA_41E (0)	Band 41	15,20	15,20	15,20	20	80 MHz

Note(s):

1. For supported channels, please refer to §6.5.
2. This device supports DL 4X4 MIMO for LTE Band 4, 66, 41. Please refer to Sec.9.3.1 for detailed LTE CA combination with 4X4 DL MIMO.

6.9. Proximity Sensor feature

The DUT has two proximity sensors to reduce the output power. The position of the sensors and antennas are as shown in the graphic.

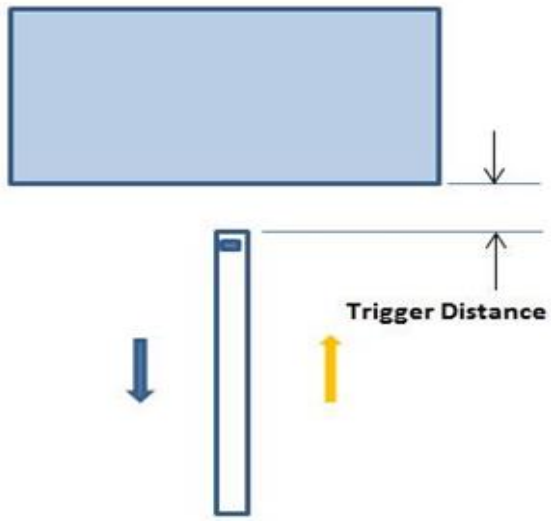


6.9.1. Proximity Sensor Triggering Distance (KDB 616217 §6.2)

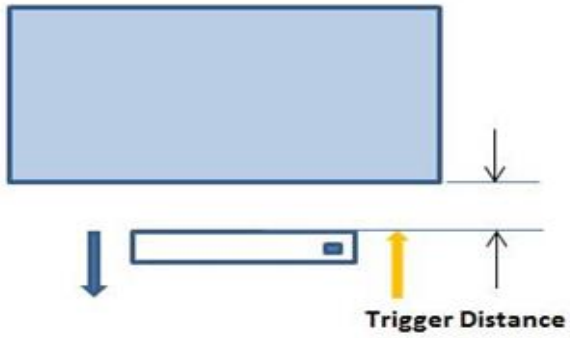
Rear, Front and Edge 3 of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.

The DUT featured a visual indicator on its display that showed the status of the proximity sensor (Triggered or not triggered). This was used to determine the status of the sensor during the proximity sensor assessment as monitoring the output power directly was not practical without affecting the measurement.

It was confirmed separately that the output power was altered according to the proximity sensor status indication. This was achieved by observing the proximity sensor status at the same time as monitoring the conducted power. Section 9 contains both the full and reduced conducted power measurements.



Proximity Sensor Trigger Distance Assessment
KDB 616217 §6.2, Edge 3



Proximity Sensor Trigger Distance Assessment
KDB 616217 §6.2, Rear, Front

LEGEND

Direction of DUT travel for determination of power reduction triggering point

Direction of DUT travel for determination of full power resumption triggering point

Summary of Trigger Distances

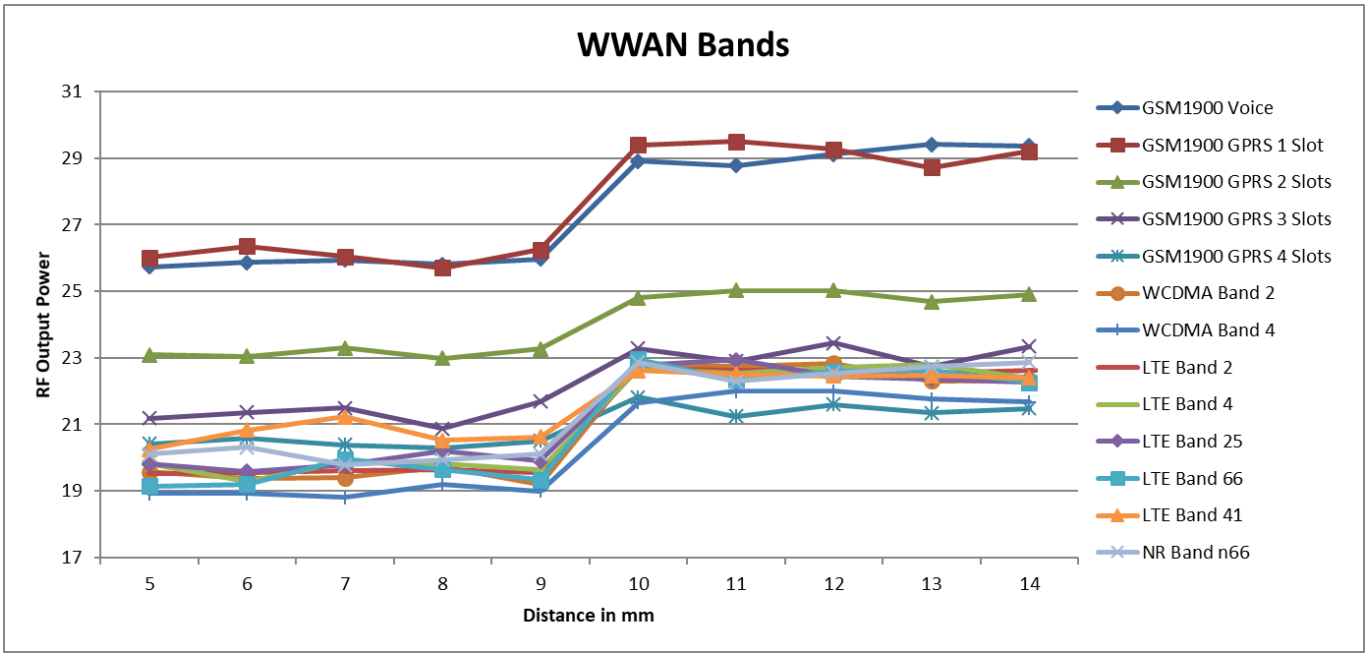
Tissue simulating liquid	Antenna	Trigger distance – Rear		Trigger distance - Front		Trigger distance – Edge 3	
		Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
1750 Head	Main 1 Ant.	9 mm	9 mm	7 mm	7 mm	13 mm	13 mm
1900 Head	Main 1 Ant.	9 mm	9 mm	7 mm	7 mm	13 mm	13 mm
2600 Head	Main 2 Ant.	9 mm	9 mm	7 mm	7 mm	13 mm	13 mm

Proximity Sensor Triggering Distance Measurement Results

WWAN Bands

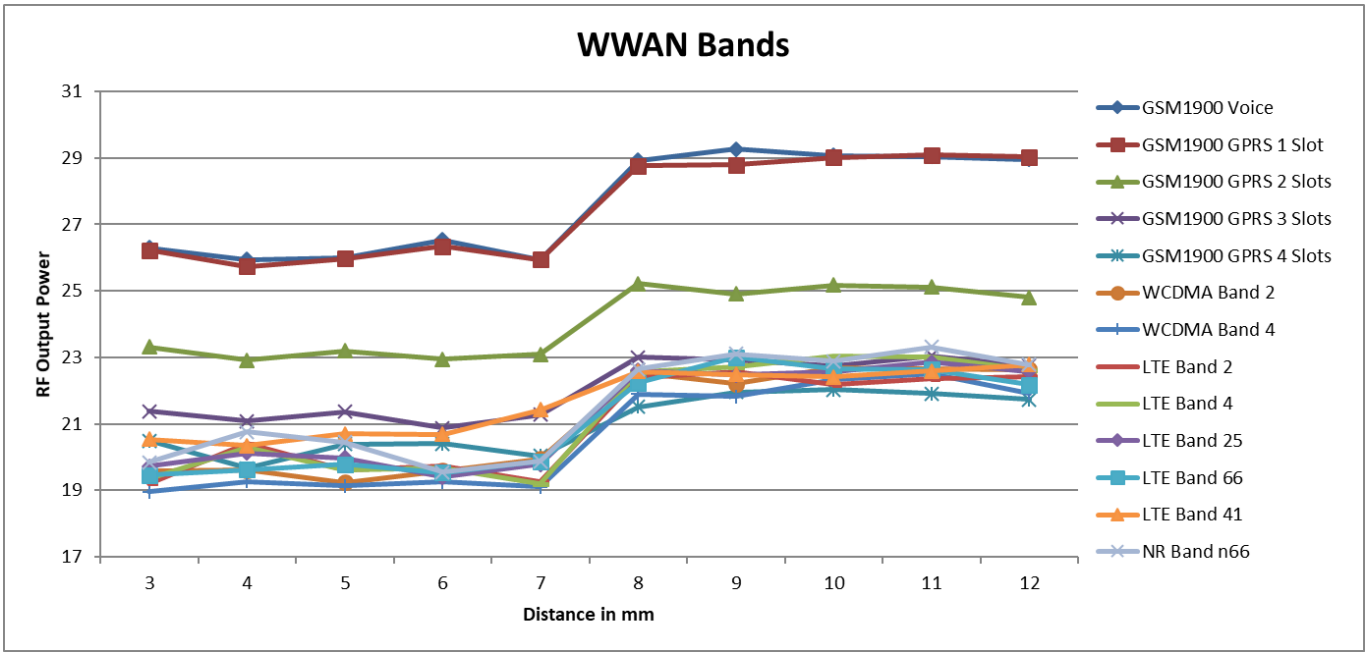
Rear, DUT Moving Toward (Trigger) and Away (Release) from the Phantom

Distance to DUT vs. Output Power in dBm										
Distance (mm)	5	6	7	8	9	10	11	12	13	14
GSM1900 Voice	25.7	25.9	25.9	25.8	26.0	28.9	28.8	29.1	29.4	29.4
GSM1900 GPRS 1 Slot	26.0	26.4	26.0	25.7	26.3	29.4	29.5	29.3	28.7	29.2
GSM1900 GPRS 2 Slots	23.1	23.1	23.3	23.0	23.3	24.8	25.0	25.0	24.7	24.9
GSM1900 GPRS 3 Slots	21.2	21.4	21.5	20.9	21.7	23.3	22.9	23.5	22.7	23.3
GSM1900 GPRS 4 Slots	20.4	20.6	20.4	20.3	20.5	21.8	21.2	21.6	21.3	21.5
WCDMA Band 2	19.6	19.4	19.4	19.7	19.2	22.8	22.7	22.8	22.3	22.3
WCDMA Band 4	18.9	18.9	18.8	19.2	19.0	21.7	22.0	22.0	21.8	21.7
LTE Band 2	19.5	19.6	19.6	19.6	19.6	22.7	22.6	22.6	22.6	22.6
LTE Band 4	19.8	19.3	19.9	19.8	19.6	22.7	22.6	22.7	22.8	22.4
LTE Band 25	19.8	19.6	19.8	20.2	19.9	22.8	22.9	22.5	22.4	22.3
LTE Band 66	19.1	19.2	20.0	19.7	19.3	23.0	22.3	22.6	22.6	22.3
LTE Band 41	20.3	20.8	21.2	20.5	20.6	22.6	22.5	22.5	22.5	22.4
NR Band n66	20.1	20.3	19.8	20.0	20.1	22.9	22.3	22.5	22.7	22.9



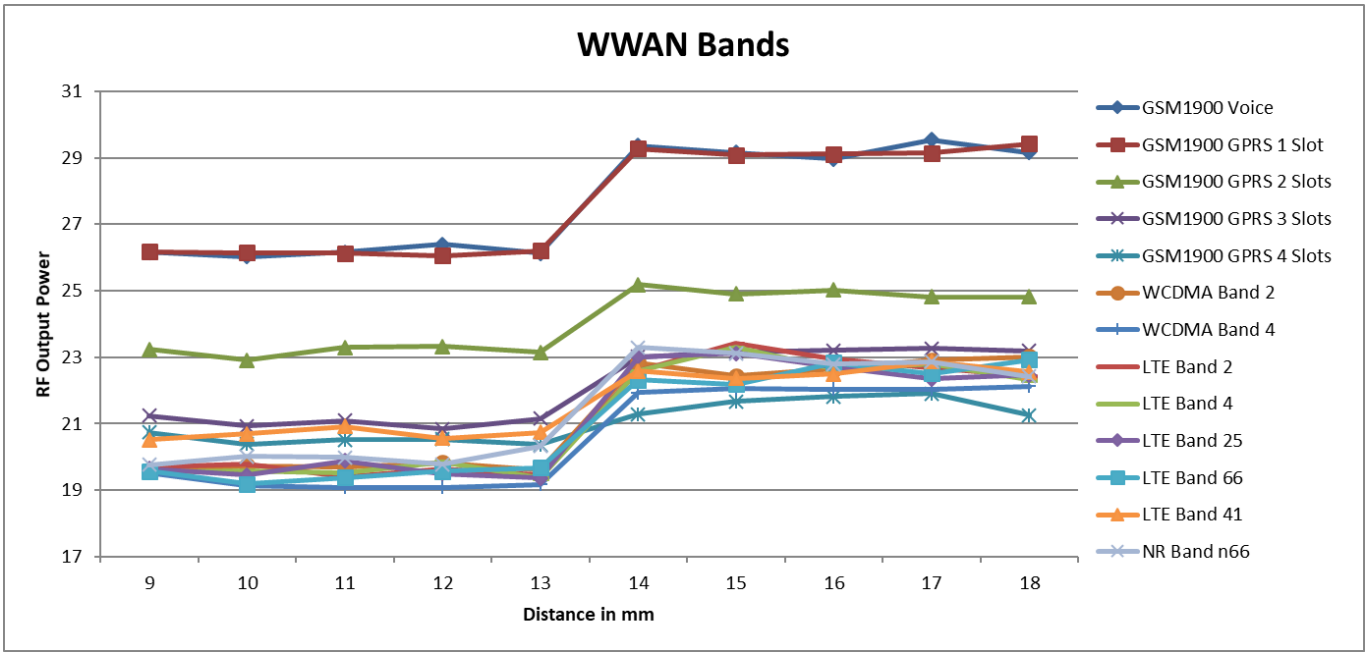
Front, DUT Moving Toward (Trigger) and Away (Release) from the Phantom

Distance to DUT vs. Output Power in dBm										
Distance (mm)	3	4	5	6	7	8	9	10	11	12
GSM1900 Voice	26.3	25.9	26.0	26.5	25.9	28.9	29.3	29.1	29.0	29.0
GSM1900 GPRS 1 Slot	26.2	25.7	26.0	26.3	25.9	28.8	28.8	29.0	29.1	29.0
GSM1900 GPRS 2 Slots	23.3	22.9	23.2	22.9	23.1	25.2	24.9	25.2	25.1	24.8
GSM1900 GPRS 3 Slots	21.4	21.1	21.4	20.9	21.3	23.0	22.9	22.8	23.1	22.8
GSM1900 GPRS 4 Slots	20.5	19.7	20.4	20.4	20.0	21.5	22.0	22.0	21.9	21.7
WCDMA Band 2	19.6	19.6	19.2	19.6	19.9	22.5	22.2	22.7	22.7	22.6
WCDMA Band 4	19.0	19.3	19.1	19.3	19.1	21.9	21.8	22.3	22.5	21.9
LTE Band 2	19.2	20.4	19.6	19.7	19.3	22.4	22.6	22.2	22.4	22.4
LTE Band 4	19.4	20.3	19.6	19.7	19.2	22.6	22.7	23.0	23.0	22.6
LTE Band 25	19.7	20.1	20.0	19.4	19.8	22.6	22.5	22.6	22.9	22.6
LTE Band 66	19.5	19.6	19.8	19.5	19.9	22.2	23.0	22.7	22.6	22.2
LTE Band 41	20.5	20.4	20.7	20.7	21.4	22.6	22.5	22.4	22.6	22.8
NR Band n66	19.8	20.8	20.5	19.6	19.9	22.7	23.1	22.9	23.3	22.8



Edge 3, DUT Moving Toward (Trigger) and Away (Release) from the Phantom

Distance to DUT vs. Output Power in dBm										
Distance (mm)	9	10	11	12	13	14	15	16	17	18
GSM1900 Voice	26.2	26.0	26.2	26.4	26.1	29.4	29.2	29.0	29.5	29.2
GSM1900 GPRS 1 Slot	26.2	26.2	26.1	26.1	26.2	29.3	29.1	29.1	29.2	29.4
GSM1900 GPRS 2 Slots	23.2	22.9	23.3	23.3	23.2	25.2	24.9	25.0	24.8	24.8
GSM1900 GPRS 3 Slots	21.2	20.9	21.1	20.9	21.2	23.0	23.2	23.2	23.3	23.2
GSM1900 GPRS 4 Slots	20.7	20.4	20.5	20.5	20.4	21.3	21.7	21.8	21.9	21.3
WCDMA Band 2	19.6	19.7	19.7	19.8	19.6	22.8	22.4	22.7	22.9	23.0
WCDMA Band 4	19.5	19.2	19.1	19.1	19.2	21.9	22.1	22.0	22.0	22.1
LTE Band 2	19.7	19.8	19.4	19.6	19.5	22.6	23.4	23.0	22.7	22.4
LTE Band 4	19.6	19.6	19.5	19.9	19.4	22.6	23.3	22.6	22.8	22.3
LTE Band 25	19.6	19.5	19.9	19.5	19.4	23.0	23.1	22.7	22.4	22.5
LTE Band 66	19.6	19.2	19.4	19.6	19.7	22.3	22.2	22.8	22.5	22.9
LTE Band 41	20.5	20.7	20.9	20.6	20.7	22.6	22.4	22.5	22.9	22.6
NR Band n66	19.8	20.0	20.0	19.8	20.3	23.3	23.1	22.8	22.9	22.4



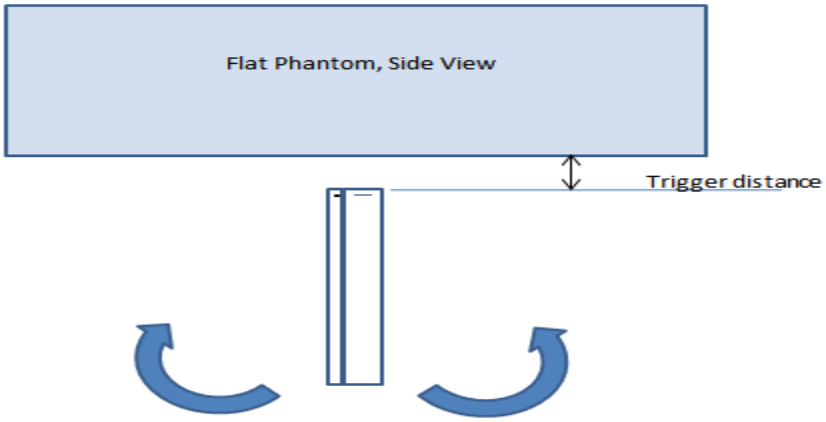
6.9.2. Proximity Sensor Coverage (KDB 616217 §6.3)

As there is no spatial offset between the antenna and the proximity sensor element, proximity sensor coverage did not need to be assessed.

6.9.3. Proximity Sensor Tilt Angle Assessment (KDB 616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Edge 3 parallel to the base of the flat phantom for each band.

The EUT was rotated about Edge 3 for angles up to +/- 45°. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to +/- 45°.



Proximity sensor tilt angle assessment (Edge 3) KDB 616217 §6.4

Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering (Edge 3)

Band (MHz)	Minimum trigger distance measured according to KDB 616217 §6.2	Minimum distance at which power reduction was maintained over +/-45°	Power reduction status										
			-45°	-40°	-30°	-20°	-10°	0°	10°	20°	30°	40°	45°
1750	13 mm	13 mm	On	On	On	On	On	On	On	On	On	On	On
1900	13 mm	13 mm	On	On	On	On	On	On	On	On	On	On	On
2600	13 mm	13 mm	On	On	On	On	On	On	On	On	On	On	On

6.9.4. Resulting test positions for SAR measurements

Wireless technologies	DUT Position	§6.2 Triggering Distance	§6.3 Coverage	§6.4 Tilt Angle	Worst case distance for SAR
WWAN (Main 1 Ant & Main 2 Ant)	Rear	9 mm	N/A	N/A	8 mm
	Front	7 mm	N/A	N/A	6 mm
	Edge 3	13 mm	N/A	13 mm	12 mm

7. RF Exposure Conditions (Test Configurations)

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

Wireless technologies	RF Exposure Conditions	Antenaa	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN	Head	Main 1 Ant. & Main 2 Ant.	0 mm	Left Touch	N/A	Yes	
				Left Tilt (15°)	N/A	Yes	
				Right Touch	N/A	Yes	
				Right Tilt (15°)	N/A	Yes	
	Body	Main 1 Ant. & Main 2 Ant.	15 mm	Rear	N/A	Yes	
				Front	N/A	Yes	
	Hotspot	Main 1 Ant.	10 mm	Rear	< 25 mm	Yes	
				Front	< 25 mm	Yes	
				Edge 1 (Top)	> 25 mm	No	1
				Edge 2 (Right)	< 25 mm	Yes	
				Edge 3 (Bottom)	< 25 mm	Yes	
				Edge 4 (Left)	< 25 mm	Yes	
	Hotspot	Main 2 Ant.	10 mm	Rear	< 25 mm	Yes	
				Front	< 25 mm	Yes	
				Edge 1 (Top)	> 25 mm	No	1
				Edge 2 (Right)	> 25 mm	No	1
				Edge 3 (Bottom)	< 25 mm	Yes	
				Edge 4 (Left)	< 25 mm	Yes	
	Product Specific 10-g	Main 1 Ant. & Main 2 Ant.	0 mm	Rear	Refer to notes 2 & 3		
				Front			
				Edge 1 (Top)			
				Edge 2 (Right)			
				Edge 3 (Bottom)			
				Edge 4 (Left)			
2.4GHz WLAN & 5GHz WLAN	Head	WiFi/BT Ant.1	0 mm	Left Touch	N/A	Yes	
				Left Tilt (15°)	N/A	Yes	
				Right Touch	N/A	Yes	
				Right Tilt (15°)	N/A	Yes	
	Body		15 mm	Rear	N/A	Yes	
				Front	N/A	Yes	
	Hotspot		10 mm	Rear	< 25 mm	Yes	
				Front	< 25 mm	Yes	
				Edge 1 (Top)	> 25 mm	No	1
				Edge 2 (Right)	> 25 mm	No	1
				Edge 3 (Bottom)	> 25 mm	No	1
				Edge 4 (Left)	< 25 mm	Yes	
	Product Specific 10-g		0 mm	Rear	Refer to notes 2 & 4		
				Front			
				Edge 1 (Top)			
				Edge 2 (Right)			
				Edge 3 (Bottom)			
				Edge 4 (Left)			
2.4GHz WLAN & 5GHz WLAN	Head	WiFi Ant.2	0 mm	Left Touch	N/A	Yes	
				Left Tilt (15°)	N/A	Yes	
				Right Touch	N/A	Yes	
				Right Tilt (15°)	N/A	Yes	
	Body		15 mm	Rear	N/A	Yes	
				Front	N/A	Yes	
	Hotspot		10 mm	Rear	< 25 mm	Yes	
				Front	< 25 mm	Yes	
				Edge 1 (Top)	< 25 mm	Yes	
				Edge 2 (Right)	> 25 mm	No	1
				Edge 3 (Bottom)	> 25 mm	No	1
				Edge 4 (Left)	< 25 mm	Yes	
	Product Specific 10-g		0 mm	Rear	Refer to notes 2 & 4		
				Front			
				Edge 1 (Top)			
				Edge 2 (Right)			
				Edge 3 (Bottom)			
				Edge 4 (Left)			

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.
2. For Phablet devices: When hotspot mode applies, Product specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.
3. For Phablet devices: When hotspot mode applies and power reduction applies to hotspot mode, Product specific 10-g SAR is required for each test position that has and adjusted SAR to maximum power that is > 1.2 W/kg.
4. For Phablet devices: When hotspot mode is not supported, Product specific 10-g 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.

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 1 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10-19-2020	Head 5250	e'	35.6000	Relative Permittivity (ε_r):	35.60	35.93	-0.93	5
		e"	15.8800	Conductivity (σ):	4.64	4.70	-1.41	5
	Head 5260	e'	35.5900	Relative Permittivity (ε_r):	35.59	35.92	-0.92	5
		e"	15.9000	Conductivity (σ):	4.65	4.71	-1.32	5
	Head 5600	e'	35.0500	Relative Permittivity (ε_r):	35.05	35.53	-1.36	5
		e"	16.0700	Conductivity (σ):	5.00	5.06	-1.11	5
	Head 5750	e'	35.0300	Relative Permittivity (ε_r):	35.03	35.36	-0.94	5
		e"	16.1500	Conductivity (σ):	5.16	5.21	-0.96	5
	Head 5825	e'	34.7600	Relative Permittivity (ε_r):	34.76	35.30	-1.53	5
		e"	16.1600	Conductivity (σ):	5.23	5.27	-0.68	5
10-22-2020	Head 5250	e'	36.5700	Relative Permittivity (ε_r):	36.57	35.93	1.77	5
		e"	16.1200	Conductivity (σ):	4.71	4.70	0.08	5
	Head 5260	e'	36.5500	Relative Permittivity (ε_r):	36.55	35.92	1.75	5
		e"	16.1200	Conductivity (σ):	4.71	4.71	0.05	5
	Head 5600	e'	35.9800	Relative Permittivity (ε_r):	35.98	35.53	1.26	5
		e"	16.3400	Conductivity (σ):	5.09	5.06	0.55	5
	Head 5750	e'	35.7600	Relative Permittivity (ε_r):	35.76	35.36	1.12	5
		e"	16.4700	Conductivity (σ):	5.27	5.21	1.00	5
	Head 5825	e'	35.6800	Relative Permittivity (ε_r):	35.68	35.30	1.08	5
		e"	16.4300	Conductivity (σ):	5.32	5.27	0.98	5
10-28-2020	Head 5250	e'	36.5700	Relative Permittivity (ε_r):	36.57	35.93	1.77	5
		e"	15.7800	Conductivity (σ):	4.61	4.70	-2.04	5
	Head 5260	e'	36.5500	Relative Permittivity (ε_r):	36.55	35.92	1.75	5
		e"	15.8100	Conductivity (σ):	4.62	4.71	-1.88	5
	Head 5600	e'	35.9200	Relative Permittivity (ε_r):	35.92	35.53	1.09	5
		e"	16.0400	Conductivity (σ):	4.99	5.06	-1.30	5
	Head 5750	e'	35.5200	Relative Permittivity (ε_r):	35.52	35.36	0.44	5
		e"	16.1700	Conductivity (σ):	5.17	5.21	-0.84	5
	Head 5825	e'	35.4500	Relative Permittivity (ε_r):	35.45	35.30	0.42	5
		e"	16.4100	Conductivity (σ):	5.32	5.27	0.85	5
11-2-2020	Head 5250	e'	36.4400	Relative Permittivity (ε_r):	36.44	35.93	1.41	5
		e"	15.8100	Conductivity (σ):	4.62	4.70	-1.85	5
	Head 5260	e'	36.4200	Relative Permittivity (ε_r):	36.42	35.92	1.39	5
		e"	15.8300	Conductivity (σ):	4.63	4.71	-1.75	5
	Head 5600	e'	35.8100	Relative Permittivity (ε_r):	35.81	35.53	0.78	5
		e"	16.1400	Conductivity (σ):	5.03	5.06	-0.68	5
	Head 5750	e'	35.5600	Relative Permittivity (ε_r):	35.56	35.36	0.56	5
		e"	16.2900	Conductivity (σ):	5.21	5.21	-0.11	5
	Head 5825	e'	35.4200	Relative Permittivity (ε_r):	35.42	35.30	0.34	5
		e"	16.3500	Conductivity (σ):	5.30	5.27	0.49	5

SAR 3 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10-4-2020	Head 1750	e'	41.7000	Relative Permittivity (ε_r):	41.70	40.08	4.03	5
		e"	13.8700	Conductivity (σ):	1.35	1.37	-1.41	5
	Head 1710	e'	41.7100	Relative Permittivity (ε_r):	41.71	40.15	3.90	5
		e"	13.9400	Conductivity (σ):	1.33	1.35	-1.56	5
	Head 1755	e'	41.7000	Relative Permittivity (ε_r):	41.70	40.08	4.05	5
		e"	13.8600	Conductivity (σ):	1.35	1.37	-1.41	5
10-4-2020	Head 1900	e'	41.5300	Relative Permittivity (ε_r):	41.53	40.00	3.83	5
		e"	13.7500	Conductivity (σ):	1.45	1.40	3.76	5
	Head 1850	e'	41.6100	Relative Permittivity (ε_r):	41.61	40.00	4.03	5
		e"	13.7900	Conductivity (σ):	1.42	1.40	1.32	5
	Head 1910	e'	41.5100	Relative Permittivity (ε_r):	41.51	40.00	3.78	5
		e"	13.7400	Conductivity (σ):	1.46	1.40	4.23	5
10-7-2020	Head 1750	e'	39.9900	Relative Permittivity (ε_r):	39.99	40.08	-0.24	5
		e"	13.9900	Conductivity (σ):	1.36	1.37	-0.56	5
	Head 1710	e'	40.1300	Relative Permittivity (ε_r):	40.13	40.15	-0.04	5
		e"	14.1300	Conductivity (σ):	1.34	1.35	-0.22	5
	Head 1755	e'	39.9700	Relative Permittivity (ε_r):	39.97	40.08	-0.27	5
		e"	13.9600	Conductivity (σ):	1.36	1.37	-0.69	5
10-7-2020	Head 1900	e'	39.3300	Relative Permittivity (ε_r):	39.33	40.00	-1.68	5
		e"	13.6000	Conductivity (σ):	1.44	1.40	2.63	5
	Head 1850	e'	39.5500	Relative Permittivity (ε_r):	39.55	40.00	-1.13	5
		e"	13.6700	Conductivity (σ):	1.41	1.40	0.44	5
	Head 1910	e'	39.2700	Relative Permittivity (ε_r):	39.27	40.00	-1.82	5
		e"	13.5900	Conductivity (σ):	1.44	1.40	3.09	5
10-12-2020	Head 2450	e'	39.1000	Relative Permittivity (ε_r):	39.10	39.20	-0.26	5
		e"	13.6300	Conductivity (σ):	1.86	1.80	3.15	5
	Head 2400	e'	39.1800	Relative Permittivity (ε_r):	39.18	39.30	-0.30	5
		e"	13.6200	Conductivity (σ):	1.82	1.75	3.76	5
	Head 2480	e'	39.0400	Relative Permittivity (ε_r):	39.04	39.16	-0.31	5
		e"	13.6500	Conductivity (σ):	1.88	1.83	2.72	5
10-18-2020	Head 2450	e'	39.2900	Relative Permittivity (ε_r):	39.29	39.20	0.23	5
		e"	13.5700	Conductivity (σ):	1.85	1.80	2.70	5
	Head 2400	e'	39.3600	Relative Permittivity (ε_r):	39.36	39.30	0.16	5
		e"	13.5400	Conductivity (σ):	1.81	1.75	3.15	5
	Head 2480	e'	39.2400	Relative Permittivity (ε_r):	39.24	39.16	0.20	5
		e"	13.5900	Conductivity (σ):	1.87	1.83	2.27	5
10-18-2020	Head 2600	e'	39.0000	Relative Permittivity (ε_r):	39.00	39.01	-0.03	5
		e"	13.6600	Conductivity (σ):	1.97	1.96	0.64	5
	Head 2500	e'	39.1900	Relative Permittivity (ε_r):	39.19	39.14	0.14	5
		e"	13.5900	Conductivity (σ):	1.89	1.85	1.89	5
	Head 2700	e'	38.8000	Relative Permittivity (ε_r):	38.80	38.88	-0.22	5
		e"	13.7200	Conductivity (σ):	2.06	2.07	-0.51	5
10-21-2020	Head 2600	e'	37.3500	Relative Permittivity (ε_r):	37.35	39.01	-4.26	5
		e"	13.3600	Conductivity (σ):	1.93	1.96	-1.57	5
	Head 2500	e'	37.5100	Relative Permittivity (ε_r):	37.51	39.14	-4.16	5
		e"	13.2900	Conductivity (σ):	1.85	1.85	-0.36	5
	Head 2700	e'	37.1700	Relative Permittivity (ε_r):	37.17	38.88	-4.41	5
		e"	13.4300	Conductivity (σ):	2.02	2.07	-2.61	5
10-28-2020	Head 835	e'	40.9800	Relative Permittivity (ε_r):	40.98	41.50	-1.25	5
		e"	20.0200	Conductivity (σ):	0.93	0.90	3.28	5
	Head 820	e'	41.0100	Relative Permittivity (ε_r):	41.01	41.60	-1.42	5
		e"	20.2600	Conductivity (σ):	0.92	0.90	2.81	5
	Head 850	e'	40.9500	Relative Permittivity (ε_r):	40.95	41.50	-1.33	5
		e"	19.8000	Conductivity (σ):	0.94	0.92	2.27	5
10-28-2020	Head 1750	e'	38.8600	Relative Permittivity (ε_r):	38.86	40.08	-3.06	5
		e"	13.8800	Conductivity (σ):	1.35	1.37	-1.34	5
	Head 1710	e'	38.9200	Relative Permittivity (ε_r):	38.92	40.15	-3.05	5
		e"	13.9900	Conductivity (σ):	1.33	1.35	-1.20	5
	Head 1755	e'	38.8500	Relative Permittivity (ε_r):	38.85	40.08	-3.06	5
		e"	13.8600	Conductivity (σ):	1.35	1.37	-1.41	5
10-28-2020	Head 1900	e'	38.6600	Relative Permittivity (ε_r):	38.66	40.00	-3.35	5
		e"	13.6200	Conductivity (σ):	1.44	1.40	2.78	5
	Head 1850	e'	38.7400	Relative Permittivity (ε_r):	38.74	40.00	-3.15	5
		e"	13.6800	Conductivity (σ):	1.41	1.40	0.51	5
	Head 1910	e'	38.6300	Relative Permittivity (ε_r):	38.63	40.00	-3.42	5
		e"	13.6100	Conductivity (σ):	1.45	1.40	3.24	5

SAR 3 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10-28-2020	Head 2450	e'	37.8100	Relative Permittivity (ε_r):	37.81	39.20	-3.55	5
		e"	13.2100	Conductivity (σ):	1.80	1.80	-0.02	5
	Head 2400	e'	37.8900	Relative Permittivity (ε_r):	37.89	39.30	-3.58	5
		e"	13.2200	Conductivity (σ):	1.76	1.75	0.72	5
	Head 2480	e'	37.7500	Relative Permittivity (ε_r):	37.75	39.16	-3.61	5
		e"	13.2200	Conductivity (σ):	1.82	1.83	-0.52	5
11-1-2020	Head 1750	e'	39.0000	Relative Permittivity (ε_r):	39.00	40.08	-2.71	5
		e"	13.7900	Conductivity (σ):	1.34	1.37	-1.98	5
	Head 1710	e'	39.0200	Relative Permittivity (ε_r):	39.02	40.15	-2.81	5
		e"	13.9100	Conductivity (σ):	1.32	1.35	-1.77	5
	Head 1755	e'	39.0000	Relative Permittivity (ε_r):	39.00	40.08	-2.69	5
		e"	13.7700	Conductivity (σ):	1.34	1.37	-2.05	5
11-1-2020	Head 2450	e'	38.0500	Relative Permittivity (ε_r):	38.05	39.20	-2.93	5
		e"	13.1900	Conductivity (σ):	1.80	1.80	-0.18	5
	Head 2400	e'	38.1139	Relative Permittivity (ε_r):	38.11	39.30	-3.01	5
		e"	13.1797	Conductivity (σ):	1.76	1.75	0.41	5
	Head 2480	e'	37.9966	Relative Permittivity (ε_r):	38.00	39.16	-2.98	5
		e"	13.0235	Conductivity (σ):	1.80	1.83	-1.99	5
11-4-2020	Head 750	e'	42.0000	Relative Permittivity (ε_r):	42.00	41.96	0.09	5
		e"	20.8800	Conductivity (σ):	0.87	0.89	-2.50	5
	Head 700	e'	42.1200	Relative Permittivity (ε_r):	42.12	42.22	-0.23	5
		e"	21.9600	Conductivity (σ):	0.85	0.89	-3.88	5
	Head 790	e'	41.8400	Relative Permittivity (ε_r):	41.84	41.76	0.20	5
		e"	20.1400	Conductivity (σ):	0.88	0.90	-1.28	5
11-4-2020	Head 835	e'	41.7300	Relative Permittivity (ε_r):	41.73	41.50	0.55	5
		e"	19.4500	Conductivity (σ):	0.90	0.90	0.34	5
	Head 820	e'	41.7700	Relative Permittivity (ε_r):	41.77	41.60	0.40	5
		e"	19.6700	Conductivity (σ):	0.90	0.90	-0.18	5
	Head 850	e'	41.6900	Relative Permittivity (ε_r):	41.69	41.50	0.46	5
		e"	19.2300	Conductivity (σ):	0.91	0.92	-0.67	5
11-4-2020	Head 1750	e'	39.9300	Relative Permittivity (ε_r):	39.93	40.08	-0.39	5
		e"	13.7200	Conductivity (σ):	1.34	1.37	-2.48	5
	Head 1710	e'	39.9500	Relative Permittivity (ε_r):	39.95	40.15	-0.49	5
		e"	13.8000	Conductivity (σ):	1.31	1.35	-2.55	5
	Head 1755	e'	39.9200	Relative Permittivity (ε_r):	39.92	40.08	-0.39	5
		e"	13.7100	Conductivity (σ):	1.34	1.37	-2.47	5
11-4-2020	Head 1900	e'	39.7100	Relative Permittivity (ε_r):	39.71	40.00	-0.72	5
		e"	13.5300	Conductivity (σ):	1.43	1.40	2.10	5
	Head 1850	e'	39.7800	Relative Permittivity (ε_r):	39.78	40.00	-0.55	5
		e"	13.6000	Conductivity (σ):	1.40	1.40	-0.07	5
	Head 1910	e'	39.6900	Relative Permittivity (ε_r):	39.69	40.00	-0.78	5
		e"	13.5200	Conductivity (σ):	1.44	1.40	2.56	5
11-4-2020	Head 2450	e'	38.8300	Relative Permittivity (ε_r):	38.83	39.20	-0.94	5
		e"	13.3600	Conductivity (σ):	1.82	1.80	1.11	5
	Head 2410	e'	38.8900	Relative Permittivity (ε_r):	38.89	39.28	-0.99	5
		e"	13.3500	Conductivity (σ):	1.79	1.76	1.62	5
	Head 2475	e'	38.7800	Relative Permittivity (ε_r):	38.78	39.17	-0.99	5
		e"	13.3800	Conductivity (σ):	1.84	1.83	0.78	5
11-5-2020	Head 5250	e'	35.7600	Relative Permittivity (ε_r):	35.76	35.93	-0.48	5
		e"	16.0500	Conductivity (σ):	4.69	4.70	-0.36	5
	Head 5260	e'	35.7300	Relative Permittivity (ε_r):	35.73	35.92	-0.53	5
		e"	16.0400	Conductivity (σ):	4.69	4.71	-0.45	5
	Head 5600	e'	35.0500	Relative Permittivity (ε_r):	35.05	35.53	-1.36	5
		e"	16.3300	Conductivity (σ):	5.08	5.06	0.49	5
	Head 5750	e'	34.8400	Relative Permittivity (ε_r):	34.84	35.36	-1.48	5
		e"	16.4200	Conductivity (σ):	5.25	5.21	0.69	5
	Head 5825	e'	34.5900	Relative Permittivity (ε_r):	34.59	35.30	-2.01	5
		e"	16.3700	Conductivity (σ):	5.30	5.27	0.61	5
11-8-2020	Head 835	e'	41.1200	Relative Permittivity (ε_r):	41.12	41.50	-0.92	5
		e"	19.3900	Conductivity (σ):	0.90	0.90	0.03	5
	Head 820	e'	41.1400	Relative Permittivity (ε_r):	41.14	41.60	-1.11	5
		e"	19.6200	Conductivity (σ):	0.89	0.90	-0.43	5
	Head 850	e'	41.1000	Relative Permittivity (ε_r):	41.10	41.50	-0.96	5
		e"	19.1800	Conductivity (σ):	0.91	0.92	-0.93	5

SAR 3 Room (Continued)

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
11-8-2020	Head 1750	e'	39.0200	Relative Permittivity (ε_r):	39.02	40.08	-2.66	5
		e"	13.8000	Conductivity (σ):	1.34	1.37	-1.91	5
	Head 1710	e'	39.0600	Relative Permittivity (ε_r):	39.06	40.15	-2.71	5
		e"	13.9200	Conductivity (σ):	1.32	1.35	-1.70	5
	Head 1755	e'	39.0200	Relative Permittivity (ε_r):	39.02	40.08	-2.64	5
		e"	13.7900	Conductivity (σ):	1.35	1.37	-1.90	5
11-8-2020	Head 1900	e'	38.9500	Relative Permittivity (ε_r):	38.95	40.00	-2.62	5
		e"	13.5800	Conductivity (σ):	1.43	1.40	2.48	5
	Head 1850	e'	38.9600	Relative Permittivity (ε_r):	38.96	40.00	-2.60	5
		e"	13.6000	Conductivity (σ):	1.40	1.40	-0.07	5
	Head 1910	e'	38.9300	Relative Permittivity (ε_r):	38.93	40.00	-2.68	5
		e"	13.5800	Conductivity (σ):	1.44	1.40	3.02	5
11-8-2020	Head 2450	e'	38.0300	Relative Permittivity (ε_r):	38.03	39.20	-2.98	5
		e"	13.3300	Conductivity (σ):	1.82	1.80	0.88	5
	Head 2400	e'	38.0900	Relative Permittivity (ε_r):	38.09	39.30	-3.07	5
		e"	13.3100	Conductivity (σ):	1.78	1.75	1.40	5
	Head 2480	e'	37.9700	Relative Permittivity (ε_r):	37.97	39.16	-3.04	5
		e"	13.3600	Conductivity (σ):	1.84	1.83	0.54	5
11-10-2020	Head 5250	e'	35.4100	Relative Permittivity (ε_r):	35.41	35.93	-1.46	5
		e"	15.6200	Conductivity (σ):	4.56	4.70	-3.03	5
	Head 5260	e'	35.3900	Relative Permittivity (ε_r):	35.39	35.92	-1.48	5
		e"	15.6200	Conductivity (σ):	4.57	4.71	-3.05	5
	Head 5600	e'	34.7700	Relative Permittivity (ε_r):	34.77	35.53	-2.15	5
		e"	15.8600	Conductivity (σ):	4.94	5.06	-2.41	5
	Head 5800	e'	34.4100	Relative Permittivity (ε_r):	34.41	35.30	-2.52	5
		e"	16.0400	Conductivity (σ):	5.17	5.27	-1.84	5
	Head 5825	e'	34.3500	Relative Permittivity (ε_r):	34.35	35.30	-2.69	5
		e"	16.0700	Conductivity (σ):	5.20	5.27	-1.24	5
11-11-2020	Head 2450	e'	38.9200	Relative Permittivity (ε_r):	38.92	39.20	-0.71	5
		e"	13.0000	Conductivity (σ):	1.77	1.80	-1.61	5
	Head 2400	e'	38.9800	Relative Permittivity (ε_r):	38.98	39.30	-0.81	5
		e"	12.9800	Conductivity (σ):	1.73	1.75	-1.11	5
	Head 2480	e'	38.8700	Relative Permittivity (ε_r):	38.87	39.16	-0.75	5
		e"	13.0300	Conductivity (σ):	1.80	1.83	-1.95	5
11-12-2020	Head 1750	e'	39.6300	Relative Permittivity (ε_r):	39.63	40.08	-1.13	5
		e"	13.9300	Conductivity (σ):	1.36	1.37	-0.99	5
	Head 1710	e'	39.7200	Relative Permittivity (ε_r):	39.72	40.15	-1.06	5
		e"	14.0100	Conductivity (σ):	1.33	1.35	-1.06	5
	Head 1755	e'	39.6200	Relative Permittivity (ε_r):	39.62	40.08	-1.14	5
		e"	13.9200	Conductivity (σ):	1.36	1.37	-0.98	5

SAR 5 Room

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10-4-2020	Head 2600	e'	39.9100	Relative Permittivity (ε_r):	39.91	39.01	2.30	5
		e"	13.3600	Conductivity (σ):	1.93	1.96	-1.57	5
	Head 2500	e'	40.0600	Relative Permittivity (ε_r):	40.06	39.14	2.36	5
		e"	13.3300	Conductivity (σ):	1.85	1.85	-0.06	5
	Head 2700	e'	39.7500	Relative Permittivity (ε_r):	39.75	38.88	2.23	5
		e"	13.3900	Conductivity (σ):	2.01	2.07	-2.90	5
10-5-2020	Head 750	e'	41.6600	Relative Permittivity (ε_r):	41.66	41.96	-0.72	5
		e"	21.0000	Conductivity (σ):	0.88	0.89	-1.94	5
	Head 700	e'	41.8300	Relative Permittivity (ε_r):	41.83	42.22	-0.92	5
		e"	22.1200	Conductivity (σ):	0.86	0.89	-3.18	5
	Head 790	e'	41.5200	Relative Permittivity (ε_r):	41.52	41.76	-0.57	5
		e"	20.3300	Conductivity (σ):	0.89	0.90	-0.35	5
10-5-2020	Head 835	e'	41.4000	Relative Permittivity (ε_r):	41.40	41.50	-0.24	5
		e"	19.5900	Conductivity (σ):	0.91	0.90	1.06	5
	Head 820	e'	41.4300	Relative Permittivity (ε_r):	41.43	41.60	-0.41	5
		e"	19.8200	Conductivity (σ):	0.90	0.90	0.58	5
	Head 850	e'	41.3800	Relative Permittivity (ε_r):	41.38	41.50	-0.29	5
		e"	19.3800	Conductivity (σ):	0.92	0.92	0.10	5
10-7-2020	Head 835	e'	40.7600	Relative Permittivity (ε_r):	40.76	41.50	-1.78	5
		e"	19.9000	Conductivity (σ):	0.92	0.90	2.66	5
	Head 820	e'	40.7800	Relative Permittivity (ε_r):	40.78	41.60	-1.98	5
		e"	20.1300	Conductivity (σ):	0.92	0.90	2.15	5
	Head 850	e'	40.7400	Relative Permittivity (ε_r):	40.74	41.50	-1.83	5
		e"	19.7000	Conductivity (σ):	0.93	0.92	1.76	5
10-20-2020	Head 5250	e'	37.0000	Relative Permittivity (ε_r):	37.00	35.93	2.97	5
		e"	15.5100	Conductivity (σ):	4.53	4.70	-3.71	5
	Head 5260	e'	36.9800	Relative Permittivity (ε_r):	36.98	35.92	2.95	5
		e"	15.5200	Conductivity (σ):	4.54	4.71	-3.68	5
	Head 5600	e'	36.3900	Relative Permittivity (ε_r):	36.39	35.53	2.41	5
		e"	15.7900	Conductivity (σ):	4.92	5.06	-2.84	5
	Head 5750	e'	36.1900	Relative Permittivity (ε_r):	36.19	35.36	2.34	5
		e"	15.9400	Conductivity (σ):	5.10	5.21	-2.25	5
	Head 5825	e'	36.1000	Relative Permittivity (ε_r):	36.10	35.30	2.27	5
		e"	15.8800	Conductivity (σ):	5.14	5.27	-2.40	5
10-25-2020	Head 835	e'	42.2100	Relative Permittivity (ε_r):	42.21	41.50	1.71	5
		e"	19.5500	Conductivity (σ):	0.91	0.90	0.85	5
	Head 820	e'	42.2400	Relative Permittivity (ε_r):	42.24	41.60	1.53	5
		e"	19.7900	Conductivity (σ):	0.90	0.90	0.43	5
	Head 850	e'	42.1700	Relative Permittivity (ε_r):	42.17	41.50	1.61	5
		e"	19.3200	Conductivity (σ):	0.91	0.92	-0.21	5
11-2-2020	Head 835	e'	41.0300	Relative Permittivity (ε_r):	41.03	41.50	-1.13	5
		e"	19.9200	Conductivity (σ):	0.92	0.90	2.76	5
	Head 820	e'	41.0900	Relative Permittivity (ε_r):	41.09	41.60	-1.23	5
		e"	20.1500	Conductivity (σ):	0.92	0.90	2.26	5
	Head 850	e'	40.9800	Relative Permittivity (ε_r):	40.98	41.50	-1.25	5
		e"	19.7100	Conductivity (σ):	0.93	0.92	1.81	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	2-24-2020	750	1g	8.54
				10g	5.59
D835V2	4d174	2-24-2020	835	1g	9.59
				10g	6.24
D1750V2	1125	2-21-2020	1750	1g	36.50
				10g	19.20
D1900V2	5d199	3-19-2020	1900	1g	40.50
				10g	21.00
D2450V2	939	7-25-2019	2450	1g	53.20
				10g	25.10
D2600V2	1097	9-19-2019	2600	1g	57.30
				10g	25.70
D5GHzV2	1209	2-27-2020	5250	1g	79.90
				10g	22.60
			5600	1g	83.60
				10g	23.60
			5750	1g	80.20
				10g	22.60

Note(s):

Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations. (D2450V2 (SN : 939), D2600V2 (SN : 1097))

System Check Results

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

SAR 1 Room

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
10-19-2020	D5GHzV2 (5250)	1184	Head	1g	7.68	76.80	79.90	-3.88	
				10g	2.19	21.90	22.60	-3.10	
10-19-2020	D5GHzV2 (5600)	1184	Head	1g	8.52	85.20	83.60	1.91	
				10g	2.40	24.00	23.60	1.69	
10-19-2020	D5GHzV2 (5750)	1184	Head	1g	8.41	84.10	80.20	4.86	
				10g	2.38	23.80	22.60	5.31	
10-22-2020	D5GHzV2 (5250)	1209	Head	1g	7.92	79.20	79.90	-0.88	
				10g	2.26	22.60	22.60	0.00	
10-22-2020	D5GHzV2 (5600)	1209	Head	1g	8.56	85.60	83.60	2.39	
				10g	2.42	24.20	23.60	2.54	
10-22-2020	D5GHzV2 (5750)	1209	Head	1g	8.51	85.10	80.20	6.11	
				10g	2.42	24.20	22.60	7.08	
10-28-2020	D5GHzV2 (5250)	1209	Head	1g	7.97	79.70	79.90	-0.25	
				10g	2.27	22.70	22.60	0.44	
10-28-2020	D5GHzV2 (5600)	1209	Head	1g	8.53	85.30	83.60	2.03	
				10g	2.40	24.00	23.60	1.69	
10-28-2020	D5GHzV2 (5750)	1209	Head	1g	8.50	85.00	80.20	5.99	
				10g	2.41	24.10	22.60	6.64	
11-2-2020	D5GHzV2 (5250)	1209	Head	1g	8.42	84.20	79.90	5.38	
				10g	2.40	24.00	22.60	6.19	
11-2-2020	D5GHzV2 (5600)	1209	Head	1g	8.77	87.70	83.60	4.90	
				10g	2.47	24.70	23.60	4.66	
11-2-2020	D5GHzV2 (5750)	1209	Head	1g	8.66	86.60	80.20	7.98	1,2
				10g	2.44	24.40	22.60	7.96	

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			
10-4-2020	D1750V2	1125	Head	1g	3.36	33.60	36.50	-7.95	3,4
				10g	1.80	18.00	19.20	-6.25	
10-4-2020	D1900V2	5d199	Head	1g	3.74	37.40	40.50	-7.65	5,6
				10g	1.95	19.50	21.00	-7.14	
10-7-2020	D1750V2	1125	Head	1g	3.40	34.00	36.50	-6.85	
				10g	1.82	18.20	19.20	-5.21	
10-7-2020	D1900V2	5d199	Head	1g	3.75	37.50	40.50	-7.41	
				10g	1.95	19.50	21.00	-7.14	
10-12-2020	D2450V2	939	Head	1g	4.88	48.80	53.20	-8.27	7,8
				10g	2.27	22.70	25.10	-9.56	
10-18-2020	D2450V2	939	Head	1g	5.20	52.00	53.20	-2.26	
				10g	2.42	24.20	25.10	-3.59	
10-18-2020	D2600V2	1097	Head	1g	5.31	53.10	57.30	-7.33	
				10g	2.41	24.10	25.70	-6.23	
10-21-2020	D2600V2	1097	Head	1g	5.28	52.80	57.30	-7.85	9,10
				10g	2.38	23.80	25.70	-7.39	
10-28-2020	D835V2	4d174	Head	1g	0.95	9.48	9.59	-1.15	
				10g	0.63	6.25	6.24	0.16	
10-28-2020	D1750V2	1125	Head	1g	3.62	36.20	36.50	-0.82	
				10g	1.94	19.40	19.20	1.04	
10-28-2020	D1900V2	5d199	Head	1g	3.82	38.20	40.50	-5.68	
				10g	1.99	19.90	21.00	-5.24	
10-28-2020	D2450V2	939	Head	1g	5.09	50.90	53.20	-4.32	
				10g	2.37	23.70	25.10	-5.58	
11-1-2020	D1750V2	1125	Head	1g	3.47	34.70	36.50	-4.93	
				10g	1.86	18.60	19.20	-3.12	
11-1-2020	D2450V2	939	Head	1g	5.10	51.00	53.20	-4.14	
				10g	2.38	23.80	25.10	-5.18	
11-4-2020	D750V3	1122	Head	1g	0.82	8.24	8.54	-3.51	
				10g	0.55	5.49	5.59	-1.79	
11-4-2020	D835V2	4d174	Head	1g	0.90	8.97	9.59	-6.47	
				10g	0.59	5.93	6.24	-4.97	
11-4-2020	D1750V2	1125	Head	1g	3.58	35.80	36.50	-1.92	
				10g	1.92	19.20	19.20	0.00	
11-4-2020	D1900V2	5d199	Head	1g	4.16	41.60	40.50	2.72	
				10g	2.18	21.80	21.00	3.81	
11-4-2020	D2450V2	939	Head	1g	5.64	56.40	53.20	6.02	
				10g	2.65	26.50	25.10	5.58	
11-5-2020	D5GHzV2 (5750)	1209	Head	1g	8.45	84.50	80.20	5.36	
				10g	2.42	24.20	22.60	7.08	
11-8-2020	D835V2	4d174	Head	1g	0.95	9.50	9.59	-0.94	
				10g	0.63	6.28	6.24	0.64	
11-8-2020	D1750V2	1125	Head	1g	3.74	37.40	36.50	2.47	
				10g	2.00	20.00	19.20	4.17	
11-8-2020	D1900V2	5d199	Head	1g	4.11	41.10	40.50	1.48	
				10g	2.15	21.50	21.00	2.38	
11-8-2020	D2450V2	939	Head	1g	5.70	57.00	53.20	7.14	
				10g	2.66	26.60	25.10	5.98	
11-10-2020	D5GHzV2 (5750)	1209	Head	1g	7.91	79.10	80.20	-1.37	
				10g	2.26	22.60	22.60	0.00	
11-11-2020	D2450V2	939	Head	1g	5.16	51.60	53.20	-3.01	
				10g	2.42	24.20	25.10	-3.59	
11-12-2020	D1750V2	1125	Head	1g	3.64	36.40	36.50	-0.27	
				10g	1.96	19.60	19.20	2.08	

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			
10-4-2020	D2600V2	1097	Head	1g	5.74	57.40	57.30	0.17	
				10g	2.61	26.10	25.70	1.56	
10-5-2020	D750V3	1122	Head	1g	0.82	8.18	8.54	-4.22	11,12
				10g	0.54	5.40	5.59	-3.40	
10-5-2020	D835V2	4d174	Head	1g	0.88	8.84	9.59	-7.82	13,14
				10g	0.58	5.77	6.24	-7.53	
10-7-2020	D835V2	4d174	Head	1g	0.96	9.62	9.59	0.31	
				10g	0.63	6.28	6.24	0.64	
10-20-2020	D5GHzV2 (5250)	1209	Head	1g	7.96	79.60	79.90	-0.38	
				10g	2.31	23.10	22.60	2.21	
10-20-2020	D5GHzV2 (5600)	1209	Head	1g	8.87	88.70	83.60	6.10	
				10g	2.56	25.60	23.60	8.47	
10-20-2020	D5GHzV2 (5750)	1209	Head	1g	8.56	85.60	80.20	6.73	
				10g	2.46	24.60	22.60	8.85	
10-25-2020	D835V2	4d174	Head	1g	0.98	9.75	9.59	1.67	
				10g	0.64	6.40	6.24	2.56	
11-2-2020	D835V2	4d174	Head	1g	0.94	9.44	9.59	-1.56	
				10g	0.61	6.12	6.24	-1.92	

9. Conducted Output Power Measurements

9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

GSM850 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			
					Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	128	824.2	32.5	23.5	33.5	24.5
			190	836.6	32.6	23.6		
			251	848.8	32.7	23.6		
GPRS (GMSK)	CS1	1	128	824.2	32.5	23.5	33.5	24.5
			190	836.6	32.7	23.7		
			251	848.8	32.7	23.7		
		2	128	824.2	29.2	23.2	30.5	24.5
			190	836.6	29.4	23.4		
			251	848.8	29.2	23.2		
		3	128	824.2	28.1	23.8	29.0	**24.7**
			190	836.6	28.1	23.8		
			251	848.8	27.9	23.6		
		4	128	824.2	26.5	23.5	27.5	24.5
			190	836.6	26.5	23.5		
			251	848.8	26.3	23.2		
EGPRS (8PSK)	MCS5	1	128	824.2	29.1	20.1	30.0	21.0
			190	836.6	29.2	20.2		
			251	848.8	29.0	20.0		
		2	128	824.2	27.4	21.4	28.5	22.5
			190	836.6	27.6	21.6		
			251	848.8	27.3	21.3		
		3	128	824.2	26.5	22.2	27.5	23.2
			190	836.6	26.6	22.4		
			251	848.8	26.4	22.1		
		4	128	824.2	25.3	22.3	26.0	23.0
			190	836.6	25.3	22.3		
			251	848.8	25.0	22.0		

Notes:

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

- GMSK (GPRS) mode with 3 time slots for Max power, based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is ≤ 1.2W/kg.

GSM1900 Measured Results

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			
					Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	512	1850.2	29.6	20.5	30.5	**21.5**
			661	1880.0	29.3	20.3		
			810	1909.8	29.2	20.1		
GPRS (GMSK)	CS1	1	512	1850.2	29.6	20.6	30.5	**21.5**
			661	1880.0	29.3	20.3		
			810	1909.8	29.2	20.1		
		2	512	1850.2	25.5	19.5	26.5	20.5
			661	1880.0	24.9	18.9		
			810	1909.8	25.3	19.2		
		3	512	1850.2	23.7	19.5	24.5	20.2
			661	1880.0	23.4	19.1		
			810	1909.8	23.5	19.2		
		4	512	1850.2	22.0	19.0	23.0	20.0
			661	1880.0	21.6	18.6		
			810	1909.8	21.6	18.6		
EGPRS (8PSK)	MCS5	1	512	1850.2	26.4	17.4	27.5	18.5
			661	1880.0	25.8	16.8		
			810	1909.8	25.9	16.8		
		2	512	1850.2	24.6	18.6	25.5	19.5
			661	1880.0	24.0	18.0		
			810	1909.8	24.0	18.0		
		3	512	1850.2	23.2	19.0	24.0	19.7
			661	1880.0	22.8	18.6		
			810	1909.8	22.9	18.7		
		4	512	1850.2	22.0	19.0	23.0	20.0
			661	1880.0	21.4	18.4		
			810	1909.8	21.5	18.5		

Notes:

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

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

GSM1900 Measured Results (Continued)

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Reduced Average Power (dBm) Hotspot back-off				Reduced Average Power (dBm) Proximity sensor back-off			
					Measured		Tune-up Limit		Measured		Tune-up Limit	
					Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	512	1850.2	26.0	17.0	27.0	18.0	26.0	16.9	27.0	18.0
			661	1880.0	25.4	16.4			25.3	16.3		
			810	1909.8	25.5	16.5			25.5	16.5		
GPRS (GMSK)	CS1	1	512	1850.2	25.9	16.8	27.0	18.0	25.8	16.8	27.0	18.0
			661	1880.0	25.3	16.2			25.4	16.4		
			810	1909.8	25.6	16.6			25.6	16.5		
		2	512	1850.2	23.5	17.5	24.5	18.5	23.5	17.5	24.5	18.5
			661	1880.0	22.9	16.8			22.8	16.8		
			810	1909.8	23.0	17.0			23.0	16.9		
		3	512	1850.2	21.8	17.6	22.5	18.2	21.7	17.5	22.5	18.2
			661	1880.0	21.1	16.8			21.0	16.8		
			810	1909.8	21.1	16.8			21.3	17.0		
		4	512	1850.2	20.4	17.4	21.5	**18.5**	20.4	17.4	21.5	**18.5**
			661	1880.0	19.7	16.7			19.7	16.7		
			810	1909.8	19.7	16.7			19.9	16.9		
EGPRS (8PSK)	MCS5	1	512	1850.2	24.7	15.7	26.0	17.0	24.8	15.8	26.0	17.0
			661	1880.0	24.1	15.1			24.2	15.2		
			810	1909.8	24.3	15.3			24.3	15.2		
		2	512	1850.2	22.6	16.6	23.5	17.5	22.9	16.8	23.5	17.5
			661	1880.0	22.0	16.0			22.2	16.2		
			810	1909.8	22.1	16.0			22.2	16.2		
		3	512	1850.2	21.3	17.0	22.0	17.7	21.2	16.9	22.0	17.7
			661	1880.0	20.6	16.3			20.5	16.2		
			810	1909.8	20.5	16.3			20.5	16.2		
		4	512	1850.2	20.1	17.0	20.5	17.5	19.9	16.9	20.5	17.5
			661	1880.0	19.4	16.3			19.2	16.2		
			810	1909.8	19.3	16.3			19.1	16.1		

Notes:

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

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

9.2. W-CDMA

Release 99 Setup Procedures used to establish the test signals

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

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

HSDPA Setup Procedures used to establish the test signals

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

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

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

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

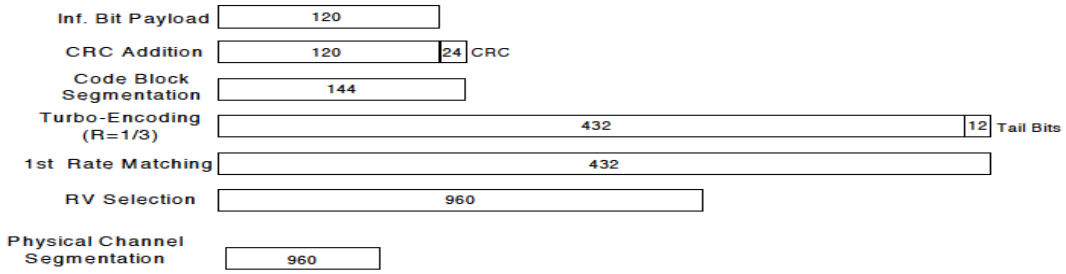


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			Reduced Average Power (dBm) Hotspot back-off			Reduced Average Power (dBm) Proximity sensor back-off		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.8	N/A	24.0	18.8	N/A	20.0	18.8	N/A	20.0
		9400	1880.0	22.6			18.6			18.6		
		9538	1907.6	22.7			18.7			18.7		
HSDPA	Subtest 1	9262	1852.4	21.3	0	22.0	18.8	0	19.5	18.8	0	19.5
		9400	1880.0	21.1			18.6			18.6		
		9538	1907.6	21.2			18.7			18.7		
	Subtest 2	9262	1852.4	20.9	0	22.0	18.8	0	19.5	18.8	0	19.5
		9400	1880.0	20.6			18.6			18.6		
		9538	1907.6	20.7			18.7			18.7		
	Subtest 3	9262	1852.4	20.3	0.5	21.5	18.8	0.5	19.0	18.8	0.5	19.0
		9400	1880.0	20.1			18.6			18.6		
		9538	1907.6	20.2			18.7			18.7		
	Subtest 4	9262	1852.4	19.8	0.5	21.5	18.8	0.5	19.0	18.8	0.5	19.0
		9400	1880.0	19.6			18.6			18.6		
		9538	1907.6	19.7			18.7			18.7		
HSUPA	Subtest 1	9262	1852.4	20.3	0	22.0	17.8	0	19.5	17.8	0	19.5
		9400	1880.0	20.0			17.6			17.6		
		9538	1907.6	20.1			17.6			17.6		
	Subtest 2	9262	1852.4	17.8	2	20.0	17.8	1	18.5	17.8	1	18.5
		9400	1880.0	17.6			17.6			17.6		
		9538	1907.6	17.6			17.6			17.6		
	Subtest 3	9262	1852.4	20.3	1	21.0	17.8	1	18.5	17.8	1	18.5
		9400	1880.0	20.0			17.6			17.5		
		9538	1907.6	20.1			17.6			17.6		
	Subtest 4	9262	1852.4	18.3	2	20.0	17.8	1	18.5	17.8	1	18.5
		9400	1880.0	18.0			17.5			17.5		
		9538	1907.6	18.1			17.6			17.6		
	Subtest 5	9262	1852.4	21.5	0	22.0	18.9	0	19.5	18.9	0	19.5
		9400	1880.0	21.2			18.6			18.6		
		9538	1907.6	21.3			18.7			18.7		
DC-HSDPA	Subtest 1	9262	1852.4	21.4	0	22.0	18.8	0	19.5	18.9	0	19.5
		9400	1880.0	21.1			18.5			18.5		
		9538	1907.6	21.2			18.7			18.7		
	Subtest 2	9262	1852.4	20.9	0	22.0	18.8	0	19.5	18.9	0	19.5
		9400	1880.0	20.5			18.5			18.5		
		9538	1907.6	20.7			18.6			18.7		
	Subtest 3	9262	1852.4	19.9	0.5	21.5	18.8	0.5	19.0	18.8	0.5	19.0
		9400	1880.0	19.5			18.5			18.5		
		9538	1907.6	19.7			18.7			18.7		
	Subtest 4	9262	1852.4	19.8	0.5	21.5	18.8	0.5	19.0	18.9	0.5	19.0
		9400	1880.0	19.5			18.5			18.5		
		9538	1907.6	19.7			18.7			18.7		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)			Reduced Average Power (dBm) Hotspot back-off			Reduced Average Power (dBm) Proximity sensor back-off		
				Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit	Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.6	N/A	23.5	18.5	N/A	20.0	18.5	N/A	20.0
		1413	1732.6	22.7			18.7			18.6		
		1513	1752.6	23.1			19.0			18.9		
HSDPA	Subtest 1	1312	1712.4	21.1	0	22.0	18.5	0	19.5	18.5	0	19.5
		1413	1732.6	21.3			18.7			18.6		
		1513	1752.6	21.6			19.0			18.9		
	Subtest 2	1312	1712.4	20.5	0	22.0	18.5	0	19.5	18.4	0	19.5
		1413	1732.6	20.7			18.7			18.6		
		1513	1752.6	21.0			19.0			18.9		
	Subtest 3	1312	1712.4	20.0	0.5	21.5	18.5	0.5	19.0	18.4	0.5	19.0
		1413	1732.6	20.2			18.7			18.6		
		1513	1752.6	20.4			19.0			18.9		
	Subtest 4	1312	1712.4	20.0	0.5	21.5	18.5	0.5	19.0	18.4	0.5	19.0
		1413	1732.6	20.2			18.7			18.6		
		1513	1752.6	20.4			19.0			18.9		
HSUPA	Subtest 1	1312	1712.4	20.0	0	22.0	17.6	0	19.5	17.5	0	19.5
		1413	1732.6	20.2			17.7			17.6		
		1513	1752.6	19.9			17.9			17.8		
	Subtest 2	1312	1712.4	17.6	2	20.0	17.6	1	18.5	17.5	1	18.5
		1413	1732.6	17.7			17.7			17.6		
		1513	1752.6	17.9			17.9			17.8		
	Subtest 3	1312	1712.4	20.0	1	21.0	17.6	1	18.5	17.5	1	18.5
		1413	1732.6	20.1			17.7			17.6		
		1513	1752.6	20.4			17.9			17.8		
	Subtest 4	1312	1712.4	17.9	2	20.0	17.6	1	18.5	17.5	1	18.5
		1413	1732.6	17.9			17.7			17.6		
		1513	1752.6	17.6			17.6			17.5		
	Subtest 5	1312	1712.4	21.2	0	22.0	18.6	0	19.5	18.5	0	19.5
		1413	1732.6	21.3			18.8			18.7		
		1513	1752.6	21.6			19.1			18.9		
DC-HSDPA	Subtest 1	1312	1712.4	21.1	0	22.0	18.5	0	19.5	18.4	0	19.5
		1413	1732.6	21.4			18.7			18.7		
		1513	1752.6	21.5			18.8			18.8		
	Subtest 2	1312	1712.4	20.5	0	22.0	18.4	0	19.5	18.4	0	19.5
		1413	1732.6	20.8			18.7			18.7		
		1513	1752.6	20.9			18.8			18.7		
	Subtest 3	1312	1712.4	19.5	0.5	21.5	18.5	0.5	19.0	18.4	0.5	19.0
		1413	1732.6	19.8			18.7			18.7		
		1513	1752.6	19.9			18.8			18.8		
	Subtest 4	1312	1712.4	20.1	0.5	21.5	18.4	0.5	19.0	18.4	0.5	19.0
		1413	1732.6	20.3			18.7			18.7		
		1513	1752.6	20.4			18.8			18.7		

W-CDMA Band V Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.8	N/A	25.0
		4183	836.6	23.8		
		4233	846.6	23.5		
HSDPA	Subtest 1	4132	826.4	22.3	0	22.5
		4183	836.6	22.3		
		4233	846.6	22.1		
	Subtest 2	4132	826.4	21.8	0	22.5
		4183	836.6	21.8		
		4233	846.6	21.6		
	Subtest 3	4132	826.4	21.2	0.5	22.0
		4183	836.6	21.2		
		4233	846.6	21.0		
	Subtest 4	4132	826.4	20.7	0.5	22.0
		4183	836.6	20.7		
		4233	846.6	20.5		
HSUPA	Subtest 1	4132	826.4	21.2	0	23.0
		4183	836.6	21.2		
		4233	846.6	21.0		
	Subtest 2	4132	826.4	19.3	2	21.0
		4183	836.6	19.2		
		4233	846.6	19.0		
	Subtest 3	4132	826.4	20.2	1	22.0
		4183	836.6	20.2		
		4233	846.6	19.9		
	Subtest 4	4132	826.4	19.3	2	21.0
		4183	836.6	19.2		
		4233	846.6	19.0		
	Subtest 5	4132	826.4	22.4	0	23.0
		4183	836.6	22.4		
		4233	846.6	22.1		
DC-HSDPA	Subtest 1	4132	826.4	22.3	0	22.5
		4183	836.6	22.3		
		4233	846.6	22.2		
	Subtest 2	4132	826.4	21.8	0	22.5
		4183	836.6	21.8		
		4233	846.6	21.7		
	Subtest 3	4132	826.4	20.2	0.5	22.0
		4183	836.6	20.2		
		4233	846.6	20.1		
	Subtest 4	4132	826.4	20.7	0.5	22.0
		4183	836.6	20.7		
		4233	846.6	20.6		

9.3. LTE

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

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

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

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

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

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

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

Maximum Output Power (Tune-up Limit) for LTE

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

a) The maximum output power, including tolerance, for the smaller band must be ≤ the larger band to qualify for the SAR test exclusion.
b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.
   - LTE Band 4 (1710 – 1755 MHz) is covered by LTE Band 66 (1710 – 1780 MHz)
   - LTE Band 17 (704 – 716 MHz) is covered by LTE Band 12 (699 – 716 MHz)

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.

