FCC SAR Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	XIAOMI
MODEL NAME	:	2109119DG
FCC ID	:	2AFZZ119DG
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

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

Nick Hu

Reviewed by: Nick Hu / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA162118	Rev. 01	Initial issue of report.	Aug. 02, 2021

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, 2109119DG,** 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	0.67	0.41	0.28	1.58
		GSM1900	0.76	0.53	0.33	
	WCDMA	Band II	0.80	0.61	0.75	
		Band IV	0.47	0.70	0.66	
		Band V	0.76	0.50	0.44	
	LTE	Band 2	0.72	0.70	0.58	
		Band 5 ANT4	0.32	0.30	0.22	
		Band 7	0.49	0.45	0.41	
		Band 12/Band 17	0.94	0.38	0.26	
		Band 13	0.59	0.37	0.28	
		Band 26/ Band 5	0.93	0.39	0.38	
		Band 66/ Band 4	0.33	0.39	0.58	
		Band 38	0.44	0.26	0.25	
		Band 41	0.79	0.33	0.36	
		Band 42	0.77	0.34	0.59	
	5G NR	n5	0.43	0.43	0.42	
		n7	0.84	0.82	0.59	
		n66	0.37	0.51	0.54	
		n38	0.97	0.68	0.76	
		n41	0.96	0.98	**1.05**	
		n77	0.94	0.75	0.71	
		n78	**1.09**	**1.05**	0.66	
DTS	WLAN	2.4GHz WLAN	0.92	0.39	0.31	1.58
NII		5GHz WLAN	0.95	0.23	0.27	1.56
DSS	Bluetooth	2.4GHz Bluetooth	0.82	0.23	0.20	1.56

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	**1.64**	-
Date of Testing:			2021/6/30 ~ 2021/7/26	

Remark:

1. This device supports LTE B4 / B5 / B17 and B66 / B26 / B12. Since the supported frequency span for LTE B4 / B5 / B17 falls completely within the supports frequency span for LTE B66 / B26 / 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 / B12. For LTE band 5 performed SAR testing separately for antenna 4 without was covered by LTE band26.

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

Testing Laboratory		
Test Firm	Sporton International (Kunshan) Inc.	
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.	FCC Designation No.	FCC Test Firm Registration No.
	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	XIAOMI
Model Name	2109119DG
FCC ID	2AFZZ119DG
IMEI Code	SIM1: 865950050031574 SIM2: 865950050031582
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 42: 3450 MHz ~ 3550 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 2.4GHz : 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz : 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC:ASK
HW Version	P2
SW Version	MIUI12.5

GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
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 33.
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 four types of EUT, 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. The device implements Proximity sensors/receiver detect mechanism/hotspot 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: sensor on for body worn & handheld on for extremity; DSI 4: sensor off power for body worn; DSI 5: hotspot on reduced power for hotspot).
9. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head, hotspot, extremity.
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. 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. 5GNR n78 supports HPUE only limit to SA mode, HPUE power and SAR testing performed separately.
16. 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.
17. 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
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
SA	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n38	TDD	30	20
	n41	TDD	30	20, 30, 40, 50, 60, 80, 90, 100
	n77	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>2AFZZ119DG</td></tr>
<tr><td>Equipment Name</td><td>Mobile Phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>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 42: 3450 MHz ~ 3550 MHz
LTE Band 66: 1710 MHz ~ 1780 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>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 42: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, Cat13</td></tr>
<tr><td>CA Support</td><td>Supported, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>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)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>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.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, head/body-worn/ hotspot/extremity will trigger reduced power for some LTE bands, the detail please referred to section 13.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>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 4 carriers in the downlink and 2 carriers in the uplink.</td></tr>
</table>

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 42								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460
M	42590	3500	42590	3500	42590	3500	42590	3500
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540

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: 20MHz 5G NR n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n77: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B7
LTE Anchor Bands for n66	LTE B7
LTE Anchor Bands for n78	LTE B5/7/38/66

NR Band 5

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

NR Band 7

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	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 38

	Bandwidth 20MHz	
	Ch. #	Freq. (MHz)
L	516000	2580
M	519000	2595
H	522000	2610

NR Band 66

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	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	345000	1725	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353000	1765	352000	1760

NR Band 41																
	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)
L	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
H	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 SCS30KHz																
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	664668	3970.02	664334	3965.01	664000	3960	663668	3955.02	663334	3950.01	663000	3945	662668	3940.02	662334	3935.01	662000	3930

NR Band 78 SCS30KHz																
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	652668	3790.02	652334	3785.01	652000	3780	651668	3775.02	651334	3770.01	651000	3765	650668	3760.02	650334	3755.01		

<3450 MHz ~ 3550 MHz>

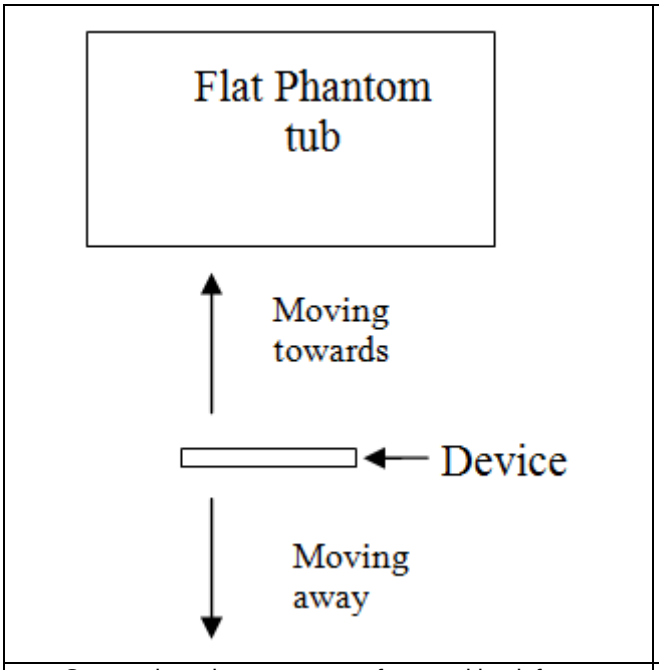
NR Band 77 SCS30KHz																
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	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
H	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

NR Band 78 SCS30KHz																
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	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
H	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

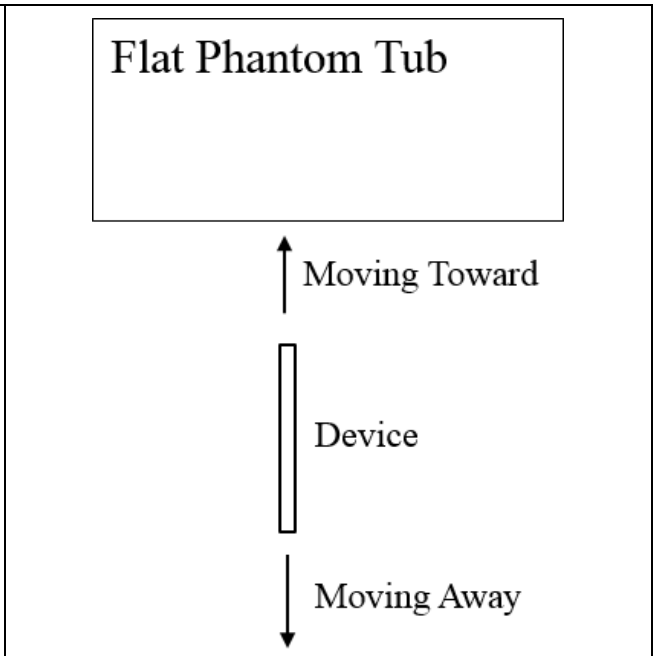
5. Proximity Sensor Triggering Test

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 at the front or back or bottom or right 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 at the front or back or bottom or right or top side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).



Sensor detection test set-up, front and back faces



Sensor detection test set-up, right /top /bottom face

<P-Sensor>

<Sensor1 for Ant1/Ant2>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Bottom Side		Right Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	20	23	28	30	18	21	28	30

< Sensor2 for Ant5/Ant6/Ant12 >

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	9	11	12	15	17	18

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:

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

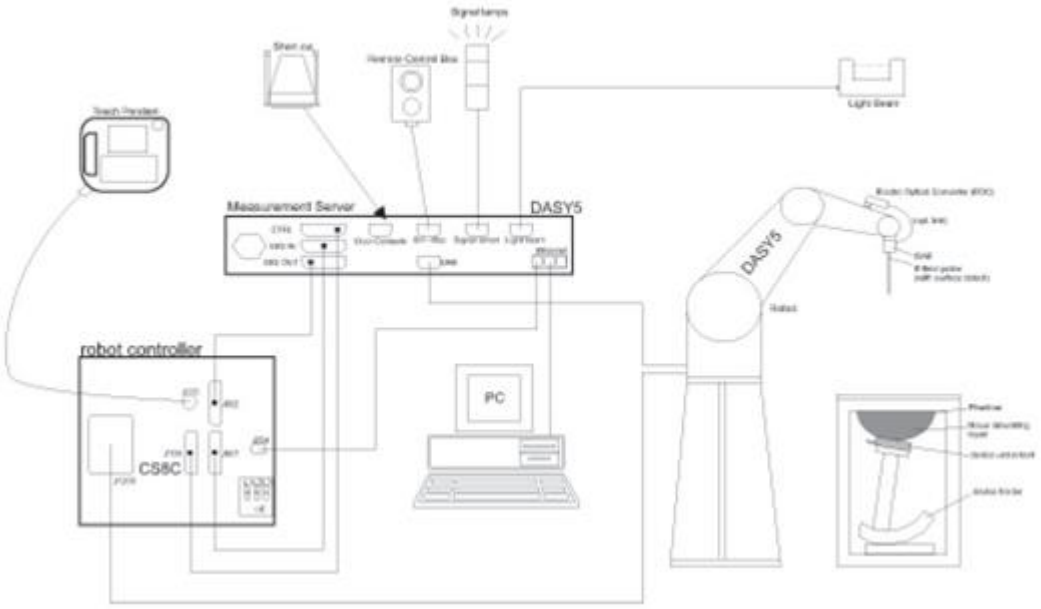
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)
Dynamic Range	5 µW/g – >100 mW/g; Linearity: ±0.2 dB
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 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.

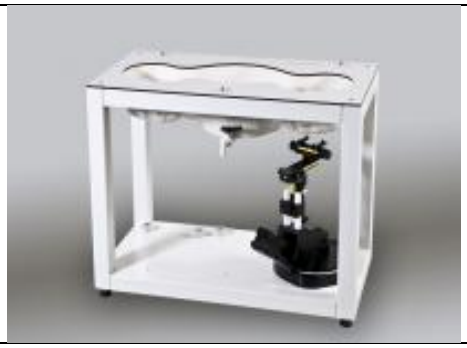
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

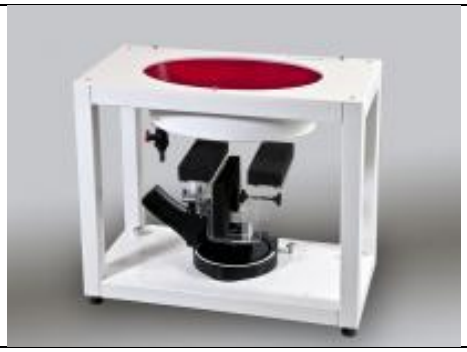
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

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

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

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	2021/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2021/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2021/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/23
SPEAG	Data Acquisition Electronics	DAE4	799	2021/3/26	2022/3/25
SPEAG	Data Acquisition Electronics	DAE4	1358	2021/4/26	2022/4/25
SPEAG	Data Acquisition Electronics	DAE4	1356	2021/6/1	2022/5/31
SPEAG	Dosimetric E-Field Probe	EX3DV4	3843	2020/9/23	2021/9/22
SPEAG	Dosimetric E-Field Probe	EX3DV4	3935	2021/4/29	2022/4/28
SPEAG	Dosimetric E-Field Probe	ES3DV3	3293	2020/9/23	2021/9/22
SPEAG	SAM Twin Phantom	SAM Twin	TP-1754	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-1697	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-1542	NCR	NCR
Testo	Hygrometer	608-H1	1241332088	2021/1/7	2022/1/6
Testo	Hygrometer	608-H1	1241332126	2021/1/7	2022/1/6
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	2020/8/1	2021/7/31
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2020/12/2	2021/12/1
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/7	2022/1/6
Rohde & Schwarz	Power Meter	NRVD	102081	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2020/8/13	2021/8/12
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101632	2021/1/7	2022/1/6
FLUKE	DIGITAC THERMOMETER	51II	97240029	2020/8/14	2021/8/13
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	
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	

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.

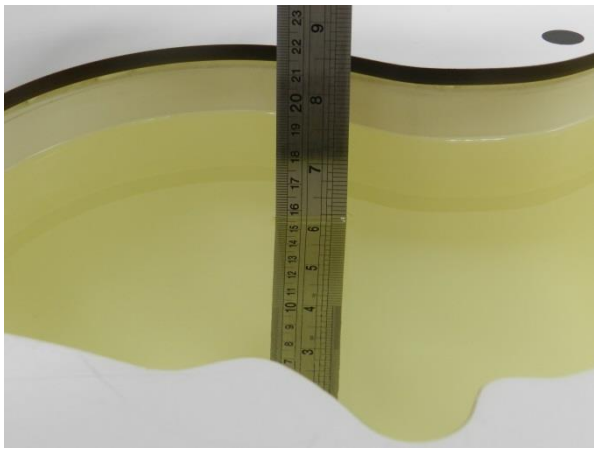


Fig 11.1 Photo of Liquid Height for Head SAR

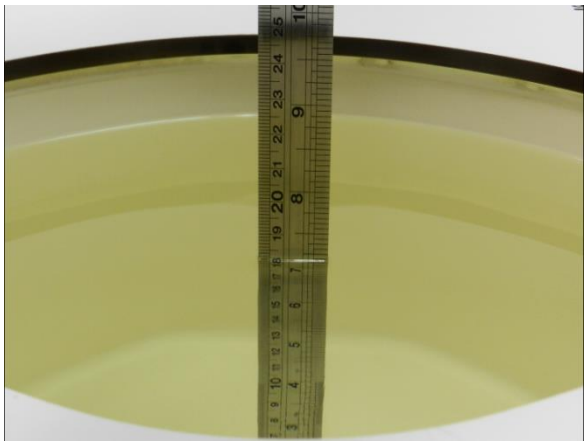


Fig 11.2 Photo of Liquid Height for Body SAR

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)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.7	0.914	43.517	0.89	41.90	2.70	3.86	±5	2021/7/8
835	Head	22.7	0.926	41.058	0.90	41.50	2.89	-1.07	±5	2021/6/30
1750	Head	22.8	1.359	41.007	1.37	40.10	-0.80	2.26	±5	2021/7/2
1900	Head	22.8	1.440	40.480	1.40	40.00	2.86	1.20	±5	2021/7/4
2600	Head	22.6	1.983	39.982	1.96	39.00	1.17	2.52	±5	2021/7/12
3500	Head	22.7	2.881	38.500	2.91	37.90	-1.00	1.58	±5	2021/7/16
3700	Head	22.6	3.077	38.038	3.12	37.70	-1.38	0.90	±5	2021/7/18
3900	Head	22.6	3.282	37.614	3.32	37.50	-1.14	0.30	±5	2021/7/20
750	Head	22.7	0.919	43.625	0.89	41.90	3.26	4.12	±5	2021/7/10
835	Head	22.9	0.935	42.534	0.90	41.50	3.89	2.49	±5	2021/7/12
1750	Head	22.8	1.353	39.045	1.37	40.10	-1.24	-2.63	±5	2021/7/14
1900	Head	22.7	1.423	38.976	1.40	40.00	1.64	-2.56	±5	2021/7/16
2600	Head	22.6	2.013	40.647	1.96	39.00	2.70	4.22	±5	2021/7/18
3500	Head	22.9	2.850	38.606	2.91	37.90	-2.06	1.86	±5	2021/7/7
3700	Head	22.8	3.044	38.163	3.12	37.70	-2.44	1.23	±5	2021/7/8
3900	Head	22.7	3.247	37.755	3.32	37.50	-2.20	0.68	±5	2021/7/8
2450	Head	22.6	1.781	40.614	1.80	39.20	-1.06	3.61	±5	2021/7/10
5250	Head	22.6	4.690	36.422	4.71	35.90	-0.42	1.45	±5	2021/7/24
5600	Head	22.9	5.034	35.819	5.07	35.50	-0.71	0.90	±5	2021/7/26
5750	Head	22.6	5.281	35.507	5.22	35.40	1.17	0.30	±5	2021/7/24

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)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2021/7/8	750	Head	50	1087	3843	799	0.446	8.36	8.92	6.70
2021/6/30	835	Head	50	4d258	3843	799	0.503	9.44	10.06	6.57
2021/7/2	1750	Head	50	1090	3843	799	1.89	36.40	37.8	3.85
2021/7/4	1900	Head	50	5d170	3843	799	2.06	39.00	41.2	5.64
2021/7/12	2600	Head	50	1061	3843	799	2.93	56.60	58.6	3.53
2021/7/16	3500	Head	50	1037	3935	1358	3.55	68.00	71	4.41
2021/7/18	3700	Head	50	1008	3935	1358	3.65	67.60	73	7.99
2021/7/20	3900	Head	50	1048	3935	1358	3.57	70.20	71.4	1.71
2021/7/10	750	Head	50	1087	3293	1356	0.407	8.36	8.14	-2.63
2021/7/12	835	Head	50	4d258	3293	1356	0.440	9.44	8.8	-6.78
2021/7/14	1750	Head	50	1090	3293	1356	1.76	36.40	35.2	-3.30
2021/7/16	1900	Head	50	5d170	3293	1356	1.98	39.00	39.6	1.54
2021/7/18	2600	Head	50	1061	3293	1356	2.76	56.60	55.2	-2.47
2021/7/7	3500	Head	50	1037	3935	1358	3.51	68.00	70.2	3.24
2021/7/8	3700	Head	50	1008	3935	1358	3.62	67.60	72.4	7.10
2021/7/8	3900	Head	50	1048	3935	1358	3.53	70.20	70.6	0.57
2021/7/10	2450	Head	50	908	3843	799	2.78	52.80	55.6	5.30
2021/7/24	5250	Head	50	1113	3843	799	4.27	80.50	85.4	6.09
2021/7/26	5600	Head	50	1113	3843	799	4.46	83.40	89.2	6.95
2021/7/24	5750	Head	50	1113	3843	799	4.28	80.00	85.6	7.00

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2021/7/8	750	Head	50	1087	3843	799	0.301	5.65	6.02	6.55
2021/6/30	835	Head	50	4d258	3843	799	0.327	6.13	6.54	6.69
2021/7/2	1750	Head	50	1090	3843	799	0.986	19.20	19.72	2.71
2021/7/4	1900	Head	50	5d170	3843	799	1.02	20.30	20.4	0.49
2021/7/12	2600	Head	50	1061	3843	799	1.34	25.10	26.8	6.77
2021/7/16	3500	Head	50	1037	3935	1358	1.34	25.40	26.8	5.51
2021/7/18	3700	Head	50	1008	3935	1358	1.31	24.40	26.2	7.38
2021/7/20	3900	Head	50	1048	3935	1358	1.25	24.40	25	2.46
2021/7/10	750	Head	50	1087	3293	1356	0.266	5.65	5.32	-5.84
2021/7/12	835	Head	50	4d258	3293	1356	0.286	6.13	5.72	-6.69
2021/7/14	1750	Head	50	1090	3293	1356	0.932	19.20	18.64	-2.92
2021/7/16	1900	Head	50	5d170	3293	1356	1.02	20.30	20.4	0.49
2021/7/18	2600	Head	50	1061	3293	1356	1.23	25.10	24.6	-1.99
2021/7/7	3500	Head	50	1037	3935	1358	1.33	25.40	26.6	4.72
2021/7/8	3700	Head	50	1008	3935	1358	1.29	24.40	25.8	5.74
2021/7/8	3900	Head	50	1048	3935	1358	1.24	24.40	24.8	1.64
2021/7/10	2450	Head	50	908	3843	799	1.30	24.20	26	7.44
2021/7/24	5250	Head	50	1113	3843	799	1.22	23.10	24.4	5.63
2021/7/26	5600	Head	50	1113	3843	799	1.26	23.80	25.2	5.88
2021/7/24	5750	Head	50	1113	3843	799	1.20	22.80	24	5.26

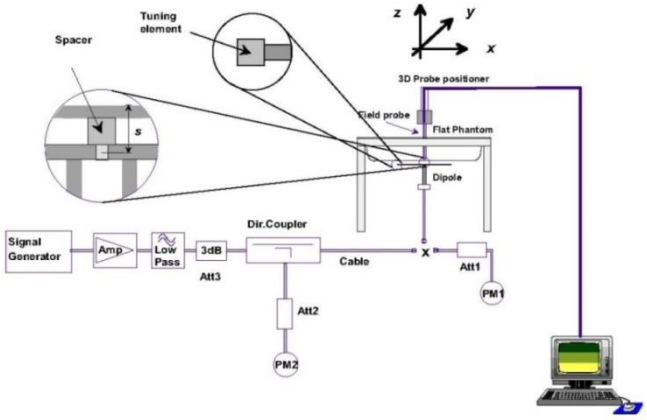


Fig 11.3.1 System Performance Check Setup

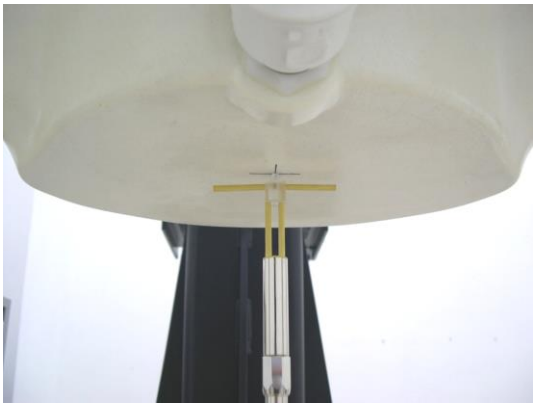


Fig 11.3.2 Setup Photo

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.

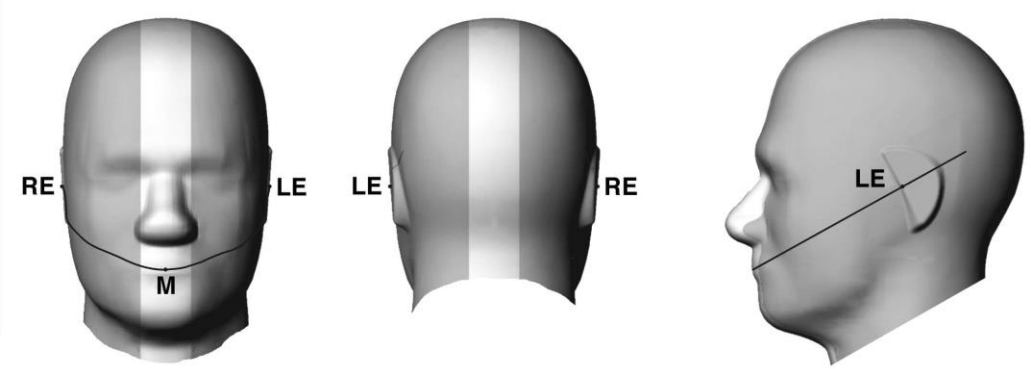


Fig 12.1.1 Front, back, and side views of SAM twin phantom

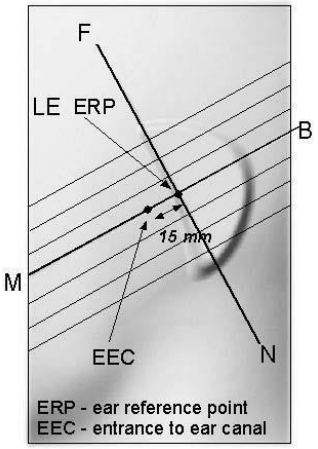


Fig 12.1.2 Close-up side view of phantom showing the ear region.

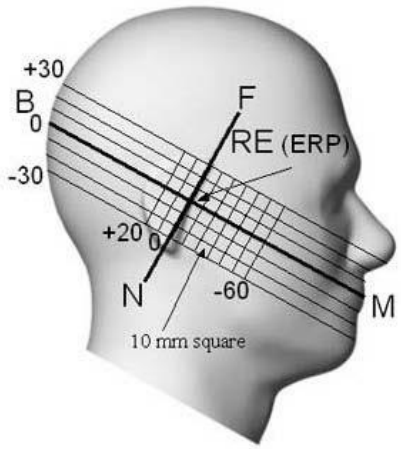


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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.

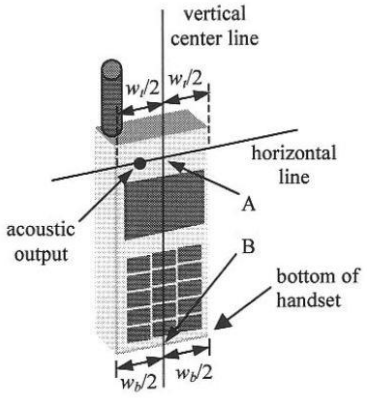


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

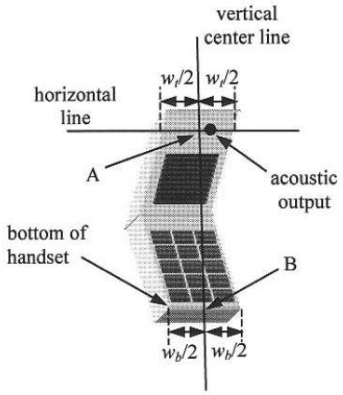


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

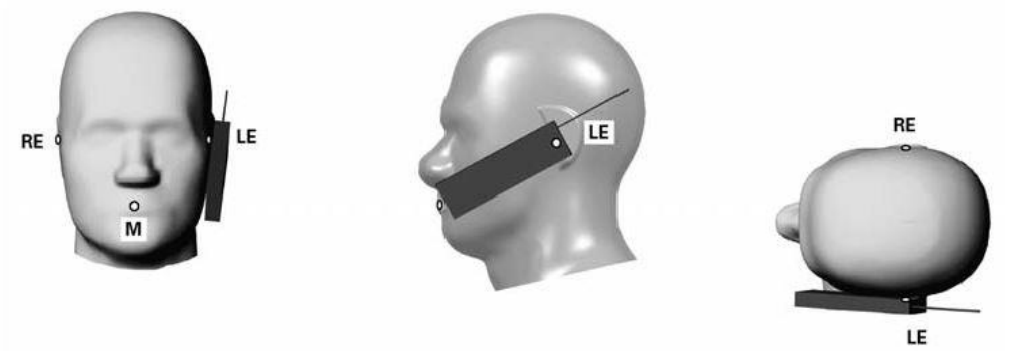


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

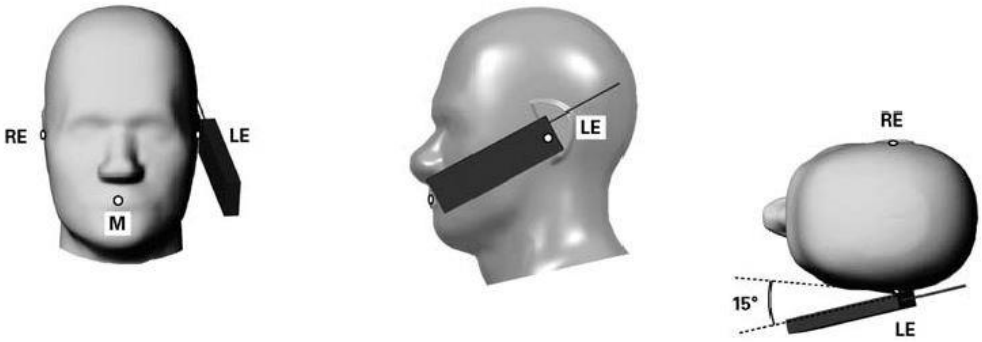


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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.

