FCC SAR Test Report

APPLICANT	:	**Xiaomi Communications Co., Ltd.**
EQUIPMENT	:	**Mobile Phone**
BRAND NAME	:	**XIAOMI**
MODEL NAME	:	**2201123G**
FCC ID	:	**2AFZZ123G**
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 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.

Tony Zhang

Reviewed by: Tong Zhang / 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

Table of Contents

1. Statement of Compliance 4
2. Administration Data 6
3. Guidance Applied 6
4. Equipment Under Test (EUT) Information 7
4.1 General Information 7
4.2 General LTE SAR Test and Reporting Considerations 10
4.3 General 5G NR SAR Test and Reporting Considerations 13
5. Smart Transmit feature for RF Exposure compliance 15
6. Proximity Sensor Triggering Test 18
6.1 Proximity sensor triggering distances(Per KDB616217§6.2) 18
7. RF Exposure Limits 20
7.1 Uncontrolled Environment 20
7.2 Controlled Environment 20
8. Specific Absorption Rate (SAR) 21
8.1 Introduction 21
8.2 SAR Definition 21
9. System Description and Setup 22
9.1 E-Field Probe 23
9.2 Data Acquisition Electronics (DAE) 23
9.3 Phantom 24
9.4 Device Holder 25
10. Measurement Procedures 26
10.1 Spatial Peak SAR Evaluation 26
10.2 Power Reference Measurement 27
10.3 Area Scan 27
10.4 Zoom Scan 28
10.5 Volume Scan Procedures 28
10.6 Power Drift Monitoring 28
11. Test Equipment List 29
12. System Verification 30
12.1 Tissue Simulating Liquids 30
12.2 Tissue Verification 31
12.3 System Performance Check Results 32
13. RF Exposure Positions 34
13.1 Ear and handset reference point 34
13.2 Definition of the cheek position 35
13.3 Definition of the tilt position 36
13.4 Body Worn Accessory 37
13.5 Product Specific 10g SAR Exposure 38
13.6 Wireless Router 38
14. Conducted RF Output Power (Unit: dBm) 39
15. Antenna Location 54
16. SAR Test Results 55
16.1 Head SAR 58
16.2 Hotspot SAR 71
16.3 Body Worn Accessory SAR 84
16.4 Product Specific SAR 91
16.5 Repeated SAR Measurement 92
17. Simultaneous Transmission Analysis 93
17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis 94
17.2 Head Exposure Conditions 95
17.3 Hotspot Exposure Conditions 95
17.4 Body-Worn Accessory Exposure Conditions 95
17.5 Product Specific 10g SAR Exposure Conditions 95
18. Uncertainty Assessment 96
19. References 97
Appendix A. Plots of System Performance Check
Appendix B. Plots of High SAR Measurement
Appendix C. DASY Calibration Certificate
Appendix D. Test Setup Photos
Appendix E. Conducted RF Output Power Table

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA1O2709	Rev. 01	Initial issue of report.	Dec. 20, 2021
FA1O2709	Rev. 02	Added LTE B7 Ant7 related information and data.	Jan. 12, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, 2201123G,** 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	0.92	0.80	0.35	1.59
		GSM1900	1.01	0.82	0.22	
	WCDMA	Band II	0.49	0.70	0.56	
		Band IV	0.60	0.69	0.65	
		Band V	0.77	0.56	0.36	
	LTE	Band 7	0.90	0.50	0.59	
		Band 12/Band 17	**1.09**	0.87	0.33	
		Band 13	**1.09**	0.76	0.44	
		Band 25/ Band 2	0.88	0.76	0.66	
		Band 26/ Band 5	0.80	0.48	0.32	
		Band 41/ Band 38	0.75	0.85	0.35	
		Band 42	0.83	0.48	0.52	
		Band 48	0.53	0.41	0.57	
		Band 66/ Band 4	0.91	0.85	**0.91**	
	5G NR	n5	0.95	0.96	0.29	
		n7	0.81	0.64	0.46	
		n41/ n38	0.96	1.01	0.34	
		n66	**1.09**	**1.02**	0.80	
		n77	0.82	0.45	0.47	
		n78	1.06	0.53	0.57	
DTS	WLAN	2.4GHz WLAN	0.95	0.38	0.28	1.58
NII		5GHz WLAN	1.07	0.47	0.37	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.26	0.25	0.10	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	1.62	2.55
	WCDMA	Band IV	1.57	
NII	WLAN	5GHz WLAN	**2.50**	2.55
Date of Testing:			2021/11/10 ~ 2021/12/28	