1. Max power Results

LTE Band 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				18700	18900	19100		
				1860 MHz	1880 MHz	1900 MHz		
20 MHz	QPSK	1	0	23.3	22.9	23.0	0.0	24.0
		1	49	23.3	23.0	23.0	0.0	24.0
		1	99	22.9	22.9	22.3	0.0	24.0
		50	0	22.4	22.0	22.0	1.0	23.0
		50	24	22.4	22.0	22.0	1.0	23.0
		50	50	22.3	22.0	22.0	1.0	23.0
		100	0	22.3	22.0	22.0	1.0	23.0
	16QAM	1	0	22.6	22.4	22.2	1.0	23.0
		1	49	22.7	22.4	22.2	1.0	23.0
		1	99	22.2	22.4	21.6	1.0	23.0
		50	0	21.4	21.0	21.0	2.0	22.0
		50	24	21.3	21.0	21.0	2.0	22.0
		50	50	21.3	21.0	20.9	2.0	22.0
		100	0	21.3	21.0	21.0	2.0	22.0
	64QAM	1	0	21.6	20.8	21.0	2.0	22.0
		1	49	21.6	20.9	20.9	2.0	22.0
		1	99	21.5	20.8	20.9	2.0	22.0
		50	0	20.3	20.9	20.9	3.0	21.0
		50	24	20.3	20.9	21.0	3.0	21.0
		50	50	20.3	20.8	20.9	3.0	21.0
		100	0	20.3	20.8	20.9	3.0	21.0
	256QAM	1	0	18.6	18.2	18.0	5.0	19.0
		1	49	18.6	18.2	17.9	5.0	19.0
		1	99	18.5	18.3	17.9	5.0	19.0
		50	0	18.4	18.0	18.1	5.0	19.0
		50	24	18.4	18.0	18.1	5.0	19.0
		50	50	18.3	18.0	18.0	5.0	19.0
		100	0	18.3	18.0	18.0	5.0	19.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				18675	18900	19125		
				1857.5 MHz	1880 MHz	1902.5 MHz		
15 MHz	QPSK	1	0	23.4	23.0	23.0	0.0	24.0
		1	37	23.3	22.9	23.0	0.0	24.0
		1	74	23.0	22.9	22.6	0.0	24.0
		36	0	22.5	22.0	22.1	1.0	23.0
		36	20	22.4	22.0	22.1	1.0	23.0
		36	39	22.4	22.0	22.1	1.0	23.0
		75	0	22.4	22.0	22.1	1.0	23.0
	16QAM	1	0	22.5	22.2	22.4	1.0	23.0
		1	37	22.5	22.1	22.3	1.0	23.0
		1	74	22.2	22.2	22.0	1.0	23.0
		36	0	21.4	21.0	21.1	2.0	22.0
		36	20	21.4	21.0	21.1	2.0	22.0
		36	39	21.3	21.0	21.1	2.0	22.0
		75	0	21.4	21.0	21.1	2.0	22.0
	64QAM	1	0	21.6	21.3	21.4	2.0	22.0
		1	37	21.6	21.2	21.3	2.0	22.0
		1	74	21.6	21.2	21.1	2.0	22.0
		36	0	20.5	20.0	20.2	3.0	21.0
		36	20	20.5	20.0	20.2	3.0	21.0
		36	39	20.5	20.0	20.2	3.0	21.0
		75	0	20.4	20.0	20.2	3.0	21.0
	256QAM	1	0	18.6	18.3	18.3	5.0	19.0
		1	37	18.6	18.3	18.2	5.0	19.0
		1	74	18.6	18.3	18.2	5.0	19.0
		36	0	18.6	18.2	18.2	5.0	19.0
		36	20	18.6	18.2	18.2	5.0	19.0
		36	39	18.6	18.2	18.2	5.0	19.0
		75	0	18.6	18.2	18.2	5.0	19.0

LTE Band 2 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				18650	18900	19150		
				1855 MHz	1880 MHz	1905 MHz		
10 MHz	QPSK	1	0	23.4	23.0	23.0	0.0	24.0
		1	25	23.3	23.0	22.9	0.0	24.0
		1	49	23.3	23.0	23.0	0.0	24.0
		25	0	22.3	22.0	22.0	1.0	23.0
		25	12	22.3	21.9	22.0	1.0	23.0
		25	25	22.3	21.9	22.0	1.0	23.0
		50	0	22.3	21.9	22.0	1.0	23.0
	16QAM	1	0	22.5	22.2	22.4	1.0	23.0
		1	25	22.5	22.2	22.3	1.0	23.0
		1	49	22.4	22.2	22.3	1.0	23.0
		25	0	21.4	21.0	21.0	2.0	22.0
		25	12	21.4	21.0	21.0	2.0	22.0
		25	25	21.4	21.0	21.0	2.0	22.0
		50	0	21.3	21.0	21.0	2.0	22.0
	64QAM	1	0	21.6	21.2	21.3	2.0	22.0
		1	25	21.5	21.2	21.1	2.0	22.0
		1	49	21.5	21.2	21.1	2.0	22.0
		25	0	20.4	20.1	20.2	3.0	21.0
		25	12	20.4	20.1	20.2	3.0	21.0
		25	25	20.5	20.1	20.2	3.0	21.0
		50	0	20.5	20.1	20.2	3.0	21.0
	256QAM	1	0	18.7	18.4	18.4	5.0	19.0
		1	25	18.6	18.4	18.3	5.0	19.0
		1	49	18.7	18.4	18.3	5.0	19.0
		25	0	18.6	18.2	18.3	5.0	19.0
		25	12	18.6	18.2	18.3	5.0	19.0
		25	25	18.5	18.2	18.2	5.0	19.0
		50	0	18.6	18.2	18.2	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				18625	18900	19175		
				1852.5 MHz	1880 MHz	1907.5 MHz		
5 MHz	QPSK	1	0	23.3	22.9	23.0	0.0	24.0
		1	12	23.2	22.9	22.9	0.0	24.0
		1	24	23.3	23.0	23.0	0.0	24.0
		12	0	22.4	21.9	22.0	1.0	23.0
		12	7	22.3	21.9	21.9	1.0	23.0
		12	13	22.3	21.9	22.0	1.0	23.0
		25	0	22.3	21.9	22.0	1.0	23.0
	16QAM	1	0	22.6	22.2	22.3	1.0	23.0
		1	12	22.5	22.0	22.1	1.0	23.0
		1	24	22.6	22.2	22.3	1.0	23.0
		12	0	21.4	21.0	21.1	2.0	22.0
		12	7	21.3	21.0	21.0	2.0	22.0
		12	13	21.3	21.0	21.1	2.0	22.0
		25	0	21.3	21.0	21.0	2.0	22.0
	64QAM	1	0	21.6	21.3	21.2	2.0	22.0
		1	12	21.6	21.3	21.1	2.0	22.0
		1	24	21.6	21.3	21.2	2.0	22.0
		12	0	20.4	20.1	20.1	3.0	21.0
		12	7	20.4	20.1	20.1	3.0	21.0
		12	13	20.4	20.1	20.1	3.0	21.0
		25	0	20.4	20.1	20.2	3.0	21.0
	256QAM	1	0	18.6	18.5	18.2	5.0	19.0
		1	12	18.4	18.5	18.1	5.0	19.0
		1	24	18.5	18.5	18.2	5.0	19.0
		12	0	18.6	18.2	18.2	5.0	19.0
		12	7	18.6	18.2	18.2	5.0	19.0
		12	13	18.6	18.2	18.2	5.0	19.0
		25	0	18.6	18.1	18.2	5.0	19.0

LTE Band 2 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				18615	18900	19185		
				1851.5 MHz	1880 MHz	1908.5 MHz		
3 MHz	QPSK	1	0	23.4	23.0	23.1	0.0	24.0
		1	8	23.3	22.8	23.0	0.0	24.0
		1	14	23.4	22.9	23.1	0.0	24.0
		8	0	22.3	21.9	22.0	1.0	23.0
		8	4	22.3	22.0	22.0	1.0	23.0
		8	7	22.3	22.0	22.0	1.0	23.0
		15	0	22.3	21.9	22.0	1.0	23.0
	16QAM	1	0	22.3	22.2	22.3	1.0	23.0
		1	8	22.1	22.0	22.2	1.0	23.0
		1	14	22.3	22.3	22.1	1.0	23.0
		8	0	21.4	21.0	21.1	2.0	22.0
		8	4	21.4	21.0	21.1	2.0	22.0
		8	7	21.4	21.0	21.0	2.0	22.0
		15	0	21.3	21.0	21.0	2.0	22.0
	64QAM	1	0	21.6	21.4	21.4	2.0	22.0
		1	8	21.6	21.4	21.3	2.0	22.0
		1	14	21.6	21.4	21.3	2.0	22.0
		8	0	20.5	20.0	20.0	3.0	21.0
		8	4	20.4	20.0	20.1	3.0	21.0
		8	7	20.4	20.0	20.1	3.0	21.0
		15	0	20.5	20.1	20.1	3.0	21.0
	256QAM	1	0	18.6	18.4	18.2	5.0	19.0
		1	8	18.5	18.3	18.0	5.0	19.0
		1	14	18.6	18.4	18.2	5.0	19.0
		8	0	18.6	18.3	18.2	5.0	19.0
		8	4	18.5	18.2	18.2	5.0	19.0
		8	7	18.6	18.2	18.2	5.0	19.0
		15	0	18.6	18.1	18.2	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				18607	18900	19193		
				1850.7 MHz	1880 MHz	1909.3 MHz		
1.4 MHz	QPSK	1	0	23.1	22.8	22.9	0.0	24.0
		1	3	23.1	22.7	22.8	0.0	24.0
		1	5	23.2	22.9	22.9	0.0	24.0
		3	0	23.1	22.8	22.8	0.0	24.0
		3	1	23.1	22.8	22.8	0.0	24.0
		3	3	23.1	22.8	22.7	0.0	24.0
		6	0	22.2	21.9	21.9	1.0	23.0
	16QAM	1	0	22.3	22.2	21.9	1.0	23.0
		1	3	22.3	22.3	22.1	1.0	23.0
		1	5	22.4	22.1	21.9	1.0	23.0
		3	0	22.3	22.0	21.9	1.0	23.0
		3	1	22.3	21.9	21.9	1.0	23.0
		3	3	22.3	21.9	21.9	1.0	23.0
		6	0	21.4	20.8	21.0	2.0	22.0
	64QAM	1	0	21.2	21.0	21.1	2.0	22.0
		1	3	21.4	21.1	21.1	2.0	22.0
		1	5	21.4	21.0	21.2	2.0	22.0
		3	0	21.2	21.0	20.9	2.0	22.0
		3	1	21.2	21.0	20.9	2.0	22.0
		3	3	21.4	21.0	20.9	2.0	22.0
		6	0	20.5	21.0	20.0	3.0	21.0
	256QAM	1	0	18.5	18.2	18.2	5.0	19.0
		1	3	18.5	18.2	18.1	5.0	19.0
		1	5	18.5	18.2	18.1	5.0	19.0
		3	0	18.4	18.0	18.0	5.0	19.0
		3	1	18.4	18.0	18.0	5.0	19.0
		3	3	18.4	17.9	18.1	5.0	19.0
		6	0	18.5	18.1	18.0	5.0	19.0

LTE Band 5 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				[redacted]	20525	[redacted]		
					836.5 MHz			
10 MHz	QPSK	1	0		24.4		0.0	25.0
		1	25		24.3		0.0	25.0
		1	49		24.3		0.0	25.0
		25	0		23.4		1.0	24.0
		25	12		23.3		1.0	24.0
		25	25		23.3		1.0	24.0
		50	0		23.4		1.0	24.0
	16QAM	1	0		23.7		1.0	24.0
		1	25		23.7		1.0	24.0
		1	49		23.6		1.0	24.0
		25	0		22.4		2.0	23.0
		25	12		22.4		2.0	23.0
		25	25		22.4		2.0	23.0
		50	0		22.4		2.0	23.0
	64QAM	1	0		22.5		2.0	23.0
		1	25		22.5		2.0	23.0
		1	49		22.5		2.0	23.0
		25	0		21.4		3.0	22.0
		25	12		21.4		3.0	22.0
		25	25		21.4		3.0	22.0
		50	0		21.4		3.0	22.0
	256QAM	1	0		19.7		5.0	20.0
		1	25		19.5		5.0	20.0
		1	49		19.5		5.0	20.0
		25	0		19.4		5.0	20.0
		25	12		19.4		5.0	20.0
		25	25		19.4		5.0	20.0
		50	0		19.4		5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				20425	20525	20625		
				826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	24.3	24.3	24.0	0.0	25.0
		1	12	24.2	24.2	24.0	0.0	25.0
		1	24	24.3	24.3	24.1	0.0	25.0
		12	0	23.3	23.3	23.0	1.0	24.0
		12	7	23.3	23.3	23.0	1.0	24.0
		12	13	23.3	23.3	23.0	1.0	24.0
		25	0	23.3	23.3	23.0	1.0	24.0
	16QAM	1	0	23.5	23.5	23.5	1.0	24.0
		1	12	23.3	23.4	23.3	1.0	24.0
		1	24	23.5	23.5	23.4	1.0	24.0
		12	0	22.4	22.3	22.1	2.0	23.0
		12	7	22.3	22.3	22.1	2.0	23.0
		12	13	22.3	22.3	22.1	2.0	23.0
		25	0	22.3	22.3	22.1	2.0	23.0
	64QAM	1	0	22.5	22.4	22.2	2.0	23.0
		1	12	22.4	22.4	22.2	2.0	23.0
		1	24	22.5	22.4	22.2	2.0	23.0
		12	0	21.5	21.6	21.1	3.0	22.0
		12	7	21.5	21.6	21.0	3.0	22.0
		12	13	21.5	21.5	21.1	3.0	22.0
		25	0	21.5	21.5	21.0	3.0	22.0
	256QAM	1	0	19.6	19.5	18.9	5.0	20.0
		1	12	19.5	19.3	18.8	5.0	20.0
		1	24	19.6	19.3	18.9	5.0	20.0
		12	0	19.4	19.3	19.1	5.0	20.0
		12	7	19.4	19.3	19.1	5.0	20.0
		12	13	19.4	19.3	19.1	5.0	20.0
		25	0	19.3	19.3	19.1	5.0	20.0

LTE Band 5 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				20415	20525	20635		
				825.5 MHz	836.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	24.3	24.3	24.1	0.0	25.0
		1	8	24.2	24.2	24.0	0.0	25.0
		1	14	24.4	24.2	24.1	0.0	25.0
		8	0	23.3	23.3	23.0	1.0	24.0
		8	4	23.3	23.3	23.0	1.0	24.0
		8	7	23.3	23.3	23.0	1.0	24.0
		15	0	23.3	23.3	23.0	1.0	24.0
	16QAM	1	0	23.5	23.6	23.2	1.0	24.0
		1	8	23.3	23.4	23.2	1.0	24.0
		1	14	23.4	23.5	23.2	1.0	24.0
		8	0	22.3	22.4	22.1	2.0	23.0
		8	4	22.3	22.4	22.0	2.0	23.0
		8	7	22.3	22.3	22.0	2.0	23.0
		15	0	22.3	22.3	22.0	2.0	23.0
	64QAM	1	0	22.2	22.4	22.2	2.0	23.0
		1	8	22.3	22.3	22.1	2.0	23.0
		1	14	22.2	22.4	21.9	2.0	23.0
		8	0	21.5	21.5	20.9	3.0	22.0
		8	4	21.5	21.5	20.9	3.0	22.0
		8	7	21.5	21.5	20.9	3.0	22.0
		15	0	21.5	21.5	20.9	3.0	22.0
	256QAM	1	0	19.2	19.6	19.0	5.0	20.0
		1	8	19.1	19.3	18.8	5.0	20.0
		1	14	19.4	19.4	18.9	5.0	20.0
		8	0	19.3	19.4	19.0	5.0	20.0
		8	4	19.2	19.3	19.0	5.0	20.0
		8	7	19.3	19.4	19.0	5.0	20.0
		15	0	19.4	19.3	19.0	5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				20407	20525	20643		
				824.7 MHz	836.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	24.1	24.2	23.9	0.0	25.0
		1	3	24.0	24.2	23.8	0.0	25.0
		1	5	24.2	24.2	24.0	0.0	25.0
		3	0	24.2	24.2	23.9	0.0	25.0
		3	1	24.1	24.2	23.9	0.0	25.0
		3	3	24.0	24.2	23.9	0.0	25.0
		6	0	23.2	23.2	23.0	1.0	24.0
	16QAM	1	0	23.3	23.3	23.0	1.0	24.0
		1	3	23.1	23.3	23.2	1.0	24.0
		1	5	23.1	23.3	23.0	1.0	24.0
		3	0	23.3	23.3	22.9	1.0	24.0
		3	1	23.2	23.3	22.9	1.0	24.0
		3	3	23.2	23.2	22.9	1.0	24.0
		6	0	22.3	22.4	21.8	2.0	23.0
	64QAM	1	0	22.2	22.2	21.8	2.0	23.0
		1	3	22.3	22.2	21.8	2.0	23.0
		1	5	22.3	22.2	21.8	2.0	23.0
		3	0	22.3	22.2	22.1	2.0	23.0
		3	1	22.3	22.3	22.0	2.0	23.0
		3	3	22.3	22.3	22.0	2.0	23.0
		6	0	21.5	21.5	21.2	3.0	22.0
	256QAM	1	0	19.2	19.4	18.9	5.0	20.0
		1	3	19.3	19.4	18.9	5.0	20.0
		1	5	19.2	19.2	18.7	5.0	20.0
		3	0	19.2	19.2	18.8	5.0	20.0
		3	1	19.2	19.1	18.8	5.0	20.0
		3	3	19.2	19.1	18.8	5.0	20.0
		6	0	19.2	19.1	18.9	5.0	20.0

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				Measured Pwr (dBm)				
				[redacted]	23095	[redacted]		
					707.5 MHz			
10 MHz	QPSK	1	0		24.0		0.0	24.5
		1	25		23.9		0.0	24.5
		1	49		23.9		0.0	24.5
		25	0		23.0		1.0	23.5
		25	12		23.0		1.0	23.5
		25	25		23.0		1.0	23.5
		50	0		23.0		1.0	23.5
	16QAM	1	0		23.2		1.0	23.5
		1	25		23.3		1.0	23.5
		1	49		23.2		1.0	23.5
		25	0		22.0		2.0	22.5
		25	12		22.0		2.0	22.5
		25	25		22.0		2.0	22.5
		50	0		22.0		2.0	22.5
	64QAM	1	0		22.1		2.0	22.5
		1	25		22.1		2.0	22.5
		1	49		22.1		2.0	22.5
		25	0		21.1		3.0	21.5
		25	12		21.2		3.0	21.5
		25	25		21.1		3.0	21.5
		50	0		21.1		3.0	21.5
	256QAM	1	0		19.1		5.0	19.5
		1	25		19.2		5.0	19.5
		1	49		19.1		5.0	19.5
		25	0		19.0		5.0	19.5
		25	12		19.0		5.0	19.5
		25	25		19.0		5.0	19.5
		50	0		18.9		5.0	19.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23035	23095	23155		
				701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	24.1	24.0	23.8	0.0	24.5
		1	12	24.0	24.0	23.7	0.0	24.5
		1	24	24.1	24.0	23.8	0.0	24.5
		12	0	23.1	23.0	22.8	1.0	23.5
		12	7	23.1	23.0	22.8	1.0	23.5
		12	13	23.1	23.0	22.8	1.0	23.5
		25	0	23.1	23.0	22.8	1.0	23.5
	16QAM	1	0	23.5	23.3	23.3	1.0	23.5
		1	12	23.3	23.2	23.0	1.0	23.5
		1	24	23.5	23.3	23.1	1.0	23.5
		12	0	22.2	22.1	22.0	2.0	22.5
		12	7	22.1	22.0	21.9	2.0	22.5
		12	13	22.1	22.1	21.9	2.0	22.5
		25	0	22.1	22.1	21.8	2.0	22.5
	64QAM	1	0	22.2	22.2	22.2	2.0	22.5
		1	12	22.2	22.2	22.1	2.0	22.5
		1	24	22.2	22.2	22.1	2.0	22.5
		12	0	21.2	21.1	20.9	3.0	21.5
		12	7	21.1	21.1	20.9	3.0	21.5
		12	13	21.1	21.1	20.8	3.0	21.5
		25	0	21.2	21.1	20.8	3.0	21.5
	256QAM	1	0	19.1	18.9	19.2	5.0	19.5
		1	12	18.9	18.8	19.2	5.0	19.5
		1	24	19.1	18.9	19.2	5.0	19.5
		12	0	19.1	19.1	18.9	5.0	19.5
		12	7	19.1	19.0	18.9	5.0	19.5
		12	13	19.1	19.0	18.8	5.0	19.5
		25	0	19.1	19.0	18.8	5.0	19.5

LTE Band 12 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23025	23095	23165		
				700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	24.2	24.0	23.9	0.0	24.5
		1	8	24.0	23.9	23.8	0.0	24.5
		1	14	24.2	24.0	23.9	0.0	24.5
		8	0	23.1	23.0	22.8	1.0	23.5
		8	4	23.1	23.0	22.8	1.0	23.5
		8	7	23.2	23.0	22.8	1.0	23.5
		15	0	23.1	23.0	22.8	1.0	23.5
	16QAM	1	0	23.2	23.2	23.1	1.0	23.5
		1	8	23.0	23.1	23.0	1.0	23.5
		1	14	23.1	23.3	23.1	1.0	23.5
		8	0	22.2	22.1	21.9	2.0	22.5
		8	4	22.2	22.1	21.9	2.0	22.5
		8	7	22.2	22.1	21.9	2.0	22.5
		15	0	22.1	22.0	21.8	2.0	22.5
	64QAM	1	0	22.4	22.1	21.9	2.0	22.5
		1	8	22.4	22.2	21.9	2.0	22.5
		1	14	22.3	22.3	21.8	2.0	22.5
		8	0	21.2	21.2	20.8	3.0	21.5
		8	4	21.2	21.2	20.8	3.0	21.5
		8	7	21.2	21.2	20.8	3.0	21.5
		15	0	21.2	21.1	20.8	3.0	21.5
	256QAM	1	0	19.4	19.1	18.9	5.0	19.5
		1	8	19.3	19.2	18.9	5.0	19.5
		1	14	19.3	19.1	19.0	5.0	19.5
		8	0	19.2	19.1	18.9	5.0	19.5
		8	4	19.1	19.1	18.8	5.0	19.5
		8	7	19.1	19.1	18.8	5.0	19.5
		15	0	19.2	19.0	18.8	5.0	19.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23017	23095	23173		
				699.7 MHz	707.5 MHz	715.3 MHz		
1.4 MHz	QPSK	1	0	24.1	23.9	23.7	0.0	24.5
		1	3	23.9	23.8	23.6	0.0	24.5
		1	5	24.1	24.0	23.8	0.0	24.5
		3	0	24.1	23.9	23.7	0.0	24.5
		3	1	24.1	24.0	23.7	0.0	24.5
		3	3	24.1	23.9	23.6	0.0	24.5
		6	0	23.1	23.0	22.7	1.0	23.5
	16QAM	1	0	23.1	23.3	22.9	1.0	23.5
		1	3	23.0	23.3	22.8	1.0	23.5
		1	5	23.0	23.3	22.7	1.0	23.5
		3	0	23.1	23.0	22.8	1.0	23.5
		3	1	23.1	23.0	22.7	1.0	23.5
		3	3	23.0	22.9	22.7	1.0	23.5
		6	0	22.2	22.0	21.8	2.0	22.5
	64QAM	1	0	22.1	22.0	21.8	2.0	22.5
		1	3	22.2	22.1	21.7	2.0	22.5
		1	5	22.2	21.8	21.6	2.0	22.5
		3	0	22.1	22.1	21.8	2.0	22.5
		3	1	22.2	22.1	21.7	2.0	22.5
		3	3	22.2	21.8	21.7	2.0	22.5
		6	0	21.3	21.2	20.9	3.0	21.5
	256QAM	1	0	19.0	19.0	18.8	5.0	19.5
		1	3	18.9	18.9	18.8	5.0	19.5
		1	5	18.9	19.1	18.8	5.0	19.5
		3	0	19.1	19.0	18.7	5.0	19.5
		3	1	19.0	18.9	18.7	5.0	19.5
		3	3	19.0	19.0	18.6	5.0	19.5
		6	0	19.0	19.0	18.8	5.0	19.5

LTE Band 13 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			
				Measured Pwr (dBm)		MPR	Tune-up Limit
				[redacted] 23230 782 MHz [redacted]			
10 MHz	QPSK	1	0	23.9		0.0	24.5
		1	25	23.7		0.0	24.5
		1	49	23.8		0.0	24.5
		25	0	22.9		1.0	23.5
		25	12	22.9		1.0	23.5
		25	25	22.9		1.0	23.5
		50	0	22.9		1.0	23.5
	16QAM	1	0	22.9		1.0	23.5
		1	25	23.0		1.0	23.5
		1	49	22.9		1.0	23.5
		25	0	21.9		2.0	22.5
		25	12	21.9		2.0	22.5
		25	25	21.9		2.0	22.5
		50	0	21.9		2.0	22.5
	64QAM	1	0	22.1		2.0	22.5
		1	25	22.1		2.0	22.5
		1	49	22.2		2.0	22.5
		25	0	21.0		3.0	21.5
		25	12	20.9		3.0	21.5
		25	25	20.9		3.0	21.5
		50	0	20.9		3.0	21.5
	256QAM	1	0	19.1		5.0	19.5
		1	25	19.1		5.0	19.5
		1	49	19.0		5.0	19.5
		25	0	19.0		5.0	19.5
		25	12	19.0		5.0	19.5
		25	25	19.0		5.0	19.5
		50	0	18.9		5.0	19.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)		MPR	Tune-up Limit
				[redacted] 23230 782 MHz [redacted]			
5 MHz	QPSK	1	0	23.8		0.0	24.5
		1	12	23.7		0.0	24.5
		1	24	23.8		0.0	24.5
		12	0	22.8		1.0	23.5
		12	7	22.8		1.0	23.5
		12	13	22.8		1.0	23.5
		25	0	22.8		1.0	23.5
	16QAM	1	0	23.3		1.0	23.5
		1	12	22.9		1.0	23.5
		1	24	23.2		1.0	23.5
		12	0	21.9		2.0	22.5
		12	7	21.9		2.0	22.5
		12	13	21.9		2.0	22.5
		25	0	21.9		2.0	22.5
	64QAM	1	0	22.2		2.0	22.5
		1	12	22.2		2.0	22.5
		1	24	22.2		2.0	22.5
		12	0	21.1		3.0	21.5
		12	7	21.1		3.0	21.5
		12	13	21.1		3.0	21.5
		25	0	21.1		3.0	21.5
	256QAM	1	0	19.3		5.0	19.5
		1	12	19.1		5.0	19.5
		1	24	19.2		5.0	19.5
		12	0	18.9		5.0	19.5
		12	7	18.9		5.0	19.5
		12	13	18.9		5.0	19.5
		25	0	18.8		5.0	19.5

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				26140	26365	26590		
				1860 MHz	1882.5 MHz	1905 MHz		
20 MHz	QPSK	1	0	22.8	22.2	22.7	0.0	24.0
		1	49	22.9	22.8	22.7	0.0	24.0
		1	99	22.8	22.2	22.6	0.0	24.0
		50	0	22.2	21.6	21.7	1.0	23.0
		50	24	22.2	21.7	21.7	1.0	23.0
		50	50	22.0	21.6	21.6	1.0	23.0
		100	0	22.2	21.6	21.7	1.0	23.0
	16QAM	1	0	22.2	21.9	21.9	1.0	23.0
		1	49	22.3	22.1	21.9	1.0	23.0
		1	99	22.2	22.0	21.8	1.0	23.0
		50	0	21.0	20.7	20.7	2.0	22.0
		50	24	21.0	20.7	20.7	2.0	22.0
		50	50	21.0	20.7	20.7	2.0	22.0
		100	0	21.0	20.7	20.7	2.0	22.0
	64QAM	1	0	21.4	20.9	20.7	2.0	22.0
		1	49	21.1	20.9	20.7	2.0	22.0
		1	99	21.1	21.0	20.7	2.0	22.0
		50	0	20.1	19.7	20.0	3.0	21.0
		50	24	20.1	19.8	20.0	3.0	21.0
		50	50	20.0	19.8	20.0	3.0	21.0
		100	0	20.1	19.7	20.0	3.0	21.0
	256QAM	1	0	18.4	17.9	18.0	5.0	19.0
		1	49	18.4	18.0	18.0	5.0	19.0
		1	99	18.3	18.1	17.9	5.0	19.0
		50	0	18.1	17.8	17.8	5.0	19.0
		50	24	18.1	17.8	17.8	5.0	19.0
		50	50	18.1	17.8	17.7	5.0	19.0
		100	0	18.1	17.8	17.8	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26115	26365	26615		
				1857.5 MHz	1882.5 MHz	1907.5 MHz		
15 MHz	QPSK	1	0	23.1	22.7	22.8	0.0	24.0
		1	37	23.1	22.7	22.8	0.0	24.0
		1	74	22.9	22.7	22.2	0.0	24.0
		36	0	22.2	21.8	21.9	1.0	23.0
		36	20	22.2	21.8	21.9	1.0	23.0
		36	39	22.2	21.8	21.8	1.0	23.0
		75	0	22.2	21.8	21.9	1.0	23.0
	16QAM	1	0	22.3	21.9	22.0	1.0	23.0
		1	37	22.2	21.8	22.0	1.0	23.0
		1	74	22.2	21.9	21.4	1.0	23.0
		36	0	21.1	20.8	20.9	2.0	22.0
		36	20	21.1	20.8	20.8	2.0	22.0
		36	39	21.1	20.8	20.8	2.0	22.0
		75	0	21.1	20.8	20.8	2.0	22.0
	64QAM	1	0	21.4	20.9	20.9	2.0	22.0
		1	37	21.3	20.9	20.8	2.0	22.0
		1	74	21.3	20.9	20.8	2.0	22.0
		36	0	20.1	20.1	20.0	3.0	21.0
		36	20	20.1	20.1	20.0	3.0	21.0
		36	39	20.1	20.1	19.9	3.0	21.0
		75	0	20.2	20.1	20.0	3.0	21.0
	256QAM	1	0	18.3	18.0	18.1	5.0	19.0
		1	37	18.2	18.0	18.0	5.0	19.0
		1	74	18.2	18.0	18.0	5.0	19.0
		36	0	18.2	17.9	17.9	5.0	19.0
		36	20	18.2	17.9	17.9	5.0	19.0
		36	39	18.2	17.9	17.8	5.0	19.0
		75	0	18.2	17.9	17.8	5.0	19.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26090	26365	26640		
				1855 MHz	1882.5 MHz	1910 MHz		
10 MHz	QPSK	1	0	23.1	22.7	22.8	0.0	24.0
		1	25	23.0	22.7	22.8	0.0	24.0
		1	49	23.1	22.7	22.5	0.0	24.0
		25	0	22.1	21.8	21.8	1.0	23.0
		25	12	22.1	21.7	21.8	1.0	23.0
		25	25	22.1	21.8	21.7	1.0	23.0
		50	0	22.1	21.8	21.8	1.0	23.0
	16QAM	1	0	22.1	21.9	22.2	1.0	23.0
		1	25	22.1	21.9	22.1	1.0	23.0
		1	49	22.1	21.9	22.0	1.0	23.0
		25	0	21.1	20.8	20.8	2.0	22.0
		25	12	21.1	20.8	20.8	2.0	22.0
		25	25	21.1	20.8	20.8	2.0	22.0
		50	0	21.1	20.8	20.8	2.0	22.0
	64QAM	1	0	21.3	20.9	20.8	2.0	22.0
		1	25	21.2	20.8	20.8	2.0	22.0
		1	49	21.2	20.8	20.8	2.0	22.0
		25	0	20.2	20.1	20.0	3.0	21.0
		25	12	20.2	20.1	20.0	3.0	21.0
		25	25	20.1	20.0	20.0	3.0	21.0
		50	0	20.1	20.1	20.0	3.0	21.0
	256QAM	1	0	18.3	18.1	18.0	5.0	19.0
		1	25	18.2	18.1	18.0	5.0	19.0
		1	49	18.2	18.1	17.9	5.0	19.0
		25	0	18.3	17.9	17.9	5.0	19.0
		25	12	18.2	17.9	17.8	5.0	19.0
		25	25	18.2	17.9	17.8	5.0	19.0
		50	0	18.2	17.9	17.8	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26065	26365	26665		
				1852.5 MHz	1882.5 MHz	1912.5 MHz		
5 MHz	QPSK	1	0	23.1	22.7	22.7	0.0	24.0
		1	12	23.0	22.6	22.7	0.0	24.0
		1	24	23.1	22.8	22.7	0.0	24.0
		12	0	22.1	21.8	21.7	1.0	23.0
		12	7	22.1	21.8	21.7	1.0	23.0
		12	13	22.1	21.7	21.7	1.0	23.0
		25	0	22.1	21.8	21.7	1.0	23.0
	16QAM	1	0	22.5	21.9	22.0	1.0	23.0
		1	12	22.3	21.8	21.8	1.0	23.0
		1	24	22.5	21.9	21.9	1.0	23.0
		12	0	21.2	20.7	20.8	2.0	22.0
		12	7	21.2	20.7	20.7	2.0	22.0
		12	13	21.2	20.7	20.8	2.0	22.0
		25	0	21.1	20.7	20.7	2.0	22.0
	64QAM	1	0	21.5	20.9	20.7	2.0	22.0
		1	12	21.4	20.9	20.7	2.0	22.0
		1	24	21.4	20.9	20.7	2.0	22.0
		12	0	20.1	20.0	20.0	3.0	21.0
		12	7	20.1	20.0	20.0	3.0	21.0
		12	13	20.1	20.0	20.0	3.0	21.0
		25	0	20.1	20.0	20.0	3.0	21.0
	256QAM	1	0	18.6	17.9	17.7	5.0	19.0
		1	12	18.5	17.8	17.6	5.0	19.0
		1	24	18.5	17.9	17.7	5.0	19.0
		12	0	18.2	17.9	17.8	5.0	19.0
		12	7	18.2	17.8	17.8	5.0	19.0
		12	13	18.2	17.9	17.7	5.0	19.0
		25	0	18.1	17.8	17.8	5.0	19.0

LTE Band 25 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26055	26365	26675		
				1851.5 MHz	1882.5 MHz	1913.5 MHz		
3 MHz	QPSK	1	0	23.1	22.8	22.8	0.0	24.0
		1	8	23.0	22.7	22.7	0.0	24.0
		1	14	23.2	22.7	22.8	0.0	24.0
		8	0	22.1	21.8	21.8	1.0	23.0
		8	4	22.1	21.8	21.7	1.0	23.0
		8	7	22.1	21.8	21.8	1.0	23.0
		15	0	22.1	21.8	21.7	1.0	23.0
	16QAM	1	0	22.2	22.1	22.0	1.0	23.0
		1	8	22.1	22.0	22.0	1.0	23.0
		1	14	22.2	22.2	22.0	1.0	23.0
		8	0	21.1	20.9	20.8	2.0	22.0
		8	4	21.1	20.8	20.7	2.0	22.0
		8	7	21.1	20.8	20.7	2.0	22.0
		15	0	21.0	20.7	20.7	2.0	22.0
	64QAM	1	0	21.3	21.0	20.6	2.0	22.0
		1	8	21.2	21.0	20.7	2.0	22.0
		1	14	21.2	20.9	20.7	2.0	22.0
		8	0	20.1	20.0	19.8	3.0	21.0
		8	4	20.1	20.0	19.9	3.0	21.0
		8	7	20.1	20.0	19.9	3.0	21.0
		15	0	20.1	20.0	19.9	3.0	21.0
	256QAM	1	0	18.2	18.0	17.8	5.0	19.0
		1	8	18.1	18.0	17.8	5.0	19.0
		1	14	18.2	17.9	17.9	5.0	19.0
		8	0	18.2	17.9	17.8	5.0	19.0
		8	4	18.2	17.9	17.8	5.0	19.0
		8	7	18.2	17.9	17.8	5.0	19.0
		15	0	18.2	17.8	17.9	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26047	26365	26683		
				1850.7 MHz	1882.5 MHz	1914.3 MHz		
1.4 MHz	QPSK	1	0	23.0	22.7	22.7	0.0	24.0
		1	3	22.9	22.6	22.6	0.0	24.0
		1	5	23.0	22.7	22.7	0.0	24.0
		3	0	23.0	22.7	22.6	0.0	24.0
		3	1	23.0	22.6	22.6	0.0	24.0
		3	3	23.0	22.6	22.6	0.0	24.0
		6	0	22.1	21.7	21.7	1.0	23.0
	16QAM	1	0	22.4	21.7	21.8	1.0	23.0
		1	3	22.1	21.8	21.8	1.0	23.0
		1	5	22.4	21.8	21.8	1.0	23.0
		3	0	22.1	21.7	21.6	1.0	23.0
		3	1	22.1	21.7	21.7	1.0	23.0
		3	3	22.1	21.6	21.6	1.0	23.0
		6	0	21.1	20.8	20.8	2.0	22.0
	64QAM	1	0	21.1	20.9	20.8	2.0	22.0
		1	3	21.3	21.0	20.9	2.0	22.0
		1	5	21.3	20.8	20.8	2.0	22.0
		3	0	20.9	20.8	20.8	2.0	22.0
		3	1	20.9	20.8	20.7	2.0	22.0
		3	3	21.0	21.0	20.8	2.0	22.0
		6	0	20.1	19.8	19.9	3.0	21.0
	256QAM	1	0	18.2	17.8	17.9	5.0	19.0
		1	3	18.0	17.7	17.8	5.0	19.0
		1	5	18.1	17.8	17.8	5.0	19.0
		3	0	18.2	17.7	17.6	5.0	19.0
		3	1	18.2	17.7	17.5	5.0	19.0
		3	3	18.2	17.7	17.6	5.0	19.0
		6	0	18.1	17.7	17.7	5.0	19.0

LTE Band 26 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				[redacted]	26865	[redacted]		
					831.5 MHz			
15 MHz	QPSK	1	0		24.1		0.0	25.0
		1	37		24.1		0.0	25.0
		1	74		24.0		0.0	25.0
		36	0		23.1		1.0	24.0
		36	20		23.1		1.0	24.0
		36	39		23.1		1.0	24.0
		75	0		23.1		1.0	24.0
	16QAM	1	0		23.5		1.0	24.0
		1	37		23.3		1.0	24.0
		1	74		23.3		1.0	24.0
		36	0		22.2		2.0	23.0
		36	20		22.1		2.0	23.0
		36	39		22.1		2.0	23.0
		75	0		22.1		2.0	23.0
	64QAM	1	0		22.2		2.0	23.0
		1	37		22.2		2.0	23.0
		1	74		22.2		2.0	23.0
		36	0		21.3		3.0	22.0
		36	20		21.2		3.0	22.0
		36	39		21.2		3.0	22.0
		75	0		21.2		3.0	22.0
	256QAM	1	0		19.2		5.0	20.0
		1	37		19.0		5.0	20.0
		1	74		19.1		5.0	20.0
		36	0		19.1		5.0	20.0
		36	20		19.0		5.0	20.0
		36	39		19.0		5.0	20.0
		75	0		19.0		5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26740	26865	26990		
				819 MHz	831.5 MHz	844 MHz		
10 MHz	QPSK	1	0	23.6	24.0	23.7	0.0	25.0
		1	25	23.5	23.9	23.6	0.0	25.0
		1	49	23.5	23.9	23.6	0.0	25.0
		25	0	22.6	23.0	22.7	1.0	24.0
		25	12	22.6	22.9	22.7	1.0	24.0
		25	25	22.6	22.9	22.6	1.0	24.0
		50	0	22.5	23.0	22.7	1.0	24.0
	16QAM	1	0	23.0	23.3	22.8	1.0	24.0
		1	25	23.0	23.3	22.8	1.0	24.0
		1	49	22.9	23.2	22.6	1.0	24.0
		25	0	21.7	22.0	21.7	2.0	23.0
		25	12	21.6	22.0	21.7	2.0	23.0
		25	25	21.6	22.0	21.7	2.0	23.0
		50	0	21.6	22.0	21.7	2.0	23.0
	64QAM	1	0	21.8	21.9	22.0	2.0	23.0
		1	25	21.7	21.9	21.9	2.0	23.0
		1	49	21.6	21.8	21.8	2.0	23.0
		25	0	20.6	21.5	20.8	3.0	22.0
		25	12	20.6	21.5	20.8	3.0	22.0
		25	25	20.6	21.4	20.7	3.0	22.0
		50	0	20.6	21.5	20.8	3.0	22.0
	256QAM	1	0	18.7	19.2	18.8	5.0	20.0
		1	25	18.6	19.1	18.7	5.0	20.0
		1	49	18.6	19.0	18.7	5.0	20.0
		25	0	18.7	19.0	18.8	5.0	20.0
		25	12	18.6	19.0	18.8	5.0	20.0
		25	25	18.6	19.0	18.8	5.0	20.0
		50	0	18.6	19.0	18.7	5.0	20.0

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26715	26865	27015		
				816.5 MHz	831.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	23.4	23.9	23.5	0.0	25.0
		1	12	23.3	23.8	23.4	0.0	25.0
		1	24	23.4	23.9	23.5	0.0	25.0
		12	0	22.5	23.0	22.6	1.0	24.0
		12	7	22.4	22.9	22.5	1.0	24.0
		12	13	22.4	22.9	22.5	1.0	24.0
		25	0	22.4	22.9	22.5	1.0	24.0
	16QAM	1	0	22.9	23.3	22.8	1.0	24.0
		1	12	22.6	23.1	22.6	1.0	24.0
		1	24	22.8	23.2	22.8	1.0	24.0
		12	0	21.6	22.0	21.6	2.0	23.0
		12	7	21.6	22.0	21.5	2.0	23.0
		12	13	21.5	22.0	21.5	2.0	23.0
		25	0	21.5	22.0	21.5	2.0	23.0
	64QAM	1	0	21.7	22.0	21.8	2.0	23.0
		1	12	21.6	22.0	21.8	2.0	23.0
		1	24	21.7	22.0	21.8	2.0	23.0
		12	0	20.4	21.5	21.2	3.0	22.0
		12	7	20.4	21.5	21.1	3.0	22.0
		12	13	20.4	21.5	21.1	3.0	22.0
		25	0	20.5	21.5	21.1	3.0	22.0
	256QAM	1	0	18.5	19.1	19.1	5.0	20.0
		1	12	18.4	18.9	19.0	5.0	20.0
		1	24	18.5	19.0	19.0	5.0	20.0
		12	0	18.5	19.0	18.6	5.0	20.0
		12	7	18.5	19.0	18.7	5.0	20.0
		12	13	18.5	18.9	18.6	5.0	20.0
		25	0	18.5	19.0	18.5	5.0	20.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26705	26865	27025		
				815.5 MHz	831.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	23.5	23.9	23.6	0.0	25.0
		1	8	23.4	23.8	23.4	0.0	25.0
		1	14	23.5	23.9	23.6	0.0	25.0
		8	0	22.4	23.0	22.6	1.0	24.0
		8	4	22.4	22.9	22.5	1.0	24.0
		8	7	22.4	23.0	22.5	1.0	24.0
		15	0	22.4	23.0	22.5	1.0	24.0
	16QAM	1	0	22.8	23.4	22.5	1.0	24.0
		1	8	22.7	23.2	22.4	1.0	24.0
		1	14	22.7	23.4	22.5	1.0	24.0
		8	0	21.5	22.1	21.6	2.0	23.0
		8	4	21.5	22.0	21.6	2.0	23.0
		8	7	21.5	22.0	21.6	2.0	23.0
		15	0	21.4	22.0	21.5	2.0	23.0
	64QAM	1	0	21.6	22.3	21.5	2.0	23.0
		1	8	21.7	22.3	21.5	2.0	23.0
		1	14	21.7	22.3	21.5	2.0	23.0
		8	0	20.3	21.7	21.1	3.0	22.0
		8	4	20.3	21.6	21.2	3.0	22.0
		8	7	20.4	21.6	21.2	3.0	22.0
		15	0	20.4	21.6	21.3	3.0	22.0
	256QAM	1	0	18.6	19.1	18.8	5.0	20.0
		1	8	18.5	19.0	18.6	5.0	20.0
		1	14	18.6	19.1	18.8	5.0	20.0
		8	0	18.4	19.1	18.6	5.0	20.0
		8	4	18.4	19.0	18.5	5.0	20.0
		8	7	18.4	19.1	18.6	5.0	20.0
		15	0	18.4	19.0	18.6	5.0	20.0

LTE Band 26 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				26697	26865	27033		
				814.7 MHz	831.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	23.3	23.9	23.4	0.0	25.0
		1	3	23.1	23.8	23.4	0.0	25.0
		1	5	23.3	23.9	23.4	0.0	25.0
		3	0	23.3	23.9	23.4	0.0	25.0
		3	1	23.3	23.9	23.4	0.0	25.0
		3	3	23.2	23.8	23.4	0.0	25.0
		6	0	22.3	22.9	22.4	1.0	24.0
	16QAM	1	0	22.3	23.4	22.5	1.0	24.0
		1	3	22.1	23.2	22.5	1.0	24.0
		1	5	22.3	23.3	22.5	1.0	24.0
		3	0	22.5	23.0	22.5	1.0	24.0
		3	1	22.5	23.0	22.4	1.0	24.0
		3	3	22.4	22.9	22.4	1.0	24.0
		6	0	21.4	21.9	21.5	2.0	23.0
	64QAM	1	0	21.5	22.1	21.6	2.0	23.0
		1	3	21.5	22.0	21.5	2.0	23.0
		1	5	21.5	22.0	21.6	2.0	23.0
		3	0	21.4	22.0	21.6	2.0	23.0
		3	1	21.3	22.1	21.5	2.0	23.0
		3	3	21.3	22.0	21.5	2.0	23.0
		6	0	20.4	21.4	21.3	3.0	22.0
	256QAM	1	0	18.5	19.2	18.6	5.0	20.0
		1	3	18.4	19.0	18.6	5.0	20.0
		1	5	18.5	19.1	18.7	5.0	20.0
		3	0	18.4	19.0	18.4	5.0	20.0
		3	1	18.3	18.9	18.4	5.0	20.0
		3	3	18.4	18.8	18.4	5.0	20.0
		6	0	18.3	18.8	18.4	5.0	20.0

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				132072	132322	132572		
				1720 MHz	1745 MHz	1770 MHz		
20 MHz	QPSK	1	0	22.7	23.1	23.1	0.0	24
		1	49	22.7	23.1	23.2	0.0	24
		1	99	22.7	23.1	23.1	0.0	24
		50	0	21.8	22.2	22.2	1.0	23
		50	24	21.8	22.2	22.3	1.0	23
		50	50	21.7	22.2	22.2	1.0	23
		100	0	21.8	22.2	22.2	1.0	23
	16QAM	1	0	22.2	22.4	22.4	1.0	23
		1	49	22.2	22.4	22.5	1.0	23
		1	99	22.1	22.3	22.3	1.0	23
		50	0	20.8	21.2	21.2	2.0	22
		50	24	20.9	21.2	21.2	2.0	22
		50	50	20.8	21.2	21.2	2.0	22
		100	0	20.8	21.2	21.2	2.0	22
	64QAM	1	0	20.9	21.3	21.2	2.0	22
		1	49	21.0	21.3	21.2	2.0	22
		1	99	20.9	21.3	21.2	2.0	22
		50	0	19.9	20.4	20.5	3.0	21
		50	24	19.9	20.4	20.5	3.0	21
		50	50	19.9	20.4	20.5	3.0	21
		100	0	19.9	20.4	20.4	3.0	21
	256QAM	1	0	18.1	18.1	18.4	5.0	19
		1	49	18.3	18.0	18.3	5.0	19
		1	99	18.1	18.2	18.4	5.0	19
		50	0	18.0	18.2	18.3	5.0	19
		50	24	18.0	18.3	18.4	5.0	19
		50	50	17.9	18.3	18.3	5.0	19
		100	0	17.9	18.2	18.3	5.0	19
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				132047	132322	132597		
				1717.5 MHz	1745 MHz	1772.5 MHz		
15 MHz	QPSK	1	0	23.1	23.2	23.4	0.0	24
		1	37	23.1	23.3	23.4	0.0	24
		1	74	23.1	23.3	23.3	0.0	24
		36	0	22.2	22.4	22.5	1.0	23
		36	20	22.2	22.5	22.4	1.0	23
		36	39	22.1	22.5	22.5	1.0	23
		75	0	22.1	22.5	22.5	1.0	23
	16QAM	1	0	22.4	22.5	22.4	1.0	23
		1	37	22.4	22.5	22.5	1.0	23
		1	74	22.3	22.6	22.4	1.0	23
		36	0	21.1	21.4	21.4	2.0	22
		36	20	21.1	21.4	21.4	2.0	22
		36	39	21.1	21.4	21.4	2.0	22
		75	0	21.1	21.4	21.4	2.0	22
	64QAM	1	0	21.2	21.3	21.7	2.0	22
		1	37	21.2	21.4	21.7	2.0	22
		1	74	21.2	21.4	21.7	2.0	22
		36	0	20.1	20.4	20.5	3.0	21
		36	20	20.1	20.4	20.7	3.0	21
		36	39	20.1	20.4	20.7	3.0	21
		75	0	20.1	20.4	20.6	3.0	21
	256QAM	1	0	18.1	18.7	18.8	5.0	19
		1	37	18.0	18.7	18.8	5.0	19
		1	74	18.0	18.7	18.7	5.0	19
		36	0	18.1	18.5	18.5	5.0	19
		36	20	18.1	18.5	18.5	5.0	19
		36	39	18.1	18.5	18.5	5.0	19
		75	0	18.1	18.4	18.5	5.0	19

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				132022	132322	132622		
				1715 MHz	1745 MHz	1775 MHz		
10 MHz	QPSK	1	0	23.1	23.4	23.4	0.0	24
		1	25	23.1	23.3	23.3	0.0	24
		1	49	23.1	23.4	23.3	0.0	24
		25	0	22.1	22.4	22.3	1.0	23
		25	12	22.0	22.3	22.3	1.0	23
		25	25	22.0	22.4	22.3	1.0	23
		50	0	22.0	22.4	22.3	1.0	23
	16QAM	1	0	22.4	22.6	22.4	1.0	23
		1	25	22.3	22.7	22.4	1.0	23
		1	49	22.3	22.6	22.3	1.0	23
		25	0	21.0	21.3	21.3	2.0	22
		25	12	21.0	21.3	21.3	2.0	22
		25	25	21.0	21.4	21.3	2.0	22
		50	0	21.0	21.3	21.3	2.0	22
	64QAM	1	0	21.3	21.4	21.5	2.0	22
		1	25	21.2	21.3	21.5	2.0	22
		1	49	21.2	21.4	21.5	2.0	22
		25	0	20.1	20.5	20.4	3.0	21
		25	12	20.1	20.4	20.5	3.0	21
		25	25	20.1	20.3	20.5	3.0	21
		50	0	20.1	20.5	20.4	3.0	21
	256QAM	1	0	18.2	18.7	18.6	5.0	19
		1	25	18.2	18.6	18.4	5.0	19
		1	49	18.2	18.8	18.5	5.0	19
		25	0	18.2	18.5	18.5	5.0	19
		25	12	18.2	18.5	18.4	5.0	19
		25	25	18.2	18.5	18.5	5.0	19
		50	0	18.1	18.4	18.5	5.0	19

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131997	132322	132647		
				1712.5 MHz	1745 MHz	1777.5 MHz		
5 MHz	QPSK	1	0	23.1	23.3	23.2	0.0	24
		1	12	23.0	23.2	23.2	0.0	24
		1	24	23.1	23.4	23.3	0.0	24
		12	0	22.0	22.4	22.3	1.0	23
		12	7	22.0	22.3	22.3	1.0	23
		12	13	22.0	22.4	22.2	1.0	23
		25	0	22.0	22.4	22.3	1.0	23
	16QAM	1	0	22.4	22.6	22.4	1.0	23
		1	12	22.1	22.5	22.3	1.0	23
		1	24	22.4	22.6	22.5	1.0	23
		12	0	21.1	21.4	21.3	2.0	22
		12	7	21.1	21.4	21.2	2.0	22
		12	13	21.1	21.4	21.2	2.0	22
		25	0	21.0	21.3	21.3	2.0	22
	64QAM	1	0	21.0	21.4	21.4	2.0	22
		1	12	20.9	21.4	21.4	2.0	22
		1	24	21.0	21.4	21.4	2.0	22
		12	0	20.0	20.4	20.4	3.0	21
		12	7	20.0	20.5	20.4	3.0	21
		12	13	20.0	20.4	20.4	3.0	21
		25	0	20.1	20.5	20.4	3.0	21
	256QAM	1	0	17.9	18.7	18.4	5.0	19
		1	12	17.8	18.6	18.2	5.0	19
		1	24	18.0	18.7	18.4	5.0	19
		12	0	18.1	18.5	18.4	5.0	19
		12	7	18.1	18.5	18.4	5.0	19
		12	13	18.1	18.4	18.4	5.0	19
		25	0	18.1	18.4	18.4	5.0	19

LTE Band 66 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131987	132322	132657		
				1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	23.1	23.5	23.3	0.0	24
		1	8	23.0	23.3	23.2	0.0	24
		1	14	23.0	23.5	23.3	0.0	24
		8	0	22.1	22.3	22.4	1.0	23
		8	4	22.0	22.4	22.3	1.0	23
		8	7	22.1	22.4	22.3	1.0	23
		15	0	22.0	22.3	22.2	1.0	23
	16QAM	1	0	22.4	22.3	22.5	1.0	23
		1	8	22.2	22.2	22.5	1.0	23
		1	14	22.3	22.3	22.4	1.0	23
		8	0	21.1	21.4	21.3	2.0	22
		8	4	21.1	21.5	21.3	2.0	22
		8	7	21.1	21.5	21.3	2.0	22
		15	0	21.0	21.3	21.2	2.0	22
	64QAM	1	0	21.1	21.6	21.5	2.0	22
		1	8	21.0	21.3	21.4	2.0	22
		1	14	21.0	21.6	21.5	2.0	22
		8	0	20.0	20.5	20.5	3.0	21
		8	4	20.0	20.5	20.4	3.0	21
		8	7	20.1	20.4	20.4	3.0	21
		15	0	20.1	20.4	20.4	3.0	21
	256QAM	1	0	18.2	18.6	18.5	5.0	19
		1	8	18.1	18.7	18.5	5.0	19
		1	14	18.3	18.6	18.4	5.0	19
		8	0	18.2	18.7	18.5	5.0	19
		8	4	18.2	18.5	18.4	5.0	19
		8	7	18.3	18.5	18.4	5.0	19
		15	0	18.1	18.4	18.5	5.0	19

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131979	132322	132665		
				1710.7 MHz	1745 MHz	1779.3 MHz		
1.4 MHz	QPSK	1	0	23.1	23.4	23.2	0.0	24
		1	3	23.0	23.3	23.1	0.0	24
		1	5	23.1	23.4	23.3	0.0	24
		3	0	23.0	23.3	23.1	0.0	24
		3	1	23.0	23.3	23.1	0.0	24
		3	3	23.0	23.3	23.1	0.0	24
		6	0	22.1	22.3	22.2	1.0	23
	16QAM	1	0	22.3	22.4	22.2	1.0	23
		1	3	22.3	22.5	22.4	1.0	23
		1	5	22.2	22.4	22.2	1.0	23
		3	0	22.0	22.3	22.2	1.0	23
		3	1	22.0	22.3	22.2	1.0	23
		3	3	22.0	22.3	22.2	1.0	23
		6	0	20.9	21.5	21.4	2.0	22
	64QAM	1	0	21.0	21.4	21.4	2.0	22
		1	3	21.0	21.3	21.6	2.0	22
		1	5	21.0	21.3	21.6	2.0	22
		3	0	20.9	21.3	21.4	2.0	22
		3	1	21.0	21.3	21.5	2.0	22
		3	3	20.9	21.3	21.5	2.0	22
		6	0	20.1	20.5	20.4	3.0	21
	256QAM	1	0	18.2	18.3	18.1	5.0	19
		1	3	18.0	18.5	18.2	5.0	19
		1	5	18.2	18.5	18.1	5.0	19
		3	0	17.9	18.4	18.2	5.0	19
		3	1	17.9	18.3	18.2	5.0	19
		3	3	18.1	18.4	18.1	5.0	19
		6	0	18.0	18.4	18.3	5.0	19