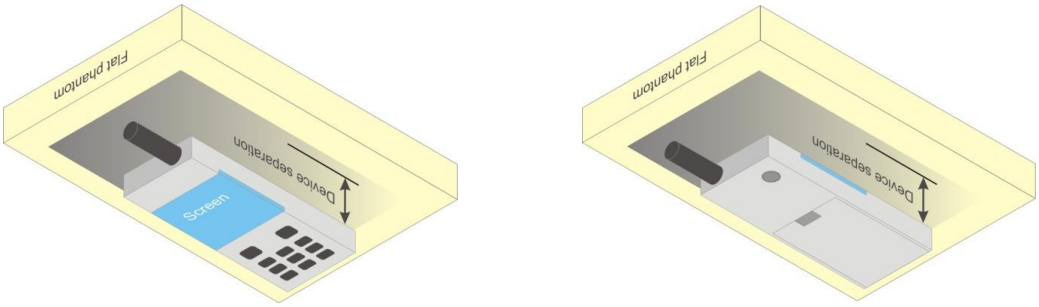


Fig 12.4 Body Worn Position

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. Therefore, the GPRS 4Tx slots for GSM850 and GSM1900 are considered as the primary mode.
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	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

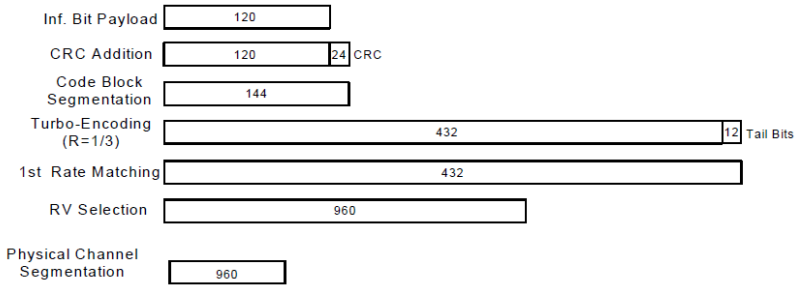


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

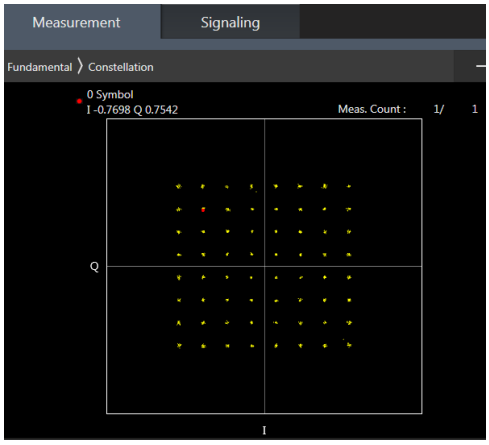
General Note:

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

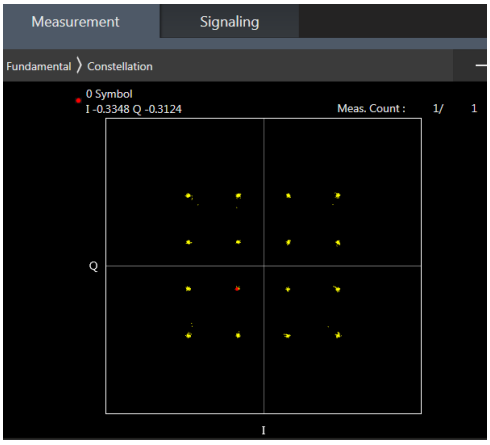
<LTE Conducted Power>

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 / B17 SAR test was covered by B66 / B26 / 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.

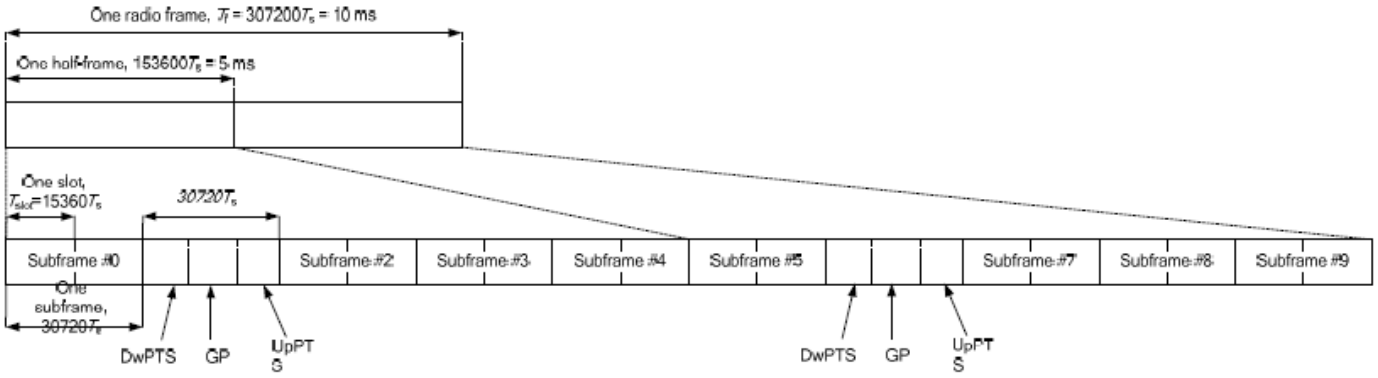


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
2CC #1	CA_7A-7A	3CC #1	3CC #1	CA_5A-7A-7A	
2CC #2	CA_7C	3CC #2	3CC #2	CA_5A-7C	4CC #1
2CC #3	CA_38C		3CC #3	CA_5A-7A-66A	4CC #2
2CC #4	CA_4A-7A		3CC #4	CA_5A-66A-66A	4CC #2
2CC #5	CA_5A-7A	3CC #1	3CC #5	CA_7A-66A-66A	4CC #2
2CC #6	CA_5A-66A	3CC #3	3CC #6	CA_12A-66A-66A	
2CC #7	CA_12A-66A	3CC #6	3CC #7	CA_7C-66A	4CC #1
2CC #8	CA_66A-66A	3CC #6			
2CC #9	CA_7A-66A	3CC #3			
2CC #10	CA_7A-42A				

4CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset
4CC #1	CA_5A-7C-66A	
4CC #2	CA_5A-7A-66A-66A	
4CC #3	CA_7C-66A-66A	

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

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

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

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

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

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

LTE 4x4 MIMO (Downlink)

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

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

4X4 MIMO	WWAN Band
	LTE Band: B4 / B7 / B38 / B41 / B42 / 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. 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.

v. 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
3	4A-7A

General Note:

1. According to October 2018 TCB workshop, uplink CA SAR test guidance as follows:
   a. Provide the single uplink SAR values you have obtained for the relevant SAR configuration and frequency bands that employ inter-band uplink carrier aggregation.
   b. If the single uplink 1g SAR values for each band are both less than 0.8W/kg and the algebraic summation of the 1g SAR values are less than 1.45W/kg no additional measurements need to be performed.
   c. If one on the single uplink 1g SAR values is greater than 0.8W/kg, instead of algebraically summing the 1g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in FCC KDB publication 865664 D01 SAR measurement 100MHz to 6GHz V01r04
   d. If the algebraic sum of the 1g SAR values is > 1.45W/kg additional measurements may have to be made. Submit a KDB inquiry for additional guidance.
2. The single uplink 1g SAR values for each band are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg, additional measurements are not required
3. 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, n66, n78 supports NSA operations, and n5, n7, n66, n38, n41, n77, n78 supports 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/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QMA/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 n78 supports HPUE only limit to SA mode, HPUE power and SAR testing performed separately.
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		

ENDC	LTE TX	NR TX
DC_5A_n78A	ANT1/ANT4	ANT6/ANT12/ANT8/ANT4
DC_7A_n5A	ANT1/ANT5	ANT1/ANT4
DC_7A_n66A	ANT1/ANT5	ANT2/ANT3
DC_7A_n78A	ANT2/ANT3	ANT6/ANT12/ANT8/ANT4
DC_38A_n78A	ANT2/ANT3	ANT6/ANT12/ANT8/ANT4
DC_66A_n78A	ANT2/ANT3	ANT6/ANT12/ANT8/ANT4

Note: LTE B7 at Antenna 1/5 is only active When at CA and ENDC mode.

<WLAN Conducted Power>

General Note:

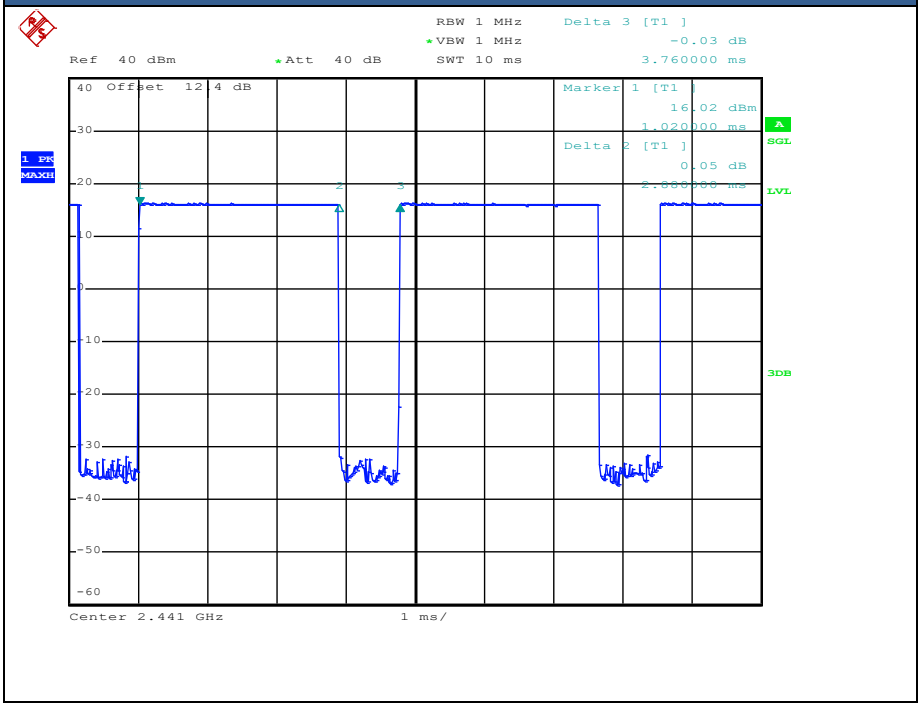
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. 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.
5. 802.11ax full tone size and partial tone size, for full tone size with higher power level, So only chose full tone size to perform SAR testing.

<2.4GHz Bluetooth>

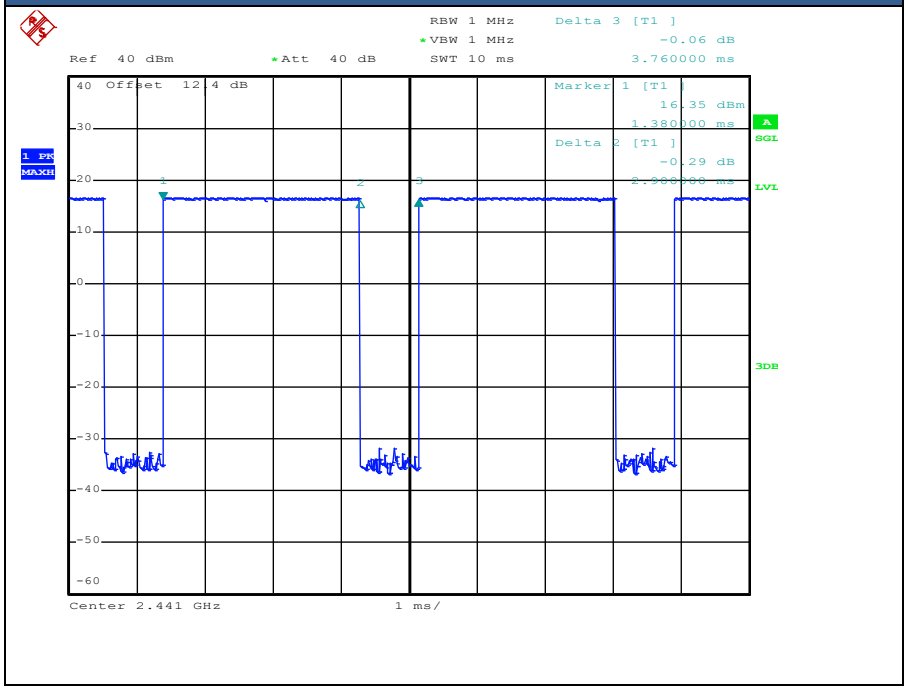
General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth ANT7 duty cycle is 76.6 %, and ANT9 duty cycle is 77.13% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation

Bluetooth time-domain plot for ANT7



Bluetooth time-domain plot for ANT9



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 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 four types of EUT, 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/hotspot 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: sensor on for body worn & handheld on for extremity; DSI 4: sensor off power for body worn; DSI 5: hotspot on reduced power for hotspot).
8. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head, hotspot, extremity.
9. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
10. 5GNR n78 supports HPUE only limit to SA mode, HPUE power and SAR testing performed separately.
11. 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.
12. 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.
13. 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.
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. 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.

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. Therefore, the GPRS 4Tx slots for GSM850 and GSM1900 are considered as the primary mode.
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 / B17 SAR test was covered by B66 / B26 / 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/n77/n78 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.
6. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power.
7. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of SISO antenna respectively to calculate sum of the power for MIMO mode.
8. 802.11ax full tone size and partial tone size, for full tone size with higher power level, So only chose full tone size to perform SAR testing
9. Only chose MIMO power to perform SAR testing.

15.1 Head 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	-	Right Cheek	0mm	Ant1	DSI1	23095	707.5	24.95	25.50	1.135	0.01	0.112	0.127
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant1	DSI1	23095	707.5	23.92	24.50	1.143	0.04	0.090	0.103
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI1	23095	707.5	24.95	25.50	1.135	0.04	0.091	0.103
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant1	DSI1	23095	707.5	23.92	24.50	1.143	0.03	0.074	0.085
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI1	23095	707.5	24.95	25.50	1.135	0.01	0.127	0.144
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant1	DSI1	23095	707.5	23.92	24.50	1.143	-0.18	0.104	0.119
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI1	23095	707.5	24.95	25.50	1.135	-0.08	0.080	0.091
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant1	DSI1	23095	707.5	23.92	24.50	1.143	-0.08	0.063	0.072
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant4	DSI1	23095	707.5	22.87	23.50	1.156	0.1	0.795	0.919
01	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant4	DSI1	23095	707.5	22.85	23.50	1.161	0.07	0.806	**0.936**
	LTE Band 12	10M	QPSK	50	0	-	Right Cheek	0mm	Ant4	DSI1	23095	707.5	22.83	23.50	1.167	-0.15	0.761	0.888
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant4	DSI1	23095	707.5	22.87	23.50	1.156	0.02	0.660	0.763
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant4	DSI1	23095	707.5	22.85	23.50	1.161	0.02	0.659	0.765
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant4	DSI1	23095	707.5	22.87	23.50	1.156	-0.03	0.306	0.354
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant4	DSI1	23095	707.5	22.85	23.50	1.161	0.15	0.314	0.365
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant4	DSI1	23095	707.5	22.87	23.50	1.156	0.08	0.248	0.287
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant4	DSI1	23095	707.5	22.85	23.50	1.161	-0.19	0.255	0.296
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI1	23230	782	24.87	25.50	1.156	0.06	0.122	0.141
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant1	DSI1	23230	782	23.87	24.50	1.156	0.02	0.098	0.113
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI1	23230	782	24.87	25.50	1.156	0.18	0.080	0.092
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant1	DSI1	23230	782	23.87	24.50	1.156	-0.15	0.066	0.076
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI1	23230	782	24.87	25.50	1.156	-0.01	0.109	0.126
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant1	DSI1	23230	782	23.87	24.50	1.156	0.02	0.098	0.113
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI1	23230	782	24.87	25.50	1.156	-0.04	0.065	0.075
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant1	DSI1	23230	782	23.87	24.50	1.156	0.09	0.055	0.064
02	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant4	DSI1	23230	782	23.47	24.00	1.130	0.12	0.523	**0.591**
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant4	DSI1	23230	782	23.45	24.00	1.135	0.09	0.486	0.552
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant4	DSI1	23230	782	23.47	24.00	1.130	-0.04	0.460	0.520
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant4	DSI1	23230	782	23.45	24.00	1.135	-0.06	0.478	0.543
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant4	DSI1	23230	782	23.47	24.00	1.130	-0.18	0.200	0.226
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant4	DSI1	23230	782	23.45	24.00	1.135	0.19	0.198	0.225
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant4	DSI1	23230	782	23.47	24.00	1.130	-0.13	0.172	0.194
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant4	DSI1	23230	782	23.45	24.00	1.135	0.08	0.165	0.187
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant1	DSI1	189	836.4	26.83	28.00	1.309	0.09	0.146	0.191
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant1	DSI1	189	836.4	26.83	28.00	1.309	-0.07	0.107	0.140
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant1	DSI1	189	836.4	26.83	28.00	1.309	-0.09	0.152	0.199
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant1	DSI1	189	836.4	26.83	28.00	1.309	-0.1	0.082	0.107
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant4	DSI1	189	836.4	23.28	24.00	1.180	0.07	0.566	**0.668**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant4	DSI1	189	836.4	23.28	24.00	1.180	0.07	0.454	0.536
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant4	DSI1	189	836.4	23.28	24.00	1.180	0.06	0.265	0.313
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant4	DSI1	189	836.4	23.28	24.00	1.180	-0.06	0.222	0.262
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant1	DSI1	4182	836.4	24.44	25.50	1.276	0.08	0.262	0.334
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant1	DSI1	4182	836.4	24.44	25.50	1.276	-0.07	0.000	0.000
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant1	DSI1	4182	836.4	24.44	25.50	1.276	0.02	0.269	0.343
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant1	DSI1	4182	836.4	24.44	25.50	1.276	-0.13	0.144	0.184
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant4	DSI1	4182	836.4	21.01	22.00	1.256	-0.01	0.601	**0.755**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant4	DSI1	4182	836.4	21.01	22.00	1.256	0.02	0.419	0.526
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant4	DSI1	4182	836.4	21.01	22.00	1.256	-0.08	0.239	0.300
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant4	DSI1	4182	836.4	21.01	22.00	1.256	0.09	0.190	0.239
05	LTE Band 5	10M	QPSK	1	0	-	Right Cheek	0mm	Ant4	DSI1	20525	836.5	18.90	19.50	1.148	0.14	0.281	**0.323**

	LTE Band 5	10M	QPSK	25	0	-	Right Cheek	0mm	Ant4	DSI1	20525	836.5	18.87	19.50	1.156	-0.12	0.242	0.280
	LTE Band 5	10M	QPSK	1	0	-	Right Tilted	0mm	Ant4	DSI1	20525	836.5	18.90	19.50	1.148	0.01	0.132	0.152
	LTE Band 5	10M	QPSK	25	0	-	Right Tilted	0mm	Ant4	DSI1	20525	836.5	18.87	19.50	1.156	0.07	0.145	0.168
	LTE Band 5	10M	QPSK	1	0	-	Left Cheek	0mm	Ant4	DSI1	20525	836.5	18.90	19.50	1.148	0.02	0.085	0.098
	LTE Band 5	10M	QPSK	25	0	-	Left Cheek	0mm	Ant4	DSI1	20525	836.5	18.87	19.50	1.156	0.03	0.094	0.109
	LTE Band 5	10M	QPSK	1	0	-	Left Tilted	0mm	Ant4	DSI1	20525	836.5	18.90	19.50	1.148	0.01	0.058	0.067
	LTE Band 5	10M	QPSK	25	0	-	Left Tilted	0mm	Ant4	DSI1	20525	836.5	18.87	19.50	1.156	-0.05	0.064	0.074
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI1	26865	831.5	24.97	25.50	1.130	-0.04	0.215	0.243
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant1	DSI1	26865	831.5	23.83	24.50	1.167	0.04	0.174	0.203
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI1	26865	831.5	24.97	25.50	1.130	-0.04	0.121	0.137
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant1	DSI1	26865	831.5	23.83	24.50	1.167	0.03	0.099	0.116
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI1	26865	831.5	24.97	25.50	1.130	0.04	0.209	0.236
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant1	DSI1	26865	831.5	23.83	24.50	1.167	0.15	0.172	0.201
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI1	26865	831.5	24.97	25.50	1.130	0.02	0.105	0.119
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant1	DSI1	26865	831.5	23.83	24.50	1.167	0.1	0.086	0.100
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant4	DSI1	26865	831.5	20.85	21.50	1.161	-0.08	0.786	0.913
06	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant4	DSI1	26865	831.5	20.83	21.50	1.167	0.02	0.796	**0.929**
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant4	DSI1	26865	831.5	20.81	21.50	1.172	0.07	0.763	0.894
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant4	DSI1	26865	831.5	20.85	21.50	1.161	0.06	0.642	0.746
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant4	DSI1	26865	831.5	20.83	21.50	1.167	0.07	0.649	0.757
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant4	DSI1	26865	831.5	20.85	21.50	1.161	-0.11	0.347	0.403
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant4	DSI1	26865	831.5	20.83	21.50	1.167	-0.16	0.350	0.408
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant4	DSI1	26865	831.5	20.85	21.50	1.161	0.07	0.283	0.329
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant4	DSI1	26865	831.5	20.83	21.50	1.167	0.07	0.291	0.340
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant1	DSI1	167300	836.5	25.26	25.50	1.057	-0.15	0.200	0.211
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant1	DSI1	167300	836.5	25.11	25.50	1.094	-0.18	0.159	0.174
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant1	DSI1	167300	836.5	25.26	25.50	1.057	0.06	0.176	0.186
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant1	DSI1	167300	836.5	25.11	25.50	1.094	0.07	0.135	0.148
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant1	DSI1	167300	836.5	25.26	25.50	1.057	0.08	0.228	0.241
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant1	DSI1	167300	836.5	25.11	25.50	1.094	-0.13	0.176	0.193
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant1	DSI1	167300	836.5	25.26	25.50	1.057	-0.18	0.131	0.138
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant1	DSI1	167300	836.5	25.11	25.50	1.094	-0.1	0.099	0.108
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant4	DSI1	167300	836.5	20.27	20.50	1.054	0.15	0.362	0.382
07	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant4	DSI1	167300	836.5	20.23	20.50	1.064	0.16	0.401	**0.427**
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant4	DSI1	167300	836.5	20.27	20.50	1.054	0.18	0.239	0.252
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant4	DSI1	167300	836.5	20.23	20.50	1.064	0.03	0.263	0.280
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant4	DSI1	167300	836.5	20.27	20.50	1.054	0.16	0.140	0.148
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant4	DSI1	167300	836.5	20.23	20.50	1.064	-0.01	0.159	0.169
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant4	DSI1	167300	836.5	20.27	20.50	1.054	-0.08	0.103	0.109
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant4	DSI1	167300	836.5	20.23	20.50	1.064	-0.02	0.116	0.123

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	Ant2	DSI1	1413	1732.6	24.51	25.50	1.256	-0.17	0.159	0.200
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant2	DSI1	1413	1732.6	24.51	25.50	1.256	-0.15	0.077	0.097
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI1	1413	1732.6	24.51	25.50	1.256	0.01	0.222	0.279
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI1	1413	1732.6	24.51	25.50	1.256	-0.01	0.113	0.142
08	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant3	DSI1	1413	1732.6	24.51	25.50	1.256	0.01	0.377	**0.474**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant3	DSI1	1413	1732.6	24.51	25.50	1.256	-0.08	0.082	0.103
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant3	DSI1	1413	1732.6	24.51	25.50	1.256	0.07	0.312	0.392
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant3	DSI1	1413	1732.6	24.51	25.50	1.256	0.03	0.044	0.055
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI1	132322	1745	24.97	25.50	1.130	-0.02	0.163	0.184
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI1	132322	1745	23.90	24.50	1.148	-0.05	0.130	0.149
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI1	132322	1745	24.97	25.50	1.130	0.03	0.072	0.081
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI1	132322	1745	23.90	24.50	1.148	0.08	0.058	0.067
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	132322	1745	24.97	25.50	1.130	-0.03	0.247	0.279
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI1	132322	1745	23.90	24.50	1.148	0.08	0.203	0.233
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI1	132322	1745	24.97	25.50	1.130	-0.02	0.103	0.116
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI1	132322	1745	23.90	24.50	1.148	0.03	0.083	0.095
09	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	132322	1745	23.54	24.00	1.112	0.01	0.292	**0.325**
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	132322	1745	23.53	24.00	1.114	0.08	0.236	0.263
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant3	DSI1	132322	1745	23.54	24.00	1.112	-0.02	0.051	0.057
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant3	DSI1	132322	1745	23.53	24.00	1.114	0.04	0.041	0.046
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	132322	1745	23.54	24.00	1.112	0.08	0.225	0.250
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	132322	1745	23.53	24.00	1.114	0.15	0.182	0.203
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant3	DSI1	132322	1745	23.54	24.00	1.112	0.16	0.029	0.032
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant3	DSI1	132322	1745	23.53	24.00	1.114	-0.06	0.000	0.000
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant2	DSI1	349000	1745	25.24	25.50	1.062	-0.02	0.149	0.158
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant2	DSI1	349000	1745	25.22	25.50	1.067	-0.08	0.112	0.119
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant2	DSI1	349000	1745	25.24	25.50	1.062	0.14	0.068	0.072
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant2	DSI1	349000	1745	25.22	25.50	1.067	0.01	0.049	0.052
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant2	DSI1	349000	1745	25.24	25.50	1.062	-0.15	0.195	0.207
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant2	DSI1	349000	1745	25.22	25.50	1.067	-0.12	0.152	0.162
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant2	DSI1	349000	1745	25.24	25.50	1.062	0.19	0.112	0.119
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant2	DSI1	349000	1745	25.22	25.50	1.067	0.07	0.081	0.086
10	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant3	DSI1	349000	1745	25.24	25.50	1.062	-0.05	0.349	**0.371**
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant3	DSI1	349000	1745	25.22	25.50	1.067	0.16	0.344	0.367
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant3	DSI1	349000	1745	25.24	25.50	1.062	0.09	0.068	0.072
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant3	DSI1	349000	1745	25.22	25.50	1.067	-0.04	0.061	0.065
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant3	DSI1	349000	1745	25.24	25.50	1.062	0.04	0.302	0.321
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant3	DSI1	349000	1745	25.22	25.50	1.067	0.02	0.276	0.294
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant3	DSI1	349000	1745	25.24	25.50	1.062	0.17	0.049	0.052
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant3	DSI1	349000	1745	25.22	25.50	1.067	0.08	0.000	0.000