Remark:

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

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.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR02-KS/ SAR04-KS/ SAR07-KS/ SAR03-KS	CN1257	314309

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

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

3. Guidance Applied

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

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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	XIAOMI
Model Name	2201123G
FCC ID	2AFZZ123G
IMEI Code	SIM1: 860978050059217 SIM2: 860978050059225
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 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 48: 3550 MHz ~ 3700 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 WLAN 6E U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6E U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6E U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6E U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz WPC: 110KHz ~ 148 KHz 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, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax 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 WLAN 6GHz 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE WPC: ASK NFC:ASK
HW Version	P2.1
SW Version	MIUI13
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). WIFI 6E has no hotspot function.
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 three types of EUT. The difference is that different memory capacity. According to the differences, we choose sample 1 to perform full test.
7. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
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. 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.
11. 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.
12. 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.
13. 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.
14. 5G NR n77/n78 supports MIMO mode only limit to SA mode.
15. 5GNR n78 supports HPUE, HPUE power and SAR testing performed separately.
16. 5GNR n78 HUPE with higher power, 5GNR n78 HUPE SAR can represent power class 3 level SAR.
17. SAR Power density test report for WIFI 6E U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth, always chose higher SAR of WLAN5G U-NII-1/2A/2C/3 and U-NII-5/6/7/8.
18. RF exposure report for WPC (Wireless power charging) will be separately submitted.
19. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode.

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
SA	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n38	TDD	30	10, 15, 20, 30, 40
	n41	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 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>2AFZZ123G</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 25: 1850 MHz ~ 1915 MHz
LTE Band 26: 814 MHz ~ 849 MHz
LTE Band 38: 2570 MHz ~ 2620 MHz
LTE Band 41: 2496 MHz ~ 2690 MHz
LTE Band 42: 3450 MHz ~ 3550 MHz
LTE Band 48: 3550 MHz ~ 3700 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 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz
LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 48: 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 /256QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, Cat18</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 14.</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 14.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.
2. This device supports maximum of 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 25

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

LTE Band 26										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

LTE Band 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 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 48								
	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	55265	3552.5	55290	3555	55315	3557.5	55340	3560
LM	55810	3607	55815	3607.5	55820	3608	55830	3609
MH	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

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, 25MHz, 30MHz, 40MHz 5G NR n38: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 10MHz, 15MHz, 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 n7	LTE B5/66
LTE Anchor Bands for n66	LTE B5/7/12
LTE Anchor Bands for n78	LTE B2/5/7/38/41/66

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

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

	NR Band 41																	
	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	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

<3700 MHz ~ 3980 MHz>

NR Band 77																						
	Bandwidth 10MHz		Bandwidth 15MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	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	3850	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664668	3970.02	664334	3965.01	664000	3960	663668	3955.02	663334	3950.01	663000	3945	662668	3940.02	662334	3935.01	662000	3930

NR Band 78																						
	Bandwidth 10MHz		Bandwidth 15MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	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	650000	3750	650000	3750
H	653000	3795	652834	3792.51	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																						
	Bandwidth 10MHz		Bandwidth 15MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	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	633334	3500.01	633334	3500.01
H	636334	3545.01	636166	3542.52	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

NR Band 78																						
	Bandwidth 10MHz		Bandwidth 15MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	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	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

5. Smart Transmit feature for RF Exposure compliance

The RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

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

<Terminologies in this report>

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

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz.