2. Reduced power Results

LTE Band 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off					Reduced Average Power (dBm) Proximity sensor back-off				
				Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				18700	18900	19100			18700	18900	19100		
				1860 MHz	1880 MHz	1900 MHz			1860 MHz	1880 MHz	1900 MHz		
20 MHz	QPSK	1	0	19.6	19.2	19.4	0.0	20.5	19.7	19.4	19.5	0.0	20.5
		1	49	19.7	19.3	19.6	0.0	20.5	19.7	19.5	19.5	0.0	20.5
		1	99	19.6	19.3	19.3	0.0	20.5	19.7	19.5	19.4	0.0	20.5
		50	0	19.8	19.4	19.7	0.0	20.5	19.9	19.5	19.6	0.0	20.5
		50	24	19.8	19.4	19.5	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		50	50	19.8	19.4	19.4	0.0	20.5	19.9	19.5	19.5	0.0	20.5
		100	0	19.8	19.4	19.5	0.0	20.5	19.9	19.5	19.6	0.0	20.5
	16QAM	1	0	20.1	19.7	19.9	0.0	20.5	20.2	19.9	20.0	0.0	20.5
		1	49	20.1	19.9	19.9	0.0	20.5	20.2	20.0	20.1	0.0	20.5
		1	99	20.0	19.8	19.7	0.0	20.5	20.1	19.9	19.9	0.0	20.5
		50	0	19.8	19.4	19.5	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		50	24	19.8	19.4	19.5	0.0	20.5	20.0	19.6	19.6	0.0	20.5
		50	50	19.8	19.4	19.5	0.0	20.5	19.9	19.6	19.5	0.0	20.5
		100	0	19.8	19.4	19.5	0.0	20.5	19.9	19.5	19.6	0.0	20.5
	64QAM	1	0	20.1	19.6	19.7	0.0	20.5	20.2	19.6	19.6	0.0	20.5
		1	49	20.1	19.6	19.8	0.0	20.5	20.3	19.6	19.5	0.0	20.5
		1	99	20.1	19.5	19.6	0.0	20.5	20.2	19.6	19.5	0.0	20.5
		50	0	20.1	19.6	19.5	0.0	20.5	20.0	19.6	19.5	0.0	20.5
		50	24	20.1	19.5	19.5	0.0	20.5	20.0	19.6	19.5	0.0	20.5
		50	50	20.1	19.5	19.5	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		100	0	20.0	19.6	19.5	0.0	20.5	19.9	19.5	19.5	0.0	20.5
	256QAM	1	0	18.5	18.1	18.2	1.0	19.5	18.8	18.2	18.3	1.0	19.5
		1	49	18.4	18.2	18.1	1.0	19.5	18.8	18.3	18.3	1.0	19.5
		1	99	18.5	18.2	18.0	1.0	19.5	18.7	18.3	18.1	1.0	19.5
		50	0	18.4	18.0	18.1	1.0	19.5	18.5	18.1	18.1	1.0	19.5
		50	24	18.4	18.0	18.1	1.0	19.5	18.5	18.1	18.1	1.0	19.5
		50	50	18.4	18.0	18.0	1.0	19.5	18.4	18.1	18.1	1.0	19.5
		100	0	18.4	18.0	18.0	1.0	19.5	18.4	18.1	18.1	1.0	19.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				18675	18900	19125			18675	18900	19125		
				1857.5 MHz	1880 MHz	1902.5 MHz			1857.5 MHz	1880 MHz	1902.5 MHz		
15 MHz	QPSK	1	0	20.0	19.6	19.7	0.0	20.5	20.0	19.6	19.7	0.0	20.5
		1	37	20.0	19.6	19.7	0.0	20.5	20.0	19.6	19.7	0.0	20.5
		1	74	20.0	19.6	19.5	0.0	20.5	20.0	19.6	19.6	0.0	20.5
		36	0	20.1	19.6	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		36	20	20.1	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		36	39	20.0	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		75	0	20.1	19.6	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
	16QAM	1	0	20.2	19.9	20.1	0.0	20.5	20.2	19.8	20.1	0.0	20.5
		1	37	20.1	19.8	20.1	0.0	20.5	20.2	19.8	20.0	0.0	20.5
		1	74	20.1	19.9	19.9	0.0	20.5	20.1	19.9	19.9	0.0	20.5
		36	0	20.1	19.7	19.8	0.0	20.5	20.1	19.7	19.8	0.0	20.5
		36	20	20.0	19.7	19.8	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		36	39	20.0	19.7	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		75	0	20.0	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
	64QAM	1	0	20.2	19.8	20.0	0.0	20.5	19.9	19.8	20.0	0.0	20.5
		1	37	20.2	19.8	19.9	0.0	20.5	19.7	19.7	20.0	0.0	20.5
		1	74	20.2	19.8	19.7	0.0	20.5	19.8	19.8	20.0	0.0	20.5
		36	0	20.2	19.8	19.7	0.0	20.5	19.6	19.8	20.0	0.0	20.5
		36	20	20.2	19.8	19.7	0.0	20.5	19.6	19.8	20.0	0.0	20.5
		36	39	20.2	19.7	19.7	0.0	20.5	19.6	19.8	20.0	0.0	20.5
		75	0	20.2	19.7	19.7	0.0	20.5	19.6	19.7	20.0	0.0	20.5
	256QAM	1	0	18.7	18.4	18.4	1.0	19.5	18.3	18.3	18.6	1.0	19.5
		1	37	18.6	18.3	18.2	1.0	19.5	18.2	18.3	18.6	1.0	19.5
		1	74	18.6	18.4	18.3	1.0	19.5	18.1	18.3	18.5	1.0	19.5
		36	0	18.6	18.2	18.3	1.0	19.5	18.2	18.1	18.5	1.0	19.5
		36	20	18.6	18.2	18.2	1.0	19.5	18.2	18.2	18.5	1.0	19.5
		36	39	18.6	18.2	18.2	1.0	19.5	18.1	18.2	18.5	1.0	19.5
		75	0	18.6	18.2	18.2	1.0	19.5	18.2	18.1	18.5	1.0	19.5

LTE Band 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
				18650	18900	19150			18650	18900	19150		
				1855 MHz	1880 MHz	1905 MHz			1855 MHz	1880 MHz	1905 MHz		
10 MHz	QPSK	1	0	20.0	19.6	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		1	25	19.9	19.6	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		1	49	20.0	19.6	19.6	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		25	0	20.0	19.6	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		25	12	20.0	19.6	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		25	25	20.0	19.6	19.6	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		50	0	20.0	19.6	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
	16QAM	1	0	20.1	19.9	20.0	0.0	20.5	20.3	19.9	20.1	0.0	20.5
		1	25	20.1	19.9	20.0	0.0	20.5	20.2	19.9	20.0	0.0	20.5
		1	49	20.0	19.9	19.9	0.0	20.5	20.2	19.9	19.9	0.0	20.5
		25	0	20.0	19.7	19.7	0.0	20.5	20.1	19.7	19.8	0.0	20.5
		25	12	20.0	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		25	25	20.0	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		50	0	20.0	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
	64QAM	1	0	20.2	19.7	19.8	0.0	20.5	19.9	19.5	20.0	0.0	20.5
		1	25	20.2	19.7	19.7	0.0	20.5	19.8	19.5	20.0	0.0	20.5
		1	49	20.2	19.7	19.6	0.0	20.5	19.8	19.5	20.0	0.0	20.5
		25	0	20.1	19.7	19.7	0.0	20.5	19.7	19.6	20.0	0.0	20.5
		25	12	20.2	19.8	19.7	0.0	20.5	19.7	19.5	20.0	0.0	20.5
		25	25	20.1	19.7	19.7	0.0	20.5	19.6	19.6	20.0	0.0	20.5
		50	0	20.2	19.7	19.7	0.0	20.5	19.6	19.5	20.0	0.0	20.5
	256QAM	1	0	18.8	18.5	18.3	1.0	19.5	18.2	18.4	18.7	1.0	19.5
		1	25	18.7	18.5	18.2	1.0	19.5	18.1	18.4	18.6	1.0	19.5
		1	49	18.7	18.5	18.2	1.0	19.5	18.1	18.4	18.6	1.0	19.5
		25	0	18.6	18.2	18.3	1.0	19.5	18.2	18.2	18.5	1.0	19.5
		25	12	18.6	18.2	18.3	1.0	19.5	18.2	18.2	18.5	1.0	19.5
		25	25	18.6	18.2	18.2	1.0	19.5	18.2	18.2	18.5	1.0	19.5
		50	0	18.6	18.2	18.2	1.0	19.5	18.2	18.1	18.5	1.0	19.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				18625	18900	19175			18625	18900	19175		
				1852.5 MHz	1880 MHz	1907.5 MHz			1852.5 MHz	1880 MHz	1907.5 MHz		
5 MHz	QPSK	1	0	20.0	19.6	19.7	0.0	20.5	20.0	19.6	19.7	0.0	20.5
		1	12	20.0	19.6	19.5	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		1	24	20.0	19.6	19.6	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		12	0	20.0	19.7	19.7	0.0	20.5	20.0	19.6	19.7	0.0	20.5
		12	7	20.0	19.6	19.7	0.0	20.5	20.0	19.6	19.7	0.0	20.5
		12	13	20.0	19.6	19.6	0.0	20.5	20.0	19.6	19.7	0.0	20.5
		25	0	20.0	19.7	19.7	0.0	20.5	20.0	19.6	19.7	0.0	20.5
	16QAM	1	0	20.2	20.0	20.0	0.0	20.5	20.3	20.1	20.0	0.0	20.5
		1	12	20.0	19.8	19.8	0.0	20.5	20.1	19.7	19.8	0.0	20.5
		1	24	20.0	20.0	19.9	0.0	20.5	20.3	20.0	20.0	0.0	20.5
		12	0	20.1	19.7	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		12	7	20.1	19.6	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		12	13	20.1	19.6	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
		25	0	20.0	19.6	19.7	0.0	20.5	20.1	19.7	19.7	0.0	20.5
	64QAM	1	0	20.2	19.6	19.9	0.0	20.5	19.7	19.7	20.2	0.0	20.5
		1	12	20.2	19.6	19.8	0.0	20.5	19.6	19.8	20.2	0.0	20.5
		1	24	20.2	19.6	19.9	0.0	20.5	19.7	19.7	20.2	0.0	20.5
		12	0	20.2	19.6	19.7	0.0	20.5	19.6	19.7	20.2	0.0	20.5
		12	7	20.2	19.6	19.7	0.0	20.5	19.6	19.7	20.2	0.0	20.5
		12	13	20.2	19.6	19.7	0.0	20.5	19.6	19.7	20.2	0.0	20.5
		25	0	20.2	19.6	19.7	0.0	20.5	19.6	19.7	20.2	0.0	20.5
	256QAM	1	0	19.0	18.0	18.1	1.0	19.5	18.0	18.5	18.3	1.0	19.5
		1	12	18.9	17.9	18.0	1.0	19.5	17.8	18.4	18.2	1.0	19.5
		1	24	18.9	18.0	18.1	1.0	19.5	18.0	18.5	18.3	1.0	19.5
		12	0	18.6	18.2	18.3	1.0	19.5	18.2	18.2	18.5	1.0	19.5
		12	7	18.6	18.2	18.3	1.0	19.5	18.2	18.2	18.5	1.0	19.5
		12	13	18.6	18.2	18.3	1.0	19.5	18.1	18.1	18.5	1.0	19.5
		25	0	18.6	18.2	18.2	1.0	19.5	18.2	18.1	18.5	1.0	19.5

LTE Band 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
				18615	18900	19185			18615	18900	19185		
				1851.5 MHz	1880 MHz	1908.5 MHz			1851.5 MHz	1880 MHz	1908.5 MHz		
3 MHz	QPSK	1	0	20.1	19.6	19.7	0.0	20.5	20.1	19.6	19.7	0.0	20.5
		1	8	19.9	19.5	19.6	0.0	20.5	20.0	19.5	19.6	0.0	20.5
		1	14	20.1	19.6	19.7	0.0	20.5	20.1	19.6	19.7	0.0	20.5
		8	0	20.0	19.7	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		8	4	20.0	19.6	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
		8	7	20.0	19.7	19.7	0.0	20.5	20.0	19.7	19.6	0.0	20.5
		15	0	20.0	19.6	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
	16QAM	1	0	20.1	19.9	19.9	0.0	20.5	20.1	20.0	20.1	0.0	20.5
		1	8	20.1	19.8	20.0	0.0	20.5	20.0	19.8	20.0	0.0	20.5
		1	14	20.2	20.0	19.9	0.0	20.5	20.0	19.9	20.1	0.0	20.5
		8	0	20.1	19.8	19.7	0.0	20.5	20.1	19.8	19.7	0.0	20.5
		8	4	20.0	19.8	19.7	0.0	20.5	20.1	19.8	19.7	0.0	20.5
		8	7	20.1	19.8	19.7	0.0	20.5	20.1	19.8	19.7	0.0	20.5
		15	0	20.0	19.7	19.7	0.0	20.5	20.0	19.7	19.7	0.0	20.5
	64QAM	1	0	20.1	19.9	19.8	0.0	20.5	19.6	19.9	20.1	0.0	20.5
		1	8	20.2	19.8	19.6	0.0	20.5	19.7	19.9	20.1	0.0	20.5
		1	14	20.1	19.8	19.7	0.0	20.5	19.6	19.8	20.1	0.0	20.5
		8	0	20.1	19.8	19.7	0.0	20.5	19.6	19.8	20.1	0.0	20.5
		8	4	20.2	19.8	19.7	0.0	20.5	19.6	19.8	20.0	0.0	20.5
		8	7	20.2	19.8	19.7	0.0	20.5	19.7	19.8	20.1	0.0	20.5
		15	0	20.2	19.8	19.7	0.0	20.5	19.7	19.9	20.0	0.0	20.5
	256QAM	1	0	18.6	18.3	18.3	1.0	19.5	18.1	18.4	18.9	1.0	19.5
		1	8	18.4	18.3	18.2	1.0	19.5	18.1	18.3	18.6	1.0	19.5
		1	14	18.6	18.4	18.3	1.0	19.5	18.1	18.4	18.7	1.0	19.5
		8	0	18.6	18.3	18.3	1.0	19.5	18.3	18.3	18.6	1.0	19.5
		8	4	18.6	18.3	18.3	1.0	19.5	18.2	18.3	18.6	1.0	19.5
		8	7	18.6	18.3	18.2	1.0	19.5	18.2	18.3	18.6	1.0	19.5
		15	0	18.7	18.2	18.3	1.0	19.5	18.3	18.2	18.7	1.0	19.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				18607	18900	19193			18607	18900	19193		
				1850.7 MHz	1880 MHz	1909.3 MHz			1850.7 MHz	1880 MHz	1909.3 MHz		
1.4 MHz	QPSK	1	0	19.9	19.5	19.5	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		1	3	19.8	19.6	19.5	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		1	5	19.9	19.5	19.6	0.0	20.5	19.9	19.7	19.7	0.0	20.5
		3	0	19.9	19.5	19.6	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		3	1	19.8	19.6	19.6	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		3	3	19.9	19.5	19.6	0.0	20.5	19.9	19.6	19.6	0.0	20.5
		6	0	19.9	19.6	19.6	0.0	20.5	19.9	19.6	19.6	0.0	20.5
	16QAM	1	0	19.9	19.6	19.9	0.0	20.5	20.1	19.9	20.1	0.0	20.5
		1	3	20.0	19.6	20.1	0.0	20.5	20.0	19.7	20.0	0.0	20.5
		1	5	20.0	19.8	20.1	0.0	20.5	19.9	19.7	20.1	0.0	20.5
		3	0	20.0	19.7	19.7	0.0	20.5	20.0	19.7	19.8	0.0	20.5
		3	1	20.0	19.7	19.6	0.0	20.5	20.0	19.6	19.8	0.0	20.5
		3	3	19.9	19.7	19.6	0.0	20.5	19.9	19.6	19.8	0.0	20.5
		6	0	20.0	19.7	19.5	0.0	20.5	20.1	19.8	19.6	0.0	20.5
	64QAM	1	0	19.8	19.8	19.7	0.0	20.5	19.8	19.9	20.2	0.0	20.5
		1	3	19.8	19.8	19.8	0.0	20.5	19.7	20.0	20.2	0.0	20.5
		1	5	19.8	19.9	19.8	0.0	20.5	19.8	19.9	20.1	0.0	20.5
		3	0	19.8	19.9	19.6	0.0	20.5	19.6	20.0	20.0	0.0	20.5
		3	1	19.8	19.8	19.5	0.0	20.5	19.6	20.1	20.2	0.0	20.5
		3	3	19.9	19.9	19.7	0.0	20.5	19.7	20.1	20.1	0.0	20.5
		6	0	19.8	19.9	19.6	0.0	20.5	19.6	19.9	20.1	0.0	20.5
	256QAM	1	0	18.6	18.1	18.1	1.0	19.5	18.1	18.1	18.5	1.0	19.5
		1	3	18.6	18.1	18.0	1.0	19.5	18.2	18.2	18.4	1.0	19.5
		1	5	18.6	17.9	18.1	1.0	19.5	18.1	18.1	18.8	1.0	19.5
		3	0	18.5	18.1	18.2	1.0	19.5	18.2	18.0	18.4	1.0	19.5
		3	1	18.5	18.1	18.2	1.0	19.5	18.2	18.1	18.4	1.0	19.5
		3	3	18.5	18.1	18.2	1.0	19.5	18.2	18.1	18.4	1.0	19.5
		6	0	18.5	18.1	18.1	1.0	19.5	18.2	18.1	18.5	1.0	19.5

LTE Band 25 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off					Reduced Average Power (dBm) Proximity sensor back-off				
				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	19.5	19.1	19.2	0.0	20.5	19.5	19.2	19.3	0.0	20.5
		1	49	19.5	19.2	19.2	0.0	20.5	19.6	19.3	19.4	0.0	20.5
		1	99	19.4	19.2	19.1	0.0	20.5	19.5	19.3	18.7	0.0	20.5
		50	0	19.6	19.2	19.3	0.0	20.5	19.7	19.4	19.5	0.0	20.5
		50	24	19.6	19.3	19.3	0.0	20.5	19.7	19.4	19.5	0.0	20.5
		50	50	19.6	19.2	19.2	0.0	20.5	19.6	19.4	19.4	0.0	20.5
		100	0	19.6	19.2	19.2	0.0	20.5	19.6	19.4	19.5	0.0	20.5
	16QAM	1	0	19.9	19.5	19.5	0.0	20.5	19.8	19.6	19.8	0.0	20.5
		1	49	20.0	19.6	19.6	0.0	20.5	19.8	19.7	19.8	0.0	20.5
		1	99	19.8	19.5	19.4	0.0	20.5	19.7	19.7	19.0	0.0	20.5
		50	0	19.7	19.2	19.3	0.0	20.5	19.6	19.4	19.4	0.0	20.5
		50	24	19.6	19.3	19.3	0.0	20.5	19.6	19.4	19.4	0.0	20.5
		50	50	19.6	19.3	19.2	0.0	20.5	19.6	19.4	19.4	0.0	20.5
		100	0	19.6	19.2	19.3	0.0	20.5	19.6	19.4	19.4	0.0	20.5
	64QAM	1	0	19.7	19.3	19.4	0.0	20.5	19.8	19.3	19.4	0.0	20.5
		1	49	19.8	19.3	19.3	0.0	20.5	19.9	19.3	19.4	0.0	20.5
		1	99	19.7	19.3	19.4	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		50	0	19.6	19.3	19.3	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		50	24	19.6	19.3	19.4	0.0	20.5	19.7	19.2	19.4	0.0	20.5
		50	50	19.6	19.3	19.4	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		100	0	19.6	19.3	19.3	0.0	20.5	19.7	19.3	19.4	0.0	20.5
	256QAM	1	0	18.3	18.0	18.0	1.0	19.5	18.4	18.2	18.0	1.0	19.5
		1	49	18.3	18.0	17.9	1.0	19.5	18.4	18.3	18.0	1.0	19.5
		1	99	18.2	18.0	17.8	1.0	19.5	18.3	18.2	18.0	1.0	19.5
		50	0	18.2	17.8	17.8	1.0	19.5	18.2	17.8	17.9	1.0	19.5
		50	24	18.1	17.8	17.8	1.0	19.5	18.2	17.8	17.9	1.0	19.5
		50	50	18.1	17.8	17.8	1.0	19.5	18.2	17.8	17.8	1.0	19.5
		100	0	18.1	17.8	17.8	1.0	19.5	18.2	17.8	17.9	1.0	19.5
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	19.6	19.3	19.4	0.0	20.5	19.6	19.3	19.4	0.0	20.5
		1	37	19.6	19.3	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		1	74	19.5	19.3	19.0	0.0	20.5	19.5	19.3	19.0	0.0	20.5
		36	0	19.7	19.3	19.4	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		36	20	19.7	19.4	19.4	0.0	20.5	19.7	19.3	19.3	0.0	20.5
		36	39	19.7	19.4	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		75	0	19.7	19.3	19.4	0.0	20.5	19.7	19.3	19.3	0.0	20.5
	16QAM	1	0	19.9	19.6	19.6	0.0	20.5	19.9	19.5	19.6	0.0	20.5
		1	37	19.9	19.5	19.5	0.0	20.5	19.9	19.4	19.6	0.0	20.5
		1	74	19.8	19.6	19.2	0.0	20.5	19.9	19.5	19.2	0.0	20.5
		36	0	19.7	19.4	19.4	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		36	20	19.7	19.4	19.4	0.0	20.5	19.6	19.3	19.4	0.0	20.5
		36	39	19.6	19.4	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		75	0	19.7	19.3	19.3	0.0	20.5	19.6	19.3	19.4	0.0	20.5
	64QAM	1	0	19.9	19.4	19.6	0.0	20.5	19.8	19.3	19.6	0.0	20.5
		1	37	19.8	19.4	19.5	0.0	20.5	19.7	19.2	19.6	0.0	20.5
		1	74	19.8	19.4	19.5	0.0	20.5	19.7	19.2	19.6	0.0	20.5
		36	0	19.7	19.4	19.5	0.0	20.5	19.8	19.2	19.6	0.0	20.5
		36	20	19.7	19.4	19.5	0.0	20.5	19.8	19.2	19.6	0.0	20.5
		36	39	19.6	19.4	19.5	0.0	20.5	19.8	19.2	19.6	0.0	20.5
		75	0	19.7	19.4	19.5	0.0	20.5	19.7	19.2	19.6	0.0	20.5
	256QAM	1	0	18.3	18.0	18.1	1.0	19.5	18.5	18.0	17.9	1.0	19.5
		1	37	18.2	18.0	18.0	1.0	19.5	18.4	18.0	17.8	1.0	19.5
		1	74	18.3	18.0	18.0	1.0	19.5	18.4	18.0	17.8	1.0	19.5
		36	0	18.2	17.9	17.9	1.0	19.5	18.3	17.9	17.9	1.0	19.5
		36	20	18.2	17.9	17.9	1.0	19.5	18.3	17.9	17.8	1.0	19.5
		36	39	18.2	17.9	17.9	1.0	19.5	18.3	17.9	17.8	1.0	19.5
		75	0	18.2	17.9	17.9	1.0	19.5	18.3	17.9	17.8	1.0	19.5

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	19.6	19.3	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		1	25	19.5	19.3	19.3	0.0	20.5	19.5	19.3	19.2	0.0	20.5
		1	49	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		25	0	19.6	19.3	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		25	12	19.6	19.4	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		25	25	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		50	0	19.6	19.3	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
	16QAM	1	0	19.8	19.6	19.7	0.0	20.5	19.7	19.5	19.8	0.0	20.5
		1	25	19.7	19.6	19.7	0.0	20.5	19.7	19.5	19.7	0.0	20.5
		1	49	19.7	19.6	19.6	0.0	20.5	19.6	19.5	19.7	0.0	20.5
		25	0	19.6	19.4	19.4	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		25	12	19.6	19.4	19.4	0.0	20.5	19.6	19.3	19.4	0.0	20.5
		25	25	19.6	19.4	19.4	0.0	20.5	19.6	19.3	19.4	0.0	20.5
		50	0	19.6	19.4	19.4	0.0	20.5	19.6	19.3	19.3	0.0	20.5
	64QAM	1	0	19.7	19.5	19.3	0.0	20.5	19.8	19.5	19.5	0.0	20.5
		1	25	19.7	19.5	19.3	0.0	20.5	19.8	19.5	19.5	0.0	20.5
		1	49	19.7	19.5	19.3	0.0	20.5	19.8	19.4	19.5	0.0	20.5
		25	0	19.7	19.5	19.4	0.0	20.5	19.7	19.5	19.5	0.0	20.5
		25	12	19.7	19.5	19.4	0.0	20.5	19.7	19.5	19.5	0.0	20.5
		25	25	19.7	19.5	19.3	0.0	20.5	19.7	19.4	19.5	0.0	20.5
		50	0	19.7	19.5	19.4	0.0	20.5	19.7	19.5	19.5	0.0	20.5
	256QAM	1	0	18.1	18.2	18.0	1.0	19.5	18.4	18.0	17.8	1.0	19.5
		1	25	18.1	18.1	17.9	1.0	19.5	18.3	18.0	17.8	1.0	19.5
		1	49	18.1	18.2	17.9	1.0	19.5	18.3	18.0	17.8	1.0	19.5
		25	0	18.3	17.9	17.9	1.0	19.5	18.3	17.9	18.0	1.0	19.5
		25	12	18.3	17.9	17.9	1.0	19.5	18.2	17.9	18.0	1.0	19.5
		25	25	18.2	17.9	17.9	1.0	19.5	18.2	17.9	17.9	1.0	19.5
		50	0	18.2	17.9	17.9	1.0	19.5	18.2	17.9	17.9	1.0	19.5

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	19.6	19.3	19.3	0.0	20.5	19.6	19.2	19.2	0.0	20.5
		1	12	19.6	19.2	19.2	0.0	20.5	19.6	19.2	19.2	0.0	20.5
		1	24	19.6	19.3	19.3	0.0	20.5	19.6	19.2	19.3	0.0	20.5
		12	0	19.7	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		12	7	19.7	19.3	19.3	0.0	20.5	19.6	19.3	19.2	0.0	20.5
		12	13	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		25	0	19.7	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
	16QAM	1	0	20.0	19.7	19.6	0.0	20.5	20.1	19.6	19.6	0.0	20.5
		1	12	19.7	19.6	19.5	0.0	20.5	19.8	19.5	19.4	0.0	20.5
		1	24	20.0	19.8	19.6	0.0	20.5	20.0	19.6	19.6	0.0	20.5
		12	0	19.7	19.3	19.4	0.0	20.5	19.7	19.3	19.3	0.0	20.5
		12	7	19.7	19.3	19.3	0.0	20.5	19.7	19.3	19.3	0.0	20.5
		12	13	19.7	19.3	19.4	0.0	20.5	19.7	19.3	19.3	0.0	20.5
		25	0	19.7	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
	64QAM	1	0	19.8	19.5	19.6	0.0	20.5	19.9	19.5	19.4	0.0	20.5
		1	12	19.8	19.4	19.6	0.0	20.5	19.9	19.5	19.4	0.0	20.5
		1	24	19.9	19.4	19.6	0.0	20.5	19.9	19.5	19.4	0.0	20.5
		12	0	19.7	19.4	19.6	0.0	20.5	19.7	19.5	19.4	0.0	20.5
		12	7	19.7	19.4	19.6	0.0	20.5	19.7	19.5	19.4	0.0	20.5
		12	13	19.7	19.4	19.6	0.0	20.5	19.7	19.5	19.4	0.0	20.5
		25	0	19.7	19.4	19.6	0.0	20.5	19.7	19.5	19.4	0.0	20.5
	256QAM	1	0	18.2	17.8	18.0	1.0	19.5	18.6	17.8	17.7	1.0	19.5
		1	12	18.0	17.7	18.0	1.0	19.5	18.5	17.6	17.5	1.0	19.5
		1	24	18.2	17.8	18.1	1.0	19.5	18.6	17.8	17.7	1.0	19.5
		12	0	18.3	17.9	17.9	1.0	19.5	18.3	17.9	17.8	1.0	19.5
		12	7	18.3	17.9	17.9	1.0	19.5	18.3	17.9	17.8	1.0	19.5
		12	13	18.3	17.8	17.8	1.0	19.5	18.3	17.9	17.8	1.0	19.5
		25	0	18.2	17.9	17.8	1.0	19.5	18.2	17.9	17.8	1.0	19.5

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	19.7	19.3	19.3	0.0	20.5	19.7	19.2	19.3	0.0	20.5
		1	8	19.6	19.2	19.2	0.0	20.5	19.6	19.2	19.3	0.0	20.5
		1	14	19.7	19.3	19.3	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		8	0	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.2	0.0	20.5
		8	4	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		8	7	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.2	0.0	20.5
		15	0	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.2	0.0	20.5
	16QAM	1	0	19.8	19.6	19.6	0.0	20.5	19.7	19.6	19.5	0.0	20.5
		1	8	19.6	19.4	19.6	0.0	20.5	19.5	19.4	19.5	0.0	20.5
		1	14	19.8	19.7	19.6	0.0	20.5	19.6	19.7	19.6	0.0	20.5
		8	0	19.6	19.4	19.3	0.0	20.5	19.6	19.4	19.4	0.0	20.5
		8	4	19.7	19.4	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
		8	7	19.7	19.4	19.3	0.0	20.5	19.6	19.4	19.3	0.0	20.5
		15	0	19.6	19.3	19.3	0.0	20.5	19.6	19.3	19.3	0.0	20.5
	64QAM	1	0	19.7	19.4	19.5	0.0	20.5	20.1	19.4	19.2	0.0	20.5
		1	8	19.6	19.5	19.4	0.0	20.5	19.7	19.6	19.4	0.0	20.5
		1	14	19.7	19.4	19.5	0.0	20.5	19.7	19.3	19.4	0.0	20.5
		8	0	19.6	19.5	19.5	0.0	20.5	19.6	19.3	19.4	0.0	20.5
		8	4	19.6	19.5	19.5	0.0	20.5	19.6	19.3	19.2	0.0	20.5
		8	7	19.7	19.4	19.4	0.0	20.5	19.6	19.6	19.2	0.0	20.5
		15	0	19.7	19.5	19.4	0.0	20.5	19.7	19.4	19.4	0.0	20.5
	256QAM	1	0	18.4	18.0	18.1	1.0	19.5	18.3	18.3	18.0	1.0	19.5
		1	8	18.0	18.0	17.9	1.0	19.5	18.2	18.0	17.9	1.0	19.5
		1	14	18.3	18.3	18.1	1.0	19.5	18.4	18.2	17.8	1.0	19.5
		8	0	18.3	18.0	17.9	1.0	19.5	18.3	18.0	17.9	1.0	19.5
		8	4	18.3	18.0	17.9	1.0	19.5	18.3	18.0	17.8	1.0	19.5
		8	7	18.2	18.0	17.9	1.0	19.5	18.3	18.0	17.9	1.0	19.5
		15	0	18.2	17.9	17.9	1.0	19.5	18.3	17.9	17.9	1.0	19.5
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	19.5	19.2	19.2	0.0	20.5	19.5	19.3	19.2	0.0	20.5
		1	3	19.4	19.2	19.2	0.0	20.5	19.4	19.0	19.1	0.0	20.5
		1	5	19.6	19.2	19.2	0.0	20.5	19.6	19.2	19.2	0.0	20.5
		3	0	19.5	19.2	19.2	0.0	20.5	19.5	19.2	19.1	0.0	20.5
		3	1	19.5	19.2	19.2	0.0	20.5	19.5	19.2	19.1	0.0	20.5
		3	3	19.5	19.2	19.2	0.0	20.5	19.5	19.2	19.1	0.0	20.5
		6	0	19.5	19.3	19.2	0.0	20.5	19.6	19.2	19.1	0.0	20.5
	16QAM	1	0	19.6	19.4	19.5	0.0	20.5	19.9	19.3	19.2	0.0	20.5
		1	3	19.6	19.3	19.7	0.0	20.5	19.9	19.2	19.1	0.0	20.5
		1	5	19.6	19.4	19.5	0.0	20.5	19.9	19.4	19.2	0.0	20.5
		3	0	19.7	19.3	19.3	0.0	20.5	19.7	19.3	19.2	0.0	20.5
		3	1	19.6	19.3	19.3	0.0	20.5	19.6	19.2	19.2	0.0	20.5
		3	3	19.6	19.3	19.4	0.0	20.5	19.7	19.2	19.2	0.0	20.5
		6	0	19.7	19.4	19.2	0.0	20.5	19.6	19.3	19.3	0.0	20.5
	64QAM	1	0	19.7	19.5	19.1	0.0	20.5	19.8	19.4	19.1	0.0	20.5
		1	3	19.9	19.5	19.3	0.0	20.5	19.9	19.4	19.2	0.0	20.5
		1	5	19.7	19.4	19.1	0.0	20.5	19.8	19.6	19.3	0.0	20.5
		3	0	19.5	19.5	19.1	0.0	20.5	19.6	19.6	19.2	0.0	20.5
		3	1	19.6	19.5	19.1	0.0	20.5	19.6	19.6	19.2	0.0	20.5
		3	3	19.6	19.5	19.1	0.0	20.5	19.6	19.6	19.1	0.0	20.5
		6	0	19.6	19.5	19.1	0.0	20.5	19.7	19.4	19.2	0.0	20.5
	256QAM	1	0	18.2	17.7	18.1	1.0	19.5	18.1	17.6	18.0	1.0	19.5
		1	3	18.2	17.6	17.9	1.0	19.5	18.2	17.6	17.8	1.0	19.5
		1	5	18.3	17.7	18.0	1.0	19.5	18.2	17.6	18.0	1.0	19.5
		3	0	18.2	17.8	17.6	1.0	19.5	18.2	17.7	17.6	1.0	19.5
		3	1	18.2	17.8	17.6	1.0	19.5	18.2	17.7	17.6	1.0	19.5
		3	3	18.2	17.8	17.6	1.0	19.5	18.2	17.7	17.6	1.0	19.5
		6	0	18.1	17.8	17.8	1.0	19.5	18.2	17.8	17.7	1.0	19.5

LTE Band 66 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off					Reduced Average Power (dBm) Proximity sensor back-off				
				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	19.3	19.7	19.7	0.0	20.7	19.3	19.7	19.7	0.0	20.7
		1	49	19.3	19.7	19.8	0.0	20.7	19.3	19.7	19.9	0.0	20.7
		1	99	19.3	19.7	19.7	0.0	20.7	19.3	19.7	19.7	0.0	20.7
		50	0	19.5	19.7	19.8	0.0	20.7	19.5	19.8	19.8	0.0	20.7
		50	24	19.5	19.7	19.8	0.0	20.7	19.5	19.8	19.9	0.0	20.7
		50	50	19.4	19.7	19.8	0.0	20.7	19.5	19.8	19.8	0.0	20.7
		100	0	19.4	19.7	19.8	0.0	20.7	19.5	19.8	19.8	0.0	20.7
	16QAM	1	0	19.7	19.9	19.9	0.0	20.7	19.6	20.0	19.9	0.0	20.7
		1	49	19.8	19.9	20.0	0.0	20.7	19.7	19.9	19.9	0.0	20.7
		1	99	19.6	20.0	19.9	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		50	0	19.5	19.7	19.8	0.0	20.7	19.5	19.7	19.8	0.0	20.7
		50	24	19.5	19.7	19.8	0.0	20.7	19.5	19.8	19.9	0.0	20.7
		50	50	19.4	19.7	19.8	0.0	20.7	19.5	19.8	19.8	0.0	20.7
		100	0	19.5	19.7	19.8	0.0	20.7	19.5	19.8	19.8	0.0	20.7
	64QAM	1	0	19.6	19.7	19.8	0.0	20.7	19.7	19.9	19.8	0.0	20.7
		1	49	19.7	19.7	19.8	0.0	20.7	19.8	19.8	19.8	0.0	20.7
		1	99	19.7	19.6	19.8	0.0	20.7	19.7	19.8	19.8	0.0	20.7
		50	0	19.5	19.7	19.8	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		50	24	19.5	19.6	19.8	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		50	50	19.5	19.7	19.7	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		100	0	19.5	19.7	19.8	0.0	20.7	19.5	19.8	19.8	0.0	20.7
	256QAM	1	0	18.2	18.3	18.4	1.0	19.7	18.4	18.4	18.5	1.0	19.7
		1	49	18.4	18.2	18.4	1.0	19.7	18.4	18.3	18.5	1.0	19.7
		1	99	18.2	18.4	18.5	1.0	19.7	18.3	18.5	18.6	1.0	19.7
		50	0	18.0	18.3	18.4	1.0	19.7	18.1	18.3	18.4	1.0	19.7
		50	24	18.0	18.3	18.4	1.0	19.7	18.1	18.3	18.4	1.0	19.7
		50	50	18.0	18.3	18.4	1.0	19.7	18.0	18.3	18.4	1.0	19.7
		100	0	18.0	18.3	18.4	1.0	19.7	18.0	18.3	18.4	1.0	19.7

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	19.5	19.8	19.7	0.0	20.7	19.6	19.8	19.7	0.0	20.7
		1	37	19.5	19.7	19.7	0.0	20.7	19.6	19.8	19.9	0.0	20.7
		1	74	19.4	19.8	19.7	0.0	20.7	19.5	19.8	19.9	0.0	20.7
		36	0	19.6	19.8	19.8	0.0	20.7	19.6	19.9	20.0	0.0	20.7
		36	20	19.6	19.9	19.9	0.0	20.7	19.6	19.9	20.0	0.0	20.7
		36	39	19.5	19.9	19.8	0.0	20.7	19.6	19.9	20.0	0.0	20.7
		75	0	19.6	19.9	19.7	0.0	20.7	19.6	19.9	20.0	0.0	20.7
	16QAM	1	0	19.9	20.1	20.0	0.0	20.7	19.9	20.1	20.0	0.0	20.7
		1	37	19.9	20.1	19.9	0.0	20.7	20.0	20.0	20.0	0.0	20.7
		1	74	19.8	20.1	19.9	0.0	20.7	19.9	20.1	19.9	0.0	20.7
		36	0	19.6	19.8	19.9	0.0	20.7	19.6	19.9	20.0	0.0	20.7
		36	20	19.6	19.8	19.8	0.0	20.7	19.6	19.9	20.0	0.0	20.7
		36	39	19.6	19.9	19.7	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		75	0	19.6	19.9	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
	64QAM	1	0	19.9	20.1	20.0	0.0	20.7	19.8	19.9	19.9	0.0	20.7
		1	37	19.8	20.1	20.1	0.0	20.7	19.7	19.9	20.0	0.0	20.7
		1	74	19.8	20.0	19.9	0.0	20.7	19.7	19.9	19.9	0.0	20.7
		36	0	19.6	20.0	19.9	0.0	20.7	19.6	19.9	20.0	0.0	20.7
		36	20	19.6	20.0	20.0	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		36	39	19.5	20.0	20.0	0.0	20.7	19.5	19.9	20.0	0.0	20.7
		75	0	19.6	20.0	20.1	0.0	20.7	19.6	19.9	20.0	0.0	20.7
	256QAM	1	0	18.1	18.5	18.5	1.0	19.7	18.1	18.5	18.6	1.0	19.7
		1	37	17.9	18.5	18.5	1.0	19.7	18.0	18.6	18.6	1.0	19.7
		1	74	18.0	18.5	18.4	1.0	19.7	18.1	18.6	18.5	1.0	19.7
		36	0	18.1	18.5	18.5	1.0	19.7	18.1	18.5	18.4	1.0	19.7
		36	20	18.1	18.5	18.5	1.0	19.7	18.1	18.5	18.5	1.0	19.7
		36	39	18.1	18.5	18.5	1.0	19.7	18.1	18.5	18.5	1.0	19.7
		75	0	18.1	18.4	18.4	1.0	19.7	18.1	18.5	18.4	1.0	19.7

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	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		1	25	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.8	0.0	20.7
		1	49	19.5	19.8	19.7	0.0	20.7	19.6	19.9	19.8	0.0	20.7
		25	0	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.7	0.0	20.7
		25	12	19.5	19.8	19.7	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		25	25	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		50	0	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
	16QAM	1	0	19.8	20.0	20.0	0.0	20.7	20.1	20.2	20.1	0.0	20.7
		1	25	19.7	20.1	19.9	0.0	20.7	20.1	20.2	20.1	0.0	20.7
		1	49	19.7	20.0	19.9	0.0	20.7	20.0	20.2	20.0	0.0	20.7
		25	0	19.5	19.9	19.9	0.0	20.7	19.6	19.9	19.8	0.0	20.7
		25	12	19.5	19.9	19.8	0.0	20.7	19.6	20.0	19.7	0.0	20.7
		25	25	19.6	19.9	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		50	0	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
	64QAM	1	0	19.8	20.1	20.0	0.0	20.7	19.5	19.9	19.9	0.0	20.7
		1	25	19.7	20.0	20.0	0.0	20.7	19.5	20.0	19.8	0.0	20.7
		1	49	19.8	20.0	20.0	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		25	0	19.6	20.0	20.0	0.0	20.7	19.6	20.0	19.8	0.0	20.7
		25	12	19.6	20.0	19.9	0.0	20.7	19.6	20.0	19.9	0.0	20.7
		25	25	19.6	20.0	20.0	0.0	20.7	19.6	20.0	19.8	0.0	20.7
		50	0	19.6	20.0	19.9	0.0	20.7	19.6	20.0	19.7	0.0	20.7
	256QAM	1	0	18.2	18.5	18.4	1.0	19.7	18.1	18.7	18.6	1.0	19.7
		1	25	18.2	18.4	18.3	1.0	19.7	18.2	18.5	18.4	1.0	19.7
		1	49	18.2	18.6	18.3	1.0	19.7	18.1	18.7	18.5	1.0	19.7
		25	0	18.2	18.4	18.5	1.0	19.7	18.2	18.5	18.5	1.0	19.7
		25	12	18.2	18.4	18.4	1.0	19.7	18.2	18.5	18.4	1.0	19.7
		25	25	18.2	18.5	18.4	1.0	19.7	18.2	18.5	18.5	1.0	19.7
		50	0	18.1	18.4	18.4	1.0	19.7	18.2	18.5	18.5	1.0	19.7
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	19.5	19.8	19.7	0.0	20.7	19.5	19.8	19.8	0.0	20.7
		1	12	19.4	19.7	19.6	0.0	20.7	19.5	19.7	19.8	0.0	20.7
		1	24	19.5	19.8	19.7	0.0	20.7	19.6	19.8	19.8	0.0	20.7
		12	0	19.5	19.8	19.8	0.0	20.7	19.6	19.8	19.8	0.0	20.7
		12	7	19.5	19.8	19.8	0.0	20.7	19.6	19.9	19.8	0.0	20.7
		12	13	19.5	19.8	19.7	0.0	20.7	19.6	19.9	19.8	0.0	20.7
		25	0	19.5	19.8	19.8	0.0	20.7	19.5	19.9	19.8	0.0	20.7
	16QAM	1	0	19.9	20.1	20.1	0.0	20.7	19.8	20.2	20.2	0.0	20.7
		1	12	19.6	20.0	19.9	0.0	20.7	19.7	20.1	20.0	0.0	20.7
		1	24	19.9	20.1	20.1	0.0	20.7	19.8	20.2	20.2	0.0	20.7
		12	0	19.6	19.9	19.8	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		12	7	19.6	19.9	19.7	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		12	13	19.6	19.9	19.7	0.0	20.7	19.6	19.9	19.9	0.0	20.7
		25	0	19.6	19.9	19.8	0.0	20.7	19.6	19.9	19.8	0.0	20.7
	64QAM	1	0	19.9	20.0	19.8	0.0	20.7	19.8	20.0	20.0	0.0	20.7
		1	12	19.8	20.0	19.7	0.0	20.7	19.7	20.0	20.0	0.0	20.7
		1	24	19.9	20.0	19.7	0.0	20.7	19.9	20.0	20.0	0.0	20.7
		12	0	19.6	20.0	19.7	0.0	20.7	19.7	20.0	20.0	0.0	20.7
		12	7	19.6	20.0	19.7	0.0	20.7	19.6	20.0	20.0	0.0	20.7
		12	13	19.6	20.0	19.7	0.0	20.7	19.7	20.0	20.0	0.0	20.7
		25	0	19.6	20.0	19.7	0.0	20.7	19.7	20.0	20.0	0.0	20.7
	256QAM	1	0	18.4	18.3	18.2	1.0	19.7	18.1	18.4	18.7	1.0	19.7
		1	12	18.4	18.1	18.2	1.0	19.7	17.9	18.3	18.7	1.0	19.7
		1	24	18.5	18.4	18.2	1.0	19.7	18.1	18.4	18.7	1.0	19.7
		12	0	18.2	18.4	18.4	1.0	19.7	18.3	18.5	18.5	1.0	19.7
		12	7	18.2	18.4	18.3	1.0	19.7	18.3	18.4	18.4	1.0	19.7
		12	13	18.1	18.4	18.3	1.0	19.7	18.3	18.5	18.4	1.0	19.7
		25	0	18.1	18.4	18.3	1.0	19.7	18.3	18.4	18.4	1.0	19.7

LTE Band 66 Measured Results (Continued)

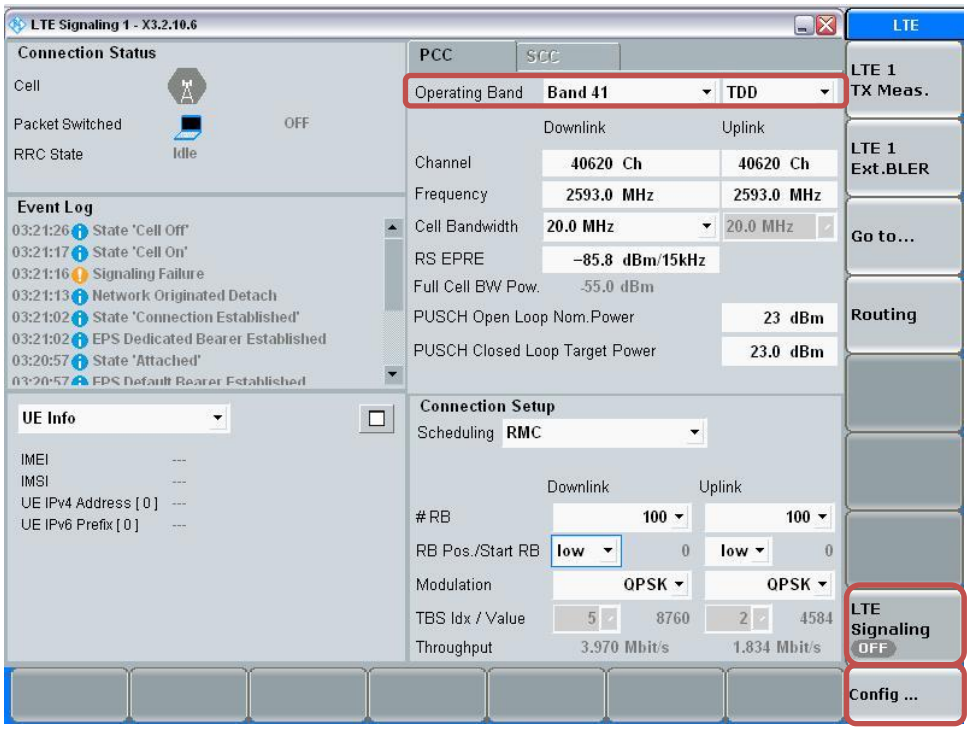
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	Measured Pwr (dBm)			MPR	Tune-up Limit
				131987	132322	132657			131987	132322	132657		
				1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz		
3 MHz	QPSK	1	0	19.6	19.8	19.8	0.0	20.7	19.5	19.9	19.9	0.0	20.7
		1	8	19.5	19.6	19.7	0.0	20.7	19.5	19.7	19.8	0.0	20.7
		1	14	19.6	19.8	19.8	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		8	0	19.5	19.8	19.7	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		8	4	19.5	19.8	19.7	0.0	20.7	19.6	19.9	19.8	0.0	20.7
		8	7	19.5	19.8	19.6	0.0	20.7	19.5	19.9	19.7	0.0	20.7
		15	0	19.5	19.8	19.7	0.0	20.7	19.6	19.9	19.8	0.0	20.7
	16QAM	1	0	19.8	20.1	19.8	0.0	20.7	19.8	20.0	20.2	0.0	20.7
		1	8	19.7	19.7	19.7	0.0	20.7	19.8	19.9	20.0	0.0	20.7
		1	14	19.6	20.1	19.7	0.0	20.7	20.0	20.0	20.0	0.0	20.7
		8	0	19.6	20.0	19.8	0.0	20.7	19.7	20.0	19.8	0.0	20.7
		8	4	19.5	19.9	19.7	0.0	20.7	19.6	20.0	19.8	0.0	20.7
		8	7	19.6	19.9	19.8	0.0	20.7	19.6	20.0	19.8	0.0	20.7
		15	0	19.5	19.8	19.7	0.0	20.7	19.5	19.9	19.8	0.0	20.7
	64QAM	1	0	19.6	20.0	20.1	0.0	20.7	19.7	19.9	19.9	0.0	20.7
		1	8	19.6	20.0	20.1	0.0	20.7	19.5	19.9	19.9	0.0	20.7
		1	14	19.5	20.0	20.1	0.0	20.7	19.7	19.9	19.9	0.0	20.7
		8	0	19.5	20.0	19.9	0.0	20.7	19.5	19.9	19.9	0.0	20.7
		8	4	19.4	19.9	19.8	0.0	20.7	19.5	19.9	19.9	0.0	20.7
		8	7	19.5	20.3	20.1	0.0	20.7	19.6	20.1	19.9	0.0	20.7
		15	0	19.5	20.0	20.1	0.0	20.7	19.6	19.9	20.0	0.0	20.7
	256QAM	1	0	18.2	18.6	18.5	1.0	19.7	18.0	18.7	18.6	1.0	19.7
		1	8	18.1	18.3	18.5	1.0	19.7	18.0	18.7	18.6	1.0	19.7
		1	14	18.2	18.5	18.5	1.0	19.7	18.0	18.8	18.7	1.0	19.7
		8	0	18.2	18.5	18.4	1.0	19.7	18.2	18.5	18.4	1.0	19.7
		8	4	18.1	18.5	18.3	1.0	19.7	18.1	18.4	18.3	1.0	19.7
		8	7	18.1	18.5	18.4	1.0	19.7	18.1	18.4	18.4	1.0	19.7
		15	0	18.1	18.4	18.4	1.0	19.7	18.2	18.4	18.5	1.0	19.7
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	19.5	19.8	19.7	0.0	20.7	19.5	19.8	19.7	0.0	20.7
		1	3	19.5	19.7	19.6	0.0	20.7	19.4	19.7	19.6	0.0	20.7
		1	5	19.5	19.8	19.7	0.0	20.7	19.5	19.8	19.7	0.0	20.7
		3	0	19.4	19.8	19.7	0.0	20.7	19.5	19.8	19.7	0.0	20.7
		3	1	19.4	19.8	19.6	0.0	20.7	19.5	19.8	19.7	0.0	20.7
		3	3	19.5	19.7	19.6	0.0	20.7	19.5	19.8	19.6	0.0	20.7
		6	0	19.5	19.8	19.7	0.0	20.7	19.5	19.8	19.7	0.0	20.7
	16QAM	1	0	19.9	19.9	19.7	0.0	20.7	19.7	20.1	19.7	0.0	20.7
		1	3	19.7	20.1	19.8	0.0	20.7	19.8	20.0	19.7	0.0	20.7
		1	5	19.8	20.0	19.7	0.0	20.7	19.9	20.1	19.9	0.0	20.7
		3	0	19.6	19.9	19.8	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		3	1	19.5	19.9	19.8	0.0	20.7	19.5	19.9	19.7	0.0	20.7
		3	3	19.6	19.9	19.8	0.0	20.7	19.6	19.9	19.7	0.0	20.7
		6	0	19.4	20.0	19.8	0.0	20.7	19.5	20.0	19.8	0.0	20.7
	64QAM	1	0	19.6	19.8	19.5	0.0	20.7	19.5	20.0	19.6	0.0	20.7
		1	3	19.6	20.0	19.6	0.0	20.7	19.8	20.0	19.6	0.0	20.7
		1	5	19.8	19.8	19.5	0.0	20.7	19.5	20.0	19.7	0.0	20.7
		3	0	19.4	19.8	19.6	0.0	20.7	19.5	19.9	19.8	0.0	20.7
		3	1	19.4	19.8	19.7	0.0	20.7	19.5	20.0	19.7	0.0	20.7
		3	3	19.4	19.8	19.5	0.0	20.7	19.5	20.0	19.7	0.0	20.7
		6	0	19.5	19.9	19.6	0.0	20.7	19.6	20.0	19.8	0.0	20.7
	256QAM	1	0	18.2	18.1	18.3	1.0	19.7	18.1	18.2	18.4	1.0	19.7
		1	3	18.2	18.2	18.1	1.0	19.7	18.2	18.3	18.1	1.0	19.7
		1	5	18.1	18.2	18.4	1.0	19.7	18.1	18.4	18.4	1.0	19.7
		3	0	18.0	18.2	18.1	1.0	19.7	18.1	18.3	18.3	1.0	19.7
		3	1	17.9	18.2	18.1	1.0	19.7	18.0	18.3	18.3	1.0	19.7
		3	3	18.0	18.1	18.1	1.0	19.7	18.1	18.3	18.3	1.0	19.7
		6	0	18.1	18.3	18.3	1.0	19.7	18.1	18.4	18.3	1.0	19.7

LTE Band TDD Measured Results

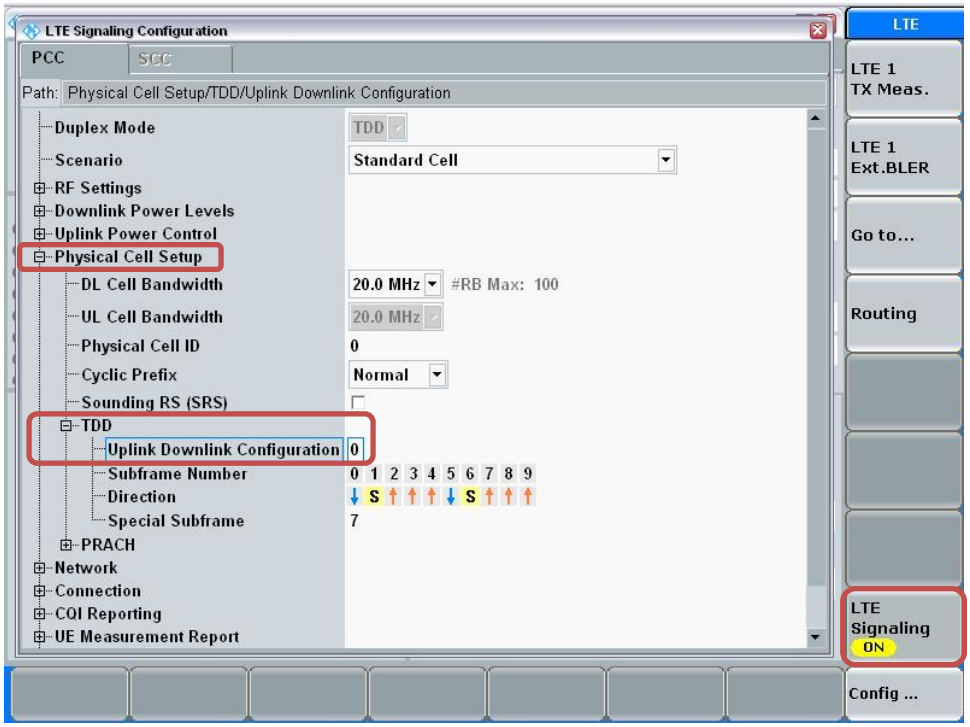
Procedure used to establish SAR test signal for LTE TDD Band

Set to CMW-500 with following parameters:

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

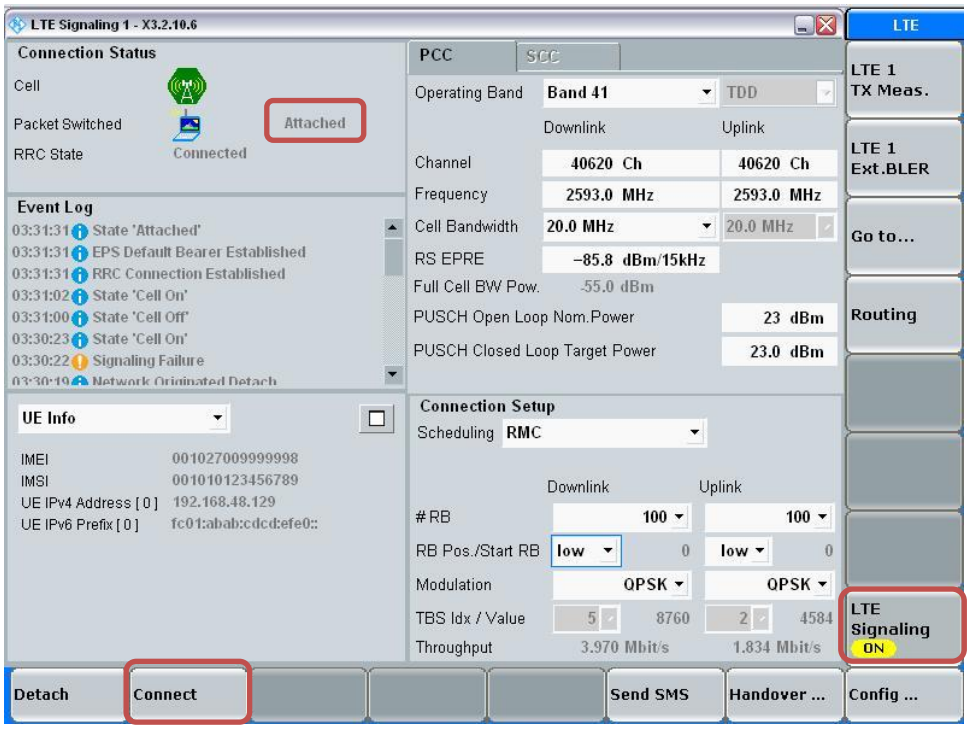


- Go to “Physical Cell Setup”
- Select “TDD” and Set “Uplink Downlink Configuration” to “0”
- Turn the cell on using “ON | OFF” key



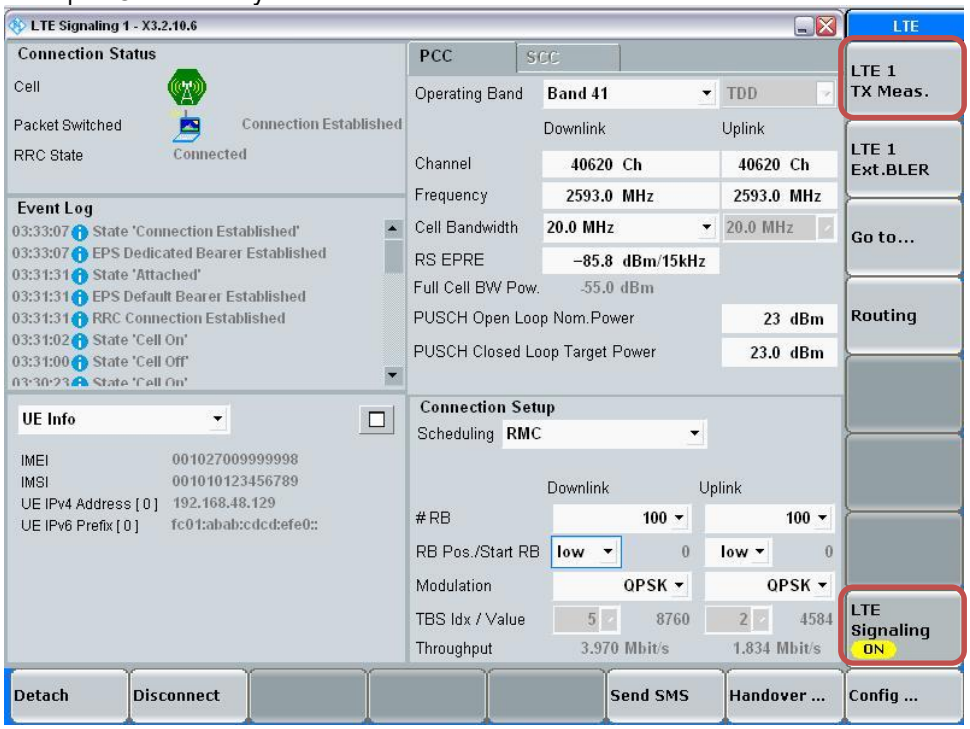
Connect to EUT

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

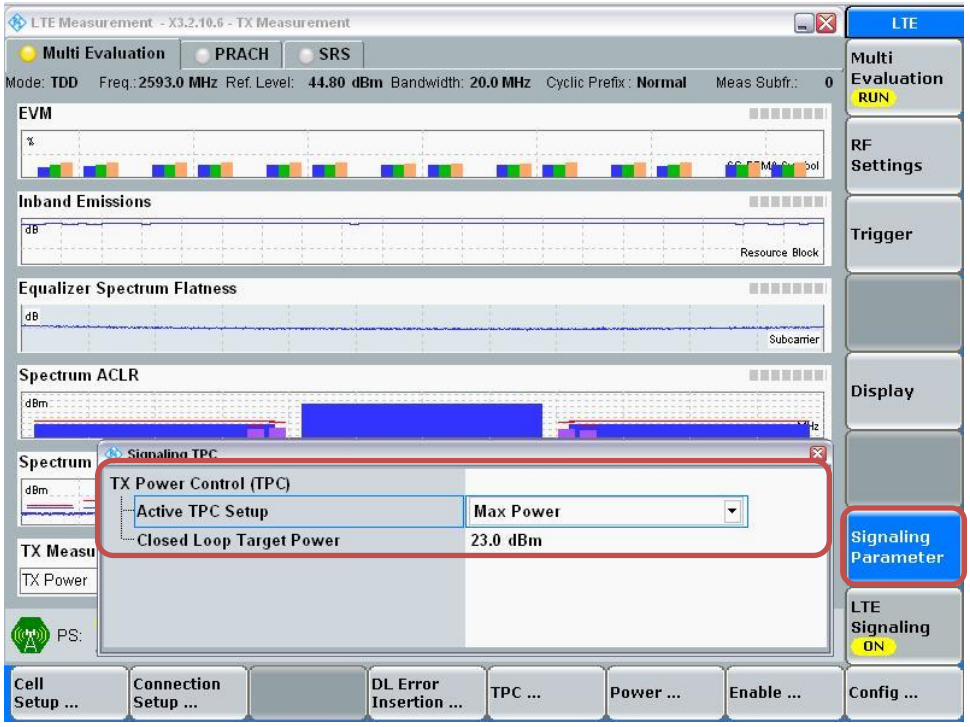


Max Power Setting

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

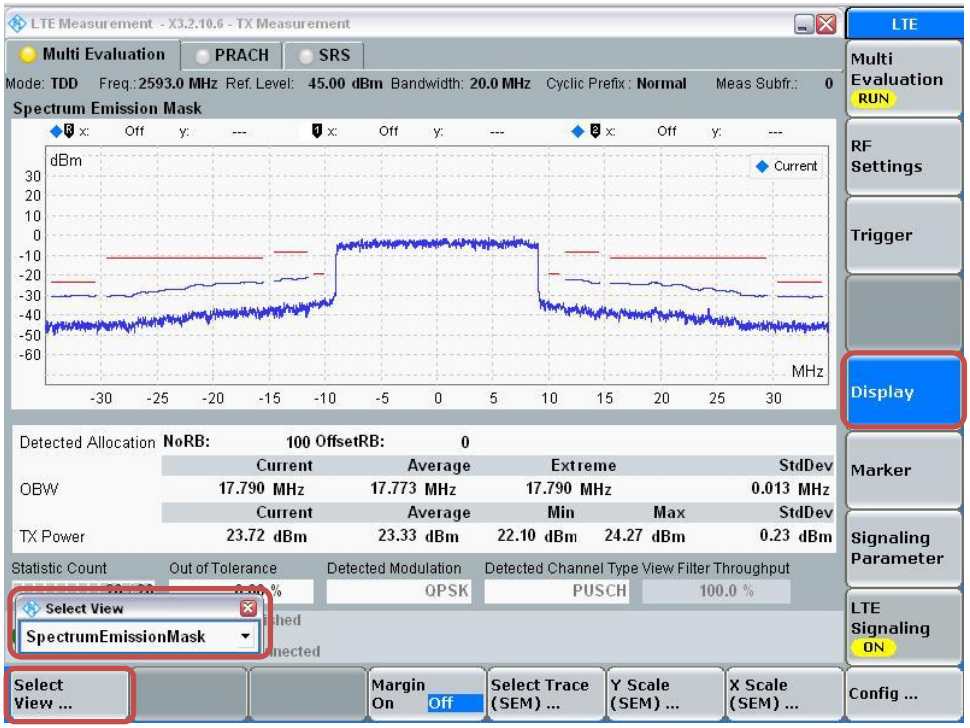


- Select “Signaling Parameter”
- Select “TX Power Control (TPC)” > Select “Active TPC Setup” to “Max Power” > Set “Closed Loop Target Power” to “23 dBm”



View TX Power

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



1. Max power Results

LTE Band 41 Power Class 3 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)						
				Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	22.6	22.3	22.7	22.9	22.7	0.0	24.0
		1	49	22.7	22.5	22.7	22.8	22.8	0.0	24.0
		1	99	22.5	22.3	22.6	22.8	22.8	0.0	24.0
		50	0	21.7	21.5	21.8	22.1	21.8	1.0	23.0
		50	24	21.7	21.5	21.8	22.0	21.9	1.0	23.0
		50	50	21.6	21.4	21.8	21.8	21.8	1.0	23.0
		100	0	21.6	21.5	21.8	21.8	21.8	1.0	23.0
	16QAM	1	0	21.9	21.5	21.8	22.2	21.6	1.0	23.0
		1	49	21.9	21.3	21.8	21.8	21.8	1.0	23.0
		1	99	21.9	21.6	21.9	21.7	21.9	1.0	23.0
		50	0	20.7	20.5	20.9	20.9	20.9	2.0	22.0
		50	24	20.7	20.5	20.9	20.9	20.9	2.0	22.0
		50	50	20.7	20.4	20.8	20.8	20.9	2.0	22.0
		100	0	20.7	20.4	20.8	20.9	20.9	2.0	22.0
	64QAM	1	0	20.4	20.4	20.6	21.1	20.6	2.0	22.0
		1	49	20.4	20.6	20.9	20.8	21.1	2.0	22.0
		1	99	20.8	20.3	20.8	20.6	20.7	2.0	22.0
		50	0	19.8	19.6	19.9	20.0	20.0	3.0	21.0
		50	24	19.8	19.5	20.0	20.0	20.0	3.0	21.0
		50	50	19.8	19.5	19.9	20.0	20.0	3.0	21.0
		100	0	19.8	19.5	19.9	20.0	20.0	3.0	21.0
	256QAM	1	0	17.9	17.3	18.0	17.9	17.8	5.0	19.0
		1	49	17.9	17.3	18.3	18.2	18.0	5.0	19.0
		1	99	17.7	17.5	17.8	18.2	18.0	5.0	19.0
		50	0	17.8	17.5	17.9	18.0	17.9	5.0	19.0
		50	24	17.8	17.5	18.0	18.0	18.0	5.0	19.0
		50	50	17.8	17.5	17.9	17.9	18.0	5.0	19.0
		100	0	17.8	17.5	17.9	17.9	18.0	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
15 MHz	QPSK	1	0	22.5	22.4	22.7	22.7	22.9	0.0	24.0
		1	37	22.4	22.4	22.9	22.8	22.9	0.0	24.0
		1	74	22.3	22.3	22.7	22.8	22.8	0.0	24.0
		36	0	21.5	21.4	21.7	21.8	21.9	1.0	23.0
		36	20	21.5	21.4	21.8	21.8	21.9	1.0	23.0
		36	39	21.5	21.4	21.7	21.8	21.8	1.0	23.0
		75	0	21.5	21.5	21.8	21.9	21.9	1.0	23.0
	16QAM	1	0	21.3	21.7	21.7	22.0	21.7	1.0	23.0
		1	37	21.5	21.3	21.8	22.0	21.5	1.0	23.0
		1	74	21.2	21.6	21.7	21.9	21.7	1.0	23.0
		36	0	20.6	20.4	20.8	20.8	20.9	2.0	22.0
		36	20	20.6	20.5	20.8	20.8	20.9	2.0	22.0
		36	39	20.6	20.4	20.8	20.8	20.9	2.0	22.0
		75	0	20.6	20.4	20.8	20.9	20.9	2.0	22.0
	64QAM	1	0	20.6	20.6	21.1	21.0	20.8	2.0	22.0
		1	37	20.9	20.6	20.7	20.9	20.7	2.0	22.0
		1	74	20.6	20.5	21.0	20.9	21.0	2.0	22.0
		36	0	19.7	19.5	19.9	19.9	20.0	3.0	21.0
		36	20	19.7	19.5	19.9	19.9	20.0	3.0	21.0
		36	39	19.7	19.5	19.8	19.9	19.9	3.0	21.0
		75	0	19.7	19.5	19.9	19.9	19.9	3.0	21.0
	256QAM	1	0	17.7	17.8	18.0	17.9	18.2	5.0	19.0
		1	37	17.8	17.8	18.2	18.0	17.8	5.0	19.0
		1	74	17.7	17.7	18.2	17.6	17.7	5.0	19.0
		36	0	17.7	17.5	17.8	17.9	17.9	5.0	19.0
		36	20	17.7	17.5	17.8	17.9	17.9	5.0	19.0
		36	39	17.7	17.5	17.8	17.9	17.9	5.0	19.0
		75	0	17.7	17.5	17.9	17.9	17.9	5.0	19.0

