FCC SAR Test Report

APPLICANT	:	**Xiaomi Communications Co., Ltd.**
EQUIPMENT	:	**Mobile Phone**
BRAND NAME	:	**Redmi**
MODEL NAME	:	**22031116BG**
FCC ID	:	**2AFZZ116BG**
STANDARD	:	**FCC 47 CFR Part 2 (2.1093)**

We, Sporton International Inc. (Kunshan), 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. (Kunshan), the test report shall not be reproduced except in full.

Tony Zhang

Reviewed by: Tony Zhang / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

ACCREDITED
Cert #5145.02

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA180507-03	Rev. 01	Initial issue of report.	Feb. 08, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, 22031116BG,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 15mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	1.01	0.72	0.53	1.59
		GSM1900	0.64	0.41	0.20	
	WCDMA	Band II	0.96	1.01	0.48	
		Band IV	0.95	0.90	0.44	
		Band V	0.74	0.40	0.37	
	LTE	Band 2	0.90	0.82	0.42	
		Band 7	0.81	**1.09**	0.80	
		Band 12/Band 17	0.42	0.28	0.27	
		Band 13	0.77	0.18	0.25	
		Band 26/5	0.85	0.39	0.36	
		Band 66/ Band 4	0.83	0.63	0.43	
		Band 41/ Band 38	0.89	1.03	0.41	
	5G NR	n5	0.97	0.44	0.28	
		n7	0.89	1.03	0.94	
		n66	1.08	0.97	0.37	
		n41/ n38	1.01	0.98	**1.00**	
		n77/ n78	**1.09**	0.88	0.87	
DTS	WLAN	2.4GHz WLAN	0.56	0.21	<0.10	1.59
NII		5GHz WLAN	0.54	0.44	0.43	1.59
DSS	Bluetooth	2.4GHz Bluetooth	<0.10	<0.10	<0.10	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
NII	WLAN	5GHz WLAN	**1.61**	-
Date of Testing:			2022/1/1 ~ 2022/1/20	

Remark:

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

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. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR03-KS	CN1257	314309

Applicant	
Company Name	Xiaomi Communications Co., Ltd.
Address	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

Manufacturer	
Company Name	Xiaomi Communications Co., Ltd.
Address	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

3. 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
- 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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	Redmi
Model Name	22031116BG
FCC ID	2AFZZ116BG
IMEI Code	SIM1: 861408060015008 SIM2: 861408060015016
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 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 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 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 Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM LTE: 256QAM(Downlink Only) 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	P1
SW Version	MIUI 13
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 WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation, but do not support VoIP in GPRS/EGPRS.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 2.4GHz WLAN/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. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
6. There are two types of EUT, they are single SIM card mobile and dual SIM card mobile, according to the differences, we choose sample 1 to perform full test.
7. The device has two batteries with the same battery capacity, only Manufacturer is different. We only chose battery 1 to perform full SAR testing.
8. There are four types of EUT. the sample 1 is 4+64G capacity with battery 1, sample 2 is 4+128G capacity with battery 2, sample 3 is 6+128G capacity with battery 1, sample 4 is 6+128G capacity with battery 2. According to the differences, we choose sample 1 to perform full test.
9. The device implements Proximity sensors/receiver detect mechanism trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. Full power table and reduced power table (DSI 1: receiver on reduced power for head; DSI 3/4: P-sensor on for hotspot; DSI 2: receiver off /P-sensor off).
10. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
11. 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.
12. 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.
13. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, chose higher power which is SCS30KHz to perform SAR testing.
14. 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.
15. 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.
16. 5GNR n41/n77/n78 supports HPUE, HPUE power level higher than class 3 power level, and HPUE can represent class 3 conservatively, so SAR testing only performed HPUE.
17. For 5G NR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR , the result of EN-DC SAR is more conservatively.
18. 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	n5	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n7	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 40
			30	10, 15, 20, 25, 30, 40
	n38	TDD	15	5, 10, 15, 20, 40
			30	10, 15, 20, 40
	n41	TDD	15	10, 15, 20, 30, 40, 50
			30	10, 15, 20, 30, 40, 50, 60, 80, 90, 100
	n77	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 70, 80, 90, 100
SA	n5	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n7	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 40
			30	10, 15, 20, 25, 30, 40
	n38	TDD	15	5, 10, 15, 20, 40
			30	10, 15, 20, 40
	n41	TDD	15	10, 15, 20, 30, 40, 50
			30	10, 15, 20, 30, 40, 50, 60, 80, 90, 100
	n77	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	2AFZZ116BG
Equipment Name	Mobile 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 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 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 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R15, 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 detect mechanism, head/body-worn/ hotspot/extremity will trigger reduced power for some WWAN bands, trigger reduction power applied to satisfy SAR compliance , the detail please referred to section 13.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for 7C/38C with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 2 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 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

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
Channel Bandwidth	5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n38: 5MHz, 10MHz, 15MHz, 20MHz, 40MHz 5G NR n41: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz
SCS	FDD: SCS15KHz /SCS30KHz, TDD: SCS15KHz /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 n5	LTE B2/7/38/41/66
LTE Anchor Bands for n7	LTE B2/5/7/38/41/66
LTE Anchor Bands for n38	LTE B2/5/7/38/41/66
LTE Anchor Bands for n41	LTE B2/5/7/38/41/66
LTE Anchor Bands for n66	LTE B2/5/7/38/41/66
LTE Anchor Bands for n77	LTE B2/5/7/38/41/66
LTE Anchor Bands for n78	LTE B2/5/7/38/41/66

NR Band 5 SCS15KHz								
	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 5 SCS30KHz						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5
H	168800	844	168300	841.5	167800	839

NR Band 7 SCS15KHz								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560

NR Band 7 SCS30KHz						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535
H	513000	2565	512500	2562.5	512000	2560

NR Band 38 SCS15KHz										
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	514506	2572.53	515004	2575.02	515502	2577.51	516000	2580	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	523494	2617.47	522996	2614.98	522498	2612.49	522000	2610	519996	2599.98

NR Band 38 SCS30KHz								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610	519996	2599.98

NR Band 66 SCS15KHz														
	Bandwidth 5MHz		Bandwidth 10MHz		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)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	346000	1730
M	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	352000	1760

NR Band 66 SCS30KHz												
	Bandwidth 10MHz		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	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352000	1760

NR Band 41 SCS15KHz												
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	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	502200	2511	503202	2516.01	504204	2521.02
M	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	534996	2674.98	534000	2670	532998	2664.99

NR Band 41 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		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)
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	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
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640

<3700 MHz ~ 3980 MHz>

NR Band 77 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664668	3970.02	664000	3960	663668	3955.02

NR Band 77 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		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)
L	647000	3705	647168	3707.52	647334	3710.01	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	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664668	3970.02	664000	3960	663668	3955.02	663334	3950.01	663000	3945	662668	3940.02	662334	3935.01	662000	3930

NR Band 78 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652834	3792.51	652668	3790.02	652000	3780	651668	3775.02

NR Band 78 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		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)
L	647000	3705	647168	3707.52	647334	3710.01	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
H	653000	3795	652834	3792.51	652668	3790.02	652000	3780	651668	3775.02	651334	3770.01	651000	3765	650668	3760.02	650334	3755.01		

<3450 MHz ~ 3550 MHz>

NR Band 77 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98	635000	3525

NR Band 77 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		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)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

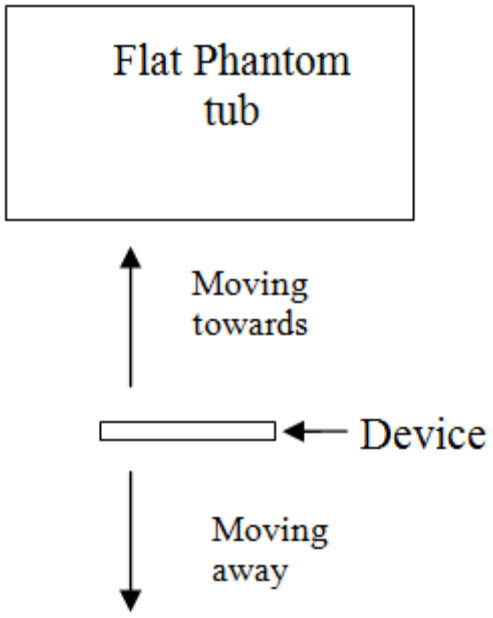
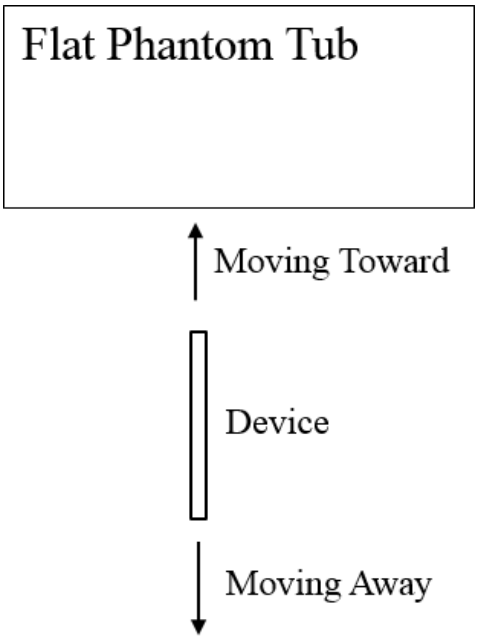
NR Band 78 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98	635000	3525

NR Band 78 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		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)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

5. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

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.
2. In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or bottom or left or top side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
4. The proximity sensors used to detect the proximity of the user's body or handheld state at the front or back or bottom or left or top side of the device use a detection threshold distance. When front/back/left/top/bottom sides of body or handheld condition is detected reduced power will be active. The data shown in the sections below shows the distance(s).
5. 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 detection test set-up, front and back sides	Sensor detection test set-up, left /top /bottom sides

<P-Sensor>

< Sensor for Ant0/ Ant1 >

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

<Sensor for Ant2/ Ant4 / Ant3 / Ant5>

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	16	16	16	16	6	6	16	16

6. RF Exposure Limits

6.1 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.

6.2 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.

7. Specific Absorption Rate (SAR)

7.1 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.

7.2 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:

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

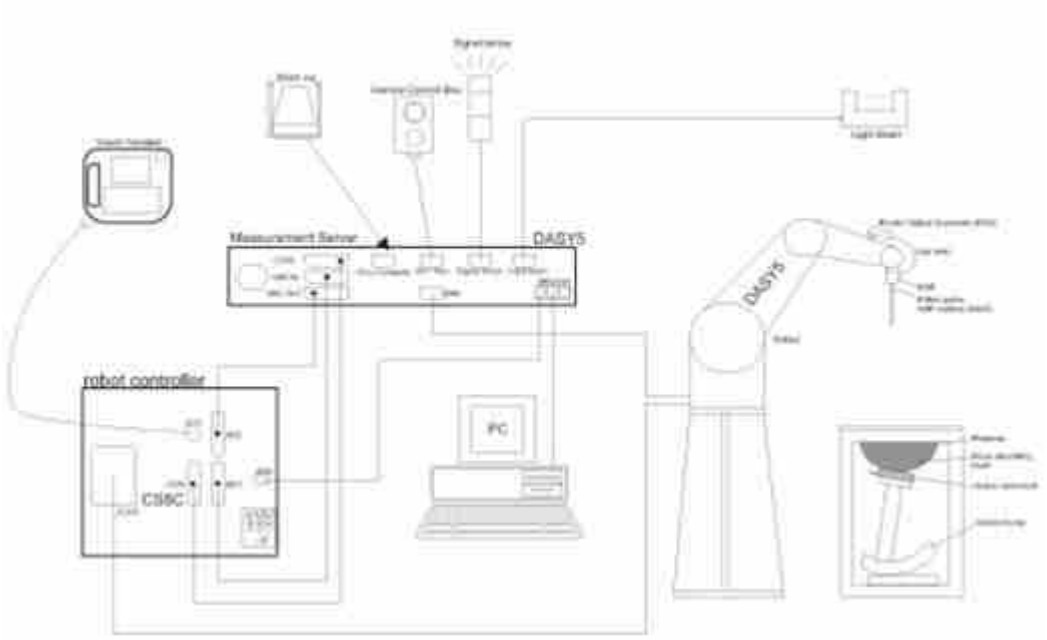
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. 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 WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.1 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	

8.2 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

8.3 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 in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

8.4 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

9. 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

9.1 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

9.2 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.

9.3 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.	

9.4 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	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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

* When zoom scan is required and the *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.

9.5 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.

9.6 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.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2019/3/27	2022/3/24
SPEAG	835MHz System Validation Kit	D835V2	4d258	2020/5/7	2023/5/6
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2022/3/25
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2022/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2022/3/23
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2023/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2023/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/22
SPEAG	Data Acquisition Electronics	DAE4	1303	2021/6/18	2022/6/17
SPEAG	Dosimetric E-Field Probe	EX3DV4	7684	2021/10/4	2022/10/3
SPEAG	SAM Twin Phantom	SAM Twin	TP-1697	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2021/4/13	2022/4/12
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2021/7/31	2022/7/30
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2021/6/9	2022/6/8
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/7	2022/1/6
Anritsu	Vector Signal Generator	MG3710A	6201682672	2022/1/6	2023/1/5
Rohde & Schwarz	Power Meter	NRVD	102081	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2021/8/12	2022/8/11
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101631	2021/10/14	2022/10/13
FLUKE	DIGITAC THERMOMETER	51II	97240029	2021/8/13	2022/8/12
Testo	Thermo-Hygrometer	608-H1	1241332126	2021/1/7	2022/1/6
Testo	Thermo-Hygrometer	608-H1	1241332126	2022/1/6	2023/1/5
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	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.

11. System Verification

11.1 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

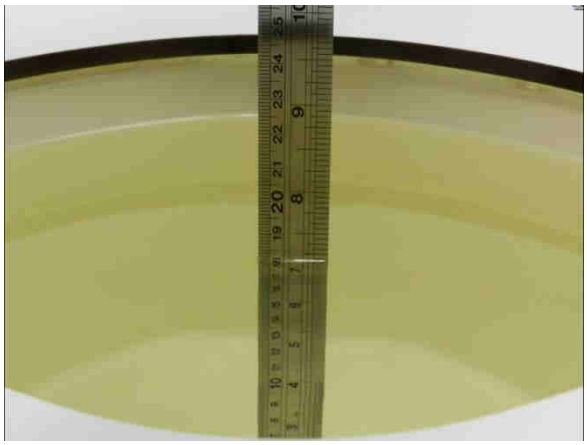


Fig 11.2 Photo of Liquid Height for Body SAR

11.2 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)	Head	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.7	0.893	43.125	0.89	41.90	0.34	2.92	±5	2022/1/1
835	Head	22.6	0.924	42.865	0.90	41.50	2.67	3.29	±5	2022/1/2
1750	Head	22.8	1.401	40.497	1.37	40.10	2.26	0.99	±5	2022/1/3
1900	Head	22.6	1.456	40.692	1.40	40.00	4.00	1.73	±5	2022/1/4
2450	Head	22.7	1.871	40.829	1.80	39.20	3.94	4.16	±5	2022/1/9
2600	Head	22.8	1.979	40.611	1.96	39.00	0.97	4.13	±5	2022/1/5
3500	Head	22.8	2.827	39.041	2.91	37.90	-2.85	3.01	±5	2022/1/6
3700	Head	22.6	3.016	38.718	3.12	37.70	-3.33	2.70	±5	2022/1/7
3900	Head	22.8	3.219	38.425	3.32	37.50	-3.04	2.47	±5	2022/1/8
5250	Head	22.7	4.596	36.237	4.71	35.90	-2.42	0.94	±5	2022/1/9
5600	Head	22.7	4.976	35.692	5.07	35.50	-1.85	0.54	±5	2022/1/10
5750	Head	22.7	5.145	35.521	5.22	35.40	-1.44	0.34	±5	2022/1/10
750	Head	22.6	0.897	42.320	0.89	41.90	0.79	1.00	±5	2022/1/11
835	Head	22.8	0.929	42.047	0.90	41.50	3.22	1.32	±5	2022/1/12
1750	Head	22.9	1.409	40.683	1.37	40.10	2.85	1.45	±5	2022/1/13
1900	Head	22.7	1.423	39.335	1.40	40.00	1.64	-1.66	±5	2022/1/14
2450	Head	22.6	1.869	40.801	1.80	39.20	3.83	4.08	±5	2022/1/19
2600	Head	22.7	1.978	40.580	1.96	39.00	0.92	4.05	±5	2022/1/15
3500	Head	22.6	2.809	39.002	2.91	37.90	-3.47	2.91	±5	2022/1/16
3700	Head	22.8	2.996	38.680	3.12	37.70	-3.97	2.60	±5	2022/1/17
3900	Head	22.6	3.197	38.380	3.32	37.50	-3.70	2.35	±5	2022/1/18
5250	Head	22.6	4.588	36.228	4.71	35.90	-2.59	0.91	±5	2022/1/19
5600	Head	22.8	4.969	35.681	5.07	35.50	-1.99	0.51	±5	2022/1/20
5750	Head	22.7	5.137	35.512	5.22	35.40	-1.59	0.32	±5	2022/1/20

11.3 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)	Head	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 (%)
2022/1/1	750	Head	50	1087	7684	1303	0.410	8.36	8.2	-1.91
2022/1/2	835	Head	50	4d258	7684	1303	0.477	9.44	9.54	1.06
2022/1/3	1750	Head	50	1090	7684	1303	1.840	36.40	36.8	1.10
2022/1/4	1900	Head	50	5d170	7684	1303	1.980	39.00	39.6	1.54
2022/1/9	2450	Head	50	908	7684	1303	2.500	52.80	50	-5.30
2022/1/5	2600	Head	50	1061	7684	1303	2.690	56.60	53.8	-4.95
2022/1/6	3500	Head	50	1037	7684	1303	3.240	68.00	64.8	-4.71
2022/1/7	3700	Head	50	1008	7684	1303	3.160	67.60	63.2	-6.51
2022/1/8	3900	Head	50	1048	7684	1303	3.260	70.20	65.2	-7.12
2022/1/9	5250	Head	50	1113	7684	1303	3.780	80.50	75.6	-6.09
2022/1/10	5600	Head	50	1113	7684	1303	4.080	83.40	81.6	-2.16
2022/1/10	5750	Head	50	1113	7684	1303	3.680	80.00	73.6	-8.00
2022/1/11	750	Head	50	1087	7684	1303	0.406	8.36	8.12	-2.87
2022/1/12	835	Head	50	4d258	7684	1303	0.474	9.44	9.48	0.42
2022/1/13	1750	Head	50	1090	7684	1303	1.870	36.40	37.4	2.75
2022/1/14	1900	Head	50	5d170	7684	1303	2.080	39.00	41.6	6.67
2022/1/19	2450	Head	50	908	7684	1303	2.560	52.80	51.2	-3.03
2022/1/15	2600	Head	50	1061	7684	1303	2.630	56.60	52.6	-7.07
2022/1/16	3500	Head	50	1037	7684	1303	3.460	68.00	69.2	1.76
2022/1/17	3700	Head	50	1008	7684	1303	3.330	67.60	66.6	-1.48
2022/1/18	3900	Head	50	1048	7684	1303	3.300	70.20	66	-5.98
2022/1/19	5250	Head	50	1113	7684	1303	3.710	80.50	74.2	-7.83
2022/1/20	5600	Head	50	1113	7684	1303	4.040	83.40	80.8	-3.12
2022/1/20	5750	Head	50	1113	7684	1303	3.770	80.00	75.4	-5.75

<10g SAR>

Date	Frequency (MHz)	Head	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 (%)
2022/1/1	750	Head	50	1087	7684	1303	0.269	5.65	5.38	-4.78
2022/1/2	835	Head	50	4d258	7684	1303	0.312	6.13	6.24	1.79
2022/1/3	1750	Head	50	1090	7684	1303	0.970	19.20	19.4	1.04
2022/1/4	1900	Head	50	5d170	7684	1303	1.020	20.30	20.4	0.49
2022/1/9	2450	Head	50	908	7684	1303	1.160	24.20	23.2	-4.13
2022/1/5	2600	Head	50	1061	7684	1303	1.200	25.10	24	-4.38
2022/1/6	3500	Head	50	1037	7684	1303	1.230	25.40	24.6	-3.15
2022/1/7	3700	Head	50	1008	7684	1303	1.160	24.40	23.2	-4.92
2022/1/8	3900	Head	50	1048	7684	1303	1.140	24.40	22.8	-6.56
2022/1/9	5250	Head	50	1113	7684	1303	1.120	23.10	22.4	-3.03
2022/1/10	5600	Head	50	1113	7684	1303	1.140	23.80	22.8	-4.20
2022/1/10	5750	Head	50	1113	7684	1303	1.070	22.80	21.4	-6.14
2022/1/11	750	Head	50	1087	7684	1303	0.264	5.65	5.28	-6.55
2022/1/12	835	Head	50	4d258	7684	1303	0.308	6.13	6.16	0.49
2022/1/13	1750	Head	50	1090	7684	1303	1.000	19.20	20	4.17
2022/1/14	1900	Head	50	5d170	7684	1303	1.060	20.30	21.2	4.43
2022/1/19	2450	Head	50	908	7684	1303	1.180	24.20	23.6	-2.48
2022/1/15	2600	Head	50	1061	7684	1303	1.180	25.10	23.6	-5.98
2022/1/16	3500	Head	50	1037	7684	1303	1.310	25.40	26.2	3.15
2022/1/17	3700	Head	50	1008	7684	1303	1.230	24.40	24.6	0.82
2022/1/18	3900	Head	50	1048	7684	1303	1.140	24.40	22.8	-6.56
2022/1/19	5250	Head	50	1113	7684	1303	1.090	23.10	21.8	-5.63
2022/1/20	5600	Head	50	1113	7684	1303	1.140	23.80	22.8	-4.20
2022/1/20	5750	Head	50	1113	7684	1303	1.070	22.80	21.4	-6.14

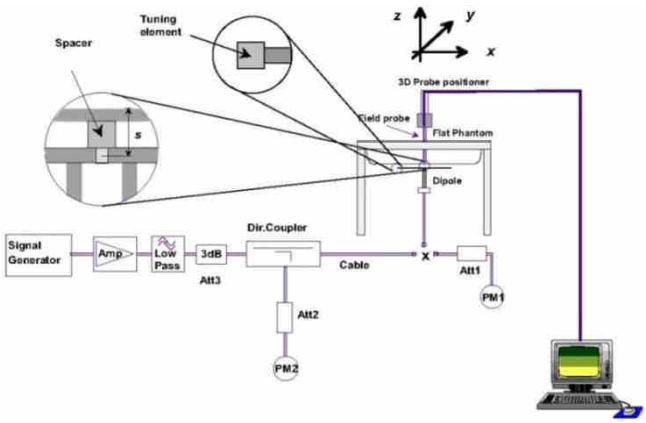


Fig 11.3.1 System Performance Check Setup

Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 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.

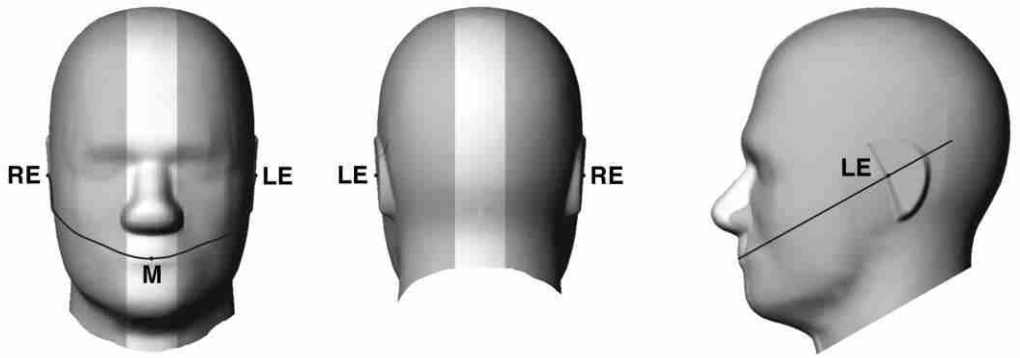


Fig 12.1.1 Front, back, and side views of SAM twin phantom

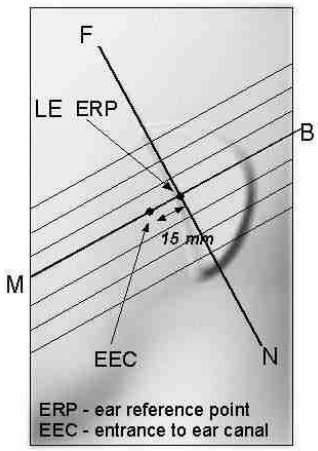


Fig 12.1.2 Close-up side view of phantom showing the ear region.

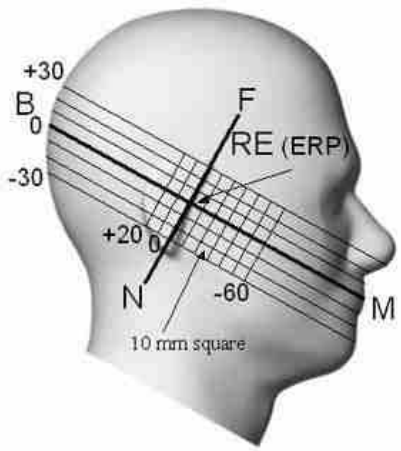


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 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.

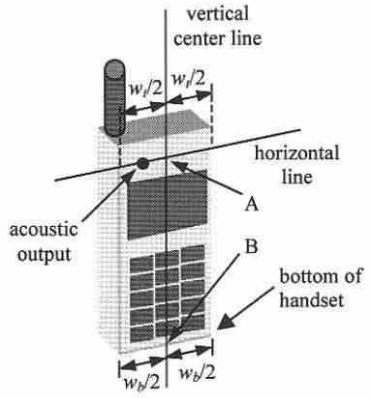


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

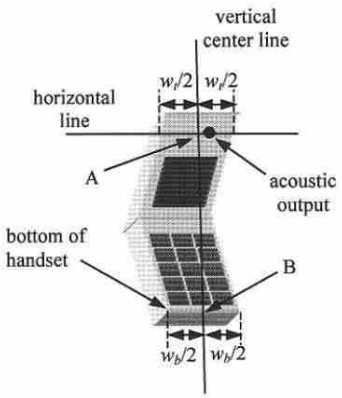


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

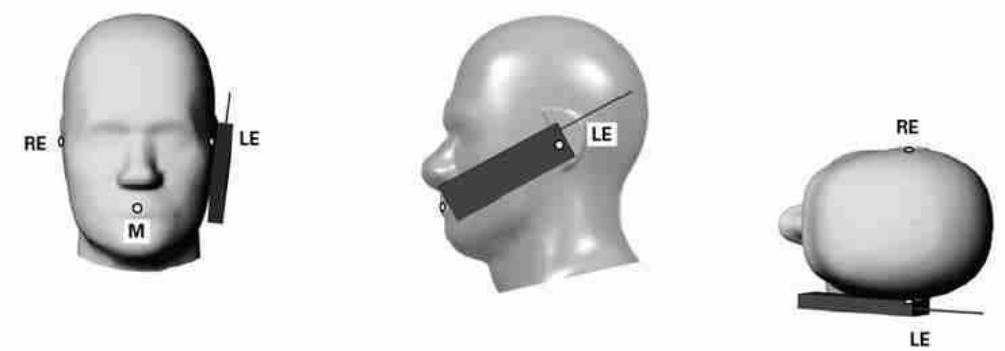


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 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

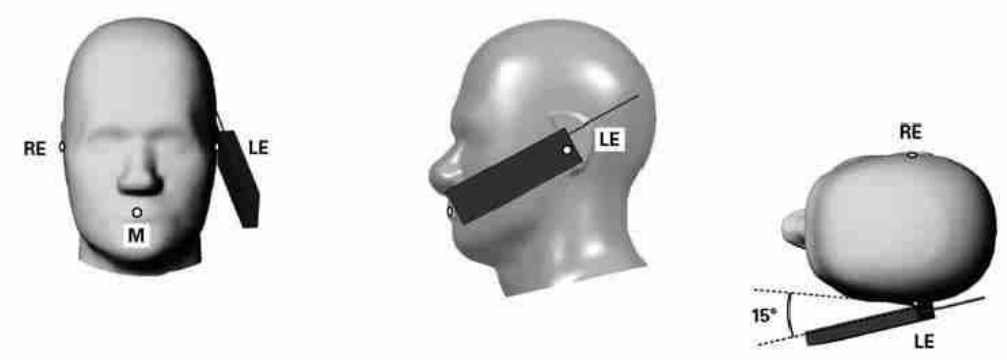


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 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 12.4). 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 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.