<SAR design target and uncertainty>

Uncertainty dB (k=2)	Freq<3GHz		Freq≥3GHz	
	Main Ant	Aux Ant	Main Ant	Aux Ant
Total uncertainty	1.0	1.5	1.5	2.0

Supported Band	Main Ant	Aux Ant
LTE B5/12/13/17/26	Mian Ant 0	Aux Ant 1
LTE B42/48	Mian Ant 10	Aux Ant 11/12/13
LTE B2/4/7/25/38/41/66	Mian Ant 3	Aux Ant 0/4/5/7
5G NR n5	Mian Ant 0	Aux Ant 1
5G NR n7/38/41/66	Mian Ant 4	Aux Ant 0/3/5
5G NR n77/78	Mian Ant 10	Aux Ant 11/12/13

Note：For Qualcomm Smart Transmitter mechanism is enabled for LTE/5G NR only.

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

$$SAR_design_target < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

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

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

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

Band	Antenna	Head DSI 1	Hotspot DSI 5	Body Worn Sensor Off DSI 4	Sensor On DSI 3	Pmax*
LTE Band 7	Ant 0	29.50	20.00	30.40	20.00	23.00
LTE Band 7	Ant 3	30.40	19.50	27.20	19.50	24.50
LTE Band 7	Ant 4	17.00	17.00	26.90	18.00	24.00
LTE Band 7	Ant 5	21.00	20.00	20.00	24.00	24.00
LTE Band 7	Ant 7	23.00	23.00	23.00	23.00	23.00
LTE Band 12	Ant 0	32.50	29.30	32.10	29.30	24.50
LTE Band 12	Ant 1	24.60	25.20	29.50	24.20	24.20
LTE Band 17	Ant 0	32.50	29.30	32.10	29.30	24.50
LTE Band 17	Ant 1	24.60	25.20	29.50	24.20	24.20
LTE Band 13	Ant 0	31.40	29.90	29.90	29.90	24.50
LTE Band 13	Ant 1	22.20	22.20	28.20	24.20	24.20
LTE Band 2	Ant 3	31.30	21.50	27.70	21.50	24.50
LTE Band 2	Ant 4	16.00	16.00	26.20	19.00	24.00
LTE Band 25	Ant 3	31.30	22.50	27.70	22.50	24.50
LTE Band 25	Ant 4	17.00	17.00	26.20	19.00	24.00
LTE Band 5	Ant 0	29.70	28.60	30.90	28.60	24.50
LTE Band 5	Ant 1	21.20	21.20	29.60	24.20	24.20
LTE Band 26	Ant 0	29.70	28.60	30.90	28.60	24.50
LTE Band 26	Ant 1	21.20	21.20	29.60	24.20	24.20
LTE Band 4	Ant 0	34.10	27.90	32.70	27.90	23.00
LTE Band 4	Ant 3	30.40	21.50	27.70	21.50	24.50
LTE Band 4	Ant 4	16.00	16.00	24.80	19.00	24.00
LTE Band 4	Ant 5	19.00	19.00	21.00	23.00	23.00
LTE Band 66	Ant 0	34.10	27.90	32.70	27.90	23.00
LTE Band 66	Ant 3	30.40	21.50	27.70	21.50	24.50
LTE Band 66	Ant 4	16.50	18.00	24.80	19.00	24.00
LTE Band 66	Ant 5	20.00	20.00	21.00	23.00	23.00
LTE Band 38	Ant 0	28.50	24.70	30.20	24.70	21.00
LTE Band 38	Ant 3	30.70	21.50	27.50	21.50	22.50
LTE Band 38	Ant 4	16.00	16.00	27.90	19.00	22.00
LTE Band 38	Ant 5	20.00	23.10	30.20	22.00	22.00
LTE Band 41	Ant 0	28.50	24.70	30.20	24.70	21.00
LTE Band 41	Ant 3	30.70	21.50	27.50	21.50	22.50
LTE Band 41	Ant 4	16.00	16.00	27.90	19.00	22.00
LTE Band 41	Ant 5	20.00	25.10	31.20	22.00	22.00
LTE Band 42	Ant 10	18.20	18.20	29.10	22.20	22.20
LTE Band 42	Ant 11	24.40	27.30	32.30	32.30	18.50
LTE Band 42	Ant 12	33.30	23.60	26.90	18.00	18.00
LTE Band 42	Ant 13	28.40	16.70	16.70	21.70	21.70