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 (4 Tx slots)	Right Cheek	0mm	Ant2	DSI1	661	1880	23.45	24.50	1.274	0.16	0.106	0.135
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant2	DSI1	661	1880	23.45	24.50	1.274	-0.01	0.000	0.000
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant2	DSI1	661	1880	23.45	24.50	1.274	-0.18	0.100	0.127
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant2	DSI1	661	1880	23.45	24.50	1.274	0.16	0.075	0.096
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant3	DSI1	661	1880	23.45	24.50	1.274	0.13	0.567	0.722
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant3	DSI1	661	1880	23.45	24.50	1.274	0.01	0.111	0.141
11	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant3	DSI1	661	1880	23.45	24.50	1.274	-0.06	0.595	**0.758**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant3	DSI1	661	1880	23.45	24.50	1.274	-0.01	0.060	0.076
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant2	DSI1	9400	1880	24.66	25.50	1.213	0.01	0.277	0.336
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant2	DSI1	9400	1880	24.66	25.50	1.213	-0.05	0.127	0.154
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI1	9400	1880	24.66	25.50	1.213	-0.06	0.257	0.312
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI1	9400	1880	24.66	25.50	1.213	-0.1	0.198	0.240
12	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant3	DSI1	9400	1880	21.05	22.00	1.245	-0.05	0.642	**0.799**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant3	DSI1	9400	1880	21.05	22.00	1.245	0.03	0.139	0.173
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant3	DSI1	9400	1880	21.05	22.00	1.245	0.01	0.573	0.713
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant3	DSI1	9400	1880	21.05	22.00	1.245	-0.16	0.068	0.085
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI1	18900	1880	24.78	25.50	1.180	0.13	0.299	0.353
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI1	18900	1880	23.69	24.50	1.205	0.03	0.241	0.290
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI1	18900	1880	24.78	25.50	1.180	0.05	0.152	0.179
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI1	18900	1880	23.69	24.50	1.205	-0.12	0.127	0.153
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	18900	1880	24.78	25.50	1.180	0.03	0.287	0.339
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI1	18900	1880	23.69	24.50	1.205	-0.15	0.251	0.302
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI1	18900	1880	24.78	25.50	1.180	0.04	0.200	0.236
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI1	18900	1880	23.69	24.50	1.205	0.07	0.187	0.225
13	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	18900	1880	21.36	22.00	1.159	0.03	0.622	**0.721**
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	18900	1880	21.35	22.00	1.161	0.05	0.498	0.578
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant3	DSI1	18900	1880	21.36	22.00	1.159	0.04	0.131	0.152
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant3	DSI1	18900	1880	21.35	22.00	1.161	0.04	0.104	0.121
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	18900	1880	21.36	22.00	1.159	-0.14	0.567	0.657
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	18900	1880	21.35	22.00	1.161	0.09	0.453	0.526
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant3	DSI1	18900	1880	21.36	22.00	1.159	0.11	0.062	0.072
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant3	DSI1	18900	1880	21.35	22.00	1.161	-0.1	0.048	0.056

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	Ant2	DSI1	21100	2535	25.10	25.50	1.096	-	-	-0.19	0.166	0.182
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI1	21100	2535	24.05	24.50	1.109	-	-	0.07	0.136	0.151
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI1	21100	2535	25.10	25.50	1.096	-	-	0.08	0.133	0.146
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI1	21100	2535	24.05	24.50	1.109	-	-	0.11	0.113	0.125
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	21100	2535	25.10	25.50	1.096	-	-	-0.03	0.392	0.430
	LTE Band 7C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	21100+ 21298	2535+ 2554.8	24.93	25.50	1.140	-	-	0.04	0.383	0.437
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI1	21100	2535	24.05	24.50	1.109	-	-	0.06	0.323	0.358
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI1	21100	2535	25.10	25.50	1.096	-	-	-0.02	0.089	0.098
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI1	21100	2535	24.05	24.50	1.109	-	-	0.01	0.072	0.080
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	21100	2535	15.77	16.00	1.054	-	-	0.02	0.330	0.348
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	21100	2535	15.74	16.00	1.062	-	-	-0.19	0.347	0.368
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant3	DSI1	21100	2535	15.77	16.00	1.054	-	-	0.01	0.081	0.085
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant3	DSI1	21100	2535	15.74	16.00	1.062	-	-	0.02	0.085	0.090
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	21100	2535	15.77	16.00	1.054	-	-	0.02	0.343	0.362
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	21100	2535	15.74	16.00	1.062	-	-	-0.19	0.364	0.386

	LTE Band 7C	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	21100+ 21298	2535+ 2554.8	15.66	16.00	1.081	-	-	0.05	0.357	0.386
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant3	DSI1	21100	2535	15.77	16.00	1.054	-	-	-0.13	0.037	0.039
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant3	DSI1	21100	2535	15.74	16.00	1.062	-	-	-0.02	0.038	0.040
14	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI1	21100	2535	23.65	25.00	1.365	-	-	0.02	0.362	**0.494**
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant1	DSI1	21100	2535	22.59	24.00	1.384	-	-	0.08	0.292	0.404
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI1	21100	2535	23.65	25.00	1.365	-	-	-0.08	0.058	0.079
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant1	DSI1	21100	2535	22.59	24.00	1.384	-	-	0.02	0.048	0.066
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI1	21100	2535	23.65	25.00	1.365	-	-	-0.14	0.181	0.247
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant1	DSI1	21100	2535	22.59	24.00	1.384	-	-	0.04	0.143	0.198
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI1	21100	2535	23.65	25.00	1.365	-	-	-0.04	0.056	0.076
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant1	DSI1	21100	2535	22.59	24.00	1.384	-	-	0.12	0.046	0.064
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant5	DSI1	21100	2535	14.29	15.00	1.178	-	-	0.06	0.325	0.383
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant5	DSI1	21100	2535	14.17	15.00	1.211	-	-	-0.15	0.254	0.307
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant5	DSI1	21100	2535	14.29	15.00	1.178	-	-	0.09	0.398	0.469
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant5	DSI1	21100	2535	14.17	15.00	1.211	-	-	0.07	0.313	0.379
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant5	DSI1	21100	2535	14.29	15.00	1.178	-	-	0.03	0.129	0.152
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant5	DSI1	21100	2535	14.17	15.00	1.211	-	-	-0.03	0.117	0.142
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant5	DSI1	21100	2535	14.29	15.00	1.178	-	-	0.06	0.210	0.247
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant5	DSI1	21100	2535	14.17	15.00	1.211	-	-	0.18	0.166	0.201
	LTE Band 38	20M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI1	38000	2595	25.00	25.50	1.122	62.9	1.006	0.02	0.044	0.050
	LTE Band 38	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI1	38000	2595	23.94	24.50	1.138	62.9	1.006	0.02	0.034	0.039
	LTE Band 38	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI1	38000	2595	25.00	25.50	1.122	62.9	1.006	-0.06	0.023	0.026
	LTE Band 38	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI1	38000	2595	23.94	24.50	1.138	62.9	1.006	0.17	0.019	0.022
	LTE Band 38	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	38000	2595	25.00	25.50	1.122	62.9	1.006	-0.06	0.120	0.135
	LTE Band 38C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	38000+ 38198	2595+ 2554.8	24.87	25.50	1.156	62.9	1.006	0.03	0.112	0.130
	LTE Band 38	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI1	38000	2595	23.94	24.50	1.138	62.9	1.006	0.04	0.090	0.103
	LTE Band 38	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI1	38000	2595	25.00	25.50	1.122	62.9	1.006	-0.06	0.026	0.029
	LTE Band 38	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI1	38000	2595	23.94	24.50	1.138	62.9	1.006	0.15	0.022	0.025
	LTE Band 38	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	38000	2595	18.19	18.50	1.074	62.9	1.006	0.05	0.400	0.432
15	LTE Band 38	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	38000	2595	18.17	18.50	1.079	62.9	1.006	0.01	0.402	**0.436**
	LTE Band 38C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	38000+ 38198	2595+ 2554.8	18.13	18.50	1.089	62.9	1.006	0.02	0.389	0.426
	LTE Band 38	20M	QPSK	1	0	-	Right Tilted	0mm	Ant3	DSI1	38000	2595	18.19	18.50	1.074	62.9	1.006	-0.17	0.115	0.124
	LTE Band 38	20M	QPSK	50	0	-	Right Tilted	0mm	Ant3	DSI1	38000	2595	18.17	18.50	1.079	62.9	1.006	0.04	0.116	0.126
	LTE Band 38	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	38000	2595	18.19	18.50	1.074	62.9	1.006	-0.1	0.373	0.403
	LTE Band 38	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	38000	2595	18.17	18.50	1.079	62.9	1.006	0.01	0.376	0.408
	LTE Band 38	20M	QPSK	1	0	-	Left Tilted	0mm	Ant3	DSI1	38000	2595	18.19	18.50	1.074	62.9	1.006	0.08	0.053	0.057
	LTE Band 38	20M	QPSK	50	0	-	Left Tilted	0mm	Ant3	DSI1	38000	2595	18.17	18.50	1.079	62.9	1.006	0.08	0.369	0.401
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI1	40620	2593	25.07	25.50	1.104	62.9	1.006	0.06	0.111	0.123
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI1	40620	2593	24.06	24.50	1.107	62.9	1.006	0.12	0.093	0.104
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI1	40620	2593	25.07	25.50	1.104	62.9	1.006	0.05	0.091	0.101
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI1	40620	2593	24.06	24.50	1.107	62.9	1.006	0.02	0.077	0.086
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI1	40620	2593	25.07	25.50	1.104	62.9	1.006	0.04	0.284	0.315
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI1	40620	2593	24.06	24.50	1.107	62.9	1.006	0.05	0.237	0.264
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI1	40620	2593	25.07	25.50	1.104	62.9	1.006	-0.19	0.073	0.081
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI1	40620	2593	24.06	24.50	1.107	62.9	1.006	-0.07	0.062	0.069
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	40620	2593	20.14	20.50	1.086	62.9	1.006	0.15	0.708	0.774
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	39750	2506	20.13	20.50	1.089	62.9	1.006	0.06	0.504	0.552
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	40185	2549.5	19.99	20.50	1.125	62.9	1.006	0.12	0.540	0.611
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	41055	2636.5	20.06	20.50	1.107	62.9	1.006	0.05	0.630	0.701
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant3	DSI1	41490	2680	20.05	20.50	1.109	62.9	1.006	0.02	0.609	0.680
16	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	40620	2593	20.13	20.50	1.089	62.9	1.006	0.02	0.725	**0.794**
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	39750	2506	20.09	20.50	1.099	62.9	1.006	0.12	0.676	0.747
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	40185	2549.5	19.99	20.50	1.125	62.9	1.006	0.05	0.249	0.282
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	41055	2636.5	19.85	20.50	1.161	62.9	1.006	0.02	0.653	0.763
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant3	DSI1	41490	2680	19.86	20.50	1.159	62.9	1.006	0.05	0.585	0.682

	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant3	DSI1	40620	2593	20.11	20.50	1.094	62.9	1.006	0.07	0.682	0.751
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant3	DSI1	40620	2593	20.14	20.50	1.086	62.9	1.006	0.17	0.220	0.240
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant3	DSI1	40620	2593	20.13	20.50	1.089	62.9	1.006	0.03	0.230	0.252
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	40620	2593	20.14	20.50	1.086	62.9	1.006	0.07	0.690	0.754
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	39750	2506	20.13	20.50	1.089	62.9	1.006	0.06	0.457	0.501
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	40185	2549.5	19.99	20.50	1.125	62.9	1.006	0.04	0.474	0.536
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	41055	2636.5	20.06	20.50	1.107	62.9	1.006	0.02	0.530	0.590
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant3	DSI1	41490	2680	20.05	20.50	1.109	62.9	1.006	0.01	0.526	0.587
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	40620	2593	20.13	20.50	1.089	62.9	1.006	0.16	0.718	0.787
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	39750	2506	20.09	20.50	1.099	62.9	1.006	0.06	0.469	0.519
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	40185	2549.5	19.99	20.50	1.125	62.9	1.006	0.12	0.489	0.553
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	41055	2636.5	19.85	20.50	1.161	62.9	1.006	0.05	0.529	0.618
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant3	DSI1	41490	2680	19.86	20.50	1.159	62.9	1.006	0.02	0.526	0.613
	LTE Band 41	20M	QPSK	100	0	-	Left Cheek	0mm	Ant3	DSI1	40620	2593	20.11	20.50	1.094	62.9	1.006	0.06	0.511	0.562
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant3	DSI1	40620	2593	20.14	20.50	1.086	62.9	1.006	0.19	0.109	0.119
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant3	DSI1	40620	2593	20.13	20.50	1.089	62.9	1.006	-0.05	0.112	0.123
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant5	DSI1	507000	2535	16.45	17.00	1.135	-	-	0.09	0.583	0.662
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant5	DSI1	507000	2535	16.39	17.00	1.151	-	-	-0.02	0.576	0.663
17	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	507000	2535	16.45	17.00	1.135	-	-	-0.19	0.743	**0.843**
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	502000	2510	16.29	17.00	1.178	-	-	0.04	0.710	0.836
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	512000	2560	16.33	17.00	1.167	-	-	0.07	0.720	0.840
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	507000	2535	16.39	17.00	1.151	-	-	0.04	0.715	0.823
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	502000	2510	16.21	17.00	1.199	-	-	0.06	0.687	0.824
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	512000	2560	16.23	17.00	1.194	-	-	0.06	0.697	0.832
	FR1 n7	20M	QPSK	100	0	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant5	DSI1	507000	2535	16.30	17.00	1.175	-	-	-0.16	0.710	0.834
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant5	DSI1	507000	2535	16.45	17.00	1.135	-	-	0.02	0.324	0.368
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant5	DSI1	507000	2535	16.39	17.00	1.151	-	-	0.18	0.340	0.391
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant5	DSI1	507000	2535	16.45	17.00	1.135	-	-	0.18	0.432	0.490
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant5	DSI1	507000	2535	16.39	17.00	1.151	-	-	0.18	0.440	0.506
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant1	DSI1	507000	2535	23.51	25.00	1.409	-	-	0.04	0.385	0.543
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant1	DSI1	507000	2535	23.35	25.00	1.462	-	-	0.02	0.366	0.535
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant1	DSI1	507000	2535	23.51	25.00	1.409	-	-	0.15	0.089	0.125
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant1	DSI1	507000	2535	23.35	25.00	1.462	-	-	0.07	0.084	0.123
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant1	DSI1	507000	2535	23.51	25.00	1.409	-	-	-0.13	0.173	0.244
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant1	DSI1	507000	2535	23.35	25.00	1.462	-	-	0.04	0.171	0.250
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant1	DSI1	507000	2535	23.51	25.00	1.409	-	-	-0.09	0.082	0.116
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant1	DSI1	507000	2535	23.35	25.00	1.462	-	-	-0.02	0.085	0.124
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	519000	2595	15.55	16.50	1.245	-	-	0.04	0.677	0.843
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	516000	2580	15.40	16.50	1.288	-	-	0.09	0.622	0.801
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	522000	2610	15.22	16.50	1.343	-	-	0.06	0.641	0.861
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	519000	2595	15.42	16.50	1.282	-	-	-0.16	0.698	0.895
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	516000	2580	15.18	16.50	1.355	-	-	0.15	0.625	0.847
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	522000	2610	15.31	16.50	1.315	-	-	0.07	0.656	0.863
	FR1 n38	20M	QPSK	50	0	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	519000	2595	15.44	16.50	1.276	-	-	0.02	0.652	0.832
18	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	519000	2595	15.55	16.50	1.245	-	-	0.02	0.778	**0.968**
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	516000	2580	15.40	16.50	1.288	-	-	0.02	0.751	0.967
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	522000	2610	15.22	16.50	1.343	-	-	0.08	0.713	0.957
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	519000	2595	15.42	16.50	1.282	-	-	-0.1	0.753	0.966
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	516000	2580	15.18	16.50	1.355	-	-	-0.04	0.712	0.965
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	522000	2610	15.31	16.50	1.315	-	-	-0.06	0.726	0.955
	FR1 n38	20M	QPSK	50	0	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	519000	2595	15.44	16.50	1.276	-	-	0.05	0.712	0.909
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant5	DSI1	519000	2595	15.55	16.50	1.245	-	-	0.01	0.408	0.508
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant5	DSI1	519000	2595	15.42	16.50	1.282	-	-	-0.18	0.423	0.542
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant5	DSI1	519000	2595	15.55	16.50	1.245	-	-	0.17	0.493	0.614
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant5	DSI1	519000	2595	15.42	16.50	1.282	-	-	0.02	0.500	0.641
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant1	DSI1	519000	2595	23.74	25.50	1.500	-	-	-0.08	0.240	0.360

	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant1	DSI1	519000	2595	23.70	25.50	1.514	-	-	-0.09	0.220	0.333
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant1	DSI1	519000	2595	23.74	25.50	1.500	-	-	-0.15	0.053	0.079
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant1	DSI1	519000	2595	23.70	25.50	1.514	-	-	0.05	0.051	0.077
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant1	DSI1	519000	2595	23.74	25.50	1.500	-	-	0.1	0.113	0.169
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant1	DSI1	519000	2595	23.70	25.50	1.514	-	-	0.09	0.110	0.166
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant1	DSI1	519000	2595	23.74	25.50	1.500	-	-	0.05	0.065	0.097
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant1	DSI1	519000	2595	23.70	25.50	1.514	-	-	-0.09	0.064	0.097
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	518598	2592.99	16.11	16.50	1.094	-	-	0.05	0.534	0.584
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant5	DSI1	518598	2592.99	15.85	16.50	1.161	-	-	0.02	0.559	0.649
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	518598	2592.99	16.11	16.50	1.094	-	-	0.06	0.735	0.804
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	509202	2546.01	15.88	16.50	1.153	-	-	0.07	0.679	0.783
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	528000	2640	15.79	16.50	1.178	-	-	-0.13	0.674	0.794
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	518598	2592.99	15.85	16.50	1.161	-	-	0.03	0.731	0.849
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	509202	2546.01	15.82	16.50	1.169	-	-	0.18	0.540	0.632
19	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	528000	2640	15.78	16.50	1.180	-	-	0.09	0.812	**0.958**
	FR1 n41	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant5	DSI1	518598	2592.99	15.55	16.50	1.245	-	-	-0.12	0.700	0.871
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant5	DSI1	518598	2592.99	16.11	16.50	1.094	-	-	-0.04	0.320	0.350
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant5	DSI1	518598	2592.99	15.85	16.50	1.161	-	-	-0.11	0.356	0.413
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant5	DSI1	518598	2592.99	16.11	16.50	1.094	-	-	0.1	0.360	0.394
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant5	DSI1	518598	2592.99	15.85	16.50	1.161	-	-	0.05	0.414	0.481
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant1	DSI1	518598	2592.99	24.00	25.50	1.413	-	-	-0.06	0.327	0.462
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant1	DSI1	518598	2592.99	23.89	25.50	1.449	-	-	-0.1	0.217	0.314
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant1	DSI1	518598	2592.99	24.00	25.50	1.413	-	-	0.04	0.064	0.090
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant1	DSI1	518598	2592.99	23.89	25.50	1.449	-	-	-0.11	0.045	0.065
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant1	DSI1	518598	2592.99	24.00	25.50	1.413	-	-	0.07	0.147	0.208
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant1	DSI1	518598	2592.99	23.89	25.50	1.449	-	-	0.08	0.100	0.145
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant1	DSI1	518598	2592.99	24.00	25.50	1.413	-	-	0.19	0.064	0.090
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant1	DSI1	518598	2592.99	23.89	25.50	1.449	-	-	0.08	0.051	0.074

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)
3500MHz~3900MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant6	DSI1	42590	3500	17.29	18.50	1.321	62.9	1.006	0.04	0.398	0.529
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant6	DSI1	42590	3500	17.20	18.50	1.349	62.9	1.006	0.04	0.408	0.554
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant6	DSI1	42590	3500	17.29	18.50	1.321	62.9	1.006	0.14	0.439	0.584
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant6	DSI1	42590	3500	17.20	18.50	1.349	62.9	1.006	-0.06	0.456	0.619
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant6	DSI1	42590	3500	17.29	18.50	1.321	62.9	1.006	0.05	0.473	0.629
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant6	DSI1	42590	3500	17.20	18.50	1.349	62.9	1.006	0.19	0.498	0.676
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant6	DSI1	42590	3500	17.29	18.50	1.321	62.9	1.006	0.05	0.561	0.746
20	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant6	DSI1	42590	3500	17.20	18.50	1.349	62.9	1.006	-0.08	0.567	**0.769**
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant12	DSI1	42590	3500	20.36	20.50	1.033	62.9	1.006	-0.14	0.413	0.429
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant12	DSI1	42590	3500	20.34	20.50	1.038	62.9	1.006	0.05	0.424	0.443
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant12	DSI1	42590	3500	20.36	20.50	1.033	62.9	1.006	0.04	0.424	0.441
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant12	DSI1	42590	3500	20.34	20.50	1.038	62.9	1.006	0.15	0.552	0.576
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant12	DSI1	42590	3500	20.36	20.50	1.033	62.9	1.006	0.01	0.251	0.261
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant12	DSI1	42590	3500	20.34	20.50	1.038	62.9	1.006	-0.09	0.262	0.273
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant12	DSI1	42590	3500	20.36	20.50	1.033	62.9	1.006	0.03	0.267	0.277
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant12	DSI1	42590	3500	20.34	20.50	1.038	62.9	1.006	-0.09	0.269	0.281
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	656000	3840	17.84	18.50	1.164	-	-	0.07	0.414	0.482
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	656000	3840	17.75	18.50	1.189	-	-	0.1	0.424	0.504
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	656000	3840	17.84	18.50	1.164	-	-	0.02	0.471	0.548
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	656000	3840	17.75	18.50	1.189	-	-	0.14	0.457	0.543
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	656000	3840	17.84	18.50	1.164	-	-	0.06	0.550	0.640
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	656000	3840	17.75	18.50	1.189	-	-	0.04	0.517	0.614
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	656000	3840	17.84	18.50	1.164	-	-	0.02	0.587	0.683
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	656000	3840	17.75	18.50	1.189	-	-	-0.16	0.580	0.689
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	-0.09	0.281	0.331
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	0.11	0.330	0.392
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	0.18	0.307	0.362
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	-0.09	0.347	0.412
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	0.09	0.356	0.419
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	0.03	0.421	0.500
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	0.03	0.398	0.469
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	0.01	0.469	0.557
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	656000	3840	20.18	20.50	1.076	-	-	0.04	0.235	0.253
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	656000	3840	20.15	20.50	1.084	-	-	-0.03	0.197	0.214
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	656000	3840	20.18	20.50	1.076	-	-	0.03	0.224	0.241
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	656000	3840	20.15	20.50	1.084	-	-	-0.02	0.197	0.214
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	656000	3840	20.18	20.50	1.076	-	-	0.05	0.113	0.122
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	656000	3840	20.15	20.50	1.084	-	-	0.03	0.111	0.120
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	656000	3840	20.18	20.50	1.076	-	-	0.08	0.132	0.142
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	656000	3840	20.15	20.50	1.084	-	-	-0.18	0.128	0.139
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.19	20.50	1.074	-	-	0.04	0.724	0.778
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.04	20.50	1.112	-	-	0.08	0.699	0.777
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.19	20.50	1.074	-	-	0.02	0.829	0.890
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.04	20.50	1.112	-	-	0.01	0.675	0.750
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.01	20.50	1.119	-	-	0.01	0.806	0.902
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.19	20.50	1.074	-	-	0.07	0.452	0.485
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.04	20.50	1.112	-	-	0.06	0.403	0.448
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.19	20.50	1.074	-	-	0.08	0.468	0.503
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.04	20.50	1.112	-	-	0.09	0.379	0.421
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	656000	3840	14.79	16.00	1.321	-	-	-0.07	0.127	0.168

	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	656000	3840	14.77	16.00	1.327	-	-	0.04	0.140	0.186
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	656000	3840	14.79	16.00	1.321	-	-	0.08	0.130	0.172
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	656000	3840	14.77	16.00	1.327	-	-	0.01	0.135	0.179
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	656000	3840	14.79	16.00	1.321	-	-	-0.09	0.561	0.741
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	656000	3840	14.77	16.00	1.327	-	-	0.17	0.550	0.730
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	656000	3840	14.79	16.00	1.321	-	-	0.04	0.334	0.441
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	656000	3840	14.77	16.00	1.327	-	-	0.06	0.345	0.458
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	633334	3500.01	15.03	16.00	1.250	-	-	-0.03	0.117	0.146
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	633334	3500.01	14.90	16.00	1.288	-	-	0.19	0.104	0.134
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	633334	3500.01	15.03	16.00	1.250	-	-	0.17	0.123	0.154
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	633334	3500.01	14.90	16.00	1.288	-	-	-0.03	0.115	0.148
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	633334	3500.01	15.03	16.00	1.250	-	-	0.04	0.433	0.541
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	633334	3500.01	14.90	16.00	1.288	-	-	-0.17	0.404	0.520
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	633334	3500.01	15.03	16.00	1.250	-	-	0.08	0.257	0.321
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	633334	3500.01	14.90	16.00	1.288	-	-	0.15	0.228	0.294
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	656000	3840	16.07	17.00	1.239	-	-	0.18	0.735	0.911
21	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	656000	3840	16.03	17.00	1.250	-	-	-0.14	0.749	**0.936**
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	656000	3840	16.02	17.00	1.253	-	-	-0.04	0.722	0.905
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	656000	3840	16.07	17.00	1.239	-	-	0.03	0.225	0.279
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	656000	3840	16.03	17.00	1.250	-	-	0.05	0.287	0.359
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	656000	3840	16.07	17.00	1.239	-	-	-0.15	0.183	0.227
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	656000	3840	16.03	17.00	1.250	-	-	0.07	0.208	0.260
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	656000	3840	16.07	17.00	1.239	-	-	0.03	0.105	0.130
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	656000	3840	16.03	17.00	1.250	-	-	0.15	0.113	0.141
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	633334	3500.01	15.99	17.00	1.262	-	-	0.02	0.473	0.597
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	633334	3500.01	15.97	17.00	1.268	-	-	0.04	0.403	0.511
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	633334	3500.01	15.99	17.00	1.262	-	-	-0.08	0.132	0.167
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	633334	3500.01	15.97	17.00	1.268	-	-	0.07	0.113	0.143
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	633334	3500.01	15.99	17.00	1.262	-	-	0.13	0.106	0.134
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	633334	3500.01	15.97	17.00	1.268	-	-	0.12	0.088	0.112
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	633334	3500.01	15.99	17.00	1.262	-	-	0.08	0.080	0.101
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	633334	3500.01	15.97	17.00	1.268	-	-	0.01	0.073	0.093
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	650000	3750	17.77	18.50	1.183	-	-	0.08	0.550	0.651
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	650000	3750	17.64	18.50	1.219	-	-	-0.17	0.533	0.650
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	650000	3750	17.77	18.50	1.183	-	-	0.09	0.616	0.729
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	650000	3750	17.64	18.50	1.219	-	-	-0.14	0.596	0.727
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	650000	3750	17.77	18.50	1.183	-	-	0.06	0.683	0.808
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	650000	3750	17.64	18.50	1.219	-	-	0.05	0.681	0.830
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	650000	3750	17.56	18.50	1.242	-	-	0.01	0.663	0.823
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	650000	3750	17.77	18.50	1.183	-	-	-0.01	0.779	0.922
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	650000	3750	17.64	18.50	1.219	-	-	0.18	0.753	0.918
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	650000	3750	17.56	18.50	1.242	-	-	0.02	0.752	0.934
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	-0.18	0.480	0.565
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	0.15	0.441	0.524
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	0.07	0.592	0.697
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	-0.02	0.547	0.650
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	0.06	0.734	0.864
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	0.13	0.612	0.727
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	633334	3500.01	17.73	18.50	1.194	-	-	0.08	0.722	0.862
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	633334	3500.01	17.79	18.50	1.178	-	-	0.03	0.763	0.899
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	633334	3500.01	17.75	18.50	1.189	-	-	-0.08	0.699	0.831
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	633334	3500.01	17.73	18.50	1.194	-	-	-0.17	0.591	0.706
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	650000	3750	15.27	16.00	1.183	-	-	0.07	0.259	0.306
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant6	DSI1	650000	3750	15.14	16.00	1.219	-	-	0.1	0.250	0.305
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	650000	3750	15.27	16.00	1.183	-	-	0.06	0.289	0.342
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant6	DSI1	650000	3750	15.14	16.00	1.219	-	-	0.06	0.280	0.341

