FCC SAR Test Report

APPLICANT	: Motorola Mobility LLC
EQUIPMENT	: Mobile Cellular Phone
BRAND NAME	: Motorola
MODEL NAME	: XT2451-3
FCC ID	: IHDT56AP8
STANDARD	: FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.01

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA420703-01	Rev. 01	Initial issue of report.	Apr. 30, 2024

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2451-3,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission
			1g SAR (W/kg)			1g SAR (W/kg)
Licensed	GSM	GSM850	0.22	0.68	0.68	1.28
		GSM1900	1.19	1.08	1.09	
	WCDMA	WCDMA II	1.17	1.18	**1.28**	
		WCDMA IV	1.22	1.23	1.27	
		WCDMA V	0.29	1.15	1.15	
	CDMA	CDMA2000 BC0	0.23	0.85	0.85	
	LTE	LTE Band 25/2	1.24	**1.27**	**1.28**	
		LTE Band 66/4	**1.28**	**1.27**	**1.28**	
		LTE Band 26/5	0.33	1.21	1.21	
		LTE Band 7	1.07	1.26	1.21	
		LTE Band 12/17	0.25	0.92	0.88	
		LTE Band 13	0.28	0.83	0.83	
		LTE Band 71	0.22	1.01	0.66	
		LTE Band 41/38	1.25	**1.27**	**1.28**	
		LTE Band 42	1.17	1.21	1.27	
	5G NR	FR1 n2	1.23	1.21	**1.28**	
		FR1 n26/5	0.21	0.91	0.91	
		FR1 n7	1.27	1.26	1.22	
		FR1 n66	1.15	**1.27**	1.27	
		FR1 n71	0.21	0.70	0.65	
		FR1 n41/38	1.23	**1.27**	1.27	
		FR1 n77/78	1.19	1.10	1.20	
DTS	WLAN	2.4GHz WLAN	1.19	1.20	1.19	1.28
NII		5GHz WLAN	1.19	1.19	1.27	1.28
6XD		6GHz WLAN	0.67		0.31	1.28
DSS	Bluetooth	2.4GHz Bluetooth	1.22	**1.27**	1.16	1.28

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	1.13	3.21
	WCDMA	WCDMA II	2.97	
		WCDMA IV	2.48	
	LTE	LTE Band 2	3.06	
		LTE Band 25	2.67	
		LTE Band 66/4	3.04	
		LTE Band 7	3.09	
		LTE Band 41/38	3.13	
		LTE Band 42	2.85	
	5G NR	FR1 n2	2.96	
		FR1 n7	3.16	
		FR1 n66	3.05	
		FR1 n41/38	2.96	
		FR1 n77/78	3.05	
DTS	WLAN	2.4GHz WLAN	2.92	3.21
NII		5GHz WLAN	**3.19**	3.21
6XD		6GHz WLAN	0.60	3.21
DSS	Bluetooth	2.4GHz Bluetooth	2.52	3.21

Equipment Class	Frequency Band	Head	Body-worn	Product Specific
		Measured APD (W/m^2)	Measured APD (W/m^2)	Measured APD (W/m^2)
6XD	6GHz WLAN	2.67	1.26	9.62

Date of Testing:	2024/3/14 ~ 2024/4/15

Remark:

1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.
2. This device supports 5GNR n5/n38/n78 and n26/n41/n77. Since the supported frequency span for 5GNR n5/n38/n78 falls completely within the supports frequency span for n26/n41/n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n26/n41/n77.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2. Administration Data

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-SZ, SAR05-SZ	CN1256	421272

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

3. Data Reuse Approach

3.1 Introduction Section

This application re-uses data collected on a similar device, FCC ID: IHDT56AP9 (reference model) and FCC ID: IHDT56AP8 (variant model). Due to the same design are identical between parent model and variant model, SAR data reuse is requested and spot check data in this report is used to justify the SAR data reuse.

Per KDB 484596 D01 v02r03, the deviation of variant model 1g SAR and 10g SAR spot check result was no larger than 3 dB, the WWAN/WLAN/BT maximum SAR summary was always choosing the higher SAR between parent model and variant model.

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AP8

3.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AP9 and FCC ID: IHDT56AP8 is as below:

- Removed LTE B14/29/30/48 and 5G NR n12/n14/n25/n29/n30/n48/n70.
- Added CDMA BC0, LTE B32/34/42/43 and 5G NR n8/n75

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2451-3_Operational Description of Product Equality Declaration).

3.3 Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	FCC ID (Reference)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Test on the variant
Part 2.1093	PCE	GSM	GSM850/1900	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check
		WCDMA	B2/4/5	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check, except WCDMA IV/II ant 0 for Hotspot full test
		CDMA	CDMA2000 BC0				IHDT56AP8	Full Test
		LTE	B13/B42				IHDT56AP8	Full Test
		LTE	B2/4/5/7/12/17/25 /26/66/71/B38/41	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check, except LTE B66/4/2 ant 1 for Hotspot full test
		5G NR	n2/n5/n7/n26/n66/n71/ n38/n41/n77/n78	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check, except n66 ant 3 for Head/ Hotspot, n41/38 ant 2 for Head full test
	DTS	BLE/ Wi-Fi	2400~2483.5	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check
	NII	Wi-Fi	5150 ~ 5250 5250 ~ 5350 5470 ~ 5725 5725 ~ 5850	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check
	DSS	Bluetooth	2400~2483.5	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check
	6XD	Wi-Fi	5925 ~ 7125	IHDT56AP9	Original Grant	FA420703	IHDT56AP8	Spot check on SAR, full test on PD
	DXX	NFC	13.56				IHDT56AP8	Full Test
	DCD	WPT	0.115~0.145				IHDT56AP8	Full Test

4. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- IEC/IEEE 62209-1528:2020
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 484596 D01 Referencing Test Data v02r03

5. Equipment Under Test (EUT) Information

5.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2451-3
FCC ID	IHDT56AP8
IMEI Code	IMEI1: 355473450020151 IMEI2: 355473450020169
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz CDMA2000 BC0: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz WPT: 115 kHz ~ 145 kHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) CDMA2000 : 1xRTT LTE: QPSK, 16QAM, 64QAM, 256QAM

	5G NR: CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 2.4GHz 802.11be EHT20/EHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 5GHz 802.11be EHT20/EHT40/EHT80/EHT160 WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 WLAN 6GHz 802.11be EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth BR/EDR/LE NFC: ASK WPT: ASK
HW Version	DVT2
SW Version	U3UX34.16
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. CDMA limited to 1xRTT only.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only.
6. For dual SIM card mobile has single SIM slots + eSIM (electronic SIM) and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active).
7. The device implements the power management, Hall sensor and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
8. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the GSM, WCDMA, CDMA, LTE and 5GNR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information can be referred to section 19 and appendix F.
9. This device supports HPUE mode for LTE Band 41 and 5GNR n41/n77/n78 with higher power. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verified the worst case of power class 3 SAR.
10. For 5GNR n41/n77/n78 HPUE, 5GNR n41/77/78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission.
11. 5G NR n41/77/78 supports UL MIMO.
12. The device supports HPUE (power class 2) under UL MIMO mode.
13. This device has NFC function and the NFC SAR report will be separately submitted.
14. RF exposure report for WPC (Wireless power charging) will be separately submitted.
15. Power density test report for WLAN 6GHz U-NII-5/6/7/8 will be separately submitted.
16. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100

5.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56AP8
Equipment Name	Mobile Cellular Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R17, Cat18
CA Support	Supported, Uplink and Downlink
LTE MPR permanently built-in by design	**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
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.
Power reduction applied to satisfy SAR compliance	Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body -worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 15.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 15.
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 5 carriers in the downlink and 2 carriers in the uplink.

Transmission (H, M, L) channel numbers and frequencies in each LTE band						
LTE Band 2						
	Bandwidth 1.4 MHz	Bandwidth 3 MHz	Bandwidth 5 MHz	Bandwidth 10 MHz	Bandwidth 15 MHz	Bandwidth 20 MHz

	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844

LTE Band 7

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560

LTE Band 12

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 17

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

LTE Band 26

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

LTE Band 38

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq.

								(MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 66

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133247	675.5	133272	678	133297	680.5	133322	683
H	133447	695.5	133422	693	133397	690.5	133372	688

LTE Band 42

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460
M	42590	3500	42590	3500	42590	3500	42590	3500
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540

<For LTE Overlap Bands Description>

1) LTE Bands SA BW

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands SA tune up

Band	Antenna	Default (DSI4)	DSI 2	DSI 7	DSI 11	DSI 3	DSI 5	DSI 6	DSI 9	DSI 10	DSI 12
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 2	Ant 2	24.0	18.5	18.5	18.1	20.5	24.0	24.0		21.5	24.0
LTE Band 25		24.0	18.5	18.5	18.1	20.5	24.0	24.0		21.5	24.0
LTE Band 2	Ant 3	24.0	19.5	20.8	21.3	22.2	24.0			23.4	
LTE Band 25		24.0	19.5	20.8	21.3	22.2	24.0			23.4	
LTE Band 4	Ant 0	24.0	24.0	21.5	23.4	23.0		24.0	24.0	24.0	
LTE Band 66		24.0	24.0	21.5	23.4	23.0		24.0	24.0	24.0	
LTE Band 4	Ant 1	24.0	24.0	21.6	23.4	22.1		24.0	24.0	23.4	
LTE Band 66		24.0	24.0	21.6	23.4	22.1		24.0	24.0	23.4	
LTE Band 4	Ant 2	24.0	18.8	20.2	20.9	21.7	24.0	24.0		24.0	24.0

LTE Band 66		24.0	18.8	20.2	20.9	21.7	24.0	24.0		24.0	24.0
LTE Band 4	Ant 3	24.0	19.8	22.0	22.0	23.2	24.0			24.0	
LTE Band 66		24.0	19.8	22.0	22.0	23.2	24.0			24.0	
LTE Band 5	Ant 0	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 26		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 5	Ant 1	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 26		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 12	Ant 0	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 17		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 12	Ant 1	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 17		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 38 PC3	Ant 0	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 41 PC3		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 38 PC3	Ant 1	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 41 PC3		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
LTE Band 38 PC3	Ant 2	24.0	18.8	21.9	20.6	21.2	24.0	24.0		23.1	24.0
LTE Band 41 PC3		24.0	18.8	21.9	20.6	21.2	24.0	24.0		23.1	24.0
LTE Band 38 PC3	Ant 3	24.0	16.8	17.6	18.9	20.8	22.6			22.0	23.5
LTE Band 41 PC3		24.0	16.8	17.6	18.9	20.8	22.6			22.0	23.5

5.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Channel Bandwidth	The detail please refers to section 4.1 5GNR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B4/66
LTE Anchor Bands for n5	LTE B7
LTE Anchor Bands for n7	LTE B2/4/5/66
LTE Anchor Bands for n26	LTE B7
LTE Anchor Bands for n38	LTE B4/66
LTE Anchor Bands for n41	LTE B4/66
LTE Anchor Bands for n66	LTE B2/5/7
LTE Anchor Bands for n71	LTE B2/7/66
LTE Anchor Bands for n77	LTE B7/41
LTE Anchor Bands for n78	LTE B2/4/5/7/26/66/38/41

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band

NR Band 2

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	373500	1867.5	374000	1870
M	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895	378500	1892.5	378000	1890

NR Band 5

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 7

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	503500	2517.5	504000	2520
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510500	2552.5	510000	2550

NR Band 26

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	163300	816.5	163800	819	164300	821.5	164800	824
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 66

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760

NR Band 71								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133100	665.5	133600	668	134100	670.5	134600	673
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	138100	690.5	137600	688

NR Band 38												
	Bandwidth10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580	516504	2582.52	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610	521496	2607.48	520998	2604.99	519996	2599.98

NR Band 41																						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51	502200	2511	503202	2516.01	504204	2521.02	505200	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	537000	2685	529998	2649.99	528996	2644.98	528000	2640

NR Band 77																						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840.00	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78																						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652500	3787.5	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

<For NR Overlap Bands Description>

1) NR Bands BW

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
FR1 NR	n2	FDD	15	5,10,15,20,25,30,35,40
	n25	FDD	15	5,10,15,20,25,30,35,40
	n5	FDD	15	5,10,15,20
	n26	FDD	15	5,10,15,20
	n38	TDD	30	10,15,20,25,30,40
	n41	TDD	30	10,15,20,25,30,40,50,60,70,80,90,100
	n77	TDD	30	10,15,20,25,30,40,50,60,70,80,90,100
	n78	TDD	30	10,15,20,25,30,40,50,60,70,80,90,100

2) NR Bands SA Tune up:

Band	Antenna	Default (DSI4)	DSI 2	DSI 7	DSI 11	DSI 3	DSI 5	DSI 6	DSI 9	DSI 10	DSI 12
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
n5	Ant 0	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
n26		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
n5	Ant 1	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	

n26		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
n38 PC3	Ant 0	24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
n41 PC3		24.0	24.0	24.0	24.0	24.0		24.0	24.0	24.0	
n38 PC3	Ant 1	24.0	24.0	22.0	19.5	23.5		24.0	24.0	23.5	
n41 PC3		24.0	24.0	22.0	19.5	23.5		24.0	24.0	23.5	
n38 PC3	Ant 2	24.0	17.5	19.0	19.0	20.0	23.5	23.5		20.0	24.0
n41 PC3		24.0	17.5	19.0	19.0	20.0	23.5	23.5		20.0	24.0
n38 PC3	Ant 3	24.0	17.5	18.0	19.5	21.0	21.5			22.0	
n41 PC3		24.0	17.5	18.0	19.5	21.0	21.5			22.0	
n77 PC3	Ant 3	24.0	14.5	16.5	18.5	19.5	20.5			21.0	
n78 PC3		24.0	14.5	16.5	18.5	19.5	20.5			21.0	
n77 PC2	Ant 1	27.0	17.5	19.5	21.5	22.5	23.5			24.0	
n78 PC2		27.0	17.5	19.5	21.5	22.5	23.5			24.0	
n77 PC3	Ant 4	24.0	16.0	15.5	16.0	19.5	21.5	21.5		20.0	21.5
n78 PC3		24.0	16.0	15.5	16.0	19.5	21.5	21.5		20.0	21.5
n77 PC2	Ant 3	27.0	19.0	18.5	19.0	22.5	24.5	24.5		23.0	24.5
n78 PC2		27.0	19.0	18.5	19.0	22.5	24.5	24.5		23.0	24.5
n77 PC3	Ant 6	24.0	14.0	13.5	14.0	19.0	20.5			18.5	
n78 PC3		24.0	14.0	13.5	14.0	19.0	20.5			18.5	
n77 PC2		27.0	17.0	16.5	17.0	22.0	23.5			21.5	
n78 PC2		27.0	17.0	16.5	17.0	22.0	23.5			21.5	
n77 PC3	Ant 8	24.0	18.0	16.0	18.5	21.0	21.5	21.5		22.0	21.5
n78 PC3		24.0	18.0	16.0	18.5	21.0	21.5	21.5		22.0	21.5
n77 PC2		27.0	21.0	19.0	21.5	24.0	24.5	24.5		25.0	24.5
n78 PC2		27.0	21.0	19.0	21.5	24.0	24.5	24.5		25.0	24.5

NR Bands UL MIMO Tune up:

Band	Antenna	Default (DSI4)	DSI 2	DSI 7	DSI 11	DSI 3	DSI 5	DSI 6	DSI 9	DSI 10	DSI 12
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
n77 PC2	Ant 4+8	27.0	22.5	20.5	22.0	25.0	26.0	26.0		26.0	27.0
n78 PC2		27.0	22.5	20.5	22.0	25.0	26.0	26.0		26.0	27.0
n77 PC2	Ant 4+6	27.0	20.0	19.5	20.0	24.5	26.5	26.5		24.0	24.0
n78 PC2		27.0	20.0	19.5	20.0	24.5	26.5	26.5		24.0	24.0
n77 PC2	Ant 3+8	27.0	20.5	22.0	24.0	25.0	26.0	26.0		26.0	26.0
n78 PC2		27.0	20.5	22.0	24.0	25.0	26.0	26.0		26.0	26.0
n77 PC2	Ant 3+6	27.0	19.5	19.5	19.5	24.5	26.5			24.0	
n78 PC2		27.0	19.5	19.5	19.5	24.5	26.5			24.0	

6. Smart Transmit feature for RF Exposure compliance

The RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN and WLAN/BT transmitter to ensure the product in compliance with RF exposure limit over a defined time window. To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) version 21 to enable the Smart Transmit Gen1 Feature.

<Terminologies in this report>

P_{limit}	The time-averaged RF power which corresponds to SAR_design_target.
P_{max}	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory SAR limit to account for all device design related uncertainty.
SAR char	P_{limit} for all the technologies/bands for all applicable DSI

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at WWAN and WLAN/BT bands. It will then be used as input for Smart Transmit to control and manage RF exposure for WWAN and WLAN/BT bands.

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR\_design\_target < SAR_{regulatory\_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

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

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

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

Band	Antenna	Head	Open Body worn	Open Handheld	Open Handheld	Open Hotspot	Open Handheld	Close Body worn Handheld	Close Hotspot	Close Handheld	Sensor off	Pmax*
		DSI 2	DSI 3	DSI 5	DSI 6	DSI 7	DSI 9	DSI 10	DSI 11	DSI 12	DSI 4	Pmax*
GSM850	0	34.1	27.1		23.5	26.5	23.5	27.2	27.2		23.5	23.5
GSM850	1	33.8	26.3		23.5	26.3	23.5	28.4	28.1		23.5	23.5
GSM1900	0	35.1	22.9		20.5	22.9	20.5	24.6	24.6		20.5	20.5
GSM1900	2	18.0	20.0	25.2	25.2	17.7		22.8	17.8	20.5	20.5	20.5
WCDMA II	0	32.5	23.5		23.3	20.7	23.3	22.4	22.4		23.0	23.0
WCDMA II	2	17.9	21.1	25.5	25.5	18.7		21.5	18.5	23.0	23.0	23.0
WCDMA IV	0	33.4	22.5		24.1	19.0	24.1	23.3	21.3		23.0	23.0
WCDMA IV	2	18.3	21.1	25.8	25.8	18.8		23.9	19.5	23.0	23.0	23.0
WCDMA V	0	29.5	25.3		23.0	25.3	23.0	25.6	29.6		23.0	23.0
WCDMA V	1	32.1	25.4		23.0	25.4	23.0	26.2	26.2		23.0	23.0
CDMA BC0	0	30.5	24.8		23.0	24.8	23.0	25.7	25.7		23.0	23.0
CDMA BC0	1	34.1	25.8		23.0	25.8	23.0	26.9	26.7		23.0	23.0
LTE Band 2	0	35.8	23.1		23.2	22.5	23.2	24.5	24.5		23.0	23.0
LTE Band 2	1	33.7	21.1		24.0	21.1	24.0	23.7	21.7		23.0	23.0
LTE Band 25/2	2	17.5	19.5	23.7	23.7	17.5		20.5	17.1	23.0	23.0	23.0
LTE Band 25/2	3	18.5	21.2	24.4		19.8		22.4	20.3		23.0	23.0
LTE Band 66/4	0	35.0	22.0		24.2	20.5	24.2	23.4	22.4		23.0	23.0
LTE Band 66/4	1	31.0	21.1		25.0	20.6	25.0	22.4	22.4		23.0	23.0
LTE Band 66/4	2	17.8	20.7	23.8	23.8	19.2		23.6	19.9	23.0	23.0	23.0
LTE Band 66/4	3	18.8	22.2	24.1		21.0		23.8	21.0		23.0	23.0
LTE Band 26/5	0	29.3	24.1		23.0	24.1	23.0	24.8	24.8		23.0	23.0
LTE Band 26/5	1	31.2	24.7		23.0	24.7	23.0	25.9	25.7		23.0	23.0
LTE Band 7	0	25.1	21.2		24.0	21.2	24.0	21.3	21.3		23.0	23.0
LTE Band 7	1	28.2	20.9		22.1	19.9	22.1	20.8	20.8		23.0	23.0
LTE Band 7	2	15.4	19.2	21.7	21.7	17.7		19.0	17.6	21.7	23.0	23.0
LTE Band 7	3	16.1	20.0	19.5		16.2		19.7	18.5		23.0	23.0
LTE Band 12/17	0	30.6	25.7		23.0	24.4	23.0	26.0	26.0		23.0	23.0
LTE Band 12/17	1	31.9	26.3		23.0	25.5	23.0	26.3	25.9		23.0	23.0
LTE Band 13	0	31.9	24.9		23.0	24.9	23.0	25.8	25.8		23.0	23.0
LTE Band 13	1	29.7	25.9		23.0	25.7	23.0	26.2	26.2		23.0	23.0
LTE Band 71	0	30.8	26.1		23.0	25.6	23.0	26.7	27.9		23.0	23.0
LTE Band 71	1	34.4	28.4		23.0	26.7	23.0	28.3	28.3		23.0	23.0
LTE Band 41/38(PC3)**	0	26.9	21.7		24.3	21.7	24.3	24.9	23.3		21.0	21.0
LTE Band 41(PC2)**	0	26.9	21.7		24.3	21.7	24.3	24.9	23.3		22.4	22.4
LTE Band 41/38(PC3)**	1	31.0	21.8		23.4	20.9	23.4	21.9	21.9		21.0	21.0
LTE Band 41(PC2)**	1	31.0	21.8		23.4	20.9	23.4	21.9	21.9		22.4	22.4
LTE Band 41/38(PC3)**	2	15.8	18.2	22.6	22.6	18.9		20.1	17.6	21.0	21.0	21.0
LTE Band 41(PC2)**	2	15.8	18.2	22.6	22.6	18.9		20.1	17.6	22.4	22.4	22.4
LTE Band 41/38(PC3)**	3	13.8	17.8	19.6		14.6		19.0	15.9		21.0	21.0
LTE Band 41(PC2)**	3	13.8	17.8	19.6		14.6		19.0	15.9		22.4	22.4
LTE Band 42	3	14.1	20.0	19.5		16.0		19.9	17.5		21.0	21.0
LTE Band 42	4	14.8	18.8	19.8	19.8	14.7		20.5	16.7	20.5	21.0	21.0
LTE Band 42	6	14.2	18.4	20.5		14.1		18.6	15.2		21.0	21.0
LTE Band 42	8	17.3	19.4	20.5	20.5	17.1		19.9	18.0	21.0	21.0	21.0
n2	0	34.2	22.0		24.5	20.5	24.5	23.6	23.6		23.0	23.0

n2	1	34.2	21.0		25.7	20.0	25.7	23.0	21.5		23.0	23.0
n2	2	17.5	19.5	22.5	22.5	16.5		19.5	16.5	23.0	23.0	23.0
n2	3	18.5	21.5	23.6		19.5		22.0	20.0		23.0	23.0
n26/5	0	30.9	24.8		23.0	24.8	23.0	26.5	26.5		23.0	23.0
n26/5	1	34.3	26.8		23.0	26.8	23.0	28.5	27.9		23.0	23.0
n7	0	27.8	23.6		25.1	23.6	25.1	23.9	23.9		23.0	23.0
n7	1	32.2	21.5		22.5	19.5	22.5	21.5	21.0		23.0	23.0
n7	2	16.0	19.5	22.5	22.5	17.5		19.5	17.0	22.0	23.0	23.0
n7	3	17.5	18.5	20.5		17.0		20.0	19.0		23.0	23.0
n66	0	36.7	23.7		25.9	20.0	25.9	23.7	22.0		23.0	23.0
n66	1	34.3	20.0		24.4	19.5	24.4	21.5	21.5		23.0	23.0
n66	2	19.5	21.0	23.3	23.3	18.5		23.8	19.5	23.0	23.0	23.0
n66	3	19.0	23.4	23.3		20.5		24.0	20.5		23.0	23.0
n71	0	30.9	27.4		23.0	25.6	23.0	27.9	27.9		23.0	23.0
n71	1	35.4	28.9		23.0	26.7	23.0	30.0	28.3		23.0	23.0
n41/38(PC3)	0	30.2	23.0		24.3	23.0	24.3	23.9	23.9		23.0	23.0
n41(PC2)	0	30.2	23.0		24.3	23.0	24.3	23.9	23.9		23.0	23.0
n41/38(PC3)	1	33.6	22.5		23.8	21.0	23.8	22.5	18.5		23.0	23.0
n41(PC2)	1	33.6	22.5		23.8	21.0	23.8	22.5	18.5		23.0	23.0
n41/38(PC3)	2	16.5	19.0	22.5	22.5	18.0		19.0	18.0	23.0	23.0	23.0
n41(PC2)	2	16.5	19.0	22.5	22.5	18.0		19.0	18.0	23.0	23.0	23.0
n41/38(PC3)	3	16.5	20.0	20.5		17.0		21.0	18.5		23.0	23.0
n41(PC2)	3	16.5	20.0	20.5		17.0		21.0	18.5		23.0	23.0
n77/78(PC3)	3	13.5	18.5	19.5		15.5		20.0	17.5		23.0	23.0
n77/78(PC2)	3	13.5	18.5	19.5		15.5		20.0	17.5		23.0	23.0
n77/78(PC3)	4	15.0	18.5	20.5	20.5	14.5		19.0	15.0	20.5	23.0	23.0
n77/78(PC2)	4	15.0	18.5	20.5	20.5	14.5		19.0	15.0	20.5	23.0	23.0
n77/78(PC3)	6	13.0	18.0	19.5		12.5		17.5	13.0		23.0	23.0
n77/78(PC2)	6	13.0	18.0	19.5		12.5		17.5	13.0		23.0	23.0
n77/78(PC3)	8	17.0	20.0	20.5	20.5	15.0		21.0	17.5	20.5	23.0	23.0
n77/78(PC2)	8	17.0	20.0	20.5	20.5	15.0		21.0	17.5	20.5	23.0	23.0
UL MIMO_n41_(PC2)	2+3	16.0	19.0	25.5	25.5	17.5		18.5	17.0	18.5	20.0	20.0
UL MIMO_n41_(PC2)	2+1	16.5	19.0	25.9	25.9	17.5	25.9	19.0	17.0	19.0	20.0	20.0
UL MIMO_n41_(PC2)	0+3	17.0	27.4	25.5	25.5	17.5	25.5	27.6	18.0		20.0	20.0
UL MIMO_n41_(PC2)	0+1	33.5	28.0		26.9	19.5	26.9	27.9	19.0		20.0	20.0
UL MIMO_n77/78_(PC2)	4+8	15.5	18.0	19.0	19.0	13.5		19.0	15.0	20.0	20.0	20.0
UL MIMO_n77/78_(PC2)	4+6	13.0	17.5	19.5	19.5	12.5		17.0	13.0	17.0	20.0	20.0
UL MIMO_n77/78_(PC2)	3+8	13.5	18.0	19.0	19.0	15.0		19.0	17.0	19.0	20.0	20.0
UL MIMO_n77/78_(PC2)	3+6	12.5	17.5	19.5		12.5		17.0	12.5		20.0	20.0
Bluetooth	7	13.9	16.4	15.9	15.9	12.9		16.4	13.9	17.9	17.9	17.9
Bluetooth	5	15.9	16.9	24.9		16.9		25.3	16.9		17.9	17.9
WLAN_2.4GHz	7	12.5	16.0	15.5	15.5	11.0		17.0	13.0	17.0	21.0	21.0
WLAN_2.4GHz	5	12.5	16.0	15.5	15.5	11.0		17.0	13.0	17.0	21.0	21.0
WLAN_2.4GHz	7+5	12.5	16.0	15.5	15.5	11.0		17.0	13.0	17.0	21.0	24.0
WLAN_5.2GHz	7	15.0	18.0	19.9	19.9	16.0		18.0	17.0	18.0	18.5	18.5
WLAN_5.2GHz	5	15.0	18.0	19.9	19.9	16.0		18.0	17.0	18.0	18.5	18.5
WLAN_5.2GHz	7+5	15.0	18.0	19.9	19.9	16.0		18.0	17.0	18.0	18.5	21.5
WLAN_5.3GHz	7	15.0	18.0	19.5	19.5			18.0		18.0	18.5	18.5
WLAN_5.3GHz	5	15.0	18.0	19.5	19.5			18.0		18.0	18.5	18.5
WLAN_5.3GHz	7+5	15.0	18.0	19.5	19.5			18.0		18.0	18.5	21.5
WLAN_5.5GHz	7	14.0	18.0	18.7	18.7			19.9		18.5	18.5	18.5
WLAN_5.5GHz	5	14.0	18.0	18.7	18.7			19.9		18.5	18.5	18.5
WLAN_5.5GHz	7+5	14.0	18.0	18.7	18.7			19.9		18.5	18.5	21.5
WLAN_5.8GHz	7	14.0	17.5	18.9	18.9	15.0		19.4	17.0	18.0	18.0	18.0
WLAN_5.8GHz	5	14.0	17.5	18.9	18.9	15.0		19.4	17.0	18.0	18.0	18.0
WLAN_5.8GHz	7+5	14.0	17.5	18.9	18.9	15.0		19.4	17.0	18.0	18.0	21.0

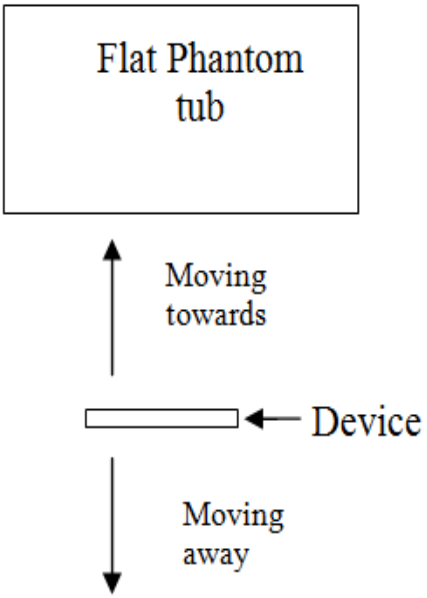
WLAN_6GHz	7	14.4	19.7	20.4	20.4			19.4		11.5	11.5	11.5
WLAN_6GHz	5	14.4	19.7	20.4	20.4			19.4		11.5	11.5	11.5
WLAN_6GHz	7+5	14.4	19.7	20.4	20.4			19.4		11.5	11.5	14.5

Note:
1) *Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + total uncertainty (The device uncertainty for sub-6GHz WWAN is 1.0 dB for this DUT, the device uncertainty for WLAN/BT Bands is 1.5 dB).
2) All Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).
3) The max allowed output power is the Plimit +total uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.

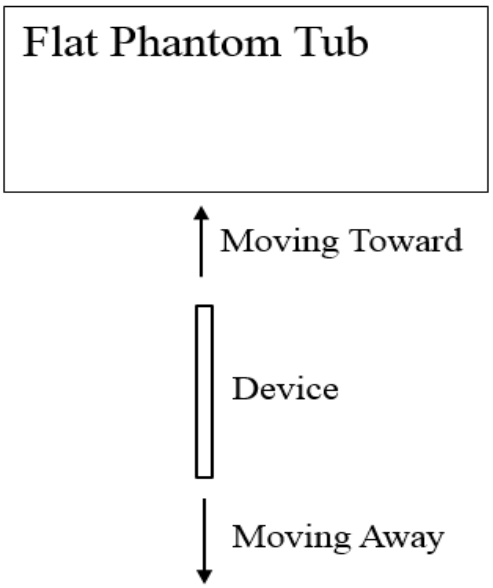
7. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (5825MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed:



Sensor/Handheld detection test set-up, Front and Back sides



Handheld detection test set-up, Left Side, Right Side, Bottom Side and Top Side

<Flip-Open Mode>

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	13	18	14	19

<Handheld for ANT 0>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	13	10	16	11	17	8	12

<Handheld for ANT1>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	7	13	11	17	6	11	12	17

<Handheld for ANT2/4>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	12	18	11	16	19	24

<Handheld for ANT 3/5>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	12	17	10	16	10	15	15	20

<Handheld for ANT 6/5>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	12	17	7	12	9	14	13	19

<Handheld for ANT 7/8>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	16	6	11	15	21

<Flip-Close Mode>

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	17	21	23	27

<Handheld for ANT 0>

Proximity Sensor Triggering Distance (mm)						
Position	Back		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	17	10	16	8	13

<Handheld for ANT1>

Proximity Sensor Triggering Distance (mm)						
Position	Back		Right Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	16	6	11	11	16

<Handheld for ANT2/4>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Left Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	14	19	20	24

<Handheld for ANT 3/5>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	10	15	10	15	13	18

<Handheld for ANT 6/5>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Right Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	9	12	8	13	13	18

<Handheld for ANT 7/8>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Right Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	12	16	17	20

8. RF Exposure Limits

8.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

8.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

9. Specific Absorption Rate (SAR)

9.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

9.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\boldsymbol{\rho}\mathbf{dv}}\right)$$

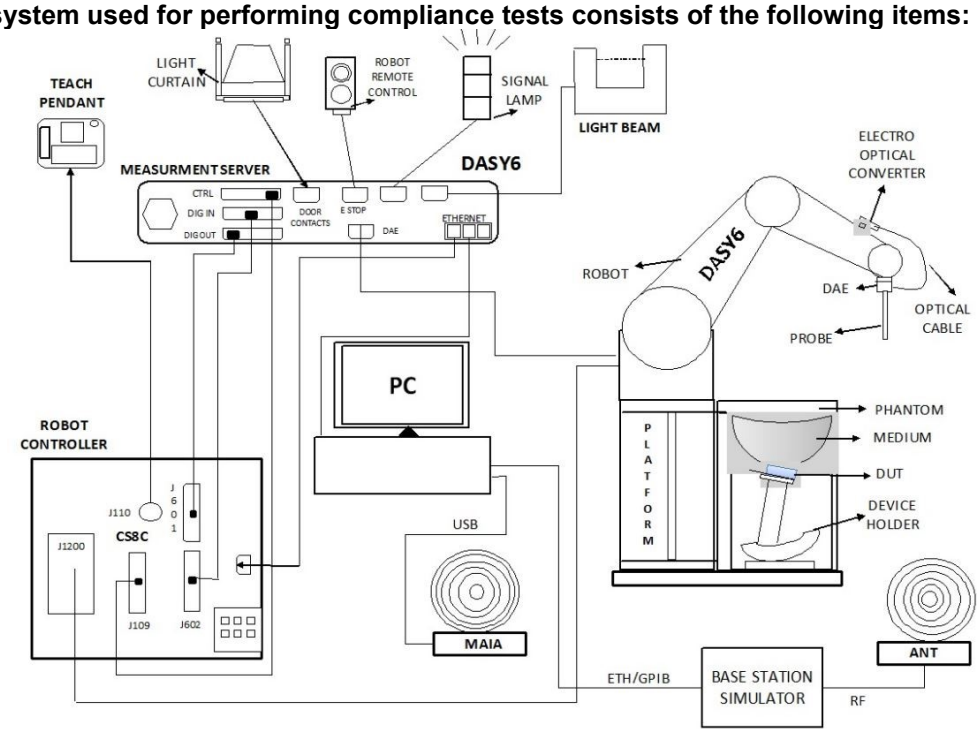
SAR is expressed in units of Watts per kilogram (W/kg)

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

10. System Description and Setup

The DASY 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 Win7 or Win10 and the DASY5 or DASY6 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.