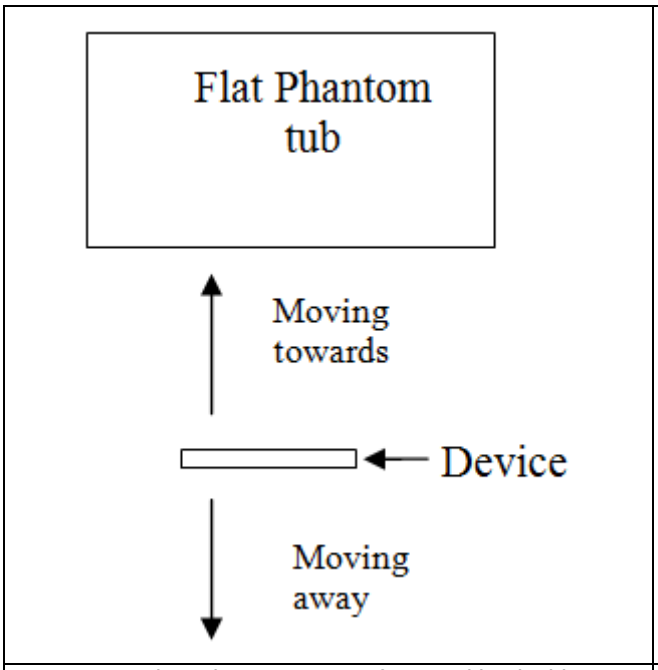
LTE Band 48	Ant 10	15.00	15.00	34.30	20.00	20.00
LTE Band 48	Ant 11	19.70	26.10	28.60	28.60	16.00
LTE Band 48	Ant 12	29.80	20.30	23.40	15.50	15.50
LTE Band 48	Ant 13	30.00	16.50	16.50	19.50	19.50
FR1 n5	Ant 0	30.70	29.30	31.40	29.30	24.50
FR1 n5	Ant 1	21.70	23.70	29.90	24.20	24.20
FR1 n7	Ant 0	30.20	22.00	30.20	22.00	23.00
FR1 n7	Ant 3	31.50	20.50	26.30	20.50	22.50
FR1 n7	Ant 4	16.50	16.50	30.50	19.50	24.50
FR1 n7	Ant 5	22.90	27.30	32.80	21.50	21.50
FR1 n66	Ant 0	33.50	25.10	30.60	25.10	23.00
FR1 n66	Ant 3	29.10	22.00	25.40	22.00	23.00
FR1 n66	Ant 4	17.50	17.50	25.80	21.50	24.50
FR1 n66	Ant 5	20.50	26.20	30.10	21.50	21.50
FR1 n38	Ant 0	27.80	25.00	28.20	25.00	21.00
FR1 n38	Ant 3	31.30	20.50	28.70	22.50	22.50
FR1 n38	Ant 4	18.50	18.50	29.60	18.50	24.50
FR1 n38	Ant 5	20.70	25.50	33.10	24.20	24.20
FR1 n41	Ant 0	27.80	25.00	28.20	25.00	21.00
FR1 n41	Ant 3	31.30	20.50	28.70	22.50	22.50
FR1 n41	Ant 4	19.00	19.50	29.60	20.50	24.50
FR1 n41	Ant 5	20.70	25.50	33.10	24.20	24.20
FR1 n77	Ant 10	18.20	20.20	28.80	23.20	24.20
FR1 n77	Ant 11	18.70	21.70	22.70	22.70	23.70
FR1 n77	Ant 12	42.60	22.70	20.70	23.70	23.70
FR1 n77	Ant 13	30.80	18.20	20.70	23.70	23.70
FR1 n78 PC2	Ant 10	18.50	18.50	29.80	22.50	25.50
FR1 n78 PC2	Ant 11	21.00	22.00	23.00	23.00	25.00
FR1 n78 PC2	Ant 12	39.50	24.50	24.50	25.00	25.00
FR1 n78 PC2	Ant 13	31.40	20.50	20.50	25.00	25.00
FR1 n78 PC3	Ant 10	18.50	18.50	29.80	22.50	24.20
FR1 n78 PC3	Ant 11	21.00	22.00	23.00	23.00	23.70
FR1 n78 PC3	Ant 12	39.50	24.50	24.50	25.00	23.70
FR1 n78 PC3	Ant 13	31.40	20.50	20.50	25.00	23.70

Note: 1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + Total uncertainty.
2) All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD).
3) The max allowed output power is the Plimit + Total uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.
4) LTE Band 7 at Antenna 7 is only active When at CA mode.