LTE Band 41 Power Class 3 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	22.7	22.5	22.7	22.8	22.8	0.0	24.0
		1	25	22.6	22.4	22.6	22.7	22.7	0.0	24.0
		1	49	22.6	22.4	22.7	22.7	22.8	0.0	24.0
		25	0	21.8	21.5	21.8	21.9	21.9	1.0	23.0
		25	12	21.7	21.5	21.8	21.9	21.9	1.0	23.0
		25	25	21.7	21.5	21.8	21.9	21.9	1.0	23.0
		50	0	21.7	21.5	21.8	21.9	21.9	1.0	23.0
	16QAM	1	0	21.9	21.6	21.9	22.0	21.9	1.0	23.0
		1	25	21.8	21.5	21.8	22.0	21.8	1.0	23.0
		1	49	21.8	21.6	21.9	22.0	21.9	1.0	23.0
		25	0	20.8	20.5	20.9	21.0	20.9	2.0	22.0
		25	12	20.8	20.6	20.9	21.0	20.9	2.0	22.0
		25	25	20.8	20.5	20.9	20.9	20.9	2.0	22.0
		50	0	20.8	20.6	20.9	20.9	20.9	2.0	22.0
	64QAM	1	0	20.9	20.5	20.8	20.8	20.8	2.0	22.0
		1	25	20.8	20.4	20.7	20.7	20.7	2.0	22.0
		1	49	20.9	20.5	20.7	20.8	20.8	2.0	22.0
		25	0	19.7	19.5	19.9	19.9	19.9	3.0	21.0
		25	12	19.7	19.5	19.8	19.9	19.9	3.0	21.0
		25	25	19.7	19.5	19.9	19.9	20.0	3.0	21.0
		50	0	19.8	19.5	19.9	19.9	20.0	3.0	21.0
	256QAM	1	0	17.7	17.4	17.7	17.9	17.8	5.0	19.0
		1	25	17.6	17.4	17.7	17.8	17.8	5.0	19.0
		1	49	17.6	17.4	17.7	17.8	17.8	5.0	19.0
		25	0	17.8	17.6	18.0	18.0	18.0	5.0	19.0
		25	12	17.8	17.6	17.9	18.0	18.0	5.0	19.0
		25	25	17.8	17.5	17.9	17.9	18.0	5.0	19.0
		50	0	17.8	17.5	17.9	17.9	17.9	5.0	19.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
5 MHz	QPSK	1	0	22.8	22.5	22.9	22.9	22.9	0.0	24.0
		1	12	22.7	22.4	22.8	22.9	22.8	0.0	24.0
		1	24	22.7	22.5	22.8	22.9	22.9	0.0	24.0
		12	0	21.7	21.5	21.8	21.9	21.9	1.0	23.0
		12	7	21.7	21.5	21.8	21.9	21.9	1.0	23.0
		12	13	21.7	21.5	21.8	21.9	21.9	1.0	23.0
		25	0	21.7	21.5	21.8	21.9	21.9	1.0	23.0
	16QAM	1	0	21.8	21.5	21.8	21.7	21.7	1.0	23.0
		1	12	21.7	21.4	21.8	21.7	21.7	1.0	23.0
		1	24	21.8	21.5	21.8	21.7	21.7	1.0	23.0
		12	0	20.8	20.6	20.9	20.9	20.9	2.0	22.0
		12	7	20.8	20.5	20.8	20.9	20.9	2.0	22.0
		12	13	20.8	20.6	20.9	21.0	20.9	2.0	22.0
		25	0	20.8	20.5	20.9	21.0	20.9	2.0	22.0
	64QAM	1	0	20.9	20.7	21.0	21.1	21.0	2.0	22.0
		1	12	20.8	20.7	20.8	20.9	20.9	2.0	22.0
		1	24	20.8	20.7	20.9	20.9	20.9	2.0	22.0
		12	0	19.8	20.7	19.9	20.0	20.0	3.0	21.0
		12	7	19.8	20.7	19.9	20.0	20.0	3.0	21.0
		12	13	19.8	20.7	19.9	20.0	20.0	3.0	21.0
		25	0	19.7	20.7	19.8	19.9	19.9	3.0	21.0
	256QAM	1	0	18.0	17.7	18.0	18.1	18.0	5.0	19.0
		1	12	18.0	17.7	18.0	18.0	18.0	5.0	19.0
		1	24	18.0	17.7	18.1	18.1	18.1	5.0	19.0
		12	0	17.9	17.5	17.9	17.9	17.9	5.0	19.0
		12	7	17.8	17.5	17.9	17.9	17.9	5.0	19.0
		12	13	17.8	17.5	17.9	17.9	17.9	5.0	19.0
		25	0	17.8	17.5	17.9	17.9	17.9	5.0	19.0

LTE Band 41 Power Class 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)						
				Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
20 MHz	QPSK	1	0	23.8	23.6	23.9	24.0	24.2	0.0	25.5
		1	49	23.9	23.5	23.9	24.0	24.1	0.0	25.5
		1	99	23.7	23.5	23.8	24.1	24.1	0.0	25.5
		50	0	23.0	22.7	23.0	23.1	23.1	1.0	24.5
		50	24	23.0	22.7	23.0	23.1	23.2	1.0	24.5
		50	50	22.9	22.6	23.0	23.1	23.1	1.0	24.5
		100	0	22.9	22.7	23.0	23.1	23.1	1.0	24.5
	16QAM	1	0	23.4	22.9	23.2	23.3	23.2	1.0	24.5
		1	49	23.5	22.9	23.3	23.3	23.3	1.0	24.5
		1	99	23.4	22.8	23.2	23.1	23.3	1.0	24.5
		50	0	22.0	21.7	22.0	22.2	22.2	2.0	23.5
		50	24	22.0	21.7	22.1	22.2	22.2	2.0	23.5
		50	50	21.9	21.6	22.1	22.1	22.2	2.0	23.5
		100	0	21.9	21.7	22.1	22.1	22.2	2.0	23.5
	64QAM	1	0	22.1	22.1	22.0	22.4	22.0	2.0	23.5
		1	49	22.1	22.0	22.1	22.3	22.1	2.0	23.5
		1	99	22.1	22.0	22.0	22.2	22.1	2.0	23.5
		50	0	21.1	20.8	21.1	21.2	21.2	3.0	22.5
		50	24	21.1	20.8	21.1	21.3	21.2	3.0	22.5
		50	50	21.0	20.7	21.1	21.2	21.2	3.0	22.5
		100	0	21.0	20.7	21.1	21.2	21.2	3.0	22.5
	256QAM	1	0	19.2	18.9	19.4	19.3	19.3	5.0	20.5
		1	49	19.2	18.9	19.4	19.3	19.3	5.0	20.5
		1	99	19.1	18.9	19.4	19.3	19.3	5.0	20.5
		50	0	19.1	18.7	19.1	19.2	19.2	5.0	20.5
		50	24	19.0	18.7	19.1	19.2	19.2	5.0	20.5
		50	50	19.0	18.7	19.1	19.2	19.2	5.0	20.5
		100	0	19.0	18.7	19.1	19.2	19.2	5.0	20.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
15 MHz	QPSK	1	0	23.8	23.6	24.0	23.2	24.2	0.0	25.5
		1	37	23.6	23.4	24.1	23.8	24.1	0.0	25.5
		1	74	23.7	23.5	23.9	24.2	24.0	0.0	25.5
		36	0	22.8	22.7	23.0	23.1	23.2	1.0	24.5
		36	20	22.8	22.7	23.0	23.1	23.2	1.0	24.5
		36	39	22.8	22.7	23.0	23.1	23.1	1.0	24.5
		75	0	22.9	22.7	23.0	23.2	23.2	1.0	24.5
	16QAM	1	0	23.1	22.8	23.4	23.5	23.2	1.0	24.5
		1	37	23.0	22.8	23.5	23.1	23.1	1.0	24.5
		1	74	23.0	22.8	23.4	23.3	23.2	1.0	24.5
		36	0	22.0	21.7	22.0	22.2	22.1	2.0	23.5
		36	20	22.0	21.7	22.0	22.2	22.2	2.0	23.5
		36	39	21.9	21.6	22.0	22.2	22.2	2.0	23.5
		75	0	21.9	21.7	22.0	22.1	22.2	2.0	23.5
	64QAM	1	0	22.1	21.8	22.1	22.1	22.3	2.0	23.5
		1	37	22.1	22.0	22.3	22.3	22.0	2.0	23.5
		1	74	22.0	21.7	22.1	22.0	22.3	2.0	23.5
		36	0	21.0	20.7	21.0	21.2	21.2	3.0	22.5
		36	20	21.0	20.7	21.0	21.2	21.2	3.0	22.5
		36	39	20.9	20.7	21.0	21.2	21.2	3.0	22.5
		75	0	21.0	20.7	21.0	21.2	21.2	3.0	22.5
	256QAM	1	0	19.4	19.2	19.5	19.1	18.9	5.0	20.5
		1	37	19.3	18.9	19.3	19.1	19.0	5.0	20.5
		1	74	19.3	19.0	19.5	19.1	18.8	5.0	20.5
		36	0	19.0	18.7	19.0	19.2	19.2	5.0	20.5
		36	20	19.0	18.7	19.0	19.2	19.2	5.0	20.5
		36	39	18.9	18.7	19.0	19.2	19.2	5.0	20.5
		75	0	19.0	18.8	19.1	19.2	19.1	5.0	20.5

LTE Band 41 Power Class 2 Measured Results (Continued)

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
10 MHz	QPSK	1	0	23.8	23.6	23.9	23.9	24.1	0.0	25.5
		1	25	23.7	23.5	23.8	23.8	23.9	0.0	25.5
		1	49	23.7	23.5	23.8	23.9	24.0	0.0	25.5
		25	0	22.9	22.7	22.9	23.1	23.1	1.0	24.5
		25	12	22.8	22.6	22.9	23.1	23.1	1.0	24.5
		25	25	22.9	22.6	23.0	23.1	23.1	1.0	24.5
		50	0	22.9	22.6	23.0	23.1	23.1	1.0	24.5
	16QAM	1	0	23.4	22.9	23.4	23.6	23.2	1.0	24.5
		1	25	23.4	22.9	23.4	23.5	23.2	1.0	24.5
		1	49	23.4	22.9	23.4	23.4	23.2	1.0	24.5
		25	0	21.9	21.6	22.0	22.1	22.1	2.0	23.5
		25	12	21.9	21.6	22.0	22.1	22.1	2.0	23.5
		25	25	21.9	21.6	22.0	22.1	22.1	2.0	23.5
		50	0	21.9	21.7	22.1	22.2	22.2	2.0	23.5
	64QAM	1	0	22.2	21.9	22.5	22.5	22.3	2.0	23.5
		1	25	22.2	21.8	22.4	22.4	22.3	2.0	23.5
		1	49	22.2	21.9	22.5	22.4	22.3	2.0	23.5
		25	0	21.0	20.7	21.0	21.2	21.2	3.0	22.5
		25	12	21.0	20.7	21.0	21.1	21.2	3.0	22.5
		25	25	21.0	20.7	21.0	21.1	21.2	3.0	22.5
		50	0	21.0	20.7	21.0	21.2	21.2	3.0	22.5
	256QAM	1	0	18.9	18.8	18.9	19.0	19.0	5.0	20.5
		1	25	18.8	18.8	18.9	19.0	19.0	5.0	20.5
		1	49	18.8	18.8	19.0	19.0	19.0	5.0	20.5
		25	0	18.9	18.7	19.0	19.2	19.2	5.0	20.5
		25	12	18.9	18.7	19.0	19.1	19.2	5.0	20.5
		25	25	19.0	18.7	19.0	19.2	19.2	5.0	20.5
		50	0	19.0	18.7	19.0	19.2	19.2	5.0	20.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					MPR	Tune-up Limit
				39750	40185	40620	41055	41490		
				2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz		
5 MHz	QPSK	1	0	23.9	23.5	23.9	24.0	24.2	0.0	25.5
		1	12	24.0	23.5	24.2	24.2	24.4	0.0	25.5
		1	24	23.8	23.4	23.9	24.0	24.1	0.0	25.5
		12	0	22.9	22.6	23.0	23.1	23.1	1.0	24.5
		12	7	22.9	22.7	23.0	23.1	23.1	1.0	24.5
		12	13	22.9	22.7	23.0	23.1	23.1	1.0	24.5
		25	0	22.9	22.7	23.0	23.1	23.1	1.0	24.5
	16QAM	1	0	23.1	22.8	23.1	23.5	23.3	1.0	24.5
		1	12	23.4	22.8	23.1	23.5	23.3	1.0	24.5
		1	24	23.2	22.9	23.2	23.5	23.3	1.0	24.5
		12	0	21.9	21.7	22.1	22.2	22.2	2.0	23.5
		12	7	21.9	21.7	22.1	22.2	22.1	2.0	23.5
		12	13	21.9	21.7	22.1	22.2	22.1	2.0	23.5
		25	0	21.9	21.6	22.0	22.1	22.2	2.0	23.5
	64QAM	1	0	22.3	21.9	22.3	22.5	21.9	2.0	23.5
		1	12	22.4	21.9	22.5	22.7	21.9	2.0	23.5
		1	24	22.2	21.8	22.2	22.4	22.0	2.0	23.5
		12	0	21.0	20.7	21.1	21.2	21.2	3.0	22.5
		12	7	21.0	20.7	21.1	21.2	21.2	3.0	22.5
		12	13	21.0	20.7	21.1	21.2	21.2	3.0	22.5
		25	0	20.9	20.6	20.9	21.1	21.2	3.0	22.5
	256QAM	1	0	19.3	19.0	19.2	19.4	19.4	5.0	20.5
		1	12	19.3	18.7	19.4	19.2	19.5	5.0	20.5
		1	24	19.2	18.9	19.2	19.3	19.4	5.0	20.5
		12	0	19.0	18.7	19.0	19.1	19.2	5.0	20.5
		12	7	18.9	18.7	19.0	19.1	19.2	5.0	20.5
		12	13	19.0	18.7	19.0	19.1	19.2	5.0	20.5
		25	0	18.9	18.6	19.0	19.1	19.1	5.0	20.5

2. Reduced power Results

LTE Band 41 Power Class 3 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off							Reduced Average Power (dBm) Proximity sensor back-off						
				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	20.6	20.5	20.8	21.0	20.8	0.0	22.0	20.6	20.4	20.6	21.1	20.8	0.0	22.0
		1	49	20.7	20.5	20.9	20.9	20.8	0.0	22.0	20.7	20.5	20.7	21.0	20.8	0.0	22.0
		1	99	20.6	20.4	20.7	20.8	20.8	0.0	22.0	20.5	20.4	20.6	20.7	20.7	0.0	22.0
		50	0	20.7	20.5	20.9	21.1	20.9	0.0	22.0	20.7	20.5	20.9	21.1	20.9	0.0	22.0
		50	24	20.7	20.6	20.9	21.0	20.9	0.0	22.0	20.7	20.5	20.8	21.0	20.9	0.0	22.0
		50	50	20.7	20.5	20.9	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
		100	0	20.7	20.5	20.9	21.0	20.9	0.0	22.0	20.7	20.5	20.8	21.0	20.9	0.0	22.0
	16QAM	1	0	20.6	20.8	20.8	21.3	20.9	0.0	22.0	20.8	20.5	21.1	21.0	20.7	0.0	22.0
		1	49	20.7	20.6	20.9	20.8	21.1	0.0	22.0	20.8	20.6	20.9	20.8	21.0	0.0	22.0
		1	99	20.6	20.6	20.8	21.1	20.9	0.0	22.0	20.7	20.4	20.8	20.6	20.7	0.0	22.0
		50	0	20.8	20.6	20.9	21.0	20.9	0.0	22.0	20.8	20.5	20.8	20.9	20.9	0.0	22.0
		50	24	20.8	20.6	20.9	20.9	20.9	0.0	22.0	20.8	20.5	20.9	21.0	20.9	0.0	22.0
		50	50	20.7	20.5	20.9	20.9	20.9	0.0	22.0	20.7	20.4	20.9	20.9	20.9	0.0	22.0
		100	0	20.7	20.5	20.9	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
	64QAM	1	0	20.6	20.6	20.9	20.9	20.5	0.0	22.0	20.3	20.5	20.8	20.5	21.1	0.0	22.0
		1	49	20.3	20.6	20.8	20.8	20.9	0.0	22.0	20.5	20.6	20.9	20.9	20.9	0.0	22.0
		1	99	20.6	20.4	20.9	21.0	20.8	0.0	22.0	20.3	20.3	20.8	20.7	20.5	0.0	22.0
		50	0	19.8	19.6	19.9	20.0	19.9	0.0	22.0	19.7	19.6	19.9	20.0	19.9	0.0	22.0
		50	24	19.8	19.6	19.9	20.0	20.0	0.0	22.0	19.8	19.5	19.9	20.0	20.0	0.0	22.0
		50	50	19.8	19.5	19.9	19.9	20.0	0.0	22.0	19.8	19.5	19.9	19.9	20.0	0.0	22.0
		100	0	19.8	19.6	19.9	20.0	20.0	0.0	22.0	19.8	19.5	19.9	19.9	20.0	0.0	22.0
	256QAM	1	0	17.8	17.3	17.9	17.8	18.1	3.0	19.0	17.6	17.6	17.7	18.0	17.8	3.0	19.0
		1	49	17.8	17.3	17.8	17.9	18.2	3.0	19.0	17.8	17.4	17.8	17.7	17.9	3.0	19.0
		1	99	17.7	17.5	18.3	18.1	17.8	3.0	19.0	17.8	17.5	17.7	17.7	17.7	3.0	19.0
		50	0	17.8	17.6	18.0	18.0	17.9	3.0	19.0	17.8	17.5	17.9	18.0	18.0	3.0	19.0
		50	24	17.9	17.6	18.0	18.0	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0
		50	50	17.8	17.5	18.0	17.9	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0
		100	0	17.8	17.5	17.9	17.9	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0
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	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.8	21.0	0.0	22.0
		1	37	20.7	20.5	20.8	20.9	20.8	0.0	22.0	20.8	20.6	20.7	20.8	20.9	0.0	22.0
		1	74	20.6	20.5	20.7	20.9	20.9	0.0	22.0	20.6	20.5	20.7	20.8	20.7	0.0	22.0
		36	0	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.6	20.8	20.9	20.9	0.0	22.0
		36	20	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.8	20.5	20.8	20.9	20.9	0.0	22.0
		36	39	20.7	20.5	20.8	20.9	20.8	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
		75	0	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
	16QAM	1	0	20.5	20.6	20.7	21.1	20.9	0.0	22.0	20.7	20.4	20.9	21.1	20.8	0.0	22.0
		1	37	20.5	20.2	21.0	20.8	20.9	0.0	22.0	20.5	20.3	20.8	20.9	20.6	0.0	22.0
		1	74	20.8	20.6	20.7	21.0	20.9	0.0	22.0	20.8	20.3	20.9	20.7	20.9	0.0	22.0
		36	0	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
		36	20	20.7	20.5	20.9	20.9	20.9	0.0	22.0	20.8	20.5	20.9	21.0	20.9	0.0	22.0
		36	39	20.6	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.9	21.0	20.9	0.0	22.0
		75	0	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.9	20.9	20.9	0.0	22.0
	64QAM	1	0	20.9	20.4	20.9	21.0	21.3	0.0	22.0	20.5	20.5	20.9	20.8	21.0	0.0	22.0
		1	37	20.5	20.3	20.7	20.7	21.1	0.0	22.0	20.6	20.5	20.8	21.1	20.7	0.0	22.0
		1	74	20.7	20.3	20.9	20.9	21.2	0.0	22.0	20.7	20.4	21.2	20.8	20.8	0.0	22.0
		36	0	19.7	19.5	19.9	19.9	19.9	0.0	22.0	19.7	19.6	19.8	20.8	19.9	0.0	22.0
		36	20	19.7	19.6	19.9	20.0	19.9	0.0	22.0	19.7	19.6	19.8	21.2	19.9	0.0	22.0
		36	39	19.7	19.6	19.9	20.0	19.9	0.0	22.0	19.7	19.6	19.8	20.8	19.9	0.0	22.0
		75	0	19.8	19.6	19.9	19.9	20.0	0.0	22.0	19.7	19.5	19.8	20.7	19.9	0.0	22.0
	256QAM	1	0	18.1	18.1	17.7	18.3	18.2	3.0	19.0	17.9	17.8	18.0	18.0	17.9	3.0	19.0
		1	37	18.0	17.6	17.8	18.2	18.2	3.0	19.0	18.2	17.4	18.2	18.1	18.3	3.0	19.0
		1	74	17.8	17.5	18.1	17.7	18.1	3.0	19.0	18.1	17.3	18.2	18.1	18.2	3.0	19.0
		36	0	17.7	17.6	17.9	17.9	17.9	3.0	19.0	17.7	17.5	17.8	17.9	17.9	3.0	19.0
		36	20	17.7	17.5	17.9	17.9	17.9	3.0	19.0	17.7	17.5	17.8	17.9	17.9	3.0	19.0
		36	39	17.7	17.5	17.8	17.9	17.9	3.0	19.0	17.7	17.5	17.8	17.9	17.9	3.0	19.0
		75	0	17.8	17.6	17.9	18.0	18.0	3.0	19.0	17.8	17.5	17.9	17.9	17.9	3.0	19.0

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	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.8	20.6	20.8	20.9	20.9	0.0	22.0
		1	25	20.6	20.4	20.7	20.8	20.8	0.0	22.0	20.6	20.5	20.7	20.8	20.8	0.0	22.0
		1	49	20.6	20.5	20.8	20.9	20.8	0.0	22.0	20.7	20.5	20.8	20.9	20.8	0.0	22.0
		25	0	20.8	20.6	20.9	20.9	21.0	0.0	22.0	20.8	20.6	20.9	20.9	20.9	0.0	22.0
		25	12	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.8	20.6	20.9	20.9	20.9	0.0	22.0
		25	25	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.8	20.6	20.9	20.9	20.9	0.0	22.0
		50	0	20.8	20.5	20.8	20.9	20.9	0.0	22.0	20.8	20.5	20.9	20.9	20.9	0.0	22.0
	16QAM	1	0	20.9	20.6	20.9	21.0	21.0	0.0	22.0	20.9	20.7	21.0	21.0	21.0	0.0	22.0
		1	25	20.8	20.5	20.9	20.9	20.9	0.0	22.0	20.7	20.6	20.9	20.9	20.9	0.0	22.0
		1	49	20.9	20.6	20.9	21.0	21.0	0.0	22.0	20.8	20.7	21.0	21.0	21.0	0.0	22.0
		25	0	20.8	20.6	20.9	21.0	21.0	0.0	22.0	20.8	20.6	20.9	21.0	20.9	0.0	22.0
		25	12	20.8	20.6	20.9	20.9	21.0	0.0	22.0	20.8	20.6	20.9	21.0	20.9	0.0	22.0
		25	25	20.8	20.6	20.9	20.9	21.0	0.0	22.0	20.8	20.6	20.9	21.0	20.9	0.0	22.0
		50	0	20.8	20.6	20.9	20.9	21.0	0.0	22.0	20.8	20.6	21.0	21.0	21.0	0.0	22.0
	64QAM	1	0	20.7	20.4	20.7	20.8	20.9	0.0	22.0	20.7	20.3	20.8	20.8	20.8	0.0	22.0
		1	25	20.6	20.3	20.6	20.7	20.9	0.0	22.0	20.6	20.3	20.7	20.7	20.8	0.0	22.0
		1	49	20.6	20.4	20.7	20.8	20.9	0.0	22.0	20.7	20.3	20.8	20.7	20.8	0.0	22.0
		25	0	19.7	19.6	19.8	19.9	19.9	0.0	22.0	19.7	19.5	19.9	19.9	19.9	0.0	22.0
		25	12	19.7	19.5	19.9	19.9	20.0	0.0	22.0	19.7	19.6	19.9	19.9	19.9	0.0	22.0
		25	25	19.7	19.6	19.9	19.9	19.9	0.0	22.0	19.7	19.6	19.9	19.9	19.9	0.0	22.0
		50	0	19.7	19.5	19.9	19.9	20.0	0.0	22.0	19.8	19.5	19.9	19.9	20.0	0.0	22.0
	256QAM	1	0	17.6	17.5	17.7	17.8	17.8	3.0	19.0	17.6	17.5	17.6	17.8	17.8	3.0	19.0
		1	25	17.6	17.5	17.7	17.8	17.7	3.0	19.0	17.5	17.4	17.6	17.7	17.8	3.0	19.0
		1	49	17.6	17.5	17.7	17.8	17.8	3.0	19.0	17.5	17.4	17.6	17.8	17.8	3.0	19.0
		25	0	17.8	17.6	17.9	18.0	18.0	3.0	19.0	17.8	17.6	17.9	18.0	18.0	3.0	19.0
		25	12	17.8	17.5	17.9	17.9	18.0	3.0	19.0	17.8	17.6	17.9	17.9	18.0	3.0	19.0
		25	25	17.8	17.5	17.9	17.9	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0
		50	0	17.8	17.5	17.9	18.0	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0

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	20.8	20.6	20.9	20.9	21.0	0.0	22.0	20.8	20.6	20.9	20.9	21.0	0.0	22.0
		1	12	20.8	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
		1	24	20.8	20.6	20.8	20.9	20.9	0.0	22.0	20.8	20.6	20.8	20.9	20.9	0.0	22.0
		12	0	20.8	20.5	20.8	20.9	20.9	0.0	22.0	20.8	20.6	20.8	20.9	20.9	0.0	22.0
		12	7	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
		12	13	20.7	20.5	20.8	20.9	20.9	0.0	22.0	20.7	20.5	20.8	20.9	20.9	0.0	22.0
		25	0	20.8	20.5	20.9	20.9	20.9	0.0	22.0	20.8	20.5	20.8	20.9	20.9	0.0	22.0
	16QAM	1	0	20.7	20.5	20.7	20.9	20.9	0.0	22.0	20.8	20.5	20.7	20.9	21.0	0.0	22.0
		1	12	20.7	20.4	20.6	20.9	20.9	0.0	22.0	20.7	20.5	20.7	20.9	21.0	0.0	22.0
		1	24	20.7	20.4	20.7	20.9	20.9	0.0	22.0	20.7	20.5	20.6	21.1	20.9	0.0	22.0
		12	0	20.8	20.6	20.9	21.0	21.0	0.0	22.0	20.8	20.6	20.9	20.8	20.9	0.0	22.0
		12	7	20.8	20.5	20.9	21.0	20.9	0.0	22.0	20.8	20.6	20.9	20.9	20.9	0.0	22.0
		12	13	20.8	20.6	20.9	21.0	21.0	0.0	22.0	20.8	20.6	20.9	20.8	20.9	0.0	22.0
		25	0	20.8	20.6	20.9	21.0	21.0	0.0	22.0	20.8	20.5	20.9	20.9	21.0	0.0	22.0
	64QAM	1	0	20.9	20.8	21.0	21.0	21.0	0.0	22.0	21.0	20.7	20.9	21.1	21.0	0.0	22.0
		1	12	20.8	20.8	20.8	20.9	20.9	0.0	22.0	20.9	20.7	20.7	21.0	20.9	0.0	22.0
		1	24	20.8	20.8	20.9	20.9	20.8	0.0	22.0	20.9	20.7	20.8	21.0	20.9	0.0	22.0
		12	0	19.8	20.8	19.9	20.0	20.0	0.0	22.0	19.9	20.7	19.9	20.0	20.0	0.0	22.0
		12	7	19.8	20.8	19.9	20.0	19.9	0.0	22.0	19.8	20.7	19.9	20.0	20.0	0.0	22.0
		12	13	19.8	20.8	19.9	20.0	20.0	0.0	22.0	19.9	20.7	19.9	19.9	20.0	0.0	22.0
		25	0	19.7	20.8	19.8	19.9	19.9	0.0	22.0	19.8	20.7	19.8	19.9	19.9	0.0	22.0
	256QAM	1	0	17.9	17.7	17.8	18.1	18.0	3.0	19.0	18.0	17.7	18.1	18.1	18.1	3.0	19.0
		1	12	17.9	17.7	17.8	18.0	18.0	3.0	19.0	17.9	17.7	18.0	18.0	18.1	3.0	19.0
		1	24	17.9	17.7	17.9	18.0	18.0	3.0	19.0	18.0	17.7	18.1	18.1	18.1	3.0	19.0
		12	0	17.8	17.5	17.9	17.9	18.0	3.0	19.0	17.8	17.6	17.9	17.9	18.0	3.0	19.0
		12	7	17.8	17.5	17.9	17.9	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0
		12	13	17.8	17.5	17.8	17.9	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0
		25	0	17.8	17.5	17.8	17.9	18.0	3.0	19.0	17.8	17.5	17.9	17.9	18.0	3.0	19.0

9.3.1. LTE Rel. 10 Carrier Aggregation

LTE Carrier Aggregation Down Link Combinations;

The DL CA power measurement conditions for various CC's combinations were determined according LTE DL CA SAR Test Exclusion guidance in TCB workshop note (April 2018). Only yellow highlighted cells need power measurement. The following power measurements were performed with a single carrier uplink; CA for this particular project only supports one (1) uplink and up to four (4) downlinks.

LTE Release 10 Carrier Aggregation

Index	2CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
2CC #1	CA_2A-2A			
2CC #2	CA_2C			
2CC #3	CA_2A-4A		3CC #1	O
2CC #4	CA_2A-5A		3CC #1	O
2CC #5	CA_2A-12A			O
2CC #6	CA_2A-13A		3CC #2	O
2CC #7	CA_2A-17A	B17 SCC only		O
2CC #8	CA_2A-66A			O
2CC #9	CA_4A-4A		3CC #3	
2CC #10	CA_4A-5A		3CC #1	O
2CC #11	CA_4A-12A		3CC #3	O
2CC #12	CA_4A-13A		3CC #2	O
2CC #13	CA_4A-17A	B17 SCC only	3CC #4	X
2CC #14	CA_5A-41A			X
2CC #15	CA_5A-66A		3CC #5	O
2CC #16	CA_12A-66A		3CC #6	O
2CC #17	CA_26A-41A			X
2CC #18	CA_41A-41A			-
2CC #19	CA_41C		3CC #7	-
2CC #20	CA_66A-66A		3CC #5	-
2CC #21	CA_66B			-
2CC #22	CA_66C			-

Index	3CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
3CC #1	CA_2A-4A-5A			O
3CC #2	CA_2A-4A-13A			O
3CC #3	CA_4A-4A-12A	4A-12A-4A		O
3CC #4	CA_4A-4A-17A			X
3CC #5	CA_5A-66A-66A	66A-5A-66A		O
3CC #6	CA_12A-66A-66A	66A-12A-66A		O
3CC #7	CA_26A-41C			X
3CC #8	CA_41A-41C			O
3CC #9	CA_41D		4CC #2	-

Index	4CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
4CC #1	CA_41C-41C		-	-
4CC #2	CA_41A-41D		-	O
4CC #3	CA_41E		-	-

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

LTE Release 10 Carrier Aggregation with 4x4 MIMO

Index	2CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
2CC #1	2A-[4A]		3CC #1	O
2CC #2	2A-[66A]			O
2CC #3	[4A]-4A			O
2CC #4	[4A]-[4A]		3CC #3	-
2CC #5	[4A]-5A		3CC #1	O
2CC #6	[4A]-12A		3CC #3	O
2CC #7	[4A]-13A		3CC #2	O
2CC #8	[4A]-17A		3CC #4	O
2CC #9	5A-[41A]			X
2CC #10	5A-[66A]		3CC #3	O
2CC #11	12A-[66A]		3CC #6	O
2CC #12	66A-[66A]		3CC #5	O
2CC #13	[66A]-[66A]		3CC #6	-
2CC #14	26A-[41A]			X
2CC #15	[41A]-41A			O
2CC #16	[41A]-[41A]			-
2CC #17	[41C]		4CC #4	-

Index	3CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
3CC #1	2A-[4A]-5A			O
3CC #2	2A-[4A]-13A			O
3CC #3	[4A]-[4A]-12A	4A-12A-4A		O
3CC #4	[4A]-[4A]-17A			X
3CC #5	5A-66A-[66A]	66A-5A-66A		O
3CC #6	5A-[66A]-[66A]	66A-5A-66A		O
3CC #7	12A-66A-[66A]	66A-12A-66A		O
3CC #8	12A-[66A]-[66A]	66A-12A-66A		O
3CC #9	26A-[41C]			X
3CC #10	41A-[41C]			O
3CC #11	[41A]-41C			O
3CC #12	[41A]-[41C]			O
3CC #13	[41D]		4CC #2	-

Index	4CC	Restriction	Completely Covered by Measurement Supersrt	Reverse
4CC #1	[41A]-41D			O
4CC #2	41A-[41D]			O
4CC #3	[41A]-[41D]			O
4CC #4	[41C]-41C			O
4CC #5	[41C]-[41C]			-
4CC #6	[41E]			-

[*] is 4X4 MIMO configuration.

Note:

Only yellow highlight cells need power measurement according to LTE DL CA SAR test Exclusion in TCB workshop (April.2018).

1. Single Carrier 4x4 Downlink MIMO

LTE Band	Bandwidth (MHz)	Channel	Frequency (MHz)	Modulation	RB/Offset	LTE Rel 8 Tx. Power [dBm]	4x4 DL MIMO LTE Rel 8 Tx. Power [dBm]	Delta
LTE Band 4	20 MHz	20300	1745 MHz	QPSK	1/49	23.3	23.2	-0.06
LTE Band 66	20 MHz	132572	1770 MHz	QPSK	1/49	23.2	23.2	0.01
LTE Band 41	20 MHz	41055	2636.5 MHz	QPSK	1/0	22.9	22.8	-0.06

Note:

1. According to LTE Test Conditions in TCB workshop (May, 2017), SAR is excluded for LTE downlink 4x4 MIMO operation when uplink output with DL MIMO does not exceed highest uplink output power configuration without DL MIMO by more than a 1/4 dB. And for DL MIMO with carrier aggregation, the same SAR test exclusion procedure is considered.

2. DL CA output power results

E-UTRA CA configutation (BCS)	Bands					UL					DL																LTE Rel 8 Tx. Power [dBm]	LTE Rel 10 Tx. Power [dBm]	Delta
	PCC	SCC1	SCC2	SCC3	SCC4	PCC					PCC			SCC1			SCC2			SCC3			SCC4					
	1st	2nd	3rd	4th	5th	Mode	BW (MHz)	Channel	Freq. (MHz)	RB/Offset	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)			
2A-12A	2A	12A				QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	5095	737.5										23.3	23.2	-0.10
	12A	2A				QPSK	10	23095	707.5	1/0	10	5095	737.5	20	900	1960.0										24.0	23.8	-0.15
2A-17A	2A	17A				QPSK	10	18700	1860.0	1/49	20	700	1940.0	10	5790	740.0										23.3	23.2	-0.15
2A-66A	2A	66A				QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	66786	2145.0										23.3	23.2	-0.15
	66A	2A				QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	900	1960.0										23.2	23.1	-0.10
5A-41A	5A	41A				QPSK	10	20525	836.5	1/0	10	2525	881.5	20	40620	2593.0										24.4	24.3	-0.09
26A-41A	26A	41A				QPSK	15	26865	831.5	1/0	15	8865	876.5	20	40620	2593.0										24.1	24.0	-0.12
2A-4A-5A	2A	4A	5A			QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	2175	2132.5	10	2525	881.5							23.3	23.3	-0.06
	4A	5A	2A			QPSK	20	20175	1732.5	1/49	20	2175	2132.5	10	2525	881.5	20	900	1960.0							23.1	23.1	-0.02
	5A	2A	4A			QPSK	10	20525	836.5	1/0	10	2525	881.5	20	900	1960.0	20	2175	2132.5							24.4	24.3	-0.10
2A-4A-13A	2A	4A	13A			QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	2175	2132.5	10	5230	751.0							23.3	23.3	-0.02
	4A	2A	13A			QPSK	20	20175	1732.5	1/49	20	2175	2132.5	20	900	1960.0	10	5230	751.0							23.1	23.0	-0.11
	13A	2A	4A			QPSK	10	23230	782.0	1/0	10	5230	751.0	20	900	1960.0	20	2175	2132.5							23.9	23.8	-0.06
4A-4A-12A	4A	4A	12A			QPSK	20	20050	1720.0	1/49	20	2050	2120.0	20	2300	2145.0	10	5095	737.5							22.8	22.8	-0.02
	12A	4A	4A			QPSK	10	23095	707.5	1/0	20	5095	737.5	20	2050	2120.0	20	2300	2145.0							24.0	23.9	-0.05
4A-4A-17A	4A	4A	17A			QPSK	20	20050	1720.0	1/49	20	2050	2120.0	20	2300	2145.0	10	5790	740.0							22.8	22.7	-0.10
5A-66A-66A	5A	66A	66A			QPSK	10	20525	836.5	1/0	10	2525	881.5	20	66786	2145.0	20	67036	2170.0							24.4	24.3	-0.10
	66A	66A	5A			QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66536	2120.0	10	2525	881.5							23.2	23.1	-0.06
12A-66A-66A	12A	66A	66A			QPSK	10	23095	707.5	1/0	10	5095	737.5	20	66786	2145.0	20	67036	2170.0							24.0	23.8	-0.15
	66A	66A	12A			QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66536	2120.0	10	5095	737.5							23.2	23.1	-0.09
26A-41C	26A	41C	41C			QPSK	15	26865	831.5	1/0	15	8865	876.5	20	40620	2593.0	20	41490	2680.0							24.1	24.3	0.13
2A-2A	2A	2A				QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	1100	1980.0										23.3	23.2	-0.12
41A-41A	41A	41A				QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0										22.9	22.8	-0.09
41A-41C	41A	41C	41C			QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8							22.9	22.7	-0.13
	41C	41C	41A			QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0							22.9	22.8	-0.07
41C-41C	41C	41C	41C	41C		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0	20	39948	2525.8				22.9	22.8	-0.10
41A-41D	41A	41D	41D	41D		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8	20	40146	2545.6				22.9	22.8	-0.11
	41D	41D	41D	41A		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	41451	2676.1	20	39750	2506.0				22.9	22.7	-0.13
41C-41D	41C	41C	41D	41D	41D	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0	20	39948	2525.8	20	40146	2545.6	22.9	22.8	-0.06
	41D	41D	41D	41C	41C	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	41451	2676.1	20	39750	2506.0	20	39948	2525.8	22.9	22.8	-0.05
2C	2C	2C				QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	898	1959.8										23.3	23.3	-0.02
66B	66B	66B				QPSK	15	132597	1772.5	1/0	15	67061	2172.5	5	66968	2163.2										23.4	23.3	-0.05
66C	66C	66C				QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66838	2150.2										23.2	23.1	-0.06
41E	41E	41E	41E	41E		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	40857	2616.7	20	40659	2596.9	20	40461	2577.1				22.9	22.8	-0.06

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations

3. DL CA with downlink 4x4 MIMO output power results

E-UTRA CA configutation (BCS)	Bands				UL					DL												LTE Rel 8 Tx. Power [dBm]	LTE Rel 10 Tx. Power [dBm]	Delta
	PCC	SCC1	SCC2	SCC3	PCC					PCC			SCC1			SCC2			SCC3					
	1st	2nd	3rd	4th	Mode	BW (MHz)	Channel	Freq. (MHz)	RB/Offset	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)	BW (MHz)	Channel	Freq. (MHz)			
2A-[66A]	2A	[66A]			QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	66786	2145.0							23.3	23.2	-0.13
	[66A]	2A			QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	900	1960.0							23.2	23.2	0.04
5A-[41A]	5A	[41A]			QPSK	10	20525	836.5	1/0	10	2525	881.5	20	40620	2593.0							24.4	24.3	-0.09
26A-[41A]	26A	[41A]			QPSK	15	26865	831.5	1/0	15	8865	876.5	20	40620	2593.0							24.1	24.0	-0.13
2A-[4A]-5A	2A	[4A]	5A		QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	2175	2132.5	10	2525	881.5				23.3	23.2	-0.13
	[4A]	5A	2A		QPSK	20	20175	1732.5	1/49	20	2175	2132.5	10	2525	881.5	20	900	1960.0				22.8	22.8	-0.02
	5A	2A	[4A]		QPSK	10	20525	836.5	1/0	10	2525	881.5	20	900	1960.0	20	2175	2132.5				24.4	24.3	-0.06
2A-[4A]-13A	2A	[4A]	13A		QPSK	20	18700	1860.0	1/49	20	700	1940.0	20	2175	2132.5	10	5230	751.0				23.3	23.2	-0.10
	[4A]	2A	13A		QPSK	20	20175	1732.5	1/49	20	2175	2132.5	20	900	1960.0	10	5230	751.0				22.8	22.8	-0.03
	13A	2A	[4A]		QPSK	10	23230	782.0	1/0	10	5230	751.0	20	900	1960.0	20	2175	2132.5				23.9	23.8	-0.07
[4A]-[4A]-12A	[4A]	[4A]	12A		QPSK	20	20050	1720.0	1/49	20	2050	2120.0	20	2300	2145.0	20	5095	737.5				22.8	22.8	-0.02
	12A	[4A]	[4A]		QPSK	10	23095	707.5	1/0	20	5095	737.5	20	2050	2120.0	20	2300	2145.0				24.0	23.9	-0.04
[4A]-[4A]-17A	[4A]	[4A]	17A		QPSK	20	20050	1720.0	1/49	20	2050	2120.0	20	2300	2145.0	10	5790	740.0				22.8	22.7	-0.09
5A-[66A]-[66A]	5A	[66A]	[66A]		QPSK	10	20525	836.5	1/0	10	2525	881.5	20	66786	2145.0	20	67036	2170.0				24.4	24.3	-0.11
	[66A]	[66A]	5A		QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66536	2120.0	10	2525	881.5				23.2	23.2	0.00
5A-66A-[66A]	5A	66A	[66A]		QPSK	10	20525	836.5	1/0	10	2525	881.5	20	66786	2145.0	20	67036	2170.0				24.4	24.4	-0.01
	66A	[66A]	5A		QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66536	2120.0	10	2525	881.5				23.2	23.2	0.03
12A-66A-[66A]	12A	66A	[66A]		QPSK	10	23095	707.5	1/0	10	5095	737.5	20	66786	2145.0	20	67036	2170.0				24.0	24.0	0.04
	66A	[66A]	12A		QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66536	2120.0	10	5095	737.5				23.2	23.1	-0.05
12A-[66A]-[66A]	12A	[66A]	[66A]		QPSK	10	23095	707.5	1/0	10	5095	737.5	20	66786	2145.0	20	67036	2170.0				24.0	23.9	-0.05
	[66A]	[66A]	12A		QPSK	20	132572	1770.0	1/49	20	67036	2170.0	20	66536	2120.0	10	5095	737.5				23.2	23.1	-0.05
26A-[41C]	26A	[41C]	[41C]		QPSK	15	26865	831.5	1/0	15	8865	876.5	20	40620	2593.0	20	40818	2612.8				24.1	24.1	-0.05
[4A]-4A	[4A]	4A			QPSK	20	20050	1720.0	1/49	20	2050	2120.0	20	2300	2145.0							22.8	22.8	-0.02
[41A]-41A	[41A]	41A			QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0							22.9	22.7	-0.16
	41A	[41A]			QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0							22.9	22.7	-0.18
[41A]-[41A]	[41A]	[41A]			QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0							22.9	22.7	-0.14
41A-[41C]	41A	[41C]	[41C]		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8				22.9	22.8	-0.06
	[41C]	[41C]	41A		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0				22.9	22.8	-0.07
[41A]-41C	[41A]	41C	41C		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8				22.9	22.7	-0.16
	41C	41C	[41A]		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0				22.9	22.7	-0.14
[41A]-[41C]	[41A]	[41C]	[41C]		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8				22.9	22.7	-0.15
	[41C]	[41C]	[41A]		QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0				22.9	22.7	-0.13
[41A]-41D	[41A]	41D	41D	41D	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8	20	40146	2545.6	22.9	22.8	-0.09
	41D	41D	41D	[41A]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	41451	2676.1	20	39750	2506.0	22.9	22.8	-0.07
41A-[41D]	41A	[41D]	[41D]	[41D]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8	20	40146	2545.6	22.9	22.7	-0.13
	[41D]	[41D]	[41D]	41A	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	41451	2676.1	20	39750	2506.0	22.9	22.8	-0.08
[41A]-[41D]	[41A]	[41D]	[41D]	[41D]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	39750	2506.0	20	39948	2525.8	20	40146	2545.6	22.9	22.7	-0.15
	[41D]	[41D]	[41D]	[41A]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	41451	2676.1	20	39750	2506.0	22.9	22.8	-0.09
[41C]-41C	[41C]	[41C]	41C	41C	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0	20	39948	2525.8	22.9	22.8	-0.08
	41C	41C	[41C]	[41C]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0	20	39948	2525.8	22.9	22.8	-0.10
[41C]-[41C]	[41C]	[41C]	[41C]	[41C]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	41253	2656.3	20	39750	2506.0	20	39948	2525.8	22.9	22.8	-0.11
[41E]	[41E]	[41E]	[41E]	[41E]	QPSK	20	41055	2636.5	1/0	20	41055	2636.5	20	40857	2616.7	20	40659	2596.9	20	40461	2577.1	22.9	22.8	-0.09

Note:

1. Per KDB 941225 D05A LTE Rel. 10 KDB Inquiry Sheet: SAR is excluded for Carrier Aggregation when measured power does not exceed LTE Release 8 by more than a 1/4 dB.
2. When the same frequency band is used for both contiguous and non-contiguous in DL CA Intra band, power was measured using the configuration with the largest aggregated bandwidth and maximum output power among the contiguous and non-contiguous in DL CA Intra band configurations

9.4. 5G NR (FR1)

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

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

Table 6.2.2.3-1: Maximum Power Reduction (MPR) for Power 3

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

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

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

The allowed A-MPR values specified below in Table 6.2.3.3.1-1 of 3GPP TS138.521-1 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of “NS_01”

Table 6.2.3.3.1-1: Additional maximum power reduction (A-MPR)

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

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

Channel Bandwidth	SCS(kHz)	OFDM	RB allocation							
			Edge_Full_Left	Edge_Full_Right	Edge_1RB_Left	Edge_1RB_Right	Outer_Full	Inner_Full	Inner_1RB_Left	Inner_1RB_Right
5MHz	15	DFT-s	2@0	2@23	1@0	1@24	25@0	12@6	1@1	1@23
		CP	2@0	2@23	1@0	1@24	25@0	13@6	1@1	1@23
	30	DFT-s	2@0	2@9	1@0	1@10	10@0	5@2[1]	1@1	1@9
		CP	2@0	2@9	1@0	1@10	11@0	5@2[1]	1@1	1@9
	60	DFT-s	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		CP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10MHz	15	DFT-s	2@0	2@50	1@0	1@51	50@0	25@12	1@1	1@50
		CP	2@0	2@50	1@0	1@51	52@0	26@13	1@1	1@50
	30	DFT-s	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22
		CP	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22
	60	DFT-s	2@0	2@9	1@0	1@10	10@0	5@2[1]	1@1	1@9
		CP	2@0	2@9	1@0	1@10	11@0	5@2[1]	1@1	1@9
15MHz	15	DFT-s	2@0	2@77	1@0	1@78	75@0	36@18	1@1	1@77
		CP	2@0	2@77	1@0	1@78	79@0	39@19[1]	1@1	1@77
	30	DFT-s	2@0	2@36	1@0	1@37	36@0	18@9	1@1	1@36
		CP	2@0	2@36	1@0	1@37	38@0	19@9	1@1	1@36
	60	DFT-s	2@0	2@16	1@0	1@17	18@0	9@4	1@1	1@16
		CP	2@0	2@16	1@0	1@17	18@0	9@4	1@1	1@16
20MHz	15	DFT-s	2@0	2@104	1@0	1@105	100@0	50@25	1@1	1@104
		CP	2@0	2@104	1@0	1@105	106@0	53@26	1@1	1@104
	30	DFT-s	2@0	2@49	1@0	1@50	50@0	25@12	1@1	1@49
		CP	2@0	2@49	1@0	1@50	51@0	25@12[1]	1@1	1@49
	60	DFT-s	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22
		CP	2@0	2@22	1@0	1@23	24@0	12@6	1@1	1@22

1. Max power Results

NR Band n5 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)		
					Measured Pwr (dBm)	MPR	Tune-up Limit
					167300		
					836.5 MHz		
20 MHz	DFT-s OFDM	π/2 BPSK	1	1	24.5	0	25.0
			1	53	24.5	0	25.0
			1	104	24.3	0	25.0
			50	0	24.0	0.5	24.5
			50	28	24.4	0	25.0
			50	56	23.9	0.5	24.5
			100	0	24.0	0.5	24.5
		QPSK	1	1	24.5	0	25.0
			1	53	24.6	0	25.0
			1	104	24.3	0	25.0
			50	0	23.4	1.0	24.0
			50	28	24.4	0	25.0
			50	56	23.3	1.0	24.0
			100	0	23.4	1.0	24.0
		16QAM	1	1	23.5	1.0	24.0
		64QAM	1	1	22.0	2.5	22.5
		256QAM	1	1	19.9	4.5	20.5
	CP-OFDM	QPSK	1	1	23.0	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)	MPR	Tune-up Limit
					167300		
					836.5 MHz		
15 MHz	DFT-s OFDM	π/2 BPSK	1	1	24.4	0	25.0
			1	40	24.3	0	25.0
			1	77	24.4	0	25.0
			36	0	24.0	0.5	24.5
			36	22	24.5	0	25.0
			36	43	23.9	0.5	24.5
			75	0	24.0	0.5	24.5
		QPSK	1	1	24.6	0	25.0
			1	40	24.5	0	25.0
			1	77	24.4	0	25.0
			36	0	23.5	1.0	24.0
			36	22	24.5	0	25.0
			36	43	23.4	1.0	24.0
			75	0	23.5	1.0	24.0
		16QAM	1	1	23.6	1.0	24.0
		64QAM	1	1	22.0	2.5	22.5
		256QAM	1	1	20.0	4.5	20.5
	CP-OFDM	QPSK	1	1	22.9	1.5	23.5

NR Band n5 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					[redacted]	167300	[redacted]		
						836.5 MHz			
10 MHz	DFT-s OFDM	π/2 BPSK	1	1		24.4		0	25.0
			1	26		24.5		0	25.0
			1	50		24.3		0	25.0
			25	0		23.9		0.5	24.5
			25	14		24.4		0	25.0
			25	27		23.9		0.5	24.5
			50	0		24.0		0.5	24.5
		QPSK	1	1		24.5		0	25.0
			1	26		24.5		0	25.0
			1	50		24.4		0	25.0
			25	0		23.4		1.0	24.0
			25	14		24.4		0	25.0
			25	27		23.4		1.0	24.0
			50	0		23.4		1.0	24.0
		16QAM	1	1		23.4		1.0	24.0
		64QAM	1	1		21.9		2.5	22.5
		256QAM	1	1		20.0		4.5	20.5
	CP-OFDM	QPSK	1	1		23.0		1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					165300	167300	169300		
					826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	DFT-s OFDM	π/2 BPSK	1	1	24.6	24.2	24.3	0	25.0
			1	13	24.4	24.1	24.2	0	25.0
			1	23	24.5	24.2	24.4	0	25.0
			12	0	23.9	23.7	23.8	0.5	24.5
			12	7	24.3	24.1	24.3	0	25.0
			12	13	24.1	23.8	23.9	0.5	24.5
			25	0	24.1	23.8	23.9	0.5	24.5
		QPSK	1	1	24.6	24.2	24.4	0	25.0
			1	13	24.3	24.2	24.3	0	25.0
			1	23	24.4	24.2	24.3	0	25.0
			12	0	23.5	23.3	23.4	1.0	24.0
			12	7	24.6	24.3	24.4	0	25.0
			12	13	23.5	23.2	23.4	1.0	24.0
			25	0	23.5	23.3	23.4	1.0	24.0
		16QAM	1	1	23.6	23.3	23.4	1.0	24.0
		64QAM	1	1	22.1	21.7	21.9	2.5	22.5
		256QAM	1	1	20.1	19.9	20.0	4.5	20.5
	CP-OFDM	QPSK	1	1	23.0	22.9	22.7	1.5	23.5

NR Band n66 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
					Measured Pwr (dBm)			MPR	Tune-up Limit
					344000	349000	354000		
					1720. MHz	1745. MHz	1770. MHz		
20 MHz	DFT-s OFDM	π/2 BPSK	1	1	23.4	22.9	23.3	0	24.5
			1	53	23.7	23.3	23.6	0	24.5
			1	104	23.3	23.4	23.4	0	24.5
			50	0	23.0	22.6	22.9	0.5	24.0
			50	28	23.5	23.3	23.5	0	24.5
			50	56	22.9	22.8	23.0	0.5	24.0
			100	0	23.0	22.8	23.1	0.5	24.0
		QPSK	1	1	23.4	23.0	23.4	0	24.5
			1	53	23.7	23.4	23.7	0	24.5
			1	104	23.4	23.4	23.5	0	24.5
			50	0	22.5	22.2	22.6	1.0	23.5
			50	28	23.5	23.4	23.6	0	24.5
			50	56	22.5	22.3	22.6	1.0	23.5
			100	0	22.4	22.3	22.6	1.0	23.5
		16QAM	1	1	22.4	22.1	22.5	1.0	23.5
		64QAM	1	1	20.9	20.6	21.0	2.5	22.0
		256QAM	1	1	19.0	18.8	19.0	4.5	20.0
	CP-OFDM	QPSK	1	1	21.8	21.5	21.9	1.5	23.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					343500	349000	354500		
					1717.5 MHz	1745. MHz	1772.5 MHz		
15 MHz	DFT-s OFDM	π/2 BPSK	1	1	23.5	23.2	23.5	0	24.5
			1	40	23.5	23.3	23.5	0	24.5
			1	77	23.5	23.5	23.6	0	24.5
			36	0	23.1	22.8	23.2	0.5	24.0
			36	22	23.7	23.4	23.7	0	24.5
			36	43	23.2	23.0	23.2	0.5	24.0
			75	0	23.2	23.0	23.2	0.5	24.0
		QPSK	1	1	23.6	23.3	23.7	0	24.5
			1	40	23.6	23.4	23.7	0	24.5
			1	77	23.6	23.6	23.7	0	24.5
			36	0	22.7	22.4	22.8	1.0	23.5
			36	22	23.7	23.5	23.8	0	24.5
			36	43	22.7	22.6	22.7	1.0	23.5
			75	0	22.7	22.5	22.8	1.0	23.5
		16QAM	1	1	22.6	22.5	22.8	1.0	23.5
		64QAM	1	1	21.0	21.0	21.3	2.5	22.0
		256QAM	1	1	19.2	19.0	19.2	4.5	20.0
	CP-OFDM	QPSK	1	1	22.0	21.8	22.2	1.5	23.0

NR Band n66 Measured Results (Continued)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					343000	349000	355000		
					1715. MHz	1745. MHz	1775. MHz		
10 MHz	DFT-s OFDM	π/2 BPSK	1	1	23.8	23.3	23.4	0	24.5
			1	26	24.0	23.6	23.5	0	24.5
			1	50	23.9	23.5	23.3	0	24.5
			25	0	23.3	23.0	22.9	0.5	24.0
			25	14	23.8	23.5	23.3	0	24.5
			25	27	23.4	23.1	22.8	0.5	24.0
			50	0	23.4	23.0	22.8	0.5	24.0
		QPSK	1	1	23.8	23.4	23.3	0	24.5
			1	26	24.1	23.8	23.5	0	24.5
			1	50	23.9	23.6	23.3	0	24.5
			25	0	22.8	22.6	22.3	1.0	23.5
			25	14	23.8	23.6	23.3	0	24.5
			25	27	22.7	22.6	22.3	1.0	23.5
			50	0	22.8	22.5	22.3	1.0	23.5
		16QAM	1	1	22.7	22.4	22.5	1.0	23.5
		64QAM	1	1	21.2	20.8	20.8	2.5	22.0
		256QAM	1	1	19.2	19.1	18.8	4.5	20.0
	CP-OFDM	QPSK	1	1	22.1	21.9	21.7	1.5	23.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					342500	349000	355500		
					1712.5 MHz	1745. MHz	1777.5 MHz		
5 MHz	DFT-s OFDM	π/2 BPSK	1	1	23.3	23.0	23.2	0	24.5
			1	13	23.2	23.0	23.1	0	24.5
			1	23	23.4	23.1	23.2	0	24.5
			12	0	22.8	22.6	22.7	0.5	24.0
			12	7	23.3	23.1	23.2	0	24.5
			12	13	22.8	22.6	22.7	0.5	24.0
			25	0	22.8	22.6	22.7	0.5	24.0
		QPSK	1	1	23.3	23.1	23.3	0	24.5
			1	13	23.3	23.1	23.2	0	24.5
			1	23	23.4	23.2	23.3	0	24.5
			12	0	22.3	22.0	22.2	1.0	23.5
			12	7	23.3	23.1	23.2	0	24.5
			12	13	22.4	22.1	22.2	1.0	23.5
			25	0	22.3	22.1	22.2	1.0	23.5
		16QAM	1	1	22.4	22.0	22.3	1.0	23.5
		64QAM	1	1	19.8	20.7	20.8	2.5	22.0
		256QAM	1	1	18.9	18.6	18.8	4.5	20.0
	CP-OFDM	QPSK	1	1	21.7	21.5	21.6	1.5	23.0

2. Reduced power Results

NR Band n66 Measured Results

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Reduced Average Power (dBm) Hotspot back-off					Reduced Average Power (dBm) Proximity sensor back-off				
					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	20.5	19.9	20.3	0	21.5	20.6	20.0	20.4	0	21.5
			1	53	20.7	20.3	20.5	0	21.5	20.8	20.4	20.6	0	21.5
			1	104	20.2	20.4	20.4	0	21.5	20.3	20.5	20.5	0	21.5
			50	0	20.5	20.1	20.5	0	21.5	20.6	20.2	20.6	0	21.5
			50	28	20.4	20.3	20.5	0	21.5	20.5	20.4	20.6	0	21.5
			50	56	20.4	20.3	20.5	0	21.5	20.5	20.4	20.6	0	21.5
			100	0	20.5	20.3	20.6	0	21.5	20.6	20.4	20.7	0	21.5
		QPSK	1	1	20.3	20.1	20.4	0	21.5	20.4	20.2	20.5	0	21.5
			1	53	20.6	20.4	20.7	0	21.5	20.7	20.5	20.7	0	21.5
			1	104	20.4	20.4	20.5	0	21.5	20.5	20.5	20.6	0	21.5
			50	0	20.5	20.1	20.6	0	21.5	20.6	20.2	20.7	0	21.5
			50	28	20.5	20.3	20.7	0	21.5	20.6	20.5	20.7	0	21.5
			50	56	20.4	20.4	20.6	0	21.5	20.5	20.5	20.7	0	21.5
			100	0	20.5	20.3	20.7	0	21.5	20.6	20.4	20.7	0	21.5
		16QAM	1	1	20.4	20.0	20.4	0	21.5	20.5	20.1	20.5	0	21.5
		64QAM	1	1	20.3	20.2	20.4	0	21.5	20.4	20.3	20.5	0	21.5
		256QAM	1	1	18.9	18.7	19.0	1.5	20.0	19.0	18.8	19.1	1.5	20.0
	CP-OFDM	QPSK	1	1	20.3	20.0	20.4	0	21.5	20.4	20.1	20.5	0	21.5
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	20.5	20.2	20.5	0	21.5	20.6	20.3	20.6	0	21.5
			1	40	20.5	20.3	20.5	0	21.5	20.6	20.4	20.6	0	21.5
			1	77	20.5	20.5	20.6	0	21.5	20.6	20.6	20.7	0	21.5
			36	0	20.6	20.3	20.7	0	21.5	20.7	20.4	20.8	0	21.5
			36	22	20.7	20.5	20.6	0	21.5	20.8	20.6	20.7	0	21.5
			36	43	20.7	20.5	20.7	0	21.5	20.8	20.6	20.8	0	21.5
			75	0	20.6	20.4	20.7	0	21.5	20.7	20.5	20.8	0	21.5
		QPSK	1	1	20.6	20.3	20.7	0	21.5	20.7	20.4	20.8	0	21.5
			1	40	20.6	20.4	20.7	0	21.5	20.7	20.5	20.8	0	21.5
			1	77	20.6	20.6	20.7	0	21.5	20.7	20.7	20.8	0	21.5
			36	0	20.6	20.4	20.8	0	21.5	20.7	20.5	20.9	0	21.5
			36	22	20.6	20.5	20.8	0	21.5	20.7	20.6	20.9	0	21.5
			36	43	20.7	20.6	20.7	0	21.5	20.8	20.7	20.8	0	21.5
			75	0	20.6	20.5	20.8	0	21.5	20.7	20.6	20.9	0	21.5
		16QAM	1	1	20.6	20.4	20.8	0	21.5	20.7	20.5	20.9	0	21.5
		64QAM	1	1	20.4	20.4	20.7	0	21.5	20.5	20.5	20.8	0	21.5
		256QAM	1	1	19.0	18.9	19.3	1.5	20.0	19.1	19.0	19.4	1.5	20.0
	CP-OFDM	QPSK	1	1	20.4	20.3	20.7	0	21.5	20.5	20.4	20.8	0	21.5

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	20.8	20.2	20.4	0	21.5	20.9	20.3	20.5	0	21.5
			1	26	20.9	20.5	20.5	0	21.5	21.0	20.6	20.6	0	21.5
			1	50	20.8	20.5	20.3	0	21.5	20.9	20.6	20.4	0	21.5
			25	0	20.8	20.4	20.3	0	21.5	20.9	20.5	20.4	0	21.5
			25	14	20.8	20.5	20.4	0	21.5	20.9	20.6	20.5	0	21.5
			25	27	20.8	20.5	20.3	0	21.5	20.9	20.6	20.4	0	21.5
			50	0	20.8	20.5	20.3	0	21.5	20.9	20.6	20.4	0	21.5
		QPSK	1	1	20.8	20.4	20.4	0	21.5	20.9	20.5	20.5	0	21.5
			1	26	21.1	20.8	20.4	0	21.5	21.2	20.9	20.5	0	21.5
			1	50	20.8	20.6	20.3	0	21.5	20.9	20.7	20.4	0	21.5
			25	0	20.7	20.5	20.3	0	21.5	20.8	20.6	20.4	0	21.5
			25	14	20.8	20.6	20.3	0	21.5	20.9	20.7	20.4	0	21.5
			25	27	20.8	20.6	20.3	0	21.5	20.9	20.7	20.4	0	21.5
			50	0	20.8	20.5	20.3	0	21.5	20.9	20.6	20.4	0	21.5
		16QAM	1	1	20.7	20.5	20.4	0	21.5	20.8	20.6	20.5	0	21.5
		64QAM	1	1	20.8	19.8	20.4	0	21.5	20.9	19.9	20.5	0	21.5
		256QAM	1	1	19.1	19.1	18.9	1.5	20.0	19.2	19.2	19.0	1.5	20.0
	CP-OFDM	QPSK	1	1	20.6	20.3	20.2	0	21.5	20.7	20.4	20.3	0	21.5

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	20.3	20.1	20.1	0	21.5	20.4	20.2	20.2	0	21.5
			1	13	20.2	20.0	20.1	0	21.5	20.3	20.1	20.2	0	21.5
			1	23	20.3	20.1	20.2	0	21.5	20.4	20.2	20.3	0	21.5
			12	0	20.3	20.0	20.2	0	21.5	20.4	20.1	20.3	0	21.5
			12	7	20.3	20.1	20.2	0	21.5	20.4	20.2	20.3	0	21.5
			12	13	20.4	20.1	20.2	0	21.5	20.5	20.2	20.3	0	21.5
			25	0	20.2	20.1	20.2	0	21.5	20.3	20.2	20.3	0	21.5
		QPSK	1	1	20.3	20.1	20.3	0	21.5	20.4	20.2	20.4	0	21.5
			1	13	20.3	20.1	20.2	0	21.5	20.4	20.2	20.3	0	21.5
			1	23	20.4	20.2	20.3	0	21.5	20.5	20.3	20.4	0	21.5
			12	0	20.3	20.0	20.2	0	21.5	20.4	20.1	20.3	0	21.5
			12	7	20.3	20.1	20.3	0	21.5	20.4	20.2	20.4	0	21.5
			12	13	20.3	20.1	20.2	0	21.5	20.4	20.2	20.3	0	21.5
			25	0	20.2	20.1	20.2	0	21.5	20.3	20.2	20.3	0	21.5
		16QAM	1	1	20.2	20.0	20.2	0	21.5	20.3	20.1	20.3	0	21.5
		64QAM	1	1	19.0	20.2	20.2	0	21.5	19.1	20.3	20.3	0	21.5
		256QAM	1	1	18.9	18.7	18.7	1.5	20.0	19.0	18.8	18.8	1.5	20.0
	CP-OFDM	QPSK	1	1	20.1	20.0	20.1	0	21.5	20.2	20.1	20.2	0	21.5

9.5. Wi-Fi 2.4 GHz (DTS Band)

When the RCV is activated in a held-to-ear user scenario, the output power level is reduced. The maximum allowed output powers in all conditions are included in the maximum power document.
Refer to Operational Description for WLAN explanation.