10.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

10.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

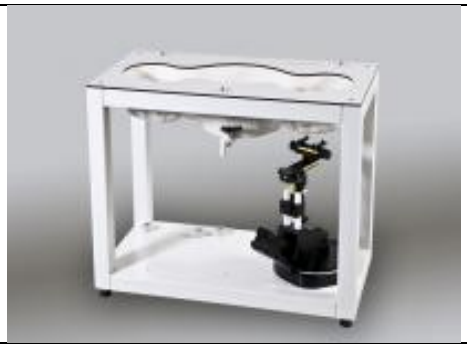
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

10.3 Phantom

<SAM Twin Phantom>

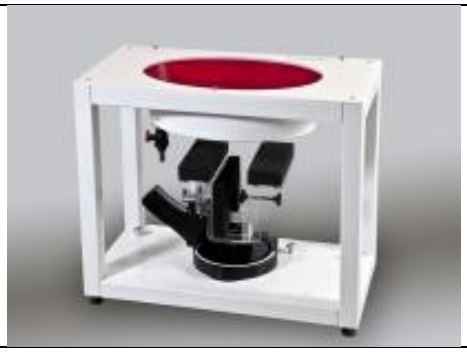
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)
Filling Volume	Approx. 30 liters
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm



The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

10.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

Mounting Device for Laptops

11. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

11.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

11.2 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. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

11.3 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 found in the scanned area, within a range of the global maximum. The range (in dB0 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 FCC KDB 865664 D01v01r04 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.	

11.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes 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 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 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.

11.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

11.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

12. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1099	Dec. 15, 2021	Dec. 13, 2024
SPEAG	835MHz System Validation Kit	D835V2	4d162	Dec. 17, 2021	Dec. 15, 2024
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Oct. 19, 2021	Oct. 17, 2024
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	Dec. 20, 2021	Dec. 18, 2024
SPEAG	2450MHz System Validation Kit	D2450V2	924	Nov. 03, 2023	Nov. 02, 2024
SPEAG	2600MHz System Validation Kit	D2600V2	1070	Dec. 20, 2021	Dec. 18, 2024
SPEAG	3500MHz System Validation Kit	D3500V2	1076	May 09, 2022	May 08, 2025
SPEAG	3900MHz System Validation Kit	D3900V2	1022	Aug. 18, 2022	Aug. 17, 2025
SPEAG	5000MHz System Validation Kit	D5GHzV2	1341	Dec. 13, 2021	Dec. 11, 2024
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1026	Jan. 25, 2024	Jan. 24, 2025
SPEAG	Data Acquisition Electronics	DAE4	1664	Jun. 06, 2023	Jun. 05, 2024
SPEAG	Data Acquisition Electronics	DAE4	1386	Jul. 17, 2023	Jul. 16, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7641	Apr. 24, 2023	Apr. 23, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7576	Aug. 23, 2023	Aug. 22, 2024
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1671	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P41 AA	2033	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 05, 2023	Jul. 04, 2024
Anritsu	Radio communication analyzer	MT8820C	6201341952	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Radio communication analyzer	MT8821C	6262314715	Jul. 05, 2023	Jul. 04, 2024
Anritsu	Radio communication analyzer	MT8821C	6272278319	Jul. 05, 2023	Jul. 04, 2024
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Jul. 05, 2023	Jul. 04, 2024
Keysight	Network Analyzer	E5071C	MY46523671	Oct. 16, 2023	Oct. 15, 2024
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Feb. 19, 2024	Feb. 18, 2025
Agilent	Signal Generator	N5181A	MY50145381	Dec. 28, 2023	Dec. 27, 2024
R&S	Signal Generator	SMB100A	175779	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Power Senor	MA2411B	1306099	Oct. 16, 2023	Oct. 15, 2024
Anritsu	Power Meter	ML2495A	1349001	Oct. 16, 2023	Oct. 15, 2024
Anritsu	Power Sensor	MA2411B	1542004	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Power Meter	ML2495A	1339473	Dec. 28, 2023	Dec. 27, 2024
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 28, 2023	Dec. 27, 2024
R&S	Spectrum Analyzer	FSP7	100818	Jul. 05, 2023	Jul. 04, 2024
TES	Hygrometer	1310	200505600	Jul. 08, 2023	Jul. 07, 2024
Anymetre	Thermo-Hygrometer	JR593	2015030903	Jan. 02, 2024	Jan. 01, 2025
Anymetre	Thermo-Hygrometer	JR593	2015102801	Jan. 02, 2024	Jan. 01, 2025
SPEAG	Device Holder	N/A	N/A	N/A	N/A
AR	Amplifier	5S1G4	0333096	Note 1	
Mini-Circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
Mini-Circuits	Amplifier	ZVA-183W-S+	726202215	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
Jinkexinhua	Attenuator	10db-8G	N/A	Note 1	

Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

13. System Verification

13.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.2.

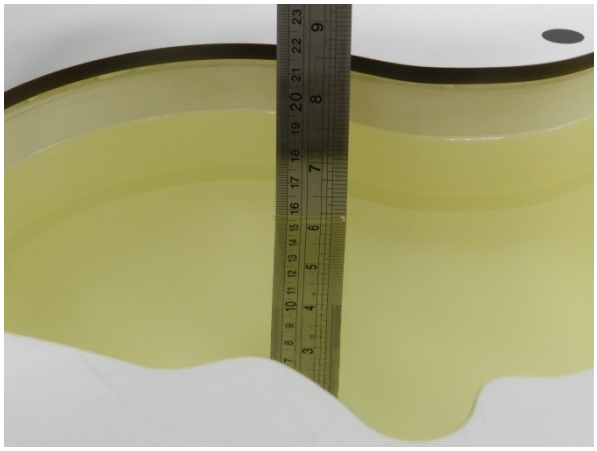


Fig 11.1 Photo of Liquid Height for Head SAR

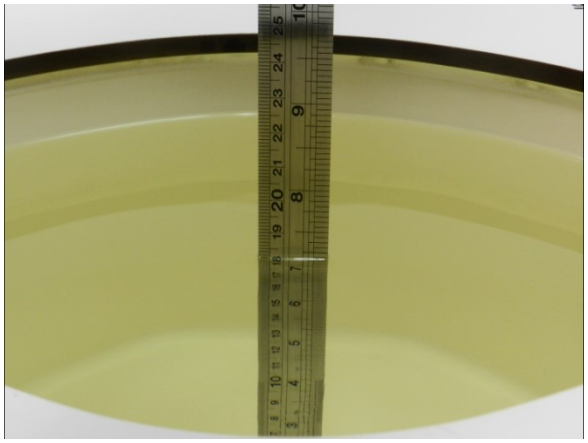


Fig 11.2 Photo of Liquid Height for Body SAR

13.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.3	0.922	43.105	0.89	41.90	3.60	2.88	±5	2024/3/24
750	Head	22.1	0.878	40.673	0.89	41.90	-1.35	-2.93	±5	2024/4/10
835	Head	22.6	0.932	42.874	0.90	41.50	3.56	3.31	±5	2024/3/26
835	Head	22.4	0.937	43.158	0.90	41.50	4.11	4.00	±5	2024/4/9
1750	Head	22.5	1.346	39.212	1.37	40.10	-1.75	-2.21	±5	2024/3/14
1750	Head	22.2	1.376	40.534	1.37	40.10	0.44	1.08	±5	2024/4/6
1900	Head	22.4	1.426	39.524	1.40	40.00	1.86	-1.19	±5	2024/3/16
1900	Head	22.6	1.406	39.291	1.40	40.00	0.43	-1.77	±5	2024/4/7
2450	Head	22.3	1.790	38.844	1.80	39.20	-0.56	-0.91	±5	2024/3/28
2450	Head	22.5	1.810	37.626	1.80	39.20	0.56	-4.02	±5	2024/4/5
2600	Head	22.4	1.905	38.643	1.96	39.00	-2.81	-0.92	±5	2024/3/18
2600	Head	22.6	1.895	37.662	1.96	39.00	-3.32	-3.43	±5	2024/4/14
3500	Head	22.1	2.981	39.224	2.91	37.90	2.44	3.49	±5	2024/3/20
3500	Head	22.3	2.858	38.432	2.91	37.90	-1.79	1.40	±5	2024/4/4
3900	Head	22.2	3.313	38.759	3.33	37.51	-0.51	3.33	±5	2024/3/22
3900	Head	22.5	3.267	37.998	3.33	37.51	-1.89	1.30	±5	2024/4/3
5250	Head	22.4	4.522	35.512	4.71	35.95	-3.99	-1.22	±5	2024/3/30
5250	Head	22.2	4.597	36.629	4.71	35.95	-2.40	1.89	±5	2024/4/11
5600	Head	22.5	4.871	35.032	5.07	35.50	-3.93	-1.32	±5	2024/4/1
5600	Head	22.1	5.004	36.093	5.07	35.50	-1.30	1.67	±5	2024/4/12
5750	Head	22.2	5.028	34.835	5.22	35.35	-3.68	-1.46	±5	2024/4/3
5750	Head	22.5	5.173	35.826	5.22	35.35	-0.90	1.35	±5	2024/4/13
6500	Head	22.3	5.917	33.925	6.07	34.50	-2.52	-1.67	±5	2024/4/15

13.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2024/3/24	750	Head	250	1099	7576	1386	2.280	8.540	9.12	6.79
2024/4/10	750	Head	250	1099	7576	1386	2.060	8.540	8.24	-3.51
2024/3/26	835	Head	250	4d162	7576	1386	2.510	9.640	10.04	4.15
2024/4/9	835	Head	250	4d162	7576	1386	2.540	9.640	10.16	5.39
2024/3/14	1750	Head	250	1137	7576	1386	8.500	36.500	34	-6.85
2024/4/6	1750	Head	250	1137	7576	1386	8.990	36.500	35.96	-1.48
2024/3/16	1900	Head	250	5d182	7576	1386	9.490	39.600	37.96	-4.14
2024/4/7	1900	Head	250	5d182	7576	1386	9.260	39.600	37.04	-6.46
2024/3/28	2450	Head	250	924	7576	1386	12.300	52.300	49.2	-5.93
2024/4/5	2450	Head	250	924	7576	1386	12.500	52.300	50	-4.40
2024/3/18	2600	Head	250	1070	7576	1386	13.100	56.200	52.4	-6.76
2024/4/14	2600	Head	250	1070	7576	1386	13.000	56.200	52	-7.47
2024/3/20	3500	Head	100	1076	7576	1386	6.870	66.200	68.7	3.78
2024/4/4	3500	Head	100	1076	7576	1386	6.830	66.200	68.3	3.17
2024/3/22	3900	Head	100	1022	7576	1386	6.580	66.400	65.8	-0.90
2024/4/3	3900	Head	100	1022	7576	1386	6.390	66.400	63.9	-3.77
2024/3/30	5250	Head	100	1341	7576	1386	7.780	80.700	77.8	-3.59
2024/4/11	5250	Head	100	1341	7576	1386	7.980	80.700	79.8	-1.12
2024/4/1	5600	Head	100	1341	7576	1386	7.930	84.500	79.3	-6.15
2024/4/12	5600	Head	100	1341	7576	1386	7.990	84.500	79.9	-5.44
2024/4/3	5750	Head	100	1341	7576	1386	7.820	80.600	78.2	-2.98
2024/4/13	5750	Head	100	1341	7576	1386	8.160	80.600	81.6	1.24
2024/4/15	6500	Head	100	1026	7641	1664	30.900	290.000	309	6.55

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2024/3/24	750	Head	250	1099	7576	1386	1.440	5.650	5.76	1.95
2024/4/10	750	Head	250	1099	7576	1386	1.310	5.650	5.24	-7.26
2024/3/26	835	Head	250	4d162	7576	1386	1.650	6.260	6.6	5.43
2024/4/9	835	Head	250	4d162	7576	1386	1.630	6.260	6.52	4.15
2024/3/14	1750	Head	250	1137	7576	1386	4.460	19.200	17.84	-7.08
2024/4/6	1750	Head	250	1137	7576	1386	4.840	19.200	19.36	0.83
2024/3/16	1900	Head	250	5d182	7576	1386	4.910	20.200	19.64	-2.77
2024/4/7	1900	Head	250	5d182	7576	1386	4.760	20.200	19.04	-5.74
2024/3/28	2450	Head	250	924	7576	1386	5.680	24.500	22.72	-7.27
2024/4/5	2450	Head	250	924	7576	1386	5.710	24.500	22.84	-6.78
2024/3/18	2600	Head	250	1070	7576	1386	5.740	24.600	22.96	-6.67
2024/4/14	2600	Head	250	1070	7576	1386	5.720	24.600	22.88	-6.99
2024/3/20	3500	Head	100	1076	7576	1386	2.570	25.500	25.7	0.78
2024/4/4	3500	Head	100	1076	7576	1386	2.610	25.500	26.1	2.35
2024/3/22	3900	Head	100	1022	7576	1386	2.300	23.700	23	-2.95
2024/4/3	3900	Head	100	1022	7576	1386	2.250	23.700	22.5	-5.06
2024/3/30	5250	Head	100	1341	7576	1386	2.230	23.100	22.3	-3.46
2024/4/11	5250	Head	100	1341	7576	1386	2.280	23.100	22.8	-1.30
2024/4/1	5600	Head	100	1341	7576	1386	2.250	24.000	22.5	-6.25
2024/4/12	5600	Head	100	1341	7576	1386	2.300	24.000	23	-4.17
2024/4/3	5750	Head	100	1341	7576	1386	2.220	22.700	22.2	-2.20
2024/4/13	5750	Head	100	1341	7576	1386	2.320	22.700	23.2	2.20
2024/4/15	6500	Head	100	1026	7641	1664	5.450	53.400	54.5	2.06

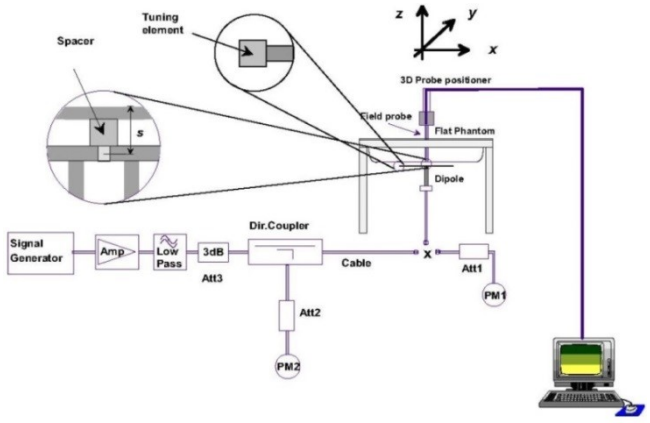


Fig 11.3.1 System Performance Check Setup

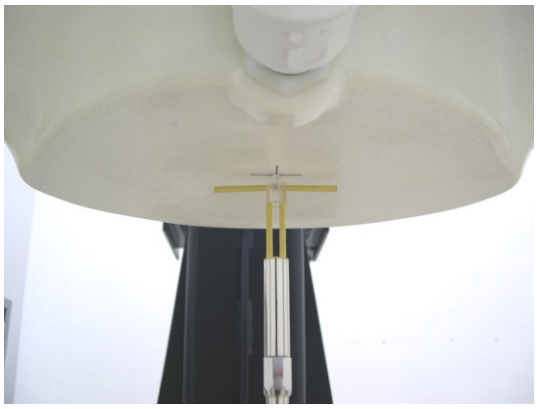


Fig 11.3.2 Setup Photo

14. RF Exposure Positions

14.1 Ear and handset reference point

Figure 12.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 12.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 12.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

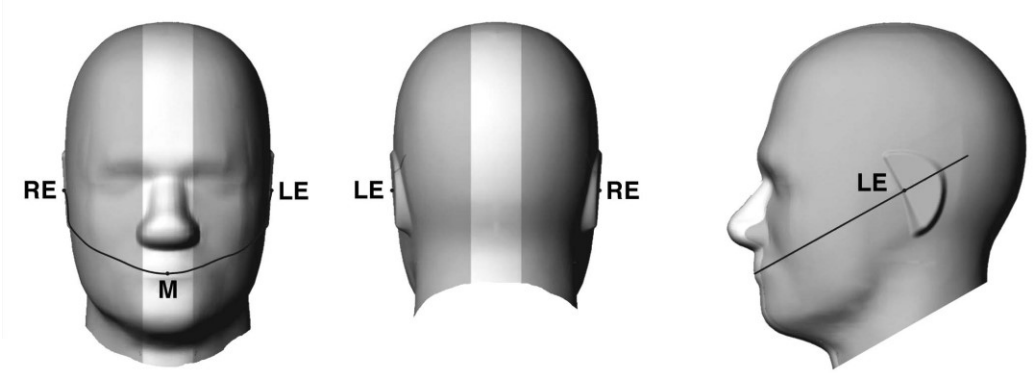


Fig 12.1.1 Front, back, and side views of SAM twin phantom

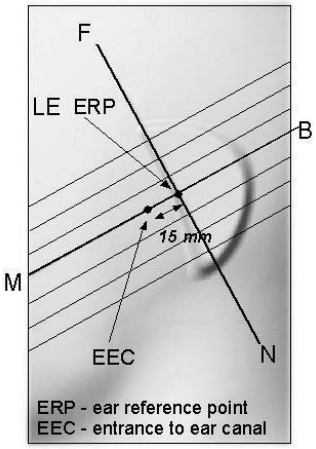


Fig 12.1.2 Close-up side view of phantom showing the ear region.

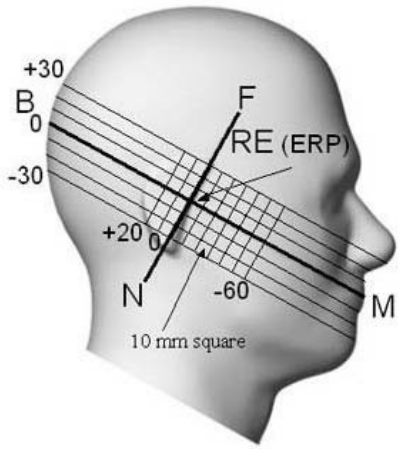


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

14.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 12.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 12.2.3. The actual rotation angles should be documented in the test report.

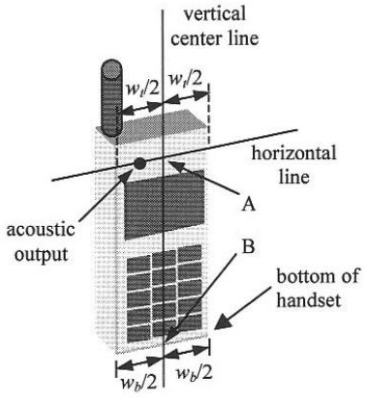


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

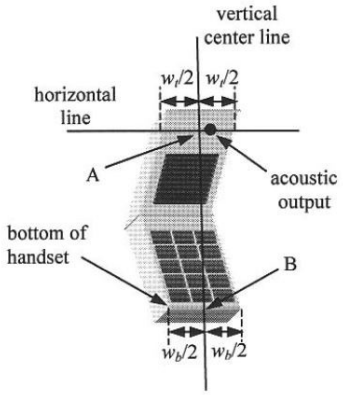


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

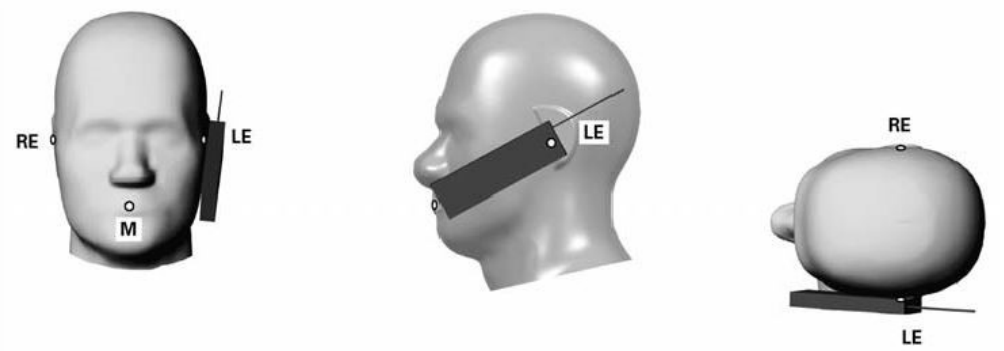


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

14.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 12.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

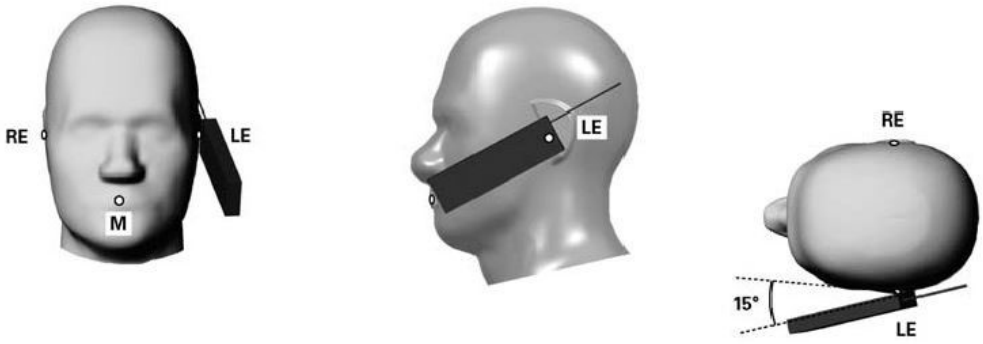


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

14.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. 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 handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

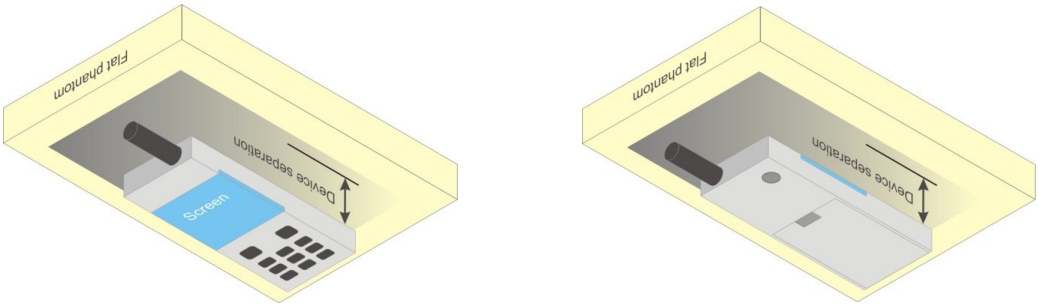


Fig 12.4 Body Worn Position

14.5 Product Specific 10g SAR Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. 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.

14.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

15. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<CDMA2000 Conducted Power>

General Note:

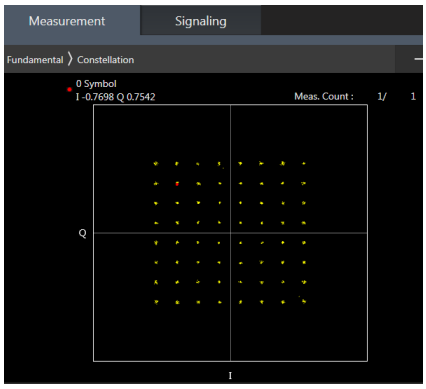
1. Per KDB 941225 D01v03r01, SAR for head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode. Base on EUT is 1x RTT only, SO RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

<LTE Conducted Power>

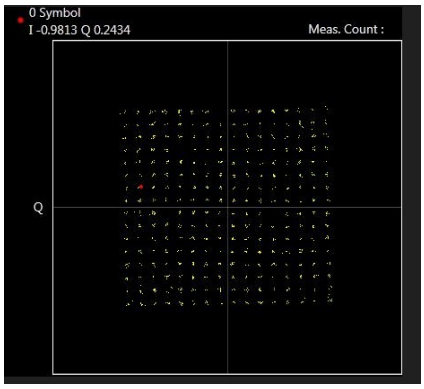
General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, 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.
9. LTE B2 /B4 /B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.

16QAM



64QAM



256QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

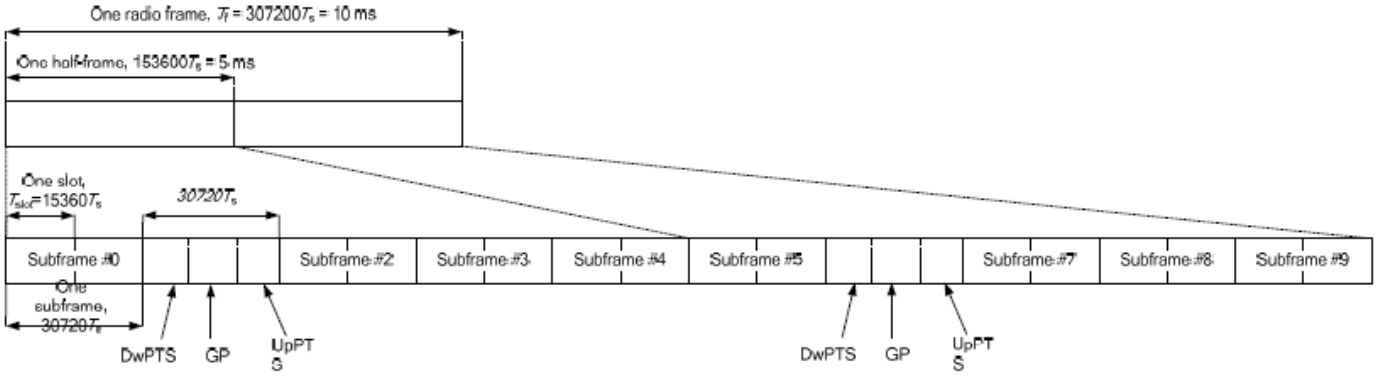


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

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	$13168 \cdot T_s$			-	-	-

Special subframe (30720·T_s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~4**	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T_s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~3**	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

For LTE TDD Power class 2

i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subfames, uplink operation is in 2 uplink subframes and 1 special subframe.
ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (2+0.167)/5 = 43.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (2+0.143)/5 = 42.9%
v. For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

For LTE TDD Power class 3

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.
ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%
v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6

<LTE Carrier Aggregation>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
3. The gray color table is covered by other combinations and no need to verify power.

2CC Downlink Carrier Aggregation				3CC Downlink Carrier Aggregation				4CC Downlink Carrier Aggregation				5CC Downlink Carrier Aggregation			
Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset
1	CA_2A-26A	2A		1	CA_26A-41C	41C, 41A		1	CA_2A-2A-4A-5A	2A-2A-4A, 2A-4A, 2A-2A, 4A, 2A		1	CA_41C-41D	41C, 41A	
2	CA_2A-2A	2A-2A, 2A	3CC-2	2	CA_2A-2A-4A	2A-2A-4A, 2A-4A, 2A-2A, 4A, 2A	4CC-1	2	CA_2A-4A-7C	2A-4A-7C, 4A-7C, 2A-7C, 2A-4A-7A, 7C, 4A-7A, 2A-7A, 2A-4A, 7A, 4A, 2A		2	CA_41F		
3	CA_2A-38A	2A-38A, 38A, 2A		3	CA_2A-2A-5A	2A-2A, 2A	4CC-1	3	CA_41A-41A-41C	41A-41A-41C, 41A-41C, 41A-41A-41A, 41C, 41A-41A, 41A		3	CA_5A-7C-66A-66A	7C-66A, 7C, 7A-66A, 66A-66A, 7A, 66A	
4	CA_2A-4A	2A-4A, 4A, 2A	3CC-5	4	CA_2A-2A-7A	2A-2A-7A, 2A-7A, 2A-2A, 7A, 2A		4	CA_41A-41D	41A-41D, 41D, 41A-41C, 41C, 41A-41A, 41A					
5	CA_2A-5A	2A	3CC-5	5	CA_2A-4A-5A	2A-4A, 4A, 2A	4CC-1	5	CA_41C-41C	41C-41C, 41A-41C, 41C, 41A-41A, 41A					
6	CA_2A-66A	2A-66A, 66A, 2A	3CC-8	6	CA_2A-4A-7A	2A-4A-7A, 4A-7A, 2A-7A, 2A-4A, 7A, 4A, 2A		6	CA_41C-42C	41C-42C, 41C-42A, 41A-42C, 42C, 41C, 41A-42A, 42A, 41A					
7	CA_2A-7A	2A-7A, 7A, 2A	3CC-4	7	CA_2A-5A-7A	2A-7A, 7A, 2A		7	CA_41E	41E, 41D, 41C, 41A					
8	CA_2C	2C, 2A	3CC-11	8	CA_2A-7A-66A	2A-7A-66A, 7A-66A, 2A-7A, 2A-66A, 7A, 66A, 2A		8	CA_42E	42E, 42D, 42C, 42A					
10	CA_38C	38C, 38A		9	CA_2A-7A-7A	2A-7A-7A, 7A-7A, 2A-7A, 7A, 2A		9	CA_5A-7A-66A-66A	7A-66A-66A, 7A-66A, 66A-66A, 7A, 66A					
11	CA_41A-41A	41A-41A, 41A	3CC-12	10	CA_2A-7C	2A-7C, 7C, 2A-7A, 7A, 2A	4CC-2	10	CA_5A-7C-66A	7C-66A, 7C, 7A-66A, 7A, 66A	5CC-3				
12	CA_41A-42A	41A-42A, 42A, 41A		11	CA_2C-66A	2C-66A, 2C, 2A-66A, 66A, 2A		11	CA_7C-66A-66A	7C-66A-66A, 7C-66A, 7A-66A-66A, 7C, 7A-66A, 66A-66A, 7A, 66A	5CC-3				
13	CA_41C	41C, 41A	3CC-15	12	CA_41A-41A-41A	41A-41A-41A, 41A-41A, 41A									
14	CA_42A-42A	42A-42A, 42A		13	CA_41A-41C	41A-41C, 41C, 41A-41A, 41A	4CC-3								
15	CA_42C	42C, 42A	3CC-14	14	CA_41A-42C	41A-42C, 42C, 41A-42A, 42A, 41A									
16	CA_4A-4A	4A-4A, 4A	3CC-18	15	CA_41C-42A	41C-42A, 41C, 41A-42A, 42A, 41A									
17	CA_4A-5A	4A	3CC-5	16	CA_41D	41D, 41C, 41A	4CC-4								
18	CA_4A-7A	4A-7A, 7A, 4A	3CC-6	17	CA_42D	42D, 42C, 42A									
19	CA_5A-66A	66A	3CC-20	18	CA_4A-4A-7A	4A-4A-7A, 4A-7A, 4A-4A, 7A, 4A									
20	CA_5A-7A	7A	3CC-21	19	CA_4A-7C	4A-7C, 7C, 4A-7A, 7A, 4A	4CC-2								
21	CA_66A-66A	66A-66A, 66A	3CC-20	20	CA_5A-66A-66A	66A-66A, 66A	4CC-9								
22	CA_66B	66B, 66A		21	CA_5A-7A-66A	7A-66A, 7A, 66A	4CC-9								
23	CA_66C	66C, 66A		22	CA_5A-7C	7C, 7A	4CC-10								
24	CA_7A-26A	7A	3CC-23	23	CA_7A-26A-66A	7A-66A, 7A, 66A									
26	CA_7A-42A	7A-42A, 7A, 42A		24	CA_7A-66A-66A	7A-66A-66A, 7A-66A, 66A-66A, 7A, 66A	4CC-9								
27	CA_7A-66A	7A-66A, 7A, 66A	3CC-23	25	CA_7C-66A	7C-66A, 7C, 7A-66A, 7A, 66A	4CC-10								
28	CA_7A-7A	7A-7A, 7A													
29	CA_7B	7B, 7A													
30	CA_7C	7C, 7A	3CC-25												

LTE Carrier Aggregation Conducted Power (Downlink)

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink five carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.

vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 0.1\left|BW_{Channel(1)} - BW_{Channel(2)}\right|}{0.6} \right\rfloor 0.3 \ \ [\text{MHz}]$$

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Band 2/4/7/38/41/66/42 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive. When carrier aggregation is applicable, power measurements were performed with the downlink carrier aggregation and 4x4 DL MIMO active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

4X4 MIMO	Band
	LTE Band 2/4/7/38/41/66/42

LTE Carrier Aggregation Conducted Power (Uplink)

Uplink Intra CA	TX Antenna			
7C	Ant 2	Ant 3	Ant 0	Ant 1
66B	Ant 2	Ant 3	Ant 0	Ant 1
38C	Ant 2	Ant 3	Ant 0	Ant 1
41C	Ant 2	Ant 3	Ant 0	Ant 1
42C	Ant 4	Ant 8	Ant 3	Ant 6

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/66/41/38/42 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. The device supports uplink carrier aggregation with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.

iii. According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

iv. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band uplink carrier aggregation consideration>

LTE Inter CA	LTE Band	Main TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX
CA_2A-4A	LTE B2	2	2	3	3	0	0	1	1
	LTE B4	3	1	2	0	3	1	2	0
CA_2A-5A	LTE B2	2	3	1	2	3	0		
	LTE B5	0	0	0	1	1	1		
CA_2A-7A	LTE B2	2	2	3	3	0	0	1	1
	LTE B7	3	1	2	0	3	1	2	0
CA_2A-66A	LTE B2	2	2	3	3	0	0	1	1
	LTE B66	3	1	2	0	3	1	2	0
CA_4A-5A	LTE B4	2	2	3	3	0	0	1	1
	LTE B5	3	1	2	0	3	1	2	0
CA_4A-7A	LTE B4	2	2	3	3	0	0	1	1
	LTE B7	3	1	2	0	3	1	2	0
CA_5A-7A	LTE B5	0	0	0	1	1	1		
	LTE B7	2	3	1	2	3	0		
CA_5A-66A	LTE B5	0	0	0	1	1	1		
	LTE B66	2	3	1	2	3	0		

General Note:

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window. To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter band ULCA bands to not exceed FCC limit.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n7 /n26/ n66 /n71/n38/n41 /n77/n78 is SA and NSA mode.
2. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
3. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
4. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
5. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
6. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
7. For 5GNR n77/n78/n41 HPUE, 5GNR n77/n78/n41 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission.
8. The single carrier of inter band CA uplink power level is the same as Non-CA standalone NR power level.
9. For NR inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two NR bands. Smart Transmit algorithm controls the total RF exposure base on NR inter band ULCA bands to not exceed FCC limit.
10. This device supports HPUE mode for 5GNR n41/n77/n78 with higher power. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verified the worst case of power class 3 SAR.
11. 5G NR n41/77/78 supports UL MIMO.
12. The device supports HPUE (power class 2) under Sunder UL MIMO mode.