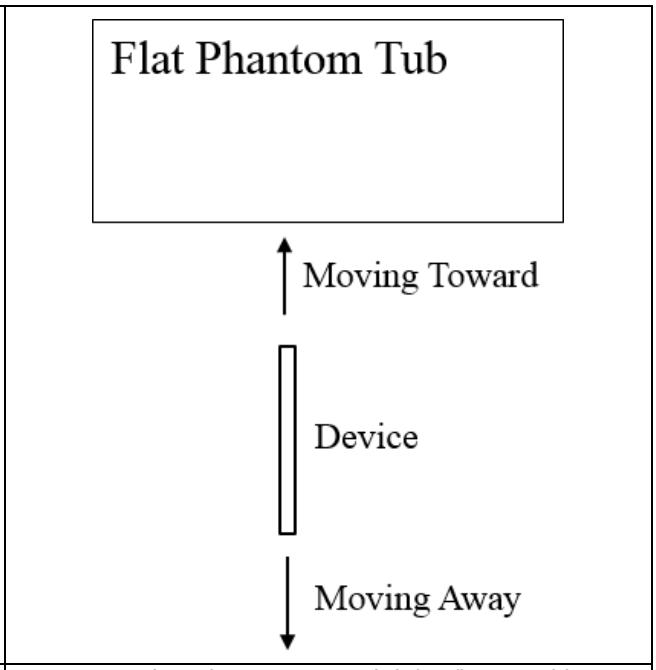
6. Proximity Sensor Triggering Test

6.1 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. Proximity sensor triggering distance testing was performed according and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (5850MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or bottom or left or right or top side 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 sensors can use to detect the proximity of the user's body or handheld states at the front or back or bottom or left or top side of the device use a detection threshold distance. When front/back/left /top/bottom sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below.
5. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



Sensor detection test set-up, front and back sides



Sensor detection test set-up, left /top/bottom sides

<P-Sensor>

< Sensor for Ant0/Ant3 >

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

< Sensor for Ant4/Ant10 >

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	6	6	6	6	6

7. RF Exposure Limits

7.1 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.

7.2 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.

8. Specific Absorption Rate (SAR)

8.1 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.

8.2 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:

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

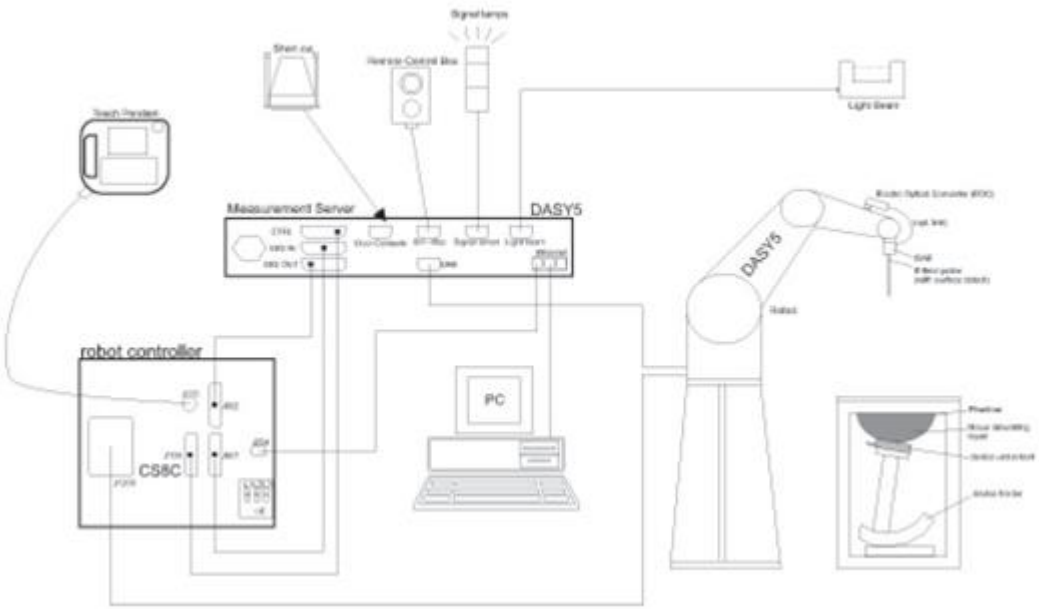
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. 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.