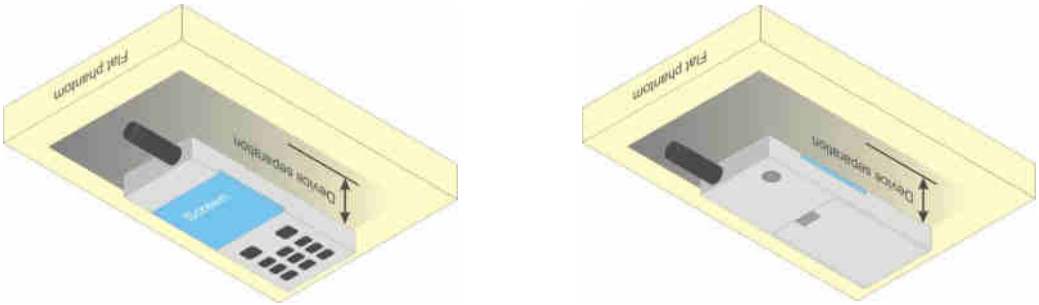


Fig 12.4 Body Worn Position

12.5 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 provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that 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.

12.6 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.

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

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

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

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

a. The EUT was connected to Base Station referred to the Setup Configuration below
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_d=15/4
   vi. Set Delta ACK, Delta NACK and Delta CQI = 8
   vii. Set Ack-Nack Repetition Factor to 3
   viii. Set CQI Feedback Cycle (k) to 4 ms
   ix. Set CQI Repetition Factor to 2
   x. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

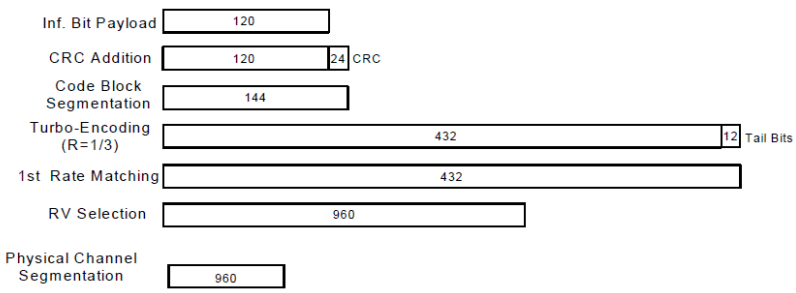


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

<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 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 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 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 B4 / B5 / B38 / B17 SAR test was covered by B66 / B26 / B41 / B12; 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 2017 TCB workshop, for 64 QAM and 16 QAM 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 64QAM and 16QAM signal modulation are correct.

64QAM

16QAM

<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.

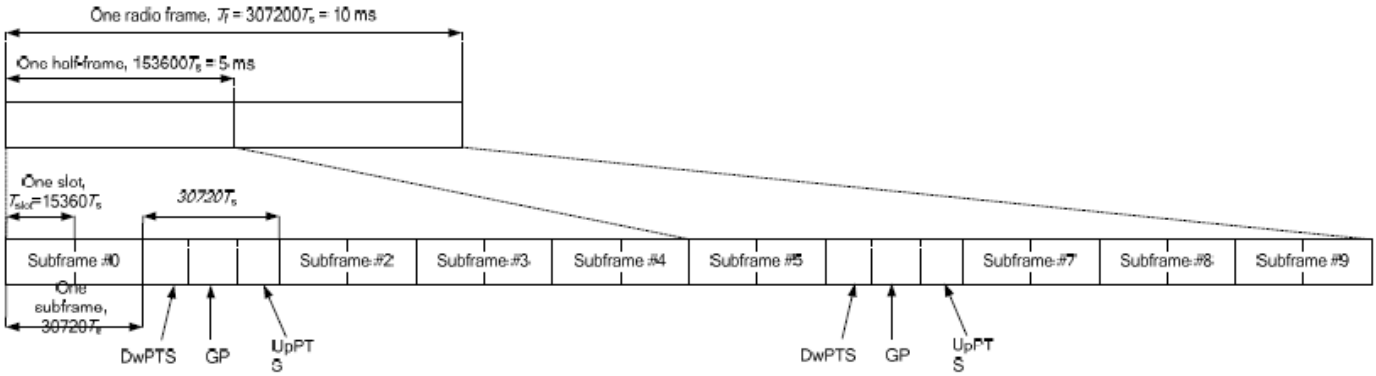


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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:

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.

<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		
Number	Combination	Covered by Measurement Superset
2CC #1	CA_2C	
2CC #2	CA_7C	
2CC #3	CA_38C	
2CC #4	CA_41C	
2CC #5	CA_2A-4A	
2CC #6	CA_2A-5A	
2CC #7	CA_2A-7A	
2CC #8	CA_2A-66A	
2CC #9	CA_4A-5A	
2CC #10	CA_4A-7A	
2CC #11	CA_5A-7A	
2CC #12	CA_5A-66A	
2CC #13	CA_7A-7A	
2CC #14	CA_7A-66A	
2CC #15	CA_12A-66A	
2CC #16	CA_66A-66A	
2CC #17	CA_41A-41A	
2CC #18	CA_5A_41A	
2CC #19	CA_7A-26A	
2CC #20	CA_66B	
2CC #21	CA_66C	
2CC #22	CA_26A-41A	

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 two 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.

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

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Bands 7 / 38 / 41 / 66 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	WWAN Band
	LTE Band: B7 / B38 / B41 / B66

LTE Carrier Aggregation Conducted Power (Uplink)

<Intra-band>

2CC Uplink Carrier Aggregation	
Number	Combination
1	7C
2	38C

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/B38 with a maximum of two 20MHz 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 20MHz 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 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>

2CC Uplink Carrier Aggregation	
Number	Combination
1	4A-7A

General Note:

1. For Inter-band CA co-located SAR analysis is performed using standalone SAR summed together and they are more conservatively for inter band CA.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n5, n7, n66, n38, n41, n77, n78 supports NSA and SA operations.
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-QPSK and the reported SAR for the DFT-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/64 QAM/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. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
4. 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.
5. NSA and SA mode should perform SAR separately. For the maximum power of SA mode is the same as NSA total power level, so SA standalone total power level SAR can represent NSA mode SAR.
6. 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.
7. 5GNR n41/n77/n78 supports HPUE, HPUE power level higher than class 3 power level, and HPUE can represent class 3 conservatively, so SAR testing only performed HPUE.
8. For 5G NR NSA EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
9. 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.

<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		

Inter Band EN-DC Configuration

FR 1	EN-DC	4G UL	5G-NR UL
n5	DC_2A-n5A	Ant4	Ant0
	DC_66A-n5A	Ant4	Ant0
	DC_7A-n5A	Ant4	Ant0
	DC_38A-n5A	Ant4	Ant0
	DC_41A-n5A	Ant4	Ant0
n7	DC_2A-n7A	Ant4	Ant0&2
		Ant1	Ant0&2&4
	DC_5A-n7A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_7A-n7A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_38A-n7A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_41A-n7A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_66A-n7A	Ant4	Ant0&2
		Ant1	Ant0&2&4
n77	DC_2A-n77A	Ant4	Ant1&3&5&8
	DC_5A-n77A	Ant4	Ant1&3&5&8
	DC_7A-n77A	Ant4	Ant1&3&5&8
	DC_66A-n77A	Ant4	Ant1&3&5&8
	DC_38A-n77A	Ant4	Ant1&3&5&8
	DC_41A-n77A	Ant4	Ant1&3&5&8
n78	DC_2A-n78A	Ant4	Ant1&3&5&8
	DC_5A-n78A	Ant4	Ant1&3&5&8
	DC_7A-n78A	Ant4	Ant1&3&5&8

	DC_66A-n78A	Ant4	Ant1&3&5&8
	DC_38A-n78A	Ant4	Ant1&3&5&8
	DC_41A-n78A	Ant4	Ant1&3&5&8
n66	DC_2A-n66A	Ant4	Ant1
		Ant1	Ant2&4
	DC_5A-n66A	Ant4	Ant1
		Ant0	Ant1&4
	DC_7A-n66A	Ant4	Ant1
		Ant0	Ant4
	DC_38A-n66A	Ant4	Ant1
		Ant0	Ant4
	DC_41A-n66A	Ant4	Ant1
		Ant0	Ant4
	DC_66A-n66A	Ant4	Ant1
		Ant1	Ant2&4
n38	DC_2A-n38A	Ant4	Ant0&2
		Ant1	Ant0&2&4
	DC_5A-n38A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_7A-n38A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_38A-n38A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_41A-n38A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_66A-n38A	Ant4	Ant0&2
		Ant1	Ant0&2&4
n41	DC_2A-n41A	Ant4	Ant0&2
		Ant1	Ant0&2&4
	DC_5A-n41A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_7A-n41A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_38A-n41A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_41A-n41A	Ant4	Ant0&2
		Ant0	Ant2&4
	DC_66A-n41A	Ant4	Ant0&2
		Ant1	Ant0&2&4

<WLAN Conducted Power>

General Note:

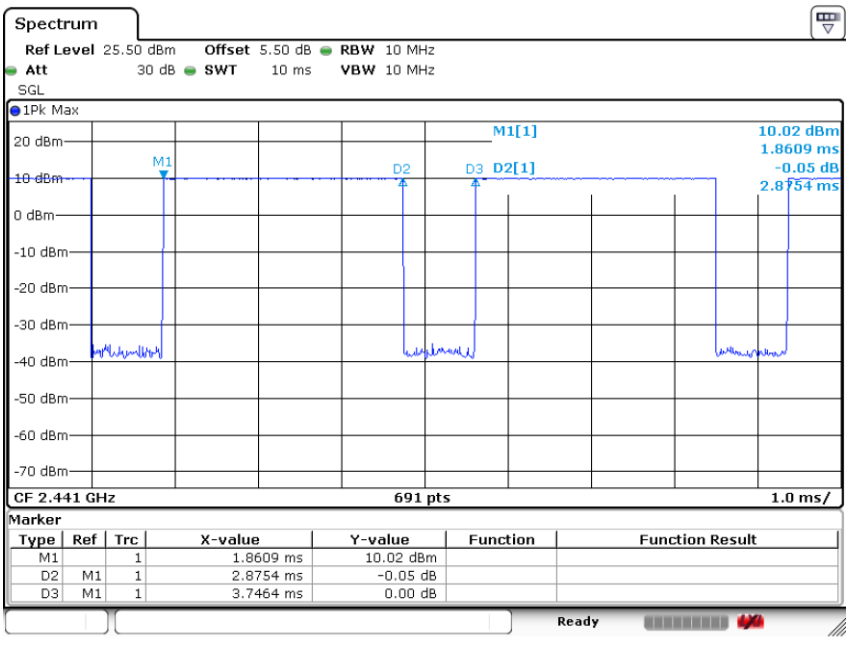
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
   c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.75 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to100% for Bluetooth reported SAR calculation

Bluetooth time-domain plot



14. Antenna Location

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

15. SAR Test Results

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, 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 = 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. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
5. There are two types of EUT, they are single SIM card mobile and dual SIM card mobile, according to the differences, we choose sample 1 to perform full test.
6. The device has two batteries with the same battery capacity, only Manufacturer is different. We only chose battery 1 to perform full SAR testing.
7. The device implements Proximity sensors/receiver detect mechanism trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. Full power table and reduced power table (DSI 1: receiver on reduced power for head; DSI 3/4: P-sensor on for hotspot; DSI 2: receiver off /P-sensor off).
8. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
9. 5GNR n41/n77/n78 supports HPUE, HPUE power level higher than class 3 power level, and HPUE can represent class 3 conservatively, so SAR testing only performed HPUE.
10. For 5G NR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR , the result of EN-DC SAR is more conservatively.
11. NSA and SA mode should perform SAR separately. For the maximum power of SA mode is the same as NSA total power level, so SA standalone total power level SAR can represent NSA mode SAR.
12. 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.
13. 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.
14. 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.
15. 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. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
    b. 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.
16. For LTE anchors in EN-DC combinations, due to the same configuration as standalone LTE Bands, always chose worse position of standalone LTE Bands to perform SAR testing.
17. For distance SAR and non-distance SAR, always chose higher SAR to do co-located analysis.
18. For the front and back sensor distance SAR of hotspot exposure condition could be referred to front and back body-worn SAR.

19. The LTE B5/B12 may support different PAs, the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, we choose the worst case PA to perform full SAR tested to ensure the RF exposure is compliance.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

WCDMA Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”.
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

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 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 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 B4 / B5 / B38 / B17 SAR test was covered by B66 / B26 / B41 / B12; 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 n41/n66/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.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 1	23095	707.5	24.62	25.50	1.225	-0.13	0.149	0.182
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 0	DSI 1	23095	707.5	23.57	24.50	1.239	-0.16	0.121	0.150
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 1	23095	707.5	24.62	25.50	1.225	0.03	0.111	0.136
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 0	DSI 1	23095	707.5	23.57	24.50	1.239	-0.14	0.086	0.107
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 1	23095	707.5	24.62	25.50	1.225	-0.1	0.120	0.147
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 0	DSI 1	23095	707.5	23.57	24.50	1.239	0.03	0.095	0.118
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 1	23095	707.5	24.62	25.50	1.225	0.06	0.067	0.082
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 0	DSI 1	23095	707.5	23.57	24.50	1.239	0.14	0.051	0.063
01	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	23095	707.5	24.34	25.50	1.306	-0.05	0.324	**0.423**
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 4	DSI 1	23095	707.5	23.28	24.50	1.324	0.03	0.253	0.335
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 1	23095	707.5	24.34	25.50	1.306	0.05	0.228	0.298
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 4	DSI 1	23095	707.5	23.28	24.50	1.324	-0.16	0.176	0.233
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 1	23095	707.5	24.34	25.50	1.306	0.07	0.185	0.242
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 4	DSI 1	23095	707.5	23.28	24.50	1.324	0.06	0.143	0.189
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 1	23095	707.5	24.34	25.50	1.306	0.15	0.152	0.199
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 4	DSI 1	23095	707.5	23.28	24.50	1.324	-0.16	0.097	0.128
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 1	23230	782	24.56	25.50	1.242	-0.07	0.073	0.091
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 0	DSI 1	23230	782	23.38	24.50	1.294	-0.02	0.056	0.072
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 1	23230	782	24.56	25.50	1.242	-0.11	0.043	0.053
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 0	DSI 1	23230	782	23.38	24.50	1.294	0.08	0.032	0.041
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 1	23230	782	24.56	25.50	1.242	0.08	0.072	0.089
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 0	DSI 1	23230	782	23.38	24.50	1.294	0.06	0.054	0.070
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 1	23230	782	24.56	25.50	1.242	0.17	0.036	0.045
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 0	DSI 1	23230	782	23.38	24.50	1.294	0.08	0.027	0.035
02	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	23230	782	24.14	25.50	1.368	-0.12	0.564	**0.771**
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 4	DSI 1	23230	782	23.04	24.50	1.400	-0.13	0.435	0.609
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 1	23230	782	24.14	25.50	1.368	0.07	0.440	0.602
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 4	DSI 1	23230	782	23.04	24.50	1.400	0.11	0.345	0.483
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 1	23230	782	24.14	25.50	1.368	0.19	0.378	0.517
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 4	DSI 1	23230	782	23.04	24.50	1.400	0.02	0.294	0.411
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 1	23230	782	24.14	25.50	1.368	0.14	0.313	0.428
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 4	DSI 1	23230	782	23.04	24.50	1.400	-0.14	0.244	0.341

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								835MHz										
	GSM850	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 0	DSI 1	189	836.4	33.13	33.50	1.089	0.05	0.250	0.272
	GSM850	-	-	-	-	GSM Voice	Right Tilted	0mm	Ant 0	DSI 1	189	836.4	33.13	33.50	1.089	-0.01	0.151	0.164
	GSM850	-	-	-	-	GSM Voice	Left Cheek	0mm	Ant 0	DSI 1	189	836.4	33.13	33.50	1.089	0.01	0.252	0.274
	GSM850	-	-	-	-	GSM Voice	Left Tilted	0mm	Ant 0	DSI 1	189	836.4	33.13	33.50	1.089	0.11	0.136	0.148
	GSM850	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 4	DSI 1	189	836.4	31.86	32.50	1.159	-0.07	0.842	0.976
	GSM850	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 4	DSI 1	128	824.2	31.80	32.50	1.175	0.02	0.725	0.852
03	GSM850	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 4	DSI 1	251	848.8	31.83	32.50	1.167	-0.07	0.867	**1.012**
	GSM850	-	-	-	-	GSM Voice	Right Tilted	0mm	Ant 4	DSI 1	189	836.4	31.86	32.50	1.159	-0.12	0.721	0.835
	GSM850	-	-	-	-	GSM Voice	Left Cheek	0mm	Ant 4	DSI 1	189	836.4	31.86	32.50	1.159	0.07	0.564	0.654
	GSM850	-	-	-	-	GSM Voice	Left Tilted	0mm	Ant 4	DSI 1	189	836.4	31.86	32.50	1.159	0.15	0.515	0.597
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 1	4182	836.4	24.65	25.50	1.216	0.04	0.234	0.285
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 1	4182	836.4	24.65	25.50	1.216	0.05	0.121	0.147
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 1	4182	836.4	24.65	25.50	1.216	0.12	0.254	0.309
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 1	4182	836.4	24.65	25.50	1.216	0.08	0.127	0.154
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4182	836.4	22.68	23.50	1.208	0.03	0.611	**0.738**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	4182	836.4	22.68	23.50	1.208	0.06	0.552	0.667
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4182	836.4	22.68	23.50	1.208	0.18	0.515	0.622
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4182	836.4	22.68	23.50	1.208	0.08	0.493	0.595
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	26865	831.5	24.60	25.50	1.230	-0.13	0.239	0.294
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 1	26865	831.5	23.59	24.50	1.233	0.11	0.193	0.238
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	26865	831.5	24.60	25.50	1.230	0.03	0.181	0.223
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 1	26865	831.5	23.59	24.50	1.233	0.05	0.142	0.175
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	26865	831.5	24.60	25.50	1.230	0.05	0.188	0.231
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 1	26865	831.5	23.59	24.50	1.233	-0.13	0.153	0.189
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	26865	831.5	24.60	25.50	1.230	-0.09	0.108	0.133
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 1	26865	831.5	23.59	24.50	1.233	0.15	0.086	0.106
05	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	26865	831.5	23.25	24.50	1.334	0.13	0.640	**0.853**
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 4	DSI 1	26865	831.5	22.26	23.50	1.330	-0.08	0.531	0.706
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 4	DSI 1	26865	831.5	22.31	23.50	1.315	0.04	0.521	0.685
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	26865	831.5	23.25	24.50	1.334	-0.15	0.477	0.636
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 4	DSI 1	26865	831.5	22.26	23.50	1.330	0.05	0.522	0.694
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	26865	831.5	23.25	24.50	1.334	0.02	0.339	0.452
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 4	DSI 1	26865	831.5	22.26	23.50	1.330	0.05	0.306	0.407
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	26865	831.5	23.25	24.50	1.334	-0.07	0.269	0.359
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 4	DSI 1	26865	831.5	22.26	23.50	1.330	0.04	0.227	0.302
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 1	167300	836.5	24.53	25.50	1.250	-0.01	0.250	0.313
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 1	167300	836.5	24.51	25.50	1.256	0.17	0.245	0.308
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 1	167300	836.5	24.53	25.50	1.250	0.01	0.145	0.181
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 1	167300	836.5	24.51	25.50	1.256	-0.09	0.146	0.183
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 1	167300	836.5	24.53	25.50	1.250	0.08	0.237	0.296
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 1	167300	836.5	24.51	25.50	1.256	0.09	0.239	0.300
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 1	167300	836.5	24.53	25.50	1.250	-0.05	0.130	0.163
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 1	167300	836.5	24.51	25.50	1.256	-0.04	0.139	0.175
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	-0.09	0.849	0.961
06	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.92	24.50	1.143	0.12	0.851	**0.973**
	FR1 n5	20M	QPSK	50	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.04	23.50	1.112	-0.09	0.671	0.746
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	-0.09	0.753	0.853
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.92	24.50	1.143	0.01	0.775	0.886
	FR1 n5	20M	QPSK	50	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.04	23.50	1.112	0.06	0.610	0.678
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	0.18	0.598	0.677
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.92	24.50	1.143	-0.18	0.590	0.674
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	0.02	0.531	0.601
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.92	24.50	1.143	-0.14	0.549	0.627

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
							1750MHz											
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	1413	1732.6	24.85	25.50	1.161	0.02	0.081	0.094
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	1413	1732.6	24.85	25.50	1.161	-0.03	0.052	0.060
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	1413	1732.6	24.85	25.50	1.161	0.11	0.124	0.144
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	1413	1732.6	24.85	25.50	1.161	0.07	0.063	0.073
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 1	1413	1732.6	23.50	24.50	1.259	0.03	0.003	0.004
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 1	1413	1732.6	23.50	24.50	1.259	0.01	0.004	0.005
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 1	1413	1732.6	23.50	24.50	1.259	0.05	0.002	0.003
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 1	1413	1732.6	23.50	24.50	1.259	0.08	0.002	0.003
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	1413	1732.6	20.02	21.00	1.253	0.06	0.205	0.257
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	1413	1732.6	20.02	21.00	1.253	-0.17	0.254	0.318
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	1413	1732.6	20.02	21.00	1.253	0.12	0.581	0.728
07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1413	1732.6	20.02	21.00	1.253	0.05	0.757	**0.949**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1312	1712.4	19.78	21.00	1.324	-0.02	0.712	0.943
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1513	1752.6	19.84	21.00	1.306	0.08	0.718	0.938
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 1	132322	1745	24.52	25.50	1.253	0.12	0.142	0.178
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 1	132322	1745	23.46	24.50	1.271	0.04	0.106	0.135
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 1	132322	1745	24.52	25.50	1.253	0.12	0.071	0.089
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 1	132322	1745	23.46	24.50	1.271	0.06	0.065	0.083
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 1	132322	1745	24.52	25.50	1.253	0.11	0.148	0.185
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 1	132322	1745	23.46	24.50	1.271	0.1	0.138	0.175
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 1	132322	1745	24.52	25.50	1.253	-0.11	0.107	0.134
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 1	132322	1745	23.46	24.50	1.271	0.18	0.094	0.119
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 1	132322	1745	23.58	24.50	1.236	0.08	0.010	0.012
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 1	132322	1745	22.59	23.50	1.233	-0.11	0.004	0.005
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 1	132322	1745	23.58	24.50	1.236	0.08	0.004	0.005
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 1	132322	1745	22.59	23.50	1.233	-0.16	0.034	0.042
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 1	132322	1745	23.58	24.50	1.236	0.04	0.003	0.004
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 1	132322	1745	22.59	23.50	1.233	0.05	0.035	0.043
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 1	132322	1745	23.58	24.50	1.236	-0.13	0.004	0.005
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 1	132322	1745	22.59	23.50	1.233	0.08	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	18.96	20.00	1.271	0.09	0.216	0.274
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	18.92	20.00	1.282	0.04	0.199	0.255
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	18.96	20.00	1.271	0.08	0.239	0.304
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	18.92	20.00	1.282	0.13	0.247	0.317
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	18.96	20.00	1.271	0.12	0.463	0.588
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	18.92	20.00	1.282	-0.12	0.356	0.457
08	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	18.96	20.00	1.271	0.01	0.654	**0.831**
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	132072	1720	18.86	20.00	1.300	-0.09	0.615	0.800
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	132572	1770	18.81	20.00	1.315	0.07	0.623	0.819
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	18.92	20.00	1.282	0.18	0.525	0.673
	LTE Band 66	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	18.89	20.00	1.291	0.02	0.510	0.659
	LTE Band 66_ENDC	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	16.19	17.00	1.205	0.03	0.345	0.416
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	349000	1745	23.49	24.50	1.262	0.17	0.120	0.151
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	349000	1745	23.44	24.50	1.276	0.05	0.115	0.147
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	349000	1745	23.49	24.50	1.262	0.09	0.090	0.114
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	349000	1745	23.44	24.50	1.276	0.06	0.090	0.115
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	349000	1745	23.49	24.50	1.262	-0.02	0.139	0.175
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	349000	1745	23.44	24.50	1.276	0.01	0.135	0.172
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	349000	1745	23.49	24.50	1.262	-0.08	0.095	0.120
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	349000	1745	23.44	24.50	1.276	0.16	0.085	0.108
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	349000	1745	23.34	24.50	1.306	-0.02	0.006	0.008
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	349000	1745	23.29	24.50	1.321	0.03	0.008	0.011
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	349000	1745	23.34	24.50	1.306	0.11	0.004	0.005

	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	349000	1745	23.29	24.50	1.321	0.17	0.005	0.007
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	349000	1745	23.34	24.50	1.306	0.04	0.004	0.005
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	349000	1745	23.29	24.50	1.321	-0.12	0.003	0.004
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	349000	1745	23.34	24.50	1.306	-0.11	0.003	0.004
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	349000	1745	23.29	24.50	1.321	0.06	0.003	0.004
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	19.65	20.00	1.084	0.01	0.772	0.837
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	19.48	20.00	1.127	0.02	0.795	0.896
	FR1 n66	40M	QPSK	100	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	19.32	20.00	1.169	0.02	0.751	0.878
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	19.65	20.00	1.084	-0.16	0.904	0.980
09	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	19.48	20.00	1.127	-0.08	0.959	**1.081**
	FR1 n66	40M	QPSK	100	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	19.32	20.00	1.169	0.02	0.919	1.075
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	19.65	20.00	1.084	0.17	0.503	0.545
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	19.48	20.00	1.127	-0.13	0.526	0.593
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	19.65	20.00	1.084	0.08	0.694	0.752
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	19.48	20.00	1.127	0.14	0.666	0.751
	FR1 n66_ENDC	40M	QPSK	50	28	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	16.16	17.00	1.213	-0.08	0.485	0.588

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								1900MHz										
	GSM1900	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 1	DSI 1	661	1880	29.34	30.00	1.164	0.01	0.028	0.033
	GSM1900	-	-	-	-	GSM Voice	Right Tilted	0mm	Ant 1	DSI 1	661	1880	29.34	30.00	1.164	-0.05	0.030	0.035
	GSM1900	-	-	-	-	GSM Voice	Left Cheek	0mm	Ant 1	DSI 1	661	1880	29.34	30.00	1.164	-0.06	0.000	0.000
	GSM1900	-	-	-	-	GSM Voice	Left Tilted	0mm	Ant 1	DSI 1	661	1880	29.34	30.00	1.164	0.07	0.029	0.034
	GSM1900	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 2	DSI 1	661	1880	28.25	28.50	1.059	-0.04	0.005	0.005
	GSM1900	-	-	-	-	GSM Voice	Right Tilted	0mm	Ant 2	DSI 1	661	1880	28.25	28.50	1.059	0.02	0.004	0.004
	GSM1900	-	-	-	-	GSM Voice	Left Cheek	0mm	Ant 2	DSI 1	661	1880	28.25	28.50	1.059	-0.04	0.001	0.001
	GSM1900	-	-	-	-	GSM Voice	Left Tilted	0mm	Ant 2	DSI 1	661	1880	28.25	28.50	1.059	-0.07	0.006	0.006
	GSM1900	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 4	DSI 1	661	1880	28.09	29.00	1.233	0.13	0.430	0.530
10	GSM1900	-	-	-	-	GSM Voice	Right Tilted	0mm	Ant 4	DSI 1	661	1880	28.09	29.00	1.233	0.09	0.516	**0.636**
	GSM1900	-	-	-	-	GSM Voice	Left Cheek	0mm	Ant 4	DSI 1	661	1880	28.09	29.00	1.233	0.08	0.290	0.358
	GSM1900	-	-	-	-	GSM Voice	Left Tilted	0mm	Ant 4	DSI 1	661	1880	28.09	29.00	1.233	-0.17	0.403	0.497
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	9400	1880	22.43	23.50	1.279	0.08	0.052	0.067
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	9400	1880	22.43	23.50	1.279	0.07	0.036	0.046
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	9400	1880	22.43	23.50	1.279	0.05	0.009	0.012
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	9400	1880	22.43	23.50	1.279	-0.15	0.057	0.073
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	9400	1880	20.67	21.50	1.211	0.17	0.251	0.304
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9400	1880	20.67	21.50	1.211	-0.12	0.321	0.389
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	9400	1880	20.67	21.50	1.211	-0.05	0.542	0.656
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	9400	1880	20.67	21.50	1.211	0.08	0.792	**0.959**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	9262	1852.4	20.47	21.50	1.268	-0.08	0.738	0.936
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	9538	1907.6	20.47	21.50	1.268	0.13	0.743	0.942
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 1	18900	1880	22.42	23.50	1.282	0.1	0.042	0.054
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 1	18900	1880	21.52	22.50	1.253	0.01	0.037	0.046
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 1	18900	1880	22.42	23.50	1.282	0.09	0.034	0.044
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 1	18900	1880	21.52	22.50	1.253	0.08	0.029	0.036
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 1	18900	1880	22.42	23.50	1.282	0.05	0.080	0.103
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 1	18900	1880	21.52	22.50	1.253	0.16	0.078	0.098
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 1	18900	1880	22.42	23.50	1.282	0.04	0.073	0.094
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 1	18900	1880	21.52	22.50	1.253	0.04	0.056	0.070
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	18900	1880	20.21	21.50	1.346	0.04	0.191	0.257
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	18900	1880	20.17	21.50	1.358	0.05	0.179	0.243
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	18900	1880	20.21	21.50	1.346	-0.14	0.201	0.271
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	18900	1880	20.17	21.50	1.358	-0.04	0.187	0.254
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	18900	1880	20.21	21.50	1.346	0.16	0.405	0.545
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	18900	1880	20.17	21.50	1.358	0.05	0.319	0.433
12	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	18900	1880	20.21	21.50	1.346	-0.04	0.666	**0.896**
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	18700	1860	19.99	21.50	1.416	0.16	0.614	0.869
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	19100	1900	19.90	21.50	1.445	0.08	0.618	0.893
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	18900	1880	20.17	21.50	1.358	-0.14	0.606	0.823
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	18700	1860	20.05	21.50	1.396	0.05	0.576	0.804
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	19100	1900	19.98	21.50	1.419	-0.11	0.574	0.815
	LTE Band 2	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 4	DSI 1	18900	1880	20.14	21.50	1.368	0.08	0.553	0.756
	LTE Band 2_ENDC	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	18900	1880	17.34	18.50	1.306	0.03	0.315	0.411