Measured Results

Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	Normal WLAN mode					
					Max.Average Power			Reduced Average Power		
					Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi SISO Ant.1	802.11b	1 Mbps	1	2412.0	19.2	20.0	Yes	16.6	17.0	Yes
			6	2437.0	19.1			16.2		
			11	2462.0	19.4			16.7		
			12	2467.0	10.5	11.0	No			
			13	2472.0	8.3	9.0				
WiFi SISO Ant.2	802.11b	1 Mbps	1	2412.0	18.8	20.0	Yes	15.6	17.0	Yes
			6	2437.0	19.3			15.7		
			11	2462.0	19.2			15.8		
			12	2467.0	10.6	11.0	No			
			13	2472.0	8.5	9.0				
WiFi MIMO Ant.1	802.11g	6 Mbps	1	2412.0	16.2	17.0	Yes			
			6	2437.0	16.8					
			11	2462.0	12.6	13.0				
			12	2467.0	9.7	11.0	No			
			13	2472.0	8.8	9.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	13.0	No			
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	13.0	No			
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				
WiFi MIMO Ant.2	802.11g	6 Mbps	1	2412.0	15.4	17.0	Yes			
			6	2437.0	16.7					
			11	2462.0	12.4	13.0				
			12	2467.0	10.0	11.0	No			
			13	2472.0	8.3	9.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	13.0	No			
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	13.0	No			
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				

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. Additionally, SAR is not required for Channels 12 and 13 because the tune-up limit and the measured output power for these two channels are no greater than those for the default test channels. Refer to §6.3.

Measured Results of RSDB operation

Antenna	Mode	Data Rate	Ch #	Freq. (MHz)	RSDB WLAN mode					
					Max.Average Power			Reduced Average Power		
					Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Meas. Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
WiFi SISO Ant.1	802.11b	1 Mbps	1	2412.0	16.6	17.0	Yes	13.5	14.0	Yes
			6	2437.0	16.2			13.0		
			11	2462.0	16.7			13.4		
			12	2467.0	10.5	11.0	No			
			13	2472.0	8.3	9.0				
WiFi SISO Ant.2	802.11b	1 Mbps	1	2412.0	15.6	17.0	Yes	12.4	14.0	Yes
			6	2437.0	15.7			12.8		
			11	2462.0	15.8			12.7		
			12	2467.0	10.6	11.0	No			
			13	2472.0	8.5	9.0				
WiFi MIMO Ant.1	802.11g	6 Mbps	1	2412.0	16.2	17.0	Yes	13.3	14.0	Yes
			6	2437.0	16.8			13.6		
			11	2462.0	12.6	13.0				
			12	2467.0	9.7	11.0	No			
			13	2472.0	8.8	9.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	13.0	No	Not Required	14.0	No
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	13.0	No	Not Required	14.0	No
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				
WiFi MIMO Ant.2	802.11g	6 Mbps	1	2412.0	15.4	17.0	Yes	12.6	14.0	Yes
			6	2437.0	16.7			13.5		
			11	2462.0	12.4	13.0				
			12	2467.0	10.0	11.0	No			
			13	2472.0	8.3	9.0				
	802.11n (HT20)	6.5 Mbps	1	2412.0	Not Required	13.0	No	Not Required	14.0	No
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				
	802.11ax (HE20)	7.3 Mbps	1	2412.0	Not Required	13.0	No	Not Required	14.0	No
			6	2437.0		17.0				
			11	2462.0		11.0				
			12	2467.0		11.0				
			13	2472.0		9.0				

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. Additionally, SAR is not required for Channels 12 and 13 because the tune-up limit and the measured output power for these two channels are no greater than those for the default test channels. Refer to §6.3.
4. MIMO DTS SAR test were additionally evaluated at Body-worn and Hotspot exposure conditions for determining simultaneous transmission SAR test exclusion.

9.6. Wi-Fi 5GHz (U-NII Bands)

When the RCV is active in a held-to-ear user scenario, the output power level is reduced. The maximum allowed output powers in all conditions are included in the maximum power document.
Refer to Operational Description for WLAN explanation.

Measured Results of WiFi MIMO Ant.1

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	MIMO Ant.1					
					Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Reduced Tune-up Limit (dBm)	SAR Test (Yes/No)
5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	17.5	18.0	Yes	Not Required	15.0	No
			56	5280	17.6					
			60	5300	17.7					
			64	5320	17.7					
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	18.0	No	Not Required	15.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	17.0	No	Not Required	15.0	No
			62	5310						
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	18.0	No	Not Required	15.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	17.0	No	Not Required	15.0	No
			62	5310						
	802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	16.0	No	14.6	15.0	Yes
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	18.0	No	Not Required	15.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	17.0	No	Not Required	15.0	No
			62	5310						
	802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	16.0	No	Not Required	15.0	No
5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	16.7	18.0	Yes	Not Required	15.0	No
			120	5600	17.2					
			124	5620	17.4					
			144	5720	17.6					
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	18.0	No	Not Required	15.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	17.0	No	Not Required	15.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	18.0	No	Not Required	15.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	17.0	No	Not Required	15.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	16.0	No	14.0	15.0	Yes
			122	5610				14.3		
			138	5690				14.7		
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	18.0	No	Not Required	15.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	17.0	No	Not Required	15.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	16.0	No	Not Required	15.0	No
			122	5610						
			138	5690						
5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	17.3	18.0	Yes	Not Required	15.0	No
			157	5785	17.3					
			165	5825	17.3					
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	15.0	No
			157	5785						
			165	5825						
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	17.0	No	Not Required	15.0	No
			159	5795						
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	15.0	No
			157	5785						
			165	5825						
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	17.0	No	Not Required	15.0	No
			159	5795						
	802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	16.0	No	14.5	15.0	Yes
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	18.0	No	Not Required	15.0	No
			157	5785						
			165	5825						
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	17.0	No	Not Required	15.0	No
			159	5795						
	802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	16.0	No	Not Required	15.0	No

Measured Results of WiFi MIMO Ant.2

Antenna	Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	MIMO Ant.2					
						Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Reduced Tune-up Limit (dBm)	SAR Test (Yes/No)
MIMO Ant.2	5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	17.6	18.0	Yes	Not Required	15.0	No
				56	5280	17.6					
				60	5300	17.6					
				64	5320	17.5					
		802.11n (HT20)	6.5 Mbps	52	5260	Not Required	18.0	No	Not Required	15.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11n (HT40)	13.5 Mbps	54	5270	Not Required	17.0	No	Not Required	15.0	No
				62	5310						
		802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	18.0	No	Not Required	15.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	17.0	No	Not Required	15.0	No
				62	5310						
		802.11ac (VHT80)	29.3 Mbps	58	5290	Not Required	16.0	No	14.6	15.0	Yes
		802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	18.0	No	Not Required	15.0	No
				56	5280						
				60	5300						
				64	5320						
		802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	17.0	No	Not Required	15.0	No
				62	5310						
		802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	16.0	No	Not Required	15.0	No
	5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	17.6	18.0	Yes	Not Required	15.0	No
				120	5600	17.5					
				124	5620	17.5					
				144	5720	17.2					
		802.11n (HT20)	6.5 Mbps	100	5500	Not Required	18.0	No	Not Required	15.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11n (HT40)	13.5 Mbps	102	5510	Not Required	17.0	No	Not Required	15.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	18.0	No	Not Required	15.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	17.0	No	Not Required	15.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ac (VHT80)	29.3 Mbps	106	5530	Not Required	16.0	No	14.5	15.0	Yes
				122	5610				14.5		
				138	5690				14.2		
		802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	18.0	No	Not Required	15.0	No
				120	5600						
				124	5620						
				144	5720						
		802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	17.0	No	Not Required	15.0	No
				118	5590						
				126	5630						
				142	5710						
		802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	16.0	No	Not Required	15.0	No
				122	5610						
				138	5690						
	5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	17.1	18.0	Yes	Not Required	15.0	No
				157	5785	17.0					
				165	5825	16.7					
		802.11n (HT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	15.0	No
				157	5785						
				165	5825						
		802.11n (HT40)	13.5 Mbps	151	5755	Not Required	17.0	No	Not Required	15.0	No
				159	5795						
		802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	18.0	No	Not Required	15.0	No
				157	5785						
				165	5825						
		802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	17.0	No	Not Required	15.0	No
				159	5795						
		802.11ac (VHT80)	29.3 Mbps	155	5775	Not Required	16.0	No	13.8	15.0	Yes
		802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	18.0	No	Not Required	15.0	No
				157	5785						
				165	5825						
		802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	17.0	No	Not Required	15.0	No
				159	5795						
		802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	16.0	No	Not Required	15.0	No

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 U-NII SAR test were additionally evaluated at Body-worn exposure conditions for determining simultaneous transmission SAR test exclusion.

Measured Results of WiFi RSDB MIMO

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	MIMO Ant.1			MIMO Ant.2		
					Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)	Avg Pwr (dBm)	Max. Tune-up Limit (dBm)	SAR Test (Yes/No)
5.3 (UNII 2A)	802.11a	6 Mbps	52	5260	Not Required	14.0	Yes	Not Required	14.0	Yes
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT20)	6.5 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11n (HT40)	13.5 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ac (VHT20)	6.5 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ac (VHT40)	13.5 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ac (VHT80)	29.3 Mbps	58	5290	13.6	14.0	No	13.5	14.0	No
	802.11ax (HE20)	7.3 Mbps	52	5260	Not Required	14.0	No	Not Required	14.0	No
			56	5280						
			60	5300						
			64	5320						
	802.11ax (HE40)	14.6 Mbps	54	5270	Not Required	14.0	No	Not Required	14.0	No
			62	5310						
	802.11ax (HE80)	30.6 Mbps	58	5290	Not Required	14.0	No	Not Required	14.0	No
5.5 (U-NII 2C)	802.11a	6 Mbps	100	5500	Not Required	14.0	Yes	Not Required	14.0	Yes
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT20)	6.5 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11n (HT40)	13.5 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT20)	6.5 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ac (VHT40)	13.5 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ac (VHT80)	29.3 Mbps	106	5530	13.0	14.0	No	13.3	14.0	No
			122	5610	13.3			13.2		
			138	5690	13.6			13.1		
	802.11ax (HE20)	7.3 Mbps	100	5500	Not Required	14.0	No	Not Required	14.0	No
			120	5600						
			124	5620						
			144	5720						
	802.11ax (HE40)	14.6 Mbps	102	5510	Not Required	14.0	No	Not Required	14.0	No
			118	5590						
			126	5630						
			142	5710						
	802.11ax (HE80)	30.6 Mbps	106	5530	Not Required	14.0	No	Not Required	14.0	No
			122	5610						
			138	5690						
5.8 (U-NII 3)	802.11a	6 Mbps	149	5745	Not Required	14.0	Yes	Not Required	14.0	Yes
			157	5785						
			165	5825						
	802.11n (HT20)	6.5 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11n (HT40)	13.5 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ac (VHT20)	6.5 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11ac (VHT40)	13.5 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ac (VHT80)	29.3 Mbps	155	5775	13.4	14.0	No	12.9	14.0	No
	802.11ax (HE20)	7.3 Mbps	149	5745	Not Required	14.0	No	Not Required	14.0	No
			157	5785						
			165	5825						
	802.11ax (HE40)	14.6 Mbps	151	5755	Not Required	14.0	No	Not Required	14.0	No
			159	5795						
	802.11ax (HE80)	30.6 Mbps	155	5775	Not Required	14.0	No	Not Required	14.0	No

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 U-NII SAR test were additionally evaluated at Body-worn and Hotspot exposure conditions for determining simultaneous transmission SAR test exclusion.

9.7. Bluetooth

Measured Results

Band (GHz)	Mode	Ch #	Freq. (MHz)	Maximum Average Power (dBm)	
				Meas Pwr	Tune-up Limit
2.4	GFSK	0	2402	16.2	17.5
		39	2441	16.6	
		78	2480	15.9	
	EDR, 8-DPSK	0	2402	10.0	11.5
		39	2441	10.4	
		78	2480	9.8	
	LE, GFSK, 1M (37 pkt)	0	2402	5.7	6.5
		19	2440	5.9	
		39	2480	4.8	
	LE, GFSK, 2M (37 pkt)	0	2402	6.6	7.5
		19	2440	6.7	
		39	2480	5.7	

Note(s):

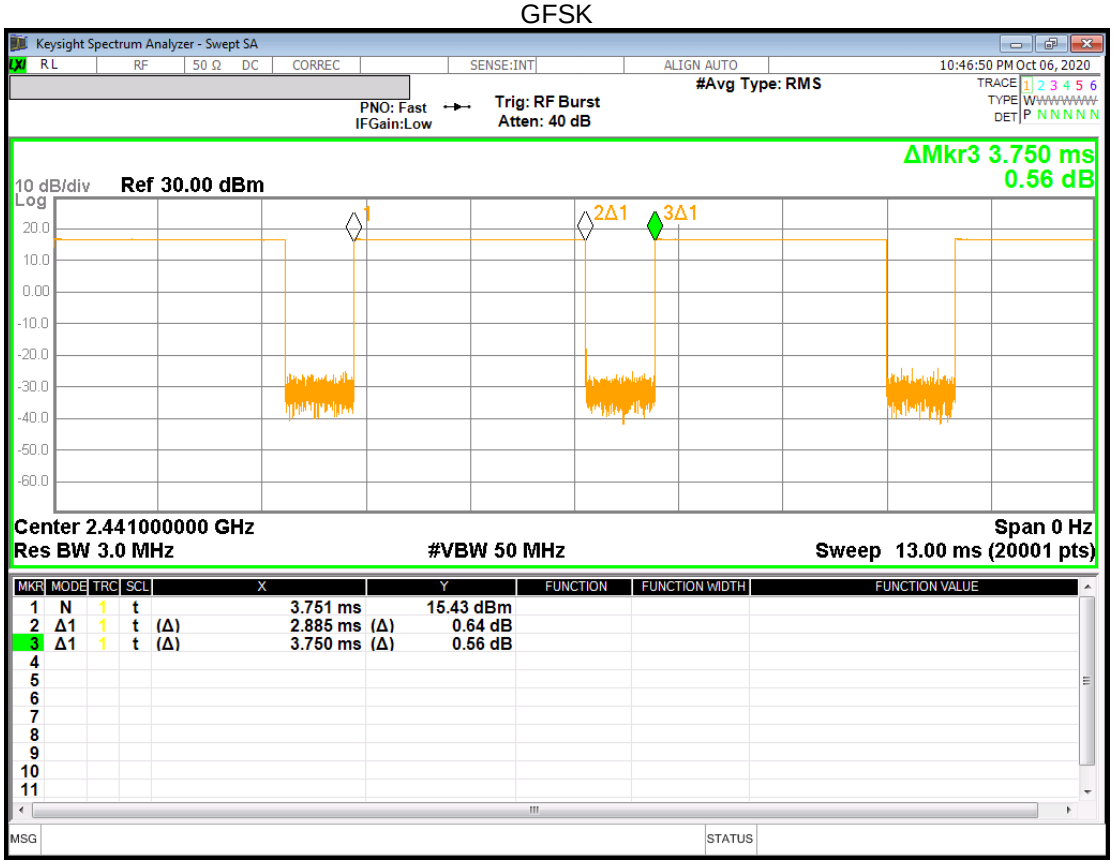
SAR test is evaluated at GFSK mode in Bluetooth

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	DH5	2.885	3.750	76.9%	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. GSM 850

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	GPRS 3 Slots	N/A	0	Left Touch	190	836.6	29.0	28.1	0.107	0.132	
					Left Tilt	190	836.6	29.0	28.1	0.066	0.082	
					Right Touch	190	836.6	29.0	28.1	0.150	0.185	1
					Right Tilt	190	836.6	29.0	28.1	0.058	0.071	
	Body-worn	GPRS 3 Slots	N/A	15	Rear	190	836.6	29.0	28.1	0.256	0.316	2
					Front	190	836.6	29.0	28.1	0.175	0.216	
	Hotspot	GPRS 3 Slots	N/A	10	Rear	190	836.6	29.0	28.1	0.555	0.684	3
					Front	190	836.6	29.0	28.1	0.343	0.423	
					Edge 2	190	836.6	29.0	28.1	0.201	0.248	
					Edge 3	190	836.6	29.0	28.1	0.355	0.438	
					Edge 4	190	836.6	29.0	28.1	0.048	0.059	

10.2. GSM 1900

Antenna	RF Exposure Conditions	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	
Main 1Ant.	Head	GPRS 1 Slot	Off	0	Left Touch	661	1880.0	30.5	29.3	0.044	0.058	4
					Left Tilt	661	1880.0	30.5	29.3	0.024	0.032	
					Right Touch	661	1880.0	30.5	29.3	0.022	0.029	
					Right Tilt	661	1880.0	30.5	29.3	0.025	0.032	
	Body-worn	GPRS 1 Slot	Off	15	Rear	661	1880.0	30.5	29.3	0.164	0.216	5
					Front	661	1880.0	30.5	29.3	0.151	0.199	
	Hotspot	GPRS 4 Slots	On	10	Rear	512	1850.2	21.5	20.4	0.187	0.242	
					Front	512	1850.2	21.5	20.4	0.150	0.194	
					Edge 2	512	1850.2	21.5	20.4	0.031	0.040	
					Edge 3	512	1850.2	21.5	20.4	0.367	0.475	6
					Edge 4	512	1850.2	21.5	20.4	0.031	0.039	

10.3. W-CDMA Band II

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	Rel 99 RMC	Off	0	Left Touch	9400	1880.0	24.0	22.6	0.134	0.186	7
					Left Tilt	9400	1880.0	24.0	22.6	0.071	0.099	
					Right Touch	9400	1880.0	24.0	22.6	0.072	0.100	
					Rightt Tilt	9400	1880.0	24.0	22.6	0.064	0.089	
	Body-worn	Rel 99 RMC	Off	15	Rear	9400	1880.0	24.0	22.6	0.327	0.454	
					Front	9400	1880.0	24.0	22.6	0.333	0.462	8
	Hotspot	Rel 99 RMC	On	10	Rear	9400	1880.0	20.0	18.6	0.385	0.532	
					Front	9400	1880.0	20.0	18.6	0.326	0.451	
					Edge 2	9400	1880.0	20.0	18.6	0.068	0.094	
					Edge 3	9262	1852.4	20.0	18.8	0.888	1.163	
						9400	1880.0	20.0	18.6	0.873	1.207	
						9538	1907.6	20.0	18.7	0.938	1.263	9
					Edge 4	9400	1880.0	20.0	18.6	0.061	0.084	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		Plot No.
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	Rel 99 RMC	Off	8	Rear	9400	1880.0	24.0	22.6	0.292	0.406	
				12	Edge 3	9400	1880.0	24.0	22.6	0.302	0.419	
			On	0	Rear	9400	1880.0	20.0	18.6	1.100	1.523	
				0	Edge 3	9400	1880.0	20.0	18.6	1.260	1.745	10

10.4. W-CDMA Band IV

Antenna	RF Exposure Conditions	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	
Main 1Ant.	Head	Rel 99 RMC	Off	0	Left Touch	1413	1732.6	23.5	22.7	0.129	0.154	11
					Left Tilt	1413	1732.6	23.5	22.7	0.056	0.066	
					Right Touch	1413	1732.6	23.5	22.7	0.094	0.112	
					Rightt Tilt	1413	1732.6	23.5	22.7	0.087	0.104	
	Body-worn	Rel 99 RMC	Off	15	Rear	1413	1732.6	23.5	22.7	0.600	0.715	12
					Front	1413	1732.6	23.5	22.7	0.483	0.575	
	Hotspot	Rel 99 RMC	On	10	Rear	1413	1732.6	20.0	18.7	0.402	0.541	
					Front	1413	1732.6	20.0	18.7	0.392	0.527	
					Edge 2	1413	1732.6	20.0	18.7	0.058	0.078	
					Edge 3	1312	1712.4	20.0	18.5	0.568	0.793	
						1413	1732.6	20.0	18.7	0.789	1.062	13
						1513	1752.6	20.0	19.0	0.771	0.967	
					Edge 4	1413	1732.6	20.0	18.7	0.092	0.123	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		10-g SAR (W/kg)		
								Tune-up limit	Meas.	Meas.	Scaled	
Main 1Ant.	Product Specific 10-g	Rel 99 RMC	Off	8	Rear	1413	1732.6	23.5	22.7	0.821	0.978	
				12	Edge 3	1413	1732.6	23.5	22.7	0.521	0.621	
			On	0	Rear	1413	1732.6	20.0	18.6	1.170	1.619	
				0	Edge 3	1413	1732.6	20.0	18.6	1.380	1.909	14

10.5. W-CDMA Band V

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	Rel 99 RMC	N/A	0	Left Touch	4183	836.6	25.0	23.8	0.129	0.172	
					Left Tilt	4183	836.6	25.0	23.8	0.072	0.097	
					Right Touch	4183	836.6	25.0	23.8	0.178	0.237	15
					Rightt Tilt	4183	836.6	25.0	23.8	0.063	0.084	
	Body-worn	Rel 99 RMC	N/A	15	Rear	4183	836.6	25.0	23.8	0.271	0.361	16
					Front	4183	836.6	25.0	23.8	0.202	0.269	
	Hotspot	Rel 99 RMC	N/A	10	Rear	4183	836.6	25.0	23.8	0.585	0.780	17
					Front	4183	836.6	25.0	23.8	0.370	0.493	
					Edge 2	4183	836.6	25.0	23.8	0.218	0.291	
					Edge 3	4183	836.6	25.0	23.8	0.359	0.479	
					Edge 4	4183	836.6	25.0	23.8	0.059	0.079	

10.6. LTE Band 2 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	Off	0	Left Touch	18700	1860.0	1	49	24.0	23.3	0.109	0.127	18
								50	0	23.0	22.4	0.089	0.103	
					Left Tilt	18700	1860.0	1	49	24.0	23.3	0.067	0.079	
								50	0	23.0	22.4	0.056	0.065	
					Right Touch	18700	1860.0	1	49	24.0	23.3	0.055	0.064	
								50	0	23.0	22.4	0.044	0.051	
					Right Tilt	18700	1860.0	1	49	24.0	23.3	0.056	0.065	
								50	0	23.0	22.4	0.048	0.056	
	Body-worn	QPSK	Off	15	Rear	18700	1860.0	1	49	24.0	23.3	0.575	0.671	19
								50	0	23.0	22.4	0.475	0.549	
					Front	18700	1860.0	1	49	24.0	23.3	0.487	0.568	
								50	0	23.0	22.4	0.364	0.421	
	Hotspot	QPSK	On	10	Rear	18700	1860.0	1	49	20.5	19.7	0.467	0.563	
								50	0	20.5	19.8	0.485	0.571	
					Front	18700	1860.0	1	49	20.5	19.7	0.395	0.477	
								50	0	20.5	19.8	0.408	0.480	
					Edge 2	18700	1860.0	1	49	20.5	19.7	0.075	0.090	
								50	0	20.5	19.8	0.079	0.093	
					Edge 3	18700	1860.0	1	49	20.5	19.7	0.838	1.011	
								50	0	20.5	19.8	0.838	0.986	
								100	0	20.5	19.8	0.843	0.992	
						18900	1880.0	1	49	20.5	19.3	0.795	1.047	
								50	0	20.5	19.4	0.810	1.045	
						19100	1900.0	1	49	20.5	19.6	0.851	1.056	20
								50	0	20.5	19.7	0.867	1.051	
					Edge 4	18700	1860.0	1	49	20.5	19.7	0.068	0.082	
								50	0	20.5	19.8	0.071	0.084	

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	QPSK	Off	8	Rear	18700	1860.0	1	49	24.0	23.3	0.916	1.069	
				12	Edge 3	18700	1860.0	1	49	24.0	23.3	0.736	0.859	
								50	0	23.0	22.4	0.589	0.681	
			On	0	Rear	18700	1860.0	1	49	20.5	19.7	1.290	1.534	
				0	Edge 3	18700	1860.0	1	49	20.5	19.7	1.560	1.855	
								50	0	20.5	19.9	1.640	1.875	21

10.7. LTE Band 5 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	20525	836.5	1	0	25.0	24.4	0.113	0.130	
								25	0	24.0	23.4	0.100	0.115	
					Left Tilt	20525	836.5	1	0	25.0	24.4	0.067	0.078	
								25	0	24.0	23.4	0.057	0.065	
					Right Touch	20525	836.5	1	0	25.0	24.4	0.182	0.210	22
								25	0	24.0	23.4	0.150	0.173	
					Right Tilt	20525	836.5	1	0	25.0	24.4	0.063	0.073	
								25	0	24.0	23.4	0.052	0.060	
	Body-worn	QPSK	N/A	15	Rear	20525	836.5	1	0	25.0	24.4	0.299	0.344	23
								25	0	24.0	23.4	0.249	0.287	
					Front	20525	836.5	1	0	25.0	24.4	0.209	0.241	
								25	0	24.0	23.4	0.170	0.196	
	Hotspot	QPSK	N/A	10	Rear	20525	836.5	1	0	25.0	24.4	0.632	0.728	24
								25	0	24.0	23.4	0.524	0.603	
					Front	20525	836.5	1	0	25.0	24.4	0.417	0.480	
								25	0	24.0	23.4	0.361	0.415	
					Edge 2	20525	836.5	1	0	25.0	24.4	0.235	0.271	
								25	0	24.0	23.4	0.188	0.216	
					Edge 3	20525	836.5	1	0	25.0	24.4	0.395	0.455	
								25	0	24.0	23.4	0.326	0.375	
					Edge 4	20525	836.5	1	0	25.0	24.4	0.059	0.068	
								25	0	24.0	23.4	0.047	0.054	

10.8. LTE Band 12 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	23095	707.5	1	0	24.5	24.0	0.088	0.099	
								25	0	23.5	23.0	0.069	0.078	
					Left Tilt	23095	707.5	1	0	24.5	24.0	0.048	0.055	
								25	0	23.5	23.0	0.039	0.044	
					Right Touch	23095	707.5	1	0	24.5	24.0	0.104	0.118	25
								25	0	23.5	23.0	0.081	0.091	
					Right Tilt	23095	707.5	1	0	24.5	24.0	0.056	0.064	
								25	0	23.5	23.0	0.045	0.050	
	Body-worn	QPSK	N/A	15	Rear	23095	707.5	1	0	24.5	24.0	0.145	0.164	26
								25	0	23.5	23.0	0.117	0.132	
					Front	23095	707.5	1	0	24.5	24.0	0.135	0.153	
								25	0	23.5	23.0	0.111	0.126	
	Hotspot	QPSK	N/A	10	Rear	23095	707.5	1	0	24.5	24.0	0.212	0.240	27
								25	0	23.5	23.0	0.172	0.195	
					Front	23095	707.5	1	0	24.5	24.0	0.131	0.149	
								25	0	23.5	23.0	0.107	0.121	
					Edge 2	23095	707.5	1	0	24.5	24.0	0.143	0.162	
								25	0	23.5	23.0	0.108	0.122	
					Edge 3	23095	707.5	1	0	24.5	24.0	0.104	0.118	
								25	0	23.5	23.0	0.081	0.092	
					Edge 4	23095	707.5	1	0	24.5	24.0	0.096	0.108	
								25	0	23.5	23.0	0.078	0.088	

10.9. LTE Band 13 (10MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	23230	782.0	1	0	24.5	23.9	0.105	0.122	
								25	0	23.5	22.9	0.085	0.098	
					Left Tilt	23230	782.0	1	0	24.5	23.9	0.062	0.072	
								25	0	23.5	22.9	0.051	0.059	
					Right Touch	23230	782.0	1	0	24.5	23.9	0.126	0.146	28
								25	0	23.5	22.9	0.100	0.115	
					Right Tilt	23230	782.0	1	0	24.5	23.9	0.053	0.062	
								25	0	23.5	22.9	0.043	0.049	
	Body-worn	QPSK	N/A	15	Rear	23230	782.0	1	0	24.5	23.9	0.173	0.201	29
								25	0	23.5	22.9	0.141	0.162	
					Front	23230	782.0	1	0	24.5	23.9	0.141	0.163	
								25	0	23.5	22.9	0.112	0.129	
	Hotspot	QPSK	N/A	10	Rear	23230	782.0	1	0	24.5	23.9	0.369	0.428	30
								25	0	23.5	22.9	0.295	0.339	
					Front	23230	782.0	1	0	24.5	23.9	0.223	0.258	
								25	0	23.5	22.9	0.180	0.207	
					Edge 2	23230	782.0	1	0	24.5	23.9	0.230	0.267	
								25	0	23.5	22.9	0.177	0.203	
					Edge 3	23230	782.0	1	0	24.5	23.9	0.169	0.196	
								25	0	23.5	22.9	0.144	0.166	
					Edge 4	23230	782.0	1	0	24.5	23.9	0.092	0.107	
								25	0	23.5	22.9	0.072	0.083	

10.10. LTE Band 25 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	Off	0	Left Touch	26140	1860.0	1	49	24.0	22.9	0.128	0.167	31
								50	0	23.0	22.2	0.103	0.124	
					Left Tilt	26140	1860.0	1	49	24.0	22.9	0.087	0.113	
								50	0	23.0	22.2	0.069	0.082	
					Right Touch	26140	1860.0	1	49	24.0	22.9	0.077	0.101	
								50	0	23.0	22.2	0.057	0.069	
					Right Tilt	26140	1860.0	1	49	24.0	22.9	0.070	0.090	
								50	0	23.0	22.2	0.060	0.072	
	Body-worn	QPSK	Off	15	Rear	26140	1860.0	1	49	24.0	22.9	0.519	0.676	32
								50	0	23.0	22.2	0.431	0.517	
					Front	26140	1860.0	1	49	24.0	22.9	0.413	0.538	
								50	0	23.0	22.2	0.343	0.411	
	Hotspot	QPSK	On	10	Rear	26140	1860.0	1	49	20.5	19.5	0.395	0.502	
								50	0	20.5	19.6	0.414	0.510	
					Front	26140	1860.0	1	49	20.5	19.5	0.349	0.443	
								50	0	20.5	19.6	0.365	0.449	
					Edge 2	26140	1860.0	1	49	20.5	19.5	0.074	0.094	
								50	0	20.5	19.6	0.076	0.093	
					Edge 3	26140	1860.0	1	49	20.5	19.5	0.743	0.944	
								50	0	20.5	19.6	0.751	0.925	
								100	0	20.5	19.6	0.758	0.938	
						26365	1882.5	1	49	20.5	19.2	0.718	0.963	
								50	0	20.5	19.2	0.718	0.962	
						26590	1905.0	1	49	20.5	19.2	0.734	0.988	
								50	0	20.5	19.3	0.747	0.990	33
					Edge 4	26140	1860.0	1	49	20.5	19.5	0.069	0.088	
								50	0	20.5	19.6	0.072	0.089	
Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	QPSK	Off	12	Edge 3	26140	1860.0	1	49	24.0	22.9	0.611	0.795	
								50	0	23.0	22.2	0.510	0.612	
			On	0	Edge 3	26140	1860.0	1	49	20.5	19.6	1.510	1.876	
								50	0	20.5	19.7	1.550	1.877	34

10.11. LTE Band 26 (15MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	N/A	0	Left Touch	26865	831.5	1	0	25.0	24.1	0.110	0.134	
								36	0	24.0	23.1	0.078	0.095	
					Left Tilt	26865	831.5	1	0	25.0	24.1	0.060	0.074	
								36	0	24.0	23.1	0.045	0.055	
					Right Touch	26865	831.5	1	0	25.0	24.1	0.126	0.154	35
								36	0	24.0	23.1	0.109	0.133	
					Right Tilt	26865	831.5	1	0	25.0	24.1	0.053	0.064	
								36	0	24.0	23.1	0.041	0.050	
	Body-worn	QPSK	N/A	15	Rear	26865	831.5	1	0	25.0	24.1	0.207	0.253	36
								36	0	24.0	23.1	0.179	0.218	
					Front	26865	831.5	1	0	25.0	24.1	0.159	0.194	
								36	0	24.0	23.1	0.134	0.163	
	Hotspot	QPSK	N/A	10	Rear	26865	831.5	1	0	25.0	24.1	0.431	0.526	37
								36	0	24.0	23.1	0.371	0.452	
					Front	26865	831.5	1	0	25.0	24.1	0.302	0.369	
								36	0	24.0	23.1	0.256	0.312	
					Edge 2	26865	831.5	1	0	25.0	24.1	0.189	0.231	
								36	0	24.0	23.1	0.157	0.191	
					Edge 3	26865	831.5	1	0	25.0	24.1	0.297	0.363	
								36	0	24.0	23.1	0.252	0.307	
					Edge 4	26865	831.5	1	0	25.0	24.1	0.046	0.056	
								36	0	24.0	23.1	0.041	0.050	

10.12. LTE Band 41 (20MHz Bandwidth)

LTE Band 41 Power Class 3

Antenna	RF Exposure Conditions	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	
Main 2 Ant.	Head	QPSK	Off	0	Left Touch	41055	2636.5	1	0	24.0	22.9	0.051	0.066	38
								50	0	23.0	22.1	0.039	0.048	
					Left Tilt	41055	2636.5	1	0	24.0	22.9	0.012	0.015	
								50	0	23.0	22.1	0.010	0.012	
					Right Touch	41055	2636.5	1	0	24.0	22.9	0.039	0.051	
								50	0	23.0	22.1	0.028	0.035	
					Right Tilt	41055	2636.5	1	0	24.0	22.9	0.020	0.026	
								50	0	23.0	22.1	0.014	0.017	
	Body-worn	QPSK	Off	15	Rear	41055	2636.5	1	0	24.0	22.9	0.300	0.390	39
								50	0	23.0	22.1	0.242	0.300	
					Front	41055	2636.5	1	0	24.0	22.9	0.174	0.226	
								50	0	23.0	22.1	0.136	0.169	
	Hotspot	QPSK	On	10	Rear	41055	2636.5	1	0	22.0	21.0	0.364	0.462	40
								50	0	22.0	21.1	0.370	0.460	
					Front	41055	2636.5	1	0	22.0	21.0	0.188	0.239	
								50	0	22.0	21.1	0.188	0.234	
					Edge 3	41055	2636.5	1	0	22.0	21.0	0.290	0.368	
								50	0	22.0	21.1	0.298	0.371	
					Edge 4	41055	2636.5	1	0	22.0	21.0	0.091	0.115	
								50	0	22.0	21.1	0.089	0.111	

LTE Band 41 Power Class 2

Antenna	RF Exposure Conditions	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	
Main 2 Ant.	Head	QPSK	Off	0	Left Touch	41055	2636.5	1	0	25.5	24.0	0.039	0.056	
	Body-worn	QPSK	Off	15	Rear	40185	2549.5	1	0	25.5	24.0	0.224	0.317	

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 average 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 W/kg

Reported SAR vs. Output Power linearly scaled

Antenna	RF Exposure Conditions	Power Class 2				Power Class 3				PC 2 linearly Scaled Reported SAR (W/kg)	Linearly scaled (%)
		Duty Cycle (%)	Tune-up Power (dBm)	Frame Avg. Power (mW)	Reported SAR (W/kg)	Duty Cycle (%)	Tune-up Power (dBm)	Frame Avg. Power (mW)	Reported SAR (W/kg)		
Main 2 Ant.	Head	43.3	25.5	153.6	0.056	63.3	24.0	159.0	0.066	0.058	-12.2
	Body-worn	43.3	25.5	153.6	0.317	63.3	24.0	159.0	0.390	0.328	-15.9

Conclusion:

Simultaneous SAR test for Power Class 2 is not required base on the *reported* SAR < 1.4 W/kg and *reported* SAR vs. output power linearly scaled < 10%.

10.13. LTE Band 66 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	QPSK	Off	0	Left Touch	132572	1770.0	1	49	24.0	23.2	0.116	0.141	41
								50	24	23.0	22.3	0.096	0.114	
					Left Tilt	132572	1770.0	1	49	24.0	23.2	0.053	0.064	
								50	24	23.0	22.3	0.042	0.050	
					Right Touch	132572	1770.0	1	49	24.0	23.2	0.088	0.107	
								50	24	23.0	22.3	0.072	0.085	
					Right Tilt	132572	1770.0	1	49	24.0	23.2	0.053	0.065	
								50	24	23.0	22.3	0.042	0.049	
	Body-worn	QPSK	Off	15	Rear	132572	1770.0	1	49	24.0	23.2	0.615	0.746	42
								50	24	23.0	22.3	0.508	0.601	
					Front	132572	1770.0	1	49	24.0	23.2	0.484	0.587	
								50	24	23.0	22.3	0.398	0.471	
	Hotspot	QPSK	On	10	Rear	132572	1770.0	1	49	20.7	19.8	0.457	0.562	
								50	24	20.7	19.8	0.475	0.581	
					Front	132572	1770.0	1	49	20.7	19.8	0.424	0.522	
								50	24	20.7	19.8	0.443	0.542	
					Edge 2	132572	1770.0	1	49	20.7	19.8	0.060	0.074	
								50	24	20.7	19.8	0.064	0.078	
					Edge 3	132072	1720.0	1	49	20.7	19.3	0.686	0.937	
								50	24	20.7	19.5	0.699	0.928	
						132322	1745.0	1	49	20.7	19.7	0.796	1.003	
								50	24	20.7	19.7	0.812	1.014	
						132572	1770.0	1	49	20.7	19.8	0.912	1.122	
								50	24	20.7	19.8	0.950	1.161	43
								100	0	20.7	19.8	0.936	1.149	
					Edge 4	132572	1770.0	1	49	20.7	19.8	0.081	0.099	
								50	24	20.7	19.8	0.084	0.103	

Antenna	RF Exposure Conditions	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		10-g SAR (W/kg)		Plot No.
										Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	QPSK	Off	8	Rear	132572	1770.0	1	49	24.0	23.2	0.779	0.945	
				12	Edge 3	132572	1770.0	1	49	24.0	23.2	0.828	1.005	
								50	24	23.0	22.3	0.681	0.806	
			On	0	Rear	132572	1770.0	1	49	20.7	19.9	1.260	1.531	
				0	Edge 3	132572	1770.0	1	49	20.7	19.9	1.450	1.762	
								50	24	20.7	19.9	1.520	1.834	44

10.14. NR Band n5 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	DFT-s-OFDM	QPSK	N/A	0	Left Touch	167300	836.5	1	53	25.0	24.6	0.121	0.133	
									50	28	25.0	24.4	0.113	0.130	
						Left Tilt	167300	836.5	1	53	25.0	24.6	0.062	0.067	
									50	28	25.0	24.4	0.060	0.069	
						Right Touch	167300	836.5	1	53	25.0	24.6	0.187	0.205	
									50	28	25.0	24.4	0.190	0.218	45
						Right Tilt	167300	836.5	1	53	25.0	24.6	0.070	0.076	
									50	28	25.0	24.4	0.070	0.080	
		CP-OFDM	QPSK	N/A	0	Left Touch	167300	836.5	1	1	23.5	23.0	0.098	0.111	
	Body-worn	DFT-s-OFDM	QPSK	N/A	15	Rear	167300	836.5	1	53	25.0	24.6	0.280	0.307	46
									50	28	25.0	24.4	0.255	0.293	
						Front	167300	836.5	1	53	25.0	24.6	0.220	0.241	
									50	28	25.0	24.4	0.213	0.245	
		CP-OFDM	QPSK	N/A	15	Rear	167300	836.5	1	1	23.5	23.0	0.159	0.180	
	Hotspot	DFT-s-OFDM	QPSK	N/A	10	Rear	167300	836.5	1	53	25.0	24.6	0.588	0.645	47
									50	28	25.0	24.4	0.508	0.583	
						Front	167300	836.5	1	53	25.0	24.6	0.383	0.420	
									50	28	25.0	24.4	0.361	0.414	
						Edge 2	167300	836.5	1	53	25.0	24.6	0.227	0.249	
									50	28	25.0	24.4	0.231	0.265	
						Edge 3	167300	836.5	1	53	25.0	24.6	0.407	0.446	
									50	28	25.0	24.4	0.373	0.428	
						Edge 4	167300	836.5	1	53	25.0	24.6	0.051	0.055	
									50	28	25.0	24.4	0.051	0.059	
		CP-OFDM	QPSK	N/A	10	Rear	167300	836.5	1	1	23.5	23.0	0.324	0.366	

Note(s):

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

10.15. NR Band n66 (20MHz Bandwidth)

Antenna	RF Exposure Conditions	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	
Main 1 Ant.	Head	DFT-s-OFDM	QPSK	Off	0	Left Touch	354000	1770.0	1	53	24.5	23.7	0.129	0.155	
									50	28	24.5	23.6	0.128	0.159	48
						Left Tilt	354000	1770.0	1	53	24.5	23.7	0.063	0.076	
									50	28	24.5	23.6	0.060	0.074	
						Right Touch	354000	1770.0	1	53	24.5	23.7	0.079	0.095	
									50	28	24.5	23.6	0.081	0.100	
						Right Tilt	354000	1770.0	1	53	24.5	23.7	0.066	0.080	
									50	28	24.5	23.6	0.071	0.088	
		CP-OFDM	QPSK	Off	0	Left Touch	354000	1770.0	1	1	23.0	21.9	0.073	0.095	
	Body-worn	DFT-s-OFDM	QPSK	Off	15	Rear	354000	1770.0	1	53	24.5	23.7	0.463	0.558	
									50	28	24.5	23.6	0.522	0.647	49
						Front	354000	1770.0	1	53	24.5	23.7	0.379	0.457	
									50	28	24.5	23.6	0.461	0.571	
		CP-OFDM	QPSK	Off	15	Rear	354000	1770.0	1	1	23.0	21.9	0.366	0.477	
	Hotspot	DFT-s-OFDM	QPSK	On	10	Rear	354000	1770.0	1	53	21.5	20.7	0.521	0.621	
									50	28	21.5	20.7	0.512	0.616	
						Front	354000	1770.0	1	53	21.5	20.7	0.448	0.534	
									50	28	21.5	20.7	0.498	0.599	
						Edge 2	354000	1770.0	1	53	21.5	20.7	0.070	0.084	
									50	28	21.5	20.7	0.068	0.082	
						Edge 3	344000	1720.0	1	53	21.5	20.6	0.705	0.863	
									50	28	21.5	20.5	0.695	0.873	
							349000	1745.0	1	53	21.5	20.4	0.835	1.076	
									50	28	21.5	20.3	0.780	1.024	
							354000	1770.0	1	53	21.5	20.7	0.912	1.086	50
									50	28	21.5	20.7	0.899	1.081	
									100	0	21.5	20.7	0.832	1.012	
						Edge 4	354000	1770.0	1	53	21.5	20.7	0.107	0.127	
									50	28	21.5	20.7	0.095	0.114	
		CP-OFDM	QPSK	On	10	Edge 3	354000	1770.0	1	1	21.5	20.4	0.814	1.056	

Antenna	RF Exposure Conditions	Modulation	Mode	PWR Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offest	Power (dBm)		10-g SAR (W/kg)		Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	
Main 1 Ant.	Product Specific 10-g	DFT-s-OFDM	QPSK	Off	8	Rear	354000	1770.0	1	53	24.5	23.7	0.763	0.919	
									50	28	24.5	23.6	0.768	0.951	
					12	Edge 3	354000	1770.0	1	53	24.5	23.7	0.710	0.856	
									50	28	24.5	23.6	0.667	0.826	
				On	0	Rear	354000	1770.0	1	53	21.5	20.7	1.370	1.632	
									50	28	21.5	20.7	1.350	1.623	
					0	Edge 3	354000	1770.0	1	53	21.5	20.7	1.540	1.835	51
									50	28	21.5	20.7	1.490	1.791	
		CP-OFDM	QPSK	On	0	Edge 3	354000	1770.0	1	1	21.5	20.5	1.450	1.830	

Note(s):

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

10.16. Wi-Fi (DTS Band)

Antenna	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		
SISO (WiFi Ant.1)	2.4GHz	802.11b 1 Mbps	Head	On	0	Left Touch	11	2462.0	0.616	99.5%	17.0	16.7	0.372	0.403	2	52
						Left Tilt	11	2462.0	0.055	99.5%	17.0	16.7				
						Right Touch	11	2462.0	0.469	99.5%	17.0	16.7	0.323	0.350		
						Rightt Tilt	11	2462.0	0.114	99.5%	17.0	16.7				
			Body-worn	Off	15	Rear	11	2462.0	0.163	99.5%	20.0	19.4	0.100	0.115	1	
						Front	11	2462.0	0.118	99.5%	20.0	19.4	0.082	0.094	4	
			Hotspot	Off	10	Rear	11	2462.0	0.317	99.5%	20.0	19.4	0.209	0.240	4	
						Front	11	2462.0	0.283	99.5%	20.0	19.4	0.185	0.213	4	
						Edge 4	11	2462.0	0.453	99.5%	20.0	19.4	0.258	0.296	1	
SISO (WiFi Ant.2)	2.4GHz	802.11b 1 Mbps	Head	On	0	Left Touch	11	2462.0	0.020	99.5%	17.0	15.8				
						Left Tilt	11	2462.0	0.023	99.5%	17.0	15.8				
						Right Touch	11	2462.0	0.045	99.5%	17.0	15.8	0.028	0.037	1	
						Rightt Tilt	11	2462.0	0.043	99.5%	17.0	15.8				
			Body-worn	Off	15	Rear	6	2437.0	0.179	99.5%	20.0	19.3	0.125	0.147	1	53
						Front	6	2437.0	0.017	99.5%	20.0	19.3	0.008	0.010	4	
			Hotspot	Off	10	Rear	6	2437.0	0.567	99.5%	20.0	19.3	0.371	0.437		54
						Front	6	2437.0	0.028	99.5%	20.0	19.3	0.017	0.020	4	
						Edge 1	6	2437.0	0.052	99.5%	20.0	19.3	0.033	0.039	2	
						Edge 4	6	2437.0	0.022	99.5%	20.0	19.3				

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.

10.17. Wi-Fi (DTS Band) of RSDB operation

Antenna	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		
SISO (WiFi Ant.1)	2.4GHz	802.11b 1 Mbps	Body-worn	Off	15	Rear	11	2462.0	0.085	99.5%	17.0	16.7	0.052	0.057	1,3	
			Hotspot	Off	10	Rear	11	2462.0	0.146	99.5%	17.0	16.7	0.099	0.107	1,3	
SISO (WiFi Ant.2)	2.4GHz	802.11b 1 Mbps	Body-worn	Off	15	Rear	11	2462.0	0.046	99.5%	17.0	15.8	0.032	0.043	1,3	
			Hotspot	Off	10	Rear	11	2462.0	0.130	99.5%	17.0	15.8	0.095	0.127	1,3	
MIMO (WiFi Ant.1)	2.4GHz	802.11g 6Mbps	Body-worn	Off	15	Rear	6	2437.0	0.126	96.5%	17.0	16.8				
						Front	6	2437.0	0.052	96.5%	17.0	16.8				
			Hotspot	Off	10	Rear	6	2437.0	0.352	96.5%	17.0	16.8				
						Front	6	2437.0	0.098	96.5%	17.0	16.8				
						Edge 1	6	2437.0	0.028	96.5%	17.0	16.8				
						Edge 4	6	2437.0	0.143	96.5%	17.0	16.8				
MIMO (WiFi Ant.2)	2.4GHz	802.11g 6Mbps	Body-worn	Off	15	Rear	6	2437.0	0.126	96.5%	17.0	16.7	0.084	0.093	1	55
						Front	6	2437.0	0.052	96.5%	17.0	16.7				
			Hotspot	Off	10	Rear	6	2437.0	0.352	96.5%	17.0	16.7	0.225	0.250	1	56
						Front	6	2437.0	0.098	96.5%	17.0	16.7				
						Edge 1	6	2437.0	0.028	96.5%	17.0	16.7				
						Edge 4	6	2437.0	0.143	96.5%	17.0	16.7				

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. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
3. When reported SAR for SISO operation is lower than highest reported SAR for MIMO operation at the same position, other test positions in this exposure condition were not evaluated for SISO operation.

10.18. Wi-Fi (U-NII Bands)

U-NII 2A Results

Antenna	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)		10-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled		
MIMO (WiFI Ant.1)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	58	5290.0	0.166	92.8%	15.0	14.6						
						Left Tilt	58	5290.0	0.216	92.8%	15.0	14.6						
						Right Touch	58	5290.0	0.354	92.8%	15.0	14.6	0.175	0.208			1	57
						Right Tilt	58	5290.0	0.304	92.8%	15.0	14.6						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	60	5300.0	0.815	96.6%	18.0	17.7						
						Front	60	5300.0	0.220	96.6%	18.0	17.7	0.105	0.117			2	
			Product Specific 10-g	Off	0	Rear	60	5300.0	23.296	96.6%	18.0	17.7						
						Front	60	5300.0	1.358	96.6%	18.0	17.7			0.145	0.162	4	
						Edge 1	60	5300.0	1.133	96.6%	18.0	17.7						
						Edge 4	60	5300.0	1.846	96.6%	18.0	17.7			0.191	0.213	2	
MIMO (WiFI Ant.2)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	58	5290.0	0.166	92.8%	15.0	14.6						
						Left Tilt	58	5290.0	0.216	92.8%	15.0	14.6						
						Right Touch	58	5290.0	0.354	92.8%	15.0	14.6						
						Right Tilt	58	5290.0	0.304	92.8%	15.0	14.6						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	60	5300.0	0.815	96.6%	18.0	17.6	0.367	0.421				58
						Front	60	5300.0	0.220	96.6%	18.0	17.6						
			Product Specific 10-g	Off	0	Rear	60	5300.0	23.296	96.6%	18.0	17.6			1.710	1.959		59
						Front	60	5300.0	1.358	96.6%	18.0	17.6						
						Edge 1	60	5300.0	1.133	96.6%	18.0	17.6						
						Edge 4	60	5300.0	1.846	96.6%	18.0	17.6						

U-NII 2C Results

Antenna	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)		10-g SAR (W/kg)		Note	Plot No.
											Tune-up limit	Meas.	Meas.	Scaled	Meas.	Scaled		
MIMO (WiFI Ant.1)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	138	5690.0	0.153	92.8%	15.0	14.7						
						Left Tilt	138	5690.0	0.145	92.8%	15.0	14.7						
						Right Touch	138	5690.0	0.621	92.8%	15.0	14.7	0.261	0.305			1	60
						Right Tilt	138	5690.0	0.307	92.8%	15.0	14.7						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	144	5720.0	1.195	96.6%	18.0	17.6						
						Front	144	5720.0	0.092	96.6%	18.0	17.6	0.039	0.044			2	
			Product Specific 10-g	Off	0	Rear	144	5720.0	16.184	96.6%	18.0	17.6						
						Front	144	5720.0	4.177	96.6%	18.0	17.6			0.347	0.398	2	
						Edge 1	144	5720.0	1.107	96.6%	18.0	17.6						
						Edge 4	144	5720.0	2.002	96.6%	18.0	17.6						
MIMO (WiFI Ant.2)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	138	5690.0	0.153	92.8%	15.0	14.2						
						Left Tilt	138	5690.0	0.145	92.8%	15.0	14.2						
						Right Touch	138	5690.0	0.621	92.8%	15.0	14.2						
						Right Tilt	138	5690.0	0.307	92.8%	15.0	14.2						
		802.11a 6 Mbps	Body-worn	Off	15	Rear	144	5720.0	1.195	96.6%	18.0	17.2	0.542	0.679				61
						Front	144	5720.0	0.092	96.6%	18.0	17.2						
			Product Specific 10-g	Off	0	Rear	144	5720.0	16.184	96.6%	18.0	17.2			1.230	1.542		62
						Front	144	5720.0	4.177	96.6%	18.0	17.2						
						Edge 1	144	5720.0	1.107	96.6%	18.0	17.2						
						Edge 4	144	5720.0	2.002	96.6%	18.0	17.2						

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.

U-NII 3 Results

Antenna	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		
MIMO (WiFI Ant.1)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	155	5775.0	0.169	92.8%	15.0	14.5				
						Left Tilt	155	5775.0	0.195	92.8%	15.0	14.5				
						Right Touch	155	5775.0	0.417	92.8%	15.0	14.5	0.118	0.142	1	63
						Right Tilt	155	5775.0	0.354	92.8%	15.0	14.5				
		802.11a 6 Mbps	Body-worn	Off	15	Rear	157	5785.0	1.078	96.6%	18.0	17.3				
						Front	157	5785.0	0.077	96.6%	18.0	17.3				
			Hotspot	Off	10	Rear	149	5745.0	1.365	96.6%	18.0	17.3				
						Front	149	5745.0	0.141	96.6%	18.0	17.3	0.065	0.079	4	
						Edge 1	149	5745.0	0.397	96.6%	18.0	17.3				
						Edge 4	149	5745.0	0.322	96.6%	18.0	17.3				
MIMO (WiFI Ant.2)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Head	On	0	Left Touch	155	5775.0	0.169	92.8%	15.0	13.8				
						Left Tilt	155	5775.0	0.195	92.8%	15.0	13.8				
						Right Touch	155	5775.0	0.417	92.8%	15.0	13.8				
						Right Tilt	155	5775.0	0.354	92.8%	15.0	13.8				
		802.11a 6 Mbps	Body-worn	Off	15	Rear	157	5785.0	1.078	96.6%	18.0	17.0	0.519	0.680		64
						Front	157	5785.0	0.077	96.6%	18.0	17.0	0.032	0.042	2	
			Hotspot	Off	10	Rear	149	5745.0	1.365	96.6%	18.0	17.1	0.629	0.796		65
						Front	149	5745.0	0.141	96.6%	18.0	17.1				
						Edge 1	149	5745.0	0.397	96.6%	18.0	17.1	0.190	0.240	2	
						Edge 4	149	5745.0	0.322	96.6%	18.0	17.1				

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.

10.19. Wi-Fi (U-NII Band) of RSDB operation

U-NII 2A Results

Antenna	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		
MIMO (WiFI Ant.1)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	58	5290.0	0.432	92.8%	14.0	13.6				
						Front	58	5290.0	0.110	92.8%	14.0	13.6	0.052	0.062	2	
MIMO (WiFI Ant.2)	5.3 GHz U-NII 2A	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	58	5290.0	0.432	92.8%	14.0	13.5	0.214	0.261	1	66
						Front	58	5290.0	0.110	92.8%	14.0	13.5				

U-NII 2C Results

Antenna	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		
MIMO (WiFI Ant.1)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	138	5690.0	0.414	92.8%	14.0	13.6				
						Front	138	5690.0	0.041	92.8%	14.0	13.6	0.014	0.016	2	
MIMO (WiFI Ant.2)	5.5 GHz U-NII 2C	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	138	5690.0	0.414	92.8%	14.0	13.1	0.186	0.248	1	67
						Front	138	5690.0	0.041	92.8%	14.0	13.1				

U-NII 3 Results

Antenna	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		
MIMO (WiFI Ant.1)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	155	5775.0	0.413	92.8%	14.0	13.4				
						Front	155	5775.0	0.036	92.8%	14.0	13.4	0.020	0.024	2	
			Hotspot	Off	10	Rear	155	5775.0	0.581	92.8%	14.0	13.4				
						Front	155	5775.0	0.064	92.8%	14.0	13.4	0.026	0.032	2	
						Edge 1	155	5775.0	0.170	92.8%	14.0	13.4				
						Edge 4	155	5775.0	0.079	92.8%	14.0	13.4				
MIMO (WiFI Ant.2)	5.8 GHz U-NII 3	802.11ac VHT 80 29.3 Mbps	Body-worn	Off	15	Rear	155	5775.0	0.413	92.8%	14.0	12.9	0.182	0.255	1	68
						Front	155	5775.0	0.036	92.8%	14.0	12.9				
			Hotspot	Off	10	Rear	155	5775.0	0.581	92.8%	14.0	12.9	0.254	0.356	1	69
						Front	155	5775.0	0.064	92.8%	14.0	12.9				
						Edge 1	155	5775.0	0.170	92.8%	14.0	12.9				
						Edge 4	155	5775.0	0.079	92.8%	14.0	12.9				

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. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.
3. When reported SAR for SISO operation is lower than highest reported SAR for MIMO operation at the same position, other test positions in this exposure condition were not evaluated for SISO operation.

10.20. Bluetooth

Antenna	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	
BT	2.4 GHz	GFSK	Head	N/A	0	Left Touch	39	2441.0	76.9%	17.5	16.6	0.262	0.417	
						Left Tilt	39	2441.0	76.9%	17.5	16.6	0.043	0.068	
						Right Touch	39	2441.0	76.9%	17.5	16.6	0.301	0.479	70
						Right Tilt	39	2441.0	76.9%	17.5	16.6	0.076	0.120	
		GFSK	Body-worn	N/A	15	Rear	39	2441.0	76.9%	17.5	16.6	0.040	0.063	
						Front	39	2441.0	76.9%	17.5	16.6	0.040	0.064	71
		GFSK	Hotspot	N/A	10	Rear	39	2441.0	76.9%	17.5	16.6	0.091	0.146	
						Front	39	2441.0	76.9%	17.5	16.6	0.071	0.113	
						Edge 4	39	2441.0	76.9%	17.5	16.6	0.093	0.148	72

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	Hotspot	Rear	No	0.212	N/A	N/A
	LTE Band 13	Hotspot	Rear	No	0.369	N/A	N/A
835	GSM 850	Hotspot	Rear	No	0.555	N/A	N/A
	WCDMA Band V	Hotspot	Rear	No	0.585	N/A	N/A
	LTE Band 5	Hotspot	Rear	No	0.632	N/A	N/A
	LTE Band 26	Hotspot	Rear	No	0.431	N/A	N/A
	NR Band n5	Hotspot	Rear	No	0.588	N/A	N/A
1750	WCDMA Band IV	Hotspot	Edge 3	No	0.789	N/A	N/A
	LTE Band 66	Hotspot	Edge 3	Yes	0.950	0.951	1.00
	NR Band n66	Hotspot	Edge 3	No	0.912	N/A	N/A
1900	GSM 1900	Hotspot	Edge 3	No	0.367	N/A	N/A
	WCDMA Band II	Hotspot	Edge 3	Yes	0.938	0.941	1.00
	LTE Band 2	Hotspot	Edge 3	No	0.867	N/A	N/A
	LTE Band 25	Hotspot	Edge 3	No	0.758	N/A	N/A
2400	Wi-Fi 802.11b/g/n	Head	Left Touch	No	0.372	N/A	N/A
	Bluetooth	Head	Right Touch	No	0.301	N/A	N/A
2600	LTE Band 41	Hotspot	Rear	No	0.370	N/A	N/A
5300	Wi-Fi 802.11a/n	Body-worn	Rear	No	0.376	N/A	N/A
5500	Wi-Fi 802.11a/n	Body-worn	Rear	No	0.542	N/A	N/A
5800	Wi-Fi 802.11a/n	Hotspot	Rear	No	0.629	N/A	N/A

Peak spatial-average (10g of tissue)

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Repeated Measured SAR (W/kg)	Largest to Smallest SAR Ratio
1750	WCDMA Band IV	Product Specific 10g	Edge 3	No	1.380	N/A	N/A
	LTE Band 66	Product Specific 10g	Edge 3	No	1.520	N/A	N/A
	NR Band n66	Product Specific 10g	Edge 3	No	1.540	N/A	N/A
1900	WCDMA Band II	Product Specific 10g	Edge 3	No	1.260	N/A	N/A
	LTE Band 2	Product Specific 10g	Edge 3	No	1.640	N/A	N/A
	LTE Band 25	Product Specific 10g	Edge 3	No	1.550	N/A	N/A
5300	Wi-Fi 802.11a/n	Product Specific 10g	Rear	No	1.710	N/A	N/A
5500	Wi-Fi 802.11a/n	Product Specific 10g	Rear	No	1.230	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				
Head & Body-worn & Phablet-10g	1	GSM(Voice/GPRS)	+	DTS_Ant.1	and / or	DTS_Ant.2
	2	GSM(Voice/GPRS)	+	UNII MIMO		
	3	GSM(Voice/GPRS)	+	BT		
	4	GSM(Voice/GPRS)	+	UNII MIMO	+	BT
	5	GSM(Voice/GPRS)	+	***RSDB scenario***		
	6	WCDMA or LTE	+	DTS_Ant.1	and / or	DTS_Ant.2
	7	WCDMA or LTE	+	UNII MIMO		
	8	WCDMA or LTE	+	BT		
	9	WCDMA or LTE	+	UNII MIMO	+	BT
	10	WCDMA or LTE	+	***RSDB scenario***		
	11	EN-DC (LTE + NR)	+	DTS_Ant.1	and / or	DTS_Ant.2
	12	EN-DC (LTE + NR)	+	UNII MIMO		
	13	EN-DC (LTE + NR)	+	BT		
	14	EN-DC (LTE + NR)	+	UNII MIMO	+	BT
	15	EN-DC (LTE + NR)	+	***RSDB scenario***		
Hotspot	15	GSM(GPRS)	+	DTS_Ant.1	and / or	DTS_Ant.2
	16	GSM(GPRS)	+	UNII MIMO		
	17	GSM(GPRS)	+	BT		
	18	GSM(GPRS)	+	UNII MIMO	+	BT
	19	GSM(GPRS)	+	***RSDB scenario***		
	20	WCDMA or LTE	+	DTS_Ant.1	and / or	DTS_Ant.2
	21	WCDMA or LTE	+	UNII MIMO		
	22	WCDMA or LTE	+	BT		
	23	WCDMA or LTE	+	UNII MIMO	+	BT
	24	WCDMA or LTE	+	***RSDB scenario***		
	26	EN-DC (LTE + NR)	+	DTS_Ant.1	and / or	DTS_Ant.2
	25	EN-DC (LTE + NR)	+	UNII MIMO		
	26	EN-DC (LTE + NR)	+	BT		
	27	EN-DC (LTE + NR)	+	UNII MIMO	+	BT
	28	EN-DC (LTE + NR)	+	***RSDB scenario***		

Notes:

1. DTS supports Wi-Fi Direct, Hotspot and VoIP.
2. U-NII supports Wi-Fi Direct, Hotspot and VoIP.
3. GPRS, W-CDMA, LTE supports Hotspot and VoIP.
4. 5G NR supports Hotspot.
5. U-NII Radio can transmit simultaneously with Bluetooth Radio.
6. DTS Radio cannot transmit simultaneously with Bluetooth Radio.
7. DTS Radio can only transmit simultaneously with U-NII Radio in RSDB scenarios.
8. DTS Radio can operating both SISO and MIMO modes.
9. U-NII Radio can operating MIMO mode only.
10. BT tethering is considered about each RF exposure conditions.
11. NR Radio can transmit through EN-DC mode with LTE anchor bands. (Please refer to Sec.6.6)

RSDB scenarios

Mode	Scenario	# of TX	5GHz		2.4GHz	
			Ant1	Ant2	Ant1	Ant2
2.4GHz + 5GHz RSDB & MIMO	1	3	On	On	On	-
	2	3	On	On	-	On
2.4GHz + 5GHz RSDB MIMO	3	4	On	On	On	On

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.

5G NR FR1 NSA EN-DC UE SAR

Per November 2019 TCB Workshop Notes, PAG requirements for both intra-band and inter-band NSA EN-DC are as follows:

Case.1 If the single uplink 1-g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1-g SAR values are less than 1.45 W/kg, additional measurements are not needed.

Case.2 If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures KDB Pub.865664 D01.

Case.3 If the algebraic sum of the 1-g SAR values is greater than 1.45 W/kg, additional measurements might be needed.