9.1 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.

<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	

<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	

9.2 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.

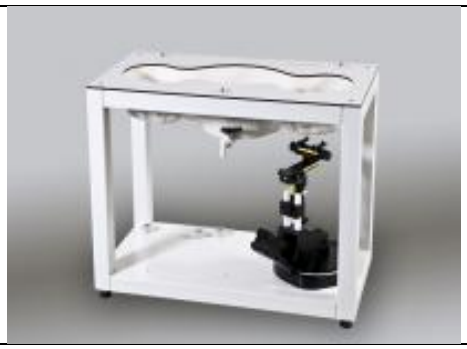
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

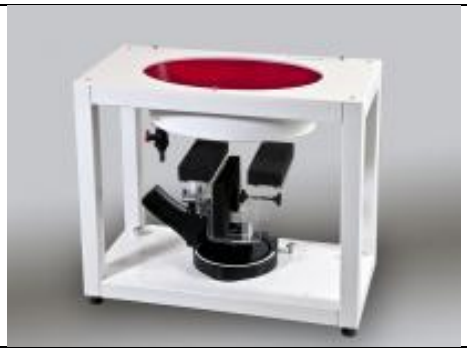
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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.

9.4 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

10. 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

10.1 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

10.2 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.

10.3 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.	

10.4 Zoom Scan

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

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

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

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

10.5 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.

10.6 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.

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2019/3/27	2022/3/24
SPEAG	835MHz System Validation Kit	D835V2	4d258	2020/5/7	2023/5/6
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2022/3/25
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2022/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2022/3/23
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/25
SPEAG	3300MHz System Validation Kit	D3300V2	1007	2019/4/29	2022/4/14
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2023/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2023/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/22
SPEAG	Data Acquisition Electronics	DAE4	1356	2021/6/1	2022/5/31
SPEAG	Data Acquisition Electronics	DAE4	1303	2021/6/18	2022/6/17
SPEAG	Dosimetric E-Field Probe	ES3DV3	3279	2021/8/24	2022/8/23
SPEAG	Dosimetric E-Field Probe	EX3DV4	7592	2021/6/24	2022/6/23
SPEAG	Dosimetric E-Field Probe	EX3DV4	7684	2021/10/4	2022/10/3
SPEAG	SAM Twin Phantom	SAM Twin	TP-1503	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-1697	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332088	2021/1/7	2022/1/6
Testo	Thermo-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	2021/7/31	2022/7/30
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2021/6/9	2022/6/8
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/7	2022/1/6
Rohde & Schwarz	Power Meter	NRVD	102081	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2021/8/12	2022/8/11
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101632	2021/1/7	2022/1/6
FLUKE	DIGITAC THERMOMETER	51II	97240029	2021/8/13	2022/8/12
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.

12. System Verification

12.1 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. 12.1. 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. 12.2.