Plot 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)
								2600MHz												
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	21100	2535	24.12	25.50	1.374	-	-	-0.07	0.071	0.098
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	21100	2535	22.95	24.50	1.429	-	-	0.04	0.003	0.004
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	21100	2535	24.12	25.50	1.374	-	-	0.09	0.040	0.055
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	21100	2535	22.95	24.50	1.429	-	-	0.01	0.038	0.054
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100	2535	24.12	25.50	1.374	-	-	-0.15	0.093	0.128
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100	2535	22.95	24.50	1.429	-	-	-0.13	0.098	0.140
	LTE Band 7C	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100+ 21298	2535+ 2554.8	22.81	24.50	1.476	-	-	0.02	0.087	0.128
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	21100	2535	24.12	25.50	1.374	-	-	-0.08	0.097	0.133
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	21100	2535	22.95	24.50	1.429	-	-	-0.03	0.092	0.131
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 1	21100	2535	23.13	24.50	1.371	-	-	0.07	0.129	0.177
	LTE Band 7C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 1	21100+ 21298	2535+ 2554.8	22.92	24.50	1.439	-	-	0.01	0.110	0.158
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 1	21100	2535	22.13	23.50	1.371	-	-	0.13	0.124	0.170
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 1	21100	2535	23.13	24.50	1.371	-	-	0.04	0.063	0.086
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 1	21100	2535	22.13	23.50	1.371	-	-	0.08	0.098	0.134
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 1	21100	2535	23.13	24.50	1.371	-	-	-0.12	0.066	0.090
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 1	21100	2535	22.13	23.50	1.371	-	-	0.07	0.063	0.086
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 1	21100	2535	23.13	24.50	1.371	-	-	0.06	0.070	0.096
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 1	21100	2535	22.13	23.50	1.371	-	-	-0.04	0.064	0.088
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	16.03	17.50	1.403	-	-	0.03	0.383	0.537
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	16.02	17.50	1.406	-	-	0.03	0.377	0.530
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	16.03	17.50	1.403	-	-	0.05	0.508	0.713
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	16.02	17.50	1.406	-	-	0.04	0.573	0.806
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	20850	2510	15.77	17.50	1.489	-	-	0.06	0.398	0.593
13	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21350	2560	16.01	17.50	1.409	-	-	-0.04	0.574	**0.809**
	LTE Band 7C	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21350+ 21152	2560+ 2540.2	15.69	17.50	1.517	-	-	0.02	0.504	0.765
	LTE Band 7	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	15.98	17.50	1.419	-	-	0.04	0.505	0.717
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	16.03	17.50	1.403	-	-	0.17	0.129	0.181
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	16.02	17.50	1.406	-	-	0.11	0.137	0.193
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	16.03	17.50	1.403	-	-	0.01	0.207	0.290
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	16.02	17.50	1.406	-	-	-0.04	0.218	0.307
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21350	2560	13.16	14.50	1.361	-	-	0.05	0.310	0.422
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.13	0.044	0.053
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	40620	2593	23.65	24.50	1.216	62.9	1.006	0.06	0.033	0.040
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.07	0.033	0.040
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	40620	2593	23.65	24.50	1.216	62.9	1.006	-0.13	0.043	0.053
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.12	0.090	0.109
	LTE Band 38C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	37901+ 38099	2585.1+ 2604.9	24.42	25.50	1.282	62.9	1.006	0.02	0.072	0.093
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620	2593	23.65	24.50	1.216	62.9	1.006	0.08	0.071	0.087
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.15	0.088	0.107
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	40620	2593	23.65	24.50	1.216	62.9	1.006	0.02	0.067	0.082
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.08	0.076	0.092
	LTE Band 38C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 1	37901+ 38099	2585.1+ 2604.9	24.36	25.50	1.300	62.9	1.006	-0.01	0.055	0.072
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 1	40620	2593	23.68	24.50	1.208	62.9	1.006	-0.01	0.053	0.064
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.06	0.056	0.068
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 1	40620	2593	23.68	24.50	1.208	62.9	1.006	0.03	0.030	0.036
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.06	0.027	0.033
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 1	40620	2593	23.68	24.50	1.208	62.9	1.006	0.03	0.014	0.017
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.19	0.023	0.028
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 1	40620	2593	23.68	24.50	1.208	62.9	1.006	-0.11	0.018	0.022
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	21.31	22.50	1.315	62.9	1.006	0.15	0.526	0.696
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	40185	2549.5	21.22	22.50	1.343	62.9	1.006	0	0.510	0.689

	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	39750	2506	21.24	22.50	1.337	62.9	1.006	0.07	0.498	0.670
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	41055	2636.5	21.25	22.50	1.334	62.9	1.006	0.08	0.486	0.652
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	41490	2680	21.21	22.50	1.346	62.9	1.006	0.02	0.513	0.695
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	21.24	22.50	1.337	62.9	1.006	-0.03	0.481	0.647
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40185	2549.5	21.03	22.50	1.403	62.9	1.006	0.07	0.456	0.644
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	39750	2506	21.19	22.50	1.352	62.9	1.006	0.03	0.451	0.613
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	41055	2636.5	21.10	22.50	1.380	62.9	1.006	0.06	0.439	0.610
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	41490	2680	21.02	22.50	1.406	62.9	1.006	0.03	0.438	0.620
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	21.22	22.50	1.343	62.9	1.006	0.08	0.411	0.555
14	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	21.31	22.50	1.315	62.9	1.006	-0.12	0.670	**0.886**
	LTE Band 38C	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	37901+38099	2585.1+2604.9	21.22	22.50	1.343	62.9	1.006	-0.02	0.542	0.732
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	40185	2549.5	21.22	22.50	1.343	62.9	1.006	0.02	0.642	0.867
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	39750	2506	21.24	22.50	1.337	62.9	1.006	0.02	0.627	0.843
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	41055	2636.5	21.25	22.50	1.334	62.9	1.006	-0.03	0.623	0.836
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	41490	2680	21.21	22.50	1.346	62.9	1.006	0.07	0.633	0.857
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	21.24	22.50	1.337	62.9	1.006	0.08	0.641	0.862
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	40185	2549.5	21.03	22.50	1.403	62.9	1.006	0.04	0.606	0.855
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	39750	2506	21.19	22.50	1.352	62.9	1.006	0.14	0.621	0.845
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	41055	2636.5	21.10	22.50	1.380	62.9	1.006	0.13	0.635	0.882
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	41490	2680	21.02	22.50	1.406	62.9	1.006	0.15	0.617	0.873
	LTE Band 41	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	21.22	22.50	1.343	62.9	1.006	-0.04	0.585	0.790
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	21.31	22.50	1.315	62.9	1.006	-0.06	0.178	0.236
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	21.24	22.50	1.337	62.9	1.006	0.07	0.172	0.231
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	21.31	22.50	1.315	62.9	1.006	0.02	0.252	0.333
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	21.24	22.50	1.337	62.9	1.006	-0.11	0.244	0.328
	LTE Band 41_ENDC	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	17.59	18.50	1.233	62.9	1.006	0.03	0.375	0.465
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 1	507000	2535	23.68	24.50	1.208	-	-	0.07	0.100	0.121
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 1	507000	2535	23.62	24.50	1.225	-	-	0.07	0.107	0.131
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 1	507000	2535	23.68	24.50	1.208	-	-	0.07	0.054	0.065
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 1	507000	2535	23.62	24.50	1.225	-	-	-0.13	0.057	0.070
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 1	507000	2535	23.68	24.50	1.208	-	-	0.06	0.089	0.107
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 1	507000	2535	23.62	24.50	1.225	-	-	0.04	0.085	0.104
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 1	507000	2535	23.68	24.50	1.208	-	-	-0.13	0.096	0.116
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 1	507000	2535	23.62	24.50	1.225	-	-	-0.16	0.095	0.116
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	23.36	24.50	1.300	-	-	-0.18	0.125	0.163
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	23.23	24.50	1.340	-	-	0.01	0.128	0.171
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	507000	2535	23.36	24.50	1.300	-	-	0.03	0.067	0.087
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	507000	2535	23.23	24.50	1.340	-	-	-0.07	0.069	0.092
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	507000	2535	23.36	24.50	1.300	-	-	0.02	0.056	0.073
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	507000	2535	23.23	24.50	1.340	-	-	0.15	0.070	0.094
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	507000	2535	23.36	24.50	1.300	-	-	0.08	0.000	0.000
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	507000	2535	23.23	24.50	1.340	-	-	-0.16	0.049	0.066
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	18.57	19.00	1.104	-	-	0.08	0.577	0.637
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	18.44	19.00	1.138	-	-	0.17	0.567	0.645
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.57	19.00	1.104	-	-	0.02	0.732	0.808
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	502000	2510	18.20	19.00	1.202	-	-	0.07	0.543	0.653
15	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	512000	2560	18.24	19.00	1.191	-	-	-0.08	0.744	**0.886**
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.44	19.00	1.138	-	-	0.03	0.629	0.716
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.35	19.00	1.161	-	-	0.01	0.679	0.789
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	18.57	19.00	1.104	-	-	0.12	0.236	0.261
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	18.44	19.00	1.138	-	-	0.04	0.201	0.229
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	18.57	19.00	1.104	-	-	0.03	0.273	0.301
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	18.44	19.00	1.138	-	-	0.05	0.267	0.304
	FR1 n7_ENDC	20M	QPSK	1	26	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	512000	2560	16.27	17.00	1.183	-	-	0.02	0.462	0.547
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 1	518598	2592.99	25.08	26.50	1.387	-	-	-0.02	0.085	0.118
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 1	518598	2592.99	24.97	26.50	1.422	-	-	-0.17	0.067	0.095

	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 1	518598	2592.99	25.08	26.50	1.387	-	-	0.12	0.051	0.071
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 1	518598	2592.99	24.97	26.50	1.422	-	-	0.03	0.045	0.064
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 1	518598	2592.99	25.08	26.50	1.387	-	-	0.1	0.102	0.141
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 1	518598	2592.99	24.97	26.50	1.422	-	-	-0.06	0.106	0.151
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 1	518598	2592.99	25.08	26.50	1.387	-	-	0.08	0.093	0.129
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 1	518598	2592.99	24.97	26.50	1.422	-	-	0.1	0.093	0.132
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	23.43	24.50	1.279	-	-	0.16	0.088	0.113
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	23.27	24.50	1.327	-	-	-0.04	0.091	0.121
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	518598	2592.99	23.43	24.50	1.279	-	-	0.03	0.000	0.000
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	518598	2592.99	23.27	24.50	1.327	-	-	0.08	0.053	0.070
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	518598	2592.99	23.43	24.50	1.279	-	-	-0.02	0.061	0.078
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	518598	2592.99	23.27	24.50	1.327	-	-	0.17	0.057	0.076
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	518598	2592.99	23.43	24.50	1.279	-	-	0.05	0.000	0.000
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	518598	2592.99	23.27	24.50	1.327	-	-	-0.17	0.000	0.000
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.83	21.00	1.309	-	-	0.1	0.609	0.797
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.82	21.00	1.312	-	-	0.02	0.690	0.905
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.63	21.00	1.371	-	-	0.08	0.733	1.005
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.83	21.00	1.309	-	-	-0.13	0.735	0.962
16	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.82	21.00	1.312	-	-	-0.04	0.769	**1.009**
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.63	21.00	1.371	-	-	-0.06	0.702	0.962
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.83	21.00	1.309	-	-	-0.16	0.197	0.258
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.82	21.00	1.312	-	-	0.07	0.213	0.279
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.83	21.00	1.309	-	-	0.15	0.256	0.335
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.82	21.00	1.312	-	-	0.07	0.269	0.353
	FR1 n41_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	16.75	18.00	1.334	-	-	-0.02	0.509	0.679

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								3500MHz										
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	656000	3840	21.85	23.00	1.303	0.12	0.027	0.035
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	656000	3840	21.79	23.00	1.321	-0.16	0.022	0.029
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	656000	3840	21.85	23.00	1.303	0.08	0.033	0.043
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	656000	3840	21.79	23.00	1.321	-0.06	0.036	0.048
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	656000	3840	21.85	23.00	1.303	0.18	0.026	0.034
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	656000	3840	21.79	23.00	1.321	0.06	0.033	0.044
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	656000	3840	21.85	23.00	1.303	-0.12	0.024	0.031
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	656000	3840	21.79	23.00	1.321	0.01	0.021	0.028
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	633334	3500.01	21.45	23.00	1.429	0.02	0.048	0.069
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	633334	3500.01	21.34	23.00	1.466	0.09	0.033	0.048
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	633334	3500.01	21.45	23.00	1.429	0.02	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	633334	3500.01	21.34	23.00	1.466	0.15	0.045	0.066
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	633334	3500.01	21.45	23.00	1.429	0.05	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	633334	3500.01	21.34	23.00	1.466	0.08	0.000	0.000
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	633334	3500.01	21.45	23.00	1.429	0.02	0.035	0.050
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	633334	3500.01	21.34	23.00	1.466	-0.05	0.000	0.000
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	25.86	26.00	1.033	-0.12	0.833	0.860
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	25.62	26.00	1.091	0.03	0.707	0.772
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	25.68	26.00	1.076	-0.12	0.637	0.686
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	656000	3840	25.86	26.00	1.033	0.12	0.750	0.775
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	656000	3840	25.62	26.00	1.091	-0.06	0.637	0.695
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	656000	3840	25.86	26.00	1.033	0.08	0.176	0.182
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	656000	3840	25.62	26.00	1.091	-0.03	0.168	0.183
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	25.86	26.00	1.033	0.04	0.178	0.184
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	25.62	26.00	1.091	-0.11	0.198	0.216
	FR1 n77_ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	22.55	23.00	1.109	0.01	0.453	0.502
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	25.38	26.00	1.153	0.07	0.843	0.972
17	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	25.08	26.00	1.236	-0.08	0.884	**1.093**
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	24.88	26.00	1.294	-0.11	0.803	1.039
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	633334	3500.01	25.38	26.00	1.153	0.03	0.609	0.702
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	633334	3500.01	25.08	26.00	1.236	0.05	0.615	0.760
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	633334	3500.01	25.38	26.00	1.153	0.02	0.253	0.292
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	633334	3500.01	25.08	26.00	1.236	0.17	0.248	0.307
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	25.38	26.00	1.153	-0.09	0.224	0.258
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	25.08	26.00	1.236	0.15	0.231	0.286
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	22.40	23.00	1.148	0.05	0.359	0.412
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	656000	3840	18.56	19.00	1.107	0.05	0.378	0.418
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	656000	3840	18.36	19.00	1.159	-0.02	0.416	0.482
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	656000	3840	18.56	19.00	1.107	0.06	0.427	0.473
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	656000	3840	18.36	19.00	1.159	0.09	0.445	0.516
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	18.56	19.00	1.107	-0.01	0.764	0.845
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	18.36	19.00	1.159	0.15	0.667	0.773
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	18.34	19.00	1.164	0.05	0.709	0.825
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	656000	3840	18.56	19.00	1.107	0.02	0.702	0.777
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	656000	3840	18.36	19.00	1.159	-0.18	0.684	0.793
	FR1 n77_ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	16.72	17.00	1.067	0.02	0.475	0.507
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	633334	3500.01	18.25	19.00	1.189	0.07	0.265	0.315
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	633334	3500.01	18.03	19.00	1.250	0.16	0.292	0.365
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	633334	3500.01	18.25	19.00	1.189	0.19	0.294	0.349
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	633334	3500.01	18.03	19.00	1.250	-0.18	0.300	0.375
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	18.25	19.00	1.189	0.09	0.653	0.776
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	18.03	19.00	1.250	0.08	0.587	0.734
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	633334	3500.01	18.25	19.00	1.189	-0.1	0.603	0.717

	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	633334	3500.01	18.03	19.00	1.250	-0.12	0.592	0.740
	FR1 n77_ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	16.58	17.00	1.102	0.03	0.456	0.502
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 1	656000	3840	21.57	23.00	1.390	0.08	0.059	0.082
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 1	656000	3840	21.53	23.00	1.403	-0.12	0.056	0.079
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	DSI 1	656000	3840	21.57	23.00	1.390	-0.14	0.038	0.053
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	DSI 1	656000	3840	21.53	23.00	1.403	0.09	0.041	0.058
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	DSI 1	656000	3840	21.57	23.00	1.390	0.07	0.199	0.277
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	DSI 1	656000	3840	21.53	23.00	1.403	-0.05	0.236	0.331
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	DSI 1	656000	3840	21.57	23.00	1.390	0.06	0.098	0.136
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	DSI 1	656000	3840	21.53	23.00	1.403	-0.18	0.107	0.150
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 1	633334	3500.01	21.49	23.00	1.416	0.05	0.065	0.092
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 1	633334	3500.01	21.38	23.00	1.452	-0.07	0.070	0.102
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	DSI 1	633334	3500.01	21.49	23.00	1.416	0.08	0.037	0.052
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	DSI 1	633334	3500.01	21.38	23.00	1.452	-0.16	0.038	0.055
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	DSI 1	633334	3500.01	21.49	23.00	1.416	-0.13	0.240	0.340
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	DSI 1	633334	3500.01	21.38	23.00	1.452	0.16	0.227	0.330
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	DSI 1	633334	3500.01	21.49	23.00	1.416	0.11	0.093	0.132
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	DSI 1	633334	3500.01	21.38	23.00	1.452	0.12	0.091	0.132

Plot 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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6	Reduced	1	2412	16.85	17.00	1.035	100	1.000	0.04	0.292	0.302
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	Reduced	1	2412	16.85	17.00	1.035	100	1.000	0.09	0.492	0.509
18	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Reduced	1	2412	16.85	17.00	1.035	100	1.000	0.07	0.536	**0.555**
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	Reduced	1	2412	16.85	17.00	1.035	100	1.000	-0.02	0.445	0.461
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	Reduced	39	2441	9.86	10.00	1.033	76.75	1.303	0.03	0.031	0.042
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Reduced	39	2441	9.86	10.00	1.033	76.75	1.303	0.09	0.026	0.035
19	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Reduced	39	2441	9.86	10.00	1.033	76.75	1.303	0.07	0.051	**0.069**
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Reduced	39	2441	9.86	10.00	1.033	76.75	1.303	0.09	0.050	0.067
5000MHz																
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Reduced	58	5290	10.45	11.50	1.274	100	1.000	0.07	0.243	0.309
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Reduced	58	5290	10.45	11.50	1.274	100	1.000	0.06	0.207	0.264
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Reduced	58	5290	10.45	11.50	1.274	100	1.000	0.07	0.369	0.470
20	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Reduced	58	5290	10.45	11.50	1.274	100	1.000	0.03	0.426	**0.543**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Reduced	138	5690	9.61	10.50	1.227	100	1.000	0.04	0.178	0.218
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Reduced	138	5690	9.61	10.50	1.227	100	1.000	0.13	0.173	0.212
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Reduced	138	5690	9.61	10.50	1.227	100	1.000	0.11	0.222	0.272
21	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Reduced	138	5690	9.61	10.50	1.227	100	1.000	-0.04	0.269	**0.330**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Reduced	155	5775	10.12	11.50	1.374	100	1.000	0.07	0.163	0.224
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Reduced	155	5775	10.12	11.50	1.374	100	1.000	0.04	0.182	0.250
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Reduced	155	5775	10.12	11.50	1.374	100	1.000	-0.05	0.245	0.337
22	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Reduced	155	5775	10.12	11.50	1.374	100	1.000	-0.07	0.277	**0.381**

15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 0	DSI3	23095	707.5	24.62	25.50	1.225	0.13	0.149	0.182
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 0	DSI3	23095	707.5	23.57	24.50	1.239	0.01	0.117	0.145
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 0	DSI3	23095	707.5	24.62	25.50	1.225	0.11	0.214	0.262
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 0	DSI3	23095	707.5	23.57	24.50	1.239	0.02	0.177	0.219
	LTE Band 12	10M	QPSK	1	0	Left Side	10mm	Ant 0	DSI2	23095	707.5	24.62	25.50	1.225	0.08	0.138	0.169
	LTE Band 12	10M	QPSK	25	0	Left Side	10mm	Ant 0	DSI2	23095	707.5	23.57	24.50	1.239	0.02	0.110	0.136
23	LTE Band 12	10M	QPSK	1	0	Right Side	10mm	Ant 0	DSI2	23095	707.5	24.62	25.50	1.225	-0.05	0.231	**0.283**
	LTE Band 12	10M	QPSK	25	0	Right Side	10mm	Ant 0	DSI2	23095	707.5	23.57	24.50	1.239	0.08	0.187	0.232
	LTE Band 12	10M	QPSK	1	0	Bottom Side	10mm	Ant 0	DSI3	23095	707.5	24.62	25.50	1.225	-0.11	0.107	0.131
	LTE Band 12	10M	QPSK	25	0	Bottom Side	10mm	Ant 0	DSI3	23095	707.5	23.57	24.50	1.239	-0.1	0.086	0.107
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 4	DSI4	23095	707.5	24.34	25.50	1.306	0.04	0.094	0.123
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 4	DSI4	23095	707.5	23.28	24.50	1.324	0.01	0.071	0.094
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 4	DSI4	23095	707.5	24.34	25.50	1.306	-0.15	0.135	0.176
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 4	DSI4	23095	707.5	23.28	24.50	1.324	-0.08	0.105	0.139
	LTE Band 12	10M	QPSK	1	0	Left Side	10mm	Ant 4	DSI2	23095	707.5	24.34	25.50	1.306	-0.06	0.148	0.193
	LTE Band 12	10M	QPSK	25	0	Left Side	10mm	Ant 4	DSI2	23095	707.5	23.28	24.50	1.324	0.02	0.112	0.148
	LTE Band 12	10M	QPSK	1	0	Top Side	10mm	Ant 4	DSI4	23095	707.5	24.34	25.50	1.306	0.04	0.060	0.078
	LTE Band 12	10M	QPSK	25	0	Top Side	10mm	Ant 4	DSI4	23095	707.5	23.28	24.50	1.324	0.14	0.046	0.061
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 0	DSI3	23230	782	24.56	25.50	1.242	0.17	0.095	0.118
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 0	DSI3	23230	782	23.38	24.50	1.294	0.01	0.071	0.092
24	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 0	DSI3	23230	782	24.56	25.50	1.242	-0.09	0.145	**0.180**
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 0	DSI3	23230	782	23.38	24.50	1.294	0.03	0.111	0.144
	LTE Band 13	10M	QPSK	1	0	Left Side	10mm	Ant 0	DSI2	23230	782	24.56	25.50	1.242	0.08	0.085	0.106
	LTE Band 13	10M	QPSK	25	0	Left Side	10mm	Ant 0	DSI2	23230	782	23.38	24.50	1.294	0.02	0.065	0.084
	LTE Band 13	10M	QPSK	1	0	Right Side	10mm	Ant 0	DSI2	23230	782	24.56	25.50	1.242	-0.15	0.133	0.165
	LTE Band 13	10M	QPSK	25	0	Right Side	10mm	Ant 0	DSI2	23230	782	23.38	24.50	1.294	0.08	0.102	0.132
	LTE Band 13	10M	QPSK	1	0	Bottom Side	10mm	Ant 0	DSI3	23230	782	24.56	25.50	1.242	-0.12	0.128	0.159
	LTE Band 13	10M	QPSK	25	0	Bottom Side	10mm	Ant 0	DSI3	23230	782	23.38	24.50	1.294	0.01	0.103	0.133
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 4	DSI4	23230	782	24.14	25.50	1.368	0.19	0.095	0.130
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 4	DSI4	23230	782	23.04	24.50	1.400	0.01	0.077	0.108
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 4	DSI4	23230	782	24.14	25.50	1.368	0.12	0.124	0.170
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 4	DSI4	23230	782	23.04	24.50	1.400	-0.15	0.099	0.139
	LTE Band 13	10M	QPSK	1	0	Left Side	10mm	Ant 4	DSI2	23230	782	24.14	25.50	1.368	0.03	0.109	0.149
	LTE Band 13	10M	QPSK	25	0	Left Side	10mm	Ant 4	DSI2	23230	782	23.04	24.50	1.400	0.02	0.086	0.120
	LTE Band 13	10M	QPSK	1	0	Top Side	10mm	Ant 4	DSI4	23230	782	24.14	25.50	1.368	0.04	0.109	0.149
	LTE Band 13	10M	QPSK	25	0	Top Side	10mm	Ant 4	DSI4	23230	782	23.04	24.50	1.400	0.06	0.085	0.119