12.1. Sum of the SAR for GSM 850 & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.132	0.403	0.037		0.305	0.417					0.535	0.169	0.572	0.437	0.549	0.854	0.840	0.474	0.877
	Left Tilt	0.082	0.403	0.037		0.305	0.068					0.485	0.119	0.522	0.387	0.150	0.455	0.790	0.424	0.827
	Right Touch	0.185	0.350	0.037		0.305	0.479					0.535	0.222	0.572	0.490	0.664	0.969	0.840	0.527	0.877
	Right Tilt	0.071	0.403	0.037		0.305	0.120					0.474	0.108	0.511	0.376	0.191	0.496	0.779	0.413	0.816
Body-worn (1-g SAR)	Rear	0.316	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.431	0.463	0.409	0.996	0.379	1.059	0.634	0.620	0.670
	Front	0.216	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.310	0.226	0.309	0.333	0.280	0.397	0.335	0.321	0.371
Hotspot (1-g SAR)	Rear	0.684	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.924	1.121	0.934	1.480	0.830	1.626	1.147	1.167	1.290
	Front	0.423	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.636	0.443	0.673	0.502	0.536	0.615	0.562	0.582	0.705
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.248																		
	Edge 3	0.438																		
	Edge 4	0.059	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.355	0.496	0.309	0.855	0.207	1.003	0.522	0.542	0.665

RF Exposure	Test Position	Standalone SAR (W/kg)										SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) Note.1	Figure
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	2	3	4	5	6	7	8	9	10							
Hotspot (1-g SAR)	Rear	0.684				0.796	0.146					1+5+6	1.626					1,2
						0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR Note.2	0.684				0.841						1+(5+6)	2.209	139.2	0.02	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.2. Sum of the SAR for GSM 1900 & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.058	0.403	0.037		0.305	0.417					0.461	0.095	0.498	0.363	0.475	0.780	0.766	0.400	0.803
	Left Tilt	0.032	0.403	0.037		0.305	0.068					0.435	0.069	0.472	0.337	0.100	0.405	0.740	0.374	0.777
	Right Touch	0.029	0.350	0.037		0.305	0.479					0.379	0.066	0.416	0.334	0.508	0.813	0.684	0.371	0.721
	Right Tilt	0.032	0.403	0.037		0.305	0.120					0.435	0.069	0.472	0.337	0.152	0.457	0.740	0.374	0.777
Body-worn (1-g SAR)	Rear	0.216	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.331	0.363	0.309	0.896	0.279	0.959	0.534	0.520	0.570
	Front	0.199	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.293	0.209	0.292	0.316	0.263	0.380	0.318	0.304	0.354
Hotspot (1-g SAR)	Rear	0.242	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.482	0.679	0.492	1.038	0.388	1.184	0.705	0.725	0.848
	Front	0.194	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.407	0.214	0.444	0.273	0.307	0.386	0.333	0.353	0.476
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.040																		
	Edge 3	0.475																		
	Edge 4	0.039	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.335	0.476	0.289	0.835	0.187	0.983	0.502	0.522	0.645

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.186	0.403	0.037		0.305	0.417					0.589	0.223	0.626	0.491	0.603	0.908	0.894	0.528	0.931
	Left Tilt	0.099	0.403	0.037		0.305	0.068					0.502	0.136	0.539	0.404	0.167	0.472	0.807	0.441	0.844
	Right Touch	0.100	0.350	0.037		0.305	0.479					0.450	0.137	0.487	0.405	0.579	0.884	0.755	0.442	0.792
	Right Tilt	0.089	0.403	0.037		0.305	0.120					0.492	0.126	0.529	0.394	0.209	0.514	0.797	0.431	0.834
Body-worn (1-g SAR)	Rear	0.454	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.569	0.601	0.547	1.134	0.517	1.197	0.772	0.758	0.808
	Front	0.462	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.556	0.472	0.555	0.579	0.526	0.643	0.581	0.567	0.617
Hotspot (1-g SAR)	Rear	0.532	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.772	0.969	0.782	1.328	0.678	1.474	0.995	1.015	1.138
	Front	0.451	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.664	0.471	0.701	0.530	0.564	0.643	0.590	0.610	0.733
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.094																		
	Edge 3	1.263																		
	Edge 4	0.084	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.380	0.521	0.334	0.880	0.232	1.028	0.547	0.567	0.690
Phablet (10-g SAR)	Rear	1.523				1.959					0.837				3.482					
	Front					0.398					0.388									
	Edge 1					1.959					0.837									
	Edge 2																			
	Edge 3	1.745																		
	Edge 4					0.213					0.837									

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.154	0.403	0.037		0.305	0.417					0.557	0.191	0.594	0.459	0.571	0.876	0.862	0.496	0.899
	Left Tilt	0.066	0.403	0.037		0.305	0.068					0.469	0.103	0.506	0.371	0.134	0.439	0.774	0.408	0.811
	Right Touch	0.112	0.350	0.037		0.305	0.479					0.462	0.149	0.499	0.417	0.591	0.896	0.767	0.454	0.804
	Right Tilt	0.104	0.403	0.037		0.305	0.120					0.507	0.141	0.544	0.409	0.224	0.529	0.812	0.446	0.849
Body-worn (1-g SAR)	Rear	0.715	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.830	0.862	0.808	1.395	0.778	1.458	1.033	1.019	1.069
	Front	0.575	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.669	0.585	0.668	0.692	0.639	0.756	0.694	0.680	0.730
Hotspot (1-g SAR)	Rear	0.541	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.781	0.978	0.791	1.337	0.687	1.483	1.004	1.024	1.147
	Front	0.527	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.740	0.547	0.777	0.606	0.640	0.719	0.666	0.686	0.809
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.078																		
	Edge 3	1.062																		
	Edge 4	0.123	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.419	0.560	0.373	0.919	0.271	1.067	0.586	0.606	0.729
Phablet (10-g SAR)	Rear	1.691				1.959					0.837				3.650					
	Front					0.398					0.388									
	Edge 1					1.959					0.837									
	Edge 2																			
	Edge 3	1.909																		
	Edge 4					0.213					0.837									

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.172	0.403	0.037		0.305	0.417					0.575	0.209	0.612	0.477	0.589	0.894	0.880	0.514	0.917
	Left Tilt	0.097	0.403	0.037		0.305	0.068					0.500	0.134	0.537	0.402	0.165	0.470	0.805	0.439	0.842
	Right Touch	0.237	0.350	0.037		0.305	0.479					0.587	0.274	0.624	0.542	0.716	1.021	0.892	0.579	0.929
	Right Tilt	0.084	0.403	0.037		0.305	0.120					0.487	0.121	0.524	0.389	0.204	0.509	0.792	0.426	0.829
Body-worn (1-g SAR)	Rear	0.361	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.476	0.508	0.454	1.041	0.424	1.104	0.679	0.665	0.715
	Front	0.269	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.363	0.279	0.362	0.386	0.333	0.450	0.388	0.374	0.424
Hotspot (1-g SAR)	Rear	0.780	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	1.020	1.217	1.030	1.576	0.926	1.722	1.243	1.263	1.386
	Front	0.493	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.706	0.513	0.743	0.572	0.606	0.685	0.632	0.652	0.775
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.291																		
	Edge 3	0.479																		
	Edge 4	0.079	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.375	0.516	0.329	0.875	0.227	1.023	0.542	0.562	0.685

RF Exposure	Test Position	Standalone SAR (W/kg)										SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) ***Note.1***	Figure
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	2	3	4	5	6	7	8	9	10							
Hotspot (1-g SAR)	Rear	0.780				0.796	0.146					1+5+6	1.722					3,4
						0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR ***Note.2***	0.780				0.841						1+(5+6)	2.401	141.3	0.03	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.6. Sum of the SAR for LTE Band 2 & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.127	0.403	0.037		0.305	0.417					0.530	0.164	0.567	0.432	0.544	0.849	0.835	0.469	0.872
	Left Tilt	0.079	0.403	0.037		0.305	0.068					0.482	0.116	0.519	0.384	0.147	0.452	0.787	0.421	0.824
	Right Touch	0.064	0.350	0.037		0.305	0.479					0.414	0.101	0.451	0.369	0.543	0.848	0.719	0.406	0.756
	Right Tilt	0.065	0.403	0.037		0.305	0.120					0.468	0.102	0.505	0.370	0.185	0.490	0.773	0.407	0.810
Body-worn (1-g SAR)	Rear	0.671	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.786	0.818	0.764	1.351	0.734	1.414	0.989	0.975	1.025
	Front	0.568	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.662	0.578	0.661	0.685	0.632	0.749	0.687	0.673	0.723
Hotspot (1-g SAR)	Rear	0.571	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.811	1.008	0.821	1.367	0.717	1.513	1.034	1.054	1.177
	Front	0.480	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.693	0.500	0.730	0.559	0.593	0.672	0.619	0.639	0.762
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.093																		
	Edge 3	1.056																		
	Edge 4	0.084	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.380	0.521	0.334	0.880	0.232	1.028	0.547	0.567	0.690
Phablet (10-g SAR)	Rear	1.534				1.959					0.837				3.493					
	Front					0.398					0.388									
	Edge 1					1.959					0.837									
	Edge 2																			
	Edge 3	1.875																		
	Edge 4					0.213					0.837									

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.7. Sum of the SAR for LTE Band 5 & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.130	0.403	0.037		0.305	0.417					0.533	0.167	0.570	0.435	0.547	0.852	0.838	0.472	0.875
	Left Tilt	0.078	0.403	0.037		0.305	0.068					0.481	0.115	0.518	0.383	0.146	0.451	0.786	0.420	0.823
	Right Touch	0.210	0.350	0.037		0.305	0.479					0.560	0.247	0.597	0.515	0.689	0.994	0.865	0.552	0.902
	Right Tilt	0.073	0.403	0.037		0.305	0.120					0.476	0.110	0.513	0.378	0.193	0.498	0.781	0.415	0.818
Body-worn (1-g SAR)	Rear	0.344	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.459	0.491	0.437	1.024	0.407	1.087	0.662	0.648	0.698
	Front	0.241	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.335	0.251	0.334	0.358	0.305	0.422	0.360	0.346	0.396
Hotspot (1-g SAR)	Rear	0.728	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.968	1.165	0.978	1.524	0.874	1.670	1.191	1.211	1.334
	Front	0.480	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.693	0.500	0.730	0.559	0.593	0.672	0.619	0.639	0.762
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.271																		
	Edge 3	0.455																		
	Edge 4	0.068	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.364	0.505	0.318	0.864	0.216	1.012	0.531	0.551	0.674

RF Exposure	Test Position	Standalone SAR (W/kg)										SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) Note.1	Figure
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	2	3	4	5	6	7	8	9	10							
Hotspot (1-g SAR)	Rear	0.728				0.796	0.146					1+5+6	1.670					5,6
						0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR Note.2	0.728				0.841						1+(5+6)	1.569	144.1	0.01	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.099	0.403	0.037		0.305	0.417					0.502	0.136	0.539	0.404	0.516	0.821	0.807	0.441	0.844
	Left Tilt	0.055	0.403	0.037		0.305	0.068					0.458	0.092	0.495	0.360	0.123	0.428	0.763	0.397	0.800
	Right Touch	0.118	0.350	0.037		0.305	0.479					0.468	0.155	0.505	0.423	0.597	0.902	0.773	0.460	0.810
	Right Tilt	0.064	0.403	0.037		0.305	0.120					0.467	0.101	0.504	0.369	0.184	0.489	0.772	0.406	0.809
Body-worn (1-g SAR)	Rear	0.164	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.279	0.311	0.257	0.844	0.227	0.907	0.482	0.468	0.518
	Front	0.153	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.247	0.163	0.246	0.270	0.217	0.334	0.272	0.258	0.308
Hotspot (1-g SAR)	Rear	0.240	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.480	0.677	0.490	1.036	0.386	1.182	0.703	0.723	0.846
	Front	0.149	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.362	0.169	0.399	0.228	0.262	0.341	0.288	0.308	0.431
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.162																		
	Edge 3	0.118																		
	Edge 4	0.108	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.404	0.545	0.358	0.904	0.256	1.052	0.571	0.591	0.714

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.122	0.403	0.037		0.305	0.417					0.525	0.159	0.562	0.427	0.539	0.844	0.830	0.464	0.867
	Left Tilt	0.072	0.403	0.037		0.305	0.068					0.475	0.109	0.512	0.377	0.140	0.445	0.780	0.414	0.817
	Right Touch	0.146	0.350	0.037		0.305	0.479					0.496	0.183	0.533	0.451	0.625	0.930	0.801	0.488	0.838
	Right Tilt	0.062	0.403	0.037		0.305	0.120					0.465	0.099	0.502	0.367	0.182	0.487	0.770	0.404	0.807
Body-worn (1-g SAR)	Rear	0.201	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.316	0.348	0.294	0.881	0.264	0.944	0.519	0.505	0.555
	Front	0.163	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.257	0.173	0.256	0.280	0.227	0.344	0.282	0.268	0.318
Hotspot (1-g SAR)	Rear	0.428	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.668	0.865	0.678	1.224	0.574	1.370	0.891	0.911	1.034
	Front	0.258	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.471	0.278	0.508	0.337	0.371	0.450	0.397	0.417	0.540
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.267																		
	Edge 3	0.196																		
	Edge 4	0.107	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.403	0.544	0.357	0.903	0.255	1.051	0.570	0.590	0.713

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.167	0.403	0.037		0.305	0.417					0.570	0.204	0.607	0.472	0.584	0.889	0.875	0.509	0.912
	Left Tilt	0.113	0.403	0.037		0.305	0.068					0.516	0.150	0.553	0.418	0.181	0.486	0.821	0.455	0.858
	Right Touch	0.101	0.350	0.037		0.305	0.479					0.451	0.138	0.488	0.406	0.580	0.885	0.756	0.443	0.793
	Right Tilt	0.090	0.403	0.037		0.305	0.120					0.493	0.127	0.530	0.395	0.210	0.515	0.798	0.432	0.835
Body-worn (1-g SAR)	Rear	0.676	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.791	0.823	0.769	1.356	0.739	1.419	0.994	0.980	1.030
	Front	0.538	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.632	0.548	0.631	0.655	0.602	0.719	0.657	0.643	0.693
Hotspot (1-g SAR)	Rear	0.510	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.750	0.947	0.760	1.306	0.656	1.452	0.973	0.993	1.116
	Front	0.449	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.662	0.469	0.699	0.528	0.562	0.641	0.588	0.608	0.731
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.094																		
	Edge 3	0.990																		
	Edge 4	0.089	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.385	0.526	0.339	0.885	0.237	1.033	0.552	0.572	0.695
Phablet (10-g SAR)	Rear					1.959					0.837									
	Front					0.398					0.388									
	Edge 1					1.959					0.837									
	Edge 2																			
	Edge 3	1.877																		
	Edge 4					0.213					0.837									

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.134	0.403	0.037		0.305	0.417					0.537	0.171	0.574	0.439	0.551	0.856	0.842	0.476	0.879
	Left Tilt	0.074	0.403	0.037		0.305	0.068					0.477	0.111	0.514	0.379	0.142	0.447	0.782	0.416	0.819
	Right Touch	0.154	0.350	0.037		0.305	0.479					0.504	0.191	0.541	0.459	0.633	0.938	0.809	0.496	0.846
	Right Tilt	0.064	0.403	0.037		0.305	0.120					0.467	0.101	0.504	0.369	0.184	0.489	0.772	0.406	0.809
Body-worn (1-g SAR)	Rear	0.253	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.368	0.400	0.346	0.933	0.316	0.996	0.571	0.557	0.607
	Front	0.194	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.288	0.204	0.287	0.311	0.258	0.375	0.313	0.299	0.349
Hotspot (1-g SAR)	Rear	0.526	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.766	0.963	0.776	1.322	0.672	1.468	0.989	1.009	1.132
	Front	0.369	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.582	0.389	0.619	0.448	0.482	0.561	0.508	0.528	0.651
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.231																		
	Edge 3	0.363																		
	Edge 4	0.056	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.352	0.493	0.306	0.852	0.204	1.000	0.519	0.539	0.662

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.066	0.403	0.037		0.305	0.417					0.469	0.103	0.506	0.371	0.483	0.788	0.774	0.408	0.811
	Left Tilt	0.015	0.403	0.037		0.305	0.068					0.418	0.052	0.455	0.320	0.083	0.388	0.723	0.357	0.760
	Right Touch	0.010	0.350	0.037		0.305	0.479					0.360	0.047	0.397	0.315	0.489	0.794	0.665	0.352	0.702
	Right Tilt	0.026	0.403	0.037		0.305	0.120					0.429	0.063	0.466	0.331	0.146	0.451	0.734	0.368	0.771
Body-worn (1-g SAR)	Rear	0.390	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.505	0.537	0.483	1.070	0.453	1.133	0.708	0.694	0.744
	Front	0.226	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.320	0.236	0.319	0.343	0.290	0.407	0.345	0.331	0.381
Hotspot (1-g SAR)	Rear	0.462	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.702	0.899	0.712	1.258	0.608	1.404	0.925	0.945	1.068
	Front	0.239	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.452	0.259	0.489	0.318	0.352	0.431	0.378	0.398	0.521
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.061																		
	Edge 3	0.371																		
	Edge 4	0.115	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.411	0.552	0.365	0.911	0.263	1.059	0.578	0.598	0.721

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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

RF Exposure	Test Position	Standalone SAR (W/kg)										Sum of SAR (W/kg)								
		WWAN	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
			DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.141	0.403	0.037		0.305	0.417					0.544	0.178	0.581	0.446	0.558	0.863	0.849	0.483	0.886
	Left Tilt	0.064	0.403	0.037		0.305	0.068					0.467	0.101	0.504	0.369	0.132	0.437	0.772	0.406	0.809
	Right Touch	0.107	0.350	0.037		0.305	0.479					0.457	0.144	0.494	0.412	0.586	0.891	0.762	0.449	0.799
	Right Tilt	0.065	0.403	0.037		0.305	0.120					0.468	0.102	0.505	0.370	0.185	0.490	0.773	0.407	0.810
Body-worn (1-g SAR)	Rear	0.746	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.861	0.893	0.839	1.426	0.809	1.489	1.064	1.050	1.100
	Front	0.587	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.681	0.597	0.680	0.704	0.651	0.768	0.706	0.692	0.742
Hotspot (1-g SAR)	Rear	0.581	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	0.821	1.018	0.831	1.377	0.727	1.523	1.044	1.064	1.187
	Front	0.542	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.755	0.562	0.792	0.621	0.655	0.734	0.681	0.701	0.824
	Edge 1			0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.078																		
	Edge 3	1.161																		
	Edge 4	0.103	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.399	0.540	0.353	0.899	0.251	1.047	0.566	0.586	0.709
Phablet (10-g SAR)	Rear	1.531				1.959					0.837				3.490					
	Front					0.398					0.388									
	Edge 1					1.959					0.837									
	Edge 2																			
	Edge 3	1.834																		
	Edge 4					0.213					0.837									

Note(s):

1. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.14. Sum of the SAR for EN-DC(LTE Band 2 & NR Band n5) & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)											Sum of SAR (W/kg)								
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1A	1B	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.127	0.133	0.403	0.037		0.305	0.417					0.663	0.297	0.700	0.565	0.677	0.982	0.968	0.602	1.005
	Left Tilt	0.079	0.069	0.403	0.037		0.305	0.068					0.551	0.185	0.588	0.453	0.216	0.521	0.856	0.490	0.893
	Right Touch	0.064	0.218	0.350	0.037		0.305	0.479					0.632	0.319	0.669	0.587	0.761	1.066	0.937	0.624	0.974
	Right Tilt	0.065	0.080	0.403	0.037		0.305	0.120					0.548	0.182	0.585	0.450	0.265	0.570	0.853	0.487	0.890
Body-w orn (1-g SAR)	Rear	0.671	0.307	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	1.093	1.125	1.071	1.658	1.041	1.721	1.296	1.282	1.332
	Front	0.568	0.245	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.907	0.823	0.906	0.930	0.877	0.994	0.932	0.918	0.968
Hotspot (1-g SAR)	Rear	0.571	0.645	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	1.456	1.653	1.466	2.012	1.362	2.158	1.679	1.699	1.822
	Front	0.480	0.420	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	1.113	0.920	1.150	0.979	1.013	1.092	1.039	1.059	1.182
	Edge 1				0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.093	0.265																		
	Edge 3	1.056	0.446																		
	Edge 4	0.084	0.059	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.439	0.580	0.393	0.939	0.291	1.087	0.606	0.626	0.749
Phablet (10-g SAR)	Rear	1.534					1.959					0.837				3.493					
	Front						0.398					0.388									
	Edge 1						1.959					0.837									
	Edge 2																				
	Edge 3	1.875																			
	Edge 4						0.213					0.837									

RF Exposure	Test Position	Standalone SAR (W/kg)											SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) Note.1	Figure
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	1B	2	3	4	5	6	7	8	9	10							
Body-w orn (1-g SAR)	Rear	0.671	0.307				0.680						1A+1B+5	1.658					7,8
		0.671	0.307										1A+1B	0.978	30.0	0.03	No	0.772	
	Hybrid SPLSR Note.2	0.772					0.680						(1A+1B)+5	1.452	160.2	0.01	No		
	Rear	0.671	0.307				0.680	0.063					1A+1B+5+6	1.721					9,10
		0.671	0.307										1A+1B	0.978	30.0	0.03	No	0.772	
							0.680	0.063					5+6	0.743	58.6	0.01	No	0.672	
	Hybrid SPLSR Note.2	0.772					0.672						(1A+1B)+(5+6)	1.444	160.1	0.01	No		
Hotspot (1-g SAR)	Rear	0.571	0.645		0.437								1A+1B+3	1.653					11,12
		0.571	0.645										1A+1B	1.216	28.0	0.05	Yes	1.150	
	Hybrid SPLSR Note.2	1.150			0.437								(1A+1B)+3	1.587	144.6	0.01	No		
	Rear	0.571	0.645				0.796						1A+1B+5	2.012					13,14
		0.571	0.645										1A+1B	1.216	28.0	0.05	Yes	1.150	
	Hybrid SPLSR Note.2	1.150					0.796						(1A+1B)+5	1.946	155.0	0.02	No		
	Rear	0.571	0.645				0.796	0.146					1A+1B+5+6	2.158					15,16
		0.571	0.645										1A+1B	1.216	28.0	0.05	Yes	1.150	
							0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR Note.2	1.150					0.841						(1A+1B)+(5+6)	1.991	148.0	0.02	No		
	Rear	0.571	0.645						0.107			0.356	1A+1B+7+10	1.679					17,18
		0.571	0.645										1A+1B	1.216	28.0	0.05	Yes	1.150	
									0.107			0.356	7+10	0.463	60.9	0.01	No	0.421	
	Hybrid SPLSR Note.2	1.150							0.421				(1A+1B)+(7+10)	1.571	152.0	0.01	No		
	Rear	0.571	0.645							0.127		0.356	1A+1B+8+10	1.699					19,20
		0.571	0.645										1A+1B	1.216	28.0	0.05	Yes	1.150	
										0.127		0.356	8+10	0.483	9.9	0.03	No	0.455	
	Hybrid SPLSR Note.2	1.150									0.455		(1A+1B)+(8+10)	1.605	152.0	0.01	No		
	Rear	0.571	0.645								0.250	0.356	1A+1B+9+10	1.822					21,22
		0.571	0.645										1A+1B	1.216	28.0	0.05	Yes	1.150	
											0.250	0.356	9+10	0.606	9.8	0.05	Yes	0.595	
	Hybrid SPLSR Note.2	1.150									0.595		(1A+1B)+(9+10)	1.745	152.0	0.02	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. 5G NR FR1 NSA EN-DC UE SAR Case.2) If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures KDB Pub.865664 D01. Volume scan for Edge 3(filled with green color) in Hotspot mode is required due to single uplink 1-g SAR value is over 0.8 W/kg.
4. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.15. Sum of the SAR for EN-DC(LTE Band 5 & NR Band n66) & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)											Sum of SAR (W/kg)								
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1A	1B	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.130	0.159	0.403	0.037		0.305	0.417					0.692	0.326	0.729	0.594	0.706	1.011	0.997	0.631	1.034
	Left Tilt	0.078	0.076	0.403	0.037		0.305	0.068					0.557	0.191	0.594	0.459	0.222	0.527	0.862	0.496	0.899
	Right Touch	0.210	0.100	0.350	0.037		0.305	0.479					0.660	0.347	0.697	0.615	0.789	1.094	0.965	0.652	1.002
	Right Tilt	0.073	0.088	0.403	0.037		0.305	0.120					0.564	0.198	0.601	0.466	0.281	0.586	0.869	0.503	0.906
Body-worn (1-g SAR)	Rear	0.344	0.647	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	1.106	1.138	1.084	1.671	1.054	1.734	1.309	1.295	1.345
	Front	0.241	0.571	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.906	0.822	0.905	0.929	0.876	0.993	0.931	0.917	0.967
Hotspot (1-g SAR)	Rear	0.728	0.621	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	1.589	1.786	1.599	2.145	1.495	2.291	1.812	1.832	1.955
	Front	0.480	0.599	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	1.292	1.099	1.329	1.158	1.192	1.271	1.218	1.238	1.361
	Edge 1				0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.271	0.084																		
	Edge 3	0.455	1.086																		
	Edge 4	0.068	0.127	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.491	0.632	0.445	0.991	0.343	1.139	0.658	0.678	0.801
Phablet (10-g SAR)	Rear		1.632				1.959					0.837				3.591					
	Front						0.398					0.388									
	Edge 1						1.959					0.837									
	Edge 2																				
	Edge 3		1.835																		
	Edge 4						0.213					0.837									

RF Exposure	Test Position	Standalone SAR (W/kg)											SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) Note.1	Figure
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	1B	2	3	4	5	6	7	8	9	10							
Body-worn (1-g SAR)	Rear	0.344	0.647				0.680						1A+1B+5	1.671					23,24
		0.344	0.647										1A+1B	0.991	34.0	0.03	No	0.905	
	Hybrid SPLSR Note.2	0.905					0.680						(1A+1B)+5	1.585	159.2	0.01	No		
	Rear	0.344	0.647				0.680	0.063					1A+1B+5+6	1.734					25,26
		0.344	0.647										1A+1B	0.991	34.0	0.03	No	0.905	
							0.680	0.063					5+6	0.743	58.6	0.01	No	0.672	
	Hybrid SPLSR Note.2	0.905					0.672						(1A+1B)+(5+6)	1.577	159.1	0.01	No		
Hotspot (1-g SAR)	Rear	0.728	0.621		0.437								1A+1B+3	1.786					27,28
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
	Hybrid SPLSR Note.2	1.240			0.437								(1A+1B)+3	1.677	143.8	0.02	No		
	Rear	0.728	0.621			0.250							1A+1B+4	1.599					29,30
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
	Hybrid SPLSR Note.2	1.240				0.250							(1A+1B)+4	1.490	144.8	0.01	No		
	Rear	0.728	0.621				0.796						1A+1B+5	2.145					31,32
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
	Hybrid SPLSR Note.2	1.240					0.796						(1A+1B)+5	2.036	154.1	0.02	No		
	Rear	0.728	0.621				0.796	0.146					1A+1B+5+6	2.291					33,34
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
							0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR Note.2	1.240					0.841						(1A+1B)+(5+6)	2.081	147.0	0.02	No		
	Rear	0.728	0.621						0.107			0.356	1A+1B+7+10	1.812					35,36
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
									0.107			0.356	7+10	0.463	60.9	0.01	No	0.421	
	Hybrid SPLSR Note.2	1.240							0.421				(1A+1B)+(7+10)	1.661	151.0	0.01	No		
	Rear	0.728	0.621							0.127		0.356	1A+1B+8+10	1.832					37,38
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
										0.127		0.356	8+10	0.483	9.9	0.03	No	0.455	
	Hybrid SPLSR Note.2	1.240								0.455			(1A+1B)+(8+10)	1.695	151.0	0.01	No		
	Rear	0.728	0.621								0.250	0.356	1A+1B+9+10	1.955					39,40
		0.728	0.621										1A+1B	1.349	17.1	0.09	Yes	1.240	
											0.250	0.356	9+10	0.606	9.8	0.05	Yes	0.595	
	Hybrid SPLSR Note.2	1.240									0.595		(1A+1B)+(9+10)	1.835	151.0	0.02	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. 5G NR FR1 NSA EN-DC UE SAR Case.2) If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures KDB Pub.865664 D01. Volume scan for Edge 3(filled with green color) in Hotspot mode is required due to single uplink 1-g SAR value is over 0.8 W/kg.
4. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.16. Sum of the SAR for EN-DC(LTE Band 12 & NR Band n66) & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)											Sum of SAR (W/kg)								
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1A	1B	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.099	0.159	0.403	0.037		0.305	0.417					0.661	0.295	0.698	0.563	0.675	0.980	0.966	0.600	1.003
	Left Tilt	0.055	0.076	0.403	0.037		0.305	0.068					0.534	0.168	0.571	0.436	0.199	0.504	0.839	0.473	0.876
	Right Touch	0.118	0.100	0.350	0.037		0.305	0.479					0.568	0.255	0.605	0.523	0.697	1.002	0.873	0.560	0.910
	Right Tilt	0.064	0.088	0.403	0.037		0.305	0.120					0.555	0.189	0.592	0.457	0.272	0.577	0.860	0.494	0.897
Body-worn (1-g SAR)	Rear	0.164	0.647	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	0.926	0.958	0.904	1.491	0.874	1.554	1.129	1.115	1.165
	Front	0.153	0.571	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.818	0.734	0.817	0.841	0.788	0.905	0.843	0.829	0.879
Hotspot (1-g SAR)	Rear	0.240	0.621	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	1.101	1.298	1.111	1.657	1.007	1.803	1.324	1.344	1.467
	Front	0.149	0.599	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	0.961	0.768	0.998	0.827	0.861	0.940	0.887	0.907	1.030
	Edge 1				0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.162	0.084																		
	Edge 3	0.118	1.086																		
	Edge 4	0.108	0.127	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.531	0.672	0.485	1.031	0.383	1.179	0.698	0.718	0.841
Phablet (10-g SAR)	Rear		1.632				1.959					0.837				3.591					
	Front						0.398					0.388									
	Edge 1						1.959					0.837									
	Edge 2																				
	Edge 3		1.835																		
	Edge 4						0.213					0.837									

RF Exposure	Test Position	Standalone SAR (W/kg)											SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) Note.1	Figure
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	1B	2	3	4	5	6	7	8	9	10							
Hotspot (1-g SAR)	Rear	0.240	0.621				0.796						1A+1B+5	1.657					41,42
		0.240	0.621										1A+1B	0.861	21.8	0.04	No	0.828	
	Hybrid SPLSR Note.2	0.828					0.796						(1A+1B)+5	1.624	154.1	0.01	No		
	Rear	0.240	0.621				0.796	0.146					1A+1B+5+6	1.803					43,44
		0.240	0.621										1A+1B	0.861	21.8	0.04	No	0.828	
							0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR Note.2	0.828					0.841						(1A+1B)+(5+6)	1.669	147.0	0.01	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. 5G NR FR1 NSA EN-DC UE SAR Case.2) If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures KDB Pub.865664 D01. Volume scan for Edge 3(filled with green color) in Hotspot mode is required due to single uplink 1-g SAR value is over 0.8 W/kg.
4. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

12.17. Sum of the SAR for EN-DC(LTE Band 66 & NR Band n5) & Wi-Fi & BT

RF Exposure	Test Position	Standalone SAR (W/kg)											Sum of SAR (W/kg)								
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)				WWAN+ DTS Ant.1	WWAN+ DTS Ant.2	WWAN+ DTS MIMO	WWAN+ UNII MIMO	WWAN+BT	WWAN+ BT+ UNII MIMO	WWAN + DTS Ant.1+ UNII MIMO	WWAN+ DTS Ant.2+ UNII MIMO	WWAN+ DTS MIMO+ UNII MIMO
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO									
		1A	1B	2	3	4	5	6	7	8	9	10	1+2	1+3	A: 1+2+3 1+4	1+5	1+6	1+5+6	A: 1+2+5 1+7+10	A: 1+3+5 1+8+10	A: 1+2+3+5 1+9+10
Head (A) (1-g SAR)	Left Touch	0.141	0.133	0.403	0.037		0.305	0.417					0.677	0.311	0.714	0.579	0.691	0.996	0.982	0.616	1.019
	Left Tilt	0.064	0.069	0.403	0.037		0.305	0.068					0.536	0.170	0.573	0.438	0.201	0.506	0.841	0.475	0.878
	Right Touch	0.107	0.218	0.350	0.037		0.305	0.479					0.675	0.362	0.712	0.630	0.804	1.109	0.980	0.667	1.017
	Right Tilt	0.065	0.080	0.403	0.037		0.305	0.120					0.548	0.182	0.585	0.450	0.265	0.570	0.853	0.487	0.890
Body-w orn (1-g SAR)	Rear	0.746	0.307	0.115	0.147	0.093	0.680	0.063	0.057	0.043	0.093	0.261	1.168	1.200	1.146	1.733	1.116	1.796	1.371	1.357	1.407
	Front	0.587	0.245	0.094	0.010	0.093	0.117	0.064	0.057	0.043	0.093	0.062	0.926	0.842	0.925	0.949	0.896	1.013	0.951	0.937	0.987
Hotspot (1-g SAR)	Rear	0.581	0.645	0.240	0.437	0.250	0.796	0.146	0.107	0.127	0.250	0.356	1.466	1.663	1.476	2.022	1.372	2.168	1.689	1.709	1.832
	Front	0.542	0.420	0.213	0.020	0.250	0.079	0.113	0.107	0.127	0.250	0.032	1.175	0.982	1.212	1.041	1.075	1.154	1.101	1.121	1.244
	Edge 1				0.039	0.250	0.240			0.127	0.250	0.356									
	Edge 2	0.078	0.265																		
	Edge 3	1.161	0.446																		
	Edge 4	0.103	0.059	0.296	0.437	0.250	0.796	0.148	0.107	0.127	0.250	0.356	0.458	0.599	0.412	0.958	0.310	1.106	0.625	0.645	0.768
Phablet (10-g SAR)	Rear	1.531					1.959					0.837				3.490					
	Front						0.398					0.388									
	Edge 1						1.959					0.837									
	Edge 2																				
	Edge 3	1.834																			
	Edge 4						0.213					0.837									

RF Exposure	Test Position	Standalone SAR (W/kg)											SUM SAR		Calculated distance (mm)	SPLSR (=<0.04)	Volume scan (Yes/No)	Volume scan SAR (W/kg) Note.1	Figure
		WWAN	NR	WLAN (Normal mode)				BT	WLAN (RSDB mode)										
				DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO		DTS Ant.1	DTS Ant.2	DTS MIMO	UNII MIMO							
		1	1B	2	3	4	5	6	7	8	9	10							
Body-w orn (1-g SAR)	Rear	0.746	0.307				0.680						1A+1B+5	1.733					45,46
		0.746	0.307										1A+1B	1.053	30.6	0.04	No	0.815	
	Hybrid SPLSR Note.2	0.815					0.680						(1A+1B)+5	1.495	160.2	0.01	No		
	Rear	0.746	0.307				0.680	0.063					1A+1B+5+6	1.796					47,48
		0.746	0.307										1A+1B	1.053	30.6	0.04	No	0.815	
							0.680	0.063					5+6	0.743	58.6	0.01	No	0.672	
	Hybrid SPLSR Note.2	0.815					0.672						(1A+1B)+(5+6)	1.487	160.1	0.01	No		
Hotspot (1-g SAR)	Rear	0.581	0.645		0.437								1A+1B+3	1.663					49,50
		0.581	0.645										1A+1B	1.226	25.3	0.05	Yes	1.120	
	Hybrid SPLSR Note.2	1.120			0.437								(1A+1B)+3	1.557	148.8	0.01	No		
	Rear	0.581	0.645				0.796						1A+1B+5	2.022					51,52
		0.581	0.645										1A+1B	1.226	25.3	0.05	Yes	1.120	
	Hybrid SPLSR Note.2	1.120					0.796						(1A+1B)+5	1.916	159.1	0.02	No		
	Rear	0.581	0.645				0.796	0.146					1A+1B+5+6	2.168					53,54
		0.581	0.645										1A+1B	1.226	25.3	0.05	Yes	1.120	
							0.796	0.146					5+6	0.942	57.7	0.02	No	0.841	
	Hybrid SPLSR Note.2	1.120					0.841						(1A+1B)+(5+6)	1.961	152.0	0.02	No		
	Rear	0.581	0.645						0.107			0.356	1A+1B+7+10	1.689					55,56
		0.581	0.645										1A+1B	1.226	25.3	0.05	Yes	1.120	
									0.107			0.356	7+10	0.463	60.9	0.01	No	0.421	
	Hybrid SPLSR Note.2	1.120							0.421				(1A+1B)+(7+10)	1.541	156.0	0.01	No		
	Rear	0.581	0.645							0.127		0.356	1A+1B+8+10	1.709					57,58
		0.581	0.645										1A+1B	1.226	25.3	0.05	Yes	1.120	
										0.127		0.356	8+10	0.483	9.9	0.03	No	0.455	
	Hybrid SPLSR Note.2	1.120								0.455			(1A+1B)+(8+10)	1.575	156.0	0.01	No		
	Rear	0.581	0.645								0.250	0.356	1A+1B+9+10	1.832					59,60
		0.581	0.645										1A+1B	1.226	25.3	0.05	Yes	1.120	
											0.250	0.356	9+10	0.606	9.8	0.05	Yes	0.595	
	Hybrid SPLSR Note.2	1.120									0.595		(1A+1B)+(9+10)	1.715	156.0	0.01	No		

Note(s):

1. 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.12.18 for detailed Volume Scan Result.
2. 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.
3. 5G NR FR1 NSA EN-DC UE SAR Case.2) If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures KDB Pub.865664 D01. Volume scan for Edge 3(filled with green color) in Hotspot mode is required due to single uplink 1-g SAR value is over 0.8 W/kg.
4. Blue values are reference from highest SAR value of *initial test position* procedure in each RF exposure of each bands.

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”.

12.18. Volume Scan Result

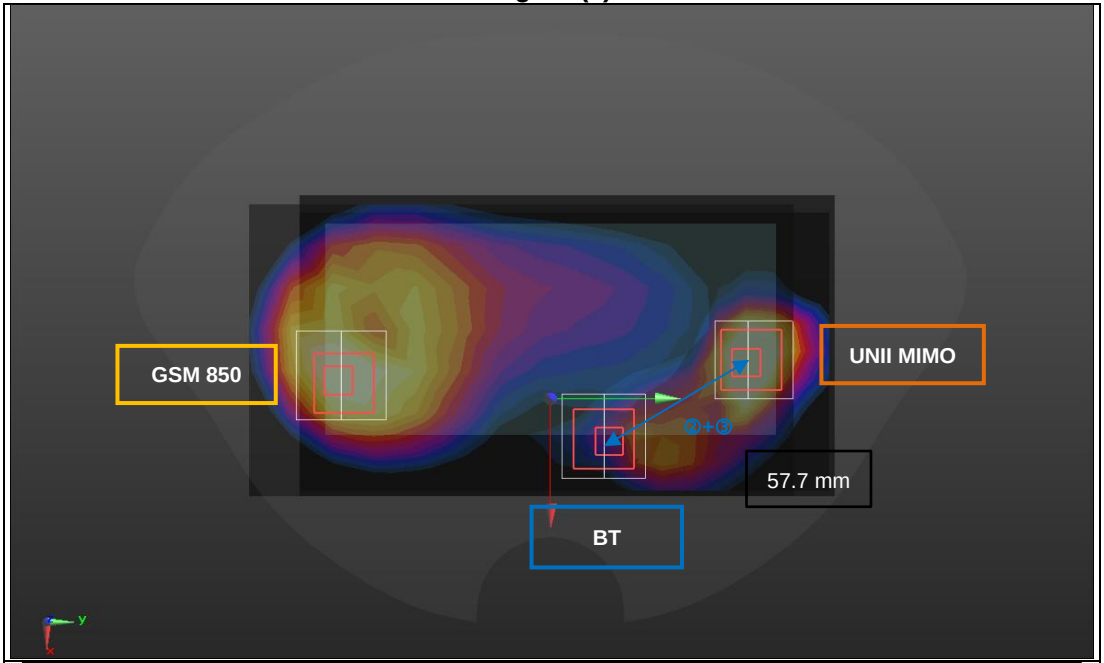
SPLSR Hotspot Combination procedure has been applied to evaluate the simultaneous transmission SAR analysis.

RF Exposure	Configuration	Test Position	Band	Original Measured SAR (W/kg)	Volume Scan Result	Plot No.	Multi-Band Combined factor	Multi-Band Combined Result	Plot No.
Body-worn	LTE Band 2 + NR Band n5	Rear 15mm	LTE Band 2	0.575	0.473	1	1.167	0.772	26
			NR Band n5	0.280	0.251	2	1.096		
	LTE Band 5 + NR Band n66	Rear 15mm	LTE Band 5	0.299	0.275	3	1.152	0.905	27
			NR Band n66	0.522	0.499	4	1.239		
	LTE Band 66 + NR Band n5	Rear 15mm	LTE Band 66	0.615	0.513	5	1.214	0.815	28
			NR Band n5	0.280	0.251		1.096		
	UNII MIMO + BT	Rear 15mm	UNII MIMO	0.519	0.508	6	1.310	0.672	29
			BT	0.040	0.037	7	1.593		
Hotspot	LTE Band 2 + NR Band n5	Rear 10mm	LTE Band 2	0.485	0.461	8	1.241	1.150	30
			NR Band n5	0.588	0.568	9	1.096		
	LTE Band 5 + NR Band n66	Rear 10mm	LTE Band 5	0.632	0.563	10	1.152	1.240	31
			NR Band n66	0.521	0.513	11	1.191		
	LTE Band 12 + NR Band n66	Rear 10mm	LTE Band 12	0.212	0.217	12	1.134	0.828	32
			NR Band n66	0.521	0.513		1.191		
	LTE Band 66 + NR Band n5	Rear 10mm	LTE Band 66	0.475	0.485	13	1.222	1.120	33
			NR Band n5	0.588	0.568		1.096		
	UNII MIMO + BT	Rear 10mm	UNII MIMO	0.629	0.648	14	1.265	0.841	34
			BT	0.091	0.092	15	1.593		
	RSDB DTS Ant.1 + UNII MIMO	Rear 10mm	DTS Ant.1	0.099	0.104	16	1.082	0.421	35
			UNII MIMO	0.254	0.281	17	1.401		
	RSDB DTS Ant.2 + UNII MIMO	Rear 10mm	DTS Ant.2	0.095	0.089	18	1.331	0.455	36
			UNII MIMO	0.254	0.281		1.401		
	RSDB DTS MIMO + UNII MIMO	Rear 10mm	DTS MIMO	0.225	0.206	19	1.110	0.595	37
			UNII MIMO	0.254	0.281		1.401		
	LTE Band 2 + NR Band n5	Edge 3 10mm	LTE Band 2	0.851	0.983	20	1.241	1.590	38
			NR Band n5	0.407	0.347	21	1.096		
	LTE Band 5 + NR Band n66	Edge 3 10mm	LTE Band 5	0.395	0.369	22	1.152	1.570	39
			NR Band n66	0.912	0.966	23	1.191		
	LTE Band 12 + NR Band n66	Edge 3 10mm	LTE Band 12	0.104	0.093	24	1.134	1.250	40
			NR Band n66	0.912	0.966		1.191		
	LTE Band 66 + NR Band n5	Edge 3 10mm	LTE Band 66	0.950	0.863	25	1.222	1.430	41
			NR Band n5	0.407	0.347		1.096		

Note(s):

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

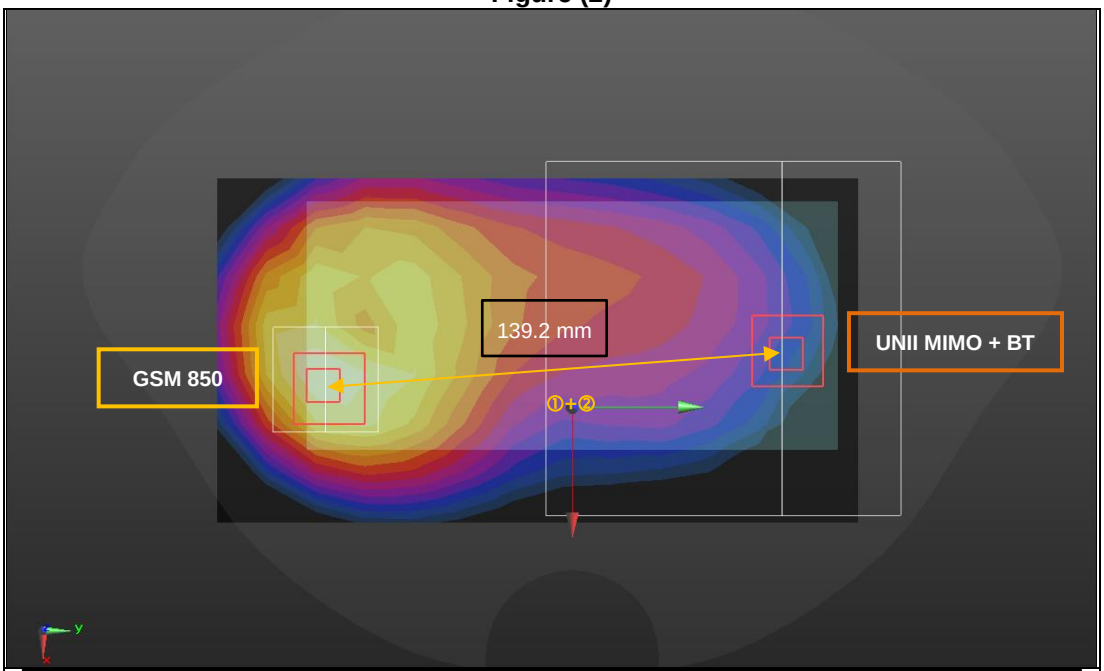
Figure (1)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
GSM 850	①	0.684	-0.0085	-0.0750	-0.2069		
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		
BT	③	0.146	0.0134	0.0192	-0.2064	②+③	57.7

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

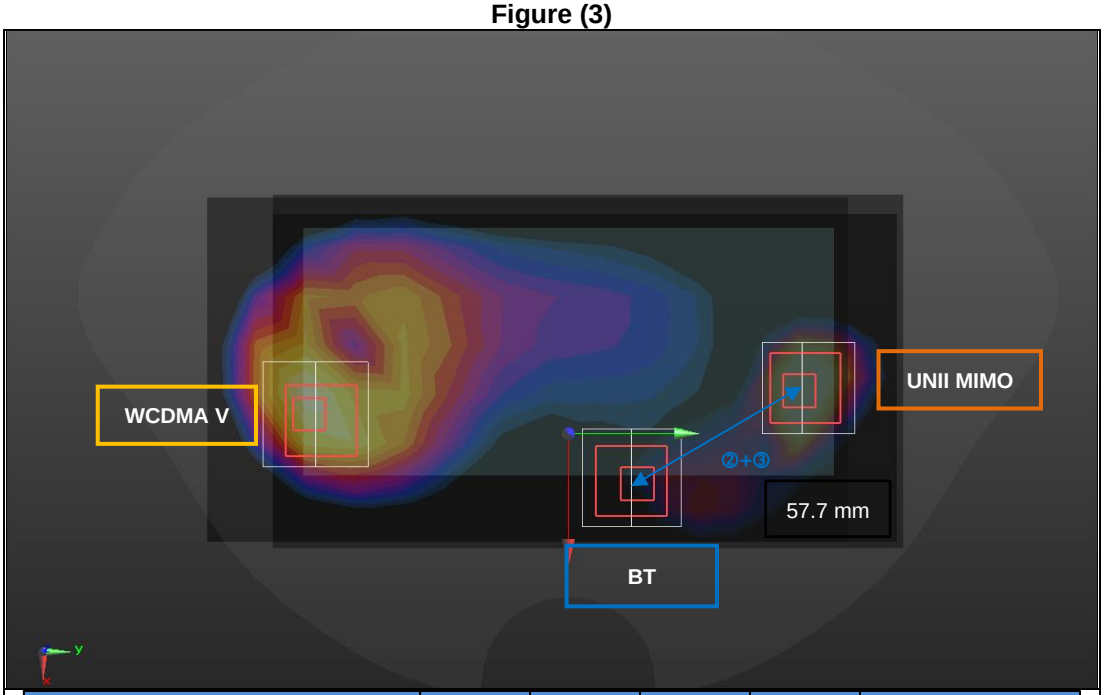
Figure (2)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
GSM 850	①	0.684	-0.0085	-0.0750	-0.2069	①+②	139.2
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

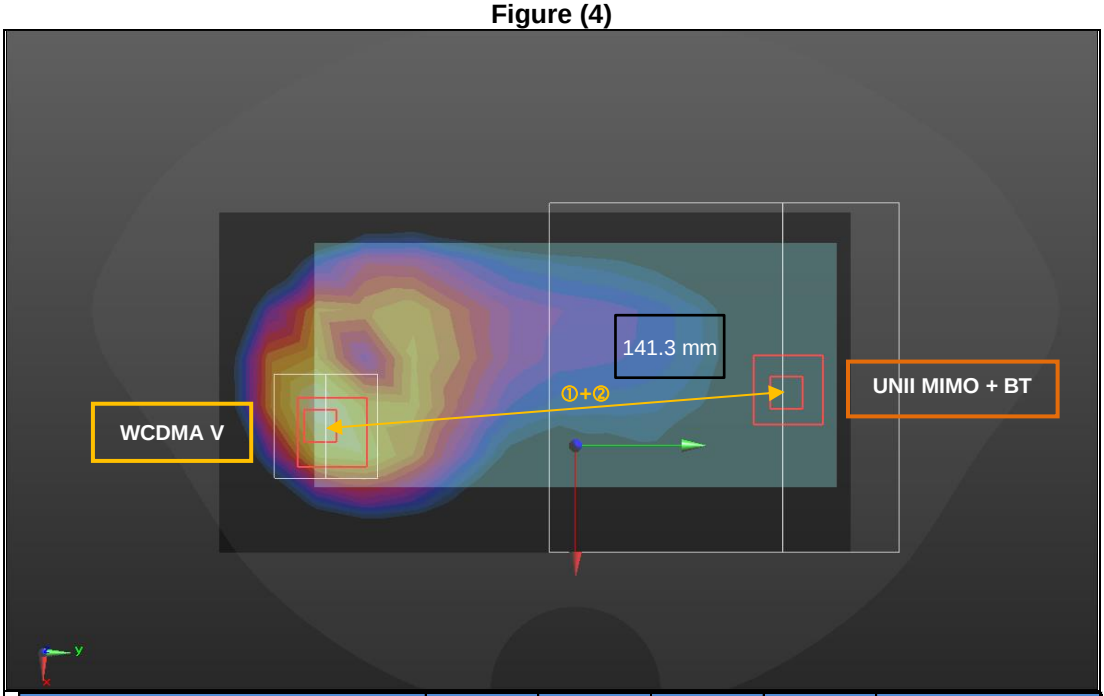
Figure (3)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA V	①	0.780	-0.0060	-0.0770	-0.2086		
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		
BT	③	0.146	0.0134	0.0192	-0.2064	②+③	57.7

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

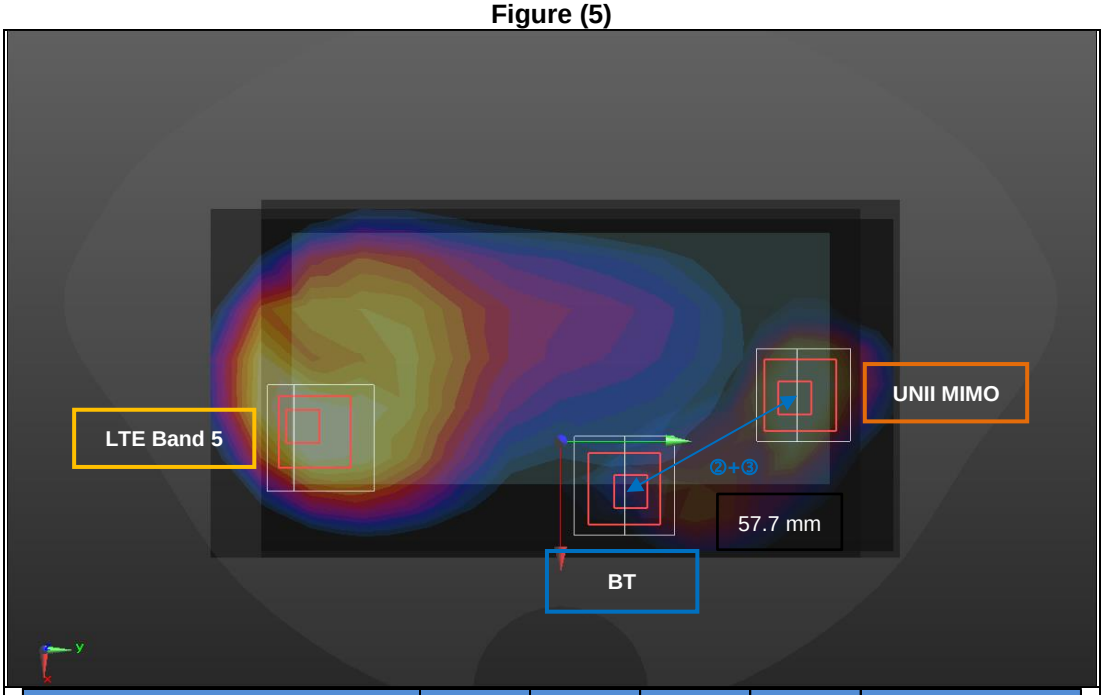
Figure (4)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
WCDMA V	①	0.780	-0.0060	-0.0770	-0.2086	①+②	141.3
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

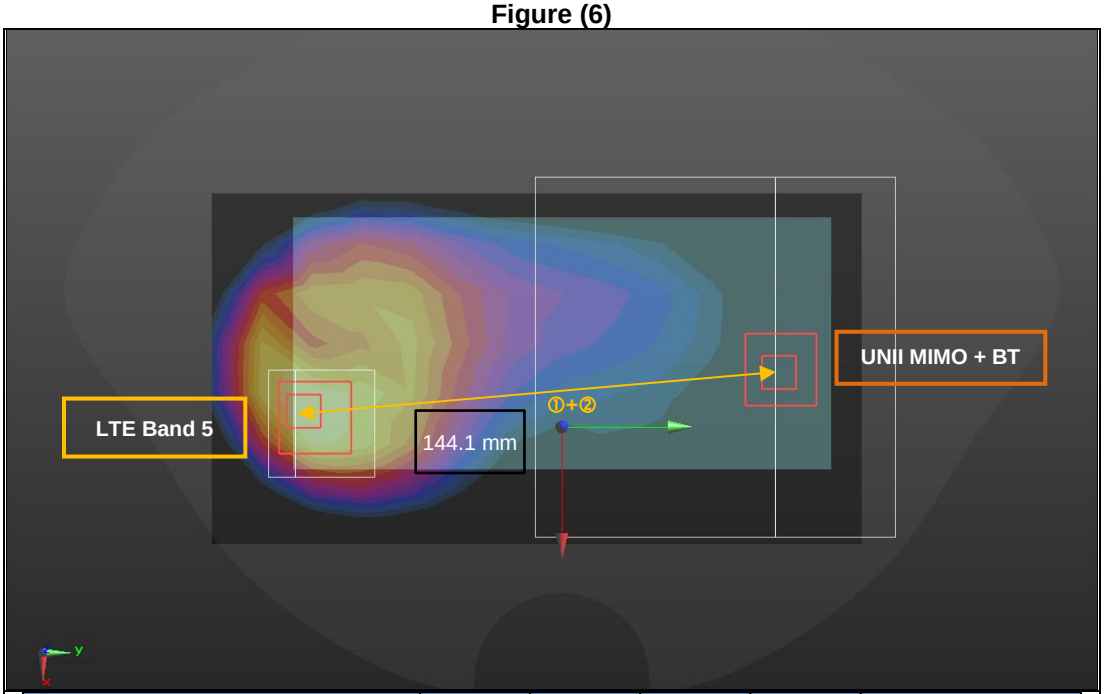
Figure (5)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092		
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		
BT	③	0.146	0.0134	0.0192	-0.2064	②+③	57.7

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

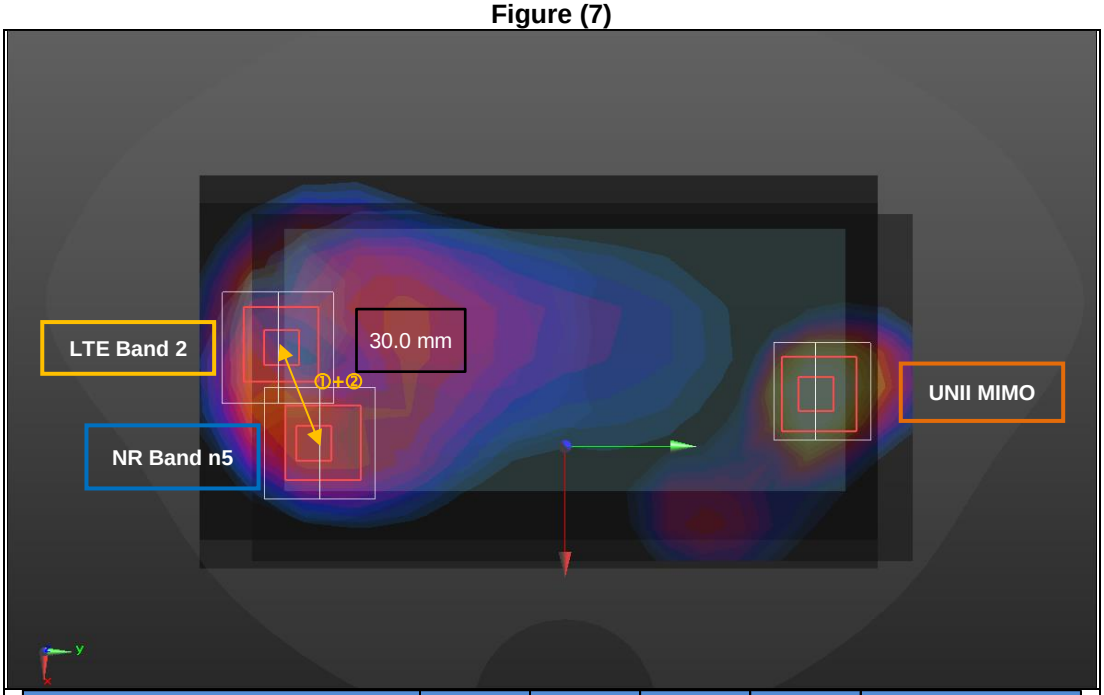
Figure (6)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	144.1
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

Figure (7)

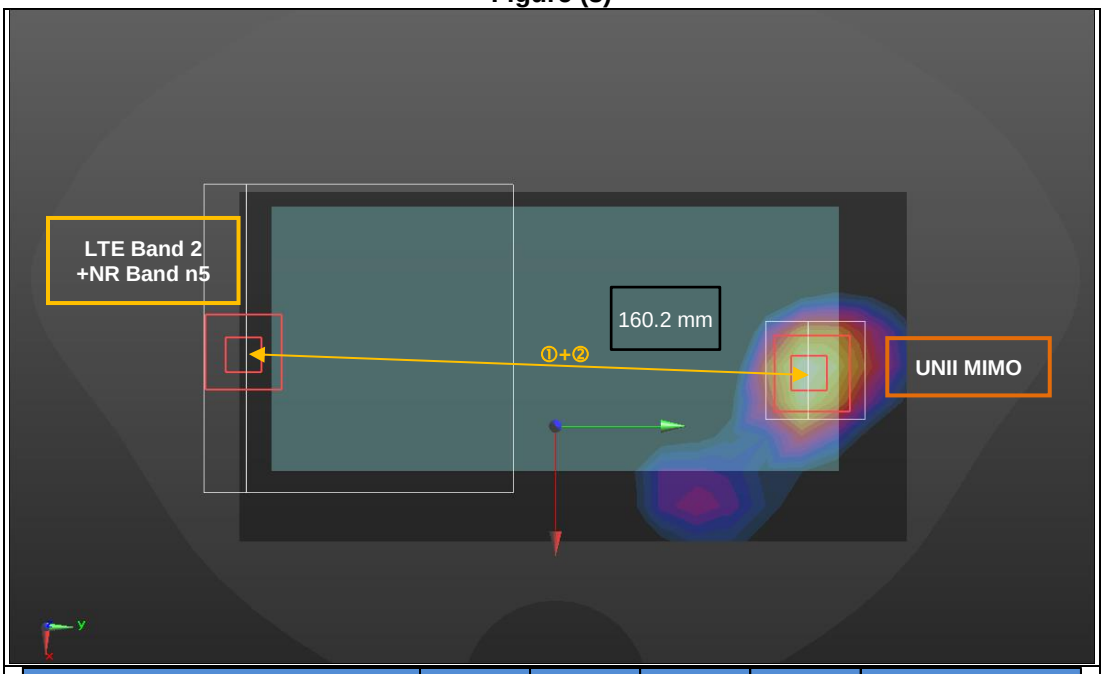


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.671	-0.0285	-0.0825	-0.2059	①+②	30.0
NR Band n5	②	0.307	-0.0010	-0.0705	-0.2066		
UNII MIMO	③	0.680	-0.0140	0.0720	-0.2064		

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

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

Figure (8)

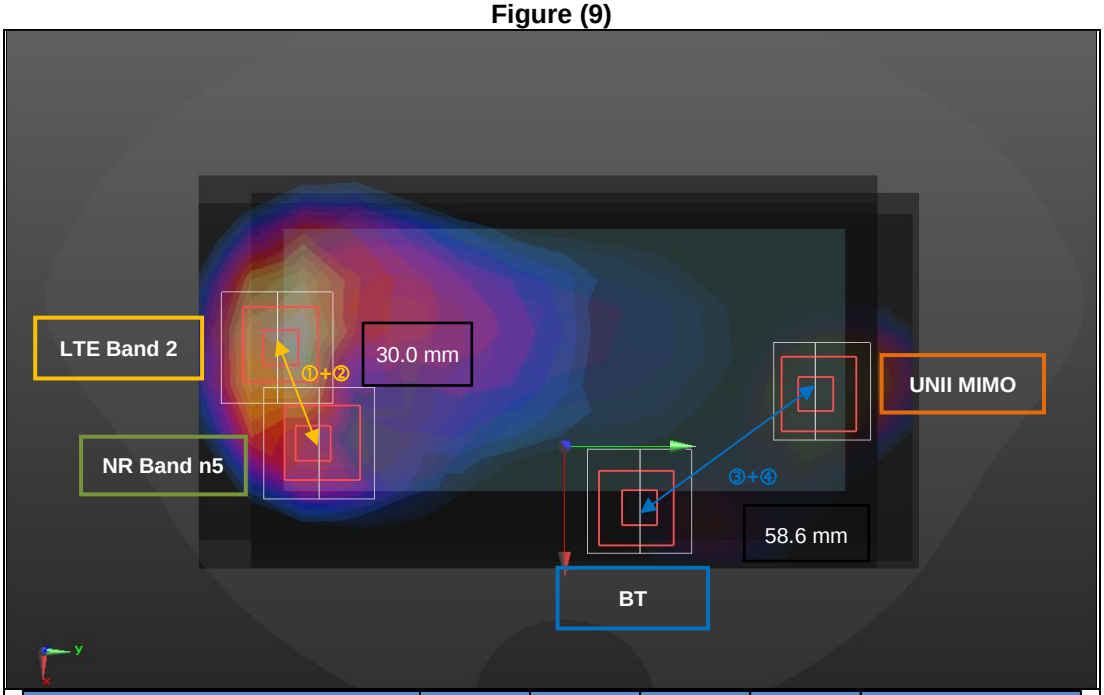


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	0.772	-0.0210	-0.0880	-0.2075	①+②	160.2
UNII MIMO	②	0.680	-0.0140	0.0720	-0.2064		

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

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

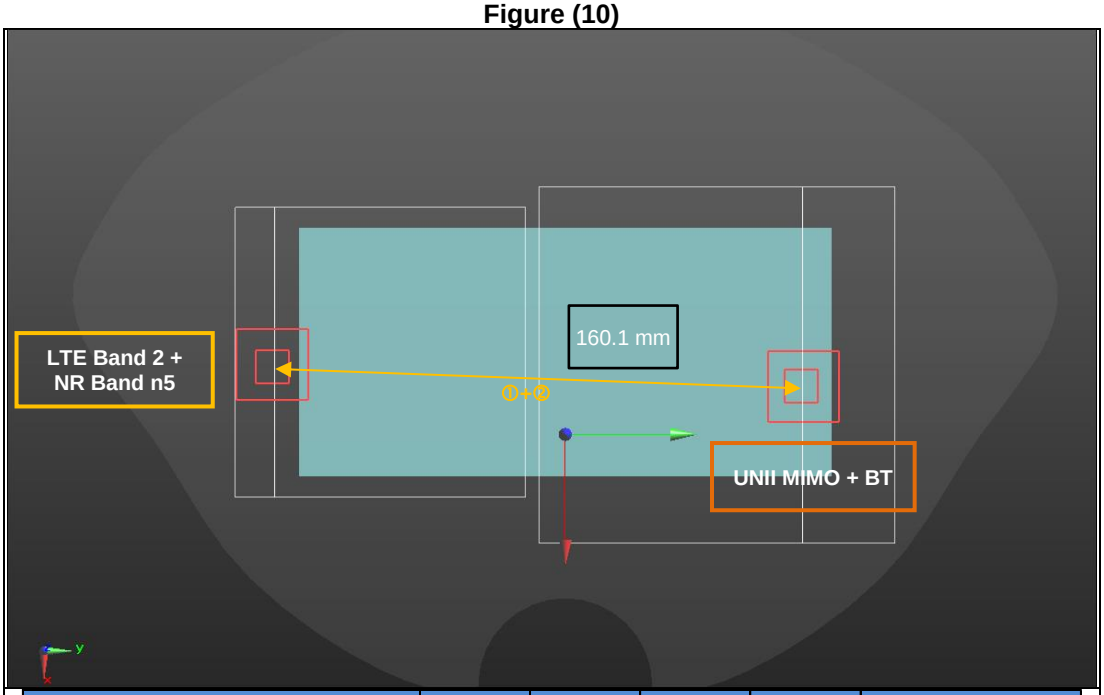
Figure (9)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.671	-0.0285	-0.0825	-0.2059	①+②	30.0
NR Band n5	②	0.307	-0.0010	-0.0705	-0.2066	③+④	58.6
UNII MIMO	③	0.680	-0.0140	0.0720	-0.2064		
BT	④	0.063	0.0158	0.0216	-0.2062		