	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	650000	3750	15.27	16.00	1.183	-	-	0.08	0.321	0.380
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant6	DSI1	650000	3750	15.14	16.00	1.219	-	-	0.04	0.320	0.390
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	650000	3750	15.27	16.00	1.183	-	-	0.07	0.366	0.433
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant6	DSI1	650000	3750	15.14	16.00	1.219	-	-	-0.09	0.356	0.434
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI1	633334	3500.01	15.29	16.00	1.178	-	-	0.09	0.181	0.213
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI1	633334	3500.01	15.25	16.00	1.189	-	-	0.11	0.184	0.219
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI1	633334	3500.01	15.29	16.00	1.178	-	-	0.1	0.178	0.210
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI1	633334	3500.01	15.25	16.00	1.189	-	-	0.07	0.208	0.247
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI1	633334	3500.01	15.29	16.00	1.178	-	-	0.03	0.198	0.233
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI1	633334	3500.01	15.25	16.00	1.189	-	-	0.02	0.253	0.301
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI1	633334	3500.01	15.29	16.00	1.178	-	-	-0.05	0.243	0.286
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI1	633334	3500.01	15.25	16.00	1.189	-	-	-0.13	0.260	0.309
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	650000	3750	20.37	20.50	1.030	-	-	0.05	0.359	0.370
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	650000	3750	20.36	20.50	1.033	-	-	0.09	0.256	0.264
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	650000	3750	20.37	20.50	1.030	-	-	0.02	0.297	0.306
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	650000	3750	20.36	20.50	1.033	-	-	-0.15	0.208	0.215
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	650000	3750	20.37	20.50	1.030	-	-	0.01	0.169	0.174
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	650000	3750	20.36	20.50	1.033	-	-	0.15	0.127	0.131
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	650000	3750	20.37	20.50	1.030	-	-	-0.17	0.152	0.157
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	650000	3750	20.36	20.50	1.033	-	-	-0.04	0.152	0.157
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.35	20.50	1.035	-	-	-0.01	0.705	0.730
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.24	20.50	1.062	-	-	0.07	0.671	0.712
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.35	20.50	1.035	-	-	0.12	0.699	0.724
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.24	20.50	1.062	-	-	-0.15	0.666	0.707
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.35	20.50	1.035	-	-	0.15	0.402	0.416
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	633334	3500.01	20.24	20.50	1.062	-	-	-0.08	0.372	0.395
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.35	20.50	1.035	-	-	-0.09	0.418	0.433
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	633334	3500.01	20.24	20.50	1.062	-	-	-0.14	0.353	0.375
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	650000	3750	17.37	17.50	1.030	-	-	-0.1	0.166	0.171
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	650000	3750	17.36	17.50	1.033	-	-	-0.01	0.137	0.141
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	650000	3750	17.37	17.50	1.030	-	-	0.01	0.186	0.192
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	650000	3750	17.36	17.50	1.033	-	-	-0.02	0.138	0.143
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	650000	3750	17.37	17.50	1.030	-	-	-0.11	0.105	0.108
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	650000	3750	17.36	17.50	1.033	-	-	-0.06	0.089	0.092
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	650000	3750	17.37	17.50	1.030	-	-	-0.11	0.096	0.099
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	650000	3750	17.36	17.50	1.033	-	-	0.09	0.087	0.090
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	633334	3500.01	17.35	17.50	1.035	-	-	0.07	0.350	0.362
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI1	633334	3500.01	17.24	17.50	1.062	-	-	-0.05	0.333	0.354
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	17.35	17.50	1.035	-	-	0.06	0.347	0.359
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI1	633334	3500.01	17.24	17.50	1.062	-	-	-0.09	0.331	0.351
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	633334	3500.01	17.35	17.50	1.035	-	-	0.01	0.200	0.207
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI1	633334	3500.01	17.24	17.50	1.062	-	-	0.04	0.185	0.196
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	633334	3500.01	17.35	17.50	1.035	-	-	0.04	0.207	0.214
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI1	633334	3500.01	17.24	17.50	1.062	-	-	-0.19	0.175	0.186
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	650000	3750	16.22	17.00	1.197	-	-	0.07	0.173	0.207
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	650000	3750	16.21	17.00	1.199	-	-	-0.05	0.216	0.259
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	650000	3750	16.22	17.00	1.197	-	-	0.04	0.171	0.205
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	650000	3750	16.21	17.00	1.199	-	-	0.02	0.205	0.246
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	16.22	17.00	1.197	-	-	0.08	0.837	1.002
22	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	16.21	17.00	1.199	-	-	0.07	0.909	**1.090**
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	16.15	17.00	1.216	-	-	-0.16	0.852	1.036
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	650000	3750	16.22	17.00	1.197	-	-	0.18	0.425	0.509
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	650000	3750	16.21	17.00	1.199	-	-	-0.01	0.540	0.648
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	633334	3500.01	16.05	17.00	1.245	-	-	0.08	0.182	0.227
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	633334	3500.01	16.00	17.00	1.259	-	-	0.02	0.143	0.180
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	633334	3500.01	16.05	17.00	1.245	-	-	0.17	0.204	0.254

	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	633334	3500.01	16.00	17.00	1.259	-	-	-0.01	0.157	0.198
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	633334	3500.01	16.05	17.00	1.245	-	-	0.04	0.673	0.838
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	633334	3500.01	16.00	17.00	1.259	-	-	0.13	0.501	0.631
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	633334	3500.01	16.05	17.00	1.245	-	-	0.05	0.419	0.521
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	633334	3500.01	16.00	17.00	1.259	-	-	0.05	0.334	0.420
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	650000	3750	12.92	14.00	1.282	-	-	0.02	0.071	0.091
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	650000	3750	12.87	14.00	1.297	-	-	0.18	0.089	0.115
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	650000	3750	12.92	14.00	1.282	-	-	-0.12	0.070	0.090
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	650000	3750	12.87	14.00	1.297	-	-	0.02	0.084	0.109
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	12.92	14.00	1.282	-	-	-0.18	0.345	0.442
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	12.87	14.00	1.297	-	-	-0.05	0.375	0.486
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	650000	3750	12.92	14.00	1.282	-	-	-0.12	0.175	0.224
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	650000	3750	12.87	14.00	1.297	-	-	0.16	0.222	0.288
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	633334	3500.01	13.22	14.00	1.197	-	-	0.04	0.071	0.085
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI1	633334	3500.01	13.17	14.00	1.211	-	-	0.16	0.063	0.076
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	633334	3500.01	13.22	14.00	1.197	-	-	-0.13	0.079	0.095
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI1	633334	3500.01	13.17	14.00	1.211	-	-	-0.17	0.070	0.085
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	633334	3500.01	13.22	14.00	1.197	-	-	0.03	0.292	0.349
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	633334	3500.01	13.17	14.00	1.211	-	-	0.03	0.241	0.292
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	633334	3500.01	13.22	14.00	1.197	-	-	0.04	0.160	0.191
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI1	633334	3500.01	13.17	14.00	1.211	-	-	0.19	0.142	0.172
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	650000	3750	16.73	18.00	1.340	-	-	-0.04	0.590	0.790
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	650000	3750	16.70	18.00	1.349	-	-	-0.01	0.705	0.951
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	650000	3750	16.66	18.00	1.361	-	-	0.02	0.389	0.530
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	650000	3750	16.73	18.00	1.340	-	-	0.06	0.183	0.245
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	650000	3750	16.70	18.00	1.349	-	-	-0.05	0.207	0.279
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	650000	3750	16.73	18.00	1.340	-	-	0.03	0.169	0.226
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	650000	3750	16.70	18.00	1.349	-	-	0.06	0.152	0.205
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	650000	3750	16.73	18.00	1.340	-	-	0.19	0.106	0.142
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	650000	3750	16.70	18.00	1.349	-	-	-0.08	0.115	0.155
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	633334	3500.01	16.69	18.00	1.352	-	-	0.03	0.588	0.795
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	633334	3500.01	16.66	18.00	1.361	-	-	0.05	0.562	0.765
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	633334	3500.01	16.69	18.00	1.352	-	-	-0.11	0.174	0.235
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	633334	3500.01	16.66	18.00	1.361	-	-	-0.11	0.142	0.193
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	633334	3500.01	16.69	18.00	1.352	-	-	0.02	0.132	0.178
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	633334	3500.01	16.66	18.00	1.361	-	-	0.02	0.115	0.157
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	633334	3500.01	16.69	18.00	1.352	-	-	0.04	0.107	0.145
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	633334	3500.01	16.66	18.00	1.361	-	-	0.01	0.082	0.112
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	650000	3750	13.23	14.50	1.340	-	-	0.08	0.262	0.351
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant4	DSI1	650000	3750	13.20	14.50	1.349	-	-	-0.05	0.313	0.422
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	650000	3750	13.23	14.50	1.340	-	-	-0.16	0.081	0.109
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant4	DSI1	650000	3750	13.20	14.50	1.349	-	-	-0.16	0.092	0.124
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	650000	3750	13.23	14.50	1.340	-	-	-0.17	0.075	0.100
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant4	DSI1	650000	3750	13.20	14.50	1.349	-	-	0.07	0.068	0.092
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	650000	3750	13.23	14.50	1.340	-	-	0.08	0.047	0.063
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant4	DSI1	650000	3750	13.20	14.50	1.349	-	-	-0.02	0.051	0.069
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 4	DSI1	633334	3500.01	13.19	14.50	1.352	-	-	0.03	0.271	0.366
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 4	DSI1	633334	3500.01	13.16	14.50	1.361	-	-	0.1	0.226	0.308
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 4	DSI1	633334	3500.01	13.19	14.50	1.352	-	-	-0.05	0.073	0.099
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 4	DSI1	633334	3500.01	13.16	14.50	1.361	-	-	0.16	0.066	0.090
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 4	DSI1	633334	3500.01	13.19	14.50	1.352	-	-	0.03	0.051	0.069
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 4	DSI1	633334	3500.01	13.16	14.50	1.361	-	-	-0.05	0.049	0.067
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 4	DSI1	633334	3500.01	13.19	14.50	1.352	-	-	0.01	0.053	0.072
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 4	DSI1	633334	3500.01	13.16	14.50	1.361	-	-	0.05	0.038	0.052

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	Ant7+9	Standalone	1	2412	18.45	19.00	1.135	85.9	1.164	-0.15	0.189	0.250
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant7+9	Standalone	1	2412	18.45	19.00	1.135	85.9	1.164	0.09	0.223	0.295
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant7+9	Standalone	1	2412	18.45	19.00	1.135	85.9	1.164	0.02	0.531	0.702
23	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant7+9	Standalone	6	2437	18.39	19.00	1.151	85.9	1.164	0.06	0.685	**0.918**
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant7+9	Standalone	1	2412	18.45	19.00	1.135	85.9	1.164	-0.15	0.335	0.443
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant7+9	Simultaneous	1	2412	15.38	16.00	1.153	85.9	1.164	0.18	0.100	0.134
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant7+9	Simultaneous	1	2412	15.38	16.00	1.153	85.9	1.164	-0.13	0.118	0.158
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant7+9	Simultaneous	1	2412	15.38	16.00	1.153	85.9	1.164	0.13	0.281	0.377
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant7+9	Simultaneous	6	2437	15.36	16.00	1.159	85.9	1.164	0.02	0.362	0.488
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant7+9	Simultaneous	1	2412	15.38	16.00	1.153	85.9	1.164	0.06	0.177	0.238
	Bluetooth	1Mbps	Right Cheek	0mm	Ant7	Standalone	39	2441	15.99	17.00	1.262	76.6	1.087	0.16	0.219	0.300
	Bluetooth	1Mbps	Right Tilted	0mm	Ant7	Standalone	39	2441	15.99	17.00	1.262	76.6	1.087	0.19	0.294	0.403
	Bluetooth	1Mbps	Left Cheek	0mm	Ant7	Standalone	39	2441	15.99	17.00	1.262	76.6	1.087	0.08	0.436	0.598
	Bluetooth	1Mbps	Left Tilted	0mm	Ant7	Standalone	39	2441	15.99	17.00	1.262	76.6	1.087	0.04	0.412	0.565
	Bluetooth	1Mbps	Right Cheek	0mm	Ant7	Simultaneous	39	2441	10.10	11.00	1.230	76.6	1.087	0.06	0.082	0.110
	Bluetooth	1Mbps	Right Tilted	0mm	Ant7	Simultaneous	39	2441	10.10	11.00	1.230	76.6	1.087	-0.1	0.110	0.147
	Bluetooth	1Mbps	Left Cheek	0mm	Ant7	Simultaneous	39	2441	10.10	11.00	1.230	76.6	1.087	0.02	0.163	0.218
	Bluetooth	1Mbps	Left Tilted	0mm	Ant7	Simultaneous	39	2441	10.10	11.00	1.230	76.6	1.087	0.18	0.154	0.206
	Bluetooth	1Mbps	Right Cheek	0mm	Ant9	Standalone	39	2441	14.42	15.00	1.143	77.13	1.080	0.03	0.244	0.301
	Bluetooth	1Mbps	Right Tilted	0mm	Ant9	Standalone	39	2441	14.42	15.00	1.143	77.13	1.080	0.11	0.044	0.054
24	Bluetooth	1Mbps	Left Cheek	0mm	Ant9	Standalone	39	2441	14.42	15.00	1.143	77.13	1.080	0.03	0.665	**0.821**
	Bluetooth	1Mbps	Left Cheek	0mm	Ant9	Standalone	00	2402	14.25	15.00	1.189	77.13	1.080	0.01	0.633	0.813
	Bluetooth	1Mbps	Left Tilted	0mm	Ant9	Standalone	39	2441	14.42	15.00	1.143	77.13	1.080	-0.16	0.114	0.141
	Bluetooth	1Mbps	Right Cheek	0mm	Ant9	Simultaneous	39	2441	7.35	8.00	1.161	77.13	1.080	0.04	0.059	0.074
	Bluetooth	1Mbps	Right Tilted	0mm	Ant9	Simultaneous	39	2441	7.35	8.00	1.161	77.13	1.080	0.06	0.011	0.014
	Bluetooth	1Mbps	Left Cheek	0mm	Ant9	Simultaneous	39	2441	7.35	8.00	1.161	77.13	1.080	-0.04	0.182	0.228
	Bluetooth	1Mbps	Left Tilted	0mm	Ant9	Simultaneous	39	2441	7.35	8.00	1.161	77.13	1.080	-0.02	0.027	0.034

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)
5000MHz																
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant7+9	Standalone	54	5270	17.61	18.50	1.227	97.2	1.029	-0.1	0.286	0.361
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant7+9	Standalone	54	5270	17.61	18.50	1.227	97.2	1.029	0.06	0.356	0.450
25	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant7+9	Standalone	54	5270	17.61	18.50	1.227	97.2	1.029	-0.04	0.750	**0.947**
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant7+9	Standalone	62	5310	16.54	17.50	1.247	97.2	1.029	0.02	0.736	0.945
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant7+9	Standalone	54	5270	17.61	18.50	1.227	97.2	1.029	0.03	0.414	0.523
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant7+9	Simultaneous	58	5290	11.55	12.50	1.245	97.4	1.027	0.15	0.059	0.075
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant7+9	Simultaneous	58	5290	11.55	12.50	1.245	97.4	1.027	0.14	0.074	0.095
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant7+9	Simultaneous	58	5290	11.55	12.50	1.245	97.4	1.027	-0.05	0.154	0.197
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant7+9	Simultaneous	58	5290	11.55	12.50	1.245	97.4	1.027	-0.18	0.085	0.109
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant7+9	Standalone	122	5610	17.86	19.00	1.300	97.4	1.027	0.01	0.450	0.601
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant7+9	Standalone	122	5610	17.86	19.00	1.300	97.4	1.027	0.04	0.570	0.761
26	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant7+9	Standalone	122	5610	17.86	19.00	1.300	97.4	1.027	-0.09	0.673	**0.899**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant7+9	Standalone	138	5690	17.75	19.00	1.334	97.4	1.027	0.13	0.550	0.753
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant7+9	Standalone	122	5610	17.86	19.00	1.300	97.4	1.027	0.12	0.637	0.851
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant7+9	Standalone	138	5690	17.75	19.00	1.334	97.4	1.027	0.03	0.625	0.856
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant7+9	Simultaneous	122	5610	13.38	14.50	1.294	97.4	1.027	0.12	0.139	0.185
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant7+9	Simultaneous	122	5610	13.38	14.50	1.294	97.4	1.027	0.08	0.176	0.234
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant7+9	Simultaneous	122	5610	13.38	14.50	1.294	97.4	1.027	0.06	0.168	0.223
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant7+9	Simultaneous	122	5610	13.38	14.50	1.294	97.4	1.027	0.04	0.197	0.262
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant7+9	Standalone	155	5775	17.18	18.00	1.208	97.4	1.027	-0.17	0.389	0.483
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant7+9	Standalone	155	5775	17.18	18.00	1.208	97.4	1.027	0.06	0.505	0.626
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant7+9	Standalone	155	5775	17.18	18.00	1.208	97.4	1.027	0.18	0.489	0.607
27	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant7+9	Standalone	155	5775	17.18	18.00	1.208	97.4	1.027	-0.03	0.762	**0.945**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant7+9	Simultaneous	155	5775	11.19	12.00	1.205	97.4	1.027	-0.05	0.093	0.115
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant7+9	Simultaneous	155	5775	11.19	12.00	1.205	97.4	1.027	0.13	0.121	0.150
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant7+9	Simultaneous	155	5775	11.19	12.00	1.205	97.4	1.027	0.18	0.117	0.145
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant7+9	Simultaneous	155	5775	11.19	12.00	1.205	97.4	1.027	-0.09	0.179	0.222

15.2 Hotspot 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	10mm	Ant1	DSI5	23095	707.5	24.95	25.50	1.135	0.04	0.206	0.234
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant1	DSI5	23095	707.5	23.92	24.50	1.143	-0.15	0.166	0.190
	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant1	DSI5	23095	707.5	24.95	25.50	1.135	-0.03	0.290	0.329
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant1	DSI5	23095	707.5	23.92	24.50	1.143	-0.02	0.231	0.264
	LTE Band 12	10M	QPSK	1	0	-	Right Side	10mm	Ant1	DSI5	23095	707.5	24.95	25.50	1.135	-0.18	0.134	0.152
	LTE Band 12	10M	QPSK	25	0	-	Right Side	10mm	Ant1	DSI5	23095	707.5	23.92	24.50	1.143	0.09	0.108	0.123
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	10mm	Ant1	DSI5	23095	707.5	24.95	25.50	1.135	0.03	0.076	0.086
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	10mm	Ant1	DSI5	23095	707.5	23.92	24.50	1.143	0.05	0.063	0.072
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant4	DSI5	23095	707.5	22.87	23.50	1.156	-0.14	0.201	0.232
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant4	DSI5	23095	707.5	22.85	23.50	1.161	0.14	0.201	0.233
	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant4	DSI5	23095	707.5	22.87	23.50	1.156	0.08	0.237	0.274
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant4	DSI5	23095	707.5	22.85	23.50	1.161	0.04	0.243	0.282
	LTE Band 12	10M	QPSK	1	0	-	Left Side	10mm	Ant4	DSI5	23095	707.5	22.87	23.50	1.156	0.08	0.316	0.365
28	LTE Band 12	10M	QPSK	25	0	-	Left Side	10mm	Ant4	DSI5	23095	707.5	22.85	23.50	1.161	-0.11	0.324	**0.376**
	LTE Band 12	10M	QPSK	1	0	-	Top Side	10mm	Ant4	DSI5	23095	707.5	22.87	23.50	1.156	-0.02	0.105	0.121
	LTE Band 12	10M	QPSK	25	0	-	Top Side	10mm	Ant4	DSI5	23095	707.5	22.85	23.50	1.161	0.12	0.109	0.127
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant1	DSI5	23230	782	24.87	25.50	1.156	-0.15	0.218	0.252
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant1	DSI5	23230	782	23.87	24.50	1.156	0.05	0.177	0.205
29	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant1	DSI5	23230	782	24.87	25.50	1.156	-0.18	0.321	**0.371**
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant1	DSI5	23230	782	23.87	24.50	1.156	-0.07	0.261	0.302
	LTE Band 13	10M	QPSK	1	0	-	Right Side	10mm	Ant1	DSI5	23230	782	24.87	25.50	1.156	0.14	0.163	0.188
	LTE Band 13	10M	QPSK	25	0	-	Right Side	10mm	Ant1	DSI5	23230	782	23.87	24.50	1.156	-0.19	0.131	0.151
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	10mm	Ant1	DSI5	23230	782	24.87	25.50	1.156	0.04	0.091	0.105
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	10mm	Ant1	DSI5	23230	782	23.87	24.50	1.156	0.15	0.080	0.092
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant4	DSI5	23230	782	23.47	24.00	1.130	0.14	0.201	0.227
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant4	DSI5	23230	782	23.45	24.00	1.135	0.08	0.215	0.244
	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant4	DSI5	23230	782	23.47	24.00	1.130	0.19	0.224	0.253
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant4	DSI5	23230	782	23.45	24.00	1.135	0.11	0.214	0.243
	LTE Band 13	10M	QPSK	1	0	-	Left Side	10mm	Ant4	DSI5	23230	782	23.47	24.00	1.130	-0.05	0.266	0.301
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant4	DSI5	23230	782	23.45	24.00	1.135	-0.18	0.245	0.278
	LTE Band 13	10M	QPSK	1	0	-	Top Side	10mm	Ant4	DSI5	23230	782	23.47	24.00	1.130	0.1	0.126	0.142
	LTE Band 13	10M	QPSK	25	0	-	Top Side	10mm	Ant4	DSI5	23230	782	23.45	24.00	1.135	0.05	0.126	0.143
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant1	DSI5	189	836.4	26.83	28.00	1.309	0.05	0.262	0.343
30	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant1	DSI5	189	836.4	26.83	28.00	1.309	-0.04	0.314	**0.411**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant1	DSI5	189	836.4	26.83	28.00	1.309	0.06	0.106	0.139
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant1	DSI5	189	836.4	26.83	28.00	1.309	0.09	0.133	0.174
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant4	DSI5	189	836.4	23.28	24.00	1.180	0.04	0.161	0.190
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant4	DSI5	189	836.4	23.28	24.00	1.180	0.01	0.178	0.210
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant4	DSI5	189	836.4	23.28	24.00	1.180	-0.16	0.168	0.198
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant4	DSI5	189	836.4	23.28	24.00	1.180	0.03	0.081	0.096
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant1	DSI5	4182	836.4	23.58	24.50	1.236	0.07	0.357	0.441
31	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant1	DSI5	4182	836.4	23.58	24.50	1.236	0.01	0.403	**0.498**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant1	DSI5	4182	836.4	23.58	24.50	1.236	0.02	0.134	0.166
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant1	DSI5	4182	836.4	23.58	24.50	1.236	0.06	0.174	0.215
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant4	DSI5	4182	836.4	21.01	22.00	1.256	0.05	0.150	0.188
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant4	DSI5	4182	836.4	21.01	22.00	1.256	0.06	0.185	0.232
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant4	DSI5	4182	836.4	21.01	22.00	1.256	0.07	0.173	0.217
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant4	DSI5	4182	836.4	21.01	22.00	1.256	-0.15	0.074	0.093
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant1	DSI5	26865	831.5	23.29	24.00	1.178	-0.08	0.258	0.304
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant1	DSI5	26865	831.5	23.28	24.00	1.180	0.09	0.261	0.308

	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant1	DSI5	26865	831.5	23.29	24.00	1.178	0.08	0.330	0.389
32	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant1	DSI5	26865	831.5	23.28	24.00	1.180	-0.01	0.334	**0.394**
	LTE Band 26	15M	QPSK	1	0	-	Right Side	10mm	Ant1	DSI5	26865	831.5	23.29	24.00	1.178	-0.04	0.126	0.148
	LTE Band 26	15M	QPSK	36	0	-	Right Side	10mm	Ant1	DSI5	26865	831.5	23.28	24.00	1.180	0.05	0.125	0.148
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	10mm	Ant1	DSI5	26865	831.5	23.29	24.00	1.178	-0.09	0.121	0.142
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant1	DSI5	26865	831.5	23.28	24.00	1.180	0.05	0.123	0.145
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant4	DSI5	26865	831.5	20.85	21.50	1.161	0.09	0.227	0.264
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant4	DSI5	26865	831.5	20.83	21.50	1.167	-0.06	0.229	0.267
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant4	DSI5	26865	831.5	20.85	21.50	1.161	0.01	0.255	0.296
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant4	DSI5	26865	831.5	20.83	21.50	1.167	-0.03	0.255	0.298
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant4	DSI5	26865	831.5	20.85	21.50	1.161	0.16	0.245	0.285
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant4	DSI5	26865	831.5	20.83	21.50	1.167	0.07	0.248	0.289
	LTE Band 26	15M	QPSK	1	0	-	Top Side	10mm	Ant4	DSI5	26865	831.5	20.85	21.50	1.161	0.17	0.126	0.146
	LTE Band 26	15M	QPSK	36	0	-	Top Side	10mm	Ant4	DSI5	26865	831.5	20.83	21.50	1.167	0.14	0.128	0.149
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	167300	836.5	22.56	23.00	1.107	-0.06	0.307	0.340
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	167300	836.5	22.49	23.00	1.125	0.04	0.314	0.353
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	10mm	Ant1	DSI5	167300	836.5	22.56	23.00	1.107	0.08	0.382	0.423
33	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	10mm	Ant1	DSI5	167300	836.5	22.49	23.00	1.125	0.01	0.385	**0.433**
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant1	DSI5	167300	836.5	22.56	23.00	1.107	0.04	0.129	0.143
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant1	DSI5	167300	836.5	22.49	23.00	1.125	-0.19	0.125	0.141
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant1	DSI5	167300	836.5	22.56	23.00	1.107	0.07	0.143	0.158
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant1	DSI5	167300	836.5	22.49	23.00	1.125	-0.02	0.136	0.153
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant4	DSI5	167300	836.5	21.67	22.00	1.079	-0.06	0.135	0.146
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	10mm	Ant4	DSI5	167300	836.5	21.65	22.00	1.084	0.14	0.156	0.169
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	10mm	Ant4	DSI5	167300	836.5	21.67	22.00	1.079	-0.01	0.177	0.191
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	10mm	Ant4	DSI5	167300	836.5	21.65	22.00	1.084	0.06	0.176	0.191
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant4	DSI5	167300	836.5	21.67	22.00	1.079	0.02	0.158	0.170
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant4	DSI5	167300	836.5	21.65	22.00	1.084	0.02	0.181	0.196
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant4	DSI5	167300	836.5	21.67	22.00	1.079	-0.11	0.068	0.073
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant4	DSI5	167300	836.5	21.65	22.00	1.084	0.15	0.078	0.085