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 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]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	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 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation 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.

Table 6.2.2-2 Maximum power reduction (MPR) for power class 2

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

<EN-DC combination>

ENDC	Band	Main TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX
DC_2A_n7A	LTE B2	2	2	3	3	0	0	1	1							
	FR1 n7	3	1	2	0	3	1	2	0							
DC_2A_n66A	LTE B2	2	2	3	3	0	0	1	1							
	FR1 n66	3	1	2	0	3	1	2	0							
DC_2A_n71A	LTE B2	2	3	1	2	3	0									
	FR1 n71	0	0	0	1	1	1									
DC_2A_n78A	LTE B2	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_4A_n2A	LTE B4	2	2	3	3	0	0	1	1							
	FR1 n2	3	1	2	0	3	1	2	0							
DC_4A_n7A	LTE B4	2	2	3	3	0	0	1	1							
	FR1 n7	3	1	2	0	3	1	2	0							
DC_4A_n38A	LTE B4	2	2	3	3	0	0	1	1							
	FR1 n38	3	1	2	0	3	1	2	0							
DC_4A_n41A	LTE B4	2	2	3	3	0	0	1	1							
	FR1 n41	3	1	2	0	3	1	2	0							
DC_4A_n78A	LTE B4	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_5A_n7A	LTE B5	0	0	0	1	1	1									
	FR1 n7	2	3	1	2	3	0									
DC_5A_n66A	LTE B5	0	0	0	1	1	1									
	FR1 n66	2	3	1	2	3	0									
DC_5A_n78A	LTE B5	0	0	0	0	1	1	1	1							
	FR1 n78	4	8	3	6	4	8	3	6							
DC_7A_n5A	LTE B7	2	3	1	2	3	0									
	FR1 n5	0	0	0	1	1	1									

DC_7A_n26A	LTE B7	2	3	1	2	3	0									
	FR1 n26	0	0	0	1	1	1									
DC_7A_n66A	LTE B7	2	2	3	3	0	0	1	1							
	FR1 n66	3	1	2	0	3	1	2	0							
DC_7A_n71A	LTE B7	2	3	1	2	3	0									
	FR1 n71	0	0	0	1	1	1									
DC_7A_n77A	LTE B7	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n77	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_7A_n78A	LTE B7	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_26A_n78A	LTE B26	0	0	0	0	1	1	1	1							
	FR1 n78	4	8	3	6	4	8	3	6							
DC_38A_n78A	LTE B38	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_41A_n77A	LTE B41	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n77	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_41A_n78A	LTE B41	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6
DC_66A_n2A	LTE B66	2	2	3	3	0	0	1	1							
	FR1 n2	3	1	2	0	3	1	2	0							
DC_66A_n7A	LTE B66	2	2	3	3	0	0	1	1							
	FR1 n7	3	1	2	0	3	1	2	0							
DC_66A_n38A	LTE B66	2	2	3	3	0	0	1	1							
	FR1 n38	3	1	2	0	3	1	2	0							
DC_66A_n41A	LTE B66	2	2	3	3	0	0	1	1							
	FR1 n41	3	1	2	0	3	1	2	0							
DC_66A_n71A	LTE B66	2	3	1	2	3	0									
	FR1 n71	0	0	0	1	1	1									
DC_66A_n78A	LTE B66	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6

Inter-Band CA Configuration:

NR Uplink Inter CA	NR Band	Main TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX	Asdiv TX
CA_n5A-n78A	FR1 n5	0	0	0	0	1	1	1	1							
	FR1 n78	4	8	3	6	4	8	3	6							
CA_n7A-n78A	FR1 n7	2	2	2	2	3	3	3	0	0	0	0	1	0	0	0
	FR1 n78	4	8	3	6	4	8	6	4	8	3	6	4	8	3	6

NR UL MIMO Bands Configuration:

UL MIMO	Main TX	Asdiv TX	Asdiv TX	Asdiv TX
N41	Ant 2	Ant 2	Ant 0	Ant 0
	Ant 3	Ant 1	Ant 3	Ant 1
N77	Ant 4	Ant 4	Ant 3	Ant 3
	Ant 8	Ant 6	Ant 8	Ant 6
N78	Ant 4	Ant 4	Ant 3	Ant 3
	Ant 8	Ant 6	Ant 8	Ant 6

16. Antenna Location

The detailed antenna location information can refer to SAR Test Setup Photos.

17. SAR Test Results

Spot Check General Note:

1. According to section 3.3, spot check conducted power test against the variant project based on the worst-case SAR condition from the original project was performed in this filing to demonstrate the test data from original project remains representative for the variant project. Detail Conducted power measurement referred to appendix E.
2. SAR spot check verification on the worst cases from the original model was performed to demonstrate the test data from original model remains representative for the variant model.
3. Per KDB 484596 D01 v02r03, the variant filings must demonstrate that the referenced test data remain valid for the variant device by including spot-check measurements that meet the following criteria:
   a. Spot-check measurements shall be made in correspondence to the worst-case scenario reported in the reference device filing, i.e., for those conditions that are the closest to non-compliance
   b. Spot-check measurements, while being always compliant with the applicable rule part(s) for the test under consideration, may show a deviation ddB from the reference data no larger than 3 dB:
      $$d_{dB} = | VdB – RdB | \leq 3\ dB \quad (1)$$
      where between VdB, the variant spot-check level in dB, and RdB is the corresponding measurement level in dB for the reference model.
4. The Spot check results showed that deviation of the SAR results did not exceed 3 dB, therefore referring to the guidance in the KDB inquiry, SAR data reuse is justified.
5. 1st as parent model, 2nd as variant model.

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of BT/WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
   f. For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, 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
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal

dimension > 16.0 cm, 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.

a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II/IV, LTE Band 2/4/7/25/66/38/41/42, 5GNR n2/n7/ n66 /n38/n41 /n78/n77, WLAN2.4/5.2/5.8GHz, Bluetooth, therefore product specific 10g SAR is necessary.
b. WLAN 5.3/5.5GHz/6GHz tested the product specific 10g SAR since it has no hotspot mode.
c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

6. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
7. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
8. The EUT has two work states, flip open and flip close, SAR testing have been evaluated two states. For head mode, only flip open mode is performed SAR testing. When it is in flip close configuration since the diagonal dimension is < 160 mm, 10-g extremity SAR tests are not required. When it is in flip open configuration since the diagonal dimension is > 160 mm and < 200 mm. Therefore, 10-g extremity SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Additional SAR tests for 10-g extremity SAR were evaluated per KDB 616217 Section 6.
9. As long as either sensor was triggered, conducted power of MIMO mode for ant4 and ant5 could be reduced.

CDMA Note:

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode. Base on EUT is 1x RTT only, SO RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, 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.
7. LTE B2 /B4 /B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
   b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   e. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
   f. For 5G FR1 n5 /n7/n26/n66/n38/n41/n77 the maximum bandwidth does not support three non-overlapping channels, 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.

DSI status description：

The device has the following DSI state which used at different exposure condition.

This WWAN and WLAN/BT bands enabled with Qualcomm Smart Transmit feature which located at chapter 6. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

Exposure Condition	**Measure Distance**	DSI	Ant No.	EUT Flip State	Trigger conditions
Head	touch&tilt 15deg	DSI 2	All ant	Flip Open	Earpiece On
Body worn	5 mm	DSI 3	All ant	Flip Open	Sensor On
Extremity	0mm	DSI 5	Ant2,Ant3,Ant4,Ant5, Ant6,Ant7,Ant8	Flip Open	Sensor On
Extremity	0mm	DSI 6	Ant0,Ant1,Ant2,Ant4,Ant7,Ant8	Flip Open	Sensor On
Hotspot	5 mm	DSI 7	All ant	Flip Open	Hotspot on
Extremity	0mm	DSI 9	Ant0,Ant1	Flip Open	Sensor On
Body worn	5 mm	DSI 10	All ant (Handheld except Ant2,Ant4,Ant7,Ant8)	Flip Close	Sensor On
Hotspot	5 mm	DSI 11	All ant	Flip Close	Hotspot on
Extremity	0mm	DSI 10	All ant (Handheld except Ant2,Ant4,Ant7,Ant8)	Flip Close	Sensor On
Extremity	0mm	DSI 12	Ant2,Ant4,Ant7,Ant8	Flip Close	Sensor On
Body Worn / Extremity / Sensor Off	Sensor Trigger Distance -1mm	DSI 4	All ant	Flip Open/Flip Close	Sensor Off

17.1 Head SAR

<Flip Open>

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d_{dB}(dB)
750 MHz																						
	1st	LTE Band 71	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	133297	680.5	22.50	24.00	1.413	-	-	-0.16	0.152	0.215	0.08
01	2nd	LTE Band 71	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	133297	680.5	22.37	24.00	1.455	-	-	0.05	0.145	**0.211**	
	1st	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	133297	680.5	22.52	24.00	1.406	-	-	-0.15	0.095	0.134	1.59
	2nd	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	133297	680.5	22.50	24.00	1.413	-	-	-0.12	0.066	0.093	
	1st	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.05	24.00	1.245	-	-	-0.17	0.201	0.250	0.52
02	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	22.73	24.00	1.340	-	-	0.03	0.166	**0.222**	
	1st	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	22.85	24.00	1.303	-	-	-0.02	0.191	0.249	1.76
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	22.60	24.00	1.380	-	-	0.14	0.120	0.166	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	22.77	24.00	1.327	-	-	-0.02	0.120	0.159	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	22.77	24.00	1.327	-	-	0.14	0.081	0.108	
03	2nd	LTE Band 13	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	22.77	24.00	1.327	-	-	0.01	0.208	**0.276**	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	22.77	24.00	1.327	-	-	0.14	0.122	0.162	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	21.80	23.00	1.318	-	-	-0.05	0.071	0.094	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	21.80	23.00	1.318	-	-	0.07	0.046	0.061	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	21.80	23.00	1.318	-	-	-0.1	0.119	0.157	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	21.80	23.00	1.318	-	-	-0.02	0.074	0.098	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	22.71	24.00	1.346	-	-	-0.17	0.119	0.160	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	22.71	24.00	1.346	-	-	0.12	0.075	0.101	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	DSI 2	23230	782	22.71	24.00	1.346	-	-	-0.06	0.089	0.120	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	DSI 2	23230	782	22.71	24.00	1.346	-	-	0	0.058	0.078	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	21.67	23.00	1.358	-	-	0.06	0.061	0.083	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	21.67	23.00	1.358	-	-	-0.11	0.048	0.065	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 1	DSI 2	23230	782	21.67	23.00	1.358	-	-	0.08	0.051	0.069	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 1	DSI 2	23230	782	21.67	23.00	1.358	-	-	-0.08	0.031	0.042	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	23.10	24.00	1.230	-	-	0.04	0.164	0.202	0.13
04	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	22.97	24.00	1.268	-	-	0.03	0.164	**0.208**	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	136100	680.5	22.80	24.00	1.318	-	-	0.11	0.078	0.103	1.44
	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	136100	680.5	22.78	24.00	1.324	-	-	0.13	0.056	0.074	
835 MHz																						
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Right Cheek	0mm	Ant 0	DSI 2	1013	824.7	23.50	24.00	1.122	-	-	-0.08	0.141	0.158	
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Right Tilted	0mm	Ant 0	DSI 2	1013	824.7	23.50	24.00	1.122	-	-	0.1	0.087	0.098	
05	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Left Cheek	0mm	Ant 0	DSI 2	1013	824.7	23.50	24.00	1.122	-	-	0.09	0.203	**0.228**	
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Left Tilted	0mm	Ant 0	DSI 2	1013	824.7	23.50	24.00	1.122	-	-	-0.08	0.129	0.145	
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Right Cheek	0mm	Ant 1	DSI 2	1013	824.7	23.41	24.00	1.146	-	-	0	0.087	0.100	
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Right Tilted	0mm	Ant 1	DSI 2	1013	824.7	23.41	24.00	1.146	-	-	0.02	0.055	0.063	
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Left Cheek	0mm	Ant 1	DSI 2	1013	824.7	23.41	24.00	1.146	-	-	0.17	0.062	0.071	
	2nd	CDMA BC0	-	-	-	-	RC3 SO55	Left Tilted	0mm	Ant 1	DSI 2	1013	824.7	23.41	24.00	1.146	-	-	0.01	0.049	0.056	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	251	848.8	27.87	28.80	1.239	-	-	-0.09	0.130	0.161	1.58
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	251	848.8	27.60	28.80	1.318	-	-	0.1	0.085	0.112	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 1	DSI 2	128	824.2	27.50	28.80	1.349	-	-	-0.02	0.165	0.223	2.69
06	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 1	DSI 2	128	824.2	27.54	28.80	1.337	-	-	-0.05	0.090	**0.120**	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4132	826.4	23.38	24.00	1.153	-	-	0.03	0.239	0.276	0.14
07	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4132	826.4	23.40	24.00	1.148	-	-	0.03	0.248	**0.285**	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4132	826.4	23.29	24.00	1.178	-	-	0.01	0.150	0.177	0.49
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4132	826.4	23.31	24.00	1.172	-	-	-0.12	0.135	0.158	
	1st	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.77	24.00	1.327	-	-	-0.16	0.247	0.328	0.42
08	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.60	24.00	1.380	-	-	0.02	0.216	**0.298**	
	1st	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	26965	841.5	22.51	24.00	1.409	-	-	0.05	0.143	0.202	0.18

	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	26965	841.5	22.52	24.00	1.406	-	-	-0.14	0.138	0.194	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.01	24.00	1.256	-	-	0.11	0.130	0.163	1.06
09	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.03	24.00	1.250	-	-	-0.02	0.166	**0.208**	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	22.87	24.00	1.297	-	-	-0.1	0.100	0.130	1.41
	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	22.83	24.00	1.309	-	-	0.07	0.072	0.094	
1750 MHz																						
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1413	1732.6	23.40	24.00	1.148	-	-	0.15	0.094	0.108	0.31
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1413	1732.6	23.08	24.00	1.236	-	-	-0.03	0.094	0.116	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	1513	1752.6	18.33	19.30	1.250	-	-	0.16	0.974	1.218	0.17
10	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	1513	1752.6	18.35	19.30	1.245	-	-	0.04	0.942	**1.172**	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	23.55	24.00	1.109	-	-	0.04	0.059	0.065	1.01
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	23.27	24.00	1.183	-	-	-0.04	0.069	0.082	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	132572	1770	23.40	24.00	1.148	-	-	-0.15	0.172	0.197	0.11
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	132572	1770	23.14	24.00	1.219	-	-	0.1	0.166	0.202	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	132572	1770	17.69	18.80	1.291	-	-	-0.08	0.864	1.116	0.55
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	132572	1770	17.57	18.80	1.327	-	-	0.09	0.741	0.984	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	132572	1770	18.43	19.80	1.371	-	-	0.04	0.930	1.275	0.34
11	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	132572	1770	18.49	19.80	1.352	-	-	-0.08	0.873	**1.180**	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	349000	1745	23.00	24.00	1.259	-	-	0.02	0.067	0.084	1.84
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	349000	1745	22.95	24.00	1.274	-	-	-0.16	0.043	0.055	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	23.05	24.00	1.245	-	-	0.07	0.084	0.105	0.48
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	22.94	24.00	1.276	-	-	0.03	0.074	0.094	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	19.94	20.50	1.138	-	-	-0.12	1.000	1.138	0.06
12	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	19.92	20.50	1.143	-	-	0.01	1.010	**1.154**	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 3	DSI 2	349000	1745	18.91	20.00	1.285	-	-	0.06	0.894	1.149	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 3	DSI 2	349000	1745	18.91	20.00	1.285	-	-	0.03	0.758	0.974	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 3	DSI 2	349000	1745	18.91	20.00	1.285	-	-	0.09	0.342	0.440	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 3	DSI 2	349000	1745	18.91	20.00	1.285	-	-	-0.03	0.445	0.572	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 3	DSI 2	349000	1745	18.84	20.00	1.306	-	-	-0.03	0.867	1.132	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 3	DSI 2	349000	1745	18.84	20.00	1.306	-	-	0.02	0.742	0.969	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 3	DSI 2	349000	1745	18.84	20.00	1.306	-	-	0.09	0.336	0.439	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 3	DSI 2	349000	1745	18.84	20.00	1.306	-	-	0.07	0.427	0.558	
	2nd	FR1 n66	40M	QPSK	216	0	DFT-15	Right Cheek	0mm	Ant 3	DSI 2	349000	1745	18.74	20.00	1.337	-	-	0.01	0.838	1.120	
	2nd	FR1 n66	40M	QPSK	216	0	DFT-15	Right Tilted	0mm	Ant 3	DSI 2	349000	1745	18.74	20.00	1.337	-	-	0.04	0.733	0.980	
1900 MHz																						
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	512	1850.2	25.29	25.80	1.125	-	-	0.02	0.054	0.061	1.32
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	512	1850.2	25.36	25.80	1.107	-	-	0.05	0.041	0.045	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 2	DSI 2	512	1850.2	22.30	23.30	1.259	-	-	0.02	0.817	1.029	0.61
13	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 2	DSI 2	512	1850.2	22.56	23.30	1.186	-	-	0.06	0.999	**1.185**	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	9262	1852.4	23.08	24.00	1.236	-	-	-0.08	0.103	0.127	0.55
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	9262	1852.4	23.17	24.00	1.211	-	-	-0.14	0.119	0.144	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	9262	1852.4	18.20	18.90	1.175	-	-	0.15	0.999	1.174	0.06
14	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	9262	1852.4	18.04	18.90	1.219	-	-	0.05	0.949	**1.157**	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	26590	1905	23.85	24.00	1.035	-	-	0.01	0.074	0.077	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	18900	1880	23.10	24.00	1.230	-	-	-0.15	0.055	0.068	1.16
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	18700	1860	23.07	24.00	1.239	-	-	0.01	0.048	0.059	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	19100	1900	23.12	24.00	1.225	-	-	0.19	0.051	0.062	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	26590	1905	23.77	24.00	1.054	-	-	0.06	0.133	0.140	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	23.50	24.00	1.122	-	-	-0.1	0.085	0.095	2.02
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	18700	1860	23.59	24.00	1.099	-	-	0.14	0.080	0.088	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	19100	1900	23.44	24.00	1.138	-	-	0.12	0.081	0.092	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	26140	1860	17.62	18.50	1.225	-	-	-0.13	0.946	1.158	0.08
15	2nd	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	26140	1860	17.48	18.50	1.265	-	-	0.06	0.932	**1.179**	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	26340	1880	18.15	19.50	1.365	-	-	-0.03	0.905	1.235	0.57

	2nd	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	26340	1880	18.03	19.50	1.403	-	-	0.03	0.772	1.083	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	376500	1882.5	23.50	24.00	1.122	-	-	0.02	0.070	0.079	0.89
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	376000	1880	23.42	24.00	1.143	-	-	-0.1	0.085	0.097	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	376500	1882.5	23.40	24.00	1.148	-	-	0.14	0.105	0.121	0.96
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	23.32	24.00	1.169	-	-	0.01	0.083	0.097	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2	376500	1882.5	17.68	18.50	1.208	-	-	0.02	1.010	1.220	0.11
16	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	17.79	18.50	1.178	-	-	0.05	1.010	**1.189**	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 3	DSI 2	376500	1882.5	18.49	19.50	1.262	-	-	0.07	0.973	1.228	1.26
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 3	DSI 2	376000	1880	18.36	18.50	1.033	-	-	-0.12	0.889	0.918	
2600 MHz																						
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	21350	2560	23.35	24.00	1.161	-	-	-0.06	0.585	0.679	0.67
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	21350	2560	23.16	24.00	1.213	-	-	0.03	0.653	0.792	
	1st	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	21350	2560	23.23	24.00	1.194	-	-	0.17	0.246	0.294	1.18
	2nd	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	21350	2560	23.24	24.00	1.191	-	-	-0.1	0.324	0.386	
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	21350	2560	15.77	16.40	1.156	-	-	0.18	0.871	1.007	0.24
17	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	21350	2560	15.46	16.40	1.242	-	-	0.08	0.858	**1.065**	
	1st	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	20850	2510	16.18	17.10	1.236	-	-	0.09	0.859	1.062	0.64
	2nd	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	20850	2510	16.15	17.10	1.245	-	-	0.04	0.737	0.917	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	41490	2680	26.47	27.00	1.130	42.9	1.009	0.04	0.619	0.706	0.23
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	41490	2680	26.05	27.00	1.245	42.9	1.009	0.03	0.533	0.669	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	41055	2636.5	26.26	27.00	1.186	42.9	1.009	0.15	0.182	0.218	0.75
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	41055	2636.5	26.04	27.00	1.247	42.9	1.009	0.02	0.206	0.259	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	41490	2680	19.76	20.40	1.159	42.9	1.009	0.13	1.010	1.181	0.01
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	41490	2680	19.71	20.40	1.172	42.9	1.009	0.04	1.000	1.183	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	41490	2680	17.50	18.40	1.230	42.9	1.009	0.13	1.010	1.254	0.23
18	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	41490	2680	17.57	18.40	1.211	42.9	1.009	0.02	0.974	**1.190**	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	507000	2535	23.45	24.00	1.135	-	-	0.17	0.313	0.355	0.74
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	507000	2535	23.42	24.00	1.143	-	-	0.09	0.368	0.421	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	23.24	24.00	1.191	-	-	0.03	0.140	0.167	0.38
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	22.94	24.00	1.276	-	-	0.18	0.120	0.153	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	DSI 2	507000	2535	16.35	17.00	1.161	-	-	0.01	0.921	1.070	0.32
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	DSI 2	507000	2535	15.96	17.00	1.271	-	-	-0.07	0.907	1.152	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 3	DSI 2	507000	2535	17.48	18.50	1.265	-	-	0.18	1.000	1.265	0.26
19	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 3	DSI 2	507000	2535	17.65	18.50	1.216	-	-	-0.09	0.979	**1.191**	
	1st	FR1 n41_HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 0	DSI 2	518598	2592.99	25.98	27.00	1.265	50	1.000	0.13	0.360	0.455	0.30
	2nd	FR1 n41_HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 0	DSI 2	518598	2592.99	26.22	27.00	1.197	50	1.000	0.07	0.408	0.488	
	1st	FR1 n41_HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	25.91	27.00	1.285	50	1.000	-0.01	0.168	0.216	0.14
	2nd	FR1 n41_HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	26.21	27.00	1.199	50	1.000	0.05	0.186	0.223	
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	16.81	17.50	1.172	-	-	0.05	0.356	0.417	
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	16.81	17.50	1.172	-	-	-0.02	0.077	0.090	
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	16.81	17.50	1.172	-	-	-0.04	0.951	1.115	
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	16.81	17.50	1.172	-	-	0.04	0.054	0.063	
20	2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	19.73	20.50	1.194	50	1.000	0.11	0.998	**1.192**	
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	16.78	17.50	1.180	-	-	-0.04	0.348	0.411	
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	16.78	17.50	1.180	-	-	0.03	0.074	0.087	
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	16.78	17.50	1.180	-	-	-0.1	0.916	1.081	
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	16.78	17.50	1.180	-	-	0.01	0.052	0.061	
	2nd	FR1 n41	100M	QPSK	270	0	DFT-30	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	16.73	17.50	1.194	-	-	0.05	0.897	1.071	
	1st	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	16.36	17.50	1.300	-	-	0.06	0.945	1.229	0.42
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	16.23	17.50	1.340	-	-	0.03	0.832	1.115	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 2+3	DSI 2	518598	2592.99	22.19	23.00	1.206	50	1.000	0.16	0.825	0.995	0.12
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Left Cheek	0mm	Ant 2+3	DSI 2	518598	2592.99	22.51	23.00	1.119	50	1.000	0.05	0.913	1.022	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 2+1	DSI 2	518598	2592.99	22.52	23.50	1.254	50	1.000	-0.15	0.951	1.193	0.38

	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Left Cheek	0mm	Ant 2+1	DSI 2	518598	2592.99	22.83	23.50	1.168	50	1.000	0.15	0.935	1.092	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 0+3	DSI 2	518598	2592.99	23.09	24.00	1.233	50	1.000	0.01	0.926	1.142	1.78
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Right Tilted	0mm	Ant 0+3	DSI 2	518598	2592.99	23.34	24.00	1.164	50	1.000	-0.06	0.651	0.758	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 0+1	DSI 2	518598	2592.99	26.18	27.00	1.207	50	1.000	-0.15	0.164	0.198	0.65
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Left Cheek	0mm	Ant 0+1	DSI 2	518598	2592.99	26.42	27.00	1.144	50	1.000	-0.09	0.201	0.230	
3-5GHz																						
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	42990	3540	16.15	17.10	1.245	62.9	1.006	0.01	0.669	0.838	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	42990	3540	16.15	17.10	1.245	62.9	1.006	0.03	0.811	1.015	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	42990+ 42792	3540+ 3520.2	16.11	17.10	1.256	62.9	1.006	0.05	0.729	0.921	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	42990	3540	16.15	17.10	1.245	62.9	1.006	-0.01	0.366	0.458	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	42990	3540	16.15	17.10	1.245	62.9	1.006	0.03	0.470	0.588	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	42190	3460	16.05	17.10	1.274	62.9	1.006	-0.03	0.626	0.802	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	42590	3500	16.10	17.10	1.259	62.9	1.006	0.1	0.631	0.799	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	42190	3460	16.05	17.10	1.274	62.9	1.006	-0.07	0.788	1.010	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	42590	3500	16.10	17.10	1.259	62.9	1.006	0.05	0.794	1.006	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	42990	3540	16.08	17.10	1.265	62.9	1.006	-0.03	0.632	0.804	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	42990	3540	16.08	17.10	1.265	62.9	1.006	-0.08	0.762	0.970	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 2	42990	3540	16.08	17.10	1.265	62.9	1.006	-0.05	0.346	0.440	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 2	42990	3540	16.08	17.10	1.265	62.9	1.006	-0.03	0.444	0.565	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	42190	3460	15.98	17.10	1.294	62.9	1.006	0.01	0.601	0.782	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	42590	3500	16.07	17.10	1.268	62.9	1.006	0.01	0.615	0.784	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	42190	3460	15.98	17.10	1.294	62.9	1.006	-0.09	0.744	0.969	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	42590	3500	16.07	17.10	1.268	62.9	1.006	0.04	0.750	0.956	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 3	DSI 2	42990	3540	16.05	17.10	1.274	62.9	1.006	-0.01	0.611	0.783	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 3	DSI 2	42990	3540	16.05	17.10	1.274	62.9	1.006	-0.05	0.787	1.008	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	42990	3540	17.08	17.80	1.180	62.9	1.006	0.02	0.855	1.015	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	42990	3540	17.08	17.80	1.180	62.9	1.006	-0.02	0.195	0.232	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	42990	3540	17.08	17.80	1.180	62.9	1.006	-0.08	0.256	0.304	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	42990	3540	17.08	17.80	1.180	62.9	1.006	0.08	0.118	0.140	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	42190	3460	17.00	17.80	1.202	62.9	1.006	-0.07	0.875	1.058	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	17.03	17.80	1.194	62.9	1.006	-0.04	0.885	1.063	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	42590+ 42788	3500+ 3519.8	16.80	17.80	1.259	62.9	1.006	0.09	0.791	1.002	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	42990	3540	17.02	17.80	1.197	62.9	1.006	-0.02	0.807	0.972	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	42990	3540	17.02	17.80	1.197	62.9	1.006	-0.05	0.184	0.222	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	42990	3540	17.02	17.80	1.197	62.9	1.006	-0.04	0.242	0.291	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	42990	3540	17.02	17.80	1.197	62.9	1.006	-0.08	0.111	0.134	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	42190	3460	16.92	17.80	1.225	62.9	1.006	0.03	0.846	1.042	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	16.97	17.80	1.211	62.9	1.006	0.01	0.851	1.036	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 2	42990	3540	17.00	17.80	1.202	62.9	1.006	0.05	0.831	1.005	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 6	DSI 2	42990	3540	15.66	17.20	1.426	62.9	1.006	0.09	0.212	0.304	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 6	DSI 2	42990	3540	15.66	17.20	1.426	62.9	1.006	0.01	0.276	0.396	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 6	DSI 2	42990	3540	15.66	17.20	1.426	62.9	1.006	0.03	0.392	0.562	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	DSI 2	42990	3540	15.66	17.20	1.426	62.9	1.006	0.02	0.609	0.873	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	DSI 2	42190	3460	15.57	17.20	1.455	62.9	1.006	-0.06	0.734	1.075	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	DSI 2	42190+ 42388	3460+ 3479.8	15.33	17.20	1.538	62.9	1.006	0.08	0.651	1.007	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	DSI 2	42590	3500	15.60	17.20	1.445	62.9	1.006	-0.05	0.656	0.954	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 6	DSI 2	42990	3540	15.65	17.20	1.429	62.9	1.006	-0.06	0.200	0.287	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 6	DSI 2	42990	3540	15.65	17.20	1.429	62.9	1.006	0.06	0.261	0.375	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 6	DSI 2	42990	3540	15.65	17.20	1.429	62.9	1.006	-0.05	0.370	0.532	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 6	DSI 2	42990	3540	15.65	17.20	1.429	62.9	1.006	0.1	0.575	0.827	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 6	DSI 2	42190	3460	15.56	17.20	1.459	62.9	1.006	0.08	0.693	1.017	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 6	DSI 2	42590	3500	15.55	17.20	1.462	62.9	1.006	0.04	0.619	0.911	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 6	DSI 2	42990	3540	15.63	17.20	1.435	62.9	1.006	-0.05	0.588	0.849	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 8	DSI 2	42990	3540	19.40	20.30	1.230	62.9	1.006	0.04	0.886	1.097	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 8	DSI 2	42990	3540	19.40	20.30	1.230	62.9	1.006	0.1	0.135	0.167	