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								835MHz										
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI3	189	836.4	27.42	28.00	1.143	0.03	0.336	0.384
25	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI3	189	836.4	27.42	28.00	1.143	-0.19	0.626	**0.715**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 0	DSI2	189	836.4	28.91	29.50	1.146	-0.18	0.231	0.265
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 0	DSI2	189	836.4	28.91	29.50	1.146	0.15	0.323	0.370
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 0	DSI3	189	836.4	27.42	28.00	1.143	-0.05	0.537	0.614
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	15mm	Ant 0	DSI2	189	836.4	28.91	29.50	1.146	0.02	0.390	0.447
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 4	DSI4	189	836.4	28.44	29.50	1.276	-0.16	0.400	0.511
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 4	DSI4	189	836.4	28.44	29.50	1.276	-0.15	0.532	0.679
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 4	DSI2	189	836.4	28.44	29.50	1.276	0.08	0.224	0.286
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 4	DSI4	189	836.4	28.44	29.50	1.276	-0.15	0.436	0.557
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI3	4182	836.4	23.47	24.50	1.268	0.07	0.186	0.236
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI3	4182	836.4	23.47	24.50	1.268	0.03	0.287	0.364
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	DSI2	4182	836.4	24.65	25.50	1.216	-0.16	0.184	0.224
26	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 0	DSI2	4182	836.4	24.65	25.50	1.216	-0.12	0.328	**0.399**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI3	4182	836.4	23.47	24.50	1.268	-0.08	0.242	0.307
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	15mm	Ant 0	DSI2	4182	836.4	24.65	25.50	1.216	0.02	0.181	0.220
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI4	4182	836.4	23.57	24.50	1.239	0.03	0.205	0.254
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI4	4182	836.4	23.57	24.50	1.239	-0.03	0.247	0.306
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI2	4182	836.4	23.57	24.50	1.239	0.05	0.150	0.186
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	4182	836.4	23.57	24.50	1.239	0.13	0.203	0.251
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 0	DSI3	26865	831.5	24.60	25.50	1.230	0.06	0.241	0.296
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 0	DSI3	26865	831.5	23.59	24.50	1.233	-0.06	0.187	0.231
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 0	DSI3	26865	831.5	24.60	25.50	1.230	-0.06	0.308	0.379
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 0	DSI3	26865	831.5	23.59	24.50	1.233	-0.02	0.237	0.292
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI2	26865	831.5	24.60	25.50	1.230	0.15	0.222	0.273
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 0	DSI2	26865	831.5	23.59	24.50	1.233	0.12	0.170	0.210
27	LTE Band 26	15M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI2	26865	831.5	24.60	25.50	1.230	0.02	0.317	**0.390**
	LTE Band 26	15M	QPSK	36	0	-	Right Side	10mm	Ant 0	DSI2	26865	831.5	23.59	24.50	1.233	0.05	0.250	0.308
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	26865	831.5	24.60	25.50	1.230	0.06	0.305	0.375
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant 0	DSI3	26865	831.5	23.59	24.50	1.233	0.07	0.248	0.306
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 4	DSI4	26865	831.5	23.25	24.50	1.334	0.08	0.127	0.169
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 4	DSI4	26865	831.5	22.26	23.50	1.330	-0.07	0.112	0.149
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	26865	831.5	23.25	24.50	1.334	-0.11	0.164	0.219
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 4	DSI4	26865	831.5	22.26	23.50	1.330	0.01	0.141	0.188
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI2	26865	831.5	23.25	24.50	1.334	-0.11	0.060	0.080
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 4	DSI2	26865	831.5	22.26	23.50	1.330	0.07	0.051	0.068
	LTE Band 26	15M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	26865	831.5	23.25	24.50	1.334	-0.06	0.065	0.087
	LTE Band 26	15M	QPSK	36	0	-	Top Side	10mm	Ant 4	DSI4	26865	831.5	22.26	23.50	1.330	-0.04	0.072	0.096
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI3	167300	836.5	24.53	25.50	1.250	-0.06	0.179	0.224
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI3	167300	836.5	24.51	25.50	1.256	0.03	0.194	0.244
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI3	167300	836.5	24.53	25.50	1.250	0.06	0.314	0.393
28	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI3	167300	836.5	24.51	25.50	1.256	-0.08	0.350	**0.440**
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI2	167300	836.5	24.53	25.50	1.250	0.04	0.103	0.129
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI2	167300	836.5	24.51	25.50	1.256	-0.04	0.104	0.131
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI2	167300	836.5	24.53	25.50	1.250	0.03	0.225	0.281
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI2	167300	836.5	24.51	25.50	1.256	0.13	0.191	0.240
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI3	167300	836.5	24.53	25.50	1.250	-0.04	0.247	0.309
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI3	167300	836.5	24.51	25.50	1.256	0.03	0.254	0.319
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	167300	836.5	23.96	24.50	1.132	0.08	0.133	0.151
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	167300	836.5	23.92	24.50	1.143	0.08	0.157	0.179
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	167300	836.5	23.96	24.50	1.132	-0.17	0.155	0.176
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	167300	836.5	23.92	24.50	1.143	-0.02	0.196	0.224
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	167300	836.5	23.96	24.50	1.132	0.05	0.123	0.139
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	167300	836.5	23.92	24.50	1.143	-0.16	0.113	0.129
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	167300	836.5	23.96	24.50	1.132	0.03	0.150	0.170
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	167300	836.5	23.92	24.50	1.143	0.08	0.128	0.146

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								1750MHz										
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI3	1413	1732.6	24.85	25.50	1.161	0.09	0.296	0.344
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI3	1413	1732.6	24.85	25.50	1.161	-0.07	0.444	0.516
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI2	1413	1732.6	24.85	25.50	1.161	0.09	0.251	0.292
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI3	1413	1732.6	24.85	25.50	1.161	0.07	0.294	0.341
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 2	DSI4	1413	1732.6	23.50	24.50	1.259	0.04	0.000	0.000
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	DSI4	1413	1732.6	23.50	24.50	1.259	-0.02	0.043	0.054
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI2	1413	1732.6	23.50	24.50	1.259	0.01	0.014	0.018
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 2	DSI4	1413	1732.6	23.50	24.50	1.259	-0.07	0.004	0.005
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI4	1413	1732.6	22.40	23.50	1.288	-0.04	0.420	0.541
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI4	1413	1732.6	22.40	23.50	1.288	-0.09	0.554	0.714
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI2	1413	1732.6	23.39	24.50	1.291	0.15	0.100	0.129
29	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	1413	1732.6	22.40	23.50	1.288	-0.08	0.696	**0.897**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	1312	1712.4	22.18	23.50	1.355	0.02	0.656	0.889
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	1513	1752.6	22.28	23.50	1.324	0.01	0.627	0.830
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI2	1413	1732.6	23.39	24.50	1.291	0.02	0.517	0.668
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI3	132322	1745	24.52	25.50	1.253	0.02	0.145	0.182
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI3	132322	1745	23.46	24.50	1.271	-0.06	0.132	0.168
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI3	132322	1745	24.52	25.50	1.253	0.02	0.211	0.264
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI3	132322	1745	23.46	24.50	1.271	0.19	0.183	0.233
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI2	132322	1745	24.52	25.50	1.253	-0.13	0.214	0.268
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 1	DSI2	132322	1745	23.46	24.50	1.271	0.02	0.198	0.252
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI3	132322	1745	24.52	25.50	1.253	0.06	0.177	0.222
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI3	132322	1745	23.46	24.50	1.271	0.08	0.139	0.177
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI4	132322	1745	23.58	24.50	1.236	0.14	0.025	0.031
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI4	132322	1745	22.59	23.50	1.233	-0.02	0.023	0.028
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI4	132322	1745	23.58	24.50	1.236	-0.03	0.034	0.042
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI4	132322	1745	22.59	23.50	1.233	-0.11	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI2	132322	1745	23.58	24.50	1.236	-0.07	0.001	0.001
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI2	132322	1745	22.59	23.50	1.233	0.02	0.001	0.001
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 2	DSI4	132322	1745	23.58	24.50	1.236	0.06	0.000	0.000
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 2	DSI4	132322	1745	22.59	23.50	1.233	-0.15	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI4	132322	1745	21.66	22.50	1.213	0.06	0.469	0.569
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI4	132322	1745	21.62	22.50	1.225	-0.16	0.474	0.580
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	132322	1745	21.66	22.50	1.213	0.13	0.472	0.573
30	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	132322	1745	21.62	22.50	1.225	-0.13	0.513	**0.628**
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI2	132322	1745	22.54	23.50	1.247	-0.17	0.070	0.087
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI2	132322	1745	21.47	22.50	1.268	0.07	0.059	0.075
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	132322	1745	21.66	22.50	1.213	-0.03	0.460	0.558
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	132322	1745	21.62	22.50	1.225	0.01	0.456	0.558
	LTE Band 66	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	132322	1745	22.54	23.50	1.247	0.02	0.375	0.468
	LTE Band 66_ENDC	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	132322	1745	18.72	19.50	1.197	-0.03	0.262	0.314
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI3	349000	1745	23.49	24.50	1.262	0.04	0.250	0.315
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI3	349000	1745	23.44	24.50	1.276	0.09	0.242	0.309
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	349000	1745	23.49	24.50	1.262	-0.17	0.400	0.505
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	349000	1745	23.44	24.50	1.276	0.18	0.371	0.474
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI2	349000	1745	23.49	24.50	1.262	0.11	0.191	0.241
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI2	349000	1745	23.44	24.50	1.276	0.01	0.188	0.240
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI3	349000	1745	23.49	24.50	1.262	-0.02	0.290	0.366
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI3	349000	1745	23.44	24.50	1.276	0.14	0.287	0.366
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI4	349000	1745	23.34	24.50	1.306	0.08	0.002	0.003
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI4	349000	1745	23.29	24.50	1.321	0.12	0.000	0.000
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	349000	1745	23.34	24.50	1.306	0.06	0.024	0.031

	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	349000	1745	23.29	24.50	1.321	0.05	0.023	0.030
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI2	349000	1745	23.34	24.50	1.306	0.13	0.007	0.009
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI2	349000	1745	23.29	24.50	1.321	0.03	0.007	0.009
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI4	349000	1745	23.34	24.50	1.306	0.04	0.001	0.001
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI4	349000	1745	23.29	24.50	1.321	-0.14	0.000	0.000
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	349000	1745	23.14	23.50	1.086	0.16	0.476	0.517
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	349000	1745	23.10	23.50	1.096	-0.09	0.434	0.476
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	349000	1745	23.14	23.50	1.086	0.17	0.501	0.544
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	349000	1745	23.10	23.50	1.096	0.02	0.492	0.539
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	349000	1745	23.14	23.50	1.086	0.03	0.107	0.116
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	349000	1745	23.10	23.50	1.096	0.03	0.114	0.125
31	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	349000	1745	23.14	23.50	1.086	-0.05	0.889	**0.966**
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	349000	1745	23.10	23.50	1.096	0.02	0.776	0.851
	FR1 n66	40M	QPSK	100	0	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	349000	1745	22.09	22.50	1.099	0.01	0.752	0.826

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1900MHz																		
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	10mm	Ant 1	DSI3	661	1880	28.91	29.50	1.146	0.08	0.260	0.298
32	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	10mm	Ant 1	DSI3	661	1880	28.91	29.50	1.146	-0.01	0.359	**0.411**
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Side	10mm	Ant 1	DSI2	661	1880	28.91	29.50	1.146	0.16	0.207	0.237
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Bottom Side	10mm	Ant 1	DSI3	661	1880	28.91	29.50	1.146	0.08	0.313	0.359
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 2	DSI4	661	1880	24.35	25.00	1.161	0.08	0.002	0.002
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 2	DSI4	661	1880	24.35	25.00	1.161	-0.12	0.011	0.013
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 2	DSI2	661	1880	24.35	25.00	1.161	-0.12	0.004	0.005
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 2	DSI4	661	1880	24.35	25.00	1.161	-0.06	0.006	0.007
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	10mm	Ant 4	DSI4	661	1880	27.88	28.50	1.153	0.02	0.106	0.122
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	10mm	Ant 4	DSI4	661	1880	27.88	28.50	1.153	-0.11	0.149	0.172
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Side	10mm	Ant 4	DSI2	661	1880	27.88	28.50	1.153	-0.05	0.000	0.000
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Top Side	10mm	Ant 4	DSI4	661	1880	27.88	28.50	1.153	0.01	0.284	0.328
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI3	9400	1880	21.35	22.50	1.303	0.04	0.150	0.195
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI3	9400	1880	21.35	22.50	1.303	-0.04	0.222	0.289
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI2	9400	1880	22.43	23.50	1.279	-0.13	0.208	0.266
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI3	9400	1880	21.35	22.50	1.303	-0.15	0.202	0.263
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI2	9400	1880	22.43	23.50	1.279	0.02	0.197	0.252
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI4	9400	1880	22.87	24.50	1.455	0.16	0.238	0.346
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI4	9400	1880	22.87	24.50	1.455	0.12	0.333	0.485
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI2	9400	1880	24.11	25.50	1.377	0.18	0.079	0.109
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	9400	1880	22.87	24.50	1.455	0.07	0.663	0.965
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	9262	1852.4	22.82	24.50	1.472	0.03	0.572	0.842
33	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI4	9538	1907.6	22.72	24.50	1.507	-0.14	0.672	**1.012**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI2	9400	1880	24.11	25.50	1.377	0.03	0.619	0.852
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI2	9262	1852.4	24.05	25.50	1.396	0.02	0.603	0.842
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI2	9538	1907.6	24.01	25.50	1.409	-0.01	0.598	0.843
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI3	18900	1880	22.42	23.50	1.282	-0.08	0.123	0.158
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI3	18900	1880	21.52	22.50	1.253	-0.03	0.101	0.127
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI3	18900	1880	22.42	23.50	1.282	-0.16	0.150	0.192
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI3	18900	1880	21.52	22.50	1.253	-0.03	0.136	0.170
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI2	18900	1880	22.42	23.50	1.282	-0.05	0.156	0.200
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 1	DSI2	18900	1880	21.52	22.50	1.253	0.11	0.128	0.160
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI3	18900	1880	22.42	23.50	1.282	0.04	0.136	0.174
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI3	18900	1880	21.52	22.50	1.253	-0.05	0.122	0.153
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI4	18900	1880	21.95	23.50	1.429	0.01	0.232	0.332
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI4	18900	1880	21.89	23.50	1.449	0.04	0.243	0.352
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	18900	1880	21.95	23.50	1.429	0.05	0.276	0.394
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	18900	1880	21.89	23.50	1.449	0.15	0.300	0.435
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI2	18900	1880	24.36	25.50	1.300	0.01	0.070	0.091
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI2	18900	1880	23.32	24.50	1.312	0.13	0.062	0.081
	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	18900	1880	21.95	23.50	1.429	0.1	0.555	0.793
34	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	18900	1880	21.89	23.50	1.449	-0.09	0.566	**0.820**
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	18700	1860	21.88	23.50	1.452	0.02	0.523	0.759
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	19100	1900	21.77	23.50	1.489	-0.03	0.542	0.807
	LTE Band 2	20M	QPSK	100	0	-	Top Side	10mm	Ant 4	DSI4	18900	1880	21.82	23.50	1.472	-0.03	0.522	0.769
	LTE Band 2	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	18900	1880	24.36	25.50	1.300	0.02	0.526	0.684
	LTE Band 2_ENDC	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	18900	1880	21.52	22.50	1.253	0.03	0.275	0.345
	LTE Band 2_ENDC	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	18900	1880	19.03	20.50	1.403	0.01	0.312	0.438

Plot 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)
									2600MHz											
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI3	21100	2535	15.45	17.00	1.429	-	-	0.01	0.205	0.293
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI3	21100	2535	15.41	17.00	1.442	-	-	-0.09	0.217	0.313
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI3	21100	2535	15.45	17.00	1.429	-	-	0.06	0.559	0.799
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI3	21100	2535	15.41	17.00	1.442	-	-	-0.1	0.540	0.779
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.17	0.091	0.118
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.03	0.104	0.134
	LTE Band 7	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.04	0.214	0.276
	LTE Band 7	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.02	0.208	0.269
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	21100	2535	15.45	17.00	1.429	-	-	0.09	0.758	1.083
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	21100	2535	12.52	14.00	1.406	-	-	0.01	0.375	0.527
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	20850	2510	15.30	17.00	1.479	-	-	0.02	0.724	1.071
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	21350	2560	15.40	17.00	1.445	-	-	-0.01	0.715	1.033
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	21100	2535	15.41	17.00	1.442	-	-	-0.04	0.741	1.069
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	20850	2510	15.21	17.00	1.510	-	-	0.02	0.705	1.065
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	21350	2560	15.31	17.00	1.476	-	-	-0.03	0.713	1.052
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 0	DSI3	21100	2535	15.37	17.00	1.455	-	-	0.02	0.728	1.060
35	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.03	0.847	**1.094**
	LTE Band 7C	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	21100+ 21298	2535+ 2554.8	20.14	21.50	1.368	-	-	0.02	0.789	1.079
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	20850	2510	20.31	21.50	1.315	-	-	0.01	0.821	1.080
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	21350	2560	20.30	21.50	1.318	-	-	0.02	0.815	1.074
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.05	0.804	1.038
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	20850	2510	19.89	21.50	1.449	-	-	0.06	0.738	1.069
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	21350	2560	19.99	21.50	1.416	-	-	0.03	0.711	1.007
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	15mm	Ant 0	DSI2	21350	2560	20.31	21.50	1.315	-	-	0.02	0.812	1.068
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	21100	2535	17.42	18.50	1.282	-	-	0.02	0.432	0.554
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI4	21100	2535	15.39	16.50	1.291	-	-	0.03	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI4	21100	2535	15.37	16.50	1.297	-	-	0.09	0.010	0.013
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI4	21100	2535	15.39	16.50	1.291	-	-	0.07	0.363	0.469
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI4	21100	2535	15.37	16.50	1.297	-	-	0.04	0.370	0.480
	LTE Band 7C	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI4	21100+ 21298	2535+ 2554.8	15.33	16.50	1.309	-	-	0.04	0.335	0.439
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI2	21100	2535	23.13	24.50	1.371	-	-	0.08	0.343	0.470
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI2	21100	2535	22.13	23.50	1.371	-	-	0.09	0.341	0.467
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 2	DSI4	21100	2535	15.39	16.50	1.291	-	-	0.02	0.013	0.017
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 2	DSI4	21100	2535	15.37	16.50	1.297	-	-	0.11	0.012	0.016
	LTE Band 7	20M	QPSK	1	0	-	Top Side	15mm	Ant 2	DSI2	21100	2535	23.13	24.50	1.371	-	-	0.03	0.023	0.032
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI4	21100	2535	19.31	20.50	1.315	-	-	0.19	0.246	0.324
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI4	21100	2535	19.29	20.50	1.321	-	-	0.18	0.266	0.351
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	21100	2535	19.31	20.50	1.315	-	-	0.1	0.461	0.606
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	21100	2535	19.29	20.50	1.321	-	-	-0.19	0.519	0.686
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI2	21100	2535	23.19	24.50	1.352	-	-	0.01	0.300	0.406
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI2	21100	2535	22.15	23.50	1.365	-	-	0.09	0.312	0.426
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	21100	2535	19.31	20.50	1.315	-	-	-0.18	0.734	0.965
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	20850	2510	19.19	20.50	1.352	-	-	0.02	0.712	0.963
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	21350	2560	19.26	20.50	1.330	-	-	0.01	0.702	0.934
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	21100	2535	19.29	20.50	1.321	-	-	-0.03	0.769	1.016
	LTE Band 7C	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	21100+ 21298	2535+ 2554.8	19.24	20.50	1.337	-	-	-0.01	0.743	0.993
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	20850	2510	19.08	20.50	1.387	-	-	0.02	0.730	1.012
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	21350	2560	19.05	20.50	1.396	-	-	-0.03	0.722	1.008
	LTE Band 7	20M	QPSK	100	0	-	Top Side	10mm	Ant 4	DSI4	21100	2535	19.23	20.50	1.340	-	-	0.01	0.736	0.986
	LTE Band 7	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	21100	2535	23.19	24.50	1.352	-	-	0.04	0.607	0.821
	LTE Band 7	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	20850	2510	23.08	24.50	1.387	-	-	0.02	0.612	0.849
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	20850	2510	20.12	21.50	1.374	-	-	0.01	0.312	0.429

	LTE Band 7	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	21350	2560	23.16	24.50	1.361	-	-	0.01	0.621	0.845
	LTE Band 7	20M	QPSK	50	0	-	Top Side	15mm	Ant 4	DSI2	21100	2535	22.15	23.50	1.365	-	-	0.04	0.576	0.786
	LTE Band 7	20M	QPSK	100	0	-	Top Side	15mm	Ant 4	DSI2	21100	2535	22.07	23.50	1.390	-	-	0.01	0.572	0.795
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	21100	2535	16.32	17.50	1.312	-	-	0.02	0.388	0.509
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI3	40620	2593	19.65	20.50	1.216	62.9	1.006	0.16	0.134	0.164
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI3	40620	2593	19.60	20.50	1.230	62.9	1.006	0.03	0.128	0.158
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI3	40620	2593	19.65	20.50	1.216	62.9	1.006	0.09	0.415	0.508
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI3	40620	2593	19.60	20.50	1.230	62.9	1.006	0.04	0.399	0.494
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.03	0.083	0.101
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI2	40620	2593	23.65	24.50	1.216	62.9	1.006	0.08	0.062	0.076
	LTE Band 41	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.01	0.125	0.152
	LTE Band 41	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI2	40620	2593	23.65	24.50	1.216	62.9	1.006	0.05	0.094	0.115
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	40620	2593	19.65	20.50	1.216	62.9	1.006	-0.03	0.541	0.662
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	39750	2506	19.63	20.50	1.222	62.9	1.006	0.02	0.501	0.616
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	40185	2549.5	19.60	20.50	1.230	62.9	1.006	0.03	0.489	0.605
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	41055	2636.5	19.56	20.50	1.242	62.9	1.006	-0.01	0.495	0.618
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI3	41490	2680	19.56	20.50	1.242	62.9	1.006	0.02	0.500	0.625
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	40620	2593	19.60	20.50	1.230	62.9	1.006	0.01	0.520	0.644
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	39750	2506	19.44	20.50	1.276	62.9	1.006	-0.03	0.503	0.646
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	40185	2549.5	19.40	20.50	1.288	62.9	1.006	0.05	0.489	0.634
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	41055	2636.5	19.42	20.50	1.282	62.9	1.006	0.01	0.492	0.635
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI3	41490	2680	19.39	20.50	1.291	62.9	1.006	-0.01	0.511	0.664
	LTE Band 41_ENDC	20M	QPSK	50	0		Bottom Side	10mm	Ant 0	DSI3	41490	2680	16.39	17.50	1.291	62.9	1.006	0.02	0.262	0.340
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 0	DSI3	40620	2593	19.56	20.50	1.242	62.9	1.006	-0.03	0.500	0.625
36	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.03	0.846	**1.028**
	LTE Band 38C	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	37901+38099	2585.1+2604.9	24.42	25.50	1.282	62.9	1.006	0.01	0.786	1.014
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	39750	2506	24.60	25.50	1.230	62.9	1.006	0.01	0.786	0.973
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	40185	2549.5	24.52	25.50	1.253	62.9	1.006	-0.02	0.792	0.998
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	41055	2636.5	24.41	25.50	1.285	62.9	1.006	0.05	0.772	0.998
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	41490	2680	24.30	25.50	1.318	62.9	1.006	-0.03	0.753	0.999
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	40620	2593	23.65	24.50	1.216	62.9	1.006	0.03	0.713	0.872
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	39750	2506	23.64	24.50	1.219	62.9	1.006	0.08	0.711	0.872
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	40185	2549.5	23.61	24.50	1.227	62.9	1.006	-0.01	0.728	0.899
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	41055	2636.5	23.23	24.50	1.340	62.9	1.006	0.09	0.731	0.985
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	15mm	Ant 0	DSI2	41490	2680	23.43	24.50	1.279	62.9	1.006	0.14	0.750	0.965
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	15mm	Ant 0	DSI2	40620	2593	23.62	24.50	1.225	62.9	1.006	0.04	0.786	0.968
	LTE Band 41_ENDC	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	40620	2593	18.55	19.50	1.245	62.9	1.006	0.02	0.433	0.542
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI4	40620	2593	19.53	20.00	1.114	62.9	1.006	0.04	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI4	40620	2593	19.52	20.00	1.117	62.9	1.006	0.02	0.007	0.008
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI4	40620	2593	19.53	20.00	1.114	62.9	1.006	0.01	0.385	0.432
	LTE Band 38C	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI4	37901+38099	2585.1+2604.9	19.07	20.00	1.239	62.9	1.006	0.03	0.336	0.419
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI4	40620	2593	19.52	20.00	1.117	62.9	1.006	-0.01	0.354	0.398
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.05	0.227	0.276
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI2	40620	2593	23.68	24.50	1.208	62.9	1.006	-0.11	0.166	0.202
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 2	DSI4	40620	2593	19.53	20.00	1.114	62.9	1.006	-0.02	0.011	0.012
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 2	DSI4	40620	2593	19.52	20.00	1.117	62.9	1.006	-0.12	0.011	0.012
	LTE Band 41	20M	QPSK	1	0	-	Top Side	15mm	Ant 2	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.01	0.029	0.035
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI4	40620	2593	23.16	24.50	1.361	62.9	1.006	0.06	0.278	0.381
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI4	40620	2593	23.05	24.50	1.396	62.9	1.006	-0.02	0.281	0.395
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	40620	2593	23.16	24.50	1.361	62.9	1.006	0.11	0.624	0.855
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	39750	2506	23.02	24.50	1.406	62.9	1.006	0.01	0.523	0.740
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	40185	2549.5	23.02	24.50	1.406	62.9	1.006	0.03	0.543	0.768
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	41055	2636.5	22.86	24.50	1.459	62.9	1.006	-0.03	0.576	0.845
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI4	41490	2680	22.86	24.50	1.459	62.9	1.006	0.02	0.567	0.832
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	40620	2593	23.05	24.50	1.396	62.9	1.006	0.07	0.620	0.871

	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	39750	2506	22.98	24.50	1.419	62.9	1.006	0.03	0.602	0.859
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	40185	2549.5	22.85	24.50	1.462	62.9	1.006	-0.02	0.578	0.850
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	41055	2636.5	22.94	24.50	1.432	62.9	1.006	0.02	0.580	0.836
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI4	41490	2680	22.83	24.50	1.469	62.9	1.006	0.01	0.577	0.853
	LTE Band 41	20M	QPSK	100	0	-	Back	10mm	Ant 4	DSI4	40620	2593	23.00	24.50	1.413	62.9	1.006	0.03	0.572	0.813
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI2	40620	2593	24.32	25.50	1.312	62.9	1.006	-0.13	0.441	0.582
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI2	40620	2593	23.25	24.50	1.334	62.9	1.006	-0.04	0.313	0.420
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	40620	2593	23.16	24.50	1.361	62.9	1.006	-0.08	0.698	0.956
	LTE Band 38C	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	37901+38099	2585.1+2604.9	22.80	24.50	1.479	62.9	1.006	-0.08	0.637	0.948
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	39750	2506	23.02	24.50	1.406	62.9	1.006	0.03	0.623	0.881
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	40185	2549.5	23.02	24.50	1.406	62.9	1.006	0.02	0.642	0.908
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	41055	2636.5	22.86	24.50	1.459	62.9	1.006	0.03	0.650	0.954
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	41490	2680	22.86	24.50	1.459	62.9	1.006	-0.03	0.646	0.948
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	40620	2593	23.05	24.50	1.396	62.9	1.006	0.05	0.671	0.943
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	39750	2506	22.98	24.50	1.419	62.9	1.006	0.03	0.612	0.874
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	40185	2549.5	22.85	24.50	1.462	62.9	1.006	0.04	0.621	0.913
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	41055	2636.5	22.94	24.50	1.432	62.9	1.006	0.02	0.620	0.893
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI4	41490	2680	22.83	24.50	1.469	62.9	1.006	-0.03	0.632	0.934
	LTE Band 41	20M	QPSK	100	0	-	Top Side	10mm	Ant 4	DSI4	40620	2593	23.00	24.50	1.413	62.9	1.006	0.04	0.660	0.938
	LTE Band 41	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	40620	2593	24.32	25.50	1.312	62.9	1.006	0.04	0.453	0.598
	LTE Band 41_ENDC	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI2	40620	2593	21.44	22.50	1.276	62.9	1.006	0.03	0.235	0.302
	LTE Band 41_ENDC	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI4	40620	2593	20.34	21.50	1.306	62.9	1.006	0.02	0.365	0.480
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI3	507000	2535	16.25	17.00	1.189	-	-	0.11	0.155	0.184
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI3	507000	2535	16.17	17.00	1.211	-	-	0.17	0.173	0.209
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI3	507000	2535	16.25	17.00	1.189	-	-	-0.05	0.441	0.524
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI3	507000	2535	16.17	17.00	1.211	-	-	0.04	0.489	0.592
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI2	507000	2535	20.53	21.50	1.250	-	-	0.16	0.005	0.006
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI2	507000	2535	20.47	21.50	1.268	-	-	0.16	0.007	0.009
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI2	507000	2535	20.53	21.50	1.250	-	-	0.07	0.011	0.014
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI2	507000	2535	20.47	21.50	1.268	-	-	0.08	0.007	0.009
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI3	507000	2535	16.25	17.00	1.189	-	-	-0.09	0.549	0.652
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI3	507000	2535	16.17	17.00	1.211	-	-	0.05	0.524	0.634
37	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Bottom Side	15mm	Ant 0	DSI2	507000	2535	20.53	21.50	1.250	-	-	-0.04	0.825	**1.031**
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Bottom Side	15mm	Ant 0	DSI2	502000	2510	20.47	21.50	1.268	-	-	0.02	0.802	1.017
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Bottom Side	15mm	Ant 0	DSI2	512000	2560	20.32	21.50	1.312	-	-	0.02	0.780	1.024
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Bottom Side	15mm	Ant 0	DSI2	507000	2535	20.17	21.50	1.358	-	-	-0.01	0.725	0.985
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI4	507000	2535	17.34	18.50	1.306	-	-	0.08	0.021	0.027
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI4	507000	2535	17.31	18.50	1.315	-	-	0.03	0.016	0.021
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	507000	2535	17.34	18.50	1.306	-	-	0.04	0.554	0.724
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	507000	2535	17.31	18.50	1.315	-	-	0.04	0.580	0.763
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI2	507000	2535	23.36	24.50	1.300	-	-	0.16	0.419	0.545
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI2	507000	2535	23.23	24.50	1.340	-	-	0.02	0.402	0.539
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI4	507000	2535	17.34	18.50	1.306	-	-	0.11	0.024	0.031
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI4	507000	2535	17.31	18.50	1.315	-	-	0.09	0.020	0.026
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Top Side	15mm	Ant 2	DSI2	507000	2535	23.36	24.50	1.300	-	-	0.02	0.021	0.027
	FR1 n7_ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	507000	2535	14.34	15.50	1.306	-	-	0.02	0.369	0.482
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	507000	2535	20.05	20.50	1.109	-	-	0.11	0.146	0.162
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	507000	2535	19.99	20.50	1.125	-	-	-0.18	0.129	0.145
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	507000	2535	20.05	20.50	1.109	-	-	-0.06	0.298	0.331
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	507000	2535	19.99	20.50	1.125	-	-	0.05	0.274	0.308
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	507000	2535	23.06	23.50	1.107	-	-	0.16	0.203	0.225
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	507000	2535	23.02	23.50	1.117	-	-	-0.03	0.195	0.218
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	507000	2535	20.05	20.50	1.109	-	-	-0.06	0.479	0.531
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	507000	2535	19.99	20.50	1.125	-	-	0.12	0.432	0.486
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI2	507000	2535	23.06	23.50	1.107	-	-	0.03	0.463	0.512
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI3	518598	2592.99	16.28	17.50	1.324	-	-	0.03	0.097	0.128