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	Ant2	DSI5	1413	1732.6	21.46	22.50	1.271	-0.02	0.383	0.487
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant2	DSI5	1413	1732.6	21.46	22.50	1.271	0.16	0.487	0.619
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant2	DSI5	1413	1732.6	21.46	22.50	1.271	-0.16	0.150	0.191
34	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant2	DSI5	1413	1732.6	21.46	22.50	1.271	0.01	0.552	**0.701**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant3	DSI5	1413	1732.6	24.51	25.50	1.256	0.01	0.118	0.148
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant3	DSI5	1413	1732.6	24.51	25.50	1.256	-0.04	0.138	0.173
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant3	DSI5	1413	1732.6	24.51	25.50	1.256	-0.19	0.221	0.278
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant2	DSI5	132322	1745	20.12	20.50	1.091	-0.11	0.256	0.279
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant2	DSI5	132322	1745	19.98	20.50	1.127	0.01	0.258	0.291
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	132322	1745	20.12	20.50	1.091	-0.06	0.326	0.356
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant2	DSI5	132322	1745	19.98	20.50	1.127	-0.14	0.330	0.372
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant2	DSI5	132322	1745	20.12	20.50	1.091	0.07	0.099	0.108
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant2	DSI5	132322	1745	19.98	20.50	1.127	0.08	0.102	0.115
35	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant2	DSI5	132322	1745	20.12	20.50	1.091	-0.13	0.358	**0.391**
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant2	DSI5	132322	1745	19.98	20.50	1.127	0.02	0.346	0.390
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant3	DSI5	132322	1745	23.54	24.00	1.112	0.17	0.140	0.156
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant3	DSI5	132322	1745	23.53	24.00	1.114	0.05	0.113	0.126
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant3	DSI5	132322	1745	23.54	24.00	1.112	-0.18	0.147	0.163
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant3	DSI5	132322	1745	23.53	24.00	1.114	0.1	0.119	0.133
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant3	DSI5	132322	1745	23.54	24.00	1.112	-0.03	0.262	0.291
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	132322	1745	23.53	24.00	1.114	0.08	0.213	0.237
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant2	DSI5	349000	1745	21.32	21.50	1.042	-0.05	0.347	0.362
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant2	DSI5	349000	1745	21.28	21.50	1.052	-0.13	0.322	0.339
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	10mm	Ant2	DSI5	349000	1745	21.32	21.50	1.042	0.05	0.439	0.458
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant2	DSI5	349000	1745	21.28	21.50	1.052	0.05	0.448	0.471
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant2	DSI5	349000	1745	21.32	21.50	1.042	0.07	0.130	0.136
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant2	DSI5	349000	1745	21.28	21.50	1.052	0.06	0.128	0.135
36	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant2	DSI5	349000	1745	21.32	21.50	1.042	-0.05	0.492	**0.513**
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant2	DSI5	349000	1745	21.28	21.50	1.052	0.02	0.476	0.501
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant3	DSI5	349000	1745	25.24	25.50	1.062	-0.08	0.123	0.131
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant3	DSI5	349000	1745	25.22	25.50	1.067	-0.08	0.110	0.117
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	10mm	Ant3	DSI5	349000	1745	25.24	25.50	1.062	-0.14	0.124	0.132
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant3	DSI5	349000	1745	25.22	25.50	1.067	0.05	0.124	0.132
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant3	DSI5	349000	1745	25.24	25.50	1.062	0.16	0.258	0.274
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant3	DSI5	349000	1745	25.22	25.50	1.067	0.17	0.221	0.236

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 (4 Tx slots)	Front	10mm	Ant2	DSI5	661	1880	23.45	24.50	1.274	0.06	0.318	0.405
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant2	DSI5	661	1880	23.45	24.50	1.274	-0.03	0.414	0.527
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant2	DSI5	661	1880	23.45	24.50	1.274	0.05	0.162	0.206
37	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant2	DSI5	661	1880	23.45	24.50	1.274	-0.11	0.419	**0.534**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant3	DSI5	661	1880	23.45	24.50	1.274	-0.09	0.198	0.252
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant3	DSI5	661	1880	23.45	24.50	1.274	0.03	0.202	0.257
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant3	DSI5	661	1880	23.45	24.50	1.274	-0.02	0.339	0.432
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant2	DSI5	9400	1880	21.05	22.00	1.245	-0.04	0.320	0.398
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant2	DSI5	9400	1880	21.05	22.00	1.245	0.03	0.435	0.541
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant2	DSI5	9400	1880	21.05	22.00	1.245	0.15	0.171	0.213
38	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant2	DSI5	9400	1880	21.05	22.00	1.245	-0.14	0.493	**0.614**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant3	DSI5	9400	1880	21.05	22.00	1.245	-0.17	0.236	0.294
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant3	DSI5	9400	1880	21.05	22.00	1.245	-0.02	0.265	0.330
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant3	DSI5	9400	1880	21.05	22.00	1.245	-0.14	0.408	0.508
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant2	DSI5	18900	1880	21.75	22.50	1.189	0.08	0.400	0.475
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant2	DSI5	18900	1880	21.69	22.50	1.205	0.17	0.328	0.395
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	18900	1880	21.75	22.50	1.189	-0.05	0.541	0.643
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant2	DSI5	18900	1880	21.69	22.50	1.205	0.1	0.446	0.537
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant2	DSI5	18900	1880	21.75	22.50	1.189	0.07	0.191	0.227
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant2	DSI5	18900	1880	21.69	22.50	1.205	0.17	0.158	0.190
39	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant2	DSI5	18900	1880	21.75	22.50	1.189	0.03	0.591	**0.702**
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant2	DSI5	18900	1880	21.69	22.50	1.205	-0.03	0.483	0.582
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant3	DSI5	18900	1880	21.36	22.00	1.159	-0.02	0.252	0.292
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant3	DSI5	18900	1880	21.35	22.00	1.161	0.09	0.248	0.288
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant3	DSI5	18900	1880	21.36	22.00	1.159	0.06	0.241	0.279
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant3	DSI5	18900	1880	21.35	22.00	1.161	0.08	0.240	0.279
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant3	DSI5	18900	1880	21.36	22.00	1.159	0.03	0.417	0.483
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	18900	1880	21.35	22.00	1.161	0.04	0.421	0.489

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	Ant2	DSI5	21100	2535	21.32	21.50	1.042	-	-	-0.15	0.196	0.204
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant2	DSI5	21100	2535	21.30	21.50	1.047	-	-	-0.1	0.213	0.223
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	21100	2535	21.32	21.50	1.042	-	-	0.03	0.246	0.256
	LTE Band 7C	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	21100+ 21298	2535+ 2554.8	21.27	21.50	1.054	-	-	0.01	0.235	0.248
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant2	DSI5	21100	2535	21.30	21.50	1.047	-	-	0.11	0.238	0.249
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant2	DSI5	21100	2535	21.32	21.50	1.042	-	-	0.12	0.112	0.117
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant2	DSI5	21100	2535	21.30	21.50	1.047	-	-	-0.13	0.119	0.125
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant2	DSI5	21100	2535	21.32	21.50	1.042	-	-	-0.02	0.196	0.204
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant2	DSI5	21100	2535	21.30	21.50	1.047	-	-	0.12	0.204	0.214
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant3	DSI5	21100	2535	19.19	19.50	1.074	-	-	0.13	0.228	0.245
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant3	DSI5	21100	2535	19.13	19.50	1.089	-	-	0.05	0.238	0.259
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant3	DSI5	21100	2535	19.19	19.50	1.074	-	-	0.09	0.191	0.205
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant3	DSI5	21100	2535	19.13	19.50	1.089	-	-	0.06	0.201	0.219
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant3	DSI5	21100	2535	19.19	19.50	1.074	-	-	-0.07	0.241	0.259
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	21100	2535	19.13	19.50	1.089	-	-	-0.14	0.247	0.269
	LTE Band 7C	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	21100+ 21298	2535+ 2554.8	19.02	19.50	1.117	-	-	0.02	0.236	0.264
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant1	DSI5	21100	2535	21.81	23.00	1.315	-	-	-0.07	0.327	0.430
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant1	DSI5	21100	2535	21.57	23.00	1.390	-	-	-0.06	0.202	0.281

	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant1	DSI5	21100	2535	21.81	23.00	1.315	-	-	0.05	0.231	0.304
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant1	DSI5	21100	2535	21.57	23.00	1.390	-	-	0.06	0.194	0.270
	LTE Band 7	20M	QPSK	1	0	-	Right Side	10mm	Ant1	DSI5	21100	2535	21.81	23.00	1.315	-	-	0.08	0.128	0.168
	LTE Band 7	20M	QPSK	50	0	-	Right Side	10mm	Ant1	DSI5	21100	2535	21.57	23.00	1.390	-	-	-0.09	0.091	0.126
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant1	DSI5	21100	2535	21.81	23.00	1.315	-	-	-0.1	0.091	0.120
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant1	DSI5	21100	2535	21.57	23.00	1.390	-	-	-0.14	0.058	0.081
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant5	DSI5	21100	2535	19.69	20.50	1.205	-	-	-0.1	0.206	0.248
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant5	DSI5	21100	2535	19.58	20.50	1.236	-	-	-0.18	0.198	0.245
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant5	DSI5	21100	2535	19.69	20.50	1.205	-	-	0.12	0.284	0.342
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant5	DSI5	21100	2535	19.58	20.50	1.236	-	-	-0.01	0.235	0.290
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant5	DSI5	21100	2535	19.69	20.50	1.205	-	-	0.03	0.084	0.101
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant5	DSI5	21100	2535	19.58	20.50	1.236	-	-	-0.14	0.057	0.070
40	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant5	DSI5	21100	2535	19.69	20.50	1.205	-	-	0.1	0.376	**0.453**
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant5	DSI5	21100	2535	19.58	20.50	1.236	-	-	0.07	0.325	0.402
	LTE Band 38	20M	QPSK	1	0	-	Front	10mm	Ant2	DSI5	38000	2595	23.78	24.00	1.052	62.9	1.006	0.07	0.204	0.216
	LTE Band 38	20M	QPSK	50	0	-	Front	10mm	Ant2	DSI5	38000	2595	23.76	24.00	1.057	62.9	1.006	-0.18	0.203	0.216
41	LTE Band 38	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	38000	2595	23.78	24.00	1.052	62.9	1.006	0.04	0.248	**0.262**
	LTE Band 38C	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	38000+ 38198	2595+ 2554.8	23.73	24.00	1.064	62.9	1.006	0.01	0.237	0.254
	LTE Band 38	20M	QPSK	50	0	-	Back	10mm	Ant2	DSI5	38000	2595	23.76	24.00	1.057	62.9	1.006	-0.02	0.235	0.250
	LTE Band 38	20M	QPSK	1	0	-	Left Side	10mm	Ant2	DSI5	38000	2595	23.78	24.00	1.052	62.9	1.006	0.1	0.090	0.095
	LTE Band 38	20M	QPSK	50	0	-	Left Side	10mm	Ant2	DSI5	38000	2595	23.76	24.00	1.057	62.9	1.006	0.02	0.095	0.101
	LTE Band 38	20M	QPSK	1	0	-	Bottom Side	10mm	Ant2	DSI5	38000	2595	23.78	24.00	1.052	62.9	1.006	0.08	0.206	0.218
	LTE Band 38	20M	QPSK	50	0	-	Bottom Side	10mm	Ant2	DSI5	38000	2595	23.76	24.00	1.057	62.9	1.006	-0.05	0.207	0.220
	LTE Band 38	20M	QPSK	1	0	-	Front	10mm	Ant3	DSI5	38000	2595	18.19	18.50	1.074	62.9	1.006	0.06	0.106	0.115
	LTE Band 38	20M	QPSK	50	0	-	Front	10mm	Ant3	DSI5	38000	2595	18.17	18.50	1.079	62.9	1.006	-0.16	0.110	0.119
	LTE Band 38	20M	QPSK	1	0	-	Back	10mm	Ant3	DSI5	38000	2595	18.19	18.50	1.074	62.9	1.006	0.05	0.102	0.110
	LTE Band 38	20M	QPSK	50	0	-	Back	10mm	Ant3	DSI5	38000	2595	18.17	18.50	1.079	62.9	1.006	-0.16	0.104	0.113
	LTE Band 38	20M	QPSK	1	0	-	Left Side	10mm	Ant3	DSI5	38000	2595	18.19	18.50	1.074	62.9	1.006	0.14	0.117	0.126
	LTE Band 38	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	38000	2595	18.17	18.50	1.079	62.9	1.006	-0.06	0.120	0.130
	LTE Band 38C	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	38000+ 38198	2595+ 2554.8	18.13	18.50	1.089	62.9	1.006	0.03	0.108	0.118
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant2	DSI5	40620	2593	23.56	24.00	1.107	62.9	1.006	0.14	0.241	0.268
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant2	DSI5	40620	2593	23.53	24.00	1.114	62.9	1.006	0.03	0.255	0.286
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant2	DSI5	40620	2593	23.56	24.00	1.107	62.9	1.006	-0.18	0.284	0.316
42	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant2	DSI5	40620	2593	23.53	24.00	1.114	62.9	1.006	0.01	0.297	**0.333**
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant2	DSI5	40620	2593	23.56	24.00	1.107	62.9	1.006	0.04	0.121	0.135
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant2	DSI5	40620	2593	23.53	24.00	1.114	62.9	1.006	-0.06	0.131	0.147
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant2	DSI5	40620	2593	23.56	24.00	1.107	62.9	1.006	0.01	0.242	0.269
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant2	DSI5	40620	2593	23.53	24.00	1.114	62.9	1.006	0.09	0.253	0.284
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant3	DSI5	40620	2593	20.14	20.50	1.086	62.9	1.006	0.02	0.203	0.222
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant3	DSI5	40620	2593	20.13	20.50	1.089	62.9	1.006	0.04	0.214	0.234
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant3	DSI5	40620	2593	20.14	20.50	1.086	62.9	1.006	0.05	0.174	0.190
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant3	DSI5	40620	2593	20.13	20.50	1.089	62.9	1.006	-0.17	0.182	0.199
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant3	DSI5	40620	2593	20.14	20.50	1.086	62.9	1.006	0.07	0.227	0.248
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant3	DSI5	40620	2593	20.13	20.50	1.089	62.9	1.006	-0.01	0.241	0.264
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant5	DSI5	507000	2535	17.38	18.00	1.153	-	-	-0.11	0.127	0.146
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	10mm	Ant5	DSI5	507000	2535	17.32	18.00	1.169	-	-	0.16	0.138	0.161
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	10mm	Ant5	DSI5	507000	2535	17.38	18.00	1.153	-	-	0.03	0.184	0.212
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	10mm	Ant5	DSI5	507000	2535	17.32	18.00	1.169	-	-	0.01	0.179	0.209
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant5	DSI5	507000	2535	17.38	18.00	1.153	-	-	-0.13	0.061	0.070
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant5	DSI5	507000	2535	17.32	18.00	1.169	-	-	0.06	0.062	0.073
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant5	DSI5	507000	2535	17.38	18.00	1.153	-	-	0.01	0.281	0.324
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant5	DSI5	507000	2535	17.32	18.00	1.169	-	-	0.09	0.302	0.353
43	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	507000	2535	22.05	23.50	1.396	-	-	0.15	0.589	**0.822**
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	502000	2510	21.75	23.50	1.496	-	-	-0.14	0.545	0.815
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	512000	2560	21.73	23.50	1.503	-	-	0.14	0.533	0.801

	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	507000	2535	22.00	23.50	1.413	-	-	-0.11	0.558	0.788
	FR1 n7	20M	QPSK	100	0	DFT-s-OFDM SCS15KHz	Front	10mm	Ant1	DSI5	507000	2535	21.95	23.50	1.429	-	-	0.06	0.545	0.779
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	10mm	Ant1	DSI5	507000	2535	22.05	23.50	1.396	-	-	0.12	0.242	0.338
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	10mm	Ant1	DSI5	507000	2535	22.00	23.50	1.413	-	-	0.18	0.251	0.355
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant1	DSI5	507000	2535	22.05	23.50	1.396	-	-	-0.19	0.216	0.302
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant1	DSI5	507000	2535	22.00	23.50	1.413	-	-	0.07	0.221	0.312
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant1	DSI5	507000	2535	22.05	23.50	1.396	-	-	0.15	0.143	0.200
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant1	DSI5	507000	2535	22.00	23.50	1.413	-	-	0.17	0.221	0.312
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant5	DSI5	519000	2595	16.45	17.50	1.274	-	-	0.07	0.176	0.224
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Front	10mm	Ant5	DSI5	519000	2595	16.35	17.50	1.303	-	-	0.04	0.169	0.220
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant5	DSI5	519000	2595	16.45	17.50	1.274	-	-	0.08	0.282	0.359
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Back	10mm	Ant5	DSI5	519000	2595	16.35	17.50	1.303	-	-	0.07	0.300	0.391
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant5	DSI5	519000	2595	16.45	17.50	1.274	-	-	-0.03	0.074	0.094
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant5	DSI5	519000	2595	16.35	17.50	1.303	-	-	0.07	0.078	0.102
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant5	DSI5	519000	2595	16.45	17.50	1.274	-	-	-0.17	0.326	0.415
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant5	DSI5	519000	2595	16.35	17.50	1.303	-	-	0.03	0.330	0.430
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	519000	2595	22.92	24.50	1.439	-	-	0.02	0.449	0.646
44	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	519000	2595	22.78	24.50	1.486	-	-	-0.08	0.454	**0.675**
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant1	DSI5	519000	2595	22.92	24.50	1.439	-	-	0.06	0.301	0.433
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Back	10mm	Ant1	DSI5	519000	2595	22.78	24.50	1.486	-	-	0.08	0.300	0.446
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant1	DSI5	519000	2595	22.92	24.50	1.439	-	-	0.03	0.171	0.246
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant1	DSI5	519000	2595	22.78	24.50	1.486	-	-	-0.14	0.177	0.263
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Bottom Side	10mm	Ant1	DSI5	519000	2595	22.92	24.50	1.439	-	-	0.03	0.097	0.140
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Bottom Side	10mm	Ant1	DSI5	519000	2595	22.78	24.50	1.486	-	-	-0.12	0.109	0.162
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant5	DSI5	518598	2592.99	16.99	17.50	1.125	-	-	0.05	0.141	0.159
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant5	DSI5	518598	2592.99	16.77	17.50	1.183	-	-	0.13	0.155	0.183
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant5	DSI5	518598	2592.99	16.99	17.50	1.125	-	-	0.18	0.240	0.270
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant5	DSI5	518598	2592.99	16.77	17.50	1.183	-	-	0.04	0.266	0.315
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant5	DSI5	518598	2592.99	16.99	17.50	1.125	-	-	0.18	0.063	0.071
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant5	DSI5	518598	2592.99	16.77	17.50	1.183	-	-	-0.17	0.070	0.083
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant5	DSI5	518598	2592.99	16.99	17.50	1.125	-	-	-0.04	0.290	0.326
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant5	DSI5	518598	2592.99	16.77	17.50	1.183	-	-	0.02	0.323	0.382
45	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	518598	2592.99	22.92	24.50	1.439	-	-	0.05	0.682	**0.981**
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	509202	2546.01	22.89	24.50	1.449	-	-	-0.07	0.654	0.947
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	528000	2640	22.90	24.50	1.445	-	-	0.07	0.653	0.944
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	518598	2592.99	22.86	24.50	1.459	-	-	0.02	0.437	0.638
	FR1 n41	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Front	10mm	Ant1	DSI5	518598	2592.99	22.85	24.50	1.462	-	-	0.02	0.670	0.980
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant1	DSI5	518598	2592.99	22.92	24.50	1.439	-	-	0.05	0.475	0.683
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant1	DSI5	518598	2592.99	22.86	24.50	1.459	-	-	-0.11	0.320	0.467
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant1	DSI5	518598	2592.99	22.92	24.50	1.439	-	-	-0.18	0.255	0.367
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant1	DSI5	518598	2592.99	22.86	24.50	1.459	-	-	0.06	0.179	0.261
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Bottom Side	10mm	Ant1	DSI5	518598	2592.99	22.92	24.50	1.439	-	-	0.08	0.155	0.223
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Bottom Side	10mm	Ant1	DSI5	518598	2592.99	22.86	24.50	1.459	-	-	0.04	0.098	0.143

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)
3500MHz~3900MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant6	DSI5	42590	3500	17.29	18.50	1.321	62.9	1.006	0.15	0.112	0.149
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant6	DSI5	42590	3500	17.20	18.50	1.349	62.9	1.006	0.1	0.099	0.134
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant6	DSI5	42590	3500	17.29	18.50	1.321	62.9	1.006	0.06	0.130	0.173
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant6	DSI5	42590	3500	17.20	18.50	1.349	62.9	1.006	0.02	0.132	0.179
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant6	DSI5	42590	3500	17.29	18.50	1.321	62.9	1.006	0.03	0.124	0.165
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant6	DSI5	42590	3500	17.20	18.50	1.349	62.9	1.006	0.01	0.125	0.170
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant12	DSI5	42590	3500	19.36	19.50	1.033	62.9	1.006	0.17	0.076	0.079
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant12	DSI5	42590	3500	19.31	19.50	1.045	62.9	1.006	0.08	0.076	0.080
46	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant12	DSI5	42590	3500	19.36	19.50	1.033	62.9	1.006	0.01	0.325	**0.338**
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant12	DSI5	42590	3500	19.31	19.50	1.045	62.9	1.006	0.08	0.314	0.330
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant12	DSI5	42590	3500	19.36	19.50	1.033	62.9	1.006	0.02	0.053	0.055
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant12	DSI5	42590	3500	19.31	19.50	1.045	62.9	1.006	-0.18	0.053	0.056
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant12	DSI5	42590	3500	19.36	19.50	1.033	62.9	1.006	0.07	0.086	0.089
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant12	DSI5	42590	3500	19.31	19.50	1.045	62.9	1.006	0.11	0.089	0.094
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	656000	3840	17.84	18.50	1.164	-	-	-0.13	0.074	0.086
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	656000	3840	17.75	18.50	1.189	-	-	0.15	0.086	0.102
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	656000	3840	17.84	18.50	1.164	-	-	0.15	0.101	0.118
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	656000	3840	17.75	18.50	1.189	-	-	0.17	0.080	0.095
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	656000	3840	17.84	18.50	1.164	-	-	0.13	0.103	0.120
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	656000	3840	17.75	18.50	1.189	-	-	-0.03	0.123	0.146
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	633334	3500.01	17.79	18.50	1.178	-	-	0.11	0.082	0.097
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	633334	3500.01	17.75	18.50	1.189	-	-	0.05	0.091	0.108
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	17.79	18.50	1.178	-	-	-0.1	0.120	0.141
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	17.75	18.50	1.189	-	-	0.01	0.135	0.160
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	633334	3500.01	17.79	18.50	1.178	-	-	0.02	0.094	0.111
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	633334	3500.01	17.75	18.50	1.189	-	-	-0.14	0.097	0.115
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	656000	3840	18.58	19.00	1.102	-	-	-0.16	0.043	0.047
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	656000	3840	18.53	19.00	1.114	-	-	-0.17	0.039	0.043
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	656000	3840	18.58	19.00	1.102	-	-	-0.03	0.329	0.362
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	656000	3840	18.53	19.00	1.114	-	-	0.08	0.294	0.328
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	656000	3840	18.58	19.00	1.102	-	-	-0.18	0.060	0.066
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	656000	3840	18.53	19.00	1.114	-	-	0.09	0.045	0.050
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	656000	3840	18.58	19.00	1.102	-	-	0.03	0.060	0.066
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	656000	3840	18.53	19.00	1.114	-	-	0.06	0.056	0.062
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	633334	3500.01	18.63	19.00	1.089	-	-	0.06	0.087	0.095
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	633334	3500.01	18.54	19.00	1.112	-	-	-0.03	0.090	0.100
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	633334	3500.01	18.63	19.00	1.089	-	-	0.02	0.508	0.553
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	633334	3500.01	18.54	19.00	1.112	-	-	0.1	0.458	0.509
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	633334	3500.01	18.63	19.00	1.089	-	-	0.02	0.082	0.089
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	633334	3500.01	18.54	19.00	1.112	-	-	0.07	0.074	0.082
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	633334	3500.01	18.63	19.00	1.089	-	-	0.15	0.180	0.196
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	633334	3500.01	18.54	19.00	1.112	-	-	0.05	0.173	0.192
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	656000	3840	17.74	19.00	1.337	-	-	0.06	0.275	0.368
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	656000	3840	17.72	19.00	1.343	-	-	0.04	0.293	0.393
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	656000	3840	17.74	19.00	1.337	-	-	0.1	0.462	0.618
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	656000	3840	17.72	19.00	1.343	-	-	0.08	0.445	0.598
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	656000	3840	17.74	19.00	1.337	-	-	0.07	0.533	0.712
47	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	656000	3840	17.72	19.00	1.343	-	-	0.11	0.556	**0.747**
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	656000	3840	17.74	19.00	1.337	-	-	0.05	0.305	0.408
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	656000	3840	17.72	19.00	1.343	-	-	-0.07	0.000	0.000
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	633334	3500.01	18.34	19.00	1.164	-	-	0.03	0.149	0.173