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

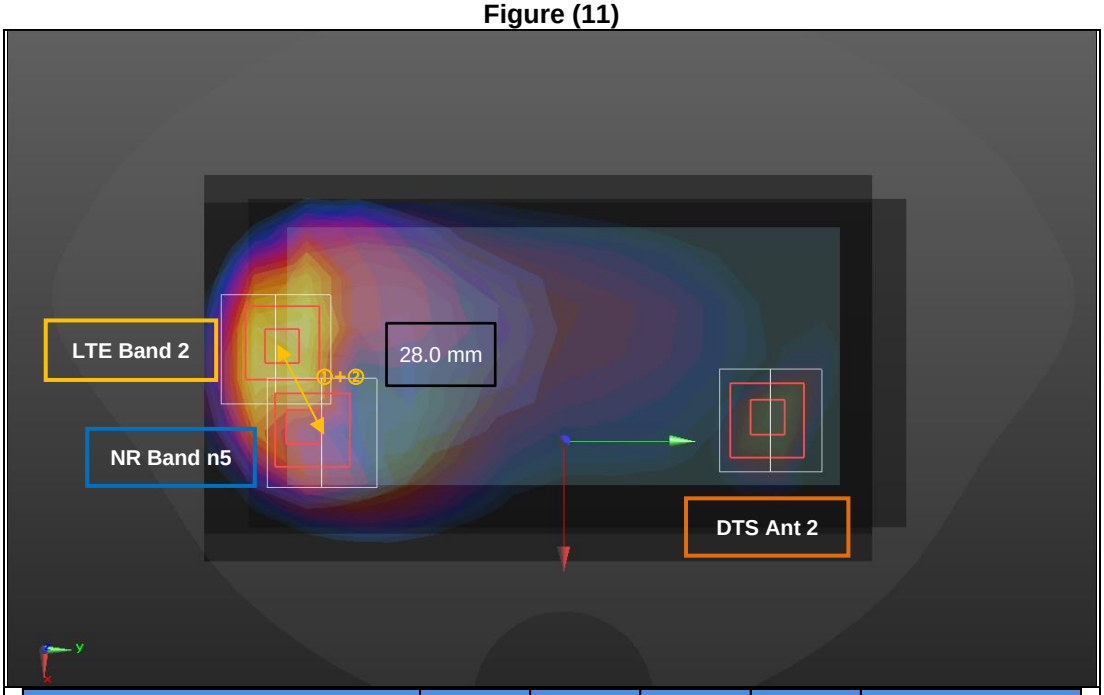
Figure (10)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	0.772	-0.0210	-0.0880	-0.2075	①+②	160.1
(UNII MIMO + BT)	②	0.672	-0.0150	0.0720	-0.2080		

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

Figure (11)

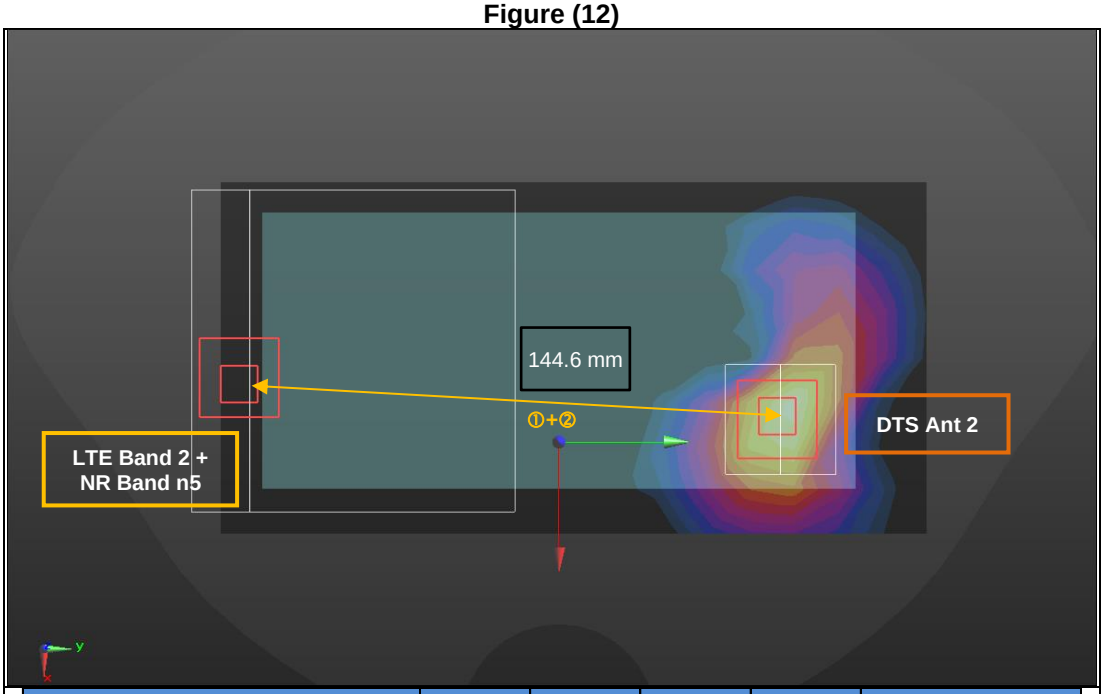


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.571	-0.0270	-0.0840	-0.2059	①+②	28.0
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066		
DTS Ant 2	③	0.437	-0.0062	0.0604	-0.2064		

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

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

Figure (12)

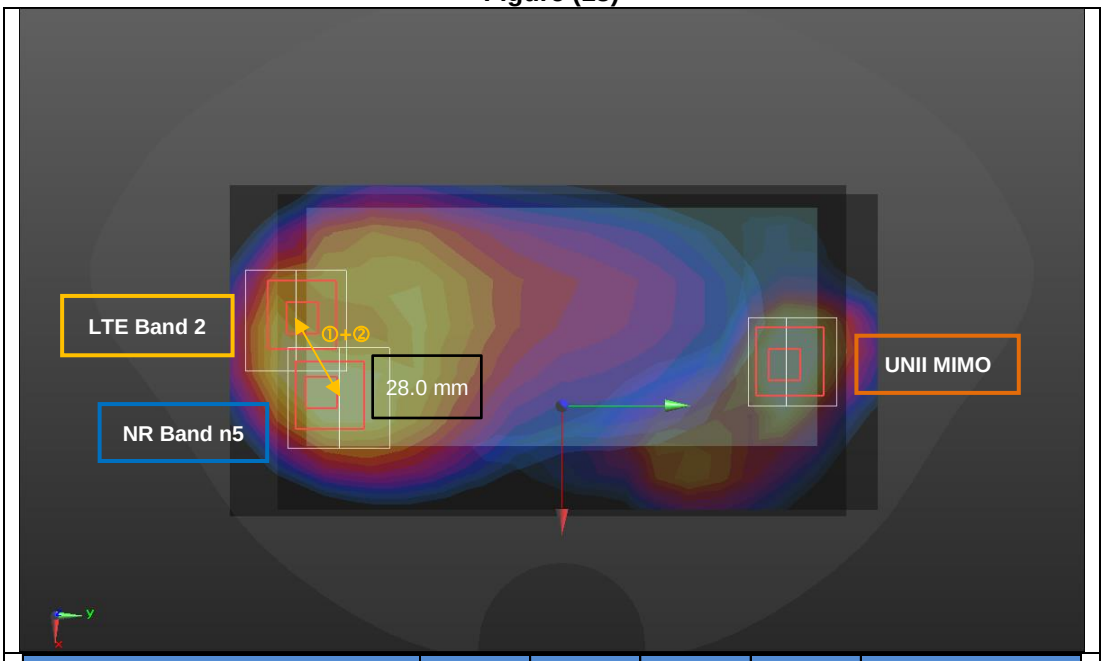


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	1.150	-0.0130	-0.0840	-0.2075	①+②	144.6
DTS Ant 2	②	0.437	-0.0062	0.0604	-0.2064		

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

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

Figure (13)

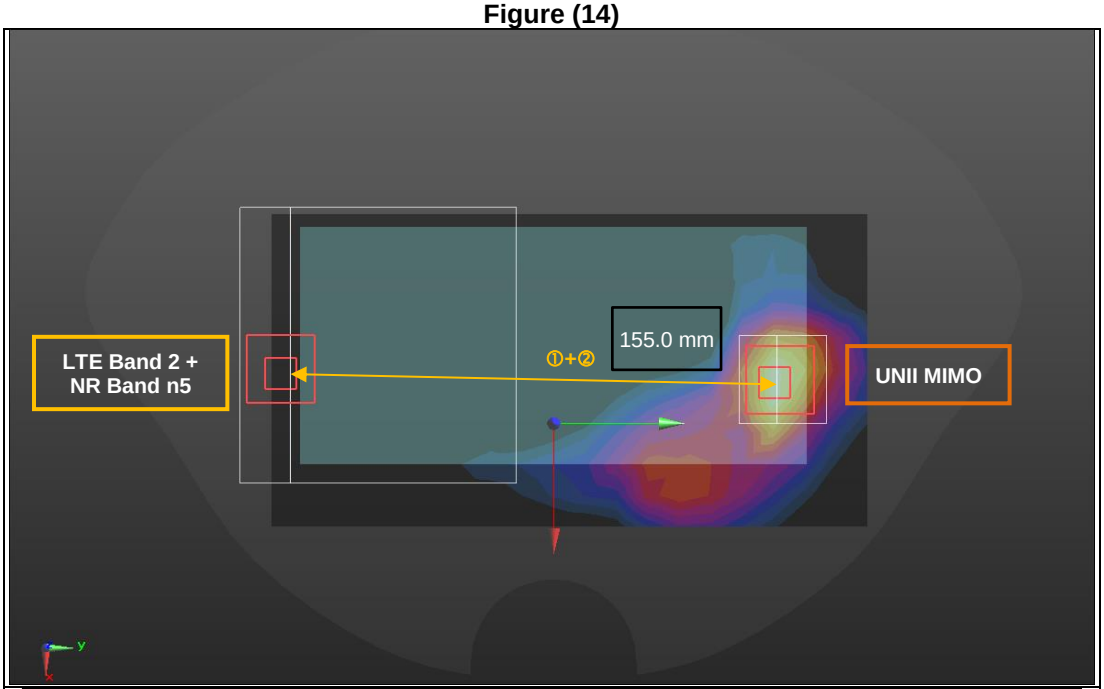


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.571	-0.0270	-0.0840	-0.2059	①+②	28.0
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066		
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		

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

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

Figure (14)

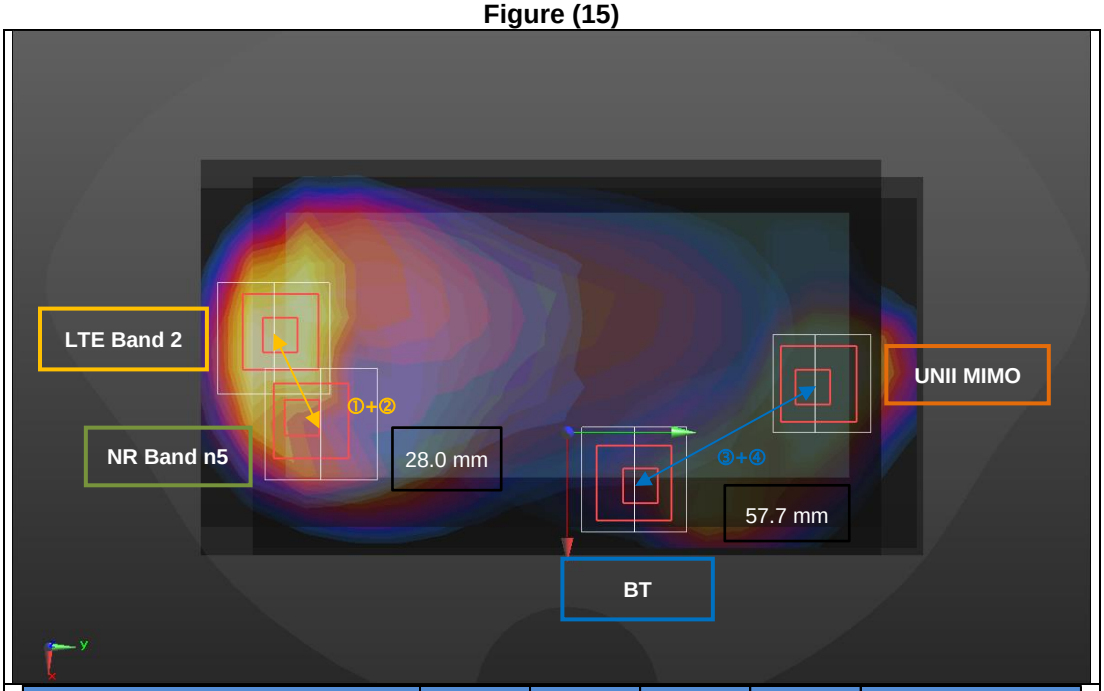


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	1.150	-0.0130	-0.0840	-0.2075	①+②	155.0
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		

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

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

Figure (15)

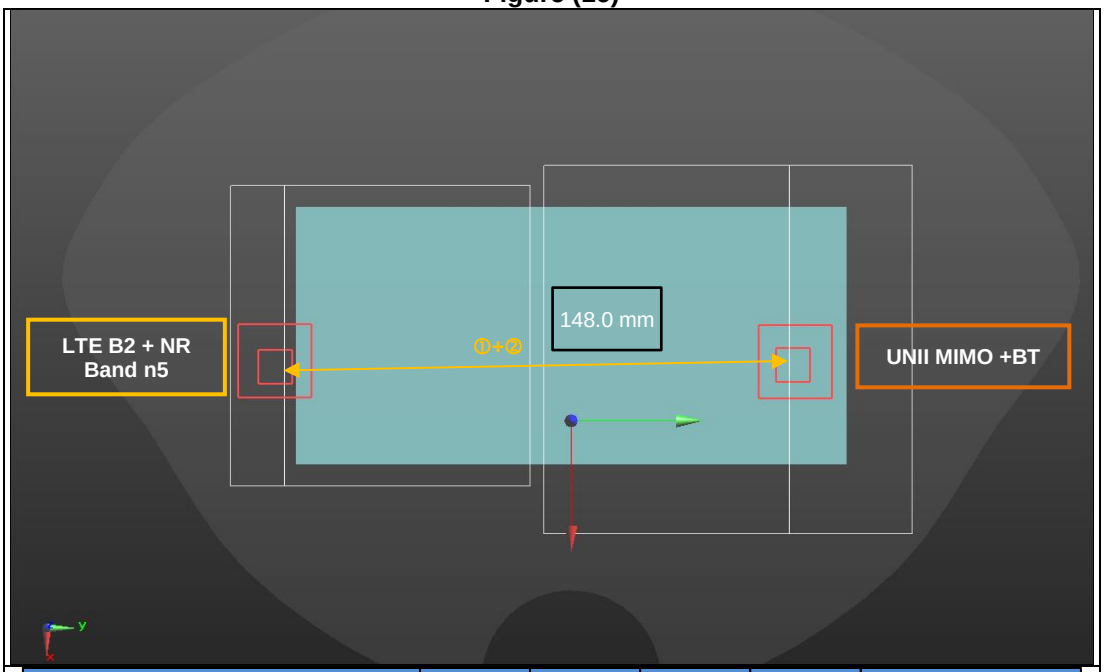


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.571	-0.0270	-0.0840	-0.2059	①+②	28.0
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	57.7
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		
BT	④	0.146	0.0134	0.0192	-0.2064		

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

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

Figure (16)

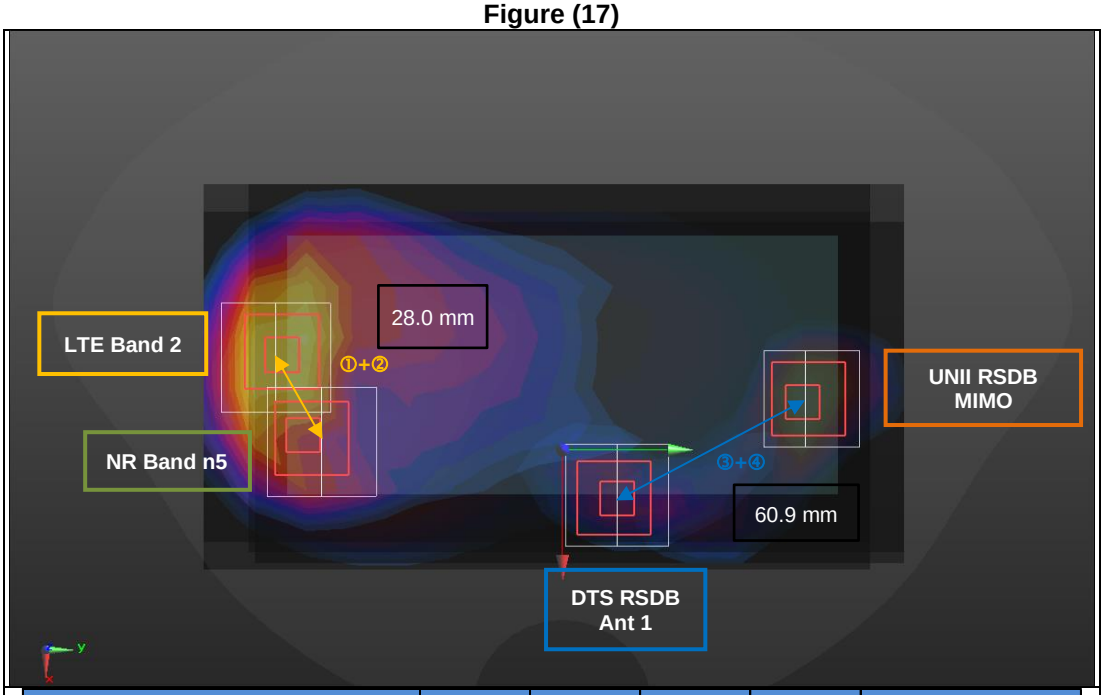


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	1.150	-0.0130	-0.0840	-0.2075	①+②	148.0
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

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

Figure (17)

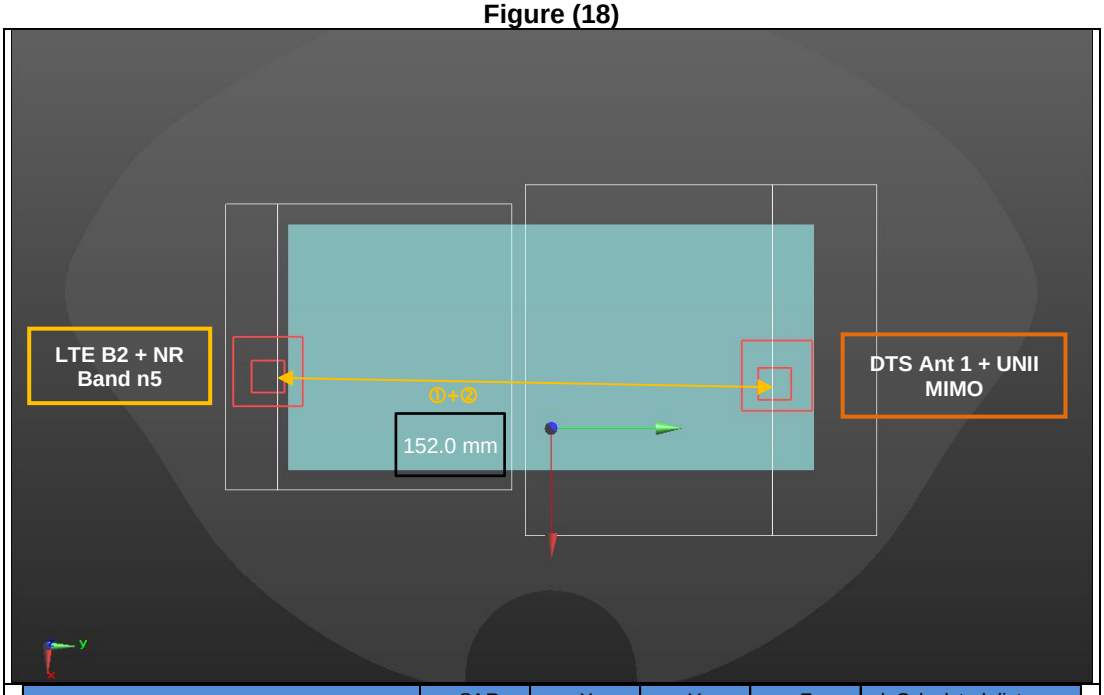


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.571	-0.0270	-0.0840	-0.2059	①+②	28.0
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	60.9
DTS RSDB Ant 1	③	0.107	0.0132	0.0160	-0.2063		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

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

Figure (18)

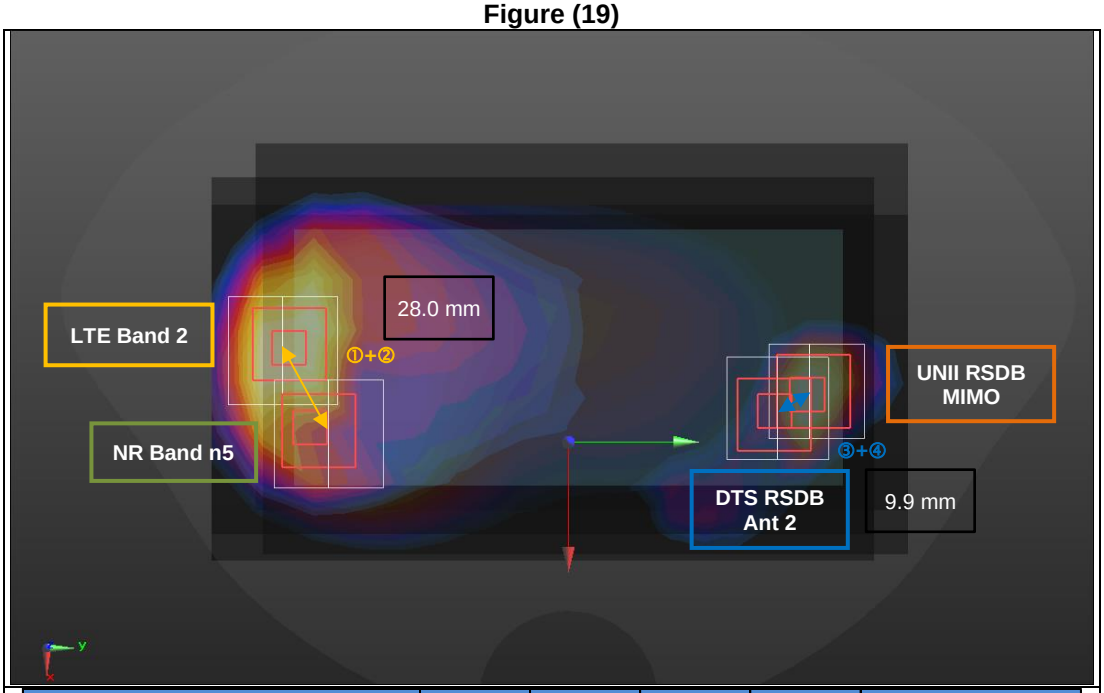


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	1.150	-0.0130	-0.0840	-0.2075	①+②	152.0
(DTS Ant 1 + UNII MIMO)	②	0.421	-0.0150	0.0680	-0.2080		

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

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

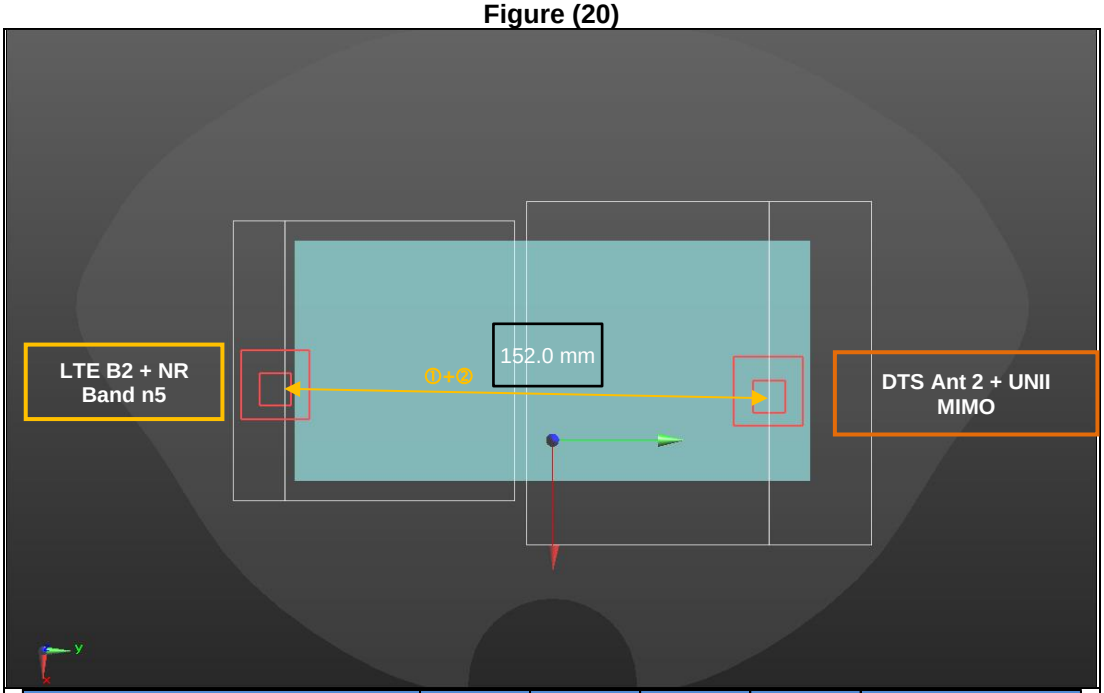
Figure (19)



Mode		SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
LTE Band 2	①	0.571	-0.0270	-0.0840	-0.2059	①+②	28.0
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	9.9
DTS RSDB Ant 2	③	0.127	-0.0100	0.0616	-0.2065		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

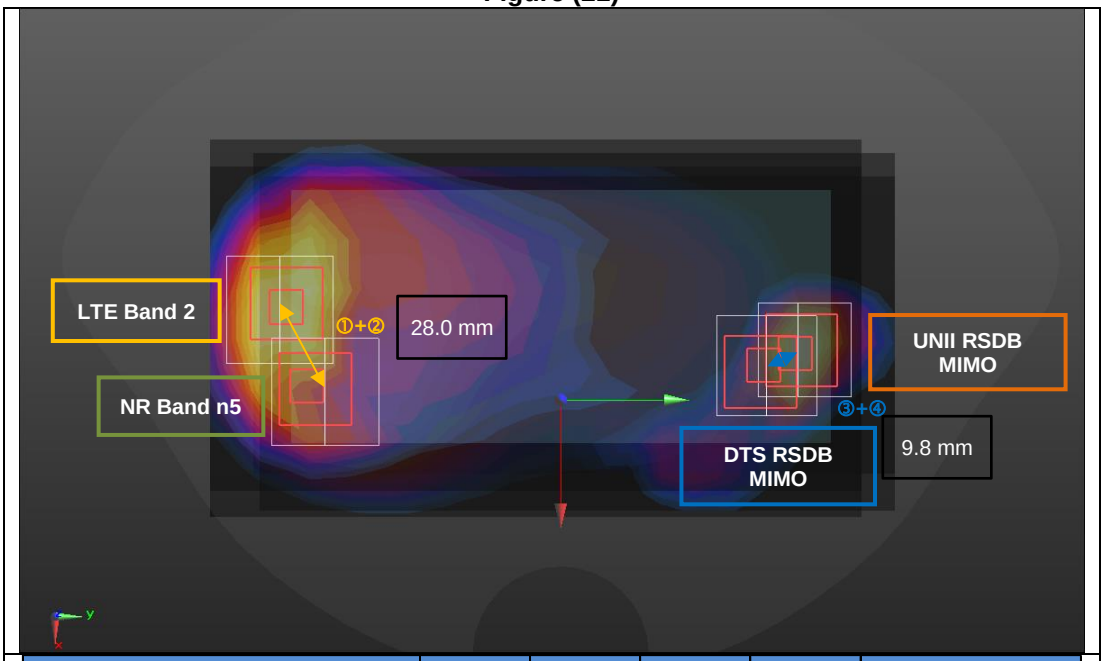
Figure (20)



Mode		SAR W/kg	X m	Y m	Z m	d: Calculated distance (mm)	
(LTE Band 2 + NR Band n5)	①	1.150	-0.0130	-0.0840	-0.2075	①+②	152.0
(DTS Ant 2 + UNII MIMO)	②	0.455	-0.0150	0.0680	-0.2080		

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

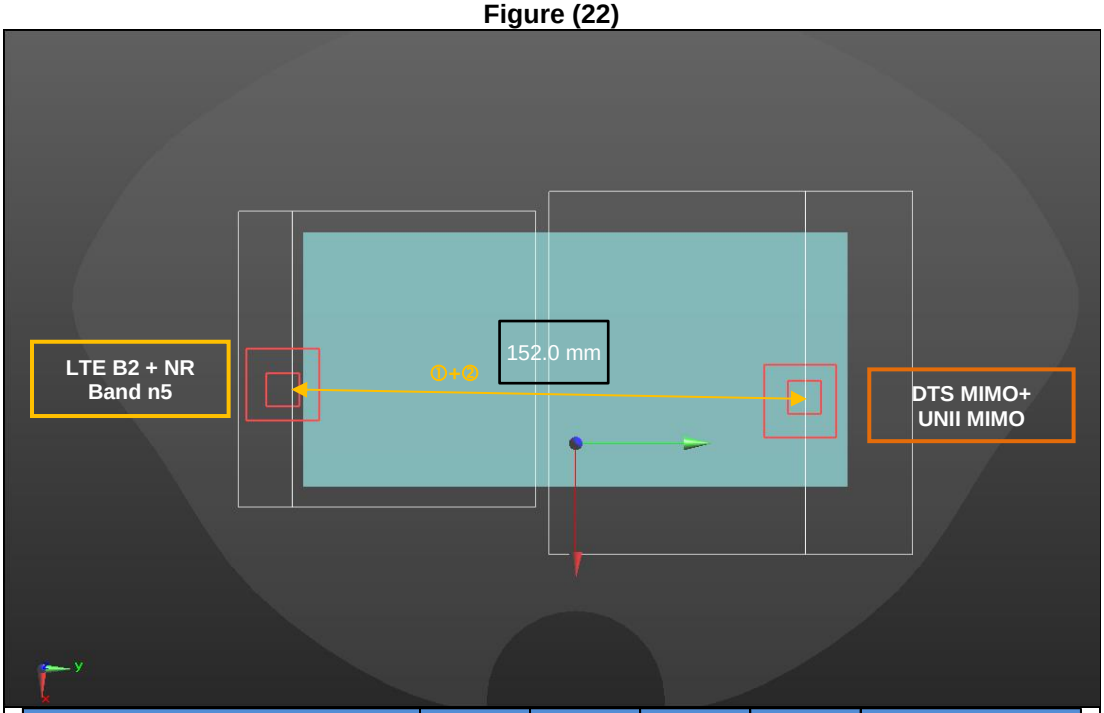
Figure (21)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 2	①	0.571	-0.0270	-0.0840	-0.2059	①+②	28.0
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	9.8
DTS RSDB MIMO	③	0.250	-0.0104	0.0616	-0.2063		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

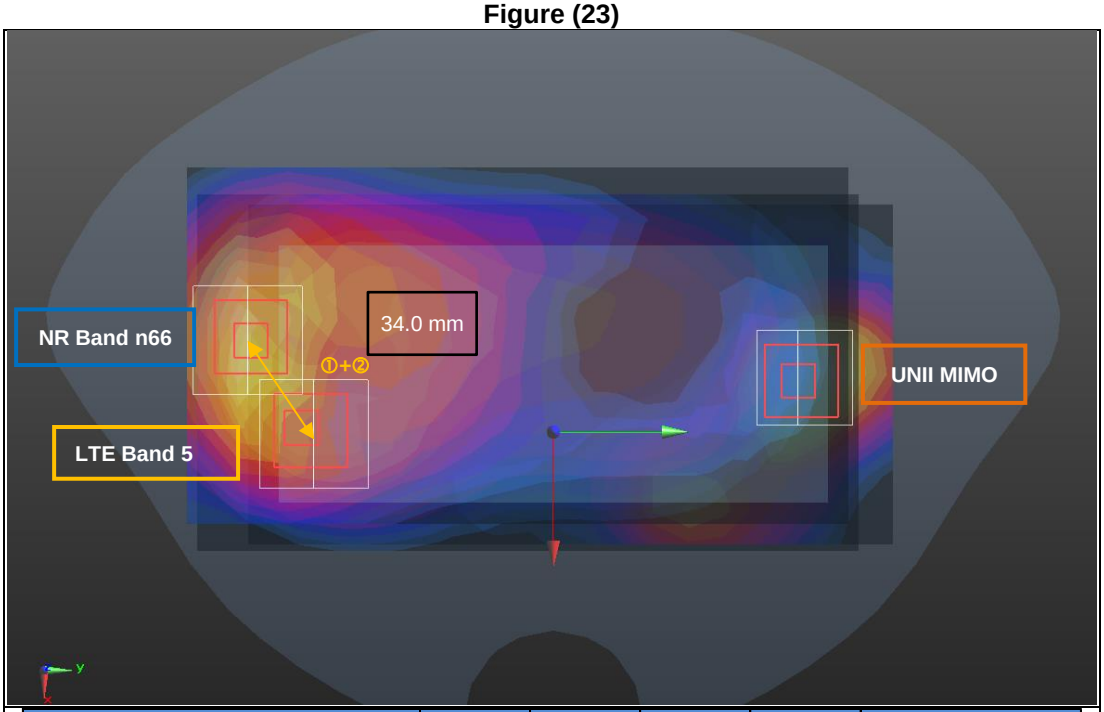
Figure (22)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 2 + NR Band n5)	①	1.150	-0.0130	-0.0840	-0.2075	①+②	152.0
(DTS MIMO + UNII MIMO)	②	0.595	-0.0150	0.0680	-0.2080		

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

Figure (23)

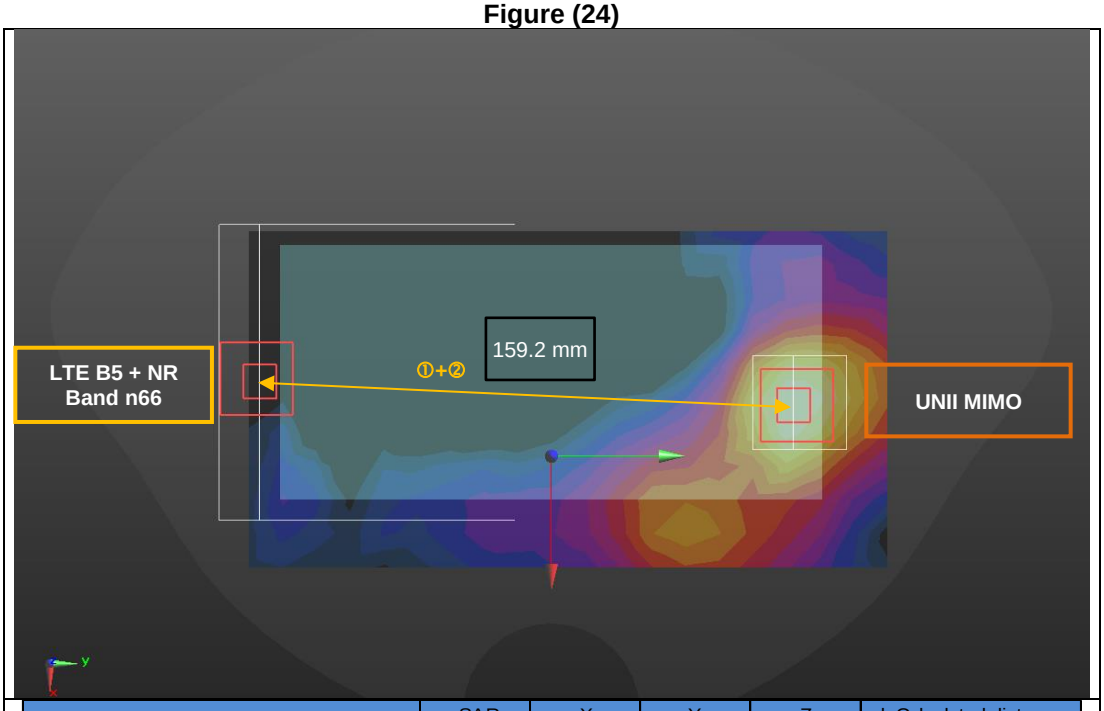


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.344	0.0005	-0.0705	-0.2092	①+②	34.0
NR Band n66	②	0.647	-0.0270	-0.0900	-0.2049		
UNII MIMO	③	0.680	-0.0140	0.0720	-0.2064		

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

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

Figure (24)

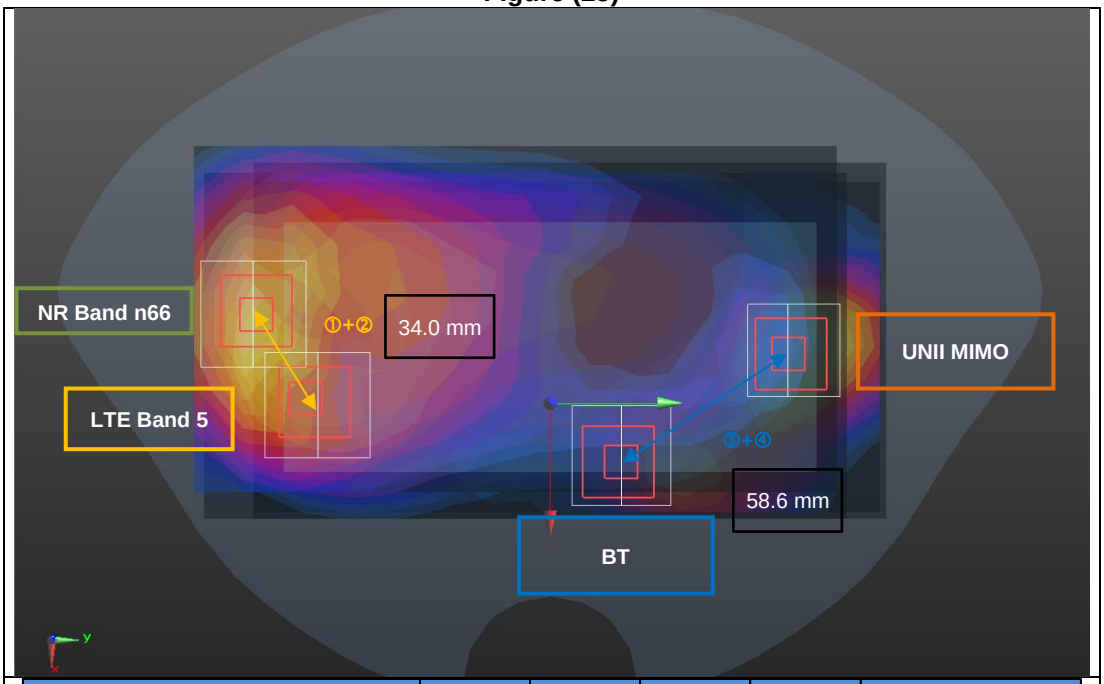


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	0.905	-0.0210	-0.0870	-0.2075	①+②	159.2
UNII MIMO	②	0.680	-0.0140	0.0720	-0.2064		

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

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

Figure (25)

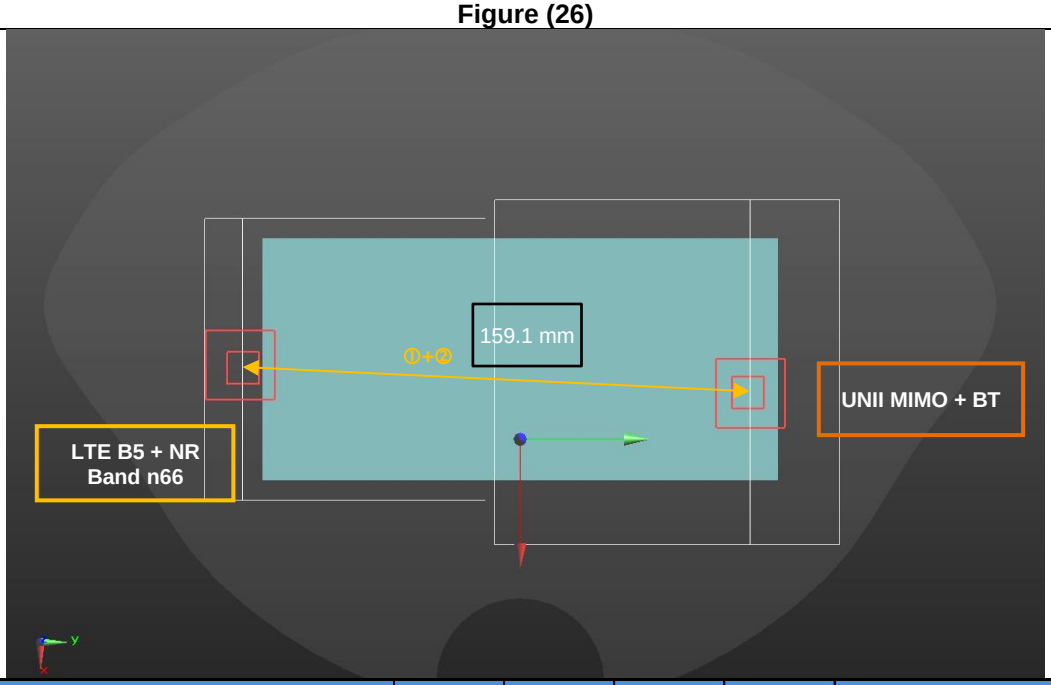


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.344	0.0005	-0.0705	-0.2092	①+②	34.0
NR Band n66	②	0.647	-0.0270	-0.0900	-0.2049	③+④	58.6
UNII MIMO	③	0.680	-0.0140	0.0720	-0.2064		
BT	④	0.063	0.0158	0.0216	-0.2062		

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

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

Figure (26)

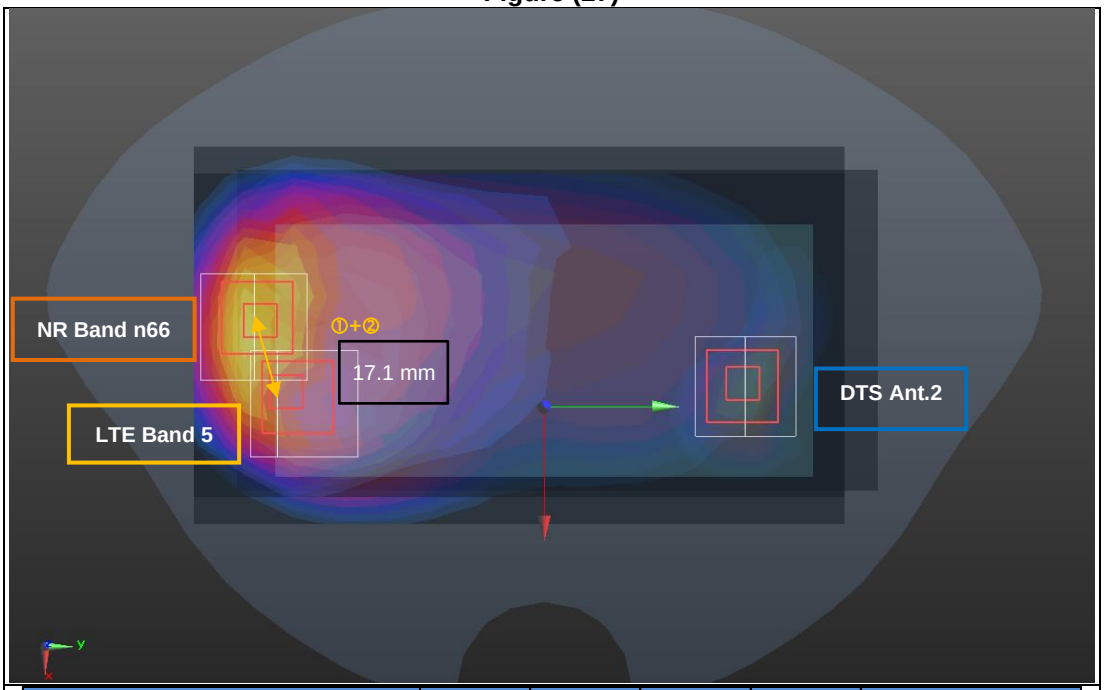


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	0.905	-0.0210	-0.0870	-0.2075	①+②	159.1
(UNII MIMO + BT)	②	0.672	-0.0150	0.0720	-0.2080		

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

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

Figure (27)

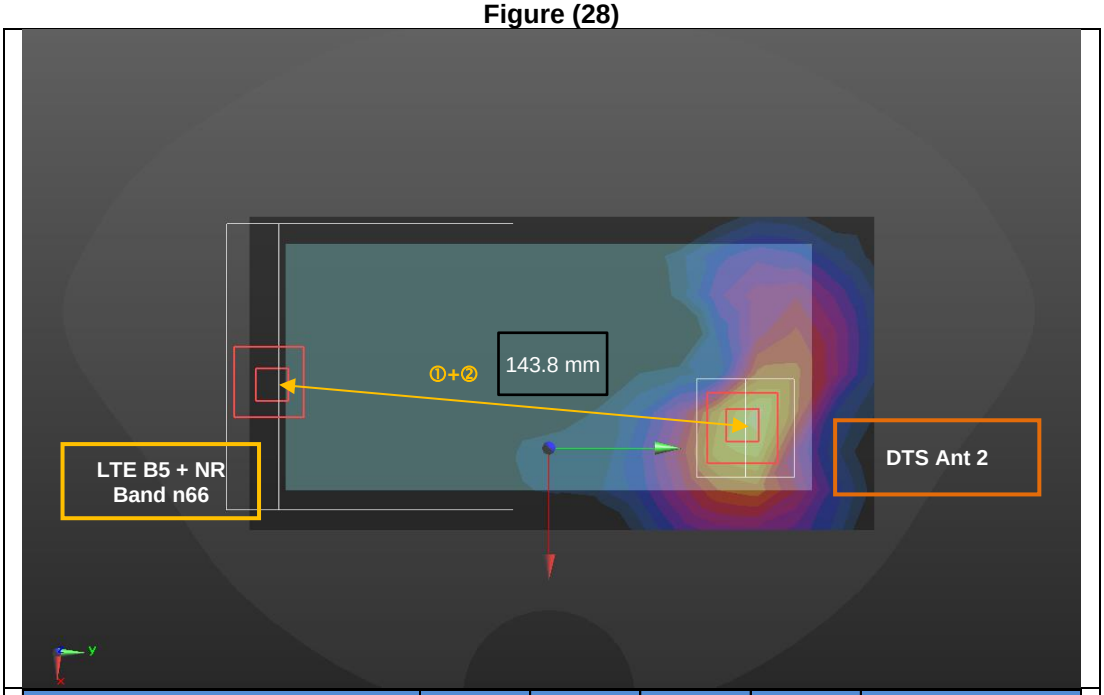


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048		
DTS Ant 2	③	0.437	-0.0062	0.0604	-0.2064		

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

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

Figure (28)

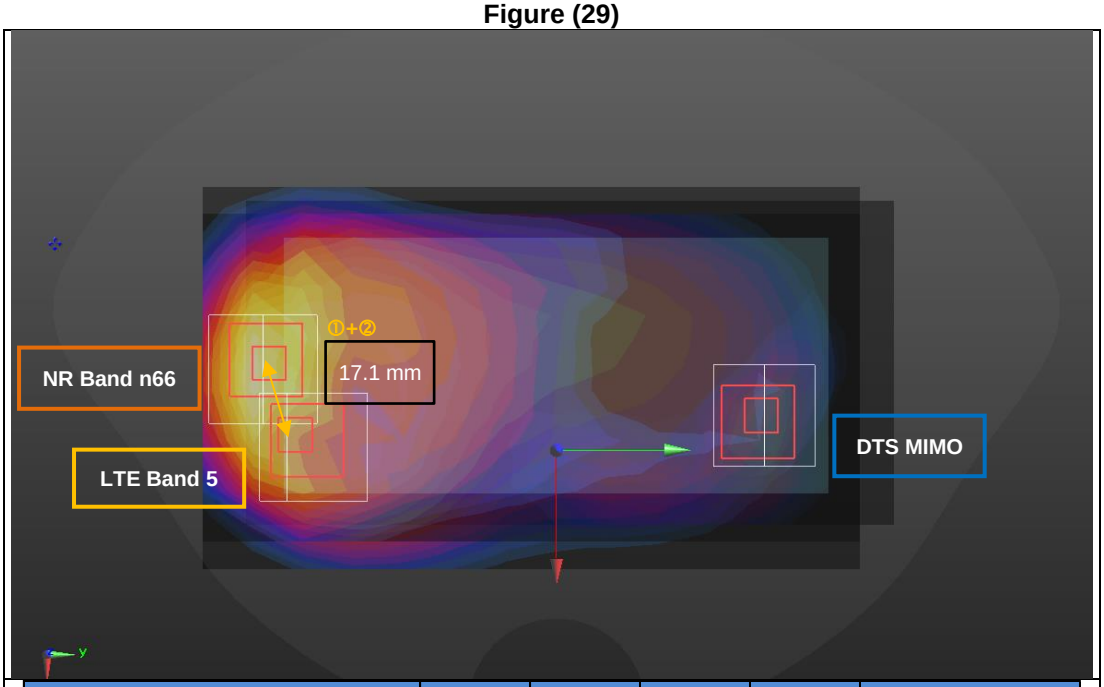


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	143.8
DTS Ant 2	②	0.437	-0.0062	0.0604	-0.2064		

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

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

Figure (29)

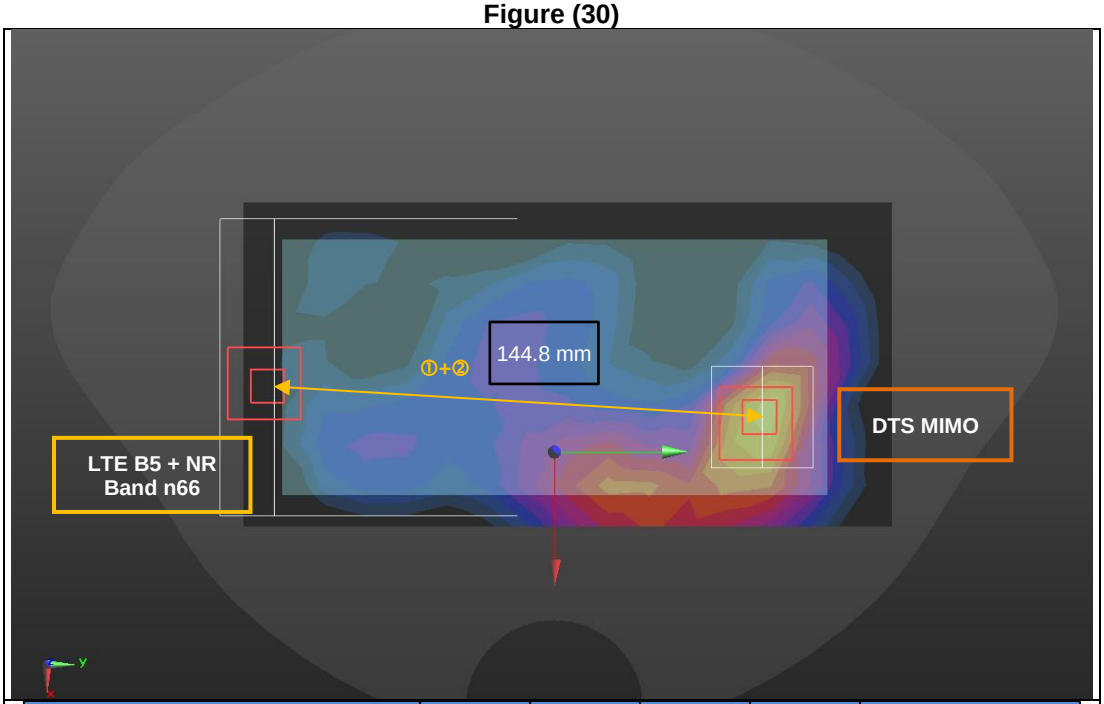


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048		
DTS MIMO	③	0.250	-0.0104	0.0616	-0.2063		

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

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

Figure (30)

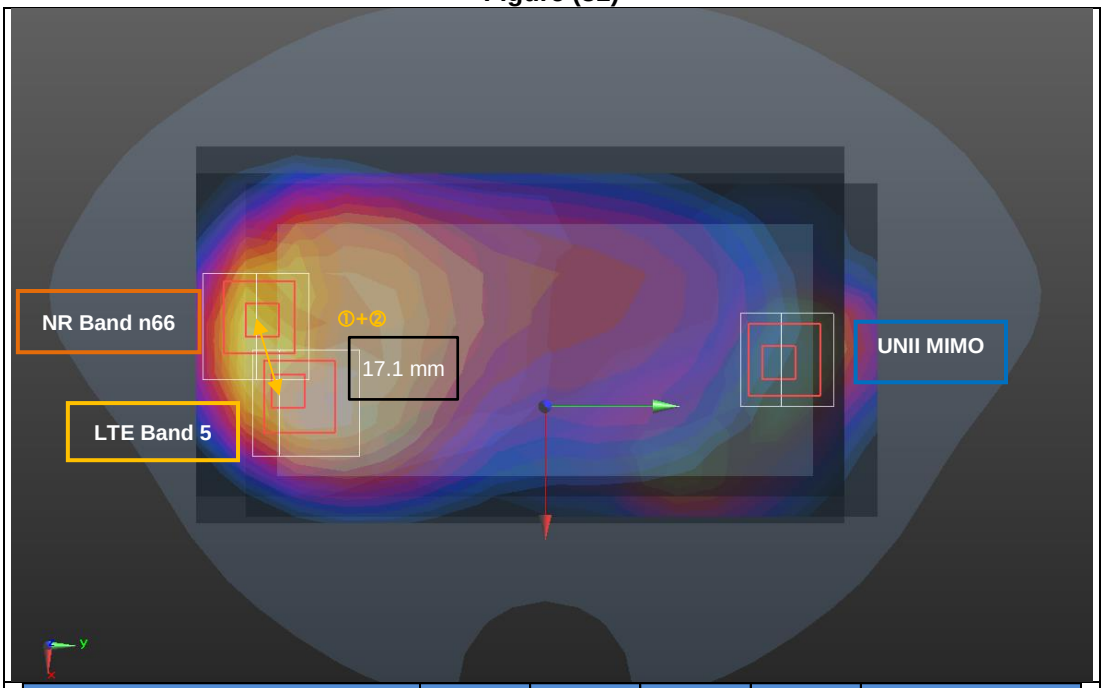


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	144.8
DTS MIMO	②	0.250	-0.0104	0.0616	-0.2063		

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

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

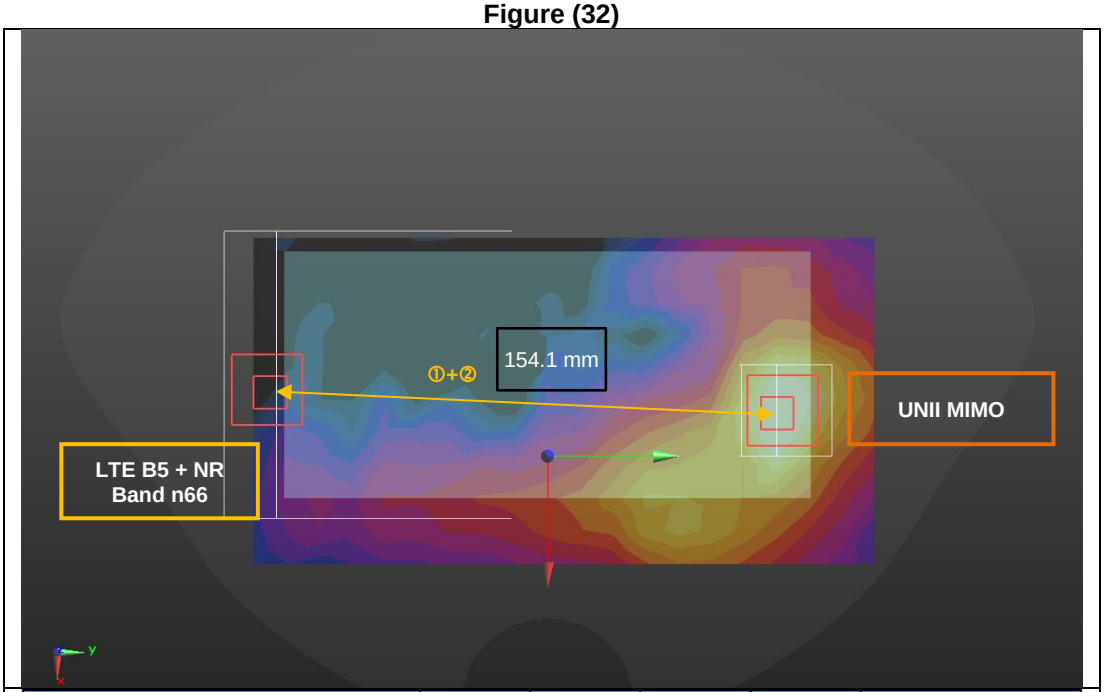
Figure (31)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048		
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		

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

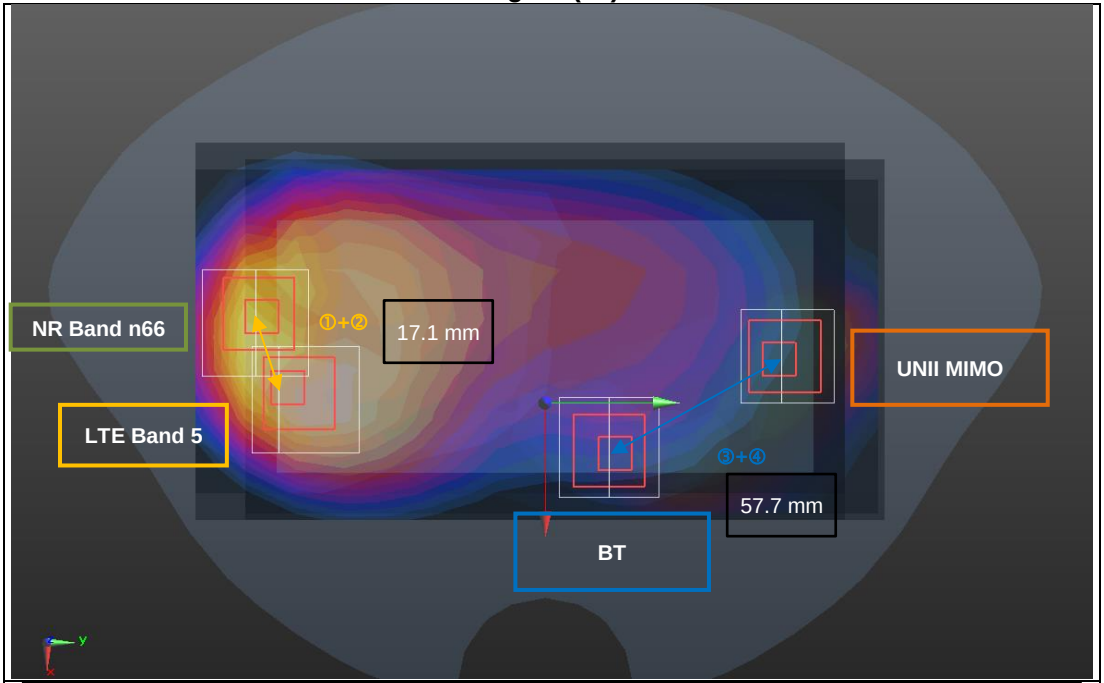
Figure (32)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	154.1
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		

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

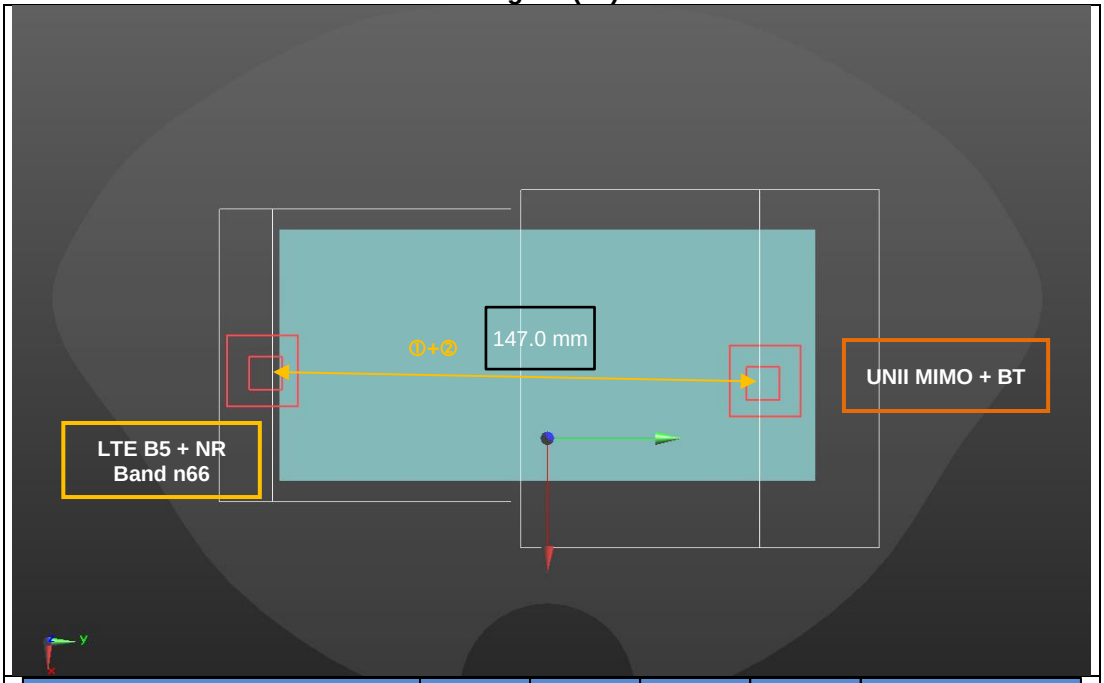
Figure (33)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048	③+④	57.7
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		
BT	④	0.146	0.0134	0.0192	-0.2064		

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

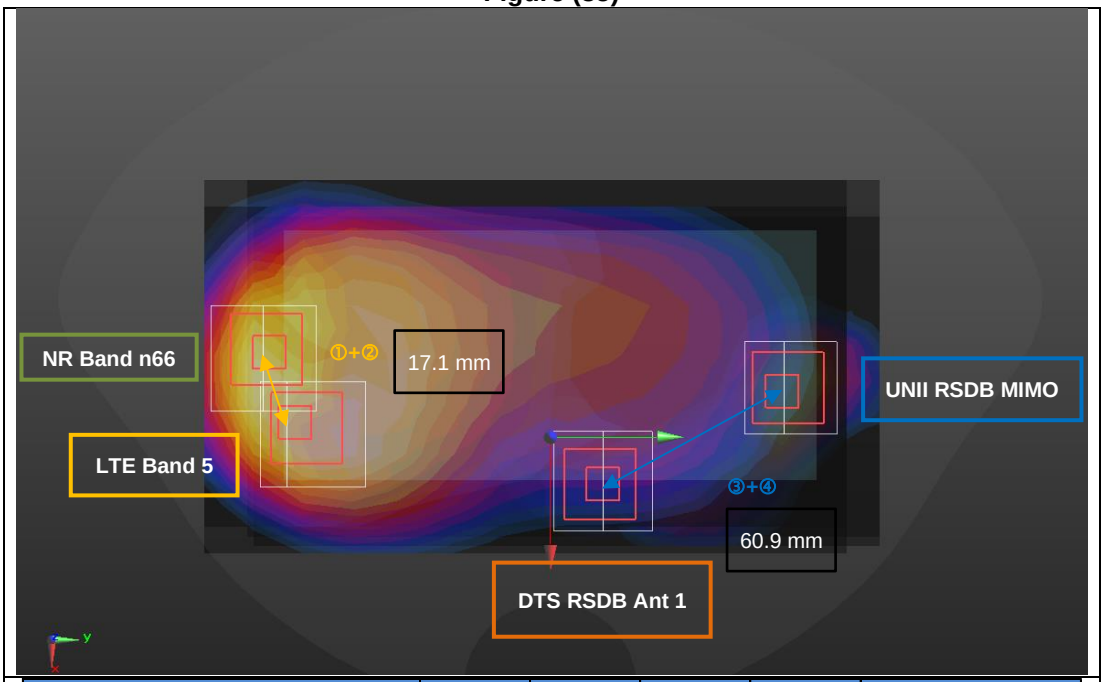
Figure (34)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	147.0
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

Figure (35)