	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI3	518598	2592.99	16.22	17.50	1.343	-	-	0.04	0.105	0.141
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI3	518598	2592.99	16.28	17.50	1.324	-	-	0.1	0.318	0.421
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI3	518598	2592.99	16.22	17.50	1.343	-	-	-0.11	0.329	0.442
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI2	518598	2592.99	21.10	22.50	1.380	-	-	0.02	0.096	0.133
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI2	518598	2592.99	21.06	22.50	1.393	-	-	0.12	0.088	0.123
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI2	518598	2592.99	21.10	22.50	1.380	-	-	0.18	0.158	0.218
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI2	518598	2592.99	21.06	22.50	1.393	-	-	0.09	0.154	0.215
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI3	518598	2592.99	16.28	17.50	1.324	-	-	-0.03	0.448	0.593
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI3	518598	2592.99	16.22	17.50	1.343	-	-	-0.17	0.415	0.557
38	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	15mm	Ant 0	DSI2	518598	2592.99	21.10	22.50	1.380	-	-	0.02	0.712	**0.983**
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	15mm	Ant 0	DSI2	518598	2592.99	20.99	22.50	1.416	-	-	-0.02	0.689	0.975
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI4	518598	2592.99	18.43	19.50	1.279	-	-	0.15	0.005	0.006
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI4	518598	2592.99	18.32	19.50	1.312	-	-	0.05	0.000	0.000
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	518598	2592.99	18.43	19.50	1.279	-	-	0.07	0.181	0.232
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI4	518598	2592.99	18.32	19.50	1.312	-	-	-0.14	0.152	0.199
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI2	518598	2592.99	23.43	24.50	1.279	-	-	0.04	0.221	0.283
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI2	518598	2592.99	23.27	24.50	1.327	-	-	-0.03	0.291	0.386
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI4	518598	2592.99	18.43	19.50	1.279	-	-	-0.1	0.006	0.008
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI4	518598	2592.99	18.32	19.50	1.312	-	-	0.1	0.005	0.007
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 2	DSI2	518598	2592.99	23.43	24.50	1.279	-	-	0.03	0.021	0.027
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	518598	2592.99	18.49	19.50	1.262	-	-	0.04	0.115	0.145
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI4	518598	2592.99	18.46	19.50	1.271	-	-	0.09	0.088	0.112
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	518598	2592.99	18.49	19.50	1.262	-	-	0.05	0.248	0.313
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI4	518598	2592.99	18.46	19.50	1.271	-	-	0.13	0.200	0.254
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	518598	2592.99	23.46	24.50	1.271	-	-	-0.07	0.433	0.550
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI2	518598	2592.99	23.42	24.50	1.282	-	-	0.04	0.418	0.536
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	518598	2592.99	18.49	19.50	1.262	-	-	0.08	0.352	0.444
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI4	518598	2592.99	18.46	19.50	1.271	-	-	0.06	0.267	0.339
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI2	518598	2592.99	23.46	24.50	1.271	-	-	0.04	0.382	0.485

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								3500MHz										
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI3	656000	3840	19.69	21.00	1.352	-0.12	0.170	0.230
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI3	656000	3840	19.60	21.00	1.380	-0.08	0.177	0.244
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	656000	3840	19.69	21.00	1.352	0.01	0.482	0.652
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	656000	3840	19.60	21.00	1.380	-0.03	0.515	0.711
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI2	656000	3840	21.85	23.00	1.303	0.01	0.293	0.382
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI2	656000	3840	21.79	23.00	1.321	0.04	0.304	0.402
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI3	656000	3840	19.69	21.00	1.352	0.03	0.401	0.542
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI3	656000	3840	19.60	21.00	1.380	0.03	0.393	0.542
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI2	656000	3840	21.85	23.00	1.303	0.03	0.421	0.549
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	656000	3840	17.67	19.00	1.358	-0.01	0.402	0.546
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI3	633334	3500.01	19.49	21.00	1.416	0.06	0.097	0.137
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI3	633334	3500.01	19.41	21.00	1.442	0.04	0.111	0.160
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	633334	3500.01	19.49	21.00	1.416	0.06	0.246	0.348
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	633334	3500.01	19.41	21.00	1.442	0.04	0.376	0.542
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI2	633334	3500.01	21.45	23.00	1.429	-0.05	0.245	0.350
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI2	633334	3500.01	21.34	23.00	1.466	0.11	0.251	0.368
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI3	633334	3500.01	19.49	21.00	1.416	-0.01	0.242	0.343
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI3	633334	3500.01	19.41	21.00	1.442	0.03	0.238	0.343
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI2	633334	3500.01	21.45	23.00	1.429	0.02	0.356	0.509
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI3	633334	3500.01	17.53	19.00	1.403	0.03	0.309	0.433
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	656000	3840	22.49	23.00	1.125	0.07	0.106	0.119
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	656000	3840	22.28	23.00	1.180	0.07	0.099	0.117
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	656000	3840	22.49	23.00	1.125	0.16	0.264	0.297

	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	656000	3840	22.28	23.00	1.180	-0.02	0.367	0.433
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI2	656000	3840	26.57	27.00	1.104	-0.07	0.564	0.623
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI2	656000	3840	26.32	27.00	1.169	-0.02	0.594	0.695
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	656000	3840	22.49	23.00	1.125	0.02	0.081	0.091
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	656000	3840	22.28	23.00	1.180	0.06	0.087	0.103
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 3	DSI2	656000	3840	26.57	27.00	1.104	-0.01	0.135	0.149
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	633334	3500.01	22.26	23.00	1.186	0.06	0.070	0.083
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	633334	3500.01	22.22	23.00	1.197	0.05	0.075	0.090
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	633334	3500.01	22.26	23.00	1.186	-0.02	0.210	0.249
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	633334	3500.01	22.22	23.00	1.197	0.05	0.214	0.256
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI2	633334	3500.01	26.33	27.00	1.167	-0.19	0.387	0.452
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI2	633334	3500.01	26.20	27.00	1.202	-0.16	0.461	0.554
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	633334	3500.01	22.26	23.00	1.186	0.04	0.072	0.085
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	633334	3500.01	22.22	23.00	1.197	0.07	0.080	0.096
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 3	DSI2	633334	3500.01	26.33	27.00	1.167	0.04	0.174	0.203
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI4	656000	3840	19.76	20.00	1.057	0.13	0.192	0.203
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI4	656000	3840	19.56	20.00	1.107	0.14	0.203	0.225
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI4	656000	3840	19.76	20.00	1.057	0.08	0.208	0.220
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI4	656000	3840	19.56	20.00	1.107	0.06	0.243	0.269
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	656000	3840	26.66	27.00	1.081	0.07	0.624	0.675
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	656000	3840	26.56	27.00	1.107	-0.07	0.759	0.840
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	656000	3840	25.99	26.00	1.002	0.02	0.659	0.661
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI4	656000	3840	19.76	20.00	1.057	0.15	0.278	0.294
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI4	656000	3840	19.56	20.00	1.107	0.06	0.255	0.282
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 5	DSI 2	656000	3840	26.66	27.00	1.081	0.03	0.781	0.845
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Top Side	15mm	Ant 5	DSI 2	656000	3840	25.99	26.00	1.002	0.03	0.648	0.649
	FR1 n77_ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 5	DSI 2	656000	3840	23.72	24.00	1.067	0.01	0.422	0.450
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI4	633334	3500.01	19.37	20.00	1.156	-0.17	0.169	0.195
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI4	633334	3500.01	19.23	20.00	1.194	0.08	0.166	0.198
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI4	633334	3500.01	19.37	20.00	1.156	-0.19	0.260	0.301
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI4	633334	3500.01	19.23	20.00	1.194	0.05	0.364	0.435
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	26.39	27.00	1.151	-0.1	0.570	0.656
39	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	26.08	27.00	1.236	-0.03	0.714	**0.882**
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	25.71	26.00	1.069	0.01	0.652	0.697
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI4	633334	3500.01	19.37	20.00	1.156	0.02	0.239	0.276
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI4	633334	3500.01	19.23	20.00	1.194	-0.03	0.231	0.276
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 5	DSI 2	633334	3500.01	26.39	27.00	1.151	0.02	0.670	0.771
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	23.13	24.00	1.222	-0.02	0.361	0.441
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 8	DSI4	656000	3840	21.57	23.00	1.390	0.07	0.036	0.050
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 8	DSI4	656000	3840	21.53	23.00	1.403	0.05	0.043	0.060
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 8	DSI4	656000	3840	21.57	23.00	1.390	-0.13	0.123	0.171
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 8	DSI4	656000	3840	21.53	23.00	1.403	-0.08	0.152	0.213
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 8	DSI 2	656000	3840	21.57	23.00	1.390	0.13	0.126	0.175
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 8	DSI 2	656000	3840	21.53	23.00	1.403	0.03	0.075	0.105
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 8	DSI4	656000	3840	18.53	20.00	1.403	0.02	0.110	0.154
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 8	DSI4	633334	3500.01	21.49	23.00	1.416	0.12	0.123	0.174
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 8	DSI4	633334	3500.01	21.38	23.00	1.452	-0.06	0.127	0.184
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 8	DSI4	633334	3500.01	21.49	23.00	1.416	-0.05	0.505	0.715
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 8	DSI4	633334	3500.01	21.38	23.00	1.452	0.1	0.469	0.681
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 8	DSI 2	633334	3500.01	21.49	23.00	1.416	0.01	0.381	0.539
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 8	DSI 2	633334	3500.01	21.38	23.00	1.452	0.04	0.221	0.321
	FR1 n77_ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 8	DSI4	633334	3500.01	18.52	20.00	1.406	0.01	0.315	0.443

Plot 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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 6	Full	1	2412	18.26	19.00	1.186	100	1.000	0.02	0.145	0.172
40	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 6	Full	1	2412	18.26	19.00	1.186	100	1.000	-0.03	0.173	**0.205**
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 6	Full	1	2412	18.26	19.00	1.186	100	1.000	0.03	0.134	0.159
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 6	Full	1	2412	18.26	19.00	1.186	100	1.000	-0.02	0.097	0.115
	Bluetooth	1Mbps	Front	10mm	Ant 6	Full	39	2441	9.86	10.00	1.033	76.75	1.303	0.05	0.029	0.039
	Bluetooth	1Mbps	Back	10mm	Ant 6	Full	39	2441	9.86	10.00	1.033	76.75	1.303	-0.04	0.029	0.039
41	Bluetooth	1Mbps	Right Side	10mm	Ant 6	Full	39	2441	9.86	10.00	1.033	76.75	1.303	-0.03	0.030	**0.040**
	Bluetooth	1Mbps	Top Side	10mm	Ant 6	Full	39	2441	9.86	10.00	1.033	76.75	1.303	0.01	0.024	0.032
5000MHz																
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 6	Full	48	5240	15.40	16.50	1.288	100	1.000	0.08	0.168	0.216
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 6	Full	48	5240	15.40	16.50	1.288	100	1.000	0.01	0.323	0.416
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 6	Full	48	5240	15.40	16.50	1.288	100	1.000	0.03	0.109	0.140
42	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 6	Full	48	5240	15.40	16.50	1.288	100	1.000	-0.09	0.342	**0.441**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 6	Full	155	5775	15.50	16.50	1.259	100	1.000	-0.12	0.179	0.225
43	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 6	Full	155	5775	15.50	16.50	1.259	100	1.000	0.01	0.352	**0.443**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 6	Full	155	5775	15.50	16.50	1.259	100	1.000	0.05	0.168	0.211
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 6	Full	155	5775	15.50	16.50	1.259	100	1.000	0.04	0.349	0.439

15.3 Body Worn Accessory SAR

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																		
	LTE Band 12	10M	QPSK	1	0	-	Front	15mm	Ant 0	DSI2	23095	707.5	24.62	25.50	1.225	-0.16	0.156	0.191
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant 0	DSI2	23095	707.5	23.57	24.50	1.239	0.07	0.137	0.170
44	LTE Band 12	10M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	23095	707.5	24.62	25.50	1.225	-0.05	0.222	**0.272**
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant 0	DSI2	23095	707.5	23.57	24.50	1.239	0.03	0.174	0.216
	LTE Band 12	10M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	23095	707.5	24.34	25.50	1.306	0.06	0.088	0.115
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant 4	DSI2	23095	707.5	23.28	24.50	1.324	0.03	0.072	0.095
	LTE Band 12	10M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	23095	707.5	24.34	25.50	1.306	-0.05	0.119	0.155
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant 4	DSI2	23095	707.5	23.28	24.50	1.324	-0.19	0.090	0.119
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant 0	DSI2	23230	782	24.56	25.50	1.242	0.02	0.134	0.166
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 0	DSI2	23230	782	23.38	24.50	1.294	0.01	0.112	0.145
45	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	23230	782	24.56	25.50	1.242	-0.08	0.199	**0.247**
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 0	DSI2	23230	782	23.38	24.50	1.294	0.11	0.157	0.203
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	23230	782	24.14	25.50	1.368	-0.14	0.087	0.119
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 4	DSI2	23230	782	23.04	24.50	1.400	0.14	0.069	0.097
	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	23230	782	24.14	25.50	1.368	0.03	0.105	0.144
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 4	DSI2	23230	782	23.04	24.50	1.400	0.02	0.093	0.130
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 0	DSI2	189	836.4	28.91	29.50	1.146	-0.18	0.332	0.380
46	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 0	DSI2	189	836.4	28.91	29.50	1.146	-0.06	0.462	**0.529**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 4	DSI2	189	836.4	28.44	29.50	1.276	0.18	0.155	0.198
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 4	DSI2	189	836.4	28.44	29.50	1.276	0.01	0.264	0.337
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI2	4182	836.4	24.65	25.50	1.216	-0.18	0.151	0.184
47	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI2	4182	836.4	24.65	25.50	1.216	0.06	0.301	**0.366**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI2	4182	836.4	23.57	24.50	1.239	0.08	0.124	0.154
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI2	4182	836.4	23.57	24.50	1.239	-0.1	0.156	0.193
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 0	DSI2	26865	831.5	24.60	25.50	1.230	0.04	0.251	0.309
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 0	DSI2	26865	831.5	23.59	24.50	1.233	-0.18	0.201	0.248
48	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	26865	831.5	24.60	25.50	1.230	-0.02	0.289	**0.356**
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 0	DSI2	26865	831.5	23.59	24.50	1.233	0.08	0.229	0.282
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	26865	831.5	23.25	24.50	1.334	0.17	0.066	0.088
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 4	DSI2	26865	831.5	22.26	23.50	1.330	-0.12	0.064	0.085
	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	26865	831.5	23.25	24.50	1.334	0.01	0.111	0.148
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 4	DSI2	26865	831.5	22.26	23.50	1.330	0.15	0.086	0.114
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI2	167300	836.5	24.53	25.50	1.250	0.18	0.196	0.245
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI2	167300	836.5	24.51	25.50	1.256	0.18	0.200	0.251
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	167300	836.5	24.53	25.50	1.250	-0.02	0.217	0.271
49	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	167300	836.5	24.51	25.50	1.256	0.19	0.221	**0.278**
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	167300	836.5	23.96	24.50	1.132	-0.09	0.120	0.136
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	167300	836.5	23.92	24.50	1.143	0.08	0.117	0.134
	FR1 n5	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	167300	836.5	23.96	24.50	1.132	0.13	0.131	0.148
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	167300	836.5	23.92	24.50	1.143	-0.02	0.148	0.169

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								1750MHz										
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	DSI2	1413	1732.6	24.85	25.50	1.161	0.1	0.252	0.293
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI2	1413	1732.6	24.85	25.50	1.161	-0.07	0.369	0.429
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 2	DSI2	1413	1732.6	23.50	24.50	1.259	0.01	0.002	0.003
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 2	DSI2	1413	1732.6	23.50	24.50	1.259	0.02	0.006	0.008
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI2	1413	1732.6	23.39	24.50	1.291	0.02	0.249	0.322
50	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI2	1413	1732.6	23.39	24.50	1.291	-0.06	0.338	**0.436**
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 1	DSI2	132322	1745	24.52	25.50	1.253	-0.08	0.174	0.218
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 1	DSI2	132322	1745	23.46	24.50	1.271	0.08	0.164	0.208
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 1	DSI2	132322	1745	24.52	25.50	1.253	-0.01	0.179	0.224
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 1	DSI2	132322	1745	23.46	24.50	1.271	-0.07	0.174	0.221
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 2	DSI2	132322	1745	23.58	24.50	1.236	0.02	0.001	0.001
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 2	DSI2	132322	1745	22.59	23.50	1.233	0.11	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI2	132322	1745	23.58	24.50	1.236	-0.03	0.004	0.005
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 2	DSI2	132322	1745	22.59	23.50	1.233	0.14	0.003	0.004
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	132322	1745	22.54	23.50	1.247	0.04	0.263	0.328
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI2	132322	1745	21.47	22.50	1.268	-0.15	0.264	0.335
51	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	132322	1745	22.54	23.50	1.247	-0.07	0.341	**0.425**
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI2	132322	1745	21.47	22.50	1.268	-0.15	0.269	0.341
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI2	349000	1745	23.49	24.50	1.262	-0.08	0.218	0.275
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI2	349000	1745	23.44	24.50	1.276	0.08	0.231	0.295
52	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI2	349000	1745	23.49	24.50	1.262	-0.12	0.296	**0.374**
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI2	349000	1745	23.44	24.50	1.276	0.04	0.292	0.373
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI2	349000	1745	23.34	24.50	1.306	0.09	0.003	0.004
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI2	349000	1745	23.29	24.50	1.321	0.01	0.001	0.001
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI2	349000	1745	23.34	24.50	1.306	-0.07	0.013	0.017
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI2	349000	1745	23.29	24.50	1.321	-0.01	0.014	0.018
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	349000	1745	23.14	23.50	1.086	0.01	0.156	0.169
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	349000	1745	23.10	23.50	1.096	0.05	0.190	0.208
	FR1 n66	40M	QPSK	1	53	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	349000	1745	23.14	23.50	1.086	-0.01	0.269	0.292
	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	349000	1745	23.10	23.50	1.096	0.03	0.147	0.161
								1900MHz										
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	15mm	Ant 1	DSI2	661	1880	28.91	29.50	1.146	0.11	0.107	0.123
53	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	15mm	Ant 1	DSI2	661	1880	28.91	29.50	1.146	-0.08	0.170	**0.195**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 2	DSI2	661	1880	24.35	25.00	1.161	0.04	0.001	0.001
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 2	DSI2	661	1880	24.35	25.00	1.161	-0.02	0.003	0.003
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	15mm	Ant 4	DSI2	661	1880	27.88	28.50	1.153	0.02	0.044	0.051
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	15mm	Ant 4	DSI2	661	1880	27.88	28.50	1.153	-0.12	0.063	0.073
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	DSI2	9400	1880	22.43	23.50	1.279	-0.17	0.103	0.132
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI2	9400	1880	22.43	23.50	1.279	-0.03	0.161	0.206
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI2	9400	1880	24.11	25.50	1.377	-0.09	0.252	0.347
54	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI2	9400	1880	24.11	25.50	1.377	-0.01	0.346	**0.477**
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 1	DSI2	18900	1880	22.42	23.50	1.282	0.16	0.124	0.159
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 1	DSI2	18900	1880	21.52	22.50	1.253	-0.1	0.114	0.143
	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 1	DSI2	18900	1880	22.42	23.50	1.282	-0.05	0.173	0.222
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 1	DSI2	18900	1880	21.52	22.50	1.253	0.09	0.170	0.213
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	18900	1880	24.36	25.50	1.300	0.08	0.263	0.342
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI2	18900	1880	23.32	24.50	1.312	0.02	0.224	0.294
55	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	18900	1880	24.36	25.50	1.300	-0.03	0.325	**0.423**
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI2	18900	1880	23.32	24.50	1.312	-0.05	0.313	0.411

Plot 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)
									2600MHz											
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.05	0.177	0.229
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	-0.15	0.176	0.227
56	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	-0.06	0.622	**0.803**
	LTE Band 7C	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	21100+ 21298	2535+ 2554.8	20.14	21.50	1.368	-	-	0.02	0.574	0.785
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	20850	2510	20.31	21.50	1.315	-	-	0.02	0.610	0.802
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	21350	2560	20.30	21.50	1.318	-	-	0.01	0.602	0.794
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	-	-	0.08	0.463	0.598
	LTE Band 7	20M	QPSK	100	0	-	Back	15mm	Ant 0	DSI2	21100	2535	20.31	21.50	1.315	-	-	0.03	0.597	0.785
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	21100	2535	17.42	18.50	1.282	-	-	-0.06	0.332	0.426
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 2	DSI2	21100	2535	23.13	24.50	1.371	-	-	0.14	0.035	0.048
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 2	DSI2	21100	2535	22.13	23.50	1.371	-	-	0.04	0.033	0.045
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI2	21100	2535	23.13	24.50	1.371	-	-	-0.03	0.527	0.722
	LTE Band 7C	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI2	21100+ 21298	2535+ 2554.8	22.92	24.50	1.439	-	-	-0.01	0.501	0.721
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 2	DSI2	21100	2535	22.13	23.50	1.371	-	-	0.04	0.510	0.699
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	21100	2535	23.19	24.50	1.352	-	-	-0.17	0.265	0.358
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI2	21100	2535	22.15	23.50	1.365	-	-	-0.03	0.252	0.344
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	21100	2535	23.19	24.50	1.352	-	-	-0.03	0.488	0.660
	LTE Band 7C	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	21100+ 21298	2535+ 2554.8	22.90	24.50	1.445	-	-	0.02	0.454	0.656
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI2	21100	2535	22.15	23.50	1.365	-	-	0.03	0.466	0.636
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	21100	2535	20.23	21.50	1.340	-	-	0.02	0.247	0.331
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.05	0.105	0.128
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI2	40620	2593	23.65	24.50	1.216	62.9	1.006	-0.11	0.087	0.106
57	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.01	0.341	**0.414**
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI2	37901+ 38099	2585.1+ 2604.9	24.42	25.50	1.282	62.9	1.006	-0.01	0.311	0.401
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI2	40620	2593	23.65	24.50	1.216	62.9	1.006	-0.08	0.252	0.308
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 2	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.02	0.015	0.018
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 2	DSI2	40620	2593	23.68	24.50	1.208	62.9	1.006	-0.02	0.008	0.010
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.04	0.260	0.316
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI2	37901+ 38099	2585.1+ 2604.9	24.36	25.50	1.300	62.9	1.006	0.01	0.241	0.315
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 2	DSI2	40620	2593	23.68	24.50	1.208	62.9	1.006	-0.06	0.256	0.311
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI2	40620	2593	24.32	25.50	1.312	62.9	1.006	0.09	0.133	0.176
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI2	40620	2593	23.25	24.50	1.334	62.9	1.006	-0.1	0.105	0.141
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	40620	2593	24.32	25.50	1.312	62.9	1.006	0.17	0.238	0.314
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI2	37901+ 38099	2585.1+ 2604.9	24.14	25.50	1.368	62.9	1.006	0.02	0.202	0.278
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI2	40620	2593	23.25	24.50	1.334	62.9	1.006	0.05	0.187	0.251
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI2	507000	2535	20.53	21.50	1.250	-	-	-0.05	0.287	0.359
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI2	507000	2535	20.47	21.50	1.268	-	-	0.02	0.238	0.302
58	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	507000	2535	20.53	21.50	1.250	-	-	0.04	0.755	**0.944**
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	502000	2510	20.47	21.50	1.268	-	-	0.02	0.722	0.915
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	512000	2560	20.32	21.50	1.312	-	-	0.01	0.712	0.934
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	507000	2535	20.47	21.50	1.268	-	-	0.19	0.676	0.857
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	502000	2510	20.38	21.50	1.294	-	-	0.02	0.615	0.796
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	512000	2560	20.31	21.50	1.315	-	-	0.01	0.643	0.846
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	512000	2560	20.17	21.50	1.358	-	-	0.01	0.603	0.819
	FR1 n7_ENDC	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	507000	2535	17.63	18.50	1.222	-	-	0.02	0.385	0.470
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI2	507000	2535	23.36	24.50	1.300	-	-	0.06	0.000	0.000
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI2	507000	2535	23.23	24.50	1.340	-	-	0.01	0.024	0.032
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI2	507000	2535	23.36	24.50	1.300	-	-	0.05	0.355	0.462
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI2	507000	2535	23.23	24.50	1.340	-	-	-0.06	0.456	0.611
	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	507000	2535	23.06	23.50	1.107	-	-	0.04	0.159	0.176
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	507000	2535	23.02	23.50	1.117	-	-	-0.09	0.148	0.165

	FR1 n7	20M	QPSK	1	26	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	507000	2535	23.06	23.50	1.107	-	-	-0.08	0.339	0.375
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	507000	2535	23.02	23.50	1.117	-	-	0.08	0.288	0.322
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI2	518598	2592.99	21.10	22.50	1.380	-	-	-0.17	0.284	0.392
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI2	518598	2592.99	21.06	22.50	1.393	-	-	-0.13	0.273	0.380
59	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	518598	2592.99	21.10	22.50	1.380	-	-	-0.15	0.722	**0.997**
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	518598	2592.99	21.06	22.50	1.393	-	-	0.07	0.687	0.957
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	518598	2592.99	20.99	22.50	1.416	-	-	0.02	0.698	0.988
	FR1 n41_ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI2	518598	2592.99	18.21	19.50	1.346	-	-	0.03	0.365	0.491
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI2	518598	2592.99	23.43	24.50	1.279	-	-	0.05	0.026	0.033
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI2	518598	2592.99	23.27	24.50	1.327	-	-	0.02	0.030	0.040
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI2	518598	2592.99	23.43	24.50	1.279	-	-	0.02	0.354	0.453
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI2	518598	2592.99	23.27	24.50	1.327	-	-	-0.05	0.437	0.580
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	518598	2592.99	23.46	24.50	1.271	-	-	0.13	0.233	0.296
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI2	518598	2592.99	23.42	24.50	1.282	-	-	-0.03	0.157	0.201
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	518598	2592.99	23.46	24.50	1.271	-	-	-0.07	0.348	0.442
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI2	518598	2592.99	23.42	24.50	1.282	-	-	-0.19	0.286	0.367

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								2600MHz										
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI2	656000	3840	21.85	23.00	1.303	0.03	0.220	0.287
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI2	656000	3840	21.79	23.00	1.321	0.06	0.236	0.312
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI2	656000	3840	21.85	23.00	1.303	-0.12	0.523	0.682
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI2	656000	3840	21.79	23.00	1.321	-0.03	0.541	0.715
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI2	633334	3500.01	21.45	23.00	1.429	0.14	0.100	0.143
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI2	633334	3500.01	21.34	23.00	1.466	-0.02	0.155	0.227
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI2	633334	3500.01	21.45	23.00	1.429	-0.1	0.239	0.342
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI2	633334	3500.01	21.34	23.00	1.466	-0.05	0.359	0.526
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI2	656000	3840	26.57	27.00	1.104	0.13	0.128	0.141
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI2	656000	3840	26.32	27.00	1.169	0.06	0.118	0.138
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI2	656000	3840	26.57	27.00	1.104	-0.16	0.308	0.340
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI2	656000	3840	26.32	27.00	1.169	0.09	0.323	0.378
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI2	633334	3500.01	26.33	27.00	1.167	0.01	0.122	0.142
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI2	633334	3500.01	26.20	27.00	1.202	0.13	0.134	0.161
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI2	633334	3500.01	26.33	27.00	1.167	-0.18	0.261	0.305
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI2	633334	3500.01	26.20	27.00	1.202	-0.06	0.290	0.349
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI2	656000	3840	26.66	27.00	1.081	0.15	0.443	0.479
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI2	656000	3840	26.56	27.00	1.107	0.14	0.505	0.559
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	656000	3840	26.66	27.00	1.081	-0.02	0.540	0.584
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	656000	3840	26.56	27.00	1.107	-0.07	0.550	0.609
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	656000	3840	23.72	24.00	1.067	0.02	0.245	0.261
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI2	633334	3500.01	26.39	27.00	1.151	0.01	0.448	0.516
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI2	633334	3500.01	26.08	27.00	1.236	-0.14	0.412	0.509
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	633334	3500.01	26.39	27.00	1.151	-0.04	0.581	0.669
60	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	633334	3500.01	26.08	27.00	1.236	-0.08	0.706	**0.873**
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	633334	3500.01	25.71	27.00	1.346	0.03	0.638	0.859
	FR1 n77_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI2	633334	3500.01	23.13	24.00	1.222	0.03	0.354	0.433
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 8	DSI2	656000	3840	21.57	23.00	1.390	-0.06	0.043	0.060
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 8	DSI2	656000	3840	21.53	23.00	1.403	0.05	0.030	0.042
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 8	DSI2	656000	3840	21.57	23.00	1.390	-0.01	0.107	0.149
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 8	DSI2	656000	3840	21.53	23.00	1.403	0.01	0.065	0.091
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 8	DSI2	633334	3500.01	21.49	23.00	1.416	-0.12	0.044	0.062
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 8	DSI2	633334	3500.01	21.38	23.00	1.452	0.03	0.044	0.064
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 8	DSI2	633334	3500.01	21.49	23.00	1.416	0.07	0.201	0.285
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 8	DSI2	633334	3500.01	21.38	23.00	1.452	0.08	0.193	0.280