	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	633334	3500.01	18.20	19.00	1.202	-	-	-0.03	0.127	0.153
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	633334	3500.01	18.34	19.00	1.164	-	-	-0.08	0.155	0.180
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	633334	3500.01	18.20	19.00	1.202	-	-	0.09	0.137	0.165
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	633334	3500.01	18.34	19.00	1.164	-	-	0.01	0.269	0.313
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	633334	3500.01	18.20	19.00	1.202	-	-	0.02	0.211	0.254
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	633334	3500.01	18.34	19.00	1.164	-	-	0.11	0.188	0.219
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	633334	3500.01	18.20	19.00	1.202	-	-	-0.08	0.174	0.209
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	656000	3840	16.07	17.00	1.239	-	-	0.19	0.082	0.102
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	656000	3840	16.03	17.00	1.250	-	-	-0.14	0.100	0.125
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	656000	3840	16.07	17.00	1.239	-	-	-0.07	0.155	0.192
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	656000	3840	16.03	17.00	1.250	-	-	-0.03	0.178	0.223
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	656000	3840	16.07	17.00	1.239	-	-	0.15	0.221	0.274
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	656000	3840	16.03	17.00	1.250	-	-	-0.16	0.250	0.313
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	656000	3840	16.07	17.00	1.239	-	-	0.06	0.039	0.048
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	656000	3840	16.03	17.00	1.250	-	-	0.04	0.048	0.060
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	633334	3500.01	15.99	17.00	1.262	-	-	-0.18	0.088	0.111
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	633334	3500.01	15.97	17.00	1.268	-	-	-0.01	0.084	0.106
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	633334	3500.01	15.99	17.00	1.262	-	-	0.09	0.105	0.132
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	633334	3500.01	15.97	17.00	1.268	-	-	0.05	0.075	0.095
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	15.99	17.00	1.262	-	-	0.02	0.174	0.220
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	15.97	17.00	1.268	-	-	-0.07	0.151	0.191
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	633334	3500.01	15.99	17.00	1.262	-	-	-0.12	0.058	0.073
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	633334	3500.01	15.97	17.00	1.268	-	-	0.12	0.046	0.058
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	650000	3750	23.78	24.50	1.180	-	-	0.13	0.549	0.648
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	650000	3750	23.69	24.50	1.205	-	-	0.14	0.514	0.619
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	650000	3750	23.78	24.50	1.180	-	-	-0.18	0.626	0.739
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	650000	3750	23.69	24.50	1.205	-	-	0.04	0.591	0.712
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	650000	3750	23.78	24.50	1.180	-	-	-0.08	0.669	0.790
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	650000	3750	23.69	24.50	1.205	-	-	0.04	0.720	0.868
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	650000	3750	23.61	24.50	1.227	-	-	0.01	0.705	0.865
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	633334	3500.01	23.79	24.50	1.178	-	-	-0.06	0.397	0.468
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	633334	3500.01	23.66	24.50	1.213	-	-	0.11	0.373	0.453
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	23.79	24.50	1.178	-	-	0.03	0.712	0.838
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	23.66	24.50	1.213	-	-	-0.1	0.466	0.565
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	23.57	24.50	1.239	-	-	0.01	0.689	0.854
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	633334	3500.01	23.79	24.50	1.178	-	-	-0.09	0.577	0.679
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	633334	3500.01	23.66	24.50	1.213	-	-	0.03	0.447	0.542
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	650000	3750	19.83	20.50	1.167	-	-	0.06	0.168	0.196
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	650000	3750	19.76	20.50	1.186	-	-	0.06	0.157	0.186
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	650000	3750	19.83	20.50	1.167	-	-	0.07	0.191	0.223
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	650000	3750	19.76	20.50	1.186	-	-	0.07	0.181	0.215
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	650000	3750	19.83	20.50	1.167	-	-	0.04	0.204	0.238
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	650000	3750	19.76	20.50	1.186	-	-	-0.1	0.220	0.261
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	633334	3500.01	19.79	20.50	1.178	-	-	0.07	0.120	0.141
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant6	DSI5	633334	3500.01	19.75	20.50	1.189	-	-	0.03	0.128	0.152
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	19.79	20.50	1.178	-	-	0.09	0.186	0.219
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant6	DSI5	633334	3500.01	19.75	20.50	1.189	-	-	0.01	0.221	0.263
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	633334	3500.01	19.79	20.50	1.178	-	-	0.02	0.124	0.146
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant6	DSI5	633334	3500.01	19.75	20.50	1.189	-	-	0.18	0.166	0.197
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	650000	3750	20.28	20.50	1.052	-	-	-0.01	0.087	0.092
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	650000	3750	20.26	20.50	1.057	-	-	0.07	0.072	0.076
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	650000	3750	20.28	20.50	1.052	-	-	0.02	0.623	0.655
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	650000	3750	20.26	20.50	1.057	-	-	0.19	0.459	0.485
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	650000	3750	20.28	20.50	1.052	-	-	0.07	0.102	0.107
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	650000	3750	20.26	20.50	1.057	-	-	0.09	0.084	0.089
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	650000	3750	20.28	20.50	1.052	-	-	0.07	0.076	0.080

	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	650000	3750	20.26	20.50	1.057	-	-	0.03	0.062	0.066
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	633334	3500.01	20.26	20.50	1.057	-	-	-0.05	0.148	0.156
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	633334	3500.01	20.21	20.50	1.069	-	-	-0.1	0.145	0.155
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	633334	3500.01	20.26	20.50	1.057	-	-	-0.05	0.702	0.742
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	633334	3500.01	20.21	20.50	1.069	-	-	-0.07	0.659	0.705
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	633334	3500.01	20.26	20.50	1.057	-	-	0.01	0.115	0.122
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	633334	3500.01	20.21	20.50	1.069	-	-	0.09	0.106	0.113
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	633334	3500.01	20.26	20.50	1.057	-	-	0.08	0.264	0.279
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	633334	3500.01	20.21	20.50	1.069	-	-	-0.04	0.237	0.253
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	650000	3750	18.39	18.50	1.026	-	-	-0.04	0.034	0.035
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	650000	3750	18.21	18.50	1.069	-	-	0.05	0.068	0.073
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	650000	3750	18.39	18.50	1.026	-	-	0.08	0.352	0.361
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	650000	3750	18.21	18.50	1.069	-	-	-0.07	0.359	0.384
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	650000	3750	18.39	18.50	1.026	-	-	0.04	0.065	0.067
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	650000	3750	18.21	18.50	1.069	-	-	-0.1	0.071	0.076
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	650000	3750	18.39	18.50	1.026	-	-	-0.08	0.050	0.051
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	650000	3750	18.21	18.50	1.069	-	-	0.08	0.052	0.056
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	633334	3500.01	18.34	18.50	1.038	-	-	0.06	0.078	0.081
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant12	DSI5	633334	3500.01	18.27	18.50	1.054	-	-	-0.08	0.077	0.081
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	633334	3500.01	18.34	18.50	1.038	-	-	-0.1	0.371	0.385
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant12	DSI5	633334	3500.01	18.27	18.50	1.054	-	-	0.17	0.348	0.367
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	633334	3500.01	18.34	18.50	1.038	-	-	-0.07	0.061	0.063
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant12	DSI5	633334	3500.01	18.27	18.50	1.054	-	-	0.09	0.056	0.059
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	633334	3500.01	18.34	18.50	1.038	-	-	0.06	0.140	0.145
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant12	DSI5	633334	3500.01	18.27	18.50	1.054	-	-	0.04	0.126	0.133
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	650000	3750	22.26	23.00	1.186	-	-	0.12	0.391	0.464
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	650000	3750	22.25	23.00	1.189	-	-	-0.14	0.502	0.597
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	650000	3750	22.26	23.00	1.186	-	-	0.01	0.610	0.723
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	650000	3750	22.25	23.00	1.189	-	-	0.01	0.731	0.869
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	650000	3750	22.05	23.00	1.245	-	-	0.03	0.692	0.861
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	650000	3750	22.26	23.00	1.186	-	-	0.05	0.636	0.754
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	650000	3750	22.25	23.00	1.189	-	-	0.07	0.738	0.877
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	650000	3750	22.05	23.00	1.245	-	-	0.01	0.689	0.857
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	650000	3750	22.26	23.00	1.186	-	-	0.17	0.433	0.513
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	650000	3750	22.25	23.00	1.189	-	-	0.03	0.486	0.578
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	633334	3500.01	21.48	23.00	1.419	-	-	0.03	0.375	0.532
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	633334	3500.01	21.42	23.00	1.439	-	-	0.13	0.304	0.437
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	633334	3500.01	21.48	23.00	1.419	-	-	0.03	0.444	0.630
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	633334	3500.01	21.42	23.00	1.439	-	-	0.01	0.369	0.531
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	633334	3500.01	21.48	23.00	1.419	-	-	0.02	0.540	0.766
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	633334	3500.01	21.42	23.00	1.439	-	-	-0.03	0.515	0.741
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	633334	3500.01	21.48	23.00	1.419	-	-	0.09	0.422	0.599
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	633334	3500.01	21.42	23.00	1.439	-	-	0.03	0.378	0.544
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	650000	3750	18.91	20.00	1.285	-	-	0.12	0.226	0.290
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	650000	3750	18.88	20.00	1.294	-	-	-0.13	0.290	0.375
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	650000	3750	18.91	20.00	1.285	-	-	0.07	0.352	0.452
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	650000	3750	18.88	20.00	1.294	-	-	0.11	0.422	0.546
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	650000	3750	18.91	20.00	1.285	-	-	0.02	0.367	0.472
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	650000	3750	18.88	20.00	1.294	-	-	0.06	0.426	0.551
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	650000	3750	18.91	20.00	1.285	-	-	-0.15	0.250	0.321
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	650000	3750	18.88	20.00	1.294	-	-	0.16	0.281	0.364
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	633334	3500.01	19.31	20.00	1.172	-	-	0.09	0.143	0.168
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant8	DSI5	633334	3500.01	19.27	20.00	1.183	-	-	0.02	0.144	0.170
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	633334	3500.01	19.31	20.00	1.172	-	-	0.07	0.191	0.224
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant8	DSI5	633334	3500.01	19.27	20.00	1.183	-	-	0.07	0.193	0.228
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	633334	3500.01	19.31	20.00	1.172	-	-	0.02	0.320	0.375

	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant8	DSI5	633334	3500.01	19.27	20.00	1.183	-	-	0.14	0.308	0.364
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	633334	3500.01	19.31	20.00	1.172	-	-	-0.15	0.246	0.288
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant8	DSI5	633334	3500.01	19.27	20.00	1.183	-	-	0.04	0.212	0.251
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	650000	3750	22.03	23.00	1.250	-	-	0.02	0.305	0.381
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	650000	3750	21.98	23.00	1.265	-	-	0.16	0.341	0.431
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	650000	3750	22.03	23.00	1.250	-	-	0.13	0.458	0.573
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	650000	3750	21.98	23.00	1.265	-	-	-0.16	0.565	0.715
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	650000	3750	22.03	23.00	1.250	-	-	0.03	0.656	0.820
48	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	650000	3750	21.98	23.00	1.265	-	-	-0.04	0.830	**1.050**
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	650000	3750	21.94	23.00	1.276	-	-	-0.09	0.795	1.015
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	650000	3750	22.03	23.00	1.250	-	-	0.1	0.182	0.228
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	650000	3750	21.98	23.00	1.265	-	-	0.04	0.194	0.245
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	633334	3500.01	22.07	23.00	1.239	-	-	-0.08	0.347	0.430
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	633334	3500.01	22.05	23.00	1.245	-	-	-0.14	0.275	0.342
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	633334	3500.01	22.07	23.00	1.239	-	-	0.14	0.401	0.497
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	633334	3500.01	22.05	23.00	1.245	-	-	-0.11	0.340	0.423
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	22.07	23.00	1.239	-	-	0.02	0.762	0.944
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	22.05	23.00	1.245	-	-	0.08	0.619	0.770
	FR1 n78_SA	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	21.96	23.00	1.271	-	-	-0.08	0.599	0.761
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	633334	3500.01	22.07	23.00	1.239	-	-	0.09	0.203	0.251
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	633334	3500.01	22.05	23.00	1.245	-	-	0.03	0.165	0.205
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	650000	3750	18.97	20.00	1.268	-	-	-0.19	0.143	0.181
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	650000	3750	18.94	20.00	1.276	-	-	0.04	0.160	0.204
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	650000	3750	18.97	20.00	1.268	-	-	0.08	0.214	0.271
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	650000	3750	18.94	20.00	1.276	-	-	-0.16	0.265	0.338
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	650000	3750	18.97	20.00	1.268	-	-	0.12	0.307	0.389
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	650000	3750	18.94	20.00	1.276	-	-	0.01	0.389	0.497
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	650000	3750	18.97	20.00	1.268	-	-	0.01	0.085	0.108
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	650000	3750	18.94	20.00	1.276	-	-	0.06	0.091	0.116
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	633334	3500.01	18.98	20.00	1.265	-	-	0.08	0.176	0.223
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant4	DSI5	633334	3500.01	18.84	20.00	1.306	-	-	0.1	0.160	0.209
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	633334	3500.01	18.98	20.00	1.265	-	-	0.14	0.175	0.221
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant4	DSI5	633334	3500.01	18.84	20.00	1.306	-	-	0.13	0.158	0.206
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	18.98	20.00	1.265	-	-	0.03	0.347	0.439
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant4	DSI5	633334	3500.01	18.84	20.00	1.306	-	-	0.03	0.301	0.393
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	633334	3500.01	18.98	20.00	1.265	-	-	-0.17	0.094	0.119
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant4	DSI5	633334	3500.01	18.84	20.00	1.306	-	-	-0.15	0.094	0.123

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	Ant7+9	reduced	1	2412	21.22	22.00	1.197	85.9	1.164	0.17	0.182	0.253
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant7+9	reduced	1	2412	21.22	22.00	1.197	85.9	1.164	0.05	0.246	0.343
49	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant7+9	reduced	1	2412	21.22	22.00	1.197	85.9	1.164	-0.05	0.280	**0.390**
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant7+9	reduced	1	2412	21.22	22.00	1.197	85.9	1.164	0.05	0.152	0.212
	Bluetooth	1Mbps	Front	10mm	Ant7	reduced	39	2441	17.86	19.00	1.300	76.6	1.087	0.15	0.100	0.141
	Bluetooth	1Mbps	Back	10mm	Ant7	reduced	39	2441	17.86	19.00	1.300	76.6	1.087	0.14	0.123	0.174
	Bluetooth	1Mbps	Right Side	10mm	Ant7	reduced	39	2441	17.86	19.00	1.300	76.6	1.087	0.18	0.085	0.120
50	Bluetooth	1Mbps	Top Side	10mm	Ant7	reduced	39	2441	17.86	19.00	1.300	76.6	1.087	-0.05	0.162	**0.229**
	Bluetooth	1Mbps	Front	10mm	Ant9	reduced	39	2441	11.32	12.00	1.169	77.13	1.080	-0.03	0.095	0.120
	Bluetooth	1Mbps	Back	10mm	Ant9	reduced	39	2441	11.32	12.00	1.169	77.13	1.080	0.04	0.111	0.140
	Bluetooth	1Mbps	Right Side	10mm	Ant9	reduced	39	2441	11.32	12.00	1.169	77.13	1.080	0.08	0.140	0.177
	Bluetooth	1Mbps	Top Side	10mm	Ant9	reduced	39	2441	11.32	12.00	1.169	77.13	1.080	0.05	0.021	0.027
5000MHz																
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	10mm	Ant7+9	reduced	46	5230	17.95	19.00	1.274	97.2	1.029	0.13	0.099	0.130
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	10mm	Ant7+9	reduced	46	5230	17.95	19.00	1.274	97.2	1.029	0.05	0.143	0.187
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	10mm	Ant7+9	reduced	46	5230	17.95	19.00	1.274	97.2	1.029	0.06	0.150	0.197
51	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	10mm	Ant7+9	reduced	46	5230	17.95	19.00	1.274	97.2	1.029	-0.03	0.157	**0.206**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant7+9	reduced	155	5775	17.56	18.50	1.241	97.4	1.027	0.03	0.078	0.099
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant7+9	reduced	155	5775	17.56	18.50	1.241	97.4	1.027	-0.14	0.104	0.133
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant7+9	reduced	155	5775	17.56	18.50	1.241	97.4	1.027	0.13	0.117	0.149
52	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant7+9	reduced	155	5775	17.56	18.50	1.241	97.4	1.027	-0.04	0.180	**0.230**

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	Ant1	DSI4	23095	707.5	24.95	25.50	1.135	0.15	0.172	0.195
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant1	DSI4	23095	707.5	23.92	24.50	1.143	-0.11	0.140	0.160
53	LTE Band 12	10M	QPSK	1	0	-	Back	15mm	Ant1	DSI4	23095	707.5	24.95	25.50	1.135	0.04	0.229	**0.260**
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant1	DSI4	23095	707.5	23.92	24.50	1.143	-0.07	0.187	0.214
	LTE Band 12	10M	QPSK	1	0	-	Front	15mm	Ant4	DSI4	23095	707.5	24.95	25.50	1.135	0.06	0.152	0.173
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant4	DSI4	23095	707.5	23.92	24.50	1.143	0.08	0.129	0.147
	LTE Band 12	10M	QPSK	1	0	-	Back	15mm	Ant4	DSI4	23095	707.5	24.95	25.50	1.135	0.03	0.189	0.215
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant4	DSI4	23095	707.5	23.92	24.50	1.143	-0.16	0.153	0.175
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant1	DSI4	23230	782	24.87	25.50	1.156	-0.03	0.169	0.195
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant1	DSI4	23230	782	23.87	24.50	1.156	0.18	0.135	0.156
54	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant1	DSI4	23230	782	24.87	25.50	1.156	-0.04	0.245	**0.283**
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant1	DSI4	23230	782	23.87	24.50	1.156	0.05	0.193	0.223
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant4	DSI4	23230	782	24.87	25.50	1.156	-0.04	0.104	0.120
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant4	DSI4	23230	782	23.87	24.50	1.156	0.04	0.090	0.104
	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant4	DSI4	23230	782	24.87	25.50	1.156	0.01	0.148	0.171
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant4	DSI4	23230	782	23.87	24.50	1.156	-0.14	0.131	0.151
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant1	DSI4	189	836.4	26.83	28.00	1.309	-0.19	0.167	0.219
55	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant1	DSI4	189	836.4	26.83	28.00	1.309	0.03	0.217	**0.284**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant4	DSI4	189	836.4	26.83	28.00	1.309	-0.05	0.198	0.259
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant4	DSI4	189	836.4	26.83	28.00	1.309	-0.06	0.199	0.261
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant1	DSI4	4182	836.4	24.44	25.50	1.276	-0.17	0.276	0.352
56	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant1	DSI4	4182	836.4	24.44	25.50	1.276	-0.02	0.344	**0.439**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant4	DSI4	4182	836.4	24.44	25.50	1.276	0.11	0.158	0.202
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant4	DSI4	4182	836.4	24.44	25.50	1.276	0.02	0.181	0.231
	LTE Band 5	10M	QPSK	1	0	-	Front	15mm	Ant4	DSI4	20525	836.5	24.89	25.50	1.151	0.07	0.167	0.192
	LTE Band 5	10M	QPSK	25	0	-	Front	15mm	Ant4	DSI4	20525	836.5	23.88	24.50	1.153	0.07	0.152	0.175
57	LTE Band 5	10M	QPSK	1	0	-	Back	15mm	Ant4	DSI4	20525	836.5	24.89	25.50	1.151	0.01	0.190	**0.219**
	LTE Band 5	10M	QPSK	25	0	-	Back	15mm	Ant4	DSI4	20525	836.5	23.88	24.50	1.153	0.01	0.161	0.186
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant1	DSI4	26865	831.5	24.97	25.50	1.130	0.13	0.244	0.276
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant1	DSI4	26865	831.5	23.83	24.50	1.167	0.07	0.195	0.228
58	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant1	DSI4	26865	831.5	24.97	25.50	1.130	0.04	0.332	**0.375**
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant1	DSI4	26865	831.5	23.83	24.50	1.167	0.01	0.267	0.312
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant4	DSI4	26865	831.5	23.87	24.50	1.156	0.07	0.219	0.253
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant4	DSI4	26865	831.5	23.86	24.50	1.159	0.07	0.224	0.260
	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant4	DSI4	26865	831.5	23.87	24.50	1.156	0.04	0.252	0.291
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant4	DSI4	26865	831.5	23.86	24.50	1.159	0.12	0.252	0.292
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	15mm	Ant1	DSI4	167300	836.5	25.26	25.50	1.057	0.16	0.325	0.343
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	15mm	Ant1	DSI4	167300	836.5	25.11	25.50	1.094	0.08	0.262	0.287
59	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	15mm	Ant1	DSI4	167300	836.5	25.26	25.50	1.057	-0.03	0.396	**0.418**
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	15mm	Ant1	DSI4	167300	836.5	25.11	25.50	1.094	0.18	0.324	0.354
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	15mm	Ant4	DSI4	167300	836.5	25.26	25.50	1.057	-0.04	0.191	0.202
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	15mm	Ant4	DSI4	167300	836.5	25.11	25.50	1.094	0.03	0.170	0.186
	FR1 n5	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	15mm	Ant4	DSI4	167300	836.5	25.26	25.50	1.057	0.12	0.214	0.226
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	15mm	Ant4	DSI4	167300	836.5	25.11	25.50	1.094	0.16	0.186	0.203

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	Ant2	DSI4	1413	1732.6	24.51	25.50	1.256	0.01	0.392	0.492
60	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant2	DSI4	1413	1732.6	24.51	25.50	1.256	0.1	0.528	**0.663**
	WCDMA IV					RMC 12.2Kbps	Front	15mm	Ant3	DSI4	1413	1732.6	24.51	25.50	1.256	0.07	0.055	0.069
	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant3	DSI4	1413	1732.6	24.51	25.50	1.256	0.06	0.056	0.070
61	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant2	DSI4	132322	1745	24.97	25.50	1.130	0.07	0.517	**0.584**
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant2	DSI4	132322	1745	23.90	24.50	1.148	0.02	0.433	0.497
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant2	DSI3	132322	1745	22.99	23.50	1.125	-0.1	0.352	0.396
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant2	DSI3	132322	1745	22.97	23.50	1.130	-0.17	0.324	0.366
	LTE Band 66	20M	QPSK	1	0	-	Back	27mm	Ant2	DSI4	132322	1745	24.97	25.50	1.130	-0.08	0.168	0.190
	LTE Band 66	20M	QPSK	50	0	-	Back	27mm	Ant2	DSI4	132322	1745	23.90	24.50	1.148	-0.07	0.156	0.179
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant3	DSI4	132322	1745	24.97	25.50	1.130	0.08	0.062	0.070
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant3	DSI4	132322	1745	23.90	24.50	1.148	-0.13	0.050	0.057
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant3	DSI4	132322	1745	24.97	25.50	1.130	0.12	0.062	0.070
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant3	DSI4	132322	1745	23.90	24.50	1.148	-0.17	0.051	0.059
62	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	15mm	Ant2	DSI4	349000	1745	25.24	25.50	1.062	0.15	0.506	**0.537**
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant2	DSI4	349000	1745	25.22	25.50	1.067	-0.01	0.417	0.445
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	15mm	Ant2	DSI3	349000	1745	23.29	23.50	1.050	-0.18	0.359	0.377
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant2	DSI3	349000	1745	23.25	23.50	1.059	0.03	0.321	0.340
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	27mm	Ant2	DSI4	349000	1745	25.24	25.50	1.062	-0.13	0.198	0.210
	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	15mm	Ant3	DSI4	349000	1745	25.24	25.50	1.062	0.04	0.057	0.061
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant3	DSI4	349000	1745	25.22	25.50	1.067	-0.14	0.053	0.057
`	FR1 n66	40M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	15mm	Ant3	DSI4	349000	1745	25.24	25.50	1.062	0.07	0.062	0.066
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant3	DSI4	349000	1745	25.22	25.50	1.067	0.06	0.056	0.060
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant2	DSI4	661	1880	23.45	24.50	1.274	0.06	0.198	0.252
63	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant2	DSI4	661	1880	23.45	24.50	1.274	0.06	0.260	**0.331**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant3	DSI4	661	1880	23.45	24.50	1.274	-0.02	0.098	0.125
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant3	DSI4	661	1880	23.45	24.50	1.274	-0.14	0.102	0.130
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant2	DSI4	9400	1880	24.66	25.50	1.213	0.04	0.473	0.574
64	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant2	DSI4	9400	1880	24.66	25.50	1.213	0.01	0.616	**0.747**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant3	DSI4	9400	1880	24.66	25.50	1.213	-0.11	0.224	0.272
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant3	DSI4	9400	1880	24.66	25.50	1.213	-0.1	0.228	0.277
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant2	DSI4	18900	1880	24.78	25.50	1.180	0.06	0.362	0.427
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant2	DSI4	18900	1880	23.69	24.50	1.205	0.04	0.298	0.359
65	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant2	DSI4	18900	1880	24.78	25.50	1.180	0.01	0.493	**0.582**
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant2	DSI4	18900	1880	23.69	24.50	1.205	0.07	0.406	0.489
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant3	DSI4	18900	1880	24.78	25.50	1.180	0.04	0.152	0.179
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant3	DSI4	18900	1880	23.69	24.50	1.205	0.04	0.150	0.181
	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant3	DSI4	18900	1880	24.78	25.50	1.180	0.03	0.153	0.181
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant3	DSI4	18900	1880	23.69	24.50	1.205	0.02	0.155	0.187

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																				
66	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant2	DSI4	21100	2535	25.10	25.50	1.096	-	-	0.09	0.376	**0.412**
	LTE Band 7C	20M	QPSK	50	0	-	Front	15mm	Ant2	DSI4	21100+ 21298	2535+ 2554.8	24.93	25.50	1.409	-	-	0.01	0.359	0.409
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant2	DSI4	21100	2535	24.05	24.50	1.109	-	-	-0.02	0.321	0.356
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant2	DSI3	21100	2535	20.39	20.50	1.026	-	-	0.06	0.140	0.144
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant2	DSI3	21100	2535	20.33	20.50	1.040	-	-	0.03	0.124	0.129
	LTE Band 7	20M	QPSK	1	0	-	Back	27mm	Ant2	DSI4	21100	2535	25.10	25.50	1.096	-	-	0.01	0.050	0.055
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant3	DSI4	21100	2535	21.25	21.50	1.059	-	-	0.02	0.206	0.218
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant3	DSI4	21100	2535	21.22	21.50	1.067	-	-	0.03	0.216	0.230
	LTE Band 7C	20M	QPSK	50	0	-	Front	15mm	Ant3	DSI4	21100+ 21298	2535+ 2554.8	21.18	21.50	1.076	-	-	0.02	0.203	0.219
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant3	DSI4	21100	2535	21.25	21.50	1.059	-	-	0.01	0.206	0.218
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant3	DSI4	21100	2535	21.22	21.50	1.067	-	-	0.08	0.215	0.229
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant1	DSI4	21100	2535	23.65	25.00	1.365	-	-	-0.04	0.287	0.392
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant1	DSI4	21100	2535	22.59	24.00	1.384	-	-	0.03	0.176	0.244
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant1	DSI4	21100	2535	23.65	25.00	1.365	-	-	0.08	0.135	0.184
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant1	DSI4	21100	2535	22.59	24.00	1.384	-	-	0.08	0.150	0.208
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant5	DSI4	21100	2535	23.28	24.00	1.180	-	-	0.09	0.237	0.280
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant5	DSI4	21100	2535	23.11	24.00	1.227	-	-	0.15	0.208	0.255
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant5	DSI4	21100	2535	23.28	24.00	1.180	-	-	-0.01	0.339	0.400
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant5	DSI4	21100	2535	23.11	24.00	1.227	-	-	-0.08	0.313	0.384
	LTE Band 38	20M	QPSK	1	0	-	Front	15mm	Ant2	DSI4	38000	2595	25.00	25.50	1.122	62.9	1.006	-0.1	0.182	0.205
	LTE Band 38	20M	QPSK	50	0	-	Front	15mm	Ant2	DSI4	38000	2595	23.94	24.50	1.138	62.9	1.006	0.01	0.145	0.166
	LTE Band 38	20M	QPSK	1	0	-	Back	15mm	Ant2	DSI4	38000	2595	25.00	25.50	1.122	62.9	1.006	0.03	0.212	0.239
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant2	DSI4	38000+ 38198	2595+ 2554.8	24.87	25.5	1.156	62.9	1.006	0.01	0.207	0.241
	LTE Band 38	20M	QPSK	50	0	-	Back	15mm	Ant2	DSI4	38000	2595	23.94	24.50	1.138	62.9	1.006	0.04	0.169	0.193
	LTE Band 38	20M	QPSK	1	0	-	Front	15mm	Ant3	DSI4	38000	2595	24.11	24.50	1.094	62.9	1.006	-0.11	0.219	0.241
	LTE Band 38	20M	QPSK	50	0	-	Front	15mm	Ant3	DSI4	38000	2595	24.09	24.50	1.099	62.9	1.006	0.08	0.221	0.244
	LTE Band 38	20M	QPSK	1	0	-	Back	15mm	Ant3	DSI4	38000	2595	24.11	24.50	1.094	62.9	1.006	0.16	0.221	0.243
67	LTE Band 38	20M	QPSK	50	0	-	Back	15mm	Ant3	DSI4	38000	2595	24.09	24.50	1.099	62.9	1.006	0.17	0.226	**0.250**
	LTE Band 38C	20M	QPSK	50	0	-	Back	15mm	Ant3	DSI4	38000+ 38198	2595+ 2554.8	23.98	24.50	1.127	62.9	1.006	0.02	0.202	0.229
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant2	DSI4	40620	2593	25.07	25.50	1.104	62.9	1.006	-0.11	0.266	0.295
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant2	DSI4	40620	2593	24.06	24.50	1.107	62.9	1.006	0.03	0.234	0.261
68	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant2	DSI4	40620	2593	25.07	25.50	1.104	62.9	1.006	0.05	0.326	**0.362**
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant2	DSI4	40620	2593	24.06	24.50	1.107	62.9	1.006	0.14	0.277	0.308
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant3	DSI4	40620	2593	24.15	24.50	1.084	62.9	1.006	0.02	0.295	0.322
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant3	DSI4	40620	2593	24.12	24.50	1.091	62.9	1.006	0.19	0.309	0.339
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant3	DSI4	40620	2593	24.15	24.50	1.084	62.9	1.006	0.09	0.300	0.327
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant3	DSI4	40620	2593	24.12	24.50	1.091	62.9	1.006	-0.04	0.313	0.344
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	15mm	Ant5	DSI4	507000	2535	24.56	25.00	1.107	-	-	0.08	0.468	0.518
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	15mm	Ant5	DSI4	507000	2535	24.30	25.00	1.175	-	-	0.04	0.371	0.436
69	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	15mm	Ant5	DSI4	507000	2535	24.56	25.00	1.107	-	-	-0.09	0.534	**0.591**
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	15mm	Ant5	DSI4	507000	2535	24.30	25.00	1.175	-	-	0.07	0.143	0.168
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Front	15mm	Ant1	DSI4	507000	2535	23.51	25.00	1.409	-	-	0.06	0.316	0.445
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	15mm	Ant1	DSI4	507000	2535	23.35	25.00	1.462	-	-	0.14	0.254	0.371
	FR1 n7	20M	QPSK	1	1	DFT-s-OFDM SCS15KHz	Back	15mm	Ant1	DSI4	507000	2535	23.51	25.00	1.409	-	-	0.07	0.115	0.162
	FR1 n7	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	15mm	Ant1	DSI4	507000	2535	23.35	25.00	1.462	-	-	0.02	0.099	0.145
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant5	DSI4	519000	2595	24.47	25.50	1.268	-	-	-0.18	0.359	0.455
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Front	15mm	Ant5	DSI4	519000	2595	24.40	25.50	1.288	-	-	0.02	0.331	0.426
70	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	519000	2595	24.47	25.50	1.268	-	-	0.06	0.597	**0.757**
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	519000	2595	24.40	25.50	1.288	-	-	0.09	0.541	0.697
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant1	DSI4	519000	2595	23.74	25.50	1.500	-	-	-0.16	0.214	0.321