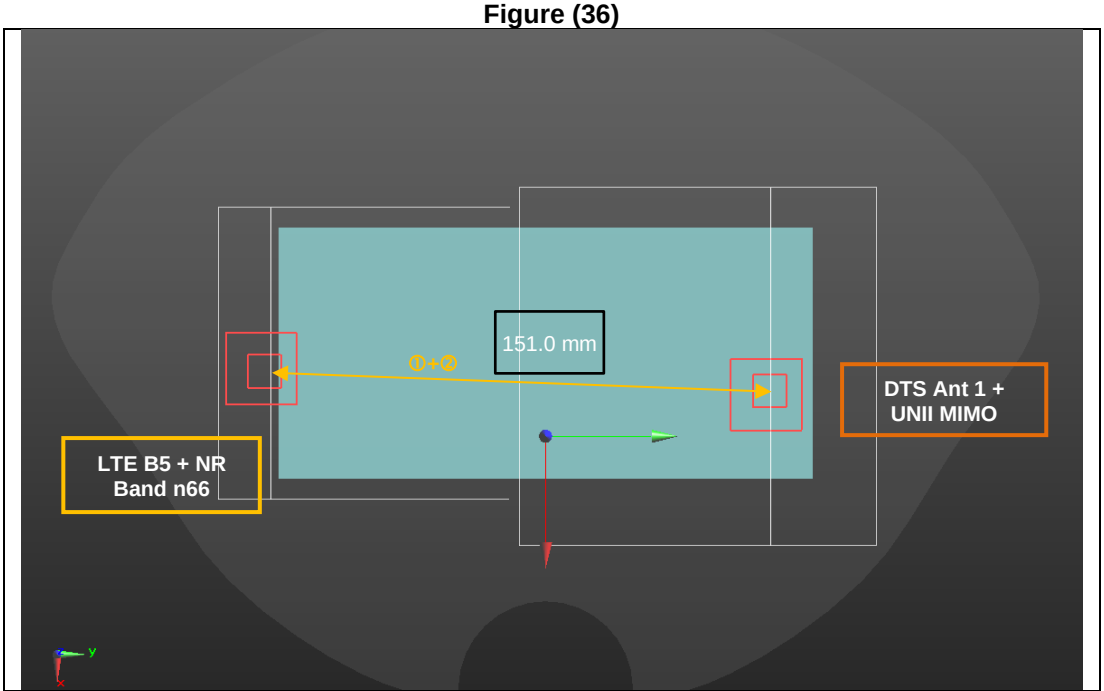


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048	③+④	60.9
DTS RSDB Ant 1	③	0.107	0.0132	0.0160	-0.2063		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

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

Figure (36)

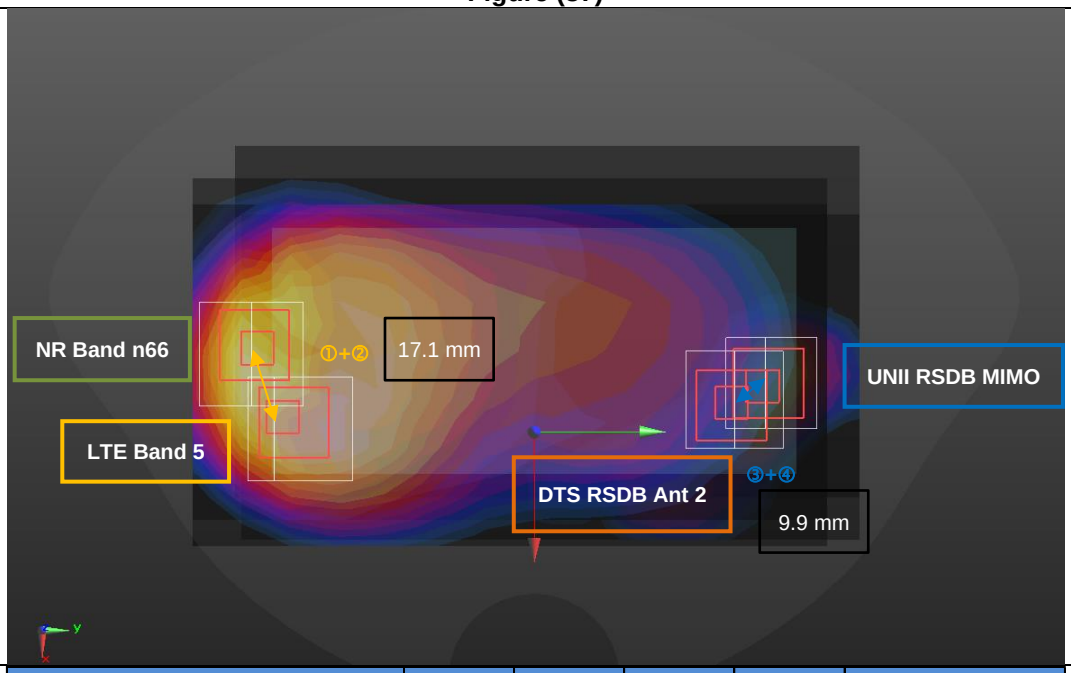


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	151.0
(DTS Ant 1 + UNII MIMO)	②	0.421	-0.0150	0.0680	-0.2080		

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

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

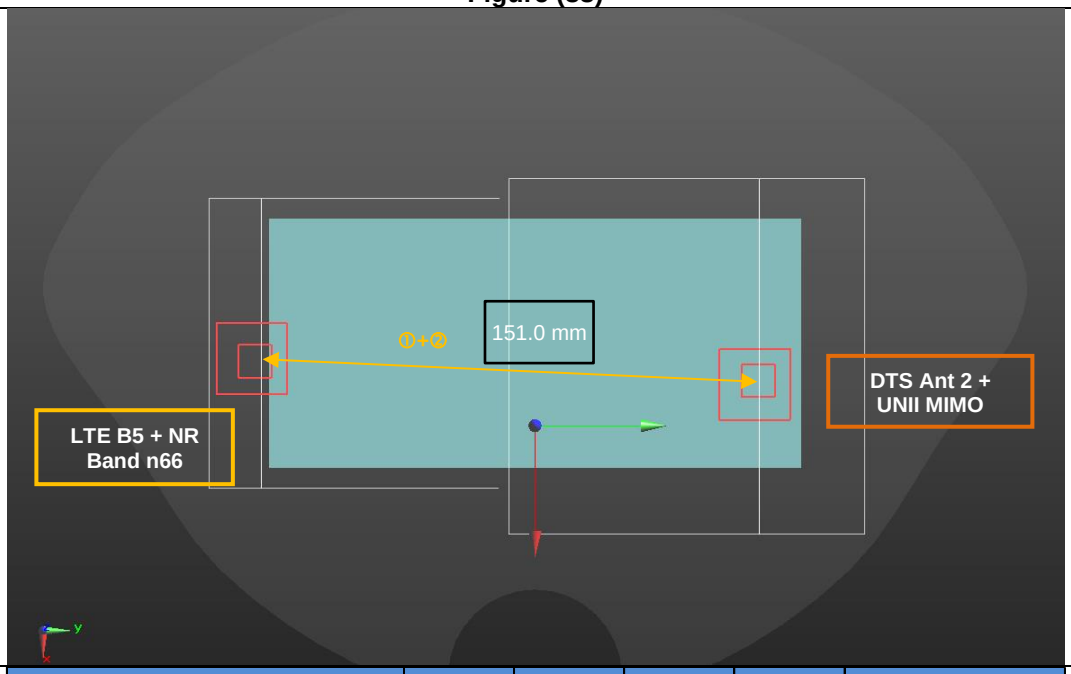
Figure (37)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048	③+④	9.9
DTS RSDB Ant 2	③	0.127	-0.0100	0.0616	-0.2065		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

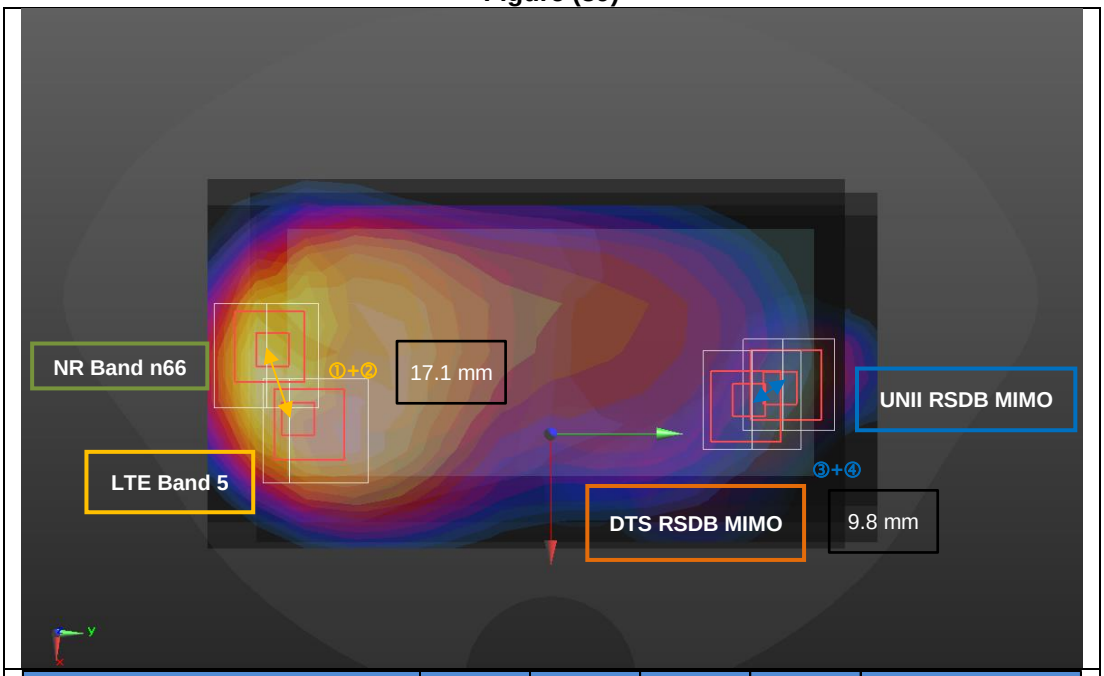
Figure (38)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	151.0
(DTS Ant 2 + UNII MIMO)	②	0.455	-0.0150	0.0680	-0.2080		

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

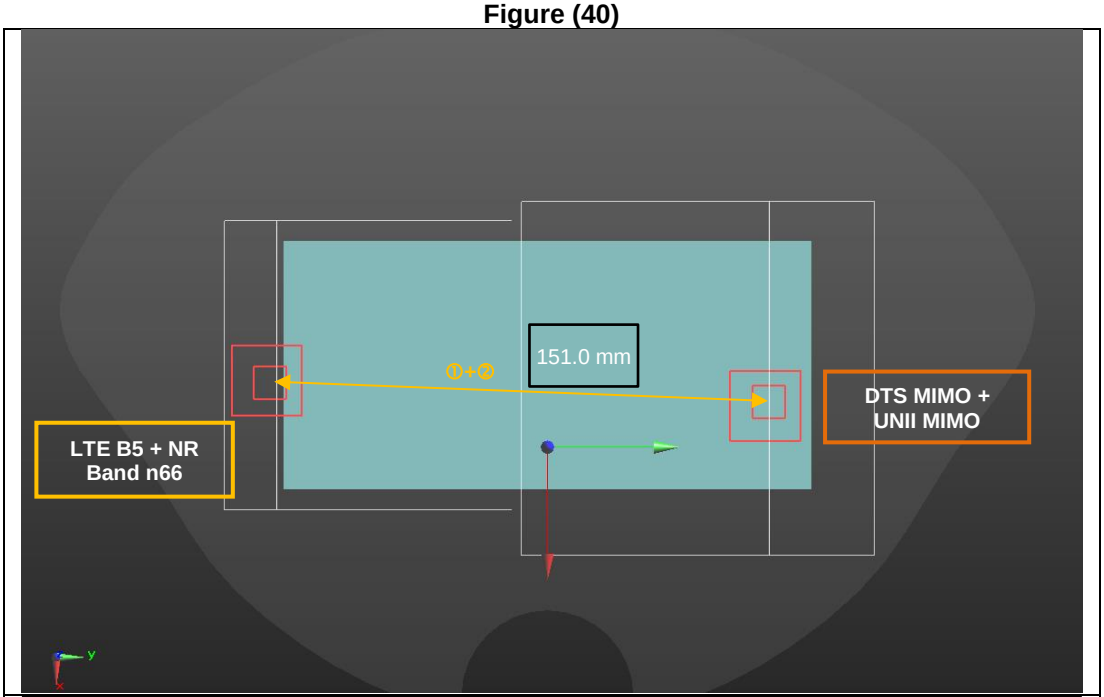
Figure (39)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 5	①	0.728	-0.0090	-0.0800	-0.2092	①+②	17.1
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048	③+④	9.8
DTS RSDB MIMO	③	0.250	-0.0104	0.0616	-0.2063		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

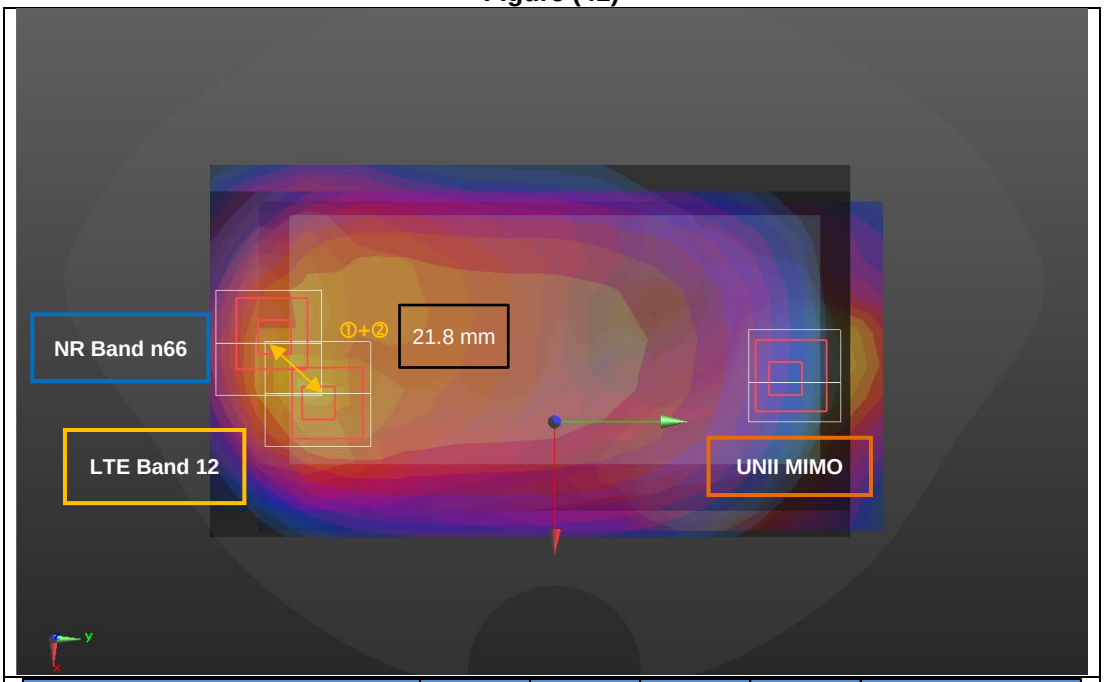
Figure (40)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 5 + NR Band n66)	①	1.240	-0.0170	-0.0830	-0.2075	①+②	151.0
(DTS MIMO + UNII MIMO)	②	0.595	-0.0150	0.0680	-0.2080		

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

Figure (41)

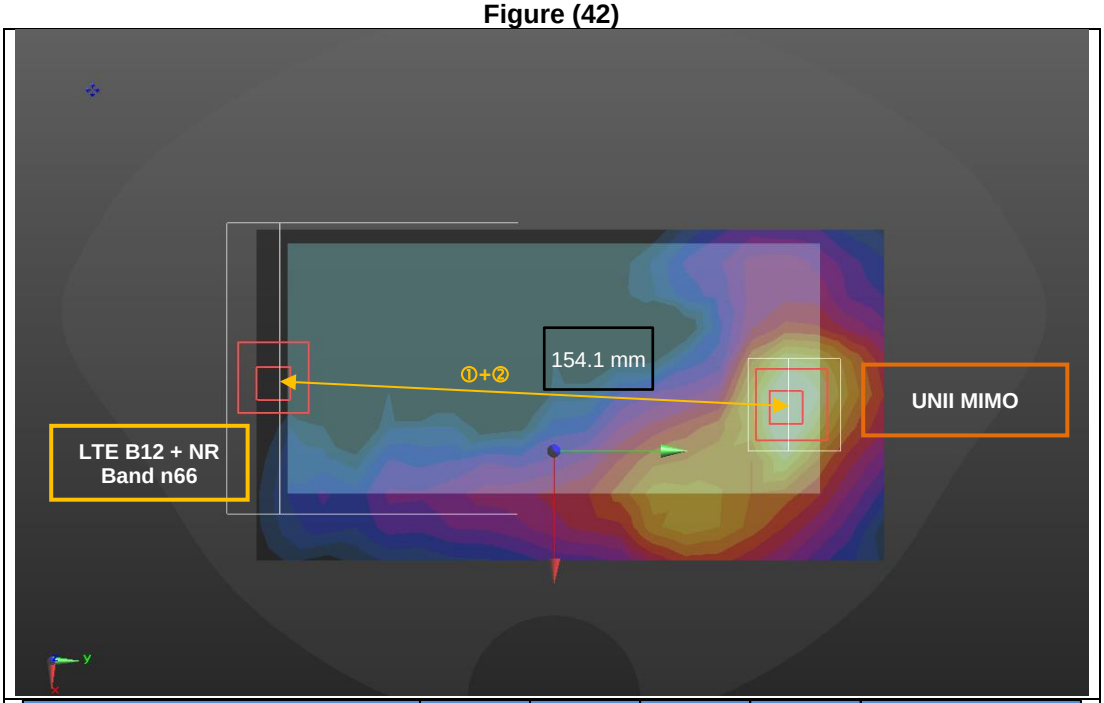


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 12	①	0.240	-0.0085	-0.0720	-0.2080	①+②	21.8
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048		
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		

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

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

Figure (42)

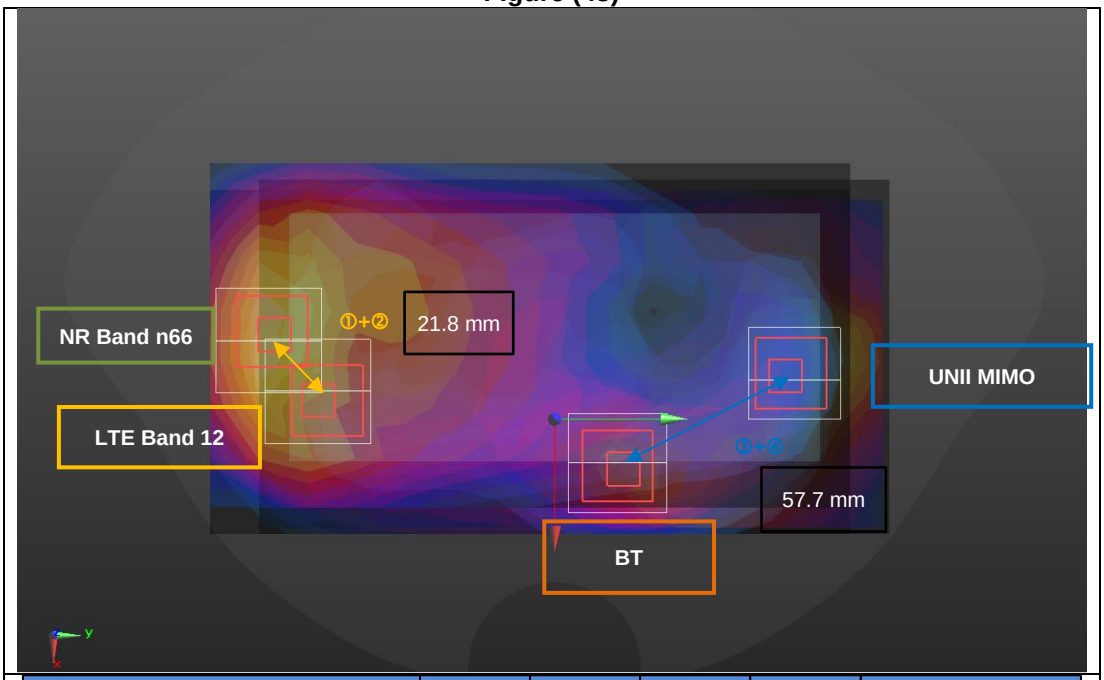


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 12+NR Band n66)	①	0.828	-0.0170	-0.0830	-0.2075	①+②	154.1
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		

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

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

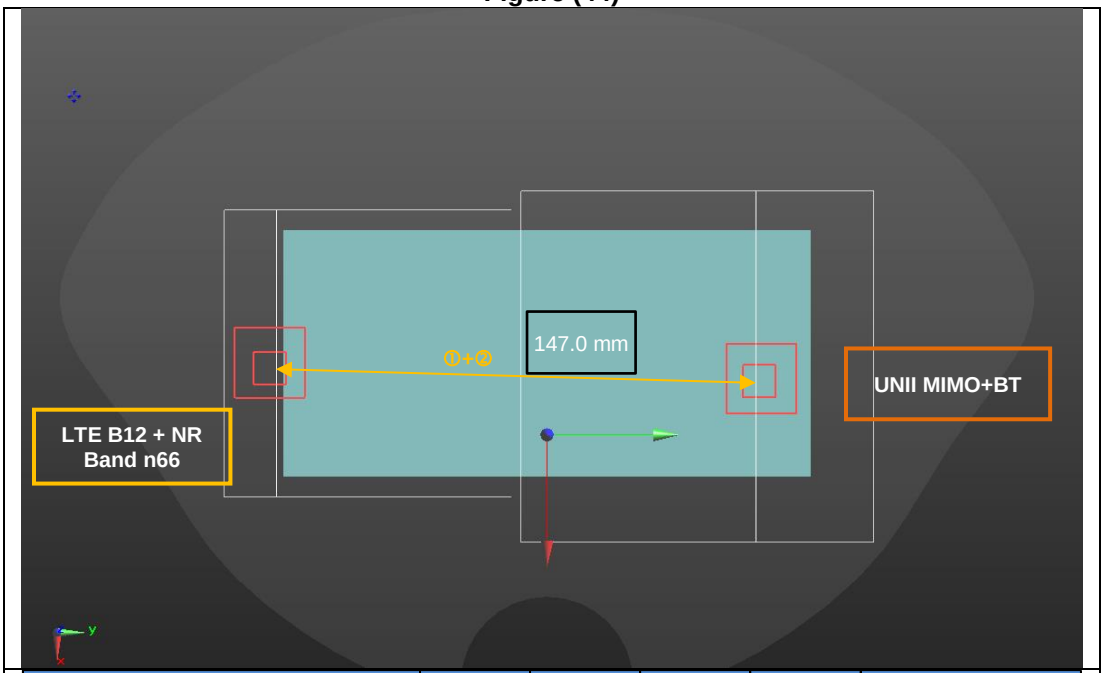
Figure (43)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 12	①	0.240	-0.0085	-0.0720	-0.2080	①+②	21.8
NR Band n66	②	0.621	-0.0240	-0.0870	-0.2048	③+④	57.7
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		
BT	④	0.146	0.0134	0.0192	-0.2064		

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

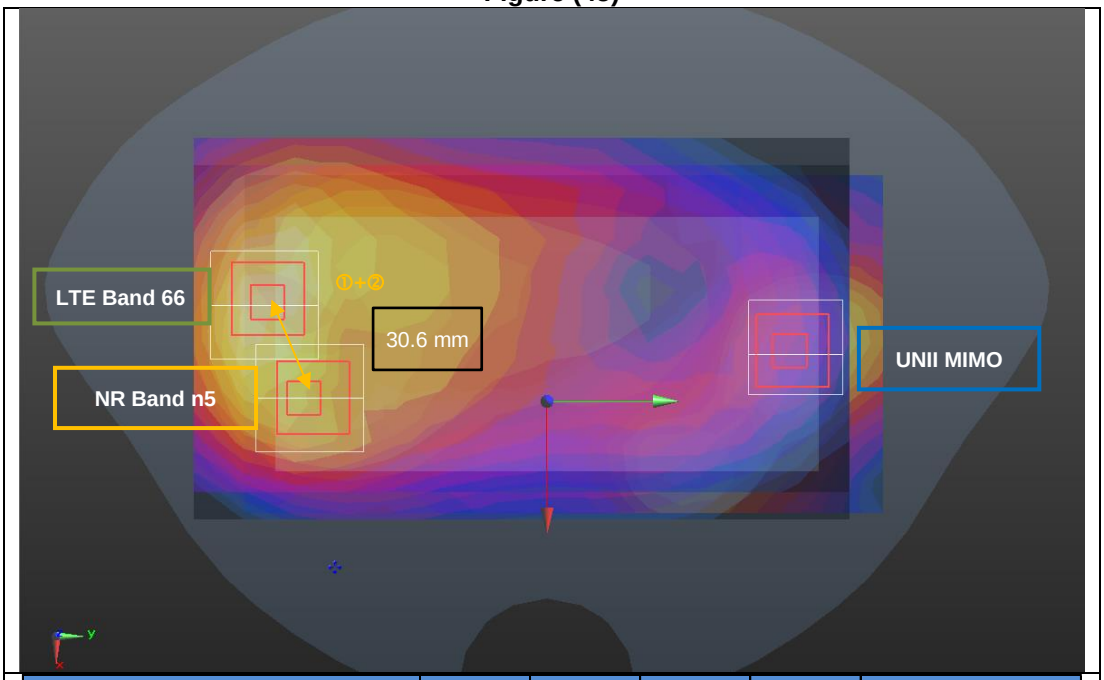
Figure (44)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 12 + NR Band n66)	①	0.828	-0.0170	-0.0830	-0.2075	①+②	147.0
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

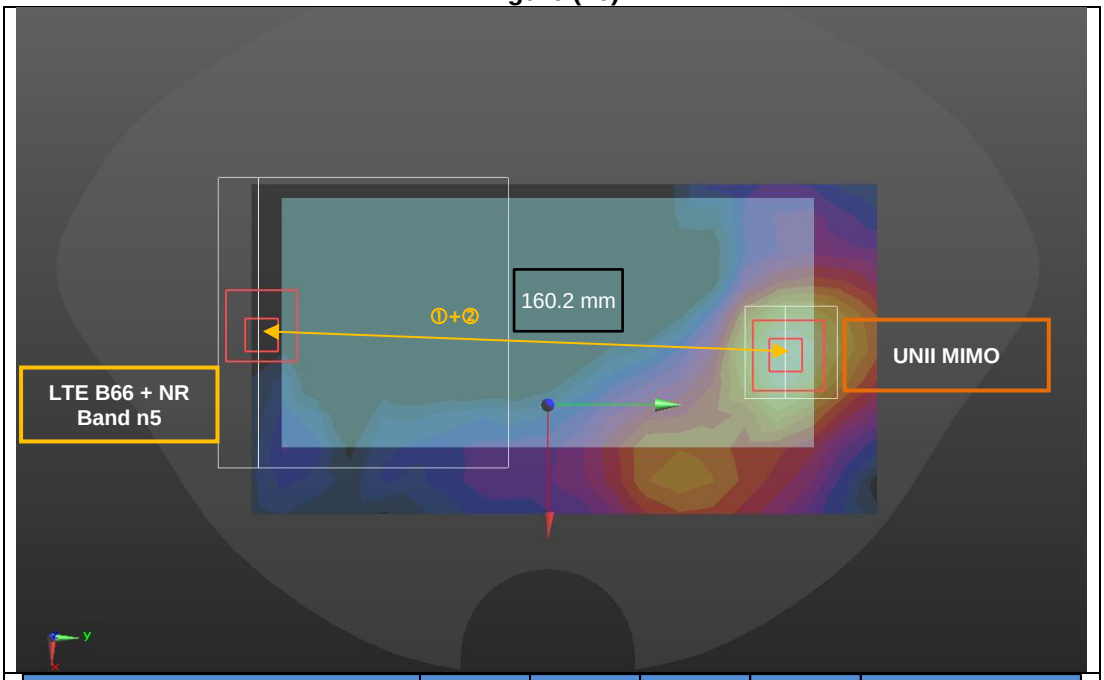
Figure (45)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.746	-0.0285	-0.0840	-0.2072	①+②	30.6
NR Band n5	②	0.307	-0.0010	-0.0705	-0.2066		
UNII MIMO	③	0.680	-0.0140	0.0720	-0.2064		

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

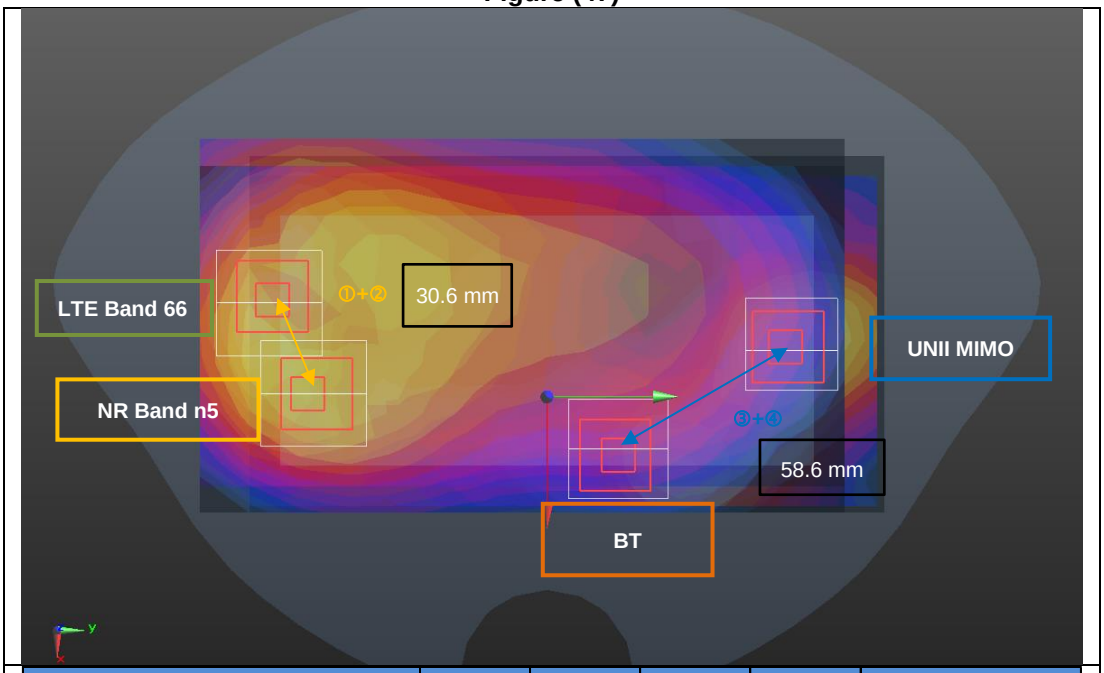
Figure (46)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	0.815	-0.0210	-0.0880	-0.2075	①+②	160.2
UNII MIMO	②	0.680	-0.0140	0.0720	-0.2064		

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

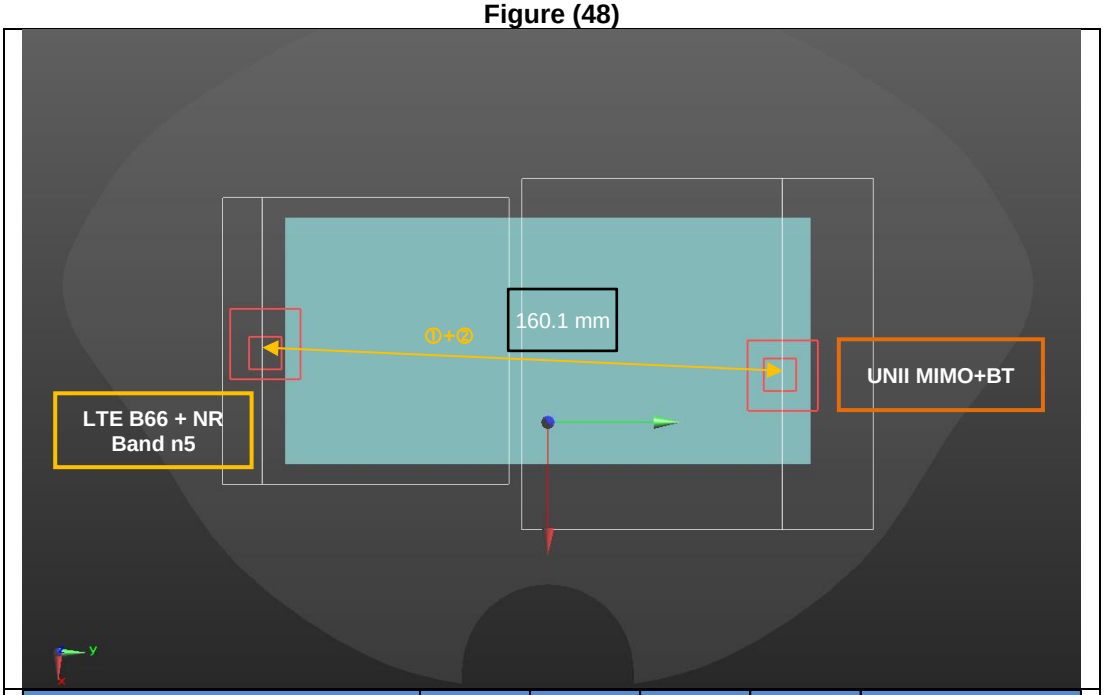
Figure (47)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.746	-0.0285	-0.0840	-0.2072	①+②	30.6
NR Band n5	②	0.307	-0.0010	-0.0705	-0.2066	③+④	58.6
UNII MIMO	③	0.680	-0.0140	0.0720	-0.2064		
BT	④	0.063	0.0158	0.0216	-0.2062		

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

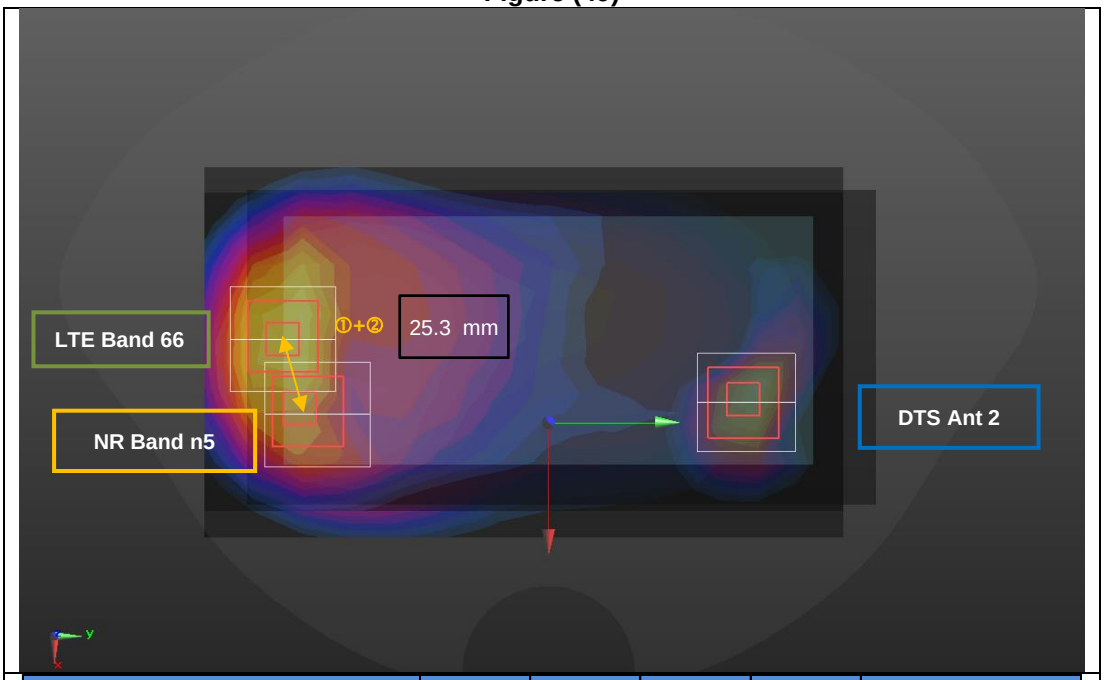
Figure (48)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	0.815	-0.0210	-0.0880	-0.2075	①+②	160.1
(UNII MIMO + BT)	②	0.672	-0.0150	0.0720	-0.2080		

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

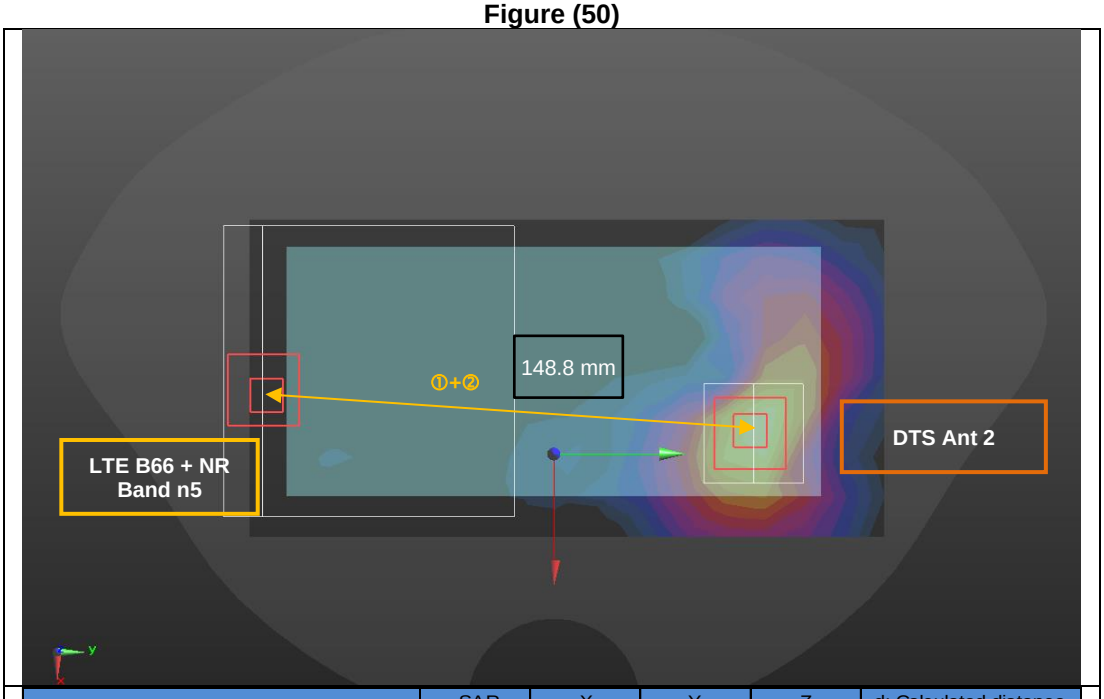
Figure (49)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.581	-0.0255	-0.0810	-0.2072	①+②	25.3
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066		
DTS Ant 2	③	0.437	-0.0062	0.0604	-0.2064		

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

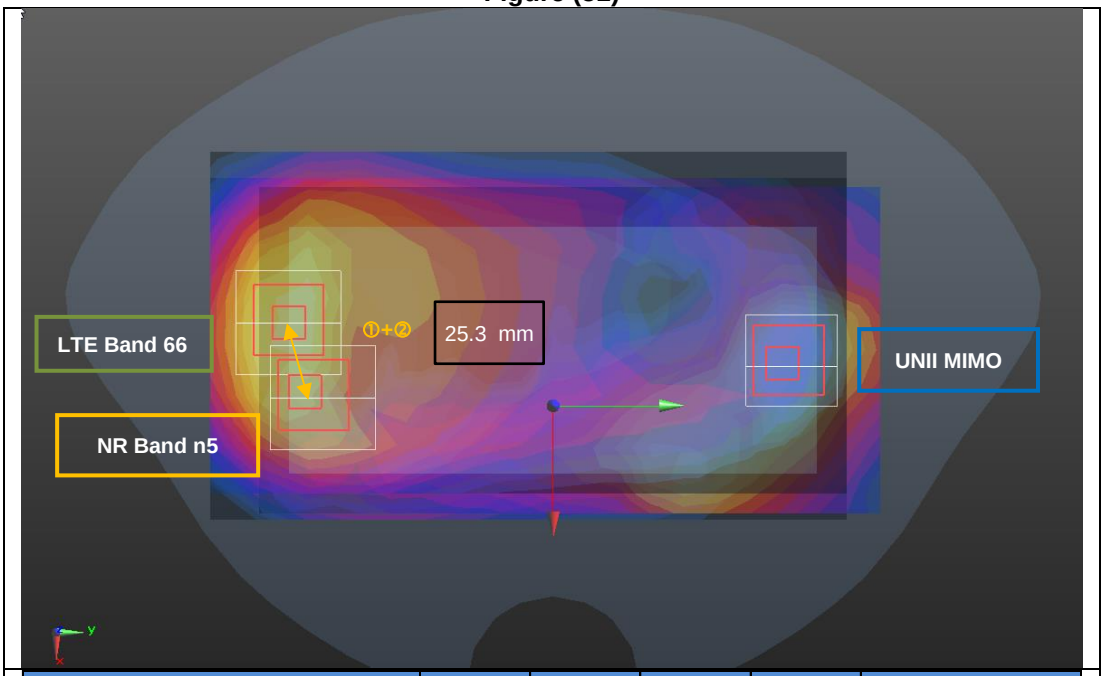
Figure (50)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	1.120	-0.0170	-0.0880	-0.2075	①+②	148.8
DTS Ant 2	②	0.437	-0.0062	0.0604	-0.2064		

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

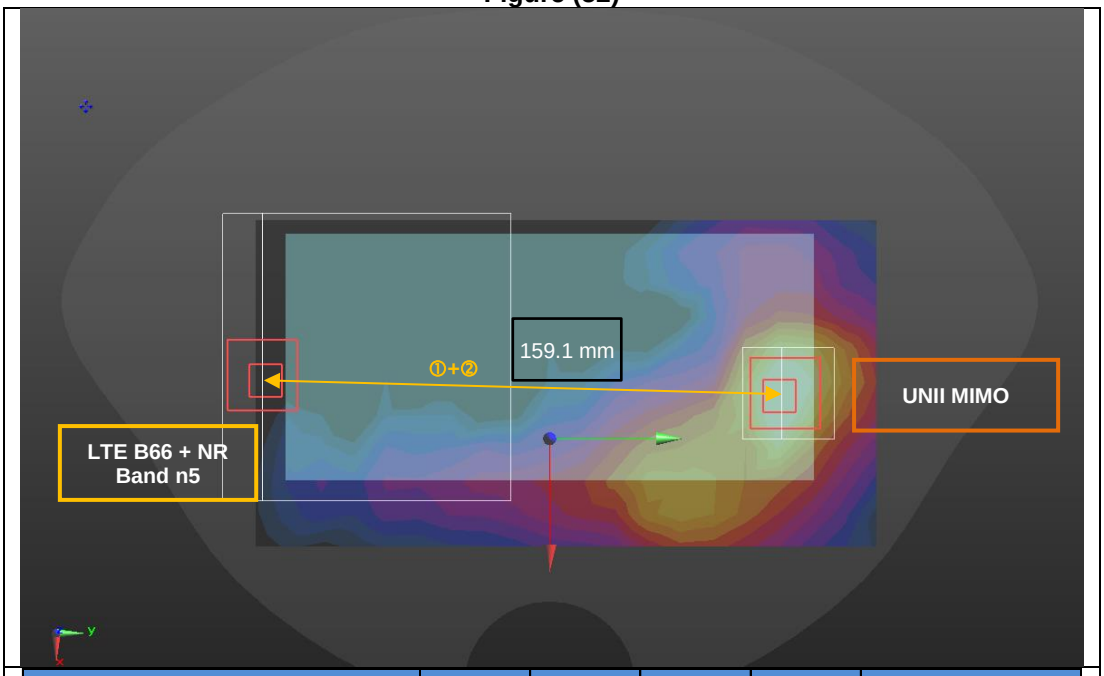
Figure (51)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.581	-0.0255	-0.0810	-0.2072	①+②	25.3
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066		
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		

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

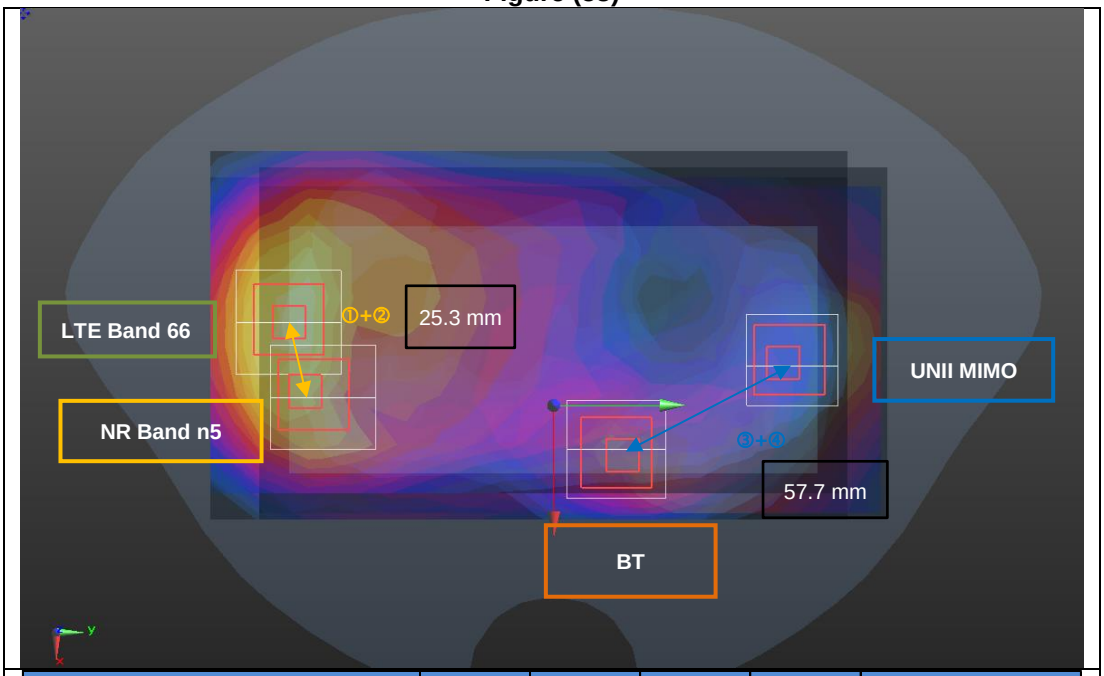
Figure (52)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	1.120	-0.0170	-0.0880	-0.2075	①+②	159.1
UNII MIMO	②	0.796	-0.0120	0.0710	-0.2064		

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

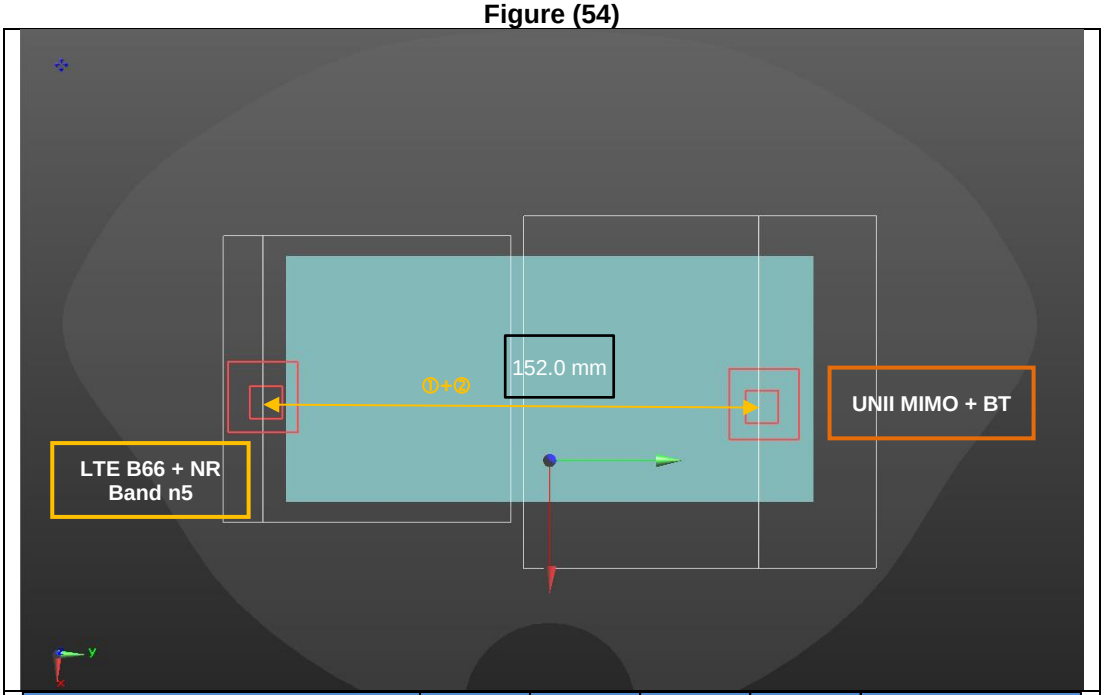
Figure (53)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.581	-0.0255	-0.0810	-0.2072	①+②	25.3
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	57.7
UNII MIMO	③	0.796	-0.0120	0.0710	-0.2064		
BT	④	0.146	0.0134	0.0192	-0.2064		

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

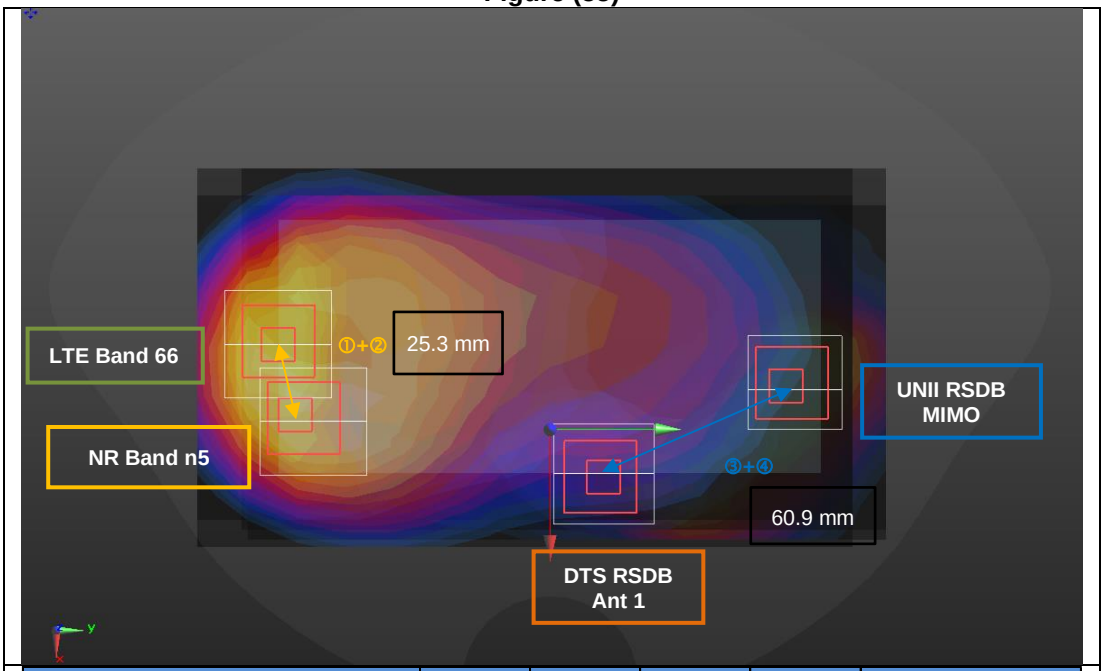
Figure (54)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	1.120	-0.0170	-0.0880	-0.2075	①+②	152.0
(UNII MIMO + BT)	②	0.841	-0.0150	0.0640	-0.2080		

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

Figure (55)

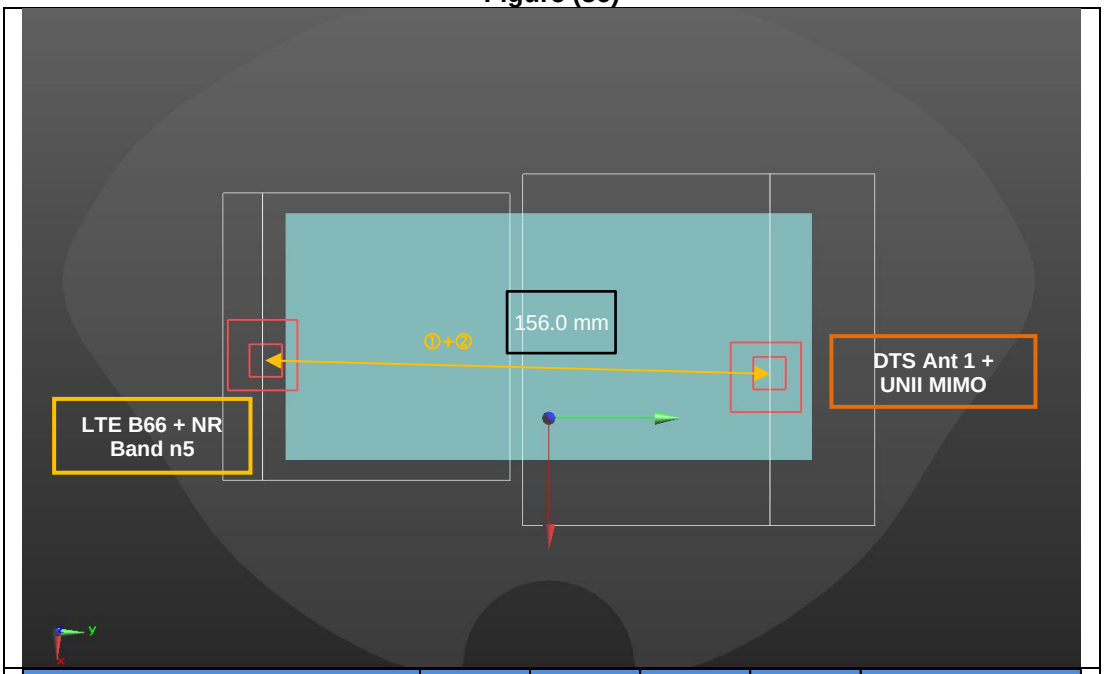


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.581	-0.0255	-0.0810	-0.2072	①+②	25.3
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	60.9
DTS RSDB Ant 1	③	0.107	0.0132	0.0160	-0.2063		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

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

Figure (56)

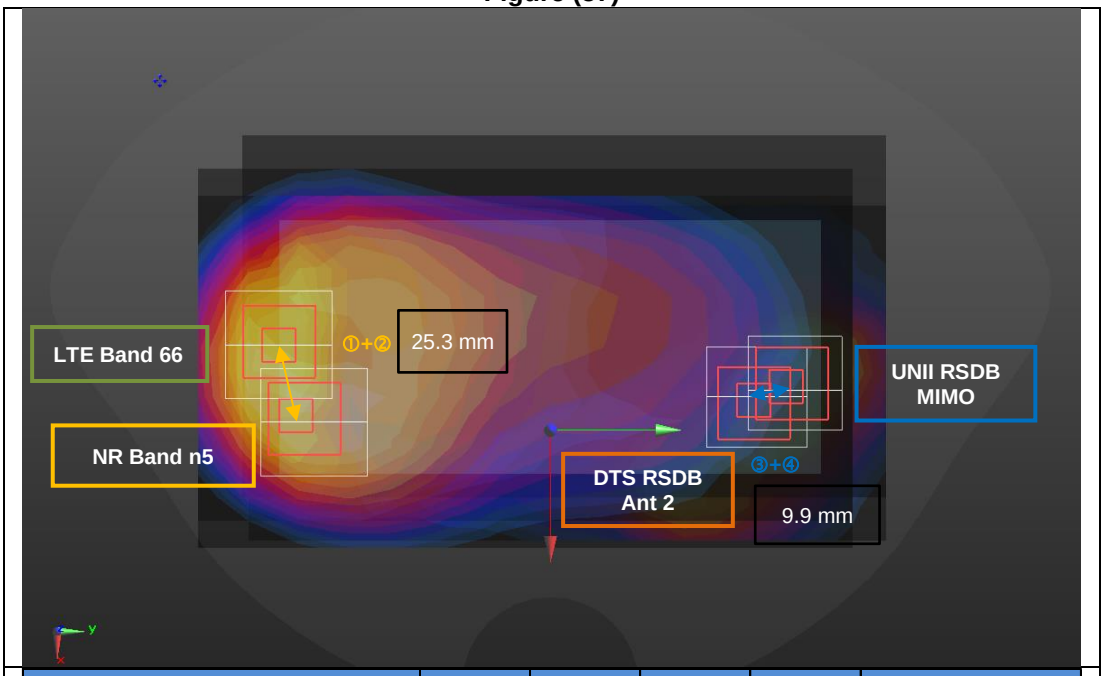


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	1.120	-0.0170	-0.0880	-0.2075	①+②	156.0
(DTS Ant 1 + UNII MIMO)	②	0.421	-0.0150	0.0680	-0.2080		

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

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

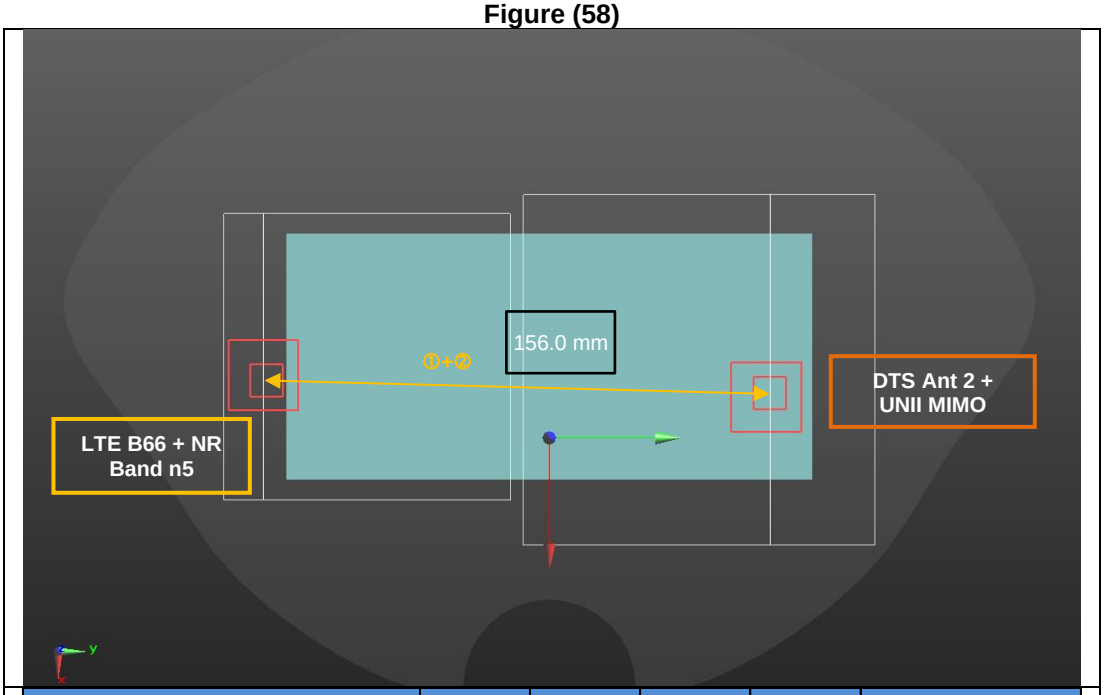
Figure (57)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.581	-0.0255	-0.0810	-0.2072	①+②	25.3
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	9.9
DTS RSDB Ant 2	③	0.127	-0.0100	0.0616	-0.2065		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

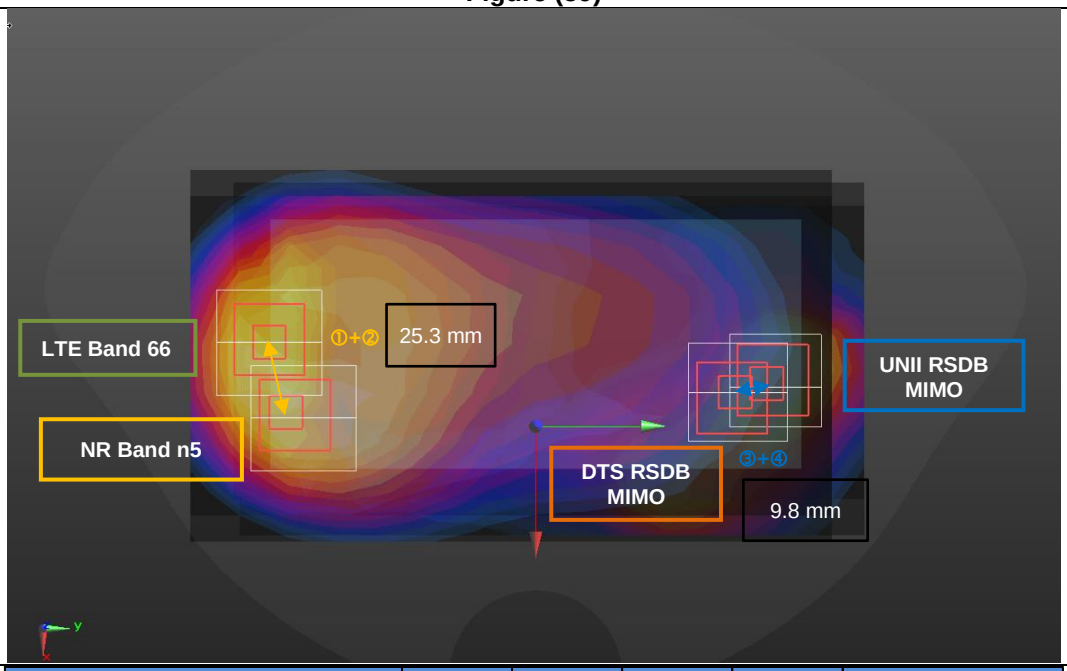
Figure (58)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	1.120	-0.0170	-0.0880	-0.2075	①+②	156.0
(DTS Ant 2 + UNII MIMO)	②	0.455	-0.0150	0.0680	-0.2080		

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

Figure (59)

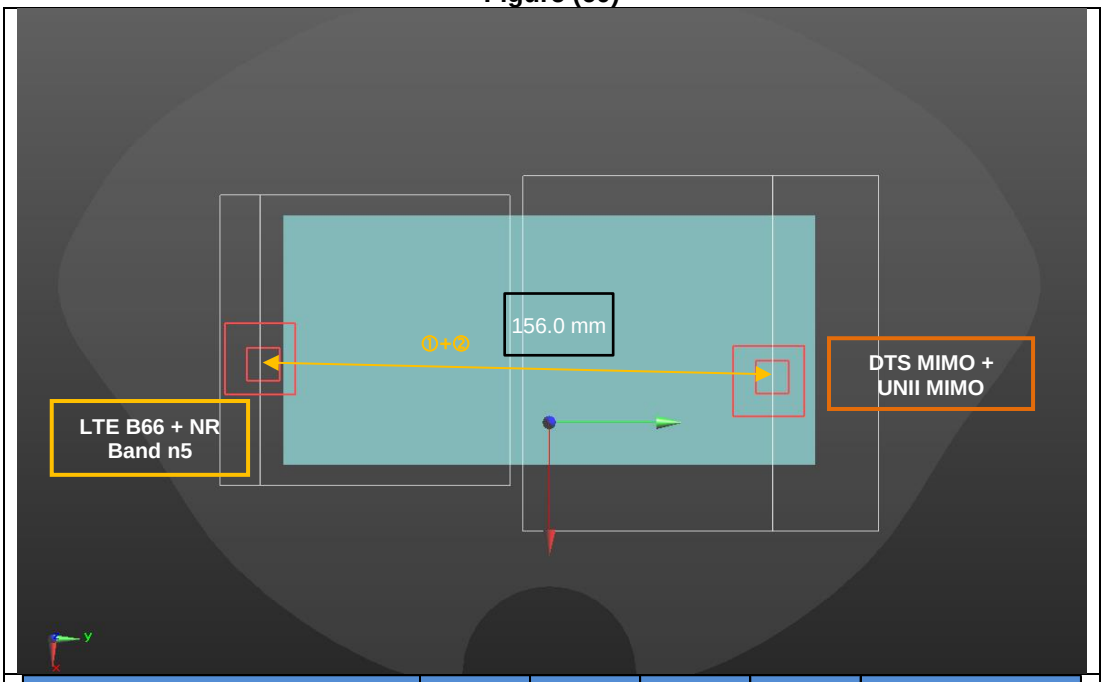


Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
LTE Band 66	①	0.581	-0.0255	-0.0810	-0.2072	①+②	25.3
NR Band n5	②	0.645	-0.0025	-0.0705	-0.2066	③+④	9.8
DTS RSDB MIMO	③	0.250	-0.0104	0.0616	-0.2063		
UNII RSDB MIMO	④	0.356	-0.0130	0.0710	-0.2065		

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

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

Figure (60)



Mode		SAR	X	Y	Z	d: Calculated distance (mm)	
		W/kg	m	m	m		
(LTE Band 66 + NR Band n5)	①	1.120	-0.0170	-0.0880	-0.2075	①+②	156.0
(DTS MIMO + UNII MIMO)	②	0.595	-0.0150	0.0680	-0.2080		

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.

4789633488-S1 FCC Report SAR_App A_Photos & Ant. Locations

4789633488-S1 FCC Report SAR_App B_Highest SAR Test Plots

4789633488-S1 FCC Report SAR_App C_System Check Plots

4789633488-S1 FCC Report SAR_App D_SAR Tissue Ingredients

4789633488-S1 FCC Report SAR_App E_Probe Cal. Certificates

4789633488-S1 FCC Report SAR_App F_Dipole Cal. Certificates

4789633488-S1 FCC Report SAR_App G_Volume Scan Results

END OF REPORT