Plot 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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 6	Full	1	2412	18.26	19.00	1.186	100	1.000	0.02	0.054	0.064
61	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 6	Full	1	2412	18.26	19.00	1.186	100	1.000	0.06	0.063	**0.075**
	Bluetooth	1Mbps	Front	15mm	Ant 6	Full	39	2441	9.86	10.00	1.033	76.75	1.303	0.09	0.002	0.003
62	Bluetooth	1Mbps	Back	15mm	Ant 6	Full	39	2441	9.86	10.00	1.033	76.75	1.303	0.09	0.010	**0.013**
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Front	15mm	Ant 6	Full	64	5320	18.20	19.00	1.202	100	1.000	0.03	0.104	0.125
63	WLAN5.3GHz	802.11a 6Mbps	Back	15mm	Ant 6	Full	64	5320	18.20	19.00	1.202	100	1.000	-0.09	0.197	**0.237**
	WLAN5.5GHz	802.11a 6Mbps	Front	15mm	Ant 6	Full	116	5580	18.10	19.00	1.230	100	1.000	0.07	0.228	0.281
64	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant 6	Full	116	5580	18.10	19.00	1.230	100	1.000	-0.02	0.352	**0.433**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 6	Full	155	5775	15.50	16.50	1.259	100	1.000	0.02	0.166	0.209
65	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 6	Full	155	5775	15.50	16.50	1.259	100	1.000	-0.07	0.288	**0.363**

15.4 Product Specific SAR

Plot 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 10g SAR (W/kg)	Reported 10g SAR (W/kg)
66	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 6	Full	64	5320	18.20	19.00	1.202	100	1.000	0.01	1.06	**1.274**
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 6	Full	64	5320	18.20	19.00	1.202	100	1.000	0.04	0.758	0.911
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 6	Full	64	5320	18.20	19.00	1.202	100	1.000	0.05	0.261	0.314
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 6	Full	64	5320	18.20	19.00	1.202	100	1.000	-0.07	0.904	1.087
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 6	Full	116	5580	18.10	19.00	1.230	100	1.000	0.05	0.859	1.057
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Full	116	5580	18.10	19.00	1.230	100	1.000	0.07	0.721	0.887
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 6	Full	116	5580	18.10	19.00	1.230	100	1.000	0.03	0.463	0.570
67	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 6	Full	116	5580	18.10	19.00	1.230	100	1.000	0.07	1.31	**1.612**

15.5 Repeated SAR Measurement

<1g>

Plot 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	GSM850	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 4	DSI 1	251	848.8	31.83	32.50	1.167	-0.07	0.867	1	1.012
2nd	GSM850	-	-	-	-	GSM Voice	Right Cheek	0mm	Ant 4	DSI 1	251	848.8	31.83	32.50	1.167	0.01	0.834	1.040	0.973
1st	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	19.48	20.00	1.127	-0.08	0.959	1	1.081
2nd	FR1 n66	40M	QPSK	50	28	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	19.48	20.00	1.127	-0.08	0.923	1.039	1.040
1st	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	25.08	26.00	1.236	-0.08	0.884	1	1.093
2nd	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	25.08	26.00	1.236	0.03	0.856	1.033	1.058
1st	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	25.86	26.00	1.033	-0.12	0.833	1	0.860
2nd	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	25.86	26.00	1.033	0.02	0.823	1.012	0.850
1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	0.03	0.847	1	1.094
2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI2	21100	2535	20.39	21.50	1.291	0.03	0.826	1.025	1.067

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.

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + 2.4GHz WLAN	Yes	Yes	Yes	Yes
2.	WWAN + 5GHz WLAN	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	5GHz WLAN + Bluetooth	Yes	Yes	Yes	Yes
5.	WWAN + 5GHz WLAN + Bluetooth	Yes	Yes	Yes	Yes

General Note:

1. This device supports VoIP in WCDMA and LTE (e.g. for 3rd-party VoIP) and LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands.
3. EN-DC SAR summed the standalone 5GNR SAR and LTE standalone SAR more conservatively.
4. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
6. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
7. This device 2.4GHz WLAN/ 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).
8. WLAN2.4GHz and Bluetooth share the same antenna, so can't transmit simultaneously.
9. According to the characteristic of EUT, WLAN5GHz and Bluetooth can transmit simultaneously.
10. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
11. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
12. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
13. The reported SAR summation is calculated based on the same configuration and test position.
14. WWAN antenna always chose the worst position SAR among all WWAN bands base on head and body to do co-located with WLAN/Bluetooth. It is the most conservatively evaluation.
15. When EN-DC SAR co-located with WLAN/Bluetooth, chose the worst SAR among the same LTE band within all antenna per each test position and also the worst SAR of the selected 5GNR within all antenna to do co-located with WLAN/Bluetooth. This is the worst co-located analysis and can represent each LTE bands and each 5GNR bands.
16. 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.
    v) The SPLSR calculated results please refer to section 16.4.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Right Cheek	1.093	0.302	0.309	0.042	1.40	1.44
	Right Tilted	1.081	0.509	0.264	0.035	1.59	1.38
	Left Cheek	0.845	0.555	0.470	0.069	1.40	1.38
	Left Tilted	0.959	0.461	0.543	0.067	1.42	1.57

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 66 Ant 1	LTE band 7 Ant 0	Right Cheek	0.178	0.098	0.302	0.309	0.042	0.58	0.63
		Right Tilted	0.089	0.055	0.509	0.264	0.035	0.65	0.44
		Left Cheek	0.185	0.140	0.555	0.470	0.069	0.88	0.86
		Left Tilted	0.134	0.133	0.461	0.543	0.067	0.73	0.88
LTE band 66 Ant 1	LTE band 7 Ant 2	Right Cheek	0.178	0.177	0.302	0.309	0.042	0.66	0.71
		Right Tilted	0.089	0.134	0.509	0.264	0.035	0.73	0.52
		Left Cheek	0.185	0.090	0.555	0.470	0.069	0.83	0.81
		Left Tilted	0.134	0.096	0.461	0.543	0.067	0.69	0.84
LTE band 66 Ant 1	LTE band 7 Ant 4	Right Cheek	0.178	0.537	0.302	0.309	0.042	1.02	1.07
		Right Tilted	0.089	0.809	0.509	0.264	0.035	1.41	1.20
		Left Cheek	0.185	0.193	0.555	0.470	0.069	0.93	0.92
		Left Tilted	0.134	0.307	0.461	0.543	0.067	0.90	1.05
LTE band 66 Ant 2	LTE band 7 Ant 0	Right Cheek	0.012	0.098	0.302	0.309	0.042	0.41	0.46
		Right Tilted	0.042	0.055	0.509	0.264	0.035	0.61	0.40
		Left Cheek	0.043	0.140	0.555	0.470	0.069	0.74	0.72
		Left Tilted	0.005	0.133	0.461	0.543	0.067	0.60	0.75
LTE band 66 Ant 2	LTE band 7 Ant 4	Right Cheek	0.012	0.537	0.302	0.309	0.042	0.85	0.90
		Right Tilted	0.042	0.809	0.509	0.264	0.035	1.36	1.15
		Left Cheek	0.043	0.193	0.555	0.470	0.069	0.79	0.78
		Left Tilted	0.005	0.307	0.461	0.543	0.067	0.77	0.92
LTE band 66 Ant 4	LTE band 7 Ant 0	Right Cheek	0.274	0.098	0.302	0.309	0.042	0.67	0.72
		Right Tilted	0.317	0.055	0.509	0.264	0.035	0.88	0.67
		Left Cheek	0.588	0.140	0.555	0.470	0.069	1.28	1.27
		Left Tilted	0.831	0.133	0.461	0.543	0.067	1.43	1.57
LTE band 66 Ant 4	LTE band 7 Ant 2	Right Cheek	0.274	0.177	0.302	0.309	0.042	0.75	0.80
		Right Tilted	0.317	0.134	0.509	0.264	0.035	0.96	0.75
		Left Cheek	0.588	0.090	0.555	0.470	0.069	1.23	1.22
		Left Tilted	0.831	0.096	0.461	0.543	0.067	1.39	1.54

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 26 Ant 4	FR1 n66 Ant 1	Right Cheek	0.853	0.151	0.302	0.309	0.042	1.31	1.36
		Right Tilted	0.694	0.115	0.509	0.264	0.035	1.32	1.11
		Left Cheek	0.452	0.175	0.555	0.470	0.069	1.18	1.17
		Left Tilted	0.359	0.120	0.461	0.543	0.067	0.94	1.09
LTE band 26 Ant 0	FR1 n66 Ant 1	Right Cheek	0.294	0.151	0.302	0.309	0.042	0.75	0.80
		Right Tilted	0.223	0.115	0.509	0.264	0.035	0.85	0.64
		Left Cheek	0.231	0.175	0.555	0.470	0.069	0.96	0.95
		Left Tilted	0.133	0.120	0.461	0.543	0.067	0.71	0.86
LTE band 26 Ant 0	FR1 n66 Ant 4	Right Cheek	0.294	0.588	0.302	0.309	0.042	1.18	1.23
		Right Tilted	0.223	0.588	0.509	0.264	0.035	1.32	1.11
		Left Cheek	0.231	0.588	0.555	0.470	0.069	1.37	1.36
		Left Tilted	0.133	0.588	0.461	0.543	0.067	1.18	1.33
LTE band 26 Ant 4	FR1 n7 Ant 0	Right Cheek	0.853	0.131	0.302	0.309	0.042	1.29	1.34
		Right Tilted	0.694	0.070	0.509	0.264	0.035	1.27	1.06
		Left Cheek	0.452	0.107	0.555	0.470	0.069	1.11	1.10
		Left Tilted	0.359	0.116	0.461	0.543	0.067	0.94	1.09
LTE band 26 Ant 4	FR1 n7 Ant 2	Right Cheek	0.853	0.171	0.302	0.309	0.042	1.33	1.38
		Right Tilted	0.694	0.092	0.509	0.264	0.035	1.30	1.09
		Left Cheek	0.452	0.094	0.555	0.470	0.069	1.10	1.09
		Left Tilted	0.359	0.066	0.461	0.543	0.067	0.89	1.04
LTE band 26 Ant 4	FR1 n41 Ant 0	Right Cheek	0.853	0.118	0.302	0.309	0.042	1.27	1.32
		Right Tilted	0.694	0.071	0.509	0.264	0.035	1.27	1.06
		Left Cheek	0.452	0.151	0.555	0.470	0.069	1.16	1.14
		Left Tilted	0.359	0.132	0.461	0.543	0.067	0.95	1.10
LTE band 26 Ant 4	FR1 n41 Ant 2	Right Cheek	0.853	0.121	0.302	0.309	0.042	1.28	1.33
		Right Tilted	0.694	0.070	0.509	0.264	0.035	1.27	1.06
		Left Cheek	0.452	0.078	0.555	0.470	0.069	1.09	1.07
		Left Tilted	0.359		0.461	0.543	0.067	0.82	0.97
LTE band 26 Ant 0	FR1 n7 Ant 2	Right Cheek	0.294	0.171	0.302	0.309	0.042	0.77	0.82
		Right Tilted	0.223	0.092	0.509	0.264	0.035	0.82	0.61
		Left Cheek	0.231	0.094	0.555	0.470	0.069	0.88	0.86
		Left Tilted	0.133	0.066	0.461	0.543	0.067	0.66	0.81
LTE band 26 Ant 0	FR1 n7 Ant 4	Right Cheek	0.294	0.547	0.302	0.309	0.042	1.14	1.19
		Right Tilted	0.223	0.547	0.509	0.264	0.035	1.28	1.07
		Left Cheek	0.231	0.547	0.555	0.470	0.069	1.33	1.32
		Left Tilted	0.133	0.547	0.461	0.543	0.067	1.14	1.29
LTE band 26 Ant 0	FR1 n41 Ant 2	Right Cheek	0.294	0.121	0.302	0.309	0.042	0.72	0.77
		Right Tilted	0.223	0.070	0.509	0.264	0.035	0.80	0.59
		Left Cheek	0.231	0.078	0.555	0.470	0.069	0.86	0.85
		Left Tilted	0.133		0.461	0.543	0.067	0.59	0.74
LTE band 26 Ant 0	FR1 n41 Ant 4	Right Cheek	0.294	0.679	0.302	0.309	0.042	1.28	1.32
		Right Tilted	0.223	0.679	0.509	0.264	0.035	1.41	1.20
		Left Cheek	0.231	0.679	0.555	0.470	0.069	1.47	1.45
		Left Tilted	0.133	0.679	0.461	0.543	0.067	1.27	1.42
LTE band 26 Ant 0	FR1 n77 Ant 1	Right Cheek	0.294	0.069	0.302	0.309	0.042	0.67	0.71
		Right Tilted	0.223	0.066	0.509	0.264	0.035	0.80	0.59
		Left Cheek	0.231	0.044	0.555	0.470	0.069	0.83	0.81
		Left Tilted	0.133	0.050	0.461	0.543	0.067	0.64	0.79
LTE band 26 Ant 0	FR1 n77 Ant 3	Right Cheek	0.294	0.502	0.302	0.309	0.042	1.10	1.15
		Right Tilted	0.223	0.502	0.509	0.264	0.035	1.23	1.02
		Left Cheek	0.231	0.502	0.555	0.470	0.069	1.29	1.27

		Left Tilted	0.133	0.502	0.461	0.543	0.067	1.10	1.25
LTE band 26 Ant 0	FR1 n77 Ant 5	Right Cheek	0.294	0.507	0.302	0.309	0.042	1.10	1.15
		Right Tilted	0.223	0.507	0.509	0.264	0.035	1.24	1.03
		Left Cheek	0.231	0.507	0.555	0.470	0.069	1.29	1.28
		Left Tilted	0.133	0.507	0.461	0.543	0.067	1.10	1.25

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 26 Ant 0	FR1 n77 Ant 8	Right Cheek	0.294	0.102	0.302	0.309	0.042	0.70	0.75
		Right Tilted	0.223	0.058	0.509	0.264	0.035	0.79	0.58
		Left Cheek	0.231	0.340	0.555	0.470	0.069	1.13	1.11
		Left Tilted	0.133	0.150	0.461	0.543	0.067	0.74	0.89
LTE band 2 Ant 4	FR1 n5 Ant 0	Right Cheek	0.411	0.313	0.302	0.309	0.042	1.03	1.08
		Right Tilted	0.411	0.183	0.509	0.264	0.035	1.10	0.89
		Left Cheek	0.411	0.300	0.555	0.470	0.069	1.27	1.25
		Left Tilted	0.411	0.175	0.461	0.543	0.067	1.05	1.20
LTE band 66 Ant 4	FR1 n5 Ant 0	Right Cheek	0.416	0.313	0.302	0.309	0.042	1.03	1.08
		Right Tilted	0.416	0.183	0.509	0.264	0.035	1.11	0.90
		Left Cheek	0.416	0.300	0.555	0.470	0.069	1.27	1.26
		Left Tilted	0.416	0.175	0.461	0.543	0.067	1.05	1.20
LTE band 7 Ant 4	FR1 n5 Ant 0	Right Cheek	0.422	0.313	0.302	0.309	0.042	1.04	1.09
		Right Tilted	0.422	0.183	0.509	0.264	0.035	1.11	0.90
		Left Cheek	0.422	0.300	0.555	0.470	0.069	1.28	1.26
		Left Tilted	0.422	0.175	0.461	0.543	0.067	1.06	1.21
LTE band 41 Ant 4	FR1 n5 Ant 0	Right Cheek	0.465	0.313	0.302	0.309	0.042	1.08	1.13
		Right Tilted	0.465	0.183	0.509	0.264	0.035	1.16	0.95
		Left Cheek	0.465	0.300	0.555	0.470	0.069	1.32	1.30
		Left Tilted	0.465	0.175	0.461	0.543	0.067	1.10	1.25
LTE band 2 Ant 4	FR1 n77 Ant 1	Right Cheek	0.411	0.069	0.302	0.309	0.042	0.78	0.83
		Right Tilted	0.411	0.066	0.509	0.264	0.035	0.99	0.78
		Left Cheek	0.411	0.044	0.555	0.470	0.069	1.01	0.99
		Left Tilted	0.411	0.050	0.461	0.543	0.067	0.92	1.07
LTE band 2 Ant 4	FR1 n77 Ant 3	Right Cheek	0.411	0.502	0.302	0.309	0.042	1.22	1.26
		Right Tilted	0.411	0.502	0.509	0.264	0.035	1.42	1.21
		Left Cheek	0.411	0.502	0.555	0.470	0.069	1.47	1.45
		Left Tilted	0.411	0.502	0.461	0.543	0.067	1.37	1.52
LTE band 2 Ant 4	FR1 n77 Ant 5	Right Cheek	0.411	0.507	0.302	0.309	0.042	1.22	1.27
		Right Tilted	0.411	0.507	0.509	0.264	0.035	1.43	1.22
		Left Cheek	0.411	0.507	0.555	0.470	0.069	1.47	1.46
		Left Tilted	0.411	0.507	0.461	0.543	0.067	1.38	1.53
LTE band 2 Ant 4	FR1 n77 Ant 8	Right Cheek	0.411	0.102	0.302	0.309	0.042	0.82	0.86
		Right Tilted	0.411	0.058	0.509	0.264	0.035	0.98	0.77
		Left Cheek	0.411	0.340	0.555	0.470	0.069	1.31	1.29
		Left Tilted	0.411	0.150	0.461	0.543	0.067	1.02	1.17
LTE band 7 Ant 4	FR1 n77 Ant 1	Right Cheek	0.422	0.069	0.302	0.309	0.042	0.79	0.84
		Right Tilted	0.422	0.066	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.422	0.044	0.555	0.470	0.069	1.02	1.01
		Left Tilted	0.422	0.050	0.461	0.543	0.067	0.93	1.08
LTE band 7 Ant 4	FR1 n77 Ant 3	Right Cheek	0.422	0.502	0.302	0.309	0.042	1.23	1.28
		Right Tilted	0.422	0.502	0.509	0.264	0.035	1.43	1.22
		Left Cheek	0.422	0.502	0.555	0.470	0.069	1.48	1.46
		Left Tilted	0.422	0.502	0.461	0.543	0.067	1.39	1.53
LTE band 7 Ant 4	FR1 n77 Ant 5	Right Cheek	0.422	0.507	0.302	0.309	0.042	1.23	1.28
		Right Tilted	0.422	0.507	0.509	0.264	0.035	1.44	1.23

		Left Cheek	0.422	0.507	0.555	0.470	0.069	1.48	1.47
		Left Tilted	0.422	0.507	0.461	0.543	0.067	1.39	1.54
LTE band 7 Ant 4	FR1 n77 Ant 8	Right Cheek	0.422	0.102	0.302	0.309	0.042	0.83	0.88
		Right Tilted	0.422	0.058	0.509	0.264	0.035	0.99	0.78
		Left Cheek	0.422	0.340	0.555	0.470	0.069	1.32	1.30
		Left Tilted	0.422	0.150	0.461	0.543	0.067	1.03	1.18
LTE band 66 Ant 4	FR1 n77 Ant 1	Right Cheek	0.416	0.069	0.302	0.309	0.042	0.79	0.84
		Right Tilted	0.416	0.066	0.509	0.264	0.035	0.99	0.78
		Left Cheek	0.416	0.044	0.555	0.470	0.069	1.02	1.00
		Left Tilted	0.416	0.050	0.461	0.543	0.067	0.93	1.08
LTE band 66 Ant 4	FR1 n77 Ant 3	Right Cheek	0.416	0.502	0.302	0.309	0.042	1.22	1.27
		Right Tilted	0.416	0.502	0.509	0.264	0.035	1.43	1.22
		Left Cheek	0.416	0.502	0.555	0.470	0.069	1.47	1.46
		Left Tilted	0.416	0.502	0.461	0.543	0.067	1.38	1.53
LTE band 66 Ant 4	FR1 n77 Ant 5	Right Cheek	0.416	0.507	0.302	0.309	0.042	1.23	1.27
		Right Tilted	0.416	0.507	0.509	0.264	0.035	1.43	1.22
		Left Cheek	0.416	0.507	0.555	0.470	0.069	1.48	1.46
		Left Tilted	0.416	0.507	0.461	0.543	0.067	1.38	1.53
LTE band 66 Ant 4	FR1 n77 Ant 8	Right Cheek	0.416	0.102	0.302	0.309	0.042	0.82	0.87
		Right Tilted	0.416	0.058	0.509	0.264	0.035	0.98	0.77
		Left Cheek	0.416	0.340	0.555	0.470	0.069	1.31	1.30
		Left Tilted	0.416	0.150	0.461	0.543	0.067	1.03	1.18
LTE band 41 Ant 4	FR1 n77 Ant 1	Right Cheek	0.465	0.069	0.302	0.309	0.042	0.84	0.89
		Right Tilted	0.465	0.066	0.509	0.264	0.035	1.04	0.83
		Left Cheek	0.465	0.044	0.555	0.470	0.069	1.06	1.05
		Left Tilted	0.465	0.050	0.461	0.543	0.067	0.98	1.13

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 41 Ant 4	FR1 n77 Ant 3	Right Cheek	0.465	0.502	0.302	0.309	0.042	1.27	1.32
		Right Tilted	0.465	0.502	0.509	0.264	0.035	1.48	1.27
		Left Cheek	0.465	0.502	0.555	0.470	0.069	1.52	1.51
		Left Tilted	0.465	0.502	0.461	0.543	0.067	1.43	1.58
LTE band 41 Ant 4	FR1 n77 Ant 5	Right Cheek	0.465	0.507	0.302	0.309	0.042	1.27	1.32
		Right Tilted	0.465	0.507	0.509	0.264	0.035	1.48	1.27
		Left Cheek	0.465	0.507	0.555	0.470	0.069	1.53	1.51
		Left Tilted	0.465	0.507	0.461	0.543	0.067	1.43	1.58
LTE band 41 Ant 4	FR1 n77 Ant 8	Right Cheek	0.465	0.102	0.302	0.309	0.042	0.87	0.92
		Right Tilted	0.465	0.058	0.509	0.264	0.035	1.03	0.82
		Left Cheek	0.465	0.340	0.555	0.470	0.069	1.36	1.34
		Left Tilted	0.465	0.150	0.461	0.543	0.067	1.08	1.23
LTE band 2 Ant 4	FR1 n66 Ant 1	Right Cheek	0.411	0.151	0.302	0.309	0.042	0.86	0.91
		Right Tilted	0.411	0.115	0.509	0.264	0.035	1.04	0.83
		Left Cheek	0.411	0.175	0.555	0.470	0.069	1.14	1.13
		Left Tilted	0.411	0.120	0.461	0.543	0.067	0.99	1.14
LTE band 66 Ant 4	FR1 n66 Ant 1	Right Cheek	0.416	0.151	0.302	0.309	0.042	0.87	0.92
		Right Tilted	0.416	0.115	0.509	0.264	0.035	1.04	0.83
		Left Cheek	0.416	0.175	0.555	0.470	0.069	1.15	1.13
		Left Tilted	0.416	0.120	0.461	0.543	0.067	1.00	1.15
LTE band 2 Ant 1	FR1 n66 Ant 2	Right Cheek	0.054	0.011	0.302	0.309	0.042	0.37	0.42
		Right Tilted	0.044	0.007	0.509	0.264	0.035	0.56	0.35
		Left Cheek	0.103	0.005	0.555	0.470	0.069	0.66	0.65
		Left Tilted	0.094	0.004	0.461	0.543	0.067	0.56	0.71
LTE band 2 Ant 1	FR1 n66 Ant 4	Right Cheek	0.054	0.588	0.302	0.309	0.042	0.94	0.99
		Right Tilted	0.044	0.588	0.509	0.264	0.035	1.14	0.93
		Left Cheek	0.103	0.588	0.555	0.470	0.069	1.25	1.23
		Left Tilted	0.094	0.588	0.461	0.543	0.067	1.14	1.29
LTE band 66 Ant 1	FR1 n66 Ant 2	Right Cheek	0.178	0.011	0.302	0.309	0.042	0.49	0.54
		Right Tilted	0.089	0.007	0.509	0.264	0.035	0.61	0.40
		Left Cheek	0.185	0.005	0.555	0.470	0.069	0.75	0.73
		Left Tilted	0.134	0.004	0.461	0.543	0.067	0.60	0.75
LTE band 66 Ant 1	FR1 n66 Ant 4	Right Cheek	0.178	0.588	0.302	0.309	0.042	1.07	1.12
		Right Tilted	0.089	0.588	0.509	0.264	0.035	1.19	0.98
		Left Cheek	0.185	0.588	0.555	0.470	0.069	1.33	1.31
		Left Tilted	0.134	0.588	0.461	0.543	0.067	1.18	1.33
LTE band 2 Ant 4	FR1 n7 Ant 0	Right Cheek	0.411	0.131	0.302	0.309	0.042	0.84	0.89
		Right Tilted	0.411	0.070	0.509	0.264	0.035	0.99	0.78
		Left Cheek	0.411	0.107	0.555	0.470	0.069	1.07	1.06
		Left Tilted	0.411	0.116	0.461	0.543	0.067	0.99	1.14
LTE band 2 Ant 4	FR1 n7 Ant 2	Right Cheek	0.411	0.171	0.302	0.309	0.042	0.88	0.93
		Right Tilted	0.411	0.092	0.509	0.264	0.035	1.01	0.80
		Left Cheek	0.411	0.094	0.555	0.470	0.069	1.06	1.04
		Left Tilted	0.411	0.066	0.461	0.543	0.067	0.94	1.09
LTE band 66 Ant 4	FR1 n7 Ant 0	Right Cheek	0.416	0.131	0.302	0.309	0.042	0.85	0.90
		Right Tilted	0.416	0.070	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.416	0.107	0.555	0.470	0.069	1.08	1.06
		Left Tilted	0.416	0.116	0.461	0.543	0.067	0.99	1.14
LTE band 66 Ant 4	FR1 n7 Ant 2	Right Cheek	0.416	0.171	0.302	0.309	0.042	0.89	0.94
		Right Tilted	0.416	0.092	0.509	0.264	0.035	1.02	0.81
		Left Cheek	0.416	0.094	0.555	0.470	0.069	1.07	1.05
		Left Tilted	0.416	0.066	0.461	0.543	0.067	0.94	1.09