	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Front	15mm	Ant1	DSI4	519000	2595	23.70	25.50	1.514	-	-	0.06	0.193	0.292
	FR1 n38	20M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant1	DSI4	519000	2595	23.74	25.50	1.500	-	-	0.04	0.145	0.217
	FR1 n38	20M	QPSK	25	13	DFT-s-OFDM SCS30KHz	Back	15mm	Ant1	DSI4	519000	2595	23.70	25.50	1.514	-	-	0.16	0.144	0.218
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant5	DSI4	518598	2592.99	24.16	25.00	1.213	-	-	-0.04	0.446	0.541
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant5	DSI4	518598	2592.99	24.15	25.00	1.216	-	-	0.03	0.330	0.401
71	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	518598	2592.99	24.16	25.00	1.213	-	-	0.05	0.863	**1.047**
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	509202	2546.01	24.02	25.00	1.253	-	-	0.05	0.823	1.031
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	528000	2640	24.00	25.00	1.259	-	-	0.05	0.796	1.002
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	518598	2592.99	24.15	25.00	1.216	-	-	0.08	0.738	0.898
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	509202	2546.01	23.88	25.00	1.294	-	-	0.08	0.712	0.921
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	528000	2640	23.99	25.00	1.262	-	-	0.08	0.722	0.911
	FR1 n41	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	518598	2592.99	23.62	24.50	1.225	-	-	0.05	0.843	1.032
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant1	DSI4	518598	2592.99	24.00	25.50	1.413	-	-	-0.07	0.238	0.336
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant1	DSI4	518598	2592.99	23.89	25.50	1.449	-	-	0.09	0.149	0.216
	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant1	DSI4	518598	2592.99	24.00	25.50	1.413	-	-	-0.01	0.117	0.165
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant1	DSI4	518598	2592.99	23.89	25.50	1.449	-	-	0.06	0.097	0.141
3500MHz~3900MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant6	DSI4	42590	3500	24.28	25.50	1.324	62.9	1.006	-0.12	0.202	0.269
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant6	DSI4	42590	3500	23.09	24.50	1.384	62.9	1.006	0.06	0.163	0.227
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant6	DSI4	42590	3500	24.28	25.50	1.324	62.9	1.006	0.01	0.267	0.356
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant6	DSI4	42590	3500	23.09	24.50	1.384	62.9	1.006	0.02	0.209	0.291
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant12	DSI4	42590	3500	25.25	25.50	1.059	62.9	1.006	0.04	0.116	0.124
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant12	DSI4	42590	3500	24.22	24.50	1.067	62.9	1.006	0.06	0.090	0.097
72	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant12	DSI4	42590	3500	25.25	25.50	1.059	62.9	1.006	0.09	0.550	**0.586**
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant12	DSI4	42590	3500	24.22	24.50	1.067	62.9	1.006	0.15	0.433	0.465
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant6	DSI4	656000	3840	23.83	24.50	1.167	-	-	0.09	0.253	0.295
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant6	DSI4	656000	3840	23.66	24.50	1.213	-	-	-0.04	0.197	0.239
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant6	DSI4	656000	3840	23.83	24.50	1.167	-	-	-0.12	0.249	0.291
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant6	DSI4	656000	3840	23.66	24.50	1.213	-	-	-0.05	0.190	0.231
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI4	633334	3500.01	23.81	24.50	1.172	-	-	-0.12	0.147	0.172
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI4	633334	3500.01	23.80	24.50	1.175	-	-	0.05	0.135	0.159
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI4	633334	3500.01	23.81	24.50	1.172	-	-	0.03	0.200	0.234
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI4	633334	3500.01	23.80	24.50	1.175	-	-	0.07	0.187	0.220
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	656000	3840	24.72	25.00	1.067	-	-	0.07	0.097	0.103
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	656000	3840	24.55	25.00	1.109	-	-	0.04	0.072	0.080
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	656000	3840	24.72	25.00	1.067	-	-	-0.06	0.481	0.513
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	656000	3840	24.55	25.00	1.109	-	-	0.02	0.315	0.349
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	633334	3500.01	24.76	25.00	1.057	-	-	0.15	0.150	0.159
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	633334	3500.01	24.54	25.00	1.112	-	-	-0.1	0.122	0.136
73	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	633334	3500.01	24.76	25.00	1.057	-	-	-0.06	0.671	**0.709**
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	633334	3500.01	24.54	25.00	1.112	-	-	0.16	0.500	0.556
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant8	DSI4	656000	3840	16.84	18.00	1.306	-	-	-0.08	0.063	0.082
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant8	DSI4	656000	3840	16.80	18.00	1.318	-	-	0.05	0.053	0.070
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant8	DSI4	656000	3840	16.84	18.00	1.306	-	-	0.02	0.083	0.108
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant8	DSI4	656000	3840	16.80	18.00	1.318	-	-	-0.05	0.072	0.095
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 8	DSI4	633334	3500.01	17.15	18.00	1.216	-	-	0.01	0.066	0.080
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 8	DSI4	633334	3500.01	16.93	18.00	1.279	-	-	-0.19	0.045	0.058
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 8	DSI4	633334	3500.01	17.15	18.00	1.216	-	-	0.01	0.072	0.088
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 8	DSI4	633334	3500.01	16.93	18.00	1.279	-	-	0.03	0.051	0.065
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	656000	3840	17.17	18.00	1.211	-	-	-0.15	0.072	0.087
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	656000	3840	17.10	18.00	1.230	-	-	-0.18	0.079	0.097
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	656000	3840	17.17	18.00	1.211	-	-	0.09	0.132	0.160
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	656000	3840	17.10	18.00	1.230	-	-	0.08	0.147	0.181
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	633334	3500.01	17.08	18.00	1.236	-	-	-0.06	0.062	0.077
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	633334	3500.01	17.04	18.00	1.247	-	-	0.08	0.056	0.070
	FR1 n77	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	633334	3500.01	17.08	18.00	1.236	-	-	0.02	0.068	0.084

	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	633334	3500.01	17.04	18.00	1.247	-	-	-0.04	0.059	0.074
74	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant6	DSI4	650000	3750	26.80	27.50	1.175	-	-	0.14	0.560	**0.658**
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant6	DSI4	650000	3750	26.75	27.50	1.189	-	-	-0.18	0.338	0.402
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant6	DSI4	650000	3750	26.80	27.50	1.175	-	-	0.09	0.529	0.622
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant6	DSI4	650000	3750	26.75	27.50	1.189	-	-	0.04	0.375	0.446
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI4	633334	3500.01	26.88	27.50	1.153	-	-	-0.1	0.201	0.232
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI4	633334	3500.01	26.75	27.50	1.189	-	-	0.16	0.227	0.270
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI4	633334	3500.01	26.88	27.50	1.153	-	-	0.03	0.310	0.358
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI4	633334	3500.01	26.75	27.50	1.189	-	-	0.05	0.544	0.647
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	650000	3750	25.77	26.00	1.054	-	-	0.03	0.107	0.113
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	650000	3750	25.70	26.00	1.072	-	-	0.04	0.092	0.099
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	650000	3750	25.77	26.00	1.054	-	-	0.01	0.525	0.554
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	650000	3750	25.70	26.00	1.072	-	-	0.12	0.514	0.551
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	633334	3500.01	25.67	26.00	1.079	-	-	-0.02	0.198	0.214
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	633334	3500.01	25.58	26.00	1.102	-	-	0.03	0.161	0.177
	FR1 n78_SA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	633334	3500.01	25.67	26.00	1.079	-	-	0.01	0.552	0.596
	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	633334	3500.01	25.58	26.00	1.102	-	-	0.04	0.529	0.583
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	650000	3750	23.40	24.50	1.288	-	-	0.09	0.094	0.121
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	650000	3750	23.32	24.50	1.312	-	-	0.04	0.082	0.108
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	650000	3750	23.40	24.50	1.288	-	-	-0.13	0.408	0.526
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	650000	3750	23.32	24.50	1.312	-	-	0.12	0.377	0.495
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	633334	3500.01	23.43	24.50	1.279	-	-	0.09	0.096	0.123
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI4	633334	3500.01	23.23	24.50	1.340	-	-	0.07	0.090	0.121
	FR1 n78_NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	633334	3500.01	23.43	24.50	1.279	-	-	0.18	0.389	0.498
	FR1 n78_NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI4	633334	3500.01	23.23	24.50	1.340	-	-	0.04	0.398	0.533
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant8	DSI4	650000	3750	16.96	18.00	1.271	-	-	-0.08	0.062	0.079
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant8	DSI4	650000	3750	16.94	18.00	1.276	-	-	0.04	0.076	0.097
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant8	DSI4	650000	3750	16.96	18.00	1.271	-	-	0.04	0.080	0.102
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant8	DSI4	650000	3750	16.94	18.00	1.276	-	-	0.01	0.092	0.117
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 8	DSI4	633334	3500.01	17.42	18.00	1.143	-	-	0.07	0.054	0.062
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 8	DSI4	633334	3500.01	17.30	18.00	1.175	-	-	0.09	0.050	0.059
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 8	DSI4	633334	3500.01	17.42	18.00	1.143	-	-	0.02	0.070	0.080
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 8	DSI4	633334	3500.01	17.30	18.00	1.175	-	-	0.07	0.058	0.068
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	650000	3750	16.35	17.50	1.303	-	-	0.08	0.039	0.051
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	650000	3750	16.28	17.50	1.324	-	-	0.11	0.043	0.057
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	650000	3750	16.35	17.50	1.303	-	-	0.17	0.061	0.079
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	650000	3750	16.28	17.50	1.324	-	-	0.03	0.070	0.093
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	633334	3500.01	16.26	17.50	1.330	-	-	0.01	0.054	0.072
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant4	DSI4	633334	3500.01	16.24	17.50	1.337	-	-	-0.03	0.045	0.060
	FR1 n78_SA&NSA	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	633334	3500.01	16.26	17.50	1.330	-	-	-0.11	0.052	0.069
	FR1 n78_SA&NSA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant4	DSI4	633334	3500.01	16.24	17.50	1.337	-	-	0.05	0.047	0.063

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	Ant7+9	Standalone&Simultaneous	1	2412	21.22	22.00	1.197	85.9	1.164	0.07	0.170	0.237
75	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant7+9	Standalone&Simultaneous	1	2412	21.22	22.00	1.197	85.9	1.164	-0.02	0.221	**0.308**
	Bluetooth	1Mbps	Front	15mm	Ant7	Standalone&Simultaneous	39	2441	17.86	19.00	1.300	76.6	1.087	0.01	0.054	0.076
	Bluetooth	1Mbps	Back	15mm	Ant7	Standalone&Simultaneous	39	2441	17.86	19.00	1.300	76.6	1.087	-0.01	0.057	0.081
	Bluetooth	1Mbps	Front	15mm	Ant9	Full	39	2441	16.18	17.00	1.208	77.13	1.080	0.04	0.127	0.166
76	Bluetooth	1Mbps	Back	15mm	Ant9	Full	39	2441	16.18	17.00	1.208	77.13	1.080	-0.16	0.155	**0.202**
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Front	15mm	Ant7+9	Standalone&Simultaneous	52	5260	19.34	20.50	1.306	85.6	1.168	-0.08	0.097	0.148
77	WLAN5.3GHz	802.11a 6Mbps	Back	15mm	Ant7+9	Standalone&Simultaneous	52	5260	19.34	20.50	1.306	85.6	1.168	-0.1	0.178	**0.272**
	WLAN5.5GHz	802.11a 6Mbps	Front	15mm	Ant7+9	Standalone&Simultaneous	116	5580	18.87	20.00	1.298	85.6	1.168	-0.19	0.096	0.146
78	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant7+9	Standalone&Simultaneous	116	5580	18.87	20.00	1.298	85.6	1.168	0.03	0.138	**0.209**
	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant7+9	Standalone&Simultaneous	149	5745	18.97	20.00	1.268	85.6	1.168	0.1	0.043	0.064
79	WLAN5.8GHz	802.11a 6Mbps	Front	15mm	Ant7+9	Standalone&Simultaneous	149	5745	18.97	20.00	1.268	85.6	1.168	-0.04	0.054	**0.080**

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)
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant7+9	Standalone&Simultaneous	52	5260	19.34	20.50	1.306	85.6	1.168	0.09	0.735	1.122
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant7+9	Standalone&Simultaneous	52	5260	19.34	20.50	1.306	85.6	1.168	-0.1	0.664	1.013
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant7+9	Standalone&Simultaneous	52	5260	19.34	20.50	1.306	85.6	1.168	0.01	0.72	1.094
80	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant7+9	Standalone&Simultaneous	52	5260	19.34	20.50	1.306	85.6	1.168	0.01	0.756	**1.154**
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant7+9	Standalone&Simultaneous	116	5580	18.87	20.00	1.297	85.6	1.168	0.1	0.798	1.209
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant7+9	Standalone&Simultaneous	116	5580	18.87	20.00	1.297	85.6	1.168	0.04	0.582	0.882
81	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant7+9	Standalone&Simultaneous	116	5580	18.87	20.00	1.297	85.6	1.168	-0.06	1.08	**1.636**
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant7+9	Standalone&Simultaneous	116	5580	18.87	20.00	1.297	85.6	1.168	0.12	0.903	1.368

15.5 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (cm)	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	LTE Band 12	10M	QPSK	25	0		Right Cheek	0mm	Ant4	DSI1	23095	707.5	22.85	23.50	1.161	0.07	0.806	1	0.936
2nd	LTE Band 12	10M	QPSK	25	0		Right Cheek	0mm	Ant4	DSI1	23095	707.5	22.85	23.50	1.161	0.03	0.802	1.005	0.931
1st	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	16.21	17.00	1.199	0.07	0.909	1	1.090
2nd	FR1 n78_SA	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI1	650000	3750	16.21	17.00	1.199	0.02	0.899	1.011	1.078
1st	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	518598	2592.99	24.16	25.00	1.213	0.05	0.863	1	1.047
2nd	FR1 n41	100M	QPSK	1	1	DFT-s-OFDM SCS30KHz	Back	15mm	Ant5	DSI4	518598	2592.99	24.16	25.00	1.213	0.01	0.853	1.012	1.035

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. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. 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 SISO	Yes	Yes	Yes	Yes
2.	WWAN + 2.4GHz WLAN MIMO	Yes	Yes	Yes	Yes
3.	WWAN + 5GHz WLAN SISO	Yes	Yes	Yes	Yes
4.	WWAN + 5GHz WLAN MIMO	Yes	Yes	Yes	Yes
5.	WWAN + Bluetooth Ant 7	Yes	Yes	Yes	Yes
6.	WWAN + Bluetooth Ant 9	Yes	Yes	Yes	Yes
7.	5GHz WLAN SISO + Bluetooth Ant 7	Yes	Yes	Yes	Yes
8.	5GHz WLAN MIMO + Bluetooth Ant 7	Yes	Yes	Yes	Yes
9.	5GHz WLAN SISO + Bluetooth Ant 9	Yes	Yes	Yes	Yes
10.	5GHz WLAN MIMO + Bluetooth Ant 9	Yes	Yes	Yes	Yes
11.	WWAN + 5GHz WLAN SISO + Bluetooth Ant 7	Yes	Yes	Yes	Yes
12.	WWAN + 5GHz WLAN MIMO + Bluetooth Ant 7	Yes	Yes	Yes	Yes
13.	WWAN + 5GHz WLAN SISO + Bluetooth Ant 9	Yes	Yes	Yes	Yes
14.	WWAN + 5GHz WLAN MIMO + Bluetooth Ant 9	Yes	Yes	Yes	Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, 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. WLAN2.4GHz/WLAN5GHz MIMO SAR can represent SISO SAR to do co-located SAR analysis.
11. 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.
12. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
13. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
14. The reported SAR summation is calculated based on the same configuration and test position.
15. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR and SPLSR≤ 0.10 for 10g SAR , simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	1+3+5
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)
Standalone Band	Right Cheek	0.951	0.134	0.185	0.110	0.074	1.09	1.25	1.21
	Right Tilted	0.968	0.158	0.234	0.147	0.014	1.13	1.35	1.22
	Left Cheek	1.090	0.488	0.223	0.218	0.228	**1.58**	1.53	1.54
	Left Tilted	0.934	0.238	0.262	0.206	0.034	1.17	1.40	1.23

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	FR1	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)
ENDC(5A&7A&38A&66A)	ENDC(N78A&N5A&N66A)	Right Cheek	0.494	0.427	0.134	0.185	0.110	0.074	1.06	1.22	1.18
		Right Tilted	0.469	0.359	0.158	0.234	0.147	0.014	0.99	1.21	1.08
		Left Cheek	0.430	0.486	0.488	0.223	0.218	0.228	1.40	1.36	1.37
		Left Tilted	0.401	0.434	0.238	0.262	0.206	0.034	1.07	1.30	1.13

<Inter-Band UL CA>

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)
LTE_B4(Ant2&3)	LTE_B7(Ant1&5)	Right Cheek	0.325	0.494	0.134	0.185	0.110	0.074	0.95	1.11	1.08
		Right Tilted	0.081	0.469	0.158	0.234	0.147	0.014	0.71	0.93	0.80
		Left Cheek	0.279	0.247	0.488	0.223	0.218	0.228	1.01	0.97	0.98
		Left Tilted	0.116	0.247	0.238	0.262	0.206	0.034	0.60	0.83	0.66

16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	1+3+5
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)
Standalone Band	Front	0.981	0.253	0.130	0.141	0.120	1.23	1.25	1.23
	Back	0.869	0.343	0.187	0.174	0.140	1.21	1.23	1.20
	Left side	1.050					1.05	1.05	1.05
	Right side	0.877	0.390	0.197	0.120	0.177	1.27	1.19	1.25
	Top side	0.868	0.212	0.230	0.229	0.027	1.08	1.33	1.13
	Bottom side	0.702					0.70	0.70	0.70

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+5+6
			WWAN	FR1	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)
ENDC(5A&7A&38A&66A)	ENDC(N78A&N5A&N66A)	Front	0.430	0.375	0.253	0.130	0.141	0.120	1.06	1.08	1.06
		Back	0.394	0.546	0.343	0.187	0.174	0.140	1.28	1.30	1.27
		Left side	0.291	0.497					0.79	0.79	0.79
		Right side	0.168	0.551	0.390	0.197	0.120	0.177	1.11	1.04	1.09
		Top side	0.453	0.364	0.212	0.230	0.229	0.027	1.03	1.28	1.07
		Bottom side	0.391	0.513					0.90	0.90	0.90

<Inter-Band UL CA>

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+5+6
			WWAN	WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)
LTE_B4(Ant2&3)	LTE_B7(Ant1&5)	Front	0.291	0.430	0.253	0.130	0.141	0.120	0.97	0.99	0.97
		Back	0.372	0.342	0.343	0.187	0.174	0.140	1.06	1.08	1.04
		Left side	0.291	0.101					0.39	0.39	0.39
		Right side		0.168	0.390	0.197	0.120	0.177	0.56	0.49	0.54
		Top side		0.453	0.212	0.230	0.229	0.027	0.67	0.91	0.71
		Bottom side	0.391	0.120					0.51	0.51	0.51

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	1+3+5
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)
Standalone Band	Front	0.658	0.237	0.148	0.076	0.166	0.90	0.88	0.97
	Back	1.047	0.308	0.272	0.081	0.202	1.36	1.40	1.52

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	FR1	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)
ENDC （5A&7A&38A&66A)	ENDC(N78A&N5A&N66A)	Front	0.584	0.658	0.237	0.148	0.076	0.166	1.48	1.47	**1.56**
		Back	0.400	0.647	0.308	0.272	0.081	0.202	1.36	1.40	1.52

<Inter-Band UL CA>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+9	Bluetooth Ant 7	Bluetooth Ant 9	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)
LTE_B4(Ant2&3)	LTE_B7(Ant1&5)	Front	0.584	0.392	0.237	0.148	0.076	0.166	1.21	1.20	1.29
		Back	0.396	0.400	0.308	0.272	0.081	0.202	1.10	1.15	1.27

Test Engineer : Nick Hu, Seven Xu, Bruce Li

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: 2021.7.8

System Check_Head_750MHz

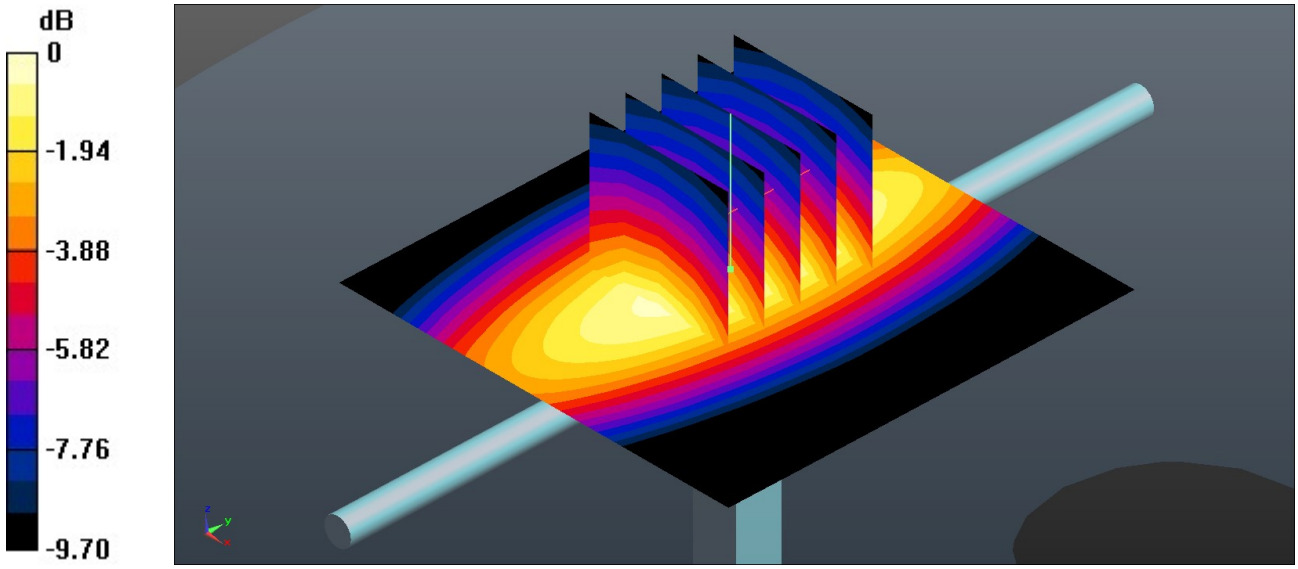
DUT: D750V3 - SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.914 S/m; ε_r = 43.517; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3843; ConvF(9.06, 9.06, 9.06); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn799; Calibrated: 2021.3.26
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- 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) = 0.579 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.68 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.661 W/kg
SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.301 W/kg
Maximum value of SAR (measured) = 0.590 W/kg



0 dB = 0.590 W/kg = -2.29 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.6.30

System Check_Head_835MHz

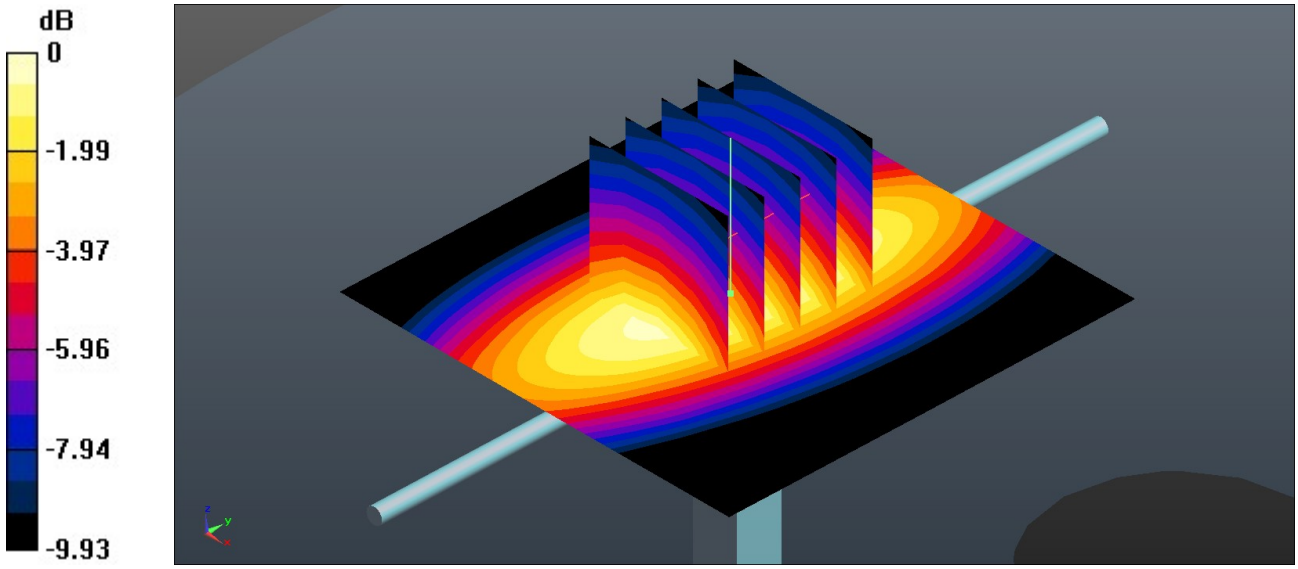
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.926 S/m; ε_r = 41.058; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3843; ConvF(8.69, 8.69, 8.69); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn799; Calibrated: 2021.3.26
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- 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) = 0.744 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.50 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.836 W/kg
SAR(1 g) = 0.503 W/kg; SAR(10 g) = 0.327 W/kg
Maximum value of SAR (measured) = 0.744 W/kg