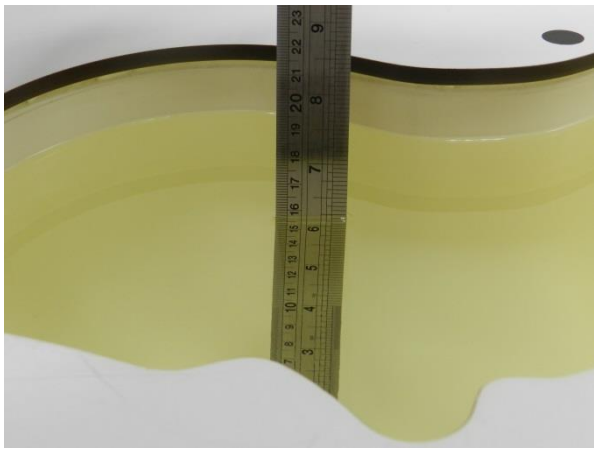


Fig 12.1 Photo of Liquid Height for Head SAR

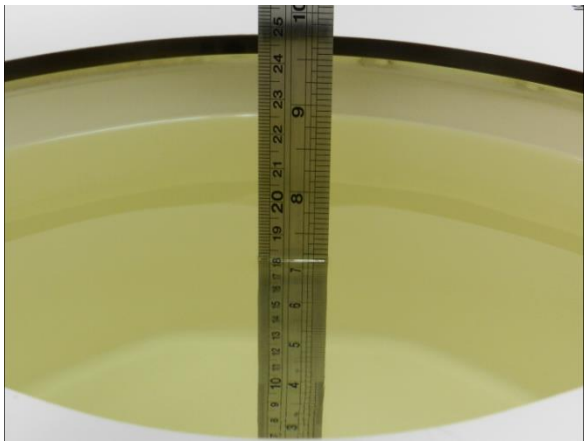


Fig 12.2 Photo of Liquid Height for Body SAR

12.2 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	0.903	41.431	0.89	41.90	1.46	-1.12	±5	2021/11/10
835	Head	22.7	0.933	41.178	0.90	41.50	3.67	-0.78	±5	2021/11/11
1750	Head	22.6	1.343	38.989	1.37	40.10	-1.97	-2.77	±5	2021/11/12
1900	Head	22.9	1.427	38.725	1.40	40.00	1.93	-3.19	±5	2021/11/13
2450	Head	22.8	1.868	40.798	1.80	39.20	3.78	4.08	±5	2021/11/16
2600	Head	22.6	1.927	38.263	1.96	39.00	-1.68	-1.89	±5	2021/11/14
3300	Head	22.7	2.628	39.369	2.71	38.20	-3.03	3.06	±5	2021/11/20
3500	Head	22.9	2.809	39.000	2.91	37.90	-3.47	2.90	±5	2021/11/22
3700	Head	22.7	2.995	38.685	3.12	37.70	-4.01	2.61	±5	2021/11/24
3900	Head	22.8	3.219	38.420	3.32	37.50	-3.04	2.45	±5	2021/11/26
4100	Head	22.6	3.495	37.199	3.53	37.28	-0.99	-0.22	±5	2021/11/23
5250	Head	22.7	4.565	35.975	4.71	35.90	-3.08	0.21	±5	2021/11/28
5600	Head	22.6	4.960	35.406	5.07	35.50	-2.17	-0.26	±5	2021/12/1
5750	Head	22.9	5.136	35.250	5.22	35.40	-1.61	-0.42	±5	2021/12/3
750	Head	22.6	0.908	42.685	0.89	41.90	2.02	1.87	±5	2021/11/24
835	Head	22.8	0.938	42.440	0.90	41.50	4.22	2.27	±5	2021/11/25
1750	Head	22.7	1.344	39.101	1.37	40.10	-1.90	-2.49	±5	2021/11/26
1900	Head	22.6	1.428	38.836	1.40	40.00	2.00	-2.91	±5	2021/11/27
2450	Head	22.9	1.805	38.550	1.80	39.20	0.28	-1.66	±5	2021/12/3
2600	Head	22.7	1.930	39.035	1.96	39.00	-1.53	0.09	±5	2021/12/1
750	Head	22.6	0.915	43.396	0.89	41.90	2.81	3.57	±5	2021/11/17
835	Head	22.6	0.929	40.932	0.90	41.50	3.22	-1.37	±5	2021/11/18
1750	Head	22.7	1.359	40.944	1.37	40.10	-0.80	2.10	±5	2021/11/19
1900	Head	22.6	1.456	40.696	1.40	40.00	4.00	1.74	±5	2021/11/20
2450	Head	22.6	1.808	38.559	1.80	39.20	0.44	-1.64	±5	2021/12/4
2600	Head	22.7	1.923	38.258	1.96	39.00	-1.89	-1.90	±5	2021/12/5
2600	Head	22.6	1.926	39.031	1.96	39.00	-1.73	0.08	±5	2021/12/28