LTE band 2 Ant 1	FR1 n7 Ant 0	Right Cheek	0.054	0.131	0.302	0.309	0.042	0.49	0.54
		Right Tilted	0.044	0.070	0.509	0.264	0.035	0.62	0.41
		Left Cheek	0.103	0.107	0.555	0.470	0.069	0.77	0.75
		Left Tilted	0.094	0.116	0.461	0.543	0.067	0.67	0.82
LTE band 2 Ant 1	FR1 n7 Ant 2	Right Cheek	0.054	0.171	0.302	0.309	0.042	0.53	0.58
		Right Tilted	0.044	0.092	0.509	0.264	0.035	0.65	0.44
		Left Cheek	0.103	0.094	0.555	0.470	0.069	0.75	0.74
		Left Tilted	0.094	0.066	0.461	0.543	0.067	0.62	0.77
LTE band 2 Ant 1	FR1 n7 Ant 4	Right Cheek	0.054	0.547	0.302	0.309	0.042	0.90	0.95
		Right Tilted	0.044	0.547	0.509	0.264	0.035	1.10	0.89
		Left Cheek	0.103	0.547	0.555	0.470	0.069	1.21	1.19
		Left Tilted	0.094	0.547	0.461	0.543	0.067	1.10	1.25
LTE band 66 Ant 1	FR1 n7 Ant 0	Right Cheek	0.178	0.131	0.302	0.309	0.042	0.61	0.66
		Right Tilted	0.089	0.070	0.509	0.264	0.035	0.67	0.46
		Left Cheek	0.185	0.107	0.555	0.470	0.069	0.85	0.83
		Left Tilted	0.134	0.116	0.461	0.543	0.067	0.71	0.86
LTE band 66 Ant 1	FR1 n7 Ant 2	Right Cheek	0.178	0.171	0.302	0.309	0.042	0.65	0.70
		Right Tilted	0.089	0.092	0.509	0.264	0.035	0.69	0.48
		Left Cheek	0.185	0.094	0.555	0.470	0.069	0.83	0.82
		Left Tilted	0.134	0.066	0.461	0.543	0.067	0.66	0.81

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 66 Ant 1	FR1 n7 Ant 4	Right Cheek	0.178	0.547	0.302	0.309	0.042	1.03	1.08
		Right Tilted	0.089	0.547	0.509	0.264	0.035	1.15	0.94
		Left Cheek	0.185	0.547	0.555	0.470	0.069	1.29	1.27
		Left Tilted	0.134	0.547	0.461	0.543	0.067	1.14	1.29
LTE band 2 Ant 4	FR1 n41 Ant 0	Right Cheek	0.411	0.118	0.302	0.309	0.042	0.83	0.88
		Right Tilted	0.411	0.071	0.509	0.264	0.035	0.99	0.78
		Left Cheek	0.411	0.151	0.555	0.470	0.069	1.12	1.10
		Left Tilted	0.411	0.132	0.461	0.543	0.067	1.00	1.15
LTE band 2 Ant 4	FR1 n41 Ant 2	Right Cheek	0.411	0.121	0.302	0.309	0.042	0.83	0.88
		Right Tilted	0.411	0.070	0.509	0.264	0.035	0.99	0.78
		Left Cheek	0.411	0.078	0.555	0.470	0.069	1.04	1.03
		Left Tilted	0.411		0.461	0.543	0.067	0.87	1.02
LTE band 66 Ant 4	FR1 n41 Ant 0	Right Cheek	0.416	0.118	0.302	0.309	0.042	0.84	0.89
		Right Tilted	0.416	0.071	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.416	0.151	0.555	0.470	0.069	1.12	1.11
		Left Tilted	0.416	0.132	0.461	0.543	0.067	1.01	1.16
LTE band 66 Ant 4	FR1 n41 Ant 2	Right Cheek	0.416	0.121	0.302	0.309	0.042	0.84	0.89
		Right Tilted	0.416	0.070	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.416	0.078	0.555	0.470	0.069	1.05	1.03
		Left Tilted	0.416		0.461	0.543	0.067	0.88	1.03
LTE band 2 Ant 1	FR1 n41 Ant 0	Right Cheek	0.054	0.118	0.302	0.309	0.042	0.47	0.52
		Right Tilted	0.044	0.071	0.509	0.264	0.035	0.62	0.41
		Left Cheek	0.103	0.151	0.555	0.470	0.069	0.81	0.79
		Left Tilted	0.094	0.132	0.461	0.543	0.067	0.69	0.84
LTE band 2 Ant 1	FR1 n41 Ant 2	Right Cheek	0.054	0.121	0.302	0.309	0.042	0.48	0.53
		Right Tilted	0.044	0.070	0.509	0.264	0.035	0.62	0.41
		Left Cheek	0.103	0.078	0.555	0.470	0.069	0.74	0.72
		Left Tilted	0.094		0.461	0.543	0.067	0.56	0.70
LTE band 2 Ant 1	FR1 n41 Ant 4	Right Cheek	0.054	0.679	0.302	0.309	0.042	1.04	1.08
		Right Tilted	0.044	0.679	0.509	0.264	0.035	1.23	1.02
		Left Cheek	0.103	0.679	0.555	0.470	0.069	1.34	1.32
		Left Tilted	0.094	0.679	0.461	0.543	0.067	1.23	1.38

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 66 Ant 1	FR1 n41 Ant 0	Right Cheek	0.178	0.118	0.302	0.309	0.042	0.60	0.65
		Right Tilted	0.089	0.071	0.509	0.264	0.035	0.67	0.46
		Left Cheek	0.185	0.151	0.555	0.470	0.069	0.89	0.88
		Left Tilted	0.134	0.132	0.461	0.543	0.067	0.73	0.88
LTE band 66 Ant 1	FR1 n41 Ant 2	Right Cheek	0.178	0.121	0.302	0.309	0.042	0.60	0.65
		Right Tilted	0.089	0.070	0.509	0.264	0.035	0.67	0.46
		Left Cheek	0.185	0.078	0.555	0.470	0.069	0.82	0.80
		Left Tilted	0.134		0.461	0.543	0.067	0.60	0.74
LTE band 66 Ant 1	FR1 n41 Ant 4	Right Cheek	0.178	0.679	0.302	0.309	0.042	1.16	1.21
		Right Tilted	0.089	0.679	0.509	0.264	0.035	1.28	1.07
		Left Cheek	0.185	0.679	0.555	0.470	0.069	1.42	1.40
		Left Tilted	0.134	0.679	0.461	0.543	0.067	1.27	1.42
LTE band 7 Ant 4	FR1 n66 Ant 1	Right Cheek	0.422	0.151	0.302	0.309	0.042	0.88	0.92
		Right Tilted	0.422	0.115	0.509	0.264	0.035	1.05	0.84
		Left Cheek	0.422	0.175	0.555	0.470	0.069	1.15	1.14
		Left Tilted	0.422	0.120	0.461	0.543	0.067	1.00	1.15
LTE band 41 Ant 4	FR1 n66 Ant 1	Right Cheek	0.465	0.151	0.302	0.309	0.042	0.92	0.97
		Right Tilted	0.465	0.115	0.509	0.264	0.035	1.09	0.88
		Left Cheek	0.465	0.175	0.555	0.470	0.069	1.20	1.18
		Left Tilted	0.465	0.120	0.461	0.543	0.067	1.05	1.20
LTE band 7 Ant 0	FR1 n66 Ant 4	Right Cheek	0.098	0.588	0.302	0.309	0.042	0.99	1.04
		Right Tilted	0.055	0.588	0.509	0.264	0.035	1.15	0.94
		Left Cheek	0.140	0.588	0.555	0.470	0.069	1.28	1.27
		Left Tilted	0.133	0.588	0.461	0.543	0.067	1.18	1.33
LTE band 41 Ant 0	FR1 n66 Ant 4	Right Cheek	0.053	0.588	0.302	0.309	0.042	0.94	0.99
		Right Tilted	0.053	0.588	0.509	0.264	0.035	1.15	0.94
		Left Cheek	0.109	0.588	0.555	0.470	0.069	1.25	1.24
		Left Tilted	0.107	0.588	0.461	0.543	0.067	1.16	1.31
LTE band 7 Ant 4	FR1 n7 Ant 0	Right Cheek	0.422	0.131	0.302	0.309	0.042	0.86	0.90
		Right Tilted	0.422	0.070	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.422	0.107	0.555	0.470	0.069	1.08	1.07
		Left Tilted	0.422	0.116	0.461	0.543	0.067	1.00	1.15
LTE band 7 Ant 4	FR1 n7 Ant 2	Right Cheek	0.422	0.171	0.302	0.309	0.042	0.90	0.94
		Right Tilted	0.422	0.092	0.509	0.264	0.035	1.02	0.81
		Left Cheek	0.422	0.094	0.555	0.470	0.069	1.07	1.06
		Left Tilted	0.422	0.066	0.461	0.543	0.067	0.95	1.10
LTE band 41 Ant 4	FR1 n7 Ant 0	Right Cheek	0.465	0.131	0.302	0.309	0.042	0.90	0.95
		Right Tilted	0.465	0.070	0.509	0.264	0.035	1.04	0.83
		Left Cheek	0.465	0.107	0.555	0.470	0.069	1.13	1.11
		Left Tilted	0.465	0.116	0.461	0.543	0.067	1.04	1.19
LTE band 41 Ant 4	FR1 n7 Ant 2	Right Cheek	0.465	0.171	0.302	0.309	0.042	0.94	0.99
		Right Tilted	0.465	0.092	0.509	0.264	0.035	1.07	0.86
		Left Cheek	0.465	0.094	0.555	0.470	0.069	1.11	1.10
		Left Tilted	0.465	0.066	0.461	0.543	0.067	0.99	1.14
LTE band 7 Ant 0	FR1 n7 Ant 2	Right Cheek	0.098	0.171	0.302	0.309	0.042	0.57	0.62
		Right Tilted	0.055	0.092	0.509	0.264	0.035	0.66	0.45
		Left Cheek	0.140	0.094	0.555	0.470	0.069	0.79	0.77
		Left Tilted	0.133	0.066	0.461	0.543	0.067	0.66	0.81
LTE band 7 Ant 0	FR1 n7 Ant 4	Right Cheek	0.098	0.547	0.302	0.309	0.042	0.95	1.00
		Right Tilted	0.055	0.547	0.509	0.264	0.035	1.11	0.90
		Left Cheek	0.140	0.547	0.555	0.470	0.069	1.24	1.23
		Left Tilted	0.133	0.547	0.461	0.543	0.067	1.14	1.29

LTE band 41 Ant 0	FR1 n7 Ant 2	Right Cheek	0.053	0.171	0.302	0.309	0.042	0.53	0.58
		Right Tilted	0.053	0.092	0.509	0.264	0.035	0.65	0.44
		Left Cheek	0.109	0.094	0.555	0.470	0.069	0.76	0.74
		Left Tilted	0.107	0.066	0.461	0.543	0.067	0.63	0.78
LTE band 41 Ant 0	FR1 n7 Ant 4	Right Cheek	0.053	0.547	0.302	0.309	0.042	0.90	0.95
		Right Tilted	0.053	0.547	0.509	0.264	0.035	1.11	0.90
		Left Cheek	0.109	0.547	0.555	0.470	0.069	1.21	1.20
		Left Tilted	0.107	0.547	0.461	0.543	0.067	1.12	1.26

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE band 7 Ant 4	FR1 n41 Ant 0	Right Cheek	0.422	0.118	0.302	0.309	0.042	0.84	0.89
		Right Tilted	0.422	0.071	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.422	0.151	0.555	0.470	0.069	1.13	1.11
		Left Tilted	0.422	0.132	0.461	0.543	0.067	1.02	1.16
LTE band 7 Ant 4	FR1 n41 Ant 2	Right Cheek	0.422	0.121	0.302	0.309	0.042	0.85	0.89
		Right Tilted	0.422	0.070	0.509	0.264	0.035	1.00	0.79
		Left Cheek	0.422	0.078	0.555	0.470	0.069	1.06	1.04
		Left Tilted	0.422		0.461	0.543	0.067	0.88	1.03
LTE band 41 Ant 4	FR1 n41 Ant 0	Right Cheek	0.465	0.118	0.302	0.309	0.042	0.89	0.93
		Right Tilted	0.465	0.071	0.509	0.264	0.035	1.05	0.84
		Left Cheek	0.465	0.151	0.555	0.470	0.069	1.17	1.16
		Left Tilted	0.465	0.132	0.461	0.543	0.067	1.06	1.21
LTE band 41 Ant 4	FR1 n41 Ant 2	Right Cheek	0.465	0.121	0.302	0.309	0.042	0.89	0.94
		Right Tilted	0.465	0.070	0.509	0.264	0.035	1.04	0.83
		Left Cheek	0.465	0.078	0.555	0.470	0.069	1.10	1.08
		Left Tilted	0.465		0.461	0.543	0.067	0.93	1.08
LTE band 7 Ant 0	FR1 n41 Ant 2	Right Cheek	0.098	0.121	0.302	0.309	0.042	0.52	0.57
		Right Tilted	0.055	0.070	0.509	0.264	0.035	0.63	0.42
		Left Cheek	0.140	0.078	0.555	0.470	0.069	0.77	0.76
		Left Tilted	0.133		0.461	0.543	0.067	0.59	0.74
LTE band 7 Ant 0	FR1 n41 Ant 4	Right Cheek	0.098	0.679	0.302	0.309	0.042	1.08	1.13
		Right Tilted	0.055	0.679	0.509	0.264	0.035	1.24	1.03
		Left Cheek	0.140	0.679	0.555	0.470	0.069	1.37	1.36
		Left Tilted	0.133	0.679	0.461	0.543	0.067	1.27	1.42
LTE band 41 Ant 0	FR1 n41 Ant 2	Right Cheek	0.053	0.121	0.302	0.309	0.042	0.48	0.53
		Right Tilted	0.053	0.070	0.509	0.264	0.035	0.63	0.42
		Left Cheek	0.109	0.078	0.555	0.470	0.069	0.74	0.73
		Left Tilted	0.107		0.461	0.543	0.067	0.57	0.72
LTE band 41 Ant 0	FR1 n41 Ant 4	Right Cheek	0.053	0.679	0.302	0.309	0.042	1.03	1.08
		Right Tilted	0.053	0.679	0.509	0.264	0.035	1.24	1.03
		Left Cheek	0.109	0.679	0.555	0.470	0.069	1.34	1.33
		Left Tilted	0.107	0.679	0.461	0.543	0.067	1.25	1.40

16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Front	0.580	0.172	0.225	0.039	0.75	0.84
	Back	0.871	0.205	0.443	0.039	1.08	1.35
	Left side	0.695				0.70	0.70
	Right side	0.882	0.159	0.211	0.040	1.04	1.13
	Top side	1.016	0.115	0.441	0.032	1.13	1.49
	Bottom side	1.094				1.09	1.09

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5	SPLSR
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE band 66 Ant 1	LTE band 7 Ant 0	Front	0.182	0.313	0.172	0.225	0.039	0.67	0.76	
		Back	0.264	0.799	0.205	0.443	0.039	1.27	1.55	
		Left side	0.268	0.134				0.40	0.40	
		Right side		0.276	0.159	0.211	0.040	0.44	0.53	
		Top side			0.115	0.441	0.032	0.12	0.47	
		Bottom side	0.222	1.094				1.32	1.32	
LTE band 66 Ant 1	LTE band 7 Ant 2	Front	0.182	0.013	0.172	0.225	0.039	0.37	0.46	
		Back	0.264	0.480	0.205	0.443	0.039	0.95	1.23	
		Left side	0.268	0.470				0.74	0.74	
		Right side			0.159	0.211	0.040	0.16	0.25	
		Top side		0.032	0.115	0.441	0.032	0.15	0.51	
		Bottom side	0.222					0.22	0.22	
LTE band 66 Ant 1	LTE band 7 Ant 4	Front	0.182	0.351	0.172	0.225	0.039	0.71	0.80	
		Back	0.264	0.686	0.205	0.443	0.039	1.16	1.43	
		Left side	0.268	0.426				0.69	0.69	
		Right side			0.159	0.211	0.040	0.16	0.25	
		Top side		1.016	0.115	0.441	0.032	1.13	1.49	
		Bottom side	0.222					0.22	0.22	
LTE band 66 Ant 2	LTE band 7 Ant 0	Front	0.031	0.313	0.172	0.225	0.039	0.52	0.61	
		Back	0.042	0.799	0.205	0.443	0.039	1.05	1.32	
		Left side	0.001	0.134				0.14	0.14	
		Right side		0.276	0.159	0.211	0.040	0.44	0.53	
		Top side			0.115	0.441	0.032	0.12	0.47	
		Bottom side		1.094				1.09	1.09	
LTE band 66 Ant 2	LTE band 7 Ant 4	Front	0.031	0.351	0.172	0.225	0.039	0.55	0.65	
		Back	0.042	0.686	0.205	0.443	0.039	0.93	1.21	
		Left side	0.001	0.426				0.43	0.43	
		Right side			0.159	0.211	0.040	0.16	0.25	
		Top side		1.016	0.115	0.441	0.032	1.13	1.49	
		Bottom side						0.00	0.00	
LTE band 66 Ant 4	LTE band 7 Ant 0	Front	0.580	0.313	0.172	0.225	0.039	1.07	1.16	
		Back	0.628	0.799	0.205	0.443	0.039	**1.63**	**1.91**	**01&02**
		Left side	0.087	0.134				0.22	0.22	
		Right side		0.276	0.159	0.211	0.040	0.44	0.53	
		Top side	0.558		0.115	0.441	0.032	0.67	1.03	
		Bottom side		1.094				1.09	1.09	
LTE band 66 Ant 4	LTE band 7 Ant 2	Front	0.580	0.013	0.172	0.225	0.039	0.77	0.86	
		Back	0.628	0.480	0.205	0.443	0.039	1.31	**1.59**	
		Left side	0.087	0.470				0.56	0.56	
		Right side			0.159	0.211	0.040	0.16	0.25	
		Top side	0.558	0.032	0.115	0.441	0.032	0.71	1.06	
		Bottom side						0.00	0.00	

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE All Bands Ant0	FR1 All Bands Ant1	Front	0.554	0.549	0.172	0.225	0.039	1.28	1.37
		Back	0.554	0.549	0.205	0.443	0.039	1.31	1.59
		Left side	0.554	0.549				1.10	1.10
		Right side	0.554		0.159	0.211	0.040	0.71	0.81
		Top side			0.115	0.441	0.032	0.12	0.47
		Bottom side	0.554	0.549				1.10	1.10
LTE All Bands Ant0	FR1 All Bands Ant2	Front	0.554	0.545	0.172	0.225	0.039	1.27	1.36
		Back	0.554	0.545	0.205	0.443	0.039	1.30	1.58
		Left side	0.554	0.545				1.10	1.10
		Right side	0.554		0.159	0.211	0.040	0.71	0.81
		Top side		0.545	0.115	0.441	0.032	0.66	1.02
		Bottom side	0.554					0.55	0.55
LTE All Bands Ant0	FR1 All Bands Ant4	Front	0.554	0.517	0.172	0.225	0.039	1.24	1.34
		Back	0.554	0.544	0.205	0.443	0.039	1.30	1.58
		Left side	0.554	0.550				1.10	1.10
		Right side	0.554		0.159	0.211	0.040	0.71	0.81
		Top side		0.966	0.115	0.441	0.032	1.08	1.44
		Bottom side	0.554					0.55	0.55
LTE All Bands Ant0	FR1 All Bands Ant3	Front	0.554	0.119	0.172	0.225	0.039	0.85	0.94
		Back	0.554	0.433	0.205	0.443	0.039	1.19	1.47
		Left side	0.554	0.695				1.25	1.25
		Right side	0.554		0.159	0.211	0.040	0.71	0.81
		Top side		0.203	0.115	0.441	0.032	0.32	0.68
		Bottom side	0.554					0.55	0.55
LTE All Bands Ant0	FR1 All Bands Ant5	Front	0.554	0.450	0.172	0.225	0.039	1.18	1.27
		Back	0.554	0.450	0.205	0.443	0.039	1.21	1.49
		Left side	0.554					0.55	0.55
		Right side	0.554	0.450	0.159	0.211	0.040	1.16	1.26
		Top side		0.450	0.115	0.441	0.032	0.57	0.92
		Bottom side	0.554					0.55	0.55
LTE All Bands Ant0	FR1 All Bands Ant8	Front	0.554	0.539	0.172	0.225	0.039	1.27	1.36
		Back	0.554	0.539	0.205	0.443	0.039	1.30	1.58
		Left side	0.554					0.55	0.55
		Right side	0.554	0.539	0.159	0.211	0.040	1.25	1.34
		Top side			0.115	0.441	0.032	0.12	0.47
		Bottom side	0.554					0.55	0.55
LTE All Bands Ant1	FR1 All Bands Ant0	Front	0.182	0.244	0.172	0.225	0.039	0.60	0.69
		Back	0.264	0.592	0.205	0.443	0.039	1.06	1.34
		Left side	0.268	0.133				0.40	0.40
		Right side		0.281	0.159	0.211	0.040	0.44	0.53
		Top side			0.115	0.441	0.032	0.12	0.47
		Bottom side	0.222	1.031				1.25	1.25
LTE All Bands Ant1	FR1 All Bands Ant2	Front	0.182	0.545	0.172	0.225	0.039	0.90	0.99
		Back	0.264	0.545	0.205	0.443	0.039	1.01	1.29
		Left side	0.268	0.545				0.81	0.81
		Right side			0.159	0.211	0.040	0.16	0.25
		Top side		0.545	0.115	0.441	0.032	0.66	1.02
		Bottom side	0.222					0.22	0.22
LTE All Bands Ant1	FR1 All Bands Ant4	Front	0.182	0.517	0.172	0.225	0.039	0.87	0.96
		Back	0.264	0.544	0.205	0.443	0.039	1.01	1.29
		Left side	0.268	0.550				0.82	0.82
		Right side			0.159	0.211	0.040	0.16	0.25
		Top side		0.966	0.115	0.441	0.032	1.08	1.44

		Bottom side	0.222					0.22	0.22
LTE All Bands Ant1	FR1 All Bands Ant3	Front	0.182	0.119	0.172	0.225	0.039	0.47	0.57
		Back	0.264	0.433	0.205	0.443	0.039	0.90	1.18
		Left side	0.268	0.695				0.96	0.96
		Right side			0.159	0.211	0.040	0.16	0.25
		Top side		0.203	0.115	0.441	0.032	0.32	0.68
		Bottom side	0.222					0.22	0.22
LTE All Bands Ant1	FR1 All Bands Ant5	Front	0.182	0.450	0.172	0.225	0.039	0.80	0.90
		Back	0.264	0.450	0.205	0.443	0.039	0.92	1.20
		Left side	0.268					0.27	0.27
		Right side		0.450	0.159	0.211	0.040	0.61	0.70
		Top side		0.450	0.115	0.441	0.032	0.57	0.92
		Bottom side	0.222					0.22	0.22
LTE All Bands Ant1	FR1 All Bands Ant8	Front	0.182	0.539	0.172	0.225	0.039	0.89	0.99
		Back	0.264	0.539	0.205	0.443	0.039	1.01	1.29
		Left side	0.268					0.27	0.27
		Right side		0.539	0.159	0.211	0.040	0.70	0.79
		Top side			0.115	0.441	0.032	0.12	0.47
		Bottom side	0.222					0.22	0.22
LTE All Bands Ant4	FR1 All Bands Ant0	Front	0.509	0.244	0.172	0.225	0.039	0.93	1.02
		Back	0.509	0.592	0.205	0.443	0.039	1.31	1.58
		Left side	0.509	0.133				0.64	0.64
		Right side		0.281	0.159	0.211	0.040	0.44	0.53
		Top side	0.509		0.115	0.441	0.032	0.62	0.98
		Bottom side		1.031				1.03	1.03
LTE All Bands Ant4	FR1 All Bands Ant1	Front	0.509	0.549	0.172	0.225	0.039	1.23	1.32
		Back	0.509	0.549	0.205	0.443	0.039	1.26	1.54
		Left side	0.509	0.549				1.06	1.06
		Right side			0.159	0.211	0.040	0.16	0.25
		Top side	0.509		0.115	0.441	0.032	0.62	0.98
		Bottom side		0.549				0.55	0.55
LTE All Bands Ant4	FR1 All Bands Ant2	Front	0.509	0.545	0.172	0.225	0.039	1.23	1.32
		Back	0.509	0.545	0.205	0.443	0.039	1.26	1.54
		Left side	0.509	0.545				1.05	1.05
		Right side			0.159	0.211	0.040	0.16	0.25
		Top side	0.509	0.545	0.115	0.441	0.032	1.17	1.53
		Bottom side						0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant3	Front	0.509	0.119	0.172	0.225	0.039	0.80	0.89
		Back	0.509	0.433	0.205	0.443	0.039	1.15	1.42
		Left side	0.509	0.695				1.20	1.20
		Right side			0.159	0.211	0.040	0.16	0.25
		Top side	0.509	0.203	0.115	0.441	0.032	0.83	1.19
		Bottom side						0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant5	Front	0.509	0.450	0.172	0.225	0.039	1.13	1.22
		Back	0.509	0.450	0.205	0.443	0.039	1.16	1.44
		Left side	0.509					0.51	0.51
		Right side		0.450	0.159	0.211	0.040	0.61	0.70
		Top side	0.509	0.450	0.115	0.441	0.032	1.07	1.43
		Bottom side						0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant8	Front	0.509	0.539	0.172	0.225	0.039	1.22	1.31
		Back	0.509	0.539	0.205	0.443	0.039	1.25	1.53
		Left side	0.509					0.51	0.51
		Right side		0.539	0.159	0.211	0.040	0.70	0.79
		Top side	0.509		0.115	0.441	0.032	0.62	0.98
		Bottom side						0.00	0.00

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Front	0.559	0.064	0.281	0.003	0.62	0.84
	Back	0.997	0.075	0.433	0.013	1.07	1.44

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5	SPLSR
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE band 66 Ant 1	LTE band 7 Ant 0	Front	0.218	0.229	0.064	0.281	0.003	0.51	0.73	
		Back	0.224	0.803	0.075	0.433	0.013	1.10	1.47	
LTE band 66 Ant 1	LTE band 7 Ant 2	Front	0.218	0.048	0.064	0.281	0.003	0.33	0.55	
		Back	0.224	0.722	0.075	0.433	0.013	1.02	1.39	
LTE band 66 Ant 1	LTE band 7 Ant 4	Front	0.218	0.358	0.064	0.281	0.003	0.64	0.86	
		Back	0.224	0.660	0.075	0.433	0.013	0.96	1.33	
LTE band 66 Ant 2	LTE band 7 Ant 0	Front	0.001	0.229	0.064	0.281	0.003	0.29	0.51	
		Back	0.005	0.803	0.075	0.433	0.013	0.88	1.25	
LTE band 66 Ant 2	LTE band 7 Ant 4	Front	0.001	0.358	0.064	0.281	0.003	0.42	0.64	
		Back	0.005	0.660	0.075	0.433	0.013	0.74	1.11	
LTE band 66 Ant 4	LTE band 7 Ant 0	Front	0.335	0.229	0.064	0.281	0.003	0.63	0.85	
		Back	0.425	0.803	0.075	0.433	0.013	1.30	**1.67**	**03**
LTE band 66 Ant 4	LTE band 7 Ant 2	Front	0.335	0.048	0.064	0.281	0.003	0.45	0.67	
		Back	0.425	0.722	0.075	0.433	0.013	1.22	1.59	