21	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	DSI 2	42990	3540	19.40	20.30	1.230	62.9	1.006	0.09	0.945	**1.170**	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	DSI 2	42990+ 42792	3540+ 3520.2	19.12	20.30	1.312	62.9	1.006	0.08	0.839	1.108	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 8	DSI 2	42990	3540	19.40	20.30	1.230	62.9	1.006	-0.07	0.276	0.342	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 8	DSI 2	42190	3460	19.30	20.30	1.259	62.9	1.006	0	0.675	0.855	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 8	DSI 2	42590	3500	19.25	20.30	1.274	62.9	1.006	-0.09	0.789	1.011	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	DSI 2	42190	3460	19.30	20.30	1.259	62.9	1.006	-0.04	0.738	0.935	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	DSI 2	42590	3500	19.25	20.30	1.274	62.9	1.006	-0.07	0.827	1.060	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 8	DSI 2	42990	3540	19.38	20.30	1.236	62.9	1.006	-0.01	0.836	1.039	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 8	DSI 2	42990	3540	19.38	20.30	1.236	62.9	1.006	0.08	0.127	0.158	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 8	DSI 2	42990	3540	19.38	20.30	1.236	62.9	1.006	-0.02	0.892	1.109	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 8	DSI 2	42990	3540	19.38	20.30	1.236	62.9	1.006	0.01	0.261	0.325	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 8	DSI 2	42190	3460	19.25	20.30	1.274	62.9	1.006	0.04	0.652	0.835	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 8	DSI 2	42590	3500	19.24	20.30	1.276	62.9	1.006	0.07	0.758	0.973	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 8	DSI 2	42190	3460	19.25	20.30	1.274	62.9	1.006	-0.1	0.697	0.893	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 8	DSI 2	42590	3500	19.24	20.30	1.276	62.9	1.006	-0.01	0.781	1.003	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 8	DSI 2	42990	3540	19.34	20.30	1.247	62.9	1.006	0.09	0.842	1.057	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 8	DSI 2	42990	3540	19.34	20.30	1.247	62.9	1.006	-0.04	0.911	1.143	
	1st	FR1 n77_Part27O_HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 3	DSI 2	656000	3840	16.83	17.50	1.167	50	1.000	-0.15	0.861	1.005	0.03
	2nd	FR1 n77_Part27O_HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 3	DSI 2	656000	3840	16.38	17.50	1.294	50	1.000	-0.01	0.781	1.011	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	15.40	16.00	1.148	-	-	-0.06	0.807	0.927	0.30
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	15.40	16.00	1.148	-	-	-0.19	0.754	0.866	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	13.29	14.00	1.178	-	-	0.01	0.703	0.828	0.10
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	13.30	14.00	1.175	-	-	0.18	0.721	0.847	
	1st	FR1 n77_Part27O_HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	20.31	21.00	1.172	50	1.000	-0.17	1.010	1.184	0.03
22	2nd	FR1 n77_Part27O_HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	20.61	21.00	1.094	50	1.000	-0.08	1.090	**1.192**	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4+8	DSI 2	656000	3840	21.73	22.50	1.194	50	1.000	0.15	0.746	0.891	0.39
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Right Cheek	0mm	Ant 4+8	DSI 2	656000	3840	21.80	22.50	1.175	50	1.000	0.19	0.829	0.974	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4+6	DSI 2	656000	3840	19.16	20.00	1.215	50	1.000	-0.07	0.592	0.719	0.66
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Left Tilted	0mm	Ant 4+6	DSI 2	656000	3840	19.36	20.00	1.158	50	1.000	-0.05	0.723	0.837	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 3+8	DSI 2	656000	3840	19.81	20.50	1.173	50	1.000	-0.15	0.760	0.892	0.02
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Right Tilted	0mm	Ant 3+8	DSI 2	656000	3840	19.48	20.50	1.265	50	1.000	-0.11	0.709	0.897	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 3+6	DSI 2	656000	3840	18.74	19.50	1.191	50	1.000	0.13	0.786	0.936	0.83
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	137	68	CP-30	Left Tilted	0mm	Ant 3+6	DSI 2	656000	3840	18.58	19.50	1.236	50	1.000	-0.18	0.626	0.774	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d_{dB}(dB)
2450 MHz																		
	1st	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 7	DSI 2	0	2402	14.35	16.00	1.462	77.07	1.298	0.15	0.538	1.021	0.06
23	2nd	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 7	DSI 2	0	2402	14.35	16.00	1.462	77.07	1.298	0.09	0.530	**1.006**	
	1st	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 5	DSI 2	0	2402	16.11	17.50	1.377	77.07	1.298	0.08	0.681	1.217	2.96
	2nd	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 5	DSI 2	0	2402	16.11	17.50	1.377	77.07	1.298	-0.11	0.344	0.615	
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+5	DSI 2	11	2462	15.26	17.00	1.493	98.53	1.015	-0.16	0.782	1.185	0.49
24	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+5	DSI 2	11	2462	15.26	17.00	1.493	98.53	1.015	0.02	0.699	**1.059**	
5 GHz																		
	1st	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	50	5250	18.11	19.50	1.377	98.75	1.013	0.01	0.773	1.078	0.02
25	2nd	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	50	5250	18.11	19.50	1.377	98.75	1.013	-0.14	0.777	**1.084**	
	1st	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	114	5570	17.21	18.50	1.346	98.75	1.013	0.07	0.858	1.170	0.07
26	2nd	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	114	5570	17.21	18.50	1.346	98.75	1.013	-0.07	0.873	**1.190**	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	155	5775	17.22	18.50	1.343	99.26	1.007	0.05	0.805	1.088	0.16
27	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	155	5775	17.22	18.50	1.343	99.26	1.007	-0.04	0.835	**1.129**	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m^2)	Deviation d_{dB}(dB)
	1st	WLAN6GHz	802.11be-EHT320 MCS0	Left Cheek	0mm	Ant 7+5(5)	DSI 2	191	6905	11.23	13.00	1.503	98.85	1.012	-0.13	0.382	0.581	2.21	0.61
28	2nd	WLAN6GHz	802.11be-EHT320 MCS0	Left Cheek	0mm	Ant 7+5(5)	DSI 2	191	6905	11.23	13.00	1.503	98.85	1.012	0.13	0.440	**0.669**	2.67	

17.2 Hotspot SAR

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d_{dB}(dB)
750 MHz																							
	1st	LTE Band 71	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	133297	680.5	22.50	24.00	1.413	-	-	-0.09	0.676	0.955	0.23
29	2nd	LTE Band 71	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	133297	680.5	22.37	24.00	1.455	-	-	0.12	0.692	**1.007**	
	1st	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	133297	680.5	22.50	24.00	1.413	-	-	-0.07	0.393	0.555	0.11
	2nd	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	133297	680.5	22.37	24.00	1.455	-	-	0.02	0.372	0.541	
	1st	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	133297	680.5	22.52	24.00	1.406	-	-	-0.04	0.557	0.783	1.24
	2nd	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	133297	680.5	22.50	24.00	1.413	-	-	0.1	0.416	0.588	
	1st	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	133297	680.5	22.52	24.00	1.406	-	-	-0.02	0.391	0.550	1.48
	2nd	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	133297	680.5	22.50	24.00	1.413	-	-	0.06	0.277	0.391	
	1st	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	23095	707.5	23.05	24.00	1.245	-	-	0.02	0.738	0.918	0.00
30	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	23095	707.5	22.73	24.00	1.340	-	-	0.08	0.686	**0.919**	
	1st	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	23095	707.5	23.05	24.00	1.245	-	-	-0.05	0.610	0.759	0.72
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	23095	707.5	22.73	24.00	1.340	-	-	-0.12	0.480	0.643	
	1st	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	23095	707.5	22.85	24.00	1.303	-	-	-0.1	0.640	0.834	0.65
	2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	23095	707.5	22.60	24.00	1.380	-	-	-0.07	0.520	0.718	
	1st	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	23095	707.5	22.85	24.00	1.303	-	-	-0.06	0.533	0.695	0.28
	2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	23095	707.5	22.60	24.00	1.380	-	-	0.11	0.472	0.652	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 0	DSI 7	Open	23230	782	22.77	24.00	1.327	-	-	-0.02	0.574	0.762	
31	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 7	Open	23230	782	22.77	24.00	1.327	-	-	-0.09	0.628	**0.834**	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Left Side	5mm	Ant 0	DSI 7	Open	23230	782	22.77	24.00	1.327	-	-	-0.03	0.591	0.784	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Bottom Side	5mm	Ant 0	DSI 7	Open	23230	782	22.77	24.00	1.327	-	-	0.07	0.305	0.405	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 0	DSI 7	Open	23230	782	21.80	23.00	1.318	-	-	0.06	0.289	0.381	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 0	DSI 7	Open	23230	782	21.80	23.00	1.318	-	-	0.12	0.403	0.531	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Left Side	5mm	Ant 0	DSI 7	Open	23230	782	21.80	23.00	1.318	-	-	0.11	0.346	0.456	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Bottom Side	5mm	Ant 0	DSI 7	Open	23230	782	21.80	23.00	1.318	-	-	0.03	0.183	0.241	
	2nd	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	Open	23230	782	21.74	23.00	1.337	-	-	0.14	0.385	0.515	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 0	DSI 11	Close	23230	782	22.77	24.00	1.327	-	-	-0.15	0.106	0.141	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 11	Close	23230	782	22.77	24.00	1.327	-	-	0.13	0.508	0.674	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Left Side	5mm	Ant 0	DSI 11	Close	23230	782	22.77	24.00	1.327	-	-	-0.07	0.492	0.653	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Top Side	5mm	Ant 0	DSI 11	Close	23230	782	22.77	24.00	1.327	-	-	0.12	0.036	0.048	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Bottom Side	5mm	Ant 0	DSI 11	Close	23230	782	22.77	24.00	1.327	-	-	-0.15	0.262	0.348	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 0	DSI 11	Close	23230	782	21.80	23.00	1.318	-	-	-0.01	0.062	0.082	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 0	DSI 11	Close	23230	782	21.80	23.00	1.318	-	-	0.01	0.377	0.497	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Left Side	5mm	Ant 0	DSI 11	Close	23230	782	21.80	23.00	1.318	-	-	0.02	0.282	0.372	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Top Side	5mm	Ant 0	DSI 11	Close	23230	782	21.80	23.00	1.318	-	-	-0.13	0.029	0.038	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Bottom Side	5mm	Ant 0	DSI 11	Close	23230	782	21.80	23.00	1.318	-	-	-0.01	0.146	0.192	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 7	Open	23230	782	22.71	24.00	1.346	-	-	0.16	0.332	0.447	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	Open	23230	782	22.71	24.00	1.346	-	-	-0.04	0.494	0.665	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Right Side	5mm	Ant 1	DSI 7	Open	23230	782	22.71	24.00	1.346	-	-	0	0.273	0.367	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	DSI 7	Open	23230	782	22.71	24.00	1.346	-	-	0.15	0.512	0.689	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 1	DSI 7	Open	23230	782	21.67	23.00	1.358	-	-	0.06	0.200	0.272	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 1	DSI 7	Open	23230	782	21.67	23.00	1.358	-	-	-0.16	0.290	0.394	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Right Side	5mm	Ant 1	DSI 7	Open	23230	782	21.67	23.00	1.358	-	-	-0.13	0.162	0.220	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Bottom Side	5mm	Ant 1	DSI 7	Open	23230	782	21.67	23.00	1.358	-	-	0.04	0.305	0.414	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 11	Close	23230	782	22.71	24.00	1.346	-	-	0.07	0.054	0.073	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 11	Close	23230	782	22.71	24.00	1.346	-	-	-0.13	0.457	0.615	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Right Side	5mm	Ant 1	DSI 11	Close	23230	782	22.71	24.00	1.346	-	-	-0.12	0.302	0.406	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	DSI 11	Close	23230	782	22.71	24.00	1.346	-	-	-0.08	0.461	0.620	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 1	DSI 11	Close	23230	782	21.67	23.00	1.358	-	-	0.07	0.032	0.043	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 1	DSI 11	Close	23230	782	21.67	23.00	1.358	-	-	0	0.273	0.371	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Right Side	5mm	Ant 1	DSI 11	Close	23230	782	21.67	23.00	1.358	-	-	-0.04	0.178	0.242	

	2nd	LTE Band 13	10M	QPSK	25	25	-	Bottom Side	5mm	Ant 1	DSI 11	Close	23230	782	21.67	23.00	1.358	-	-	0.13	0.281	0.382	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Left Side	5mm	Ant 0	DSI 7	Open	136100	680.5	23.10	24.00	1.230	-	-	0	0.553	0.680	0.13
32	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Left Side	5mm	Ant 0	DSI 7	Open	136100	680.5	22.97	24.00	1.268	-	-	-0.15	0.552	**0.700**	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	DSI 11	Close	136100	680.5	23.10	24.00	1.230	-	-	0.02	0.363	0.447	0.34
	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	DSI 11	Close	136100	680.5	22.97	24.00	1.268	-	-	-0.05	0.326	0.413	
	1st	FR1 n71	20M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	136100	680.5	22.85	24.00	1.303	-	-	0.08	0.477	0.622	0.56
	2nd	FR1 n71	20M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	136100	680.5	22.80	24.00	1.318	-	-	0.03	0.415	0.547	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	136100	680.5	22.80	24.00	1.318	-	-	-0.16	0.321	0.423	0.48
	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	136100	680.5	22.78	24.00	1.324	-	-	0.1	0.286	0.379	
835 MHz																							
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 0	DSI 7	Open	1013	824.7	23.50	24.00	1.122	-	-	0.14	0.637	0.715	
33	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	DSI 7	Open	1013	824.7	23.50	24.00	1.122	-	-	0.06	0.753	**0.845**	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Left Side	5mm	Ant 0	DSI 7	Open	1013	824.7	23.50	24.00	1.122	-	-	-0.04	0.691	0.775	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Bottom Side	5mm	Ant 0	DSI 7	Open	1013	824.7	23.50	24.00	1.122	-	-	-0.01	0.408	0.458	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	DSI 7	Open	384	836.52	23.38	24.00	1.153	-	-	0.13	0.726	0.837	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	DSI 7	Open	777	848.31	23.38	24.00	1.153	-	-	-0.04	0.719	0.829	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 0	DSI 11	Close	1013	824.7	23.50	24.00	1.122	-	-	-0.02	0.058	0.065	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	DSI 11	Close	1013	824.7	23.50	24.00	1.122	-	-	-0.12	0.613	0.688	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Left Side	5mm	Ant 0	DSI 11	Close	1013	824.7	23.50	24.00	1.122	-	-	-0.07	0.523	0.587	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Top Side	5mm	Ant 0	DSI 11	Close	1013	824.7	23.50	24.00	1.122	-	-	0.13	0.029	0.033	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Bottom Side	5mm	Ant 0	DSI 11	Close	1013	824.7	23.50	24.00	1.122	-	-	0.06	0.259	0.291	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 1	DSI 7	Open	1013	824.7	23.41	24.00	1.146	-	-	-0.08	0.391	0.448	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 1	DSI 7	Open	1013	824.7	23.41	24.00	1.146	-	-	-0.03	0.582	0.667	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Right Side	5mm	Ant 1	DSI 7	Open	1013	824.7	23.41	24.00	1.146	-	-	-0.07	0.308	0.353	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Bottom Side	5mm	Ant 1	DSI 7	Open	1013	824.7	23.41	24.00	1.146	-	-	-0.1	0.544	0.623	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 1	DSI 11	Close	1013	824.7	23.41	24.00	1.146	-	-	0.16	0.058	0.066	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 1	DSI 11	Close	1013	824.7	23.41	24.00	1.146	-	-	0.13	0.458	0.525	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Right Side	5mm	Ant 1	DSI 11	Close	1013	824.7	23.41	24.00	1.146	-	-	-0.04	0.351	0.402	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Bottom Side	5mm	Ant 1	DSI 11	Close	1013	824.7	23.41	24.00	1.146	-	-	0.14	0.481	0.551	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 0	DSI 7	Open	251	848.8	27.87	28.80	1.239	-	-	-0.05	0.532	0.659	0.08
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 0	DSI 7	Open	251	848.8	27.60	28.80	1.318	-	-	0.13	0.491	0.647	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 11	Close	128	824.2	27.79	28.80	1.262	-	-	0.1	0.425	0.536	0.15
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 11	Close	128	824.2	27.71	28.80	1.285	-	-	0.07	0.432	0.555	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 1	DSI 7	Open	189	836.4	27.75	28.80	1.274	-	-	0.06	0.410	0.522	1.14
34	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 1	DSI 7	Open	189	836.4	27.41	28.80	1.377	-	-	0.01	0.493	**0.679**	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	5mm	Ant 1	DSI 11	Close	189	836.4	27.75	28.80	1.274	-	-	0.07	0.314	0.400	0.46
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	5mm	Ant 1	DSI 11	Close	189	836.4	27.41	28.80	1.377	-	-	-0.11	0.323	0.445	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	Open	4132	826.4	23.38	24.00	1.153	-	-	-0.09	0.994	1.147	1.80
35	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	Open	4132	826.4	23.40	24.00	1.148	-	-	-0.03	0.659	**0.757**	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	4132	826.4	23.38	24.00	1.153	-	-	-0.13	0.818	0.944	1.30
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	4132	826.4	23.40	24.00	1.148	-	-	0.06	0.609	0.699	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	Open	4132	826.4	23.29	24.00	1.178	-	-	-0.04	0.673	0.793	0.36
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	Open	4132	826.4	23.31	24.00	1.172	-	-	0.1	0.623	0.730	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 11	Close	4233	846.6	23.27	24.00	1.183	-	-	-0.13	0.493	0.583	0.21
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 11	Close	4233	846.6	23.26	24.00	1.186	-	-	-0.07	0.516	0.612	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	Open	26965	841.5	22.74	24.00	1.337	-	-	-0.13	0.906	1.211	0.86
36	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	Open	26965	841.5	22.58	24.00	1.387	-	-	0.04	0.716	**0.993**	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	26965	841.5	22.74	24.00	1.337	-	-	0.15	0.791	1.057	0.92
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	26965	841.5	22.58	24.00	1.387	-	-	0.02	0.617	0.856	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	Open	26965	841.5	22.51	24.00	1.409	-	-	0.12	0.623	0.878	0.06
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	Open	26965	841.5	22.52	24.00	1.406	-	-	-0.17	0.615	0.865	
	1st	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	26865	831.5	22.66	24.00	1.361	-	-	0.03	0.581	0.791	0.59

	2nd	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	26865	831.5	22.62	24.00	1.374	-	-	0.12	0.503	0.691	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	Open	166300	831.5	23.01	24.00	1.256	-	-	-0.11	0.727	0.913	0.36
37	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	Open	166300	831.5	23.03	24.00	1.250	-	-	0.01	0.673	**0.841**	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 11	Close	166300	831.5	23.01	24.00	1.256	-	-	-0.14	0.495	0.622	0.39
	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 11	Close	166300	831.5	23.03	24.00	1.250	-	-	0.01	0.455	0.569	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	Open	166300	831.5	22.87	24.00	1.297	-	-	-0.08	0.512	0.664	0.91
	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	Open	166300	831.5	22.83	24.00	1.309	-	-	-0.02	0.411	0.538	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	166300	831.5	22.87	24.00	1.297	-	-	0.08	0.435	0.564	1.30
	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	166300	831.5	22.83	24.00	1.309	-	-	0.17	0.319	0.418	
1750 MHz																							
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	Open	1413	1732.6	19.05	20.00	1.245	-	-	0.08	0.388	0.483	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	Open	1413	1732.6	19.05	20.00	1.245	-	-	0.14	0.584	0.727	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	Open	1413	1732.6	19.05	20.00	1.245	-	-	-0.11	0.891	1.109	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	Open	1413	1732.6	19.05	20.00	1.245	-	-	-0.1	0.318	0.396	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	Open	1312	1712.4	19.00	20.00	1.259	-	-	0.05	0.733	0.923	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	Open	1513	1752.6	18.98	20.00	1.265	-	-	0.05	0.962	1.217	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 11	Close	1413	1732.6	21.32	22.30	1.253	-	-	0.05	0.139	0.174	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	1413	1732.6	21.32	22.30	1.253	-	-	-0.11	0.677	0.848	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 11	Close	1413	1732.6	21.32	22.30	1.253	-	-	-0.15	0.946	1.185	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 0	DSI 11	Close	1413	1732.6	21.32	22.30	1.253	-	-	0.06	0.029	0.036	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 11	Close	1413	1732.6	21.32	22.30	1.253	-	-	0.05	0.583	0.731	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 11	Close	1312	1712.4	21.30	22.30	1.259	-	-	-0.09	0.903	1.137	
38	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 11	Close	1513	1752.6	21.27	22.30	1.268	-	-	-0.08	0.971	**1.231**	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	1312	1712.4	21.30	22.30	1.259	-	-	0.14	0.643	0.809	
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	1513	1752.6	21.27	22.30	1.268	-	-	-0.16	0.708	0.897	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 7	Open	1513	1752.6	19.08	19.80	1.180	-	-	0.08	0.953	1.125	0.93
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 7	Open	1513	1752.6	18.75	19.80	1.274	-	-	0.03	0.714	0.909	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 11	Close	1513	1752.6	19.60	20.50	1.230	-	-	-0.02	0.927	1.140	1.37
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 11	Close	1513	1752.6	19.37	20.50	1.297	-	-	0.04	0.641	0.831	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	132072	1720	20.68	21.50	1.208	-	-	-0.03	0.907	1.095	0.37
39	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	132072	1720	20.95	21.50	1.135	-	-	0.09	1.050	**1.192**	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 11	Close	132072	1720	22.60	23.40	1.202	-	-	-0.04	0.964	1.159	0.08
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 11	Close	132072	1720	22.89	23.40	1.125	-	-	0.08	1.050	1.181	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	Open	132322	1745	21.15	21.60	1.109	-	-	-0.01	0.802	0.890	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	Open	132322	1745	21.15	21.60	1.109	-	-	-0.03	0.916	1.016	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	Open	132322	1745	21.15	21.60	1.109	-	-	-0.04	0.403	0.447	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132322	1745	21.15	21.60	1.109	-	-	-0.14	1.010	1.120	
	2nd	LTE Band 66B	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132322+ 132415	1745+ 1754.3	21.06	21.60	1.132	-	-	0.08	0.916	1.037	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132072	1720	20.95	21.60	1.161	-	-	0.08	0.902	1.048	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132572	1770	20.93	21.60	1.167	-	-	0.08	0.873	1.019	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	Open	132072	1720	20.95	21.60	1.161	-	-	0.04	0.741	0.861	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	Open	132572	1770	20.93	21.60	1.167	-	-	0.08	0.716	0.835	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	Open	132072	1720	20.95	21.60	1.161	-	-	0.02	0.856	0.994	
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	Open	132572	1770	20.93	21.60	1.167	-	-	0.1	0.809	0.944	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	Open	132322	1745	21.13	21.60	1.114	-	-	0.07	0.781	0.870	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	Open	132322	1745	21.13	21.60	1.114	-	-	0.07	0.864	0.963	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	Open	132322	1745	21.13	21.60	1.114	-	-	0.01	0.382	0.426	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132322	1745	21.13	21.60	1.114	-	-	-0.05	0.926	1.032	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132072	1720	20.90	21.60	1.175	-	-	0.06	0.884	1.039	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132572	1770	20.91	21.60	1.172	-	-	0.07	0.867	1.016	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	Open	132072	1720	20.90	21.60	1.175	-	-	-0.01	0.702	0.825	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	Open	132572	1770	20.91	21.60	1.172	-	-	-0.07	0.707	0.829	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	Open	132072	1720	20.90	21.60	1.175	-	-	-0.06	0.816	0.959	
	2nd	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	Open	132572	1770	20.91	21.60	1.172	-	-	-0.08	0.759	0.890	
	2nd	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 1	DSI 7	Open	132322	1745	21.12	21.60	1.117	-	-	0.06	0.766	0.856	
	2nd	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 1	DSI 7	Open	132322	1745	21.12	21.60	1.117	-	-	0.1	0.836	0.934	

	2nd	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	132322	1745	21.12	21.60	1.117	-	-	-0.08	0.939	1.049	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	132322	1745	22.81	23.40	1.146	-	-	0.09	0.974	1.116	0.44
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	132322	1745	22.79	23.40	1.151	-	-	0.11	0.877	1.009	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	132572	1770	19.22	20.20	1.253	-	-	0.11	1.010	1.266	0.32
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	132572	1770	18.92	20.20	1.343	-	-	0.06	0.875	1.175	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	132072	1720	20.01	20.90	1.227	-	-	-0.09	0.893	1.096	0.26
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	132072	1720	19.73	20.90	1.309	-	-	-0.01	0.789	1.033	
	1st	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	132072	1720	20.70	22.00	1.349	-	-	0.08	0.917	1.237	0.82
	2nd	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	132072	1720	20.90	22.00	1.288	-	-	-0.14	0.794	1.023	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	132572	1770	20.80	22.00	1.318	-	-	-0.12	0.963	1.269	1.21
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	132572	1770	20.78	22.00	1.324	-	-	-0.11	0.726	0.961	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	DSI 7	Open	349000	1745	20.06	21.00	1.242	-	-	0.08	0.891	1.106	0.31
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	DSI 7	Open	349000	1745	20.30	21.00	1.175	-	-	0.14	1.010	1.187	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	DSI 11	Close	349000	1745	22.02	23.00	1.253	-	-	-0.04	0.965	1.209	0.04
40	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	DSI 11	Close	349000	1745	21.97	23.00	1.268	-	-	-0.03	0.946	**1.199**	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	349000	1745	19.40	20.50	1.288	-	-	0.08	0.935	1.205	1.18
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	349000	1745	19.34	20.50	1.306	-	-	0.02	0.703	0.918	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	DSI 11	Close	349000	1745	21.51	22.50	1.256	-	-	0.14	1.010	1.269	1.46
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	DSI 11	Close	349000	1745	21.48	22.50	1.265	-	-	0.14	0.716	0.906	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 7	Open	349000	1745	18.93	19.50	1.140	-	-	0.08	1.100	1.254	0.22
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 7	Open	349000	1745	18.49	19.50	1.262	-	-	-0.14	0.945	1.192	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 11	Close	349000	1745	19.92	20.50	1.143	-	-	0	1.090	1.246	0.30
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 11	Close	349000	1745	19.60	20.50	1.230	-	-	0.03	0.945	1.163	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	5mm	Ant 3	DSI 7	Open	349000	1745	20.24	21.50	1.337	-	-	-0.09	0.886	1.184	0.02
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	5mm	Ant 3	DSI 7	Open	349000	1745	20.53	21.50	1.250	-	-	-0.09	0.943	1.179	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 3	DSI 11	Close	349000	1745	20.55	21.50	1.245	-	-	0.03	0.616	0.767	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 3	DSI 11	Close	349000	1745	20.55	21.50	1.245	-	-	-0.07	0.089	0.111	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 3	DSI 11	Close	349000	1745	20.55	21.50	1.245	-	-	-0.03	0.386	0.480	
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	349000	1745	20.55	21.50	1.245	-	-	0.04	0.926	1.152	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 3	DSI 11	Close	349000	1745	20.53	21.50	1.250	-	-	-0.07	0.591	0.739	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 3	DSI 11	Close	349000	1745	20.53	21.50	1.250	-	-	-0.09	0.084	0.105	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	5mm	Ant 3	DSI 11	Close	349000	1745	20.53	21.50	1.250	-	-	0.03	0.377	0.471	
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	349000	1745	20.53	21.50	1.250	-	-	0.02	0.906	1.133	
	2nd	FR1 n66	40M	QPSK	216	0	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	349000	1745	20.48	21.50	1.265	-	-	0.04	0.857	1.084	
1900 MHz																							
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 0	DSI 7	Open	512	1850.2	25.40	25.80	1.096	-	-	0.11	0.666	0.730	0.08
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 0	DSI 7	Open	512	1850.2	25.36	25.80	1.107	-	-	0.13	0.672	0.744	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 11	Close	512	1850.2	25.40	25.80	1.096	-	-	0.09	0.536	0.588	0.66
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 11	Close	512	1850.2	25.36	25.80	1.107	-	-	0.08	0.456	0.505	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 2	DSI 7	Open	661	1880	21.61	23.00	1.377	-	-	-0.06	0.780	1.074	1.00
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 2	DSI 7	Open	661	1880	21.56	23.00	1.393	-	-	-0.13	0.612	0.853	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 2	DSI 11	Close	810	1909.8	22.16	23.10	1.242	-	-	-0.06	0.871	1.081	0.92
41	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant 2	DSI 11	Close	810	1909.8	22.12	23.10	1.253	-	-	0.04	0.698	**0.875**	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	Open	9400	1880	20.70	21.7	1.259	-	-	0.03	0.533	0.671	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	Open	9400	1880	20.70	21.7	1.259	-	-	0.15	0.858	1.080	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	Open	9400	1880	20.70	21.7	1.259	-	-	-0.07	0.895	1.127	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	Open	9400	1880	20.70	21.7	1.259	-	-	-0.03	0.420	0.529	
42	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	Open	9262	1852.4	20.69	21.7	1.262	-	-	-0.09	0.938	**1.184**	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	Open	9538	1907.6	20.67	21.7	1.268	-	-	-0.12	0.879	1.114	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	Open	9262	1852.4	20.69	21.7	1.262	-	-	-0.13	0.880	1.110	
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	Open	9538	1907.6	20.67	21.7	1.268	-	-	0.15	0.842	1.067	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	9262	1852.4	22.22	23.40	1.312	-	-	-0.13	0.805	1.056	0.39
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 11	Close	9262	1852.4	22.05	23.40	1.365	-	-	0.16	0.847	1.156	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 7	Open	9262	1852.4	19.14	19.70	1.138	-	-	0.14	1.030	1.172	0.76
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 7	Open	9262	1852.4	18.69	19.70	1.262	-	-	-0.04	0.779	0.983	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 11	Close	9262	1852.4	18.78	19.50	1.180	-	-	0.01	0.966	1.140	0.33