0 dB = 0.744 W/kg = -1.28 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.2

System Check_Head_1750MHz

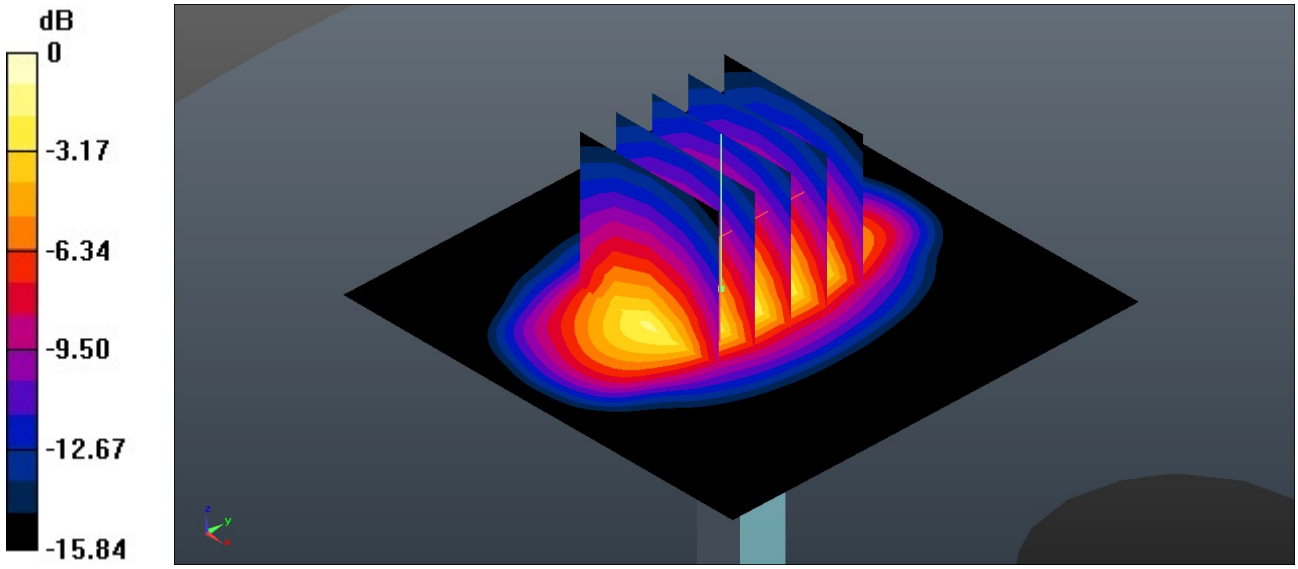
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.359 S/m; ε_r = 41.007; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3843; ConvF(7.72, 7.72, 7.72); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn799; Calibrated: 2021.3.26
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- 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) = 2.91 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 44.77 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 1.89 W/kg; SAR(10 g) = 0.986 W/kg
Maximum value of SAR (measured) = 3.05 W/kg



0 dB = 3.05 W/kg = 4.84 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.4

System Check_Head_1900MHz

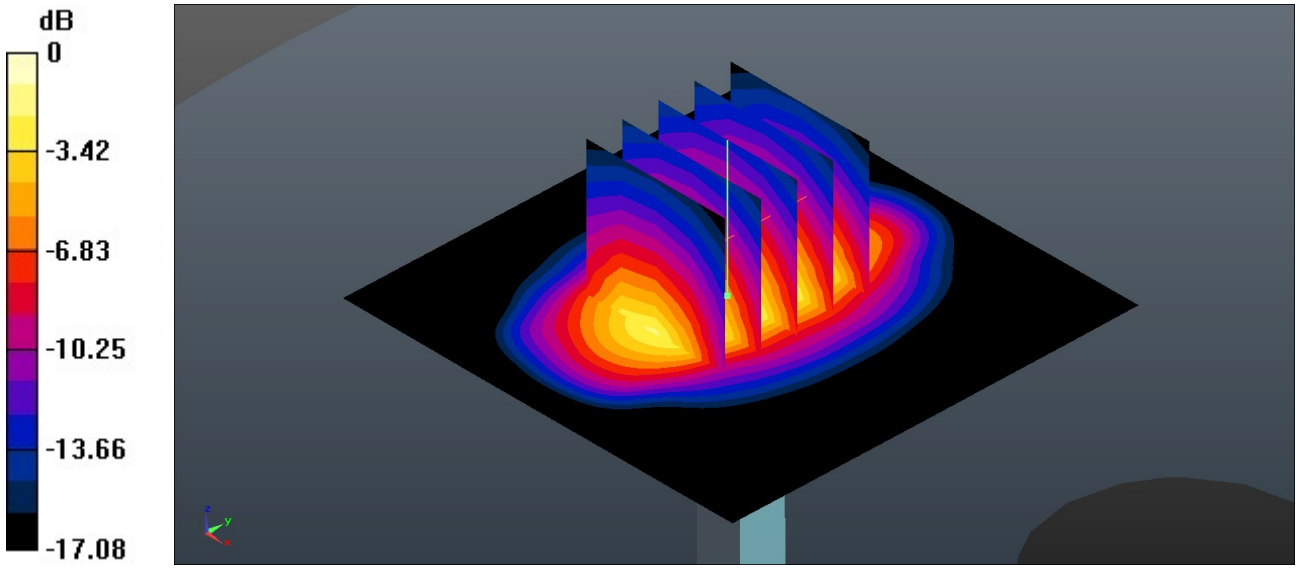
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.44 S/m; ε_r = 40.48; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn799; Calibrated: 2021.3.26
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- 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) = 3.34 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.67 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 4.12 W/kg
SAR(1 g) = 2.06 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.47 W/kg



0 dB = 3.47 W/kg = 5.40 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.12

System Check_Head_2600MHz

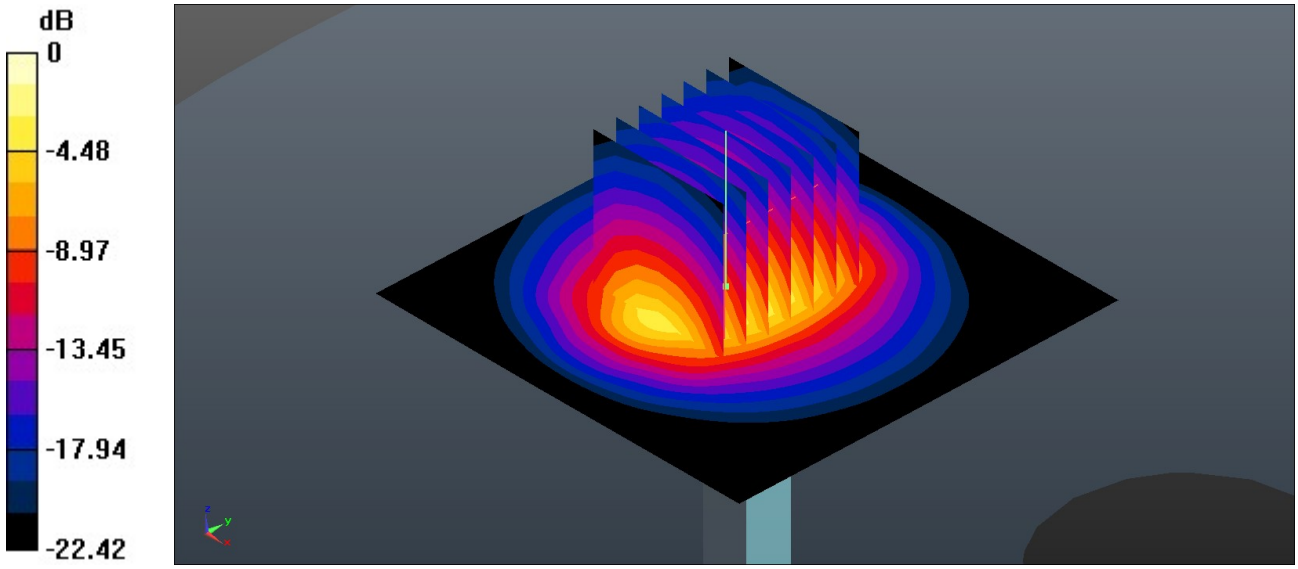
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.983 S/m; ε_r = 39.982; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3843; ConvF(6.76, 6.76, 6.76); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn799; Calibrated: 2021.3.26
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- 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) = 4.94 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 47.06 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 6.01 W/kg
SAR(1 g) = 2.93 W/kg; SAR(10 g) = 1.34 W/kg
Maximum value of SAR (measured) = 4.90 W/kg



0 dB = 4.90 W/kg = 6.90 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.16

System Check_Head_3500MHz

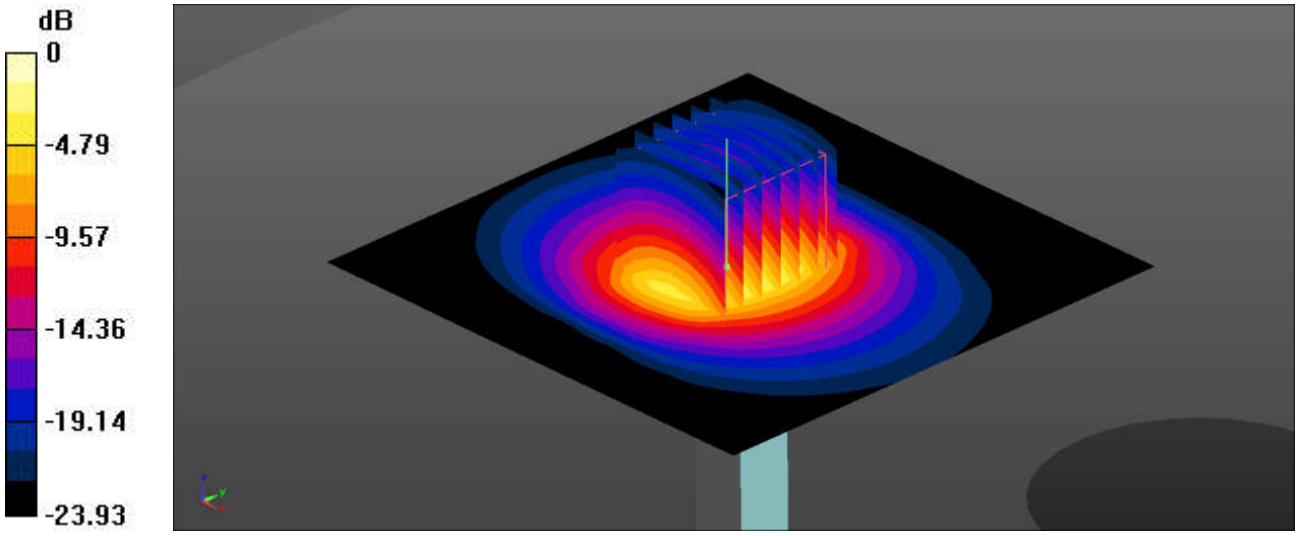
DUT: D3500V2 - SN:1037

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1
Medium: HSL_3500 Medium parameters used: f = 3500 MHz; σ = 2.881 S/m; ε_r = 38.5; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3935; ConvF(7.16, 7.16, 7.16); Calibrated: 2021.4.29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2021.4.26
- 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) = 6.16 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 37.23 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 10.1 W/kg
SAR(1 g) = 3.55 W/kg; SAR(10 g) = 1.34 W/kg
Maximum value of SAR (measured) = 7.08 W/kg



0 dB = 7.08 W/kg = 8.50 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.18

System Check_Head_3700MHz

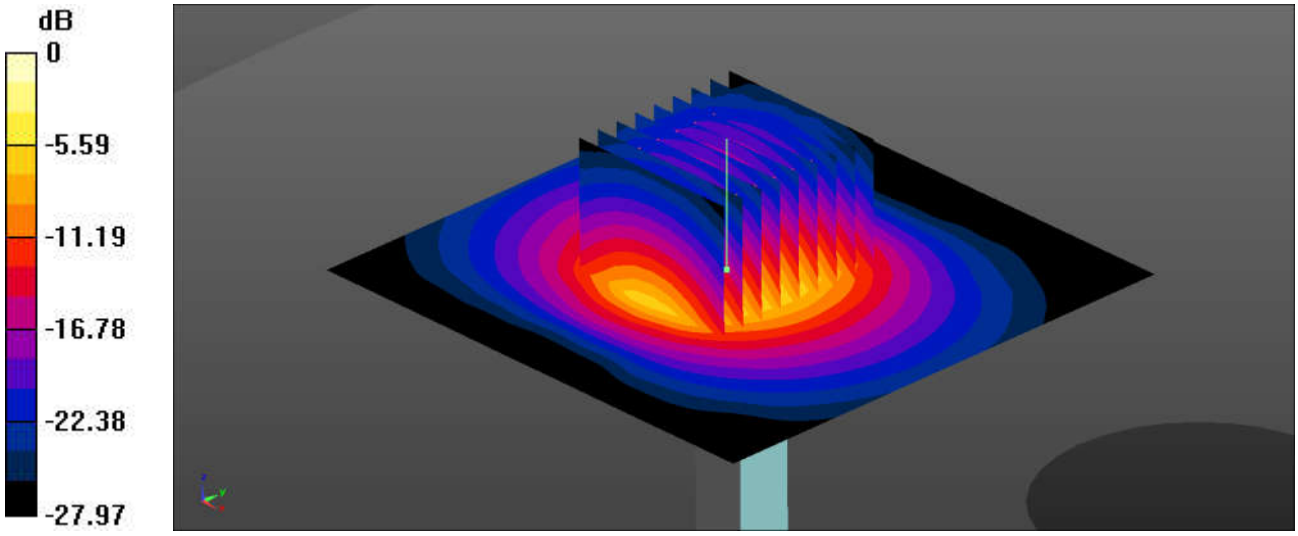
DUT: D3700V2 - SN:1008

Communication System: UID 0, CW (0); Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: HSL_3700 Medium parameters used: f = 3700 MHz; σ = 3.077 S/m; ε_r = 38.038; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3935; ConvF(7.03, 7.03, 7.03); Calibrated: 2021.4.29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2021.4.26
- 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) = 7.75 W/kg

Pin=50mW/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 52.31 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 3.65 W/kg; SAR(10 g) = 1.31 W/kg
Maximum value of SAR (measured) = 7.71 W/kg



0 dB = 7.71 W/kg = 8.87 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.20

System Check_Head_3900MHz

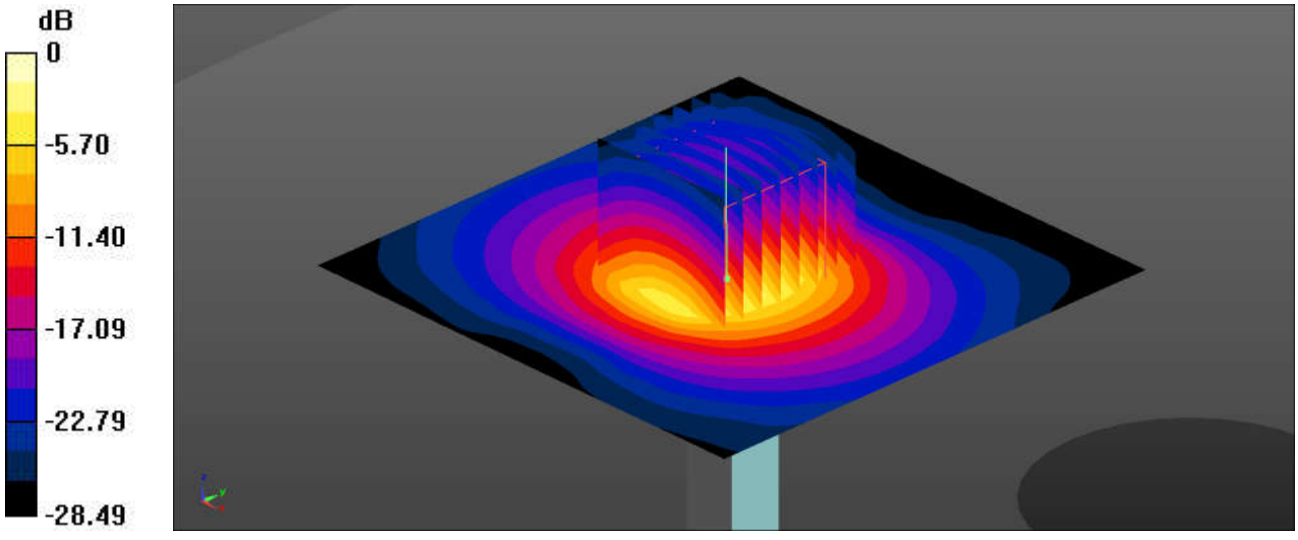
DUT: D3900V2 - SN:1048

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1
Medium: HSL_3900 Medium parameters used: f = 3900 MHz; σ = 3.282 S/m; ε_r = 37.614; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3935; ConvF(6.99, 6.99, 6.99); Calibrated: 2021.4.29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2021.4.26
- 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) = 7.51 W/kg

Pin=50mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.10 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 3.57 W/kg; SAR(10 g) = 1.25 W/kg
Maximum value of SAR (measured) = 7.59 W/kg



0 dB = 7.59 W/kg = 8.80 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.10

System Check_Head_750MHz

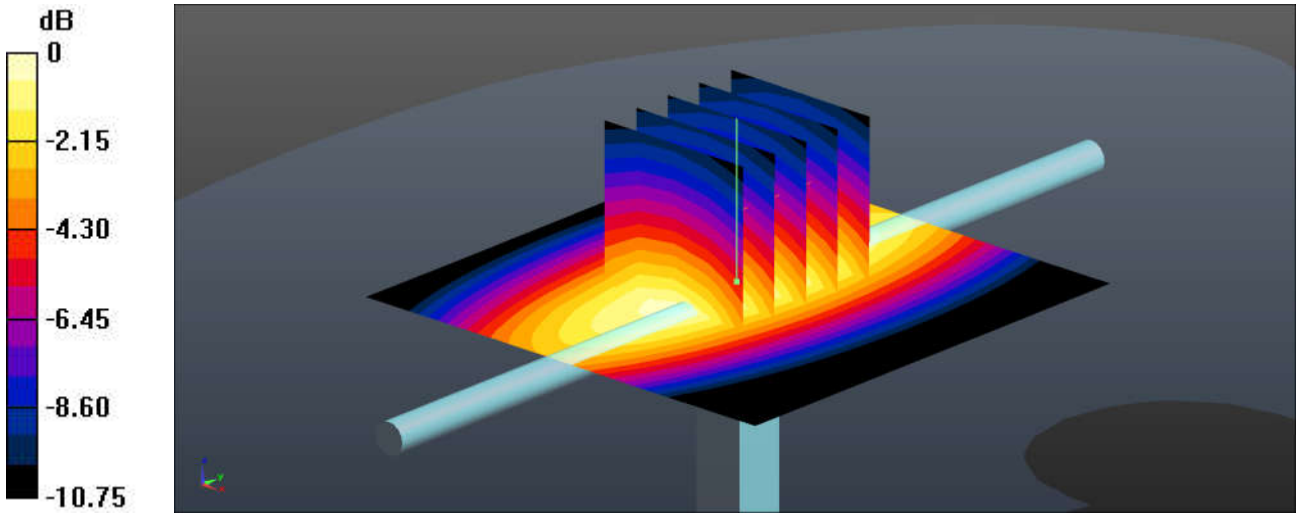
DUT: D750V3 - SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.919 S/m; ε_r = 43.625; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3293; ConvF(6.51, 6.51, 6.51); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1542
- 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) = 0.473 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.95 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.606 W/kg
SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.266 W/kg
Maximum value of SAR (measured) = 0.478 W/kg



0 dB = 0.478 W/kg = -3.21 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.12

System Check_Head_835MHz

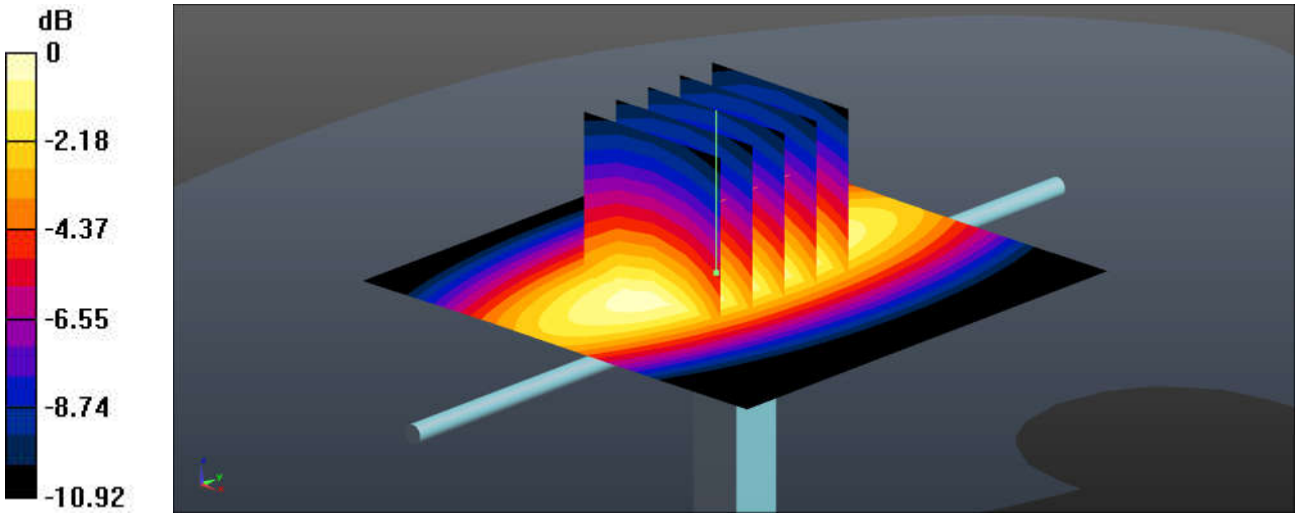
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.935 S/m; ε_r = 42.534; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3293; ConvF(6.43, 6.43, 6.43); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1542
- 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) = 0.514 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.83 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.662 W/kg
SAR(1 g) = 0.440 W/kg; SAR(10 g) = 0.286 W/kg
Maximum value of SAR (measured) = 0.518 W/kg



0 dB = 0.518 W/kg = -2.86 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.14

System Check_Head_1750MHz

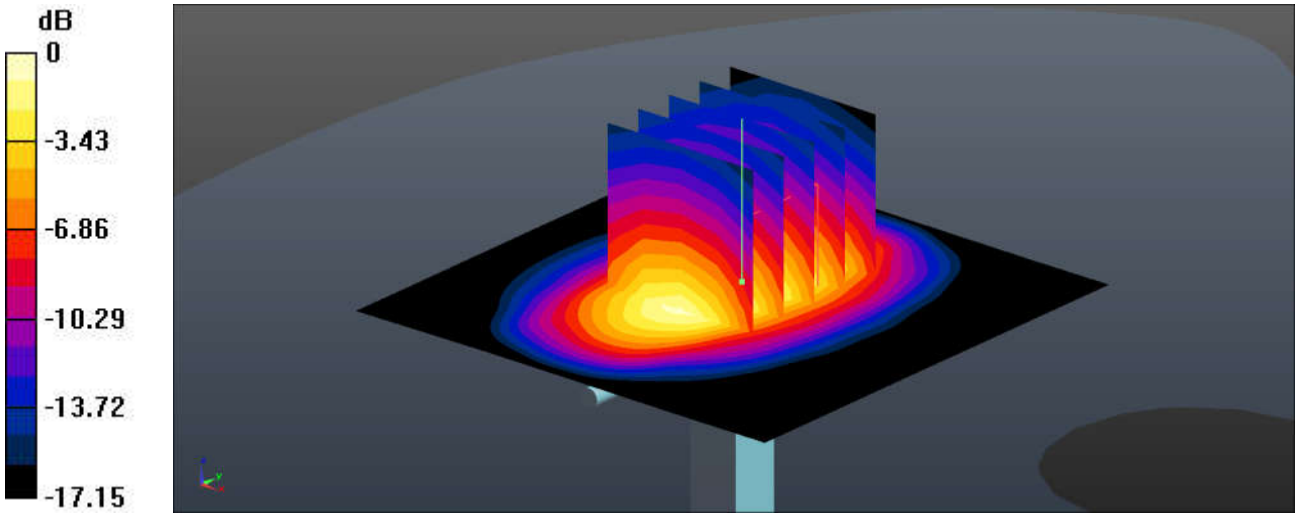
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.353 S/m; ε_r = 39.045; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3293; ConvF(5.37, 5.37, 5.37); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1542
- 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) = 2.28 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 40.37 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 3.16 W/kg
SAR(1 g) = 1.76 W/kg; SAR(10 g) = 0.932 W/kg
Maximum value of SAR (measured) = 2.20 W/kg



0 dB = 2.20 W/kg = 3.42 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.7.16

System Check_Head_1900MHz

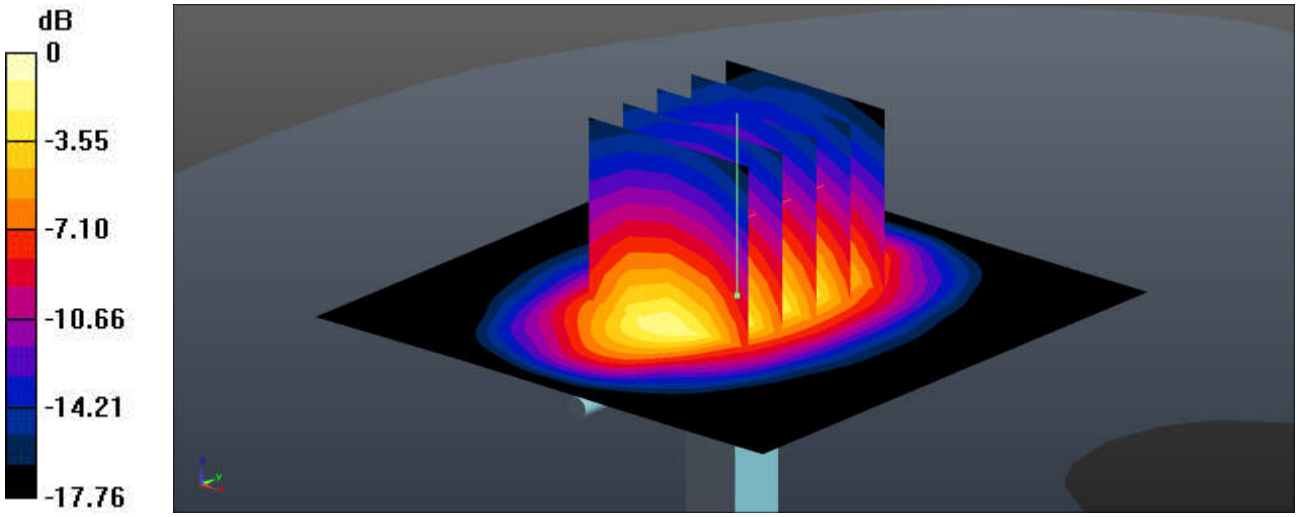
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.423 S/m; ε_r = 38.976; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3293; ConvF(5.14, 5.14, 5.14); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1542
- 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) = 2.54 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.26 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 1.98 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 2.52 W/kg



0 dB = 2.52 W/kg = 4.01 dBW/kg