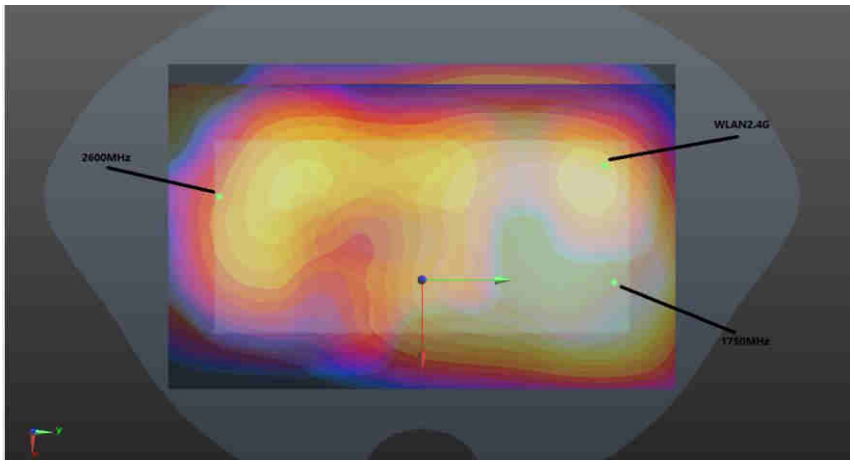
<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE All Bands Ant0	FR1 All Bands Ant1	Front	0.426	0.312	0.064	0.281	0.003	0.80	1.02
		Back	0.426	0.715	0.075	0.433	0.013	1.22	1.59
LTE All Bands Ant0	FR1 All Bands Ant2	Front	0.426	0.040	0.064	0.281	0.003	0.53	0.75
		Back	0.426	0.611	0.075	0.433	0.013	1.11	1.48
LTE All Bands Ant0	FR1 All Bands Ant4	Front	0.426	0.296	0.064	0.281	0.003	0.79	1.01
		Back	0.426	0.442	0.075	0.433	0.013	0.94	1.31
LTE All Bands Ant0	FR1 All Bands Ant3	Front	0.426	0.161	0.064	0.281	0.003	0.65	0.87
		Back	0.426	0.378	0.075	0.433	0.013	0.88	1.25
LTE All Bands Ant0	FR1 All Bands Ant5	Front	0.426	0.433	0.064	0.281	0.003	0.92	1.14
		Back	0.426	0.433	0.075	0.433	0.013	0.93	1.31
LTE All Bands Ant0	FR1 All Bands Ant8	Front	0.426	0.064	0.064	0.281	0.003	0.55	0.77
		Back	0.426	0.285	0.075	0.433	0.013	0.79	1.16
LTE All Bands Ant1	FR1 All Bands Ant0	Front	0.218	0.491	0.064	0.281	0.003	0.77	0.99
		Back	0.224	0.491	0.075	0.433	0.013	0.79	1.16
LTE All Bands Ant1	FR1 All Bands Ant2	Front	0.218	0.040	0.064	0.281	0.003	0.32	0.54
		Back	0.224	0.611	0.075	0.433	0.013	0.91	1.28
LTE All Bands Ant1	FR1 All Bands Ant4	Front	0.218	0.296	0.064	0.281	0.003	0.58	0.80
		Back	0.224	0.442	0.075	0.433	0.013	0.74	1.11
LTE All Bands Ant1	FR1 All Bands Ant3	Front	0.218	0.161	0.064	0.281	0.003	0.44	0.66
		Back	0.224	0.378	0.075	0.433	0.013	0.68	1.05
LTE All Bands Ant1	FR1 All Bands Ant5	Front	0.218	0.433	0.064	0.281	0.003	0.72	0.94
		Back	0.224	0.433	0.075	0.433	0.013	0.73	1.10
LTE All Bands Ant1	FR1 All Bands Ant8	Front	0.218	0.064	0.064	0.281	0.003	0.35	0.57
		Back	0.224	0.285	0.075	0.433	0.013	0.58	0.96
LTE All Bands Ant4	FR1 All Bands Ant0	Front	0.331	0.491	0.064	0.281	0.003	0.89	1.11
		Back	0.331	0.491	0.075	0.433	0.013	0.90	1.27
LTE All Bands Ant4	FR1 All Bands Ant1	Front	0.331	0.312	0.064	0.281	0.003	0.71	0.93
		Back	0.331	0.715	0.075	0.433	0.013	1.12	1.49
LTE All Bands Ant4	FR1 All Bands Ant2	Front	0.331	0.040	0.064	0.281	0.003	0.44	0.66
		Back	0.331	0.611	0.075	0.433	0.013	1.02	1.39
LTE All Bands Ant4	FR1 All Bands Ant3	Front	0.331	0.161	0.064	0.281	0.003	0.56	0.78
		Back	0.331	0.378	0.075	0.433	0.013	0.78	1.16
LTE All Bands Ant4	FR1 All Bands Ant5	Front	0.331	0.433	0.064	0.281	0.003	0.83	1.05
		Back	0.331	0.433	0.075	0.433	0.013	0.84	1.21
LTE All Bands Ant4	FR1 All Bands Ant8	Front	0.331	0.064	0.064	0.281	0.003	0.46	0.68
		Back	0.331	0.285	0.075	0.433	0.013	0.69	1.06

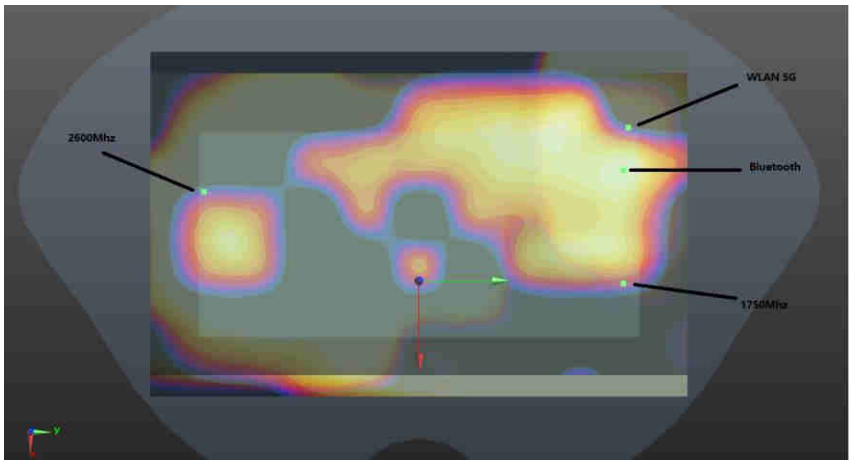
16.4 SPLSR Evaluation and Analysis

General Note:

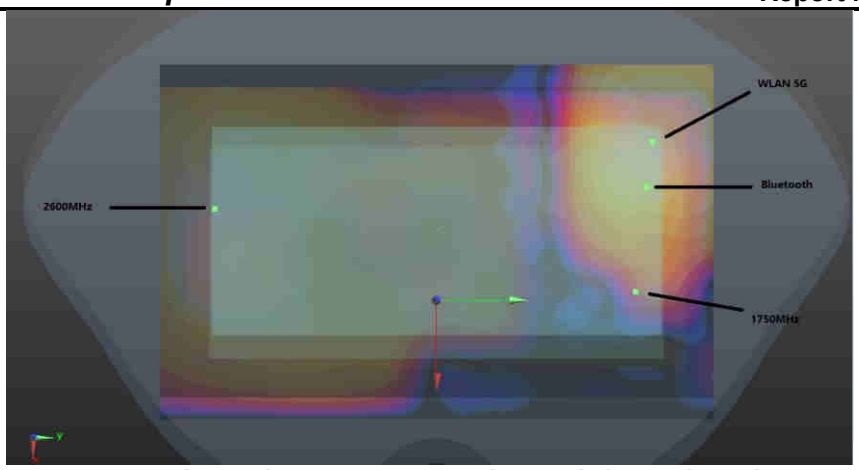
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of [(x1−x2)2 + (y1−y2)2 + (z1−z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. SPLSR = (SAR1 + SAR2)1.5 / (min. separation distance, mm). If SPLSR ≤ 0.04 for 1g SAR, simultaneously transmission SAR measurement is not necessary.



WWAN+WLAN2.4GHz (10mm) Back



WWAN+ WLAN 5GHz+Bluetooth (10mm) Back



WWAN(15mm)+ WLAN 5GHz+Bluetooth (15mm) Back

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 01	LTE band 66 Ant 4	Back	0.628	10	19.3	78.2	-3.67	159.9	1.43	0.01	Not required
	LTE band 7 Ant 0		0.799	10	-14.5	-78.1	-4.11				
	LTE band 66 Ant 4	Back	0.628	10	19.3	78.2	-3.67	44.1	0.83	0.02	Not required
	WALN2.4G		0.205	10	-23.9	70.8	1.14				
	LTE band 7 Ant 0	Back	0.799	10	-14.5	-78.1	-4.11	149.3	1.00	0.01	Not required
	WALN2.4G		0.205	10	-23.9	70.8	1.14				
Case 02	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE band 66 Ant 4	Back	0.628	10	19.3	78.2	-3.67	159.9	1.43	0.01	Not required
	LTE band 7 Ant 0		0.799	10	-14.5	-78.1	-4.11				
	LTE band 66 Ant 4	Back	0.628	10	19.3	78.2	-3.67	54.7	1.07	0.02	Not required
	WALN5G		0.443	10	-35.2	77	1.3				
	LTE band 66 Ant 4	Back	0.628	10	19.3	78.2	-3.67	159.2	0.67	0.00	Not required
	Bluetooth		0.039	10	39	-78.8	13.94				
	LTE band 7 Ant 0	Back	0.799	10	-14.5	-78.1	-4.11	156.6	1.24	0.01	Not required
	WALN5G		0.443	10	-35.2	77	1.3				
	LTE band 7 Ant 0	Back	0.799	10	-14.5	-78.1	-4.11	56.5	0.84	0.01	Not required
	Bluetooth		0.039	10	39	-78.8	13.94				
Case 03	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE band 66 Ant 4	Back	0.425	15	13	78.6	-0.2	159.5	1.23	0.01	Not required
	LTE band 7 Ant 0		0.803	15	-13.6	-78.6	-4.32				
	LTE band 66 Ant 4	Back	0.425	15	13	78.6	-0.2	46.1	0.86	0.02	Not required
	WALN5G		0.433	15	-33	76.2	1.28				
	LTE band 66 Ant 4	Back	0.425	15	13	78.6	-0.2	159.2	0.44	0.00	Not required
	Bluetooth		0.013	15	38.4	-77.9	13.83				
	LTE band 7 Ant 0	Back	0.803	15	-13.6	-78.6	-4.32	156.1	1.24	0.01	Not required
	WALN5G		0.433	15	-33	76.2	1.28				
	LTE band 7 Ant 0	Back	0.803	15	-13.6	-78.6	-4.32	55.1	0.82	0.01	Not required
	Bluetooth		0.013	15	38.4	-77.9	13.83				

Test Engineer : Bruce Li, Martin Li, Varus Wang

17. 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.

18. 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] SPEAG DASY System Handbook

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

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

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

[8] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[9] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

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

[11] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[12] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[13] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

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

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

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/1

System Check_Head_750MHz

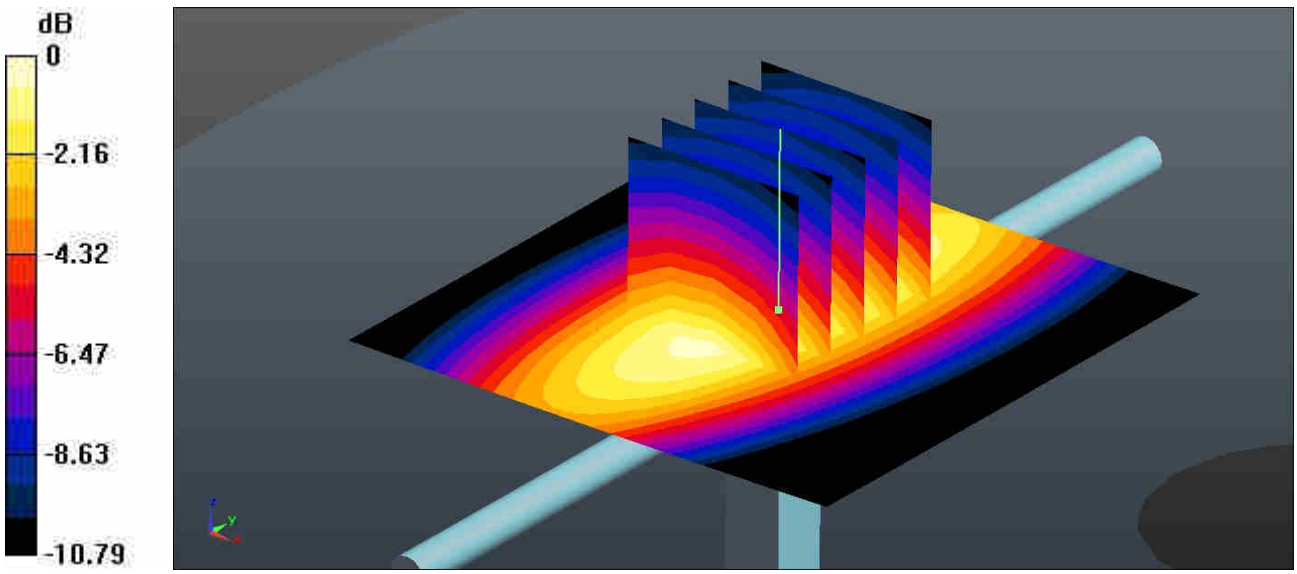
DUT: D750V3 - SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.893 S/m; ε_r = 43.125; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(10.74, 10.74, 10.74); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.545 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.32 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.633 W/kg
SAR(1 g) = 0.410 W/kg; SAR(10 g) = 0.269 W/kg
Maximum value of SAR (measured) = 0.555 W/kg



0 dB = 0.555 W/kg = -2.56 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/2

System Check_Head_835MHz

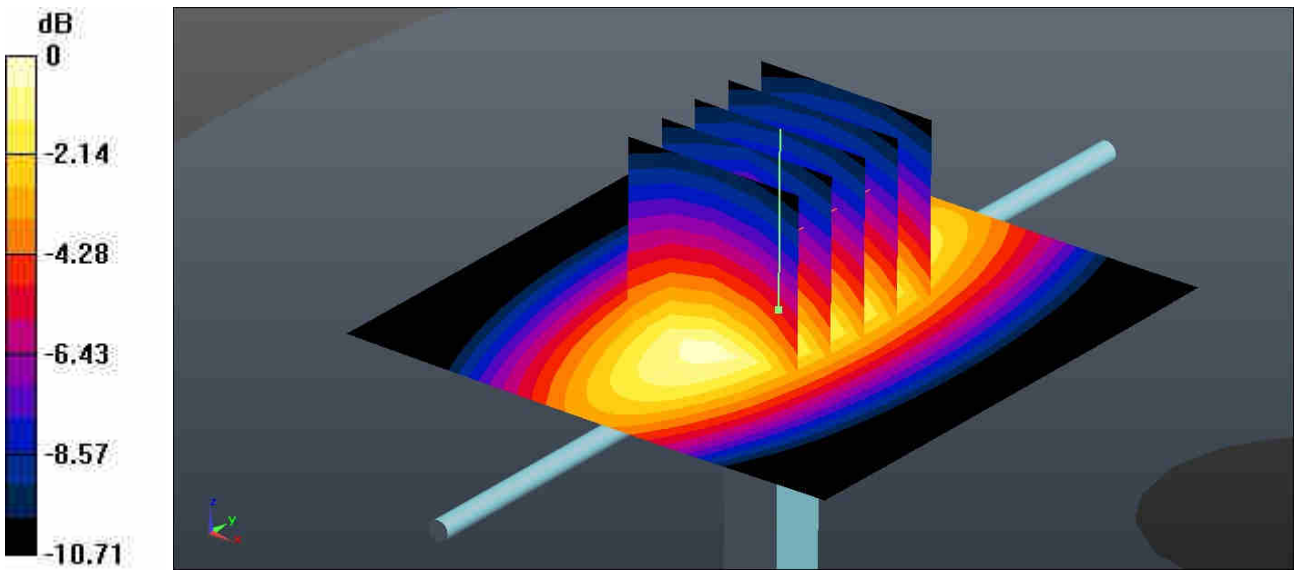
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.924 S/m; ε_r = 42.865; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(10.5, 10.5, 10.5); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.646 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.53 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.728 W/kg
SAR(1 g) = 0.477 W/kg; SAR(10 g) = 0.312 W/kg
Maximum value of SAR (measured) = 0.642 W/kg



0 dB = 0.642 W/kg = -1.92 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/3

System Check_Head_1750MHz

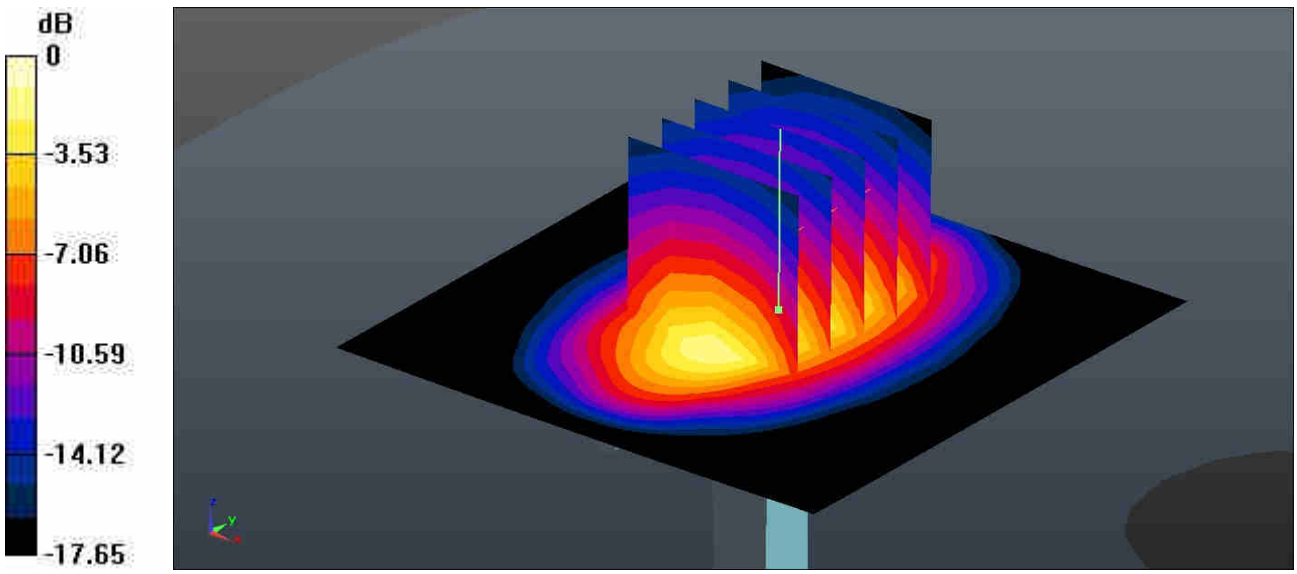
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.401 S/m; ε_r = 40.497; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(9.15, 9.15, 9.15); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.87 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 45.77 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 3.47 W/kg
SAR(1 g) = 1.84 W/kg; SAR(10 g) = 0.970 W/kg
Maximum value of SAR (measured) = 2.87 W/kg



0 dB = 2.87 W/kg = 4.58 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/4

System Check_Head_1900MHz

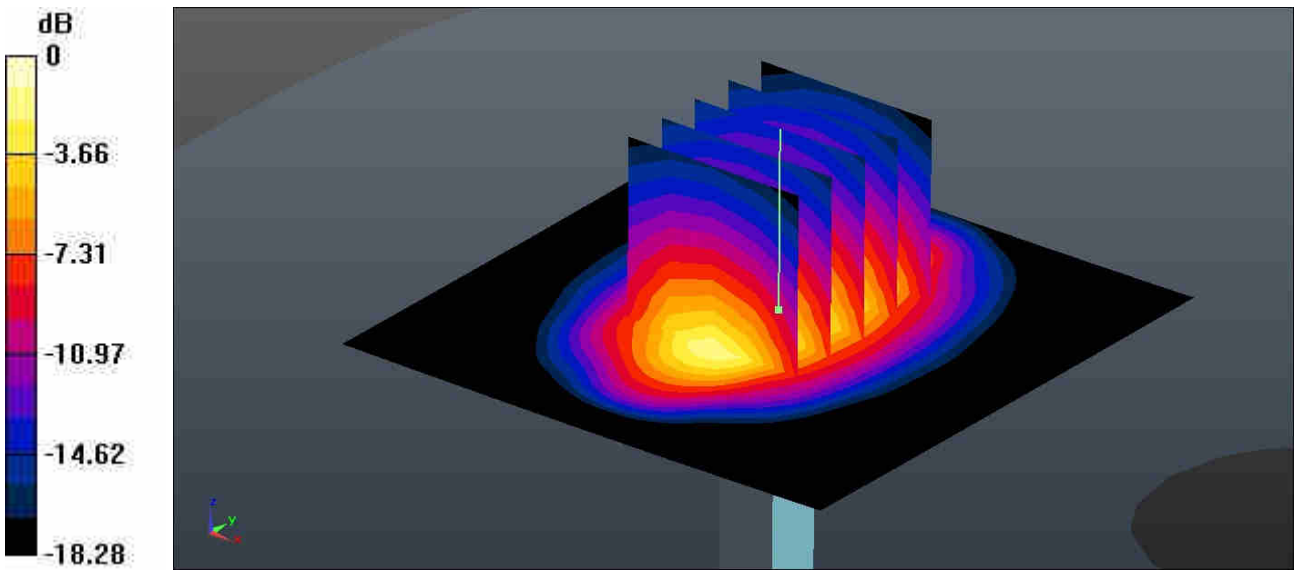
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.456 S/m; ε_r = 40.692; ρ = 1000 kg/m^3
Ambient Temperature：23.3 °C; Liquid Temperature：22.6°C

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(8.73, 8.73, 8.73); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.15 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.23 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.73 W/kg
SAR(1 g) = 1.98 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.11 W/kg



0 dB = 3.11 W/kg = 4.93 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/9

System Check_Head_2450MHz

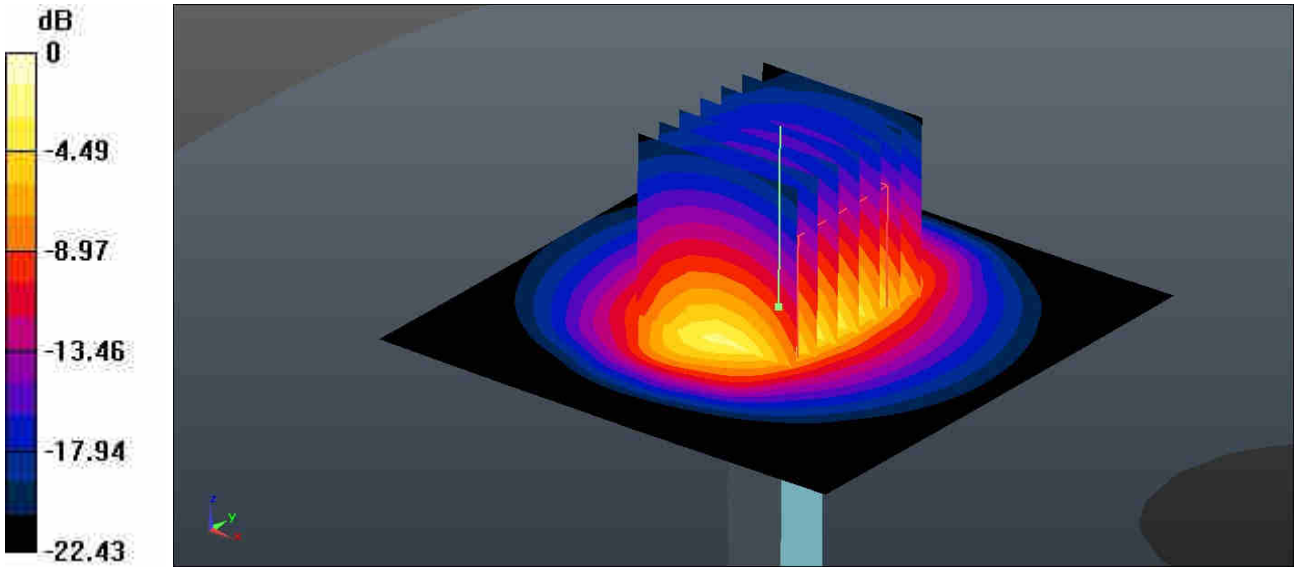
DUT: D2450V2 - SN:908

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.871 S/m; ε_r = 40.829; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(8.28, 8.28, 8.28); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.13 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 46.92 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 5.25 W/kg
SAR(1 g) = 2.5 W/kg; SAR(10 g) = 1.16 W/kg
Maximum value of SAR (measured) = 4.06 W/kg



0 dB = 4.06 W/kg = 6.09 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/5

System Check_Head_2600MHz

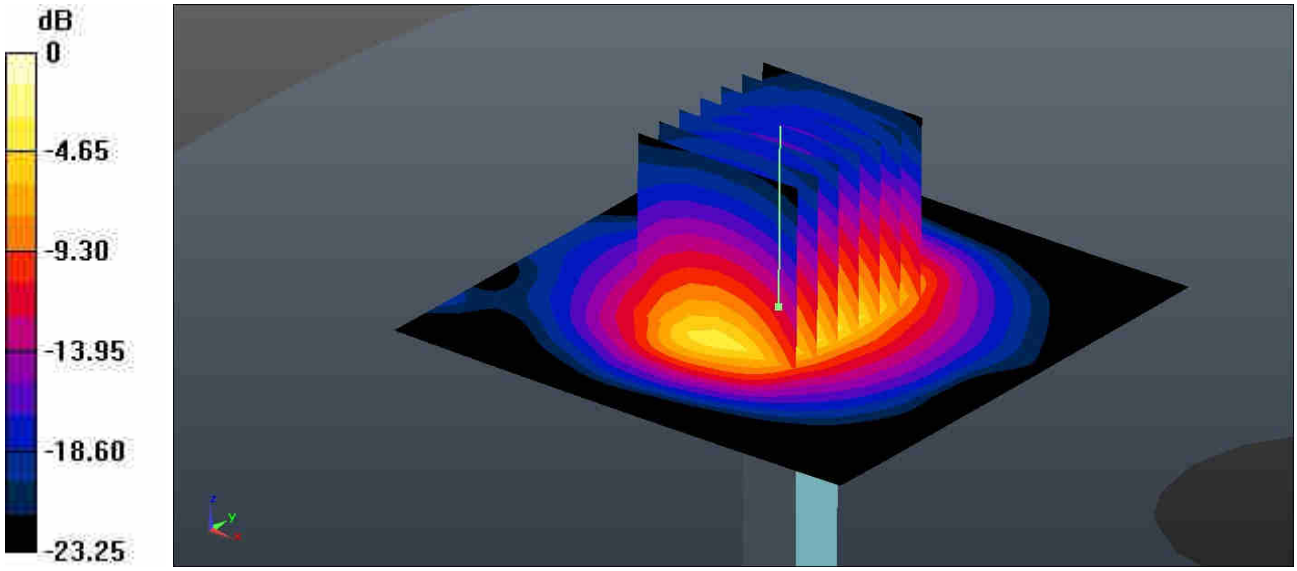
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.979 S/m; ε_r = 40.611; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(8.14, 8.14, 8.14); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.60 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.11 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 5.97 W/kg
SAR(1 g) = 2.69 W/kg; SAR(10 g) = 1.2 W/kg
Maximum value of SAR (measured) = 4.68 W/kg



0 dB = 4.68 W/kg = 6.70 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/1/6

System Check_Head_3500MHz

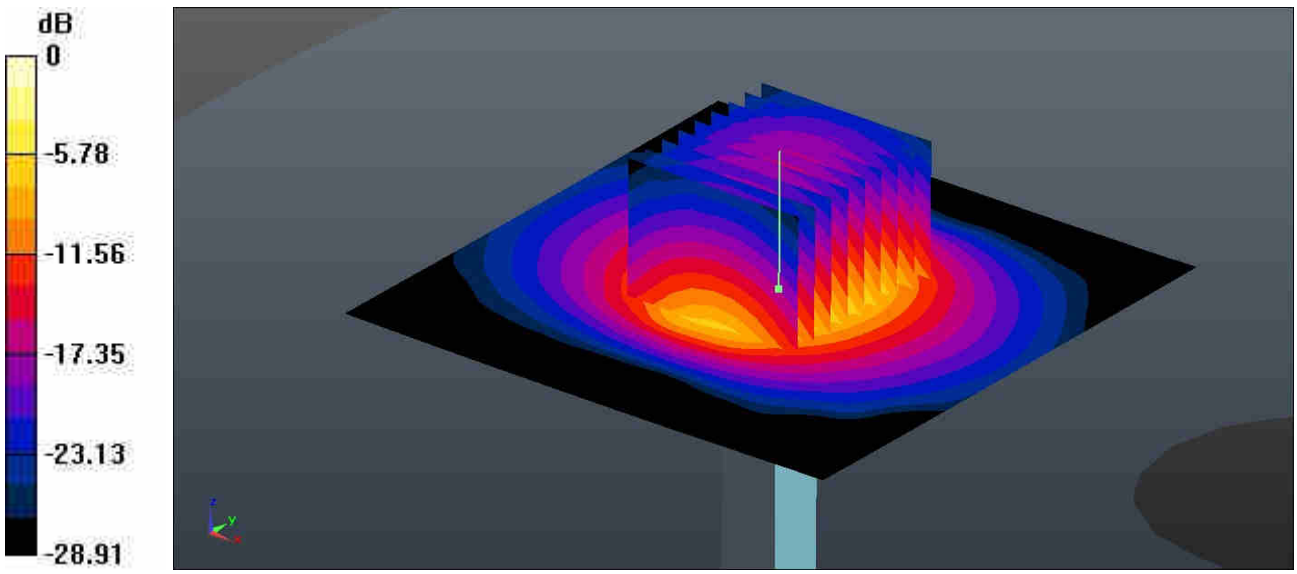
DUT: D3500V2 - SN:1037

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1
Medium: HSL_3500 Medium parameters used: f = 3500 MHz; σ = 2.827 S/m; ε_r = 39.041; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7684; ConvF(7.37, 7.37, 7.37); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 5.64 W/kg

Pin=50mW/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 46.33 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 8.87 W/kg
SAR(1 g) = 3.24 W/kg; SAR(10 g) = 1.23 W/kg
Maximum value of SAR (measured) = 6.23 W/kg



0 dB = 6.23 W/kg = 7.94 dBW/kg