	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 11	Close	9262	1852.4	18.69	19.50	1.205	-	-	0.16	0.877	1.057	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	26140	1860	22.98	23.50	1.127	-	-	-0.04	1.130	1.274	
43	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	18900	1880	22.45	23.50	1.274	-	-	-0.13	1.000	**1.274**	0.00
	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	18700	1860	22.53	23.50	1.250	-	-	0.13	0.975	1.219	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	Open	19100	1900	22.67	23.50	1.211	-	-	-0.1	0.985	1.192	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	26140	1860	23.75	24.00	1.059	-	-	0.03	0.894	0.947	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	18900	1880	23.10	24.00	1.230	-	-	-0.1	0.739	0.909	0.18
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	18700	1860	23.07	24.00	1.239	-	-	0.09	0.686	0.850	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	19100	1900	23.12	24.00	1.225	-	-	0.01	0.721	0.883	
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	26590	1905	21.43	22.10	1.167	-	-	0.09	1.010	1.178	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	18900	1880	21.20	22.10	1.230	-	-	-0.1	0.985	1.212	0.12
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	18700	1860	21.33	22.10	1.194	-	-	0.08	0.897	1.071	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	19100	1900	21.21	22.10	1.227	-	-	0.04	0.935	1.148	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 11	Close	18900	1880	21.92	22.70	1.197	-	-	-0.02	0.092	0.110	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	18900	1880	21.92	22.70	1.197	-	-	0.04	0.897	1.073	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 11	Close	18900	1880	21.92	22.70	1.197	-	-	-0.06	0.462	0.553	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	18900	1880	21.92	22.70	1.197	-	-	0.05	0.941	1.126	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	18700	1860	21.82	22.70	1.225	-	-	-0.04	0.895	1.096	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	19100	1900	21.84	22.70	1.219	-	-	-0.06	0.920	1.121	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	18700	1860	21.82	22.70	1.225	-	-	-0.01	0.868	1.063	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	19100	1900	21.84	22.70	1.219	-	-	-0.04	0.897	1.093	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 11	Close	18900	1880	21.85	22.70	1.216	-	-	0.1	0.086	0.105	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 11	Close	18900	1880	21.85	22.70	1.216	-	-	0.04	0.862	1.048	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 11	Close	18900	1880	21.85	22.70	1.216	-	-	-0.08	0.456	0.555	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	18900	1880	21.85	22.70	1.216	-	-	0.09	0.922	1.121	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	18700	1860	21.78	22.70	1.236	-	-	0.01	0.868	1.073	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	19100	1900	21.80	22.70	1.230	-	-	-0.1	0.906	1.115	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 11	Close	18700	1860	21.78	22.70	1.236	-	-	-0.07	0.837	1.034	
	2nd	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 11		19100	1900	21.80	22.70	1.230	-	-	-0.1	0.862	1.060	
	2nd	LTE Band 2	20M	QPSK	100	0	-	Back	5mm	Ant 1	DSI 11	Close	18900	1880	21.84	22.70	1.219	-	-	-0.06	0.859	1.047	
	2nd	LTE Band 2	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	DSI 11	Close	18900	1880	21.84	22.70	1.219	-	-	0.06	0.918	1.119	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	26590	1905	17.65	18.50	1.216	-	-	-0.1	0.948	1.153	
	2nd	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	26590	1905	17.30	18.50	1.318	-	-	-0.01	0.906	1.194	0.15
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	26590	1905	17.25	18.10	1.216	-	-	-0.02	0.914	1.112	
	2nd	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	26590	1905	16.89	18.10	1.321	-	-	-0.11	0.769	1.016	0.39
	1st	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	26140	1860	19.40	20.80	1.380	-	-	0.09	0.920	1.270	
	2nd	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	26140	1860	19.47	20.80	1.358	-	-	0.08	0.832	1.130	0.51
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	26140	1860	19.99	21.30	1.352	-	-	0.05	0.932	1.260	
	2nd	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	26140	1860	19.99	21.30	1.352	-	-	0.02	0.778	1.052	0.78
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	DSI 7	Open	376500	1882.5	20.90	21.50	1.148	-	-	0.03	1.010	1.160	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	DSI 7	Open	376000	1880	20.86	21.50	1.159	-	-	-0.12	0.878	1.017	0.57
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 11	Close	376500	1882.5	23.50	24.00	1.122	-	-	0.1	0.921	1.033	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 11	Close	376000	1880	23.42	24.00	1.143	-	-	0.01	0.975	1.114	0.33
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	376500	1882.5	20.35	21.00	1.161	-	-	-0.15	0.950	1.103	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	376000	1880	20.38	21.00	1.153	-	-	0.14	1.020	1.177	0.28
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	376500	1882.5	21.88	22.50	1.153	-	-	0.12	0.942	1.087	
44	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	376000	1880	22.08	22.50	1.102	-	-	0.03	1.080	**1.190**	0.39
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 7	Open	376500	1882.5	16.68	17.50	1.208	-	-	0.03	0.939	1.134	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 7	Open	376000	1880	16.45	17.50	1.274	-	-	0.06	0.873	1.112	0.09
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 11	Close	376500	1882.5	16.68	17.50	1.208	-	-	-0.05	1.000	1.208	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 11	Close	376000	1880	16.45	17.50	1.274	-	-	0.03	0.836	1.065	0.55
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Top Side	5mm	Ant 3	DSI 7	Open	376500	1882.5	19.44	20.50	1.276	-	-	-0.02	0.918	1.172	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Top Side	5mm	Ant 3	DSI 7	Open	376000	1880	19.20	20.50	1.349	-	-	0.1	0.795	1.072	0.39
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	376500	1882.5	20.00	21.00	1.259	-	-	-0.03	0.835	1.051	
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	376000	1880	19.87	21.00	1.297	-	-	-0.11	0.760	0.986	0.28
2600 MHz																							

	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	Open	21100	2535	21.31	22.20	1.227	-	-	-0.14	0.989	1.214	1.73
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	Open	21100	2535	21.85	22.20	1.084	-	-	-0.06	0.752	0.815	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	21100	2535	21.31	22.30	1.256	-	-	0.01	0.880	1.105	1.21
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	21100	2535	21.85	22.30	1.109	-	-	-0.05	0.755	0.837	
	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	21100	2535	19.90	20.90	1.259	-	-	0.01	0.943	1.187	0.19
	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	21100	2535	19.85	20.90	1.274	-	-	0.09	0.974	1.240	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	21100	2535	20.95	21.80	1.216	-	-	-0.09	0.882	1.073	0.14
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	21100	2535	20.84	21.80	1.247	-	-	0.05	0.832	1.038	
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	21350	2560	17.95	18.70	1.189	-	-	0.15	0.930	1.105	0.04
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	21350	2560	17.44	18.70	1.337	-	-	-0.14	0.820	1.096	
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	21100	2535	17.96	18.60	1.159	-	-	0.01	1.040	1.205	0.20
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	21100	2535	17.53	18.60	1.279	-	-	-0.02	0.900	1.151	
	1st	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	20850	2510	16.40	17.20	1.202	-	-	0	0.900	1.082	0.01
	2nd	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	20850	2510	16.15	17.20	1.274	-	-	0.08	0.848	1.080	
	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	20850	2510	18.13	19.50	1.371	-	-	0.09	0.856	1.173	0.29
45	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	20850	2510	18.20	19.50	1.349	-	-	0.15	0.930	**1.255**	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	Open	40185	2549.5	25.70	26.30	1.148	42.9	1.009	0.09	1.020	1.182	0.84
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	Open	40185	2549.5	25.90	26.30	1.096	42.9	1.009	0.11	0.881	0.975	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	40185	2549.5	26.53	27.00	1.114	42.9	1.009	0.08	0.907	1.020	0.10
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 11	Close	40185	2549.5	26.40	27.00	1.148	42.9	1.009	-0.02	0.900	1.043	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	40620	2593	24.97	25.50	1.130	42.9	1.009	-0.02	1.050	1.197	0.94
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	Open	40620	2593	24.80	25.50	1.175	42.9	1.009	0.06	0.814	0.965	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	40185	2549.5	25.80	26.50	1.175	42.9	1.009	-0.09	0.940	1.114	0.48
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 11	Close	40185	2549.5	25.88	26.50	1.153	42.9	1.009	-0.01	1.070	1.245	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	40185	2549.5	23.00	23.50	1.122	42.9	1.009	-0.08	0.994	1.125	0.28
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	Open	40185	2549.5	22.79	23.50	1.178	42.9	1.009	0.08	1.010	1.200	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	40620	2593	21.77	22.20	1.104	42.9	1.009	0.04	1.020	1.136	0.14
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 11	Close	40620	2593	21.46	22.20	1.186	42.9	1.009	0.09	0.980	1.173	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	41490	2680	18.08	19.20	1.294	42.9	1.009	-0.12	0.936	1.222	0.16
46	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	41490	2680	18.12	19.20	1.282	42.9	1.009	0.06	0.980	**1.268**	
	1st	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	41490	2680	17.69	18.90	1.321	62.9	1.006	-0.11	0.898	1.194	0.12
	2nd	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	41490	2680	17.93	18.90	1.250	62.9	1.006	-0.04	0.923	1.161	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 0	DSI 7	Open	507000	2535	23.41	24.00	1.146	-	-	-0.14	1.030	1.180	0.20
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 0	DSI 7	Open	507000	2535	23.20	24.00	1.202	-	-	0.15	0.938	1.128	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 11	Close	507000	2535	23.45	24.00	1.135	-	-	0.13	0.943	1.070	0.09
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 11	Close	507000	2535	23.42	24.00	1.143	-	-	0	0.917	1.048	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	507000	2535	19.71	20.50	1.199	-	-	0.09	0.867	1.040	1.20
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 7	Open	507000	2535	19.63	20.50	1.222	-	-	0.09	0.646	0.789	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	507000	2535	21.19	22.00	1.205	-	-	-0.15	1.010	1.217	1.31
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	DSI 11	Close	507000	2535	21.02	22.00	1.253	-	-	0.05	0.719	0.901	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 7	Open	507000	2535	17.90	18.50	1.148	-	-	0.07	1.020	1.171	0.14
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 7	Open	507000	2535	17.39	18.50	1.291	-	-	-0.1	0.937	1.210	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 11	Close	507000	2535	17.37	18.00	1.156	-	-	0.07	0.964	1.114	0.45
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 11	Close	507000	2535	16.80	18.00	1.318	-	-	-0.16	0.937	1.235	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	5mm	Ant 3	DSI 7	Open	507000	2535	16.88	18.00	1.294	-	-	0.11	0.931	1.205	1.03
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	5mm	Ant 3	DSI 7	Open	507000	2535	16.85	18.00	1.303	-	-	0.08	0.729	0.950	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	507000	2535	18.85	20.00	1.303	-	-	0	0.780	1.016	0.92
47	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 3	DSI 11	Close	507000	2535	18.88	20.00	1.294	-	-	0.08	0.970	**1.255**	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	DSI 7	Open	518598	2592.99	23.39	24.00	1.151	-	-	-0.13	1.070	1.231	0.13
48	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	DSI 7	Open	518598	2592.99	23.38	24.00	1.153	-	-	0	1.100	**1.269**	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	DSI 11	Close	518598	2592.99	23.39	24.00	1.151	-	-	-0.03	1.050	1.208	0.65
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	DSI 11	Close	518598	2592.99	23.38	24.00	1.153	-	-	-0.05	0.902	1.040	
	1st	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 1	DSI 7	Open	518598	2592.99	21.46	22.00	1.132	-	-	-0.12	1.100	1.246	0.87

2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 1	DSI 7	Open	518598	2592.99	21.40	22.00	1.148	-	-	0.13	0.888	1.020	
1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 1	DSI 11	Close	518598	2592.99	21.71	22.50	1.199	50	1.000	-0.08	0.848	1.017	1.08
2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 1	DSI 11	Close	518598	2592.99	21.67	22.50	1.211	50	1.000	0.09	0.656	0.794	
1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 2	DSI 7	Open	518598	2592.99	21.12	22.00	1.225	50	1.000	-0.08	1.020	1.249	0.43
2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 2	DSI 7	Open	518598	2592.99	21.06	22.00	1.242	50	1.000	-0.06	0.911	1.131	
1st	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 2	DSI 11	Close	518598	2592.99	18.47	19.00	1.130	-	-	-0.13	0.996	1.125	0.14
2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 2	DSI 11	Close	518598	2592.99	18.35	19.00	1.161	-	-	-0.16	1.000	1.161	
1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 3	DSI 7	Open	518598	2592.99	20.05	21.00	1.245	50	1.000	0.02	0.979	1.218	0.14
2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 3	DSI 7	Open	518598	2592.99	20.04	21.00	1.247	50	1.000	0.01	0.946	1.180	
1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 3	DSI 11	Close	518598	2592.99	21.71	22.50	1.199	50	1.000	-0.05	1.050	1.259	0.35
2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 3	DSI 11	Close	518598	2592.99	21.68	22.50	1.208	50	1.000	0.08	0.961	1.161	
1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 2+3	DSI 7	Open	518598	2592.99	23.75	24.50	1.189	50	1.000	-0.02	0.860	1.023	0.90
2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Top Side	5mm	Ant 2+3	DSI 7	Open	518598	2592.99	23.92	24.50	1.143	50	1.000	0.05	0.727	0.831	
1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Left Side	5mm	Ant 2+3	DSI 11	Close	518598	2592.99	23.26	24.00	1.186	50	1.000	-0.1	0.861	1.021	1.43
2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Left Side	5mm	Ant 2+3	DSI 11	Close	518598	2592.99	23.41	24.00	1.146	50	1.000	0.06	0.642	0.735	
1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 2+1	DSI 7	Open	518598	2592.99	23.54	24.50	1.249	50	1.000	-0.14	0.944	1.179	1.57
2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Left Side	5mm	Ant 2+1	DSI 7	Open	518598	2592.99	23.91	24.50	1.146	50	1.000	0.05	0.717	0.821	
1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Left Side	5mm	Ant 2+1	DSI 11	Close	518598	2592.99	23.02	24.00	1.253	50	1.000	-0.16	0.828	1.037	1.42
2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Left Side	5mm	Ant 2+1	DSI 11	Close	518598	2592.99	23.37	24.00	1.156	50	1.000	0.11	0.646	0.747	
1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 0+3	DSI 7	Open	518598	2592.99	23.57	24.50	1.240	50	1.000	0.09	0.846	1.049	1.31
2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Top Side	5mm	Ant 0+3	DSI 7	Open	518598	2592.99	23.84	24.50	1.164	50	1.000	0.11	0.667	0.776	
1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 0+3	DSI 11	Close	518598	2592.99	24.12	25.00	1.226	50	1.000	-0.05	0.858	1.052	1.34
2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Bottom Side	5mm	Ant 0+3	DSI 11	Close	518598	2592.99	24.42	25.00	1.143	50	1.000	0.08	0.676	0.773	
1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Bottom Side	5mm	Ant 0+1	DSI 7	Open	518598	2592.99	25.73	26.50	1.193	50	1.000	0.16	0.924	1.102	1.10
2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Bottom Side	5mm	Ant 0+1	DSI 7	Open	518598	2592.99	25.85	26.50	1.161	50	1.000	0.05	0.737	0.856	
1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 0+1	DSI 11	Close	518598	2592.99	25.32	26.00	1.169	50	1.000	-0.15	0.811	0.948	1.16
2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Back	5mm	Ant 0+1	DSI 11	Close	518598	2592.99	25.34	26.00	1.164	50	1.000	-0.07	0.623	0.725	
3-5GHz																						
2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	Open	42990	3540	18.48	19.00	1.127	62.9	1.006	-0.11	0.301	0.341	
2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	Open	42990	3540	18.48	19.00	1.127	62.9	1.006	0.04	0.330	0.374	
2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	Open	42990	3540	18.48	19.00	1.127	62.9	1.006	0.01	0.029	0.033	
2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42990	3540	18.48	19.00	1.127	62.9	1.006	-0.16	0.907	1.029	
2nd	LTE Band 42C	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42990+ 42792	3540+ 3520.2	18.39	19.00	1.151	62.9	1.006	0.02	0.815	0.944	
2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42190	3460	18.37	19.00	1.156	62.9	1.006	-0.01	0.781	0.908	
2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42590	3500	18.40	19.00	1.148	62.9	1.006	-0.11	0.837	0.967	
2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	DSI 7	Open	42990	3540	18.45	19.00	1.135	62.9	1.006	0	0.273	0.312	
2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 3	DSI 7	Open	42990	3540	18.45	19.00	1.135	62.9	1.006	-0.06	0.315	0.360	
2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	DSI 7	Open	42990	3540	18.45	19.00	1.135	62.9	1.006	-0.06	0.027	0.031	
2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42990	3540	18.45	19.00	1.135	62.9	1.006	-0.11	0.856	0.977	
2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42190	3460	18.33	19.00	1.167	62.9	1.006	0.16	0.758	0.890	
2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42590	3500	18.37	19.00	1.156	62.9	1.006	-0.12	0.811	0.943	
2nd	LTE Band 42	20M	QPSK	100	0	-	Top Side	5mm	Ant 3	DSI 7	Open	42990	3540	18.43	19.00	1.140	62.9	1.006	-0.03	0.837	0.960	
2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 11	Close	42990	3540	20.00	20.50	1.122	62.9	1.006	0.14	0.438	0.494	
2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 11	Close	42990	3540	20.00	20.50	1.122	62.9	1.006	0.02	0.187	0.211	
2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 11	Close	42990	3540	20.00	20.50	1.122	62.9	1.006	-0.02	0.128	0.144	
2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42990	3540	20.00	20.50	1.122	62.9	1.006	-0.09	0.802	0.905	
2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42190	3460	19.93	20.50	1.140	62.9	1.006	0.1	0.851	0.976	
2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42590	3500	19.97	20.50	1.130	62.9	1.006	-0.15	0.798	0.907	
2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	DSI 11	Close	42990	3540	19.98	20.50	1.127	62.9	1.006	0.08	0.443	0.502	
2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 3	DSI 11	Close	42990	3540	19.98	20.50	1.127	62.9	1.006	-0.03	0.197	0.223	
2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	DSI 11	Close	42990	3540	19.98	20.50	1.127	62.9	1.006	-0.11	0.129	0.146	
2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42990	3540	19.98	20.50	1.127	62.9	1.006	-0.07	0.811	0.920	
2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42190	3460	19.92	20.50	1.143	62.9	1.006	0.09	0.890	1.023	
2nd	LTE Band 42C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42190+ 42388	3460+ 3479.8	19.69	20.50	1.205	62.9	1.006	-0.11	0.807	0.978	
2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42590	3500	19.95	20.50	1.135	62.9	1.006	0.12	0.826	0.943	
2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 3	DSI 11	Close	42990	3540	19.95	20.50	1.135	62.9	1.006	-0.16	0.837	0.956	

	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 7	Open	42990	3540	17.33	17.70	1.089	62.9	1.006	0.06	0.312	0.342	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	Open	42990	3540	17.33	17.70	1.089	62.9	1.006	0.09	0.258	0.283	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42990	3540	17.33	17.70	1.089	62.9	1.006	-0.03	0.687	0.753	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	DSI 7	Open	42990	3540	17.33	17.70	1.089	62.9	1.006	-0.16	0.092	0.101	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42190	3460	17.25	17.70	1.109	62.9	1.006	-0.13	0.737	0.822	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42590	3500	17.28	17.70	1.102	62.9	1.006	-0.13	0.937	1.038	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42590+ 42788	3500+ 3519.8	16.98	17.70	1.180	62.9	1.006	-0.03	0.864	1.026	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 7	Open	42990	3540	17.27	17.70	1.104	62.9	1.006	0.06	0.309	0.343	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 7	Open	42990	3540	17.27	17.70	1.104	62.9	1.006	0.04	0.257	0.285	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42990	3540	17.27	17.70	1.104	62.9	1.006	0.09	0.685	0.761	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	DSI 7	Open	42990	3540	17.27	17.70	1.104	62.9	1.006	0.01	0.090	0.100	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42190	3460	17.17	17.70	1.130	62.9	1.006	-0.16	0.726	0.825	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42590	3500	17.22	17.70	1.117	62.9	1.006	-0.12	0.716	0.804	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Left Side	5mm	Ant 4	DSI 7	Open	42990	3540	17.25	17.70	1.109	62.9	1.006	0.04	0.725	0.809	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 11	Close	42990	3540	19.12	19.70	1.143	62.9	1.006	-0.16	0.319	0.367	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 11	Close	42990	3540	19.12	19.70	1.143	62.9	1.006	-0.12	0.150	0.172	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42990	3540	19.12	19.70	1.143	62.9	1.006	-0.14	0.929	1.068	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 4	DSI 11	Close	42990	3540	19.12	19.70	1.143	62.9	1.006	-0.12	0.227	0.261	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42190	3460	19.08	19.70	1.153	62.9	1.006	0.06	0.837	0.971	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42590	3500	19.05	19.70	1.161	62.9	1.006	-0.08	0.899	1.050	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 11	Close	42990	3540	19.08	19.70	1.153	62.9	1.006	-0.07	0.326	0.378	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 11	Close	42990	3540	19.08	19.70	1.153	62.9	1.006	0.13	0.159	0.184	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42990	3540	19.08	19.70	1.153	62.9	1.006	0.14	1.020	1.184	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42990+ 42792	3540+ 3520.2	18.85	19.70	1.216	62.9	1.006	0.13	0.911	1.115	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 4	DSI 11	Close	42990	3540	19.08	19.70	1.153	62.9	1.006	0.03	0.227	0.263	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42190	3460	19.05	19.70	1.161	62.9	1.006	0.07	0.869	1.015	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42590	3500	19.02	19.70	1.169	62.9	1.006	0.1	0.937	1.102	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Left Side	5mm	Ant 4	DSI 11	Close	42990	3540	19.03	19.70	1.167	62.9	1.006	0.1	0.896	1.052	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	DSI 7	Open	42990	3540	15.66	17.10	1.393	62.9	1.006	-0.03	0.183	0.256	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 6	DSI 7	Open	42990	3540	15.66	17.10	1.393	62.9	1.006	-0.16	0.196	0.275	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 6	DSI 7	Open	42990	3540	15.66	17.10	1.393	62.9	1.006	0.06	0.031	0.043	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42990	3540	15.66	17.10	1.393	62.9	1.006	0.07	0.670	0.939	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42190	3460	15.57	17.10	1.422	62.9	1.006	-0.01	0.736	1.053	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42190+ 42388	3460+ 3479.8	15.26	17.10	1.528	62.9	1.006	-0.01	0.621	0.954	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42590	3500	15.60	17.10	1.413	62.9	1.006	-0.12	0.646	0.918	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	DSI 7	Open	42990	3540	15.65	17.10	1.396	62.9	1.006	0.12	0.176	0.247	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 6	DSI 7	Open	42990	3540	15.65	17.10	1.396	62.9	1.006	0.08	0.194	0.273	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 6	DSI 7	Open	42990	3540	15.65	17.10	1.396	62.9	1.006	-0.1	0.029	0.041	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42990	3540	15.65	17.10	1.396	62.9	1.006	-0.15	0.667	0.937	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42190	3460	15.56	17.10	1.426	62.9	1.006	0.1	0.705	1.011	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42590	3500	15.55	17.10	1.429	62.9	1.006	0.15	0.633	0.910	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Top Side	5mm	Ant 6	DSI 7	Open	42990	3540	15.63	17.10	1.403	62.9	1.006	-0.12	0.659	0.930	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	DSI 11	Close	42990	3540	16.68	18.20	1.419	62.9	1.006	0.08	0.273	0.390	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 6	DSI 11	Close	42990	3540	16.68	18.20	1.419	62.9	1.006	0.13	0.021	0.030	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 6	DSI 11	Close	42990	3540	16.68	18.20	1.419	62.9	1.006	0.13	0.039	0.056	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42990	3540	16.68	18.20	1.419	62.9	1.006	0.04	0.615	0.878	
49	2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42190	3460	16.63	18.20	1.435	62.9	1.006	-0.13	0.840	**1.213**	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42190+ 42388	3460+ 3479.8	16.30	18.20	1.549	62.9	1.006	0.04	0.751	1.170	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42590	3500	16.66	18.20	1.426	62.9	1.006	-0.09	0.664	0.952	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	DSI 11	Close	42990	3540	16.66	18.20	1.426	62.9	1.006	0.1	0.262	0.376	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 6	DSI 11	Close	42990	3540	16.66	18.20	1.426	62.9	1.006	0.1	0.019	0.027	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 6	DSI 11	Close	42990	3540	16.66	18.20	1.426	62.9	1.006	-0.12	0.034	0.049	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42990	3540	16.66	18.20	1.426	62.9	1.006	0.09	0.604	0.866	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42190	3460	16.61	18.20	1.442	62.9	1.006	0.09	0.716	1.039	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42590	3500	16.65	18.20	1.429	62.9	1.006	-0.01	0.650	0.934	

	2nd	LTE Band 42	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 6	DSI 11	Close	42990	3540	16.58	18.20	1.452	62.9	1.006	-0.09	0.607	0.887	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	DSI 7	Open	42990	3540	19.38	20.10	1.180	62.9	1.006	0.1	0.496	0.589	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	DSI 7	Open	42990	3540	19.38	20.10	1.180	62.9	1.006	0.02	0.555	0.659	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42990	3540	19.38	20.10	1.180	62.9	1.006	0.08	0.778	0.924	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	5mm	Ant 8	DSI 7	Open	42990	3540	19.38	20.10	1.180	62.9	1.006	-0.13	0.061	0.072	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42190	3460	19.28	20.10	1.208	62.9	1.006	-0.16	0.620	0.753	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42590	3500	19.25	20.10	1.216	62.9	1.006	-0.09	0.675	0.826	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	DSI 7	Open	42990	3540	19.32	20.10	1.197	62.9	1.006	-0.11	0.501	0.603	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 8	DSI 7	Open	42990	3540	19.32	20.10	1.197	62.9	1.006	0.11	0.554	0.667	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42990	3540	19.32	20.10	1.197	62.9	1.006	0.13	0.871	1.049	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42990+ 42792	3540+ 3520.2	19.21	20.10	1.227	62.9	1.006	-0.16	0.804	0.993	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 8	DSI 7	Open	42990	3540	19.32	20.10	1.197	62.9	1.006	0.08	0.063	0.076	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42190	3460	19.19	20.10	1.233	62.9	1.006	-0.12	0.640	0.794	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42590	3500	19.17	20.10	1.239	62.9	1.006	-0.07	0.703	0.876	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Side	5mm	Ant 8	DSI 7	Open	42990	3540	19.21	20.10	1.227	62.9	1.006	0.12	0.804	0.993	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	DSI 11	Close	42990	3540	20.10	21.00	1.230	62.9	1.006	-0.07	0.466	0.577	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	DSI 11	Close	42990	3540	20.10	21.00	1.230	62.9	1.006	-0.13	0.031	0.038	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42990	3540	20.10	21.00	1.230	62.9	1.006	-0.02	0.727	0.900	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 8	DSI 11	Close	42990	3540	20.10	21.00	1.230	62.9	1.006	0.11	0.078	0.097	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42190	3460	20.08	21.00	1.236	62.9	1.006	-0.05	0.575	0.715	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42590	3500	20.05	21.00	1.245	62.9	1.006	0.09	0.625	0.782	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	DSI 11	Close	42990	3540	20.08	21.00	1.236	62.9	1.006	0.11	0.478	0.594	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 8	DSI 11	Close	42990	3540	20.08	21.00	1.236	62.9	1.006	-0.06	0.033	0.041	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42990	3540	20.08	21.00	1.236	62.9	1.006	-0.13	0.857	1.066	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42990+ 42792	3540+ 3520.2	19.83	21.00	1.309	62.9	1.006	-0.13	0.751	0.989	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 8	DSI 11	Close	42990	3540	20.08	21.00	1.236	62.9	1.006	0.09	0.079	0.098	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42190	3460	20.06	21.00	1.242	62.9	1.006	0	0.586	0.732	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42590	3500	20.03	21.00	1.250	62.9	1.006	-0.07	0.634	0.797	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Side	5mm	Ant 8	DSI 11	Close	42990	3540	20.04	21.00	1.247	62.9	1.006	-0.16	0.750	0.941	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 3	DSI 7	Open	656000	3840	15.98	16.50	1.127	-	-	-0.02	0.938	1.057	0.09
50	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 3	DSI 7	Open	656000	3840	15.45	16.50	1.274	-	-	0.06	0.813	**1.035**	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 3	DSI 11	Close	656000	3840	18.02	18.50	1.117	-	-	-0.03	0.786	0.878	0.26
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 3	DSI 11	Close	656000	3840	17.45	18.50	1.274	-	-	0.14	0.733	0.933	
	1st	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4	DSI 7	Open	656000	3840	17.63	18.50	1.222	50	1.000	0.11	0.733	0.896	0.09
	2nd	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4	DSI 7	Open	656000	3840	17.69	18.50	1.205	50	1.000	0.1	0.759	0.915	
	1st	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4	DSI 11	Close	656000	3840	18.13	19.00	1.222	50	1.000	-0.03	0.576	0.704	0.50
	2nd	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4	DSI 11	Close	656000	3840	18.15	19.00	1.216	50	1.000	-0.16	0.649	0.789	
	1st	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 6	DSI 7	Open	656000	3840	15.59	16.50	1.233	50	1.000	0.02	0.841	1.037	1.90
	2nd	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 6	DSI 7	Open	656000	3840	15.66	16.50	1.213	50	1.000	0.02	0.551	0.669	
	1st	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 6	DSI 11	Close	656000	3840	16.09	17.00	1.233	50	1.000	0.1	0.802	0.989	1.51
	2nd	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 6	DSI 11	Close	656000	3840	16.15	17.00	1.216	50	1.000	-0.11	0.574	0.698	
	1st	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Right Side	5mm	Ant 8	DSI 7	Open	656000	3840	18.31	19.00	1.172	50	1.000	0.13	0.912	1.069	1.07
	2nd	FR1 n77_Part27O _HPUE	100M	QPSK	1	1	DFT-30	Right Side	5mm	Ant 8	DSI 7	Open	656000	3840	18.27	19.00	1.183	50	1.000	0.01	0.706	0.835	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Right Side	5mm	Ant 8	DSI 11	Close	656000	3840	17.90	18.50	1.148	-	-	0.04	0.885	1.016	0.51
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Right Side	5mm	Ant 8	DSI 11	Close	656000	3840	17.86	18.50	1.159	-	-	0.08	0.779	0.903	
	1st	FR1 n77_Part27O _PC2	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4+8	DSI 7	Open	656000	3840	19.73	20.50	1.195	50	1.000	-0.09	0.576	0.688	0.81
	2nd	FR1 n77_Part27O _PC2	100M	QPSK	1	1	CP-30	Left Side	5mm	Ant 4+8	DSI 7	Open	656000	3840	19.80	20.50	1.175	50	1.000	-0.15	0.486	0.571	
	1st	FR1 n77_Part27O _PC2	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4+8	DSI 11	Close	656000	3840	21.21	22.00	1.199	50	1.000	0.02	0.851	1.021	1.25
	2nd	FR1 n77_Part27O _PC2	100M	QPSK	1	1	CP-30	Left Side	5mm	Ant 4+8	DSI 11	Close	656000	3840	21.30	22.00	1.175	50	1.000	-0.02	0.651	0.765	
	1st	FR1 n77_Part27O _PC2	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4+6	DSI 7	Open	656000	3840	18.72	19.50	1.198	50	1.000	0	0.718	0.860	1.85
	2nd	FR1 n77_Part27O _PC2	100M	QPSK	1	1	CP-30	Left Side	5mm	Ant 4+6	DSI 7	Open	656000	3840	18.87	19.50	1.157	50	1.000	-0.06	0.486	0.562	
	1st	FR1 n77_Part27O _PC2	100M	QPSK	1	1	DFT-30	Left Side	5mm	Ant 4+6	DSI 11	Close	656000	3840	19.16	20.00	1.215	50	1.000	-0.05	0.621	0.754	1.25

	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Left Side	5mm	Ant 4+6	DSI 11	Close	656000	3840	19.36	20.00	1.158	50	1.000	-0.13	0.488	0.565	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 3+8	DSI 7	Open	656000	3840	21.24	22.00	1.192	50	1.000	-0.08	0.790	0.942	0.27
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Top Side	5mm	Ant 3+8	DSI 7	Open	656000	3840	21.00	22.00	1.260	50	1.000	-0.06	0.703	0.886	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Right Side	5mm	Ant 3+8	DSI 11	Close	656000	3840	23.24	24.00	1.192	50	1.000	0.02	0.924	1.102	0.84
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Right Side	5mm	Ant 3+8	DSI 11	Close	656000	3840	23.06	24.00	1.243	50	1.000	0.05	0.731	0.908	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Top Side	5mm	Ant 3+6	DSI 7	Open	656000	3840	18.78	19.50	1.182	50	1.000	0.02	0.642	0.759	0.46
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Top Side	5mm	Ant 3+6	DSI 7	Open	656000	3840	18.61	19.50	1.226	50	1.000	-0.16	0.556	0.682	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Bottom Side	5mm	Ant 3+6	DSI 11	Close	656000	3840	18.78	19.50	1.182	50	1.000	0.03	0.455	0.538	0.38
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Bottom Side	5mm	Ant 3+6	DSI 11	Close	656000	3840	18.61	19.50	1.226	50	1.000	-0.1	0.479	0.587	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d_{dB}(dB)
2450 MHz																			
	1st	Bluetooth	DH5 1Mbps	Right Side	5mm	Ant 7	DSI 7	Open	0	2402	13.45	15.00	1.429	77.07	1.298	0.01	0.581	1.078	0.10
	2nd	Bluetooth	DH5 1Mbps	Right Side	5mm	Ant 7	DSI 7	Open	0	2402	13.45	15.00	1.429	77.07	1.298	-0.02	0.595	1.104	
	1st	Bluetooth	DH5 1Mbps	Right Side	5mm	Ant 7	DSI 11	Close	39	2441	15.05	16.50	1.396	77.07	1.298	-0.1	0.562	1.019	0.55
51	2nd	Bluetooth	DH5 1Mbps	Right Side	5mm	Ant 7	DSI 11	Close	39	2441	15.05	16.50	1.396	77.07	1.298	-0.02	0.638	**1.156**	
	1st	Bluetooth	DH5 1Mbps	Top Side	5mm	Ant 5	DSI 7	Open	0	2402	17.30	19.00	1.479	77.07	1.298	0.01	0.662	1.271	1.85
	2nd	Bluetooth	DH5 1Mbps	Top Side	5mm	Ant 5	DSI 7	Open	0	2402	17.30	19.00	1.479	77.07	1.298	-0.01	0.433	0.831	
	1st	Bluetooth	DH5 1Mbps	Bottom Side	5mm	Ant 5	DSI 11	Close	0	2402	17.30	19.00	1.479	77.07	1.298	-0.06	0.572	1.098	1.97
	2nd	Bluetooth	DH5 1Mbps	Bottom Side	5mm	Ant 5	DSI 11	Close	0	2402	17.30	19.00	1.479	77.07	1.298	0.06	0.363	0.697	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 7+5	DSI 7	Open	11	2462	13.52	15.50	1.578	98.53	1.015	0.02	0.656	1.050	0.11
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 7+5	DSI 7	Open	11	2462	13.52	15.50	1.578	98.53	1.015	-0.13	0.672	1.076	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 7+5	DSI 11	Close	11	2462	15.96	17.50	1.426	98.53	1.015	-0.08	0.821	1.188	0.04
52	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 7+5	DSI 11	Close	11	2462	15.96	17.50	1.426	98.53	1.015	-0.01	0.829	**1.200**	
5 GHz																			
	1st	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 7	Open	42	5210	18.91	20.50	1.442	99.26	1.007	-0.02	0.755	1.096	0.62
	2nd	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 7	Open	42	5210	18.91	20.50	1.442	99.26	1.007	0.07	0.655	0.951	
	1st	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 11	Close	42	5210	19.86	21.50	1.459	99.26	1.007	0.03	0.786	1.155	0.08
53	2nd	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 11	Close	42	5210	19.86	21.50	1.459	99.26	1.007	-0.12	0.800	**1.176**	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 7	Open	155	5775	18.09	19.50	1.384	99.26	1.007	0	0.796	1.109	0.35
	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 7	Open	155	5775	18.09	19.50	1.384	99.26	1.007	-0.06	0.734	1.023	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 11	Close	155	5775	20.14	21.50	1.368	99.26	1.007	0.1	0.861	1.186	0.01
54	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 11	Close	155	5775	20.14	21.50	1.368	99.26	1.007	-0.09	0.858	**1.182**	

17.3 Body Worn Accessory SAR

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d_{dB}(dB)
750 MHz																								
	1st	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	133297	680.5	22.50	24.00	1.413	-	-	0.02	0.469	0.662	0.28
55	2nd	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	133297	680.5	22.37	24.00	1.455	-	-	0.06	0.427	**0.621**	
	1st	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	133297	680.5	22.50	24.00	1.413	-	-	-0.07	0.393	0.555	0.11
	2nd	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	133297	680.5	22.37	24.00	1.455	-	-	0.02	0.372	0.541	
	1st	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	133297	680.5	22.52	24.00	1.406	-	-	-0.14	0.382	0.537	1.58
	2nd	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	133297	680.5	22.50	24.00	1.413	-	-	-0.06	0.264	0.373	
	1st	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	133297	680.5	22.52	24.00	1.406	-	-	0.13	0.370	0.520	1.40
	2nd	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	133297	680.5	22.50	24.00	1.413	-	-	0.1	0.267	0.377	
	1st	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	23095	707.5	23.05	24.00	1.245	-	-	0.1	0.707	0.880	1.08
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	23095	707.5	22.73	24.00	1.340	-	-	0.08	0.512	0.686	
	1st	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	23095	707.5	23.05	24.00	1.245	-	-	-0.05	0.610	0.759	0.72
56	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	23095	707.5	22.73	24.00	1.340	-	-	-0.12	0.480	**0.643**	
	1st	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	23095	707.5	22.85	24.00	1.303	-	-	-0.11	0.567	0.739	0.89
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	23095	707.5	22.60	24.00	1.380	-	-	0.05	0.436	0.602	
	1st	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	23095	707.5	22.85	24.00	1.303	-	-	-0.01	0.452	0.589	0.09
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	23095	707.5	22.60	24.00	1.380	-	-	0.12	0.436	0.602	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 0	-	DSI 3	Open	23230	782	22.77	24.00	1.327	-	-	-0.02	0.574	0.762	
57	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 0	-	DSI 3	Open	23230	782	22.77	24.00	1.327	-	-	-0.09	0.628	**0.834**	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 0	-	DSI 3	Open	23230	782	21.80	23.00	1.318	-	-	0.06	0.289	0.381	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 0	-	DSI 3	Open	23230	782	21.80	23.00	1.318	-	-	0.12	0.403	0.531	
	2nd	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	Open	23230	782	21.74	23.00	1.337	-	-	0.14	0.385	0.515	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 0	-	DSI 10	Close	23230	782	22.77	24.00	1.327	-	-	-0.15	0.106	0.141	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 0	-	DSI 10	Close	23230	782	22.77	24.00	1.327	-	-	0.13	0.508	0.674	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 0	-	DSI 10	Close	23230	782	21.80	23.00	1.318	-	-	-0.01	0.062	0.082	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 0	-	DSI 10	Close	23230	782	21.80	23.00	1.318	-	-	0.01	0.377	0.497	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 1	-	DSI 3	Open	23230	782	22.71	24.00	1.346	-	-	0.16	0.332	0.447	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 1	-	DSI 3	Open	23230	782	22.71	24.00	1.346	-	-	-0.04	0.494	0.665	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 1	-	DSI 3	Open	23230	782	21.67	23.00	1.358	-	-	0.06	0.200	0.272	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 1	-	DSI 3	Open	23230	782	21.67	23.00	1.358	-	-	-0.16	0.290	0.394	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Front	5mm	Ant 1	-	DSI 10	Close	23230	782	22.71	24.00	1.346	-	-	0.07	0.054	0.073	
	2nd	LTE Band 13	10M	QPSK	1	49	-	Back	5mm	Ant 1	-	DSI 10	Close	23230	782	22.71	24.00	1.346	-	-	-0.13	0.457	0.615	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Front	5mm	Ant 1	-	DSI 10	Close	23230	782	21.67	23.00	1.358	-	-	0.07	0.032	0.043	
	2nd	LTE Band 13	10M	QPSK	25	25	-	Back	5mm	Ant 1	-	DSI 10	Close	23230	782	21.67	23.00	1.358	-	-	0	0.273	0.371	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	136100	680.5	23.10	24.00	1.230	-	-	0.07	0.527	0.648	1.45
58	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	136100	680.5	22.97	24.00	1.268	-	-	0.04	0.366	**0.464**	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	136100	680.5	23.10	24.00	1.230	-	-	0.02	0.363	0.447	0.34
	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	136100	680.5	22.97	24.00	1.268	-	-	-0.05	0.326	0.413	
	1st	FR1 n71	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	136100	680.5	22.85	24.00	1.303	-	-	0.13	0.331	0.431	1.16
	2nd	FR1 n71	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	136100	680.5	22.80	24.00	1.318	-	-	0.07	0.250	0.330	
	1st	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	136100	680.5	22.80	24.00	1.318	-	-	0.06	0.273	0.360	1.51
	2nd	FR1 n71	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	136100	680.5	22.80	24.00	1.318	-	-	0.12	0.193	0.254	
835 MHz																								
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 0	-	DSI 3	Open	1013	824.7	23.50	24.00	1.122	-	-	0.14	0.637	0.715	
59	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	-	DSI 3	Open	1013	824.7	23.50	24.00	1.122	-	-	0.06	0.753	**0.845**	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	-	DSI 3	Open	384	836.52	23.38	24.00	1.153	-	-	0.13	0.726	0.837	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	-	DSI 3	Open	777	848.31	23.38	24.00	1.153	-	-	-0.04	0.719	0.829	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 0	-	DSI 10	Close	1013	824.7	23.50	24.00	1.122	-	-	-0.02	0.058	0.065	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 0	-	DSI 10	Close	1013	824.7	23.50	24.00	1.122	-	-	-0.12	0.613	0.688	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 1	-	DSI 3	Open	1013	824.7	23.41	24.00	1.146	-	-	-0.08	0.391	0.448	

	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 1	-	DSI 3	Open	1013	824.7	23.41	24.00	1.146	-	-	-0.03	0.582	0.667	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Front	5mm	Ant 1	-	DSI 10	Close	1013	824.7	23.41	24.00	1.146	-	-	0.16	0.058	0.066	
	2nd	CDMA BC0	-	-	-	-	RC3 S032(+ F-SCH)	Back	5mm	Ant 1	-	DSI 10	Close	1013	824.7	23.41	24.00	1.146	-	-	0.13	0.458	0.525	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 3	Open	189	836.4	27.90	28.80	1.230	-	-	-0.13	0.480	0.591	0.23
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 3	Open	189	836.4	27.60	28.80	1.318	-	-	0.08	0.425	0.560	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 10	Close	128	824.2	27.79	28.80	1.262	-	-	0.1	0.425	0.536	0.15
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 10	Close	128	824.2	27.71	28.80	1.285	-	-	0.07	0.432	0.555	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 1	-	DSI 3	Open	189	836.4	27.75	28.80	1.274	-	-	0.06	0.410	0.522	1.14
60	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 1	-	DSI 3	Open	189	836.4	27.41	28.80	1.377	-	-	0.01	0.493	**0.679**	
	1st	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 1	-	DSI 10	Close	128	824.2	27.50	28.80	1.349	-	-	0.12	0.285	0.384	0.39
	2nd	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 1	-	DSI 10	Close	128	824.2	27.54	28.80	1.337	-	-	0.11	0.314	0.420	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	Open	4132	826.4	23.38	24.00	1.153	-	-	-0.09	0.994	1.147	1.80
61	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	Open	4132	826.4	23.40	24.00	1.148	-	-	-0.03	0.659	**0.757**	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 10	Close	4132	826.4	23.38	24.00	1.153	-	-	-0.13	0.818	0.944	1.30
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 10	Close	4132	826.4	23.40	24.00	1.148	-	-	0.06	0.609	0.699	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	Open	4132	826.4	23.29	24.00	1.178	-	-	-0.04	0.673	0.793	0.36
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	Open	4132	826.4	23.31	24.00	1.172	-	-	0.1	0.623	0.730	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 10	Close	4132	826.4	23.29	24.00	1.178	-	-	0.1	0.435	0.512	0.80
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 10	Close	4132	826.4	23.31	24.00	1.172	-	-	0.05	0.525	0.615	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	26965	841.5	22.74	24.00	1.337	-	-	-0.13	0.906	1.211	0.86
62	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	26965	841.5	22.58	24.00	1.387	-	-	0.04	0.716	**0.993**	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	26965	841.5	22.74	24.00	1.337	-	-	0.15	0.791	1.057	0.92
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	26965	841.5	22.58	24.00	1.387	-	-	0.02	0.617	0.856	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	26965	841.5	22.51	24.00	1.409	-	-	0.12	0.623	0.878	0.06
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	26965	841.5	22.52	24.00	1.406	-	-	-0.17	0.615	0.865	
	1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	26965	841.5	22.51	24.00	1.409	-	-	0.1	0.537	0.757	0.64
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	26965	841.5	22.52	24.00	1.406	-	-	0.04	0.465	0.654	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	166300	831.5	23.01	24.00	1.256	-	-	-0.11	0.727	0.913	0.36
63	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	166300	831.5	23.03	24.00	1.250	-	-	0.01	0.673	**0.841**	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	166300	831.5	23.01	24.00	1.256	-	-	-0.14	0.495	0.622	0.39
	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	166300	831.5	23.03	24.00	1.250	-	-	0.01	0.455	0.569	
	1st	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	166300	831.5	22.87	24.00	1.297	-	-	-0.08	0.512	0.664	0.91
	2nd	FR1 n26_FCC	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	166300	831.5	22.83	24.00	1.309	-	-	-0.02	0.411	0.538	
	1st	FR1 n26_FCC	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	166300	831.5	22.74	24.00	1.337	-	-	-0.07	0.387	0.517	1.58
	2nd	FR1 n26_FCC	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	166300	831.5	22.70	24.00	1.349	-	-	0.03	0.266	0.359	
1750 MHz																								
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	Open	1513	1752.6	22.76	23.50	1.186	-	-	0.06	0.942	1.117	0.56
64	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	Open	1513	1752.6	22.71	23.50	1.199	-	-	0.11	1.060	**1.271**	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 10	Close	1513	1752.6	23.20	24.00	1.202	-	-	-0.05	0.954	1.147	0.17
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 10	Close	1513	1752.6	22.99	24.00	1.262	-	-	0	0.946	1.194	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 3	Open	1513	1752.6	21.33	22.10	1.194	-	-	0.1	0.983	1.174	0.06
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 3	Open	1513	1752.6	21.02	22.10	1.282	-	-	0.14	0.902	1.157	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 10	Close	1513	1752.6	23.55	24.00	1.109	-	-	-0.09	1.000	1.109	0.29
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 10	Close	1513	1752.6	23.62	24.00	1.091	-	-	-0.01	0.950	1.037	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	132572	1770	22.20	23.00	1.202	-	-	0.02	0.927	1.114	0.38
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	132572	1770	22.02	23.00	1.253	-	-	0.05	0.815	1.021	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	132072	1720	23.47	24.00	1.130	-	-	-0.08	0.758	0.856	1.35
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	132072	1720	23.15	24.00	1.216	-	-	0.04	0.961	1.169	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	132572	1770	21.40	22.10	1.175	-	-	-0.04	1.080	1.269	0.01
65	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	132572	1770	21.33	22.10	1.194	-	-	0.1	1.060	**1.266**	

	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	132322	1745	22.81	23.40	1.146	-	-	0.09	0.974	1.116	0.44
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	132322	1745	22.79	23.40	1.151	-	-	0.11	0.877	1.009	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	132572	1770	20.72	21.70	1.253	-	-	0.05	1.020	1.278	0.27
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	132572	1770	20.42	21.70	1.343	-	-	-0.12	0.894	1.200	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	132572	1770	23.18	24.00	1.208	-	-	-0.1	0.928	1.121	0.04
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	132572	1770	23.01	24.00	1.256	-	-	0.09	0.885	1.112	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	132072	1720	21.60	23.20	1.445	-	-	-0.01	0.798	1.153	0.46
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	132072	1720	21.88	23.20	1.355	-	-	0.12	0.766	1.038	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	132572	1770	22.94	24.00	1.276	-	-	0	0.975	1.245	0.64
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	132572	1770	22.79	24.00	1.321	-	-	0.08	0.813	1.074	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	349000	1745	23.00	24.00	1.259	-	-	0.1	1.010	1.272	0.67
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	349000	1745	22.95	24.00	1.274	-	-	0.13	0.856	1.090	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	349000	1745	23.00	24.00	1.259	-	-	-0.06	0.744	0.937	0.62
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	349000	1745	22.95	24.00	1.274	-	-	0.05	0.849	1.081	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	349000	1745	20.05	21.00	1.245	-	-	-0.09	0.977	1.216	1.05
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	349000	1745	19.99	21.00	1.262	-	-	0.14	0.756	0.954	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	349000	1745	21.51	22.50	1.256	-	-	0.14	1.010	1.269	1.46
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	349000	1745	21.48	22.50	1.265	-	-	0.14	0.716	0.906	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3	Open	349000	1745	21.38	22.00	1.153	-	-	0.07	0.921	1.062	0.01
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3	Open	349000	1745	20.90	22.00	1.288	-	-	0	0.822	1.059	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 10	Close	349000	1745	23.44	24.00	1.138	-	-	-0.03	1.090	1.240	0.62
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 10	Close	349000	1745	23.03	24.00	1.250	-	-	-0.15	0.860	1.075	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 3	-	DSI 3	Open	349000	1745	23.02	24.00	1.253	-	-	0.09	0.914	1.145	0.05
66	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 3	-	DSI 3	Open	349000	1745	23.41	24.00	1.146	-	-	-0.13	1.010	**1.157**	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 3	-	DSI 10	Close	349000	1745	23.02	24.00	1.253	-	-	-0.08	0.766	0.960	0.25
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 3	-	DSI 10	Close	349000	1745	23.41	24.00	1.146	-	-	-0.15	0.888	1.017	
1900 MHz																								
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 3	Open	512	1850.2	25.40	25.80	1.096	-	-	-0.05	0.608	0.667	0.45
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 3	Open	512	1850.2	25.36	25.80	1.107	-	-	0.01	0.669	0.740	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 10	Close	512	1850.2	25.40	25.80	1.096	-	-	0.09	0.536	0.588	0.66
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	-	DSI 10	Close	512	1850.2	25.36	25.80	1.107	-	-	0.08	0.456	0.505	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant 2	-	DSI 3	Open	512	1850.2	24.30	25.30	1.259	-	-	0.05	0.864	1.088	0.94
67	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant 2	-	DSI 3	Open	512	1850.2	24.34	25.30	1.247	-	-	0.13	0.703	**0.877**	
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant 2	-	DSI 10	Close	661	1880	24.70	25.80	1.288	-	-	-0.08	0.460	0.593	1.12
	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant 2	-	DSI 10	Close	661	1880	24.53	25.80	1.340	-	-	0.13	0.573	0.768	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	Open	9262	1852.4	23.08	24.00	1.236	-	-	-0.08	0.984	1.216	0.28
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	Open	9262	1852.4	23.17	24.00	1.211	-	-	0.13	0.941	1.139	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 10	Close	9262	1852.4	22.22	23.40	1.312	-	-	0	0.805	1.056	0.39
68	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 10	Close	9262	1852.4	22.05	23.40	1.365	-	-	0.16	0.847	**1.156**	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 3	Open	9400	1880	21.25	22.10	1.216	-	-	0.08	1.050	1.277	1.85
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 3	Open	9400	1880	21.03	22.10	1.279	-	-	0.04	0.652	0.834	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 10	Close	9262	1852.4	22.06	22.50	1.107	-	-	-0.09	0.966	1.069	0.01
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	DSI 10	Close	9262	1852.4	21.86	22.50	1.159	-	-	0.01	0.925	1.072	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	26140	1860	23.75	24.00	1.059	-	-	0.03	1.150	1.218	
69	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	18900	1880	23.10	24.00	1.230	-	-	0.06	1.010	**1.243**	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	18700	1860	23.07	24.00	1.239	-	-	0.02	0.945	1.171	0.09
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	19100	1900	23.12	24.00	1.225	-	-	-0.07	0.981	1.201	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	18900	1880	23.10	24.00	1.230	-	-	0.01	0.966	1.188	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	26140	1860	23.75	24.00	1.059	-	-	0.03	0.894	0.947	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	18900	1880	23.10	24.00	1.230	-	-	-0.1	0.739	0.909	0.18
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	18700	1860	23.07	24.00	1.239	-	-	0.09	0.686	0.850	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	19100	1900	23.12	24.00	1.225	-	-	0.01	0.721	0.883	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	26590	1905	21.43	22.10	1.167	-	-	-0.02	0.990	1.155	0.14

	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	18900	1880	21.20	22.10	1.230	-	-	0.06	0.970	1.193	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	18700	1860	21.33	22.10	1.194	-	-	0.01	0.846	1.010	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	19100	1900	21.21	22.10	1.227	-	-	0.09	0.817	1.003	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1		DSI 10	Close	26590	1905	23.77	24.00	1.054	-	-	0.16	1.140	1.202	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	18900	1880	23.50	24.00	1.122	-	-	0.04	0.966	1.084	0.45
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	18700	1860	23.59	24.00	1.099	-	-	0.01	0.879	0.966	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	19100	1900	23.44	24.00	1.138	-	-	0.07	0.916	1.042	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	26140	1860	19.72	20.50	1.197	-	-	0.01	0.948	1.135	0.31
	2nd	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	26140	1860	19.45	20.50	1.274	-	-	0.03	0.830	1.057	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	26140	1860	20.66	21.50	1.213	-	-	-0.05	0.860	1.044	0.28
	2nd	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	26140	1860	20.40	21.50	1.288	-	-	-0.06	0.864	1.113	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	26140	1860	20.87	22.20	1.358	-	-	0.1	0.806	1.095	0.34
	2nd	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	26140	1860	20.87	22.20	1.358	-	-	0.01	0.745	1.012	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	26140	1860	22.20	23.40	1.318	-	-	-0.03	0.969	1.277	0.78
	2nd	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	26140	1860	22.10	23.40	1.349	-	-	-0.11	0.790	1.066	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	376500	1882.5	22.48	23.00	1.127	-	-	-0.08	1.040	1.172	0.29
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	376000	1880	22.43	23.00	1.140	-	-	-0.01	1.100	1.254	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	376500	1882.5	23.50	24.00	1.122	-	-	0.1	0.921	1.033	0.33
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	376000	1880	23.42	24.00	1.143	-	-	0.01	0.975	1.114	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	376500	1882.5	21.41	22.00	1.146	-	-	-0.1	0.947	1.085	0.71
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	376000	1880	21.27	22.00	1.183	-	-	0.01	1.080	1.278	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	376500	1882.5	23.40	24.00	1.148	-	-	0.02	1.060	1.217	0.22
70	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	376000	1880	23.38	24.00	1.153	-	-	-0.01	1.110	**1.280**	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3	Open	376500	1882.5	19.72	20.50	1.197	-	-	-0.01	0.962	1.151	0.21
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3	Open	376000	1880	19.50	20.50	1.259	-	-	-0.04	0.960	1.209	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 10	Close	376500	1882.5	19.72	20.50	1.197	-	-	0.01	0.911	1.090	0.06
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 10	Close	376000	1880	19.50	20.50	1.259	-	-	0.16	0.853	1.074	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 3	-	DSI 3	Open	376500	1882.5	21.47	22.50	1.268	-	-	0.06	0.933	1.183	0.15
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 3	-	DSI 3	Open	376000	1880	21.14	22.50	1.368	-	-	0.04	0.895	1.224	
	1st	FR1 n25	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 3	-	DSI 10	Close	376500	1882.5	21.90	23.00	1.288	-	-	-0.08	0.876	1.129	0.33
	2nd	FR1 n2	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 3	-	DSI 10	Close	376000	1880	21.80	23.00	1.318	-	-	0.14	0.924	1.218	
2600 MHz																								
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	21100	2535	21.31	22.20	1.227	-	-	-0.14	0.989	1.214	
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	21100	2535	21.85	22.20	1.084	-	-	-0.06	0.812	0.880	1.40
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	21100	2535	21.31	22.30	1.256	-	-	0.01	0.880	1.105	1.21
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	21100	2535	21.85	22.30	1.109	-	-	-0.05	0.755	0.837	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	21100	2535	20.95	21.90	1.245	-	-	-0.06	0.952	1.185	0.09
71	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	21100	2535	20.84	21.90	1.276	-	-	-0.05	0.910	**1.162**	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	21100	2535	20.95	21.80	1.216	-	-	-0.09	0.882	1.073	0.14
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	21100	2535	20.84	21.80	1.247	-	-	0.05	0.832	1.038	
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	21350	2560	19.42	20.20	1.197	-	-	0.1	0.921	1.102	0.37
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	21350	2560	19.02	20.20	1.312	-	-	-0.06	0.771	1.012	
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	21350	2560	19.26	20.00	1.186	-	-	0.01	0.888	1.053	0.08
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	21350	2560	18.81	20.00	1.315	-	-	0.07	0.815	1.072	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	21100	2535	19.72	21.00	1.343	-	-	0.04	0.795	1.067	0.26
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	21100	2535	19.85	21.00	1.303	-	-	-0.06	0.772	1.006	
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	20850	2510	19.62	20.70	1.282	-	-	-0.1	0.909	1.166	0.92
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	20850	2510	19.62	20.70	1.282	-	-	0.06	0.736	0.944	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	40185	2549.5	25.70	26.30	1.148	42.9	1.009	0.05	0.989	1.146	0.88
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	Open	40185	2549.5	25.90	26.30	1.096	42.9	1.009	0.16	0.845	0.935	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	40185	2549.5	26.53	27.00	1.114	42.9	1.009	0.08	0.907	1.020	0.10
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 10	Close	40185	2549.5	26.40	27.00	1.148	42.9	1.009	-0.02	0.900	1.043	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	41490	2680	25.79	26.40	1.151	42.9	1.009	0.14	1.100	1.277	1.00
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	Open	41490	2680	25.51	26.40	1.227	42.9	1.009	-0.01	0.819	1.014	
	1st	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	40185	2549.5	25.80	26.50	1.175	42.9	1.009	-0.09	0.940	1.114	0.48

		_HPUE																						
72	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 10	Close	40185	2549.5	25.88	26.50	1.153	42.9	1.009	-0.01	1.070	**1.245**	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	40620	2593	22.18	22.80	1.153	42.9	1.009	0	0.887	1.032	0.75
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 3	Open	40620	2593	21.93	22.80	1.222	42.9	1.009	-0.14	0.704	0.868	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	40620	2593	24.18	24.70	1.127	42.9	1.009	0.03	0.995	1.132	0.20
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	DSI 10	Close	40620	2593	23.84	24.70	1.219	42.9	1.009	-0.13	0.963	1.184	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	41490	2680	21.50	22.40	1.230	42.9	1.009	-0.03	1.030	1.279	0.40
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	41490	2680	21.60	22.40	1.202	42.9	1.009	0.11	0.961	1.166	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	41490	2680	22.61	23.60	1.256	42.9	1.009	-0.05	0.906	1.148	0.15
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	41490	2680	22.75	23.60	1.216	42.9	1.009	0.11	0.903	1.108	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	507000	2535	23.41	24.00	1.146	-	-	-0.14	1.030	1.180	0.20
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 0	-	DSI 3	Open	507000	2535	23.20	24.00	1.202	-	-	0.15	0.938	1.128	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	507000	2535	23.45	24.00	1.135	-	-	0.13	0.943	1.070	0.09
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	DSI 10	Close	507000	2535	23.42	24.00	1.143	-	-	0	0.917	1.048	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	507000	2535	21.69	22.50	1.205	-	-	0.1	1.010	1.217	1.47
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 3	Open	507000	2535	21.51	22.50	1.256	-	-	-0.14	0.691	0.868	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	507000	2535	21.69	22.50	1.205	-	-	-0.1	0.951	1.146	1.09
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 10	Close	507000	2535	21.51	22.50	1.256	-	-	-0.01	0.710	0.892	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3	Open	507000	2535	19.92	20.50	1.143	-	-	0.08	0.932	1.065	0.14
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3	Open	507000	2535	19.36	20.50	1.300	-	-	-0.1	0.847	1.101	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 10	Close	507000	2535	19.92	20.50	1.143	-	-	-0.1	0.874	0.999	0.66
73	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 10	Close	507000	2535	19.36	20.50	1.300	-	-	-0.07	0.894	**1.162**	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 3	-	DSI 3	Open	507000	2535	18.45	19.50	1.274	-	-	-0.06	0.820	1.044	1.09
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 3	-	DSI 3	Open	507000	2535	18.37	19.50	1.297	-	-	0.16	0.626	0.812	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 3	-	DSI 10	Close	507000	2535	19.97	21.00	1.268	-	-	-0.02	0.854	1.083	1.28
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 3	-	DSI 10	Close	507000	2535	19.95	21.00	1.274	-	-	-0.11	0.633	0.806	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	-	DSI 3	Open	518598	2592.99	23.39	24.00	1.151	-	-	-0.13	1.070	1.231	0.13
74	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	-	DSI 3	Open	518598	2592.99	23.38	24.00	1.153	-	-	0	1.100	**1.269**	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	-	DSI 10	Close	518598	2592.99	23.39	24.00	1.151	-	-	-0.03	1.050	1.208	0.65
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	-	DSI 10	Close	518598	2592.99	23.38	24.00	1.153	-	-	-0.05	0.902	1.040	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	-	DSI 3	Open	518598	2592.99	22.95	23.50	1.135	-	-	-0.05	1.100	1.249	0.05
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	-	DSI 3	Open	518598	2592.99	22.88	23.50	1.153	-	-	-0.02	1.070	1.234	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	-	DSI 10	Close	518598	2592.99	22.95	23.50	1.135	-	-	-0.09	1.060	1.203	0.52
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	-	DSI 10	Close	518598	2592.99	22.88	23.50	1.153	-	-	0.14	0.926	1.068	
	1st	FR1 n41	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 2	-	DSI 3	Open	518598	2592.99	19.42	20.00	1.143	-	-	0.06	1.010	1.154	0.53
	2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 2	-	DSI 3	Open	518598	2592.99	19.44	20.00	1.138	-	-	0.07	0.898	1.022	
	1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2	-	DSI 10	Close	518598	2592.99	22.25	23.00	1.189	50	1.000	-0.04	0.857	1.019	0.19
	2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2	-	DSI 10	Close	518598	2592.99	22.24	23.00	1.191	50	1.000	0.06	0.893	1.064	
	1st	FR1 n41	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 3	-	DSI 3	Open	518598	2592.99	19.93	21.00	1.279	-	-	-0.06	0.834	1.067	0.12
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 3	-	DSI 3	Open	518598	2592.99	19.90	21.00	1.288	-	-	0.12	0.852	1.098	
	1st	FR1 n41	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3	-	DSI 10	Close	518598	2592.99	20.91	22.00	1.285	-	-	-0.04	0.893	1.148	0.24
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3	-	DSI 10	Close	518598	2592.99	20.85	22.00	1.303	-	-	-0.11	0.930	1.212	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2+3	-	DSI 3	Open	518598	2592.99	25.24	26.00	1.192	50	1.000	0.03	0.909	1.083	0.35
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 2+3	-	DSI 3	Open	518598	2592.99	25.46	26.00	1.132	50	1.000	0.05	0.883	1.000	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2+3	-	DSI 10	Close	518598	2592.99	24.81	25.50	1.171	50	1.000	-0.04	0.930	1.089	0.94
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 2+3	-	DSI 10	Close	518598	2592.99	24.95	25.50	1.136	50	1.000	0.16	0.773	0.878	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2+1	-	DSI 3	Open	518598	2592.99	25.07	26.00	1.239	50	1.000	0.06	0.858	1.063	0.50
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 2+1	-	DSI 3	Open	518598	2592.99	25.41	26.00	1.147	50	1.000	-0.1	0.827	0.948	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2+1	-	DSI 10	Close	518598	2592.99	25.07	26.00	1.239	50	1.000	-0.07	0.867	1.074	0.45
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 2+1	-	DSI 10	Close	518598	2592.99	25.41	26.00	1.147	50	1.000	-0.1	0.844	0.968	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 0+3	-	DSI 3	Open	518598	2592.99	26.14	27.00	1.219	50	1.000	-0.04	0.873	1.064	0.56
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Back	5mm	Ant 0+3	-	DSI 3	Open	518598	2592.99	26.49	27.00	1.126	50	1.000	-0.01	0.831	0.935	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 0+3	-	DSI 10	Close	518598	2592.99	26.14	27.00	1.219	50	1.000	0.07	0.829	1.010	0.58
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Back	5mm	Ant 0+3	-	DSI 10	Close	518598	2592.99	26.49	27.00	1.126	50	1.000	0.02	0.784	0.883	

	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0+1	-	DSI 3	Open	518598	2592.99	26.18	27.00	1.207	50	1.000	-0.01	0.763	0.921	0.58
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Back	5mm	Ant 0+1	-	DSI 3	Open	518598	2592.99	26.46	27.00	1.132	50	1.000	0.02	0.711	0.805	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 0+1	-	DSI 10	Close	518598	2592.99	26.32	27.00	1.169	50	1.000	0.01	0.795	0.929	0.53
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Back	5mm	Ant 0+1	-	DSI 10	Close	518598	2592.99	26.46	27.00	1.132	50	1.000	-0.07	0.726	0.822	
3-5GHz																								
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42990	3540	22.61	23.00	1.094	62.9	1.006	0.03	0.638	0.702	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42990	3540	22.61	23.00	1.094	62.9	1.006	0.09	0.756	0.832	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42190	3460	22.55	23.00	1.109	62.9	1.006	0.01	0.715	0.798	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42590	3500	22.58	23.00	1.102	62.9	1.006	0.06	0.742	0.822	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42190	3460	22.55	23.00	1.109	62.9	1.006	0.15	0.816	0.911	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42590	3500	22.58	23.00	1.102	62.9	1.006	-0.03	0.812	0.900	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42990	3540	22.60	23.00	1.096	62.9	1.006	0.02	0.676	0.746	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42990	3540	22.60	23.00	1.096	62.9	1.006	0.02	0.772	0.852	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42190	3460	22.51	23.00	1.119	62.9	1.006	0.01	0.737	0.830	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42590	3500	22.56	23.00	1.107	62.9	1.006	-0.08	0.756	0.842	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42190	3460	22.51	23.00	1.119	62.9	1.006	-0.08	0.864	0.973	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42190+ 42388	3460+ 3479.8	22.38	23.00	1.153	62.9	1.006	0.08	0.756	0.877	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42590	3500	22.56	23.00	1.107	62.9	1.006	-0.11	0.860	0.957	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	12mm	Ant 3	-	DSI 4	Open	42590	3500	23.53	24.00	1.114	62.9	1.006	0.01	0.601	0.674	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	13mm	Ant 3	-	DSI 4	Open	42190	3460	23.50	24.00	1.122	62.9	1.006	-0.06	0.352	0.397	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 3	-	DSI 3	Open	42990	3540	23.55	24.00	1.109	62.9	1.006	0.13	0.624	0.696	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Back	5mm	Ant 3	-	DSI 3	Open	42990	3540	23.55	24.00	1.109	62.9	1.006	0.11	0.712	0.794	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42990	3540	22.30	22.90	1.148	62.9	1.006	0	0.779	0.900	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 10	Close	42990	3540	22.30	22.90	1.148	62.9	1.006	0.16	0.346	0.400	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42190	3460	22.22	22.90	1.169	62.9	1.006	-0.02	0.766	0.901	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42590	3500	22.25	22.90	1.161	62.9	1.006	0.06	0.754	0.881	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42990	3540	22.27	22.90	1.156	62.9	1.006	-0.06	0.782	0.910	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 10	Close	42990	3540	22.27	22.90	1.156	62.9	1.006	-0.16	0.356	0.414	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42190	3460	22.21	22.90	1.172	62.9	1.006	0.14	0.819	0.966	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42190+ 42388	3460+ 3479.8	22.08	22.90	1.208	62.9	1.006	0.05	0.743	0.903	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42590	3500	22.24	22.90	1.164	62.9	1.006	-0.04	0.775	0.908	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	16mm	Ant 3	-	DSI 4	Close	42190	3460	23.50	24.00	1.122	62.9	1.006	0.04	0.237	0.268	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	22mm	Ant 3	-	DSI 4	Close	42990	3540	23.55	24.00	1.109	62.9	1.006	-0.11	0.040	0.045	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 3	-	DSI 10	Close	42990	3540	22.15	22.90	1.189	62.9	1.006	0.08	0.768	0.918	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42990	3540	21.31	21.80	1.119	62.9	1.006	-0.14	0.955	1.075	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42990	3540	21.31	21.80	1.119	62.9	1.006	0.16	0.656	0.739	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42190	3460	21.30	21.80	1.122	62.9	1.006	-0.03	1.050	1.185	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42590	3500	21.17	21.80	1.156	62.9	1.006	0.06	0.831	0.966	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42190	3460	21.30	21.80	1.122	62.9	1.006	0.05	0.735	0.830	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42590	3500	21.17	21.80	1.156	62.9	1.006	-0.08	0.589	0.685	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42990	3540	21.30	21.80	1.122	62.9	1.006	-0.11	1.030	1.163	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42990	3540	21.30	21.80	1.122	62.9	1.006	0.14	0.708	0.799	
75	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42190	3460	21.29	21.80	1.125	62.9	1.006	0.1	1.120	**1.267**	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42190+ 42388	3460+ 3479.8	21.09	21.80	1.178	62.9	1.006	0.01	0.984	1.166	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42590	3500	21.15	21.80	1.161	62.9	1.006	0.06	0.897	1.048	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42190	3460	21.29	21.80	1.125	62.9	1.006	0.01	0.793	0.897	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42590	3500	21.15	21.80	1.161	62.9	1.006	-0.07	0.635	0.742	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	Headset	DSI 3	Open	42190	3460	21.29	21.80	1.125	62.9	1.006	0.06	1.040	1.177	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	12mm	Ant 4	-	DSI 4	Open	42190	3460	23.63	24.00	1.089	62.9	1.006	0.08	0.506	0.554	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	13mm	Ant 4	-	DSI 4	Open	42190	3460	23.63	24.00	1.089	62.9	1.006	-0.09	0.338	0.370	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 4	-	DSI 3	Open	42990	3540	21.20	21.80	1.148	62.9	1.006	-0.05	0.943	1.089	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	DSI 3	Open	42990	3540	21.20	21.80	1.148	62.9	1.006	0.01	0.671	0.775	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42990	3540	23.00	23.50	1.122	62.9	1.006	0.09	0.763	0.861	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 10	Close	42990	3540	23.00	23.50	1.122	62.9	1.006	0.02	0.390	0.440	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42190	3460	22.97	23.50	1.130	62.9	1.006	0.12	0.888	1.009	

	2nd	LTE Band 42C	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42190+ 42388	3460+ 3479.8	22.81	23.50	1.172	62.9	1.006	-0.05	0.733	0.864
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42590	3500	22.92	23.50	1.143	62.9	1.006	0.09	0.822	0.945
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	16mm	Ant 4	-	DSI 4	Close	42190	3460	23.63	24.00	1.089	62.9	1.006	0.01	0.159	0.174
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	22mm	Ant 4	-	DSI 4	Close	42990	3540	23.63	24.00	1.089	62.9	1.006	-0.05	0.022	0.024
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42990	3540	22.66	23.00	1.081	62.9	1.006	-0.11	0.686	0.746
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 10	Close	42990	3540	22.66	23.00	1.081	62.9	1.006	-0.12	0.363	0.395
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42190	3460	22.65	23.00	1.084	62.9	1.006	-0.11	0.781	0.852
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42590	3500	22.56	23.00	1.107	62.9	1.006	-0.02	0.724	0.806
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 4	-	DSI 10	Close	42990	3540	22.64	24.00	1.368	62.9	1.006	0.03	0.683	0.940
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42990	3540	19.76	21.40	1.459	62.9	1.006	0.07	0.496	0.728
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42990	3540	19.76	21.40	1.459	62.9	1.006	-0.06	0.662	0.972
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42190	3460	19.70	21.40	1.479	62.9	1.006	0.05	0.515	0.766
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42590	3500	19.72	21.40	1.472	62.9	1.006	0.09	0.426	0.631
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42190	3460	19.70	21.40	1.479	62.9	1.006	0	0.679	1.010
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42190+ 42388	3460+ 3479.8	19.62	21.40	1.507	62.9	1.006	0.08	0.626	0.949
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42590	3500	19.72	21.40	1.472	62.9	1.006	0.07	0.561	0.831
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	12mm	Ant 6	-	DSI 4	Open	42190	3460	22.35	24.00	1.462	62.9	1.006	0.05	0.448	0.659
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	13mm	Ant 6	-	DSI 4	Open	42190	3460	22.35	24.00	1.462	62.9	1.006	0.06	0.366	0.538
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42990	3540	19.64	21.40	1.500	62.9	1.006	0.13	0.465	0.702
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42990	3540	19.64	21.40	1.500	62.9	1.006	0.1	0.621	0.937
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42190	3460	19.63	21.40	1.503	62.9	1.006	0.07	0.483	0.730
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42590	3500	19.61	21.40	1.510	62.9	1.006	0.01	0.399	0.606
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42190	3460	19.63	21.40	1.503	62.9	1.006	-0.03	0.637	0.963
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42590	3500	19.61	21.40	1.510	62.9	1.006	-0.02	0.526	0.799
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 6	-	DSI 3	Open	42990	3540	19.71	21.40	1.476	62.9	1.006	0.09	0.481	0.714
	2nd	LTE Band 42	20M	QPSK	100	0	-	Back	5mm	Ant 6	-	DSI 3	Open	42990	3540	19.71	21.40	1.476	62.9	1.006	0.05	0.572	0.849
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42990	3540	20.10	21.60	1.413	62.9	1.006	0.02	0.602	0.855
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 6	-	DSI 10	Close	42990	3540	20.10	21.60	1.413	62.9	1.006	-0.02	0.048	0.068
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42190	3460	20.07	21.60	1.422	62.9	1.006	0	0.726	1.039
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42190+ 42388	3460+ 3479.8	19.81	21.60	1.510	62.9	1.006	0.05	0.656	0.997
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42590	3500	20.05	21.60	1.429	62.9	1.006	0.12	0.641	0.921
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	16mm	Ant 6	-	DSI 4	Close	42190	3460	22.35	24.00	1.462	62.9	1.006	0.08	0.266	0.391
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	22mm	Ant 6	-	DSI 4	Close	42990	3540	22.38	24.00	1.452	62.9	1.006	-0.03	0.041	0.060
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42990	3540	20.08	21.60	1.419	62.9	1.006	0.1	0.583	0.832
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 6	-	DSI 10	Close	42990	3540	20.08	21.60	1.419	62.9	1.006	0.16	0.045	0.064
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42190	3460	20.05	21.60	1.429	62.9	1.006	-0.05	0.715	1.028
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42590	3500	20.00	21.60	1.445	62.9	1.006	0	0.638	0.928
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 6	-	DSI 10	Close	42990	3540	20.05	21.60	1.429	62.9	1.006	-0.03	0.605	0.870
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42990	3540	21.57	22.40	1.211	62.9	1.006	0.15	0.790	0.962
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42990	3540	21.57	22.40	1.211	62.9	1.006	0.13	1.010	1.230
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42990+ 42792	3540+ 3520.2	21.31	22.40	1.285	62.9	1.006	-0.01	0.897	1.160
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42190	3460	21.42	22.40	1.253	62.9	1.006	0.07	0.671	0.846
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42590	3500	21.39	22.40	1.262	62.9	1.006	0.06	0.721	0.915
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42190	3460	21.42	22.40	1.253	62.9	1.006	0.13	0.845	1.065
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42590	3500	21.39	22.40	1.262	62.9	1.006	0.08	0.937	1.189
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	Headset	DSI 3	Open	42990	3540	21.57	22.40	1.211	62.9	1.006	0.07	0.966	1.176
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	12mm	Ant 8	-	DSI 4	Open	42990	3540	23.23	24.00	1.194	62.9	1.006	0.04	0.351	0.422
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	13mm	Ant 8	-	DSI 4	Open	42990	3540	23.23	24.00	1.194	62.9	1.006	0.08	0.404	0.485
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42990	3540	21.55	22.40	1.216	62.9	1.006	0.12	0.766	0.937
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42990	3540	21.55	22.40	1.216	62.9	1.006	-0.13	0.965	1.181
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42190	3460	21.40	22.40	1.259	62.9	1.006	0.01	0.656	0.831
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42590	3500	21.35	22.40	1.274	62.9	1.006	0.05	0.701	0.898
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42190	3460	21.40	22.40	1.259	62.9	1.006	-0.06	0.831	1.052
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42590	3500	21.35	22.40	1.274	62.9	1.006	0.09	0.902	1.156
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 8	-	DSI 3	Open	42990	3540	21.52	22.40	1.225	62.9	1.006	0.02	0.746	0.919

	2nd	LTE Band 42	20M	QPSK	100	0	-	Back	5mm	Ant 8	-	DSI 3	Open	42990	3540	21.52	22.40	1.225	62.9	1.006	0.1	0.951	1.172	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42990	3540	22.05	22.90	1.216	62.9	1.006	0.05	0.821	1.004	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	-	DSI 10	Close	42990	3540	22.05	22.90	1.216	62.9	1.006	-0.11	0.145	0.177	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42190	3460	21.96	22.90	1.242	62.9	1.006	0	0.626	0.782	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42590	3500	22.00	22.90	1.230	62.9	1.006	-0.08	0.714	0.884	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42990	3540	22.02	22.90	1.225	62.9	1.006	0.08	0.853	1.051	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42990+ 42792	3540+ 3520.2	21.85	22.90	1.274	62.9	1.006	-0.03	0.722	0.925	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 8	-	DSI 10	Close	42990	3540	22.02	22.90	1.225	62.9	1.006	0.09	0.155	0.191	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42190	3460	21.92	22.90	1.253	62.9	1.006	0.1	0.651	0.821	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42590	3500	21.95	22.90	1.245	62.9	1.006	0.1	0.737	0.923	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	16mm	Ant 8	-	DSI 4	Close	42990	3540	23.23	24.00	1.194	62.9	1.006	0.06	0.256	0.307	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	22mm	Ant 8	-	DSI 4	Close	42990	3540	23.23	24.00	1.194	62.9	1.006	0.03	0.033	0.040	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	5mm	Ant 8	-	DSI 10	Close	42990	3540	21.99	22.90	1.233	62.9	1.006	0.1	0.816	1.012	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3	-	DSI 3	Open	656000	3840	19.02	19.50	1.117	-	-	0	0.788	0.880	0.02
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3	-	DSI 3	Open	656000	3840	18.45	19.50	1.274	-	-	-0.13	0.687	0.875	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3	-	DSI 10	Close	656000	3840	20.47	21.00	1.130	-	-	0.08	0.852	0.963	0.50
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3	-	DSI 10	Close	656000	3840	19.93	21.00	1.279	-	-	0.06	0.671	0.858	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI 3	Open	656000	3840	18.94	19.50	1.138	-	-	0.06	0.813	0.925	0.10
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI 3	Open	656000	3840	18.85	19.50	1.161	-	-	0.16	0.815	0.947	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI 10	Close	656000	3840	19.40	20.00	1.148	-	-	0.07	0.601	0.690	0.13
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI 10	Close	656000	3840	19.42	20.00	1.143	-	-	0.12	0.585	0.669	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI 3	Open	656000	3840	18.35	19.00	1.161	-	-	0.08	0.926	1.076	1.09
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI 3	Open	656000	3840	18.22	19.00	1.197	-	-	-0.06	0.700	0.838	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI 10	Close	656000	3840	17.85	18.50	1.161	-	-	-0.1	0.795	0.923	0.78
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI 10	Close	656000	3840	17.80	18.50	1.175	-	-	-0.11	0.656	0.771	
	1st	FR1 n77_Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 8	-	DSI 3	Open	656000	3840	20.31	21.00	1.172	-	-	0.03	0.991	1.162	1.54
	2nd	FR1 n77_Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 8	-	DSI 3	Open	656000	3840	20.29	21.00	1.178	-	-	0.12	0.693	0.816	
	1st	FR1 n77_Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 8	-	DSI 10	Close	656000	3840	21.36	22.00	1.159	-	-	-0.05	0.972	1.126	0.63
76	2nd	FR1 n77_Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 8	-	DSI 10	Close	656000	3840	21.28	22.00	1.180	-	-	-0.16	0.825	**0.974**	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4+8	-	DSI 3	Open	656000	3840	24.18	25.00	1.209	50	1.000	0.08	0.926	1.120	0.97
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 4+8	-	DSI 3	Open	656000	3840	24.31	25.00	1.171	50	1.000	0.14	0.765	0.896	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4+8	-	DSI 10	Close	656000	3840	25.15	26.00	1.216	50	1.000	0.01	0.928	1.129	1.03
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 4+8	-	DSI 10	Close	656000	3840	25.28	26.00	1.181	50	1.000	-0.02	0.755	0.891	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4+6	-	DSI 3	Open	656000	3840	23.72	24.50	1.197	50	1.000	0.01	1.000	1.197	1.34
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 4+6	-	DSI 3	Open	656000	3840	23.89	24.50	1.152	50	1.000	-0.15	0.764	0.880	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4+6	-	DSI 10	Close	656000	3840	23.26	24.00	1.186	50	1.000	0.06	0.948	1.124	1.40
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 4+6	-	DSI 10	Close	656000	3840	23.37	24.00	1.157	50	1.000	0.06	0.704	0.814	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3+8	-	DSI 3	Open	656000	3840	24.24	25.00	1.191	50	1.000	0.06	0.858	1.022	1.09
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 3+8	-	DSI 3	Open	656000	3840	24.01	25.00	1.257	50	1.000	-0.13	0.633	0.796	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3+8	-	DSI 10	Close	656000	3840	25.25	26.00	1.188	50	1.000	0.02	1.000	1.188	1.12
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 3+8	-	DSI 10	Close	656000	3840	25.02	26.00	1.254	50	1.000	0.12	0.731	0.917	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3+6	-	DSI 3	Open	656000	3840	23.76	24.50	1.187	50	1.000	0	0.928	1.102	1.19
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 3+6	-	DSI 3	Open	656000	3840	23.59	24.50	1.234	50	1.000	-0.01	0.678	0.837	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 3+6	-	DSI 10	Close	656000	3840	23.27	24.00	1.184	50	1.000	-0.08	0.655	0.776	0.30
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Front	5mm	Ant 3+6	-	DSI 10	Close	656000	3840	23.14	24.00	1.219	50	1.000	-0.14	0.682	0.832	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d_{dB}(dB)
2450 MHz																				
	1st	Bluetooth	DH5 1Mbps	Front	5mm	Ant 7	-	DSI 3	Open	0	2402	16.85	18.50	1.462	77.07	1.298	-0.07	0.572	1.086	0.28
77	2nd	Bluetooth	DH5 1Mbps	Front	5mm	Ant 7	-	DSI 3	Open	0	2402	16.85	18.50	1.462	77.07	1.298	-0.09	0.610	**1.158**	
	1st	Bluetooth	DH5 1Mbps	Front	5mm	Ant 7	-	DSI 10	Close	0	2402	16.85	18.50	1.462	77.07	1.298	-0.02	0.503	0.955	0.30
	2nd	Bluetooth	DH5 1Mbps	Front	5mm	Ant 7	-	DSI 10	Close	0	2402	16.85	18.50	1.462	77.07	1.298	0.08	0.470	0.892	
	1st	Bluetooth	DH5 1Mbps	Front	5mm	Ant 5	-	DSI 3	Open	0	2402	17.30	19.00	1.479	77.07	1.298	0.04	0.576	1.106	1.97
	2nd	Bluetooth	DH5 1Mbps	Front	5mm	Ant 5	-	DSI 3	Open	0	2402	17.30	19.00	1.479	77.07	1.298	0.14	0.366	0.703	
	1st	Bluetooth	DH5 1Mbps	Front	5mm	Ant 5	-	DSI 10	Close	78	2480	18.40	20.00	1.445	77.07	1.298	-0.06	0.576	1.081	2.08
	2nd	Bluetooth	DH5 1Mbps	Front	5mm	Ant 5	-	DSI 10	Close	78	2480	18.40	20.00	1.445	77.07	1.298	0.15	0.357	0.670	
	1st	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 7+5	-	DSI 3	Open	11	2462	19.17	20.50	1.358	98.53	1.015	0.08	0.864	1.191	0.09
	2nd	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 7+5	-	DSI 3	Open	11	2462	19.17	20.50	1.358	98.53	1.015	-0.02	0.846	1.166	
	1st	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 7+5	-	DSI 10	Close	11	2462	19.76	21.50	1.493	98.53	1.015	0.04	0.782	1.185	0.02
78	2nd	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 7+5	-	DSI 10	Close	11	2462	19.76	21.50	1.493	98.53	1.015	0.15	0.779	**1.180**	
5 GHz																				
	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 7+5	-	DSI 3	Open	54	5270	20.98	22.50	1.419	100	1.000	-0.1	0.746	1.059	0.35
	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 7+5	-	DSI 3	Open	54	5270	20.98	22.50	1.419	100	1.000	-0.13	0.688	0.976	
	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 7+5	-	DSI 10	Close	54	5270	20.98	22.50	1.419	100	1.000	-0.02	0.827	1.174	0.33
79	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 7+5	-	DSI 10	Close	54	5270	20.98	22.50	1.419	100	1.000	-0.09	0.892	**1.266**	
	1st	WLAN5.5GHz	802.11n-HT40 MCS0	Back	5mm	Ant 7+5	-	DSI 3	Open	134	5670	21.12	22.50	1.374	100	1.000	0.08	0.838	1.151	0.33
80	2nd	WLAN5.5GHz	802.11n-HT40 MCS0	Back	5mm	Ant 7+5	-	DSI 3	Open	134	5670	21.12	22.50	1.374	100	1.000	0.08	0.776	**1.066**	
	1st	WLAN5.5GHz	802.11n-HT40 MCS0	Front	5mm	Ant 7+5(7)	-	DSI 10	Close	134	5670	18.24	20.00	1.498	100	1.000	0.04	0.751	1.125	0.79
	2nd	WLAN5.5GHz	802.11n-HT40 MCS0	Front	5mm	Ant 7+5(7)	-	DSI 10	Close	134	5670	18.24	20.00	1.498	100	1.000	0.06	0.626	0.938	
	1st	WLAN5.8GHz	802.11n-HT40 MCS0	Back	5mm	Ant 7+5	-	DSI 3	Open	159	5795	20.66	22.00	1.361	100	1.000	0.07	0.851	1.159	0.43
81	2nd	WLAN5.8GHz	802.11n-HT40 MCS0	Back	5mm	Ant 7+5	-	DSI 3	Open	159	5795	20.66	22.00	1.361	100	1.000	0	0.771	**1.050**	
	1st	WLAN5.8GHz	802.11n-HT40 MCS0	Front	5mm	Ant 7+5(7)	-	DSI 10	Close	159	5795	18.03	19.50	1.401	100	1.000	-0.03	0.701	0.982	0.28
	2nd	WLAN5.8GHz	802.11n-HT40 MCS0	Front	5mm	Ant 7+5(7)	-	DSI 10	Close	159	5795	18.03	19.50	1.401	100	1.000	-0.02	0.657	0.921	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m^2)	Deviation d_{dB}(dB)
	1st	WLAN6GHz	802.11be-EHT320 MCS0	Back	5mm	Ant 7+5(5)	DSI 3	Open	191	6905	11.23	13.00	1.503	98.85	1.012	-0.03	0.204	0.310	1.26	1.95
	2nd	WLAN6GHz	802.11be-EHT320 MCS0	Back	5mm	Ant 7+5(5)	DSI 3	Open	191	6905	11.23	13.00	1.503	98.9	1.012	0.14	0.130	0.198	0.937	
	1st	WLAN6GHz	802.11be-EHT320 MCS0	Front	5mm	Ant 7+5(5)	DSI 10	Close	191	6905	11.23	13.00	1.503	98.85	1.012	-0.02	0.189	0.287	1.25	1.36
82	2nd	WLAN6GHz	802.11be-EHT320 MCS0	Front	5mm	Ant 7+5(5)	DSI 10	Close	191	6905	11.23	13.00	1.503	98.9	1.012	-0.14	0.138	**0.210**	1.03	

17.4 Product specific 10g SAR

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation d_{dB}(dB)
1750 MHz																							
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6/9	Open	1413	1732.6	23.40	24.00	1.148	-	-	-0.15	1.860	2.136	0.66
83	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6/9	Open	1413	1732.6	23.08	24.00	1.236	-	-	0.12	2.010	**2.484**	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 5/6	Open	1513	1752.6	23.55	24.00	1.109	-	-	0.07	2.160	2.396	1.57
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 5/6	Open	1513	1752.6	23.62	24.00	1.091	-	-	-0.02	1.530	1.670	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	132072	1720	23.47	24.00	1.130	-	-	0.06	2.050	2.316	0.21
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	132072	1720	23.15	24.00	1.216	-	-	-0.05	2.000	2.432	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	132072	1720	23.39	24.00	1.151	-	-	0.13	2.210	2.543	1.08
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	132072	1720	23.38	24.00	1.153	-	-	0.08	1.720	1.984	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 2	DSI 5/6	Open	132572	1770	23.18	24.00	1.208	-	-	-0.13	2.080	2.512	0.19
84	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 2	DSI 5/6	Open	132572	1770	23.01	24.00	1.256	-	-	-0.12	2.090	**2.625**	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 5	Open	132572	1770	22.94	24.00	1.276	-	-	0.01	2.380	3.038	0.90
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 5	Open	132572	1770	22.79	24.00	1.321	-	-	-0.13	1.870	2.471	
	1st	FR1 n66	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 0	DSI 6/9	Open	349000	1745	23.00	24.00	1.259	-	-	0.04	1.090	1.372	0.71
	2nd	FR1 n66	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 0	DSI 6/9	Open	349000	1745	22.95	24.00	1.274	-	-	0	1.270	1.617	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Back	0mm	Ant 1	DSI 6/9	Open	349000	1745	23.05	24.00	1.245	-	-	0.14	2.450	3.049	1.25
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Back	0mm	Ant 1	DSI 6/9	Open	349000	1745	22.94	24.00	1.276	-	-	-0.14	1.790	2.285	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	0mm	Ant 2	DSI 5/6	Open	349000	1745	23.40	24.00	1.148	-	-	0.03	2.340	2.687	0.42
	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	0mm	Ant 2	DSI 5/6	Open	349000	1745	22.83	24.00	1.309	-	-	-0.07	2.260	2.959	
	1st	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	349000	1745	22.99	24.00	1.262	-	-	0.11	1.970	2.486	0.79
85	2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	349000	1745	23.18	24.00	1.208	-	-	0.09	2.470	**2.983**	
1900 MHz																							
	1st	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	0mm	Ant 2	DSI 5/6	Open	512	1850.2	25.16	25.80	1.159	-	-	0	0.973	1.127	0.13
86	2nd	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	0mm	Ant 2	DSI 5/6	Open	512	1850.2	25.15	25.80	1.161	-	-	0.14	0.943	**1.095**	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6/9	Open	9400	1880	23.10	24.00	1.230	-	-	0.05	2.400	2.953	0.03
87	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6/9	Open	9400	1880	23.09	24.00	1.233	-	-	-0.13	2.410	**2.972**	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 2	DSI 5/6	Open	9262	1852.4	23.67	24.00	1.079	-	-	0.03	2.180	2.352	1.23
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 2	DSI 5/6	Open	9262	1852.4	23.64	24.00	1.086	-	-	-0.04	1.630	1.771	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	26140	1860	23.75	24.00	1.059	-	-	-0.05	2.450	2.595	0.72
88	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	18900	1880	23.10	24.00	1.230	-	-	-0.06	2.490	**3.063**	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	18700	1860	23.07	24.00	1.239	-	-	0.15	2.310	2.862	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	19100	1900	23.12	24.00	1.225	-	-	-0.09	2.420	2.964	
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	26590	1905	23.77	24.00	1.054	-	-	0.01	2.650	2.794	0.42
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	18900	1880	23.50	24.00	1.122	-	-	-0.14	2.260	2.536	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	18700	1860	23.59	24.00	1.099	-	-	0.08	2.150	2.363	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	19100	1900	23.44	24.00	1.138	-	-	-0.12	2.080	2.366	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 2	DSI 5/6	Open	26590	1905	23.10	24.00	1.230	-	-	0.13	2.030	2.497	0.29
	2nd	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 2	DSI 5/6	Open	26590	1905	22.85	24.00	1.303	-	-	0.1	2.050	2.671	
	1st	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	26340	1880	22.96	24.00	1.271	-	-	-0.01	1.910	2.427	0.19
	2nd	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	26340	1880	22.82	24.00	1.312	-	-	0.03	1.770	2.323	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 0	DSI 6/9	Open	376500	1882.5	23.50	24.00	1.122	-	-	0.06	1.760	1.975	0.57
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 0	DSI 6/9	Open	376000	1880	23.42	24.00	1.143	-	-	-0.11	1.970	2.251	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Bottom Side	0mm	Ant 1	DSI 6/9	Open	376500	1882.5	23.40	24.00	1.148	-	-	0.14	2.200	2.526	1.70
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Bottom Side	0mm	Ant 1	DSI 6/9	Open	376000	1880	23.32	24.00	1.169	-	-	-0.09	1.460	1.707	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 2	DSI 5/6	Open	376500	1882.5	22.77	23.50	1.183	-	-	0.12	2.500	2.958	0.64
	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 2	DSI 5/6	Open	376000	1880	22.51	23.50	1.256	-	-	0.01	2.030	2.550	
	1st	FR1 n25	40M	QPSK	1	1	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	376500	1882.5	22.99	24.00	1.262	-	-	-0.01	2.000	2.524	0.43
89	2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	376000	1880	22.60	24.00	1.380	-	-	0.01	2.020	**2.788**	
2600 MHz																							
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	21100	2535	23.38	24.00	1.153	-	-	-0.13	2.480	2.861	0.58
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	21100	2535	23.28	24.00	1.180	-	-	0.05	2.120	2.502	

	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	21100	2535	22.10	23.10	1.259	-	-	0.05	2.070	2.606	0.46
	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	21100	2535	22.00	23.10	1.288	-	-	-0.02	2.250	2.899	
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 5/6	Open	20850	2510	22.00	22.70	1.175	-	-	-0.05	2.250	2.644	0.67
90	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 5/6	Open	20850	2510	21.66	22.70	1.271	-	-	-0.16	2.430	**3.087**	
	1st	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	21350	2560	19.00	20.50	1.413	-	-	0.16	2.160	3.051	0.41
	2nd	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	21350	2560	19.51	20.50	1.256	-	-	0.02	2.210	2.776	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	40185	2549.5	26.53	27.00	1.114	42.9	1.009	0.06	2.120	2.384	0.60
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	40185	2549.5	26.40	27.00	1.148	42.9	1.009	0.04	1.790	2.074	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	40620	2593	26.18	27.00	1.208	42.9	1.009	-0.06	2.570	3.132	0.97
	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6/9	Open	40620	2593	26.17	27.00	1.211	42.9	1.009	-0.09	2.050	2.504	
	1st	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	0mm	Ant 2	DSI 5/6	Open	40620	2593	26.42	27.00	1.143	42.9	1.009	0.04	2.380	2.745	0.45
91	2nd	LTE Band 41 _HPUE	20M	QPSK	1	0	-	Front	0mm	Ant 2	DSI 5/6	Open	40620	2593	25.91	27.00	1.285	42.9	1.009	0.01	2.350	**3.048**	
	1st	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	41055	2636.5	21.38	22.60	1.324	62.9	1.006	0.04	2.060	2.745	0.41
	2nd	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	41055	2636.5	21.54	22.60	1.276	62.9	1.006	-0.09	2.350	3.018	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 0	DSI 6/9	Open	507000	2535	23.45	24.00	1.135	-	-	0.02	1.890	2.145	0.41
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 0	DSI 6/9	Open	507000	2535	23.42	24.00	1.143	-	-	-0.15	1.710	1.954	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	0mm	Ant 1	DSI 6/9	Open	507000	2535	22.75	23.50	1.189	-	-	0.05	2.560	3.043	0.65
	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	0mm	Ant 1	DSI 6/9	Open	507000	2535	22.60	23.50	1.230	-	-	-0.13	2.130	2.620	
	1st	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	0mm	Ant 2	DSI 5/6	Open	507000	2535	22.88	23.50	1.153	-	-	0.05	2.740	3.160	0.00
92	2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	0mm	Ant 2	DSI 5/6	Open	507000	2535	22.36	23.50	1.300	-	-	0.01	2.430	**3.159**	
	1st	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	507000	2535	20.47	21.50	1.268	-	-	-0.11	2.210	2.802	0.39
	2nd	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	507000	2535	20.40	21.50	1.288	-	-	-0.06	1.990	2.564	
	1st	FR1 n41	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 0	DSI 6/9	Open	518598	2592.99	23.45	24.00	1.135	-	-	-0.06	1.550	1.759	1.22
	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 0	DSI 6/9	Open	518598	2592.99	23.42	24.00	1.143	-	-	0.01	2.040	2.331	
	1st	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	0mm	Ant 1	DSI 6/9	Open	518598	2592.99	23.50	24.00	1.122	-	-	-0.16	2.270	2.547	0.20
93	2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	0mm	Ant 1	DSI 6/9	Open	518598	2592.99	23.49	24.00	1.125	-	-	0.04	2.370	**2.665**	
	1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Front	0mm	Ant 2	DSI 5/6	Open	518598	2592.99	25.75	26.50	1.189	50	1.000	0.11	2.490	2.959	0.72
	2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Front	0mm	Ant 2	DSI 5/6	Open	518598	2592.99	25.73	26.50	1.194	50	1.000	0.03	2.100	2.507	
	1st	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 3	DSI 5	Open	518598	2592.99	23.62	24.50	1.225	50	1.000	-0.11	2.270	2.780	0.19
	2nd	FR1 n41_HPUE	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 3	DSI 5	Open	518598	2592.99	23.59	24.50	1.233	50	1.000	0.07	2.160	2.664	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Top Side	0mm	Ant 2+3	DSI 5/6	Open	518598	2592.99	26.14	27.00	1.219	50	1.000	-0.07	2.000	2.437	1.41
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Top Side	0mm	Ant 2+3	DSI 5/6	Open	518598	2592.99	26.47	27.00	1.130	50	1.000	-0.08	1.560	1.762	
	1st	FR1 n41_PC2	100M	QPSK	1	1	DFT-30	Bottom Side	0mm	Ant 2+1	DSI 5/6/9	Open	518598	2592.99	26.06	27.00	1.243	50	1.000	0.11	1.780	2.213	1.39
	2nd	FR1 n41_PC2	100M	QPSK	1	1	CP-30	Bottom Side	0mm	Ant 2+1	DSI 5/6/9	Open	518598	2592.99	26.49	27.00	1.125	50	1.000	0.06	1.430	1.608	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Top Side	0mm	Ant 0+3	DSI 5/6/9	Open	518598	2592.99	26.09	27.00	1.234	50	1.000	0.14	1.530	1.889	0.24
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Top Side	0mm	Ant 0+3	DSI 5/6/9	Open	518598	2592.99	26.44	27.00	1.138	50	1.000	0.05	1.570	1.786	
	1st	FR1 n41_PC2	100M	QPSK	135	69	DFT-30	Bottom Side	0mm	Ant 0+1	DSI 6/9	Open	518598	2592.99	26.18	27.00	1.207	50	1.000	0.15	1.430	1.726	1.28
	2nd	FR1 n41_PC2	100M	QPSK	137	68	CP-30	Bottom Side	0mm	Ant 0+1	DSI 6/9	Open	518598	2592.99	26.36	27.00	1.159	50	1.000	-0.05	1.110	1.286	
3-5GHz																							
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42990	3540	22.00	22.50	1.122	62.9	1.006	0.04	2.070	2.337	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42990+ 42792	3540+ 3520.2	21.96	22.50	1.132	62.9	1.006	-0.09	1.840	2.096	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42190	3460	21.95	22.50	1.135	62.9	1.006	0.14	1.530	1.747	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42590	3500	21.92	22.50	1.143	62.9	1.006	-0.16	1.520	1.748	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	14mm	Ant 3	DSI 4	Open	42990	3540	23.55	24.00	1.109	62.9	1.006	-0.08	0.268	0.299	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42990	3540	21.99	22.50	1.125	62.9	1.006	0.07	1.750	1.980	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42190	3460	21.85	22.50	1.161	62.9	1.006	-0.04	1.570	1.834	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42590	3500	21.90	22.50	1.148	62.9	1.006	0.14	1.580	1.825	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Top Side	0mm	Ant 3	DSI 5	Open	42990	3540	21.98	22.50	1.127	62.9	1.006	-0.07	1.680	1.905	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.29	22.80	1.125	62.9	1.006	0.08	1.560	1.765	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.29	22.80	1.125	62.9	1.006	0.05	1.310	1.482	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.29	22.80	1.125	62.9	1.006	0.16	2.020	2.285	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42190	3460	22.19	22.80	1.151	62.9	1.006	0.03	1.840	2.130	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42590	3500	22.15	22.80	1.161	62.9	1.006	-0.04	1.890	2.208	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42190	3460	22.19	22.80	1.151	62.9	1.006	-0.06	1.410	1.632	

	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42590	3500	22.15	22.80	1.161	62.9	1.006	-0.02	1.460	1.706	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42190	3460	22.19	22.80	1.151	62.9	1.006	0.09	1.190	1.378	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42590	3500	22.15	22.80	1.161	62.9	1.006	0	1.230	1.437	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.24	22.80	1.138	62.9	1.006	-0.15	1.610	1.843	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.24	22.80	1.138	62.9	1.006	0.06	1.370	1.568	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.24	22.80	1.138	62.9	1.006	-0.01	2.090	2.392	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42990+ 42792	3540+ 3520.2	21.93	22.80	1.222	62.9	1.006	0.06	1.760	2.163	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42190	3460	22.15	22.80	1.161	62.9	1.006	0.04	1.880	2.197	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42590	3500	22.12	22.80	1.169	62.9	1.006	-0.15	1.950	2.294	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42190	3460	22.15	22.80	1.161	62.9	1.006	-0.07	1.460	1.706	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42590	3500	22.12	22.80	1.169	62.9	1.006	-0.03	1.510	1.777	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42190	3460	22.15	22.80	1.161	62.9	1.006	0.06	1.230	1.437	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42590	3500	22.12	22.80	1.169	62.9	1.006	0.03	1.290	1.518	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	11mm	Ant 4	DSI 4	Open	42990	3540	22.66	24.00	1.361	62.9	1.006	0.08	0.268	0.367	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	Open	42990	3540	22.66	24.00	1.361	62.9	1.006	-0.06	0.229	0.314	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Left Side	18mm	Ant 4	DSI 4	Open	42990	3540	22.66	24.00	1.361	62.9	1.006	0.04	0.275	0.377	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.17	22.80	1.156	62.9	1.006	0.05	1.510	1.756	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Back	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.17	22.80	1.156	62.9	1.006	0.06	1.310	1.524	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Left Side	0mm	Ant 4	DSI 5/6	Open	42990	3540	22.17	22.80	1.156	62.9	1.006	-0.04	2.030	2.361	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 6	DSI 5	Open	42990	3540	21.94	23.50	1.432	62.9	1.006	0.14	1.130	1.628	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	0mm	Ant 6	DSI 5	Open	42990	3540	21.94	23.50	1.432	62.9	1.006	0.13	0.571	0.823	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42990	3540	21.94	23.50	1.432	62.9	1.006	0.03	1.480	2.132	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42190	3460	21.92	23.50	1.439	62.9	1.006	0.09	1.740	2.519	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42190+ 42388	3460+ 3479.8	21.67	23.50	1.524	62.9	1.006	0.03	1.590	2.438	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42590	3500	21.90	23.50	1.445	62.9	1.006	0.03	1.500	2.181	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 6	DSI 5	Open	42190	3460	21.92	23.50	1.439	62.9	1.006	0.09	1.240	1.795	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 6	DSI 5	Open	42590	3500	21.90	23.50	1.445	62.9	1.006	-0.1	1.110	1.614	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	11mm	Ant 6	DSI 4	Open	42190	3460	22.35	24.00	1.462	62.9	1.006	-0.01	0.196	0.288	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	6mm	Ant 6	DSI 4	Open	42990	3540	22.38	24.00	1.452	62.9	1.006	-0.07	0.487	0.711	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Top Side	12mm	Ant 6	DSI 4	Open	42190	3460	22.35	24.00	1.462	62.9	1.006	0.1	0.336	0.494	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 6	DSI 5	Open	42990	3540	21.52	23.00	1.406	62.9	1.006	0.06	1.020	1.443	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	0mm	Ant 6	DSI 5	Open	42990	3540	21.52	23.00	1.406	62.9	1.006	0.07	0.498	0.704	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42990	3540	21.52	23.00	1.406	62.9	1.006	0.1	1.350	1.910	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42190	3460	21.45	23.00	1.429	62.9	1.006	-0.03	1.460	2.099	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42590	3500	21.40	23.00	1.445	62.9	1.006	0.03	1.350	1.963	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 6	DSI 5	Open	42190	3460	21.45	23.00	1.429	62.9	1.006	0.02	1.090	1.567	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 6	DSI 5	Open	42590	3500	21.40	23.00	1.445	62.9	1.006	-0.09	0.976	1.419	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	0mm	Ant 6	DSI 5	Open	42990	3540	21.50	23.00	1.413	62.9	1.006	-0.1	1.070	1.520	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Top Side	0mm	Ant 6	DSI 5	Open	42990	3540	21.50	23.00	1.413	62.9	1.006	0.08	1.390	1.975	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.60	23.50	1.230	62.9	1.006	-0.15	1.600	1.980	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.60	23.50	1.230	62.9	1.006	-0.06	1.030	1.275	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.60	23.50	1.230	62.9	1.006	-0.08	2.110	2.611	
94	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42190	3460	22.48	23.50	1.265	62.9	1.006	0.1	2.240	**2.850**	
	2nd	LTE Band 42C	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42190+ 42388	3460+ 3479.8	21.96	23.50	1.426	62.9	1.006	-0.08	1.800	2.581	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42590	3500	22.50	23.50	1.259	62.9	1.006	-0.08	2.160	2.736	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42190	3460	22.48	23.50	1.265	62.9	1.006	-0.06	1.690	2.150	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42590	3500	22.50	23.50	1.259	62.9	1.006	0.04	1.580	2.001	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 8	DSI 4	Open	42190	3460	22.91	24.00	1.285	62.9	1.006	-0.08	0.209	0.270	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Back	5mm	Ant 8	DSI 4	Open	42990	3540	23.23	24.00	1.194	62.9	1.006	-0.05	0.733	0.880	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	14mm	Ant 8	DSI 4	Open	42190	3460	22.91	24.00	1.285	62.9	1.006	0.04	0.254	0.328	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.17	23.00	1.211	62.9	1.006	0.16	1.450	1.766	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Back	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.17	23.00	1.211	62.9	1.006	-0.15	0.949	1.156	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.17	23.00	1.211	62.9	1.006	-0.14	2.050	2.497	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42190	3460	21.96	23.00	1.271	62.9	1.006	-0.13	2.080	2.659	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42590	3500	21.87	23.00	1.297	62.9	1.006	-0.15	2.030	2.649	

	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42190	3460	21.96	23.00	1.271	62.9	1.006	-0.05	1.510	1.930	
	2nd	LTE Band 42	20M	QPSK	50	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42590	3500	21.87	23.00	1.297	62.9	1.006	0.04	1.490	1.944	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Front	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.11	23.00	1.227	62.9	1.006	0.04	1.460	1.803	
	2nd	LTE Band 42	20M	QPSK	100	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42990	3540	22.11	23.00	1.227	62.9	1.006	0.1	2.090	2.581	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 3	DSI 5	Open	656000	3840	19.91	20.50	1.146	-	-	-0.11	2.570	2.944	0.38
95	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 3	DSI 5	Open	656000	3840	19.45	20.50	1.274	-	-	-0.04	2.120	**2.700**	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI 5/6	Open	656000	3840	20.92	21.50	1.143	-	-	-0.06	2.520	2.880	0.45
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI 5/6	Open	656000	3840	20.95	21.50	1.135	-	-	-0.06	2.290	2.599	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 6	DSI 5	Open	656000	3840	19.77	20.50	1.183	-	-	0.07	2.580	3.052	0.92
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 6	DSI 5	Open	656000	3840	19.80	20.50	1.175	-	-	-0.02	2.100	2.467	
	1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Right Side	0mm	Ant 8	DSI 5/6	Open	656000	3840	20.88	21.50	1.153	-	-	0.05	2.490	2.872	0.52
	2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Right Side	0mm	Ant 8	DSI 5/6	Open	656000	3840	20.90	21.50	1.148	-	-	-0.03	2.220	2.549	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 4+8	DSI 5/6	Open	656000	3840	25.15	26.00	1.216	50	1.000	-0.02	1.930	2.347	0.86
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Left Side	0mm	Ant 4+8	DSI 5/6	Open	656000	3840	25.28	26.00	1.181	50	1.000	0	1.630	1.924	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 4+6	DSI 5/6	Open	656000	3840	25.68	26.50	1.208	50	1.000	-0.11	1.610	1.944	0.21
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Left Side	0mm	Ant 4+6	DSI 5/6	Open	656000	3840	25.87	26.50	1.157	50	1.000	-0.16	1.600	1.851	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Right Side	0mm	Ant 3+8	DSI 5/6	Open	656000	3840	25.25	26.00	1.188	50	1.000	0.16	2.040	2.424	1.28
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Right Side	0mm	Ant 3+8	DSI 5/6	Open	656000	3840	25.02	26.00	1.254	50	1.000	-0.12	1.440	1.806	
	1st	FR1 n77_Part27O_PC2	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 3+6	DSI 5	Open	656000	3840	25.69	26.50	1.206	50	1.000	0.05	2.430	2.931	1.17
	2nd	FR1 n77_Part27O_PC2	100M	QPSK	1	1	CP-30	Top Side	0mm	Ant 3+6	DSI 5	Open	656000	3840	25.60	26.50	1.229	50	1.000	0.02	1.820	2.237	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation d_{dB}(dB)
2450 MHz																			
	1st	Bluetooth	DH5 1Mbps	Right Side	0mm	Ant 7	DSI 5/6	Open	0	2402	16.32	18.00	1.472	77.07	1.298	0.06	1.320	2.523	0.24
96	2nd	Bluetooth	DH5 1Mbps	Right Side	0mm	Ant 7	DSI 5/6	Open	0	2402	16.32	18.00	1.472	77.07	1.298	0.11	1.250	**2.389**	
	1st	Bluetooth	DH5 1Mbps	Top Side	0mm	Ant 5	DSI 5	Open	39	2441	19.00	20.50	1.413	77.07	1.298	0.03	0.689	1.263	1.83
	2nd	Bluetooth	DH5 1Mbps	Top Side	0mm	Ant 5	DSI 5	Open	39	2441	19.00	20.50	1.413	77.07	1.298	0.14	0.452	0.829	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 7+5	DSI 5/6	Open	11	2462	18.09	20.00	1.552	98.53	1.015	0.06	1.780	2.805	0.17
97	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 7+5	DSI 5/6	Open	11	2462	18.09	20.00	1.552	98.53	1.015	0.03	1.850	**2.915**	
5 GHz																			
	1st	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	46	5230	18.40	20.00	1.444	100	1.000	-0.1	1.700	2.455	0.26
98	2nd	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	46	5230	18.40	20.00	1.444	100	1.000	0.06	1.600	**2.310**	
	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	54	5270	18.22	20.00	1.505	100	1.000	0.1	1.710	2.574	0.10
99	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	54	5270	18.22	20.00	1.505	100	1.000	0	1.670	**2.513**	
	1st	WLAN5.5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	110	5550	18.18	20.00	1.519	100	1.000	0	2.100	3.190	0.23
100	2nd	WLAN5.5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	110	5550	18.18	20.00	1.519	100	1.000	0.06	1.990	**3.023**	
	1st	WLAN5.8GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	159	5795	18.03	19.50	1.401	100	1.000	0.09	1.980	2.775	0.27
101	2nd	WLAN5.8GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	159	5795	18.03	19.50	1.401	100	1.000	0.15	1.860	**2.607**	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Measured APD (W/m^2)	Deviation d_{dB}(dB)
	1st	WLAN6GHz	802.11be-EHT320 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	127	6585	11.34	13.00	1.465	98.85	1.012	-0.09	0.405	0.601	9.62	1.58
102	2nd	WLAN6GHz	802.11be-EHT320 MCS0	Right Side	0mm	Ant 7+5(7)	DSI 5/6	Open	127	6585	11.34	13.00	1.465	98.85	1.012	-0.04	0.282	**0.418**	6.69	

17.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	FR1 n77_Part27O_HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	Open	656000	3840	20.61	21.00	1.094	50	1.000	-0.08	1.090	1	1.192
2nd	FR1 n77_Part27O_HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	Open	656000	3840	20.61	21.00	1.094	50	1.000	0.06	1.010	1.079	1.105
1st	WLAN5.5GHz	-	-	-	-	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	Open	114	5570	17.21	18.50	1.346	98.75	1.013	-0.07	0.873	1	1.190
2nd	WLAN5.5GHz	-	-	-	-	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5	DSI 2	Open	114	5570	17.21	18.50	1.346	98.75	1.013	0.08	0.861	1.014	1.174
1st	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	DSI 7	Open	518598	2592.99	23.38	24.00	1.153	-	-	0	1.100	1	1.269
2nd	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 0	DSI 7	Open	518598	2592.99	23.38	24.00	1.153	-	-	0.05	1.030	1.068	1.188
1st	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 11	Close	155	5775	20.14	21.50	1.368	99.26	1.007	-0.09	0.858	1	1.182
2nd	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7+5	DSI 11	Close	155	5775	20.14	21.50	1.368	99.26	1.007	0.02	0.826	1.039	1.138
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	Open	1513	1752.6	22.71	23.50	1.199	-	-	0.11	1.060	1	1.271
2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	Open	1513	1752.6	22.71	23.50	1.199	-	-	0.08	0.995	1.065	1.194
1st	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 10	Close	376000	1880	23.38	24.00	1.153	-	-	-0.01	1.110	1	1.280
2nd	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 10	Close	376000	1880	23.38	24.00	1.153	-	-	0.04	1.020	1.088	1.177
1st	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 3	Open	42190	3460	21.29	21.80	1.125	62.9	1.006	0.1	1.120	1	1.267
2nd	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 3	Open	42190	3460	21.29	21.80	1.125	62.9	1.006	0.05	1.070	1.047	1.211
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Front	5mm	Ant 7+5	DSI 3	Open	11	2462	19.17	20.50	1.358	98.5	1.015	-0.02	0.846	1	1.166
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Front	5mm	Ant 7+5	DSI 3	Open	11	2462	19.17	20.50	1.358	98.5	1.015	0.07	0.831	1.018	1.146
1st	WLAN5.3GHz	-	-	-	-	802.11n-HT40 MCS0	Front	5mm	Ant 7+5	DSI 10	Close	54	5270	20.98	22.50	1.419	100	1.000	-0.09	0.892	1	1.266
2nd	WLAN5.3GHz	-	-	-	-	802.11n-HT40 MCS0	Front	5mm	Ant 7+5	DSI 10	Close	54	5270	20.98	22.50	1.419	100	1.000	0.01	0.883	1.010	1.253

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	349000	1745	23.18	24.00	1.208	-	-	0.09	2.470	1	2.983
2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 3	DSI 5	Open	349000	1745	23.18	24.00	1.208	-	-	0.01	2.410	1.025	2.911
1st	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	18900	1880	23.10	24.00	1.230	-	-	-0.06	2.490	1	3.063
2nd	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6/9	Open	18900	1880	23.10	24.00	1.230	-	-	0.05	2.420	1.029	2.977
1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 5/6	Open	20850	2510	21.66	22.70	1.271	-	-	-0.16	2.430	1	3.087
2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 5/6	Open	20850	2510	21.66	22.70	1.271	-	-	0.08	2.370	1.025	3.011
1st	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	0mm	Ant 2	DSI 5/6	Open	507000	2535	22.36	23.50	1.300	-	-	0.01	2.430	1	3.159
2nd	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	0mm	Ant 2	DSI 5/6	Open	507000	2535	22.36	23.50	1.300	-	-	0.08	2.370	1.025	3.081
1st	LTE Band 42	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42190	3460	22.48	23.50	1.265	62.9	1.006	0.1	2.240	1	2.850
2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	DSI 5/6	Open	42190	3460	22.48	23.50	1.265	62.9	1.006	0.05	2.190	1.023	2.786
1st	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI 5/6	Open	656000	3840	20.95	21.50	1.135	-	-	-0.06	2.290	1	2.599
2nd	FR1 n77_Part27O	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI 5/6	Open	656000	3840	20.95	21.50	1.135	-	-	0.07	2.180	1.050	2.474

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The ratio is the difference in percentage between original and repeated *measured SAR*.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

17.6 TDD 5GNR Linearity Data Analysis

General Note:
This device support Power Class 2 and Power Class 3 operations for TDD n41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg for 1g and < 3.5 W/kg for 10g, Separate SAR testing for Power Class 2 is not required.

Only the linearity data analysis of the complete test band was evaluated. The verification data of all other bands/exposure conditions are very close to the reference model, so the prototype data can replace the verification data, and its linearity data analysis can refer to the reference model SAR test report.

Flip-Open Mode

Head		
FR1 n41_Ant 2(HPUE)-Linearity Data for DSI 2		
	FR1 n41 (Power Class 3)	FR1 n41 (Power Class 2)
Maximum Tune up Power (dBm)	17.50	20.50
Reported 1g SAR (W/kg)	1.115	1.192
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	56.23	56.10
Linearity SAR (W/kg)	1.112	
% deviation from expected linearity		7.16%

18. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz/6GHz	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	WLAN5GHz/6GHz + Bluetooth	Yes	Yes	Yes	Yes
5.	WLAN2.4GHz + WLAN5GHz/6GHz	Yes	Yes	Yes	Yes
6.	WWAN + WLAN5GHz/6GHz + Bluetooth	Yes	Yes	Yes	Yes
7.	WWAN + WLAN2.4GHz + WLAN5GHz/6GHz	Yes	Yes	Yes	Yes
8.	WWAN + WLAN2.4GHz + NFC	Yes	Yes	Yes	Yes
9.	WWAN + WLAN5GHz/6GHz + NFC				Yes
10.	WWAN + Bluetooth + NFC				Yes
11.	WLAN5GHz/6GHz + Bluetooth + NFC				Yes
12.	WLAN2.4GHz + WLAN5GHz/6GHz + NFC				Yes
13.	WWAN + WLAN5GHz/6GHz + Bluetooth + NFC				Yes
14.	WWAN + WLAN2.4GHz				Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands and EN-DC combination.
3. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
4. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
5. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only). WLAN6GHz has no hotspot function.
6. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
7. According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
8. According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can't transmit simultaneously.
9. According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz can't transmit simultaneously.
10. According to the EUT characteristic, WLAN 2.4GHz and Bluetooth cannot transmit simultaneously.
11. NFC can transmit simultaneously with other Radios in extremity exposure condition.
12. The maximum SAR summation is calculated based on the same configuration and test position.
13. The equipment under test (EUT) contains the Qualcomm modems supporting WWAN/WLAN/BT technologies. these modems are always enabled with Qualcomm Smart Transmit feature to control and manage transmitting power in real time and to ensure the time-averaged RF exposure follows the FCC requirement. Qualcomm Smart Transmit algorithm in WWAN/WLAN/BT directly adds the time-averaged RF exposure from WWAN/WLAN/BT. Smart Transmit algorithm controls the total RF exposure from all WWAN/WLAN/BT to not exceed FCC limit. Therefore, simultaneous transmission compliance between WWAN/WLAN/BT operations is demonstrated in the Part 2 Report during algorithm validation. Simultanous SAR for WWAN/WLAN/BT in a DSI is the worst-case reported SAR of WWAN/WLAN/BT. In addition, each antenna needs to satisfy simultaneous transmission analysis with External radios (NFC) in Part.1 report.
14. For standalone WWAN/WLAN/BT at extremity exposure condition, always choose the highest SAR among all WWAN/WLAN/BT bands within all antennas for each exposure position to perform simultaneous transmission analysis with NFC. This is the worst co-located analysis and can represent each band.
15. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR and SPLSR≤ 0.10 for 10g SAR, simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
16. The WLAN6GHz Sim-Tx analysis guidance with other transmitters was based on SAR test results. The

simultaneous transmission and test exemption analysis were compliant with KDB 447498 D01. For the device does not support FR2 or other MPE field measurement, therefore section 18 in the SAR report has no TER analysis according to KDB 987594 requirement.

18.1 5G NR + LTE + External radio (e.g: NFC) Sim-Tx analysis

In 5G NR + LTE + external radio (e.g: NFC) simultaneous transmission, 5G NR and LTE transmission are managed and controlled by Qualcomm® Smart Transmit, while the RF exposure from external radios (e.g: NFC) is managed using legacy approach, i.e., through a fixed power back-off if needed.

Since external radios (e.g: NFC) do not employ time-averaging, 1gSAR and 10gSAR measurement for external radios (e.g: NFC) need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.

Smart Transmit current implementation assumes hotspots from 5G NR and LTE are collocated. Therefore, for a total of 100% exposure margin, if LTE uses x%, then the exposure margin left for 5G NR is capped to (100-x)%. Thus, the compliance equation for LTE + 5G NR is

*x% * A + (100-x)% * B ≤ 1.0,*

Where, A is normalized reported time-averaged SAR exposure ratio from LTE, and A ≤ 1.0; B is normalized reported time-averaged exposure ratio from 5G NR (i.e. SAR exposure for 5G FR1), and B ≤1.0.

Let C = normalized reported SAR exposure ratio from external radios (e.g: NFC), then for compliance,

*x% * A + (100-x)% * B + C ≤ 1.0* (1)

x% * A + (100-x)% * B ≤ x% * max(A, B) + (100-x)% * max(A, B) ≤ max(A, B)

*x% * A + (100-x)% * B + C ≤ max(A, B) + C ≤ 1.0* (2)

If A + C ≤ 1.0 and B + C ≤ 1.0 can be proven, then “x% * A + (100-x)% * B + C ≤ 1.0”. Therefore simultaneous transmission analysis for 5G NR + LTE + external radios (e.g: NFC) can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + external radios (e.g: NFC) < 1
Step 2: Prove total exposure ratio (TER) of 5G NR + external radios (e.g: NFC) < 1

Else, if A + C > 1.0 and/or B + C > 1.0, then the followings need to hold true for compliance:
i. A and C are decoupled based on the SPLSR criteria, and
ii. (100-x)% * B + C ≤ 1.0, and
iii. x% * A + (100-x)% * B ≤ 1.0
Note iii. is covered in Part 2 report; i. and ii. should be addressed in Part 2 report.

Above analysis is also apply to LTE/NR inter-band uplink CA, LTE(NR)1 + LTE(NR)2 + external radios (e.g: NFC) simultaneous transmission, so inter-band uplink CA no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of LTE/NR + external radios (e.g: NFC) < 1.

18.2 MIMO SAR Test condition and verification

General Note:

1. Smart Transmit EFS v20 (or lower) uses SISO Plimit to calculate RF exposure from MIMO transmission scenario. Therefore, if MIMO is supported for WWAN technologies (including 5G sub6 NR), below procedure should be performed for validity of Smart Transmit operation:
   1) Below procedure should also be performed for Smart Transmit EFS v21 (or higher) if MIMO Plimit is not populated in the EFS but MIMO operation is supported for antennas belonging to the same antenna group (refer to Section 4.2.5 of of Qualcomm's document 80-W2112-4).
2. Measure SAR for supported MIMO scenarios in FTM mode with each of the MIMO antennas set to transmit continuously at *Ptest* = minimum {*Plimit(i), Pmax(i); i*=1 to *n* MIMO antennas}, where *Plimit(i)* is the power level entered in the Smart Transmit EFS for antenna *i* under the corresponding tech/band/DSI. For Smart Transmit to ensure the compliance in MIMO transmission scenario, the below criteria should be met for measured MIMO SAR (i.e., highest peak spatial-average SAR from the measurement):

$$reported\ SAR_{MIMO} = Measured\ MIMO\ SAR_{MIMO}\ at\ (\ P_{test}\ + device\ total\ uncertainty\ ) \leq calc.SAR$$

   Where $calc.SAR\ = \sum_{i=1}^{n}\left[SAR\_design\_target\ * 10^{\left(\frac{total\ uncertainty + P_{test} - P_{limit}(i) - backoff(i)}{10}\right)}\right]$

   Here,

   · *n* is number of MIMO antennas (in case of 2x2MIMO, n=2).

   · *Plimit(i)* is EFS *Plimit* for antenna *i* ϵ MIMO for a given tech/band/DSI. *Plimit* corresponds to *SAR_design_target.*

   · *backoff(i)* is backoff from *SAR_design_target* used for the *i*th antenna's *Plimit* to meet TER with external radios (i.e., radios outside of Smart Transmit control). If EFS *Plimit* of antenna *i* corresponds to *SAR_design_target*, then *backoff(i)* = 0 in the above equation.

   · *Ptest* (i.e., power level used for MIMO SAR measurement, MIMO.SAR @*Ptest*) = min {*Plimit(i)*, Pmax*(i)*, *i* = 1 to n MIMO antenna}. To further clarify, *Ptest* = min {*Plimit(i), SISO.Pmax(i)*, *MIMO.Pmax*, *i*= 1 to n antenna ϵ MIMO}, where, *Plimit* corresponds to *SAR_design_target*; *SISO.Pmax* and *MIMO.Pmax* correspond to the maximum output power (nominal levels without device uncertainty) that device is capable; here, *Ptest* is nominal power level, not measured level.
3. If the $reported\ SARMIMO$ does not meet the above condition, then *Plimit(i)* for each of the MIMO antenna in the Smart Transmit EFS should be reduced by *10*log10[*$reported\ SARMIMO$ */calc.SAR]* dB.
4. Per Qualcomm's document guideline, FR1/WLAN Plimit is configured in the EFS and FR1/WLAN MIMO antennas belong to the same antenna group, then SAR measurement results at MIMO Plimit for the corresponding FR1/WLAN MIMO transmission scenario can be referred to section 17 in this report.
5. Per Qualcomm's document guideline, BT MIMO Plimit is not populated in the EFS, but MIMO operation is supported for antennas belonging to the same antenna group, the detail BT MIMO analysis results please referred to appendix H.

18.3 1g SAR Exposure Conditions

N/A.

General Note: The equipment under test (EUT) contains the Qualcomm modems supporting WWAN/WLAN/BT technologies. these modems are always enabled with Qualcomm Smart Transmit feature to control and manage transmitting power in real time and to ensure the time-averaged RF exposure follows the FCC requirement. Qualcomm Smart Transmit algorithm in WWAN/WLAN/BT directly adds the time-averaged RF exposure from WWAN/WLAN/BT. Smart Transmit algorithm controls the total RF exposure from all WWAN/WLAN/BT to not exceed FCC limit. Therefore, simultaneous transmission compliance between WWAN/WLAN/BT operations is demonstrated in the Part 2 Report during algorithm validation. Simultanous SAR for WWAN/WLAN/BT in a DSI is the worst-case reported SAR of WWAN/WLAN/BT.

18.4 Product specific 10g SAR Exposure Conditions

Exposure Position	1	2	1+2
	All WWAN/WLAN/BT Bands	NFC	Summed
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
Front	3.191		3.19
Back	3.191	0.023	**3.21**
Left side	3.191		3.19
Right side	3.191		3.19
Top side	3.191		3.19
Bottom side	3.191		3.19

19. Supplemental Tuner Tests Results

General Note:

1. This device implements impedance tuner (144 states) antenna tuning techniques in the GSM850/1900, WCDMA II/IV/V, CDMA BC0, LTE Band 2/4/5/7/12/13/17/26/66/71/38/41, and 5GNR n2/5/7/26/66/71/38/41 for ANT0.
2. This device implements impedance tuner (144 states) antenna tuning techniques in the GSM850, WCDMA V, CDMA BC0, LTE Band 2/4/5/7/12/13/17/26/66/71/38/41, and 5GNR n2/5/7/26/66/71/38/41 for ANT1.
3. This device implements impedance tuner (144 states) antenna tuning techniques in the LTE Band 2/4/7/25/66/38/41, and 5GNR n2/7/66/38/41 for ANT3.
4. LTE B17 / B5 / B4 / B2/B38 SAR test was covered by LTE B12 / B26 / B66 / B25/B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced.
5. 5GNR n5 /n38 /n78 SAR test was covered by 5GNR n26 / n41/n77; according to April 2015 TCB workshop, SAR test for overlapping NR bands can be reduced.
6. Per 2019, April TCBC Workshop titled “RF Exposure Procedures”, the following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions.
   1) SAR is measured according to required procedures with dynamic tuner active allowing device to automatically tune. Auto-tune state determined by device during normal SAR measurement verified and listed alongside the reported SAR results.
   2) Total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
   3) The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).
   4) Single point measurements performed at the peak SAR location of the highest measured SAR configuration for each combination. SAR probe remains stationary throughout the entire series of single point measurements for each combination.
   5) If any single point SAR measurement result is > 1.2 W/kg for 1gSAR (or > 3.0 W/kg for 10gSAR) for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination.
7. The above test procedures were followed to demonstrate that the SAR results in section 17 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
8. To evaluate all of the tuner states, the 144 tuner states for ANT0/1/3 is divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg or 10g SAR was > 3.0 W/kg for a particular band / mode / exposure condition, point SAR measurements were made for all tuner states.
9. According to KDB 648474 D04 v01r03, in order to reduce the number of SAR tests required to demonstrate compliance for the numerous tuning states, certain SAR screening procedures were considered to identify the higher SAR between body-worn and hotspot scenarios that need normally required SAR measurements and allow SAR test reduction for the lower SAR conditions.
10. According to KDB 648474 D04 v01r03, this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.
11. The operational decryption contains more information about the design and implementation of the dynamic antenna tuning.

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20. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, 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. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[(a)]	1/k[(b)]	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Uncertainty Budget According to IEC/IEEE 62209-1528 (Frequency band: 4 MHz - 10 GHz range)							
Error Description	**Uncert. Value (±%)**	**Prob. Dist.**	**Div.**	**(Ci) 1g**	**(Ci) 10g**	**Standard Uncertainty (1g) (±%)**	**Standard Uncertainty (10g) (±%)**
Measurement System errors							
Probe calibration	18.6	N	2	1	1	9.3	9.3
Probe calibration drift	1.7	R	1.732	1	1	1.0	1.0
Probe linearity and detection Limit	4.7	R	1.732	1	1	2.7	2.7
Broadband signal	2.8	R	1.732	1	1	1.6	1.6
Probe isotropy	7.6	R	1.732	1	1	4.4	4.4
Other probe and data acquisition errors	2.4	N	1	1	1	2.4	2.4
RF ambient and noise	1.8	N	1	1	1	1.8	1.8
Probe positioning errors	0.006	N	1	0.5	0.5	0.0	0.0
Data processing errors	4.0	N	1	1	1	4.0	4.0
Phantom and Device Errors							
Measurement of phantom conductivity (σ)	2.5	N	1	0.78	0.71	2.0	1.8
Temperature effects (medium)	5.4	R	1.732	0.78	0.71	2.4	2.2
Shell permittivity	14.0	R	1.732	0.5	0.5	4.0	4.0
Distance between the radiating element of the DUT and the phantom medium	2.0	N	1	2	2	4.0	4.0
Repeatability of positioning the DUT or source against the phantom	1.0	N	1	1	1	1.0	1.0
Device holder effects	3.6	N	1	1	1	3.6	3.6
Effect of operating mode on probe sensitivity	2.4	R	1.732	1	1	1.4	1.4
Time-average SAR	1.7	R	1.732	1	1	1.0	1.0
Variation in SAR due to drift in output of DUT	2.5	N	1	1	1	2.5	2.5
Validation antenna uncertainty (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Uncertainty in accepted power (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Correction to the SAR results							
Phantom deviation from target (ε′,σ)	1.9	N	1	1	0.84	1.9	1.6
SAR scaling	0.0	R	1.732	1	1	0.0	0.0
Combined Std. Uncertainty						**14.5%**	**14.4%**
Coverage Factor for 95 %						**K=2**	**K=2**
Expanded STD Uncertainty						**29.0%**	**28.8%**

21. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] IEC/IEEE 62209-1528:2020, “Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)”, Oct. 2020

[5] SPEAG DASY System Handbook

[6] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[7] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

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[10] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015

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[14] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

[15] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[16] FCC KDB 484596 D01 v02r03, “Test Reductions Via Data Referencing”, Mar. 2024

------THE END------