12.3 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 (%)
2021/11/10	750	Head	50	1087	3279	1356	0.403	8.36	8.06	-3.59
2021/11/11	835	Head	50	4d258	3279	1356	0.500	9.44	10	5.93
2021/11/12	1750	Head	50	1090	3279	1356	1.750	36.40	35	-3.85
2021/11/13	1900	Head	50	5d170	3279	1356	1.980	39.00	39.6	1.54
2021/11/16	2450	Head	50	908	3279	1356	2.630	52.80	52.6	-0.38
2021/11/14	2600	Head	50	1061	3279	1356	2.750	56.60	55	-2.83
2021/11/20	3300	Head	50	1007	7592	1303	3.150	67.70	63	-6.94
2021/11/22	3500	Head	50	1037	7592	1303	3.170	68.00	63.4	-6.76
2021/11/24	3700	Head	50	1008	7592	1303	3.140	67.60	62.8	-7.10
2021/11/26	3900	Head	50	1048	7592	1303	3.280	70.20	65.6	-6.55
2021/11/23	4100	Head	50	1048	7592	1303	3.250	68.90	65	-5.66
2021/11/28	5250	Head	50	1113	7592	1303	3.720	80.50	74.4	-7.58
2021/12/1	5600	Head	50	1113	7592	1303	4.080	83.40	81.6	-2.16
2021/12/3	5750	Head	50	1113	7592	1303	3.880	80.00	77.6	-3.00
2021/11/24	750	Head	50	1087	3279	1356	0.406	8.36	8.12	-2.87
2021/11/25	835	Head	50	4d258	3279	1356	0.505	9.44	10.1	6.99
2021/11/26	1750	Head	50	1090	3279	1356	1.740	36.40	34.8	-4.40
2021/11/27	1900	Head	50	5d170	3279	1356	1.830	39.00	36.6	-6.15
2021/12/3	2450	Head	50	908	3279	1356	2.620	52.80	52.4	-0.76
2021/12/1	2600	Head	50	1061	3279	1356	2.770	56.60	55.4	-2.12
2021/11/17	750	Head	50	1087	3279	1356	0.407	8.36	8.14	-2.63
2021/11/18	835	Head	50	4d258	3279	1356	0.503	9.44	10.06	6.57
2021/11/19	1750	Head	50	1090	3279	1356	1.760	36.40	35.2	-3.30
2021/11/20	1900	Head	50	5d170	3279	1356	1.950	39.00	39	0.00
2021/12/4	2450	Head	50	908	3279	1356	2.700	52.80	54	2.27
2021/12/5	2600	Head	50	1061	3279	1356	2.680	56.60	53.6	-5.30
2021/12/28	2600	Head	50	1061	7684	1303	2.640	56.60	52.8	-6.71

<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 (%)
2021/11/10	750	Head	50	1087	3279	1356	0.264	5.65	5.28	-6.55
2021/11/11	835	Head	50	4d258	3279	1356	0.324	6.13	6.48	5.71
2021/11/12	1750	Head	50	1090	3279	1356	0.922	19.20	18.44	-3.96
2021/11/13	1900	Head	50	5d170	3279	1356	1.020	20.30	20.4	0.49
2021/11/16	2450	Head	50	908	3279	1356	1.230	24.20	24.6	1.65
2021/11/14	2600	Head	50	1061	3279	1356	1.230	25.10	24.6	-1.99
2021/11/20	3300	Head	50	1007	7592	1303	1.210	25.90	24.2	-6.56
2021/11/22	3500	Head	50	1037	7592	1303	1.180	25.40	23.6	-7.09
2021/11/24	3700	Head	50	1008	7592	1303	1.190	24.40	23.8	-2.46
2021/11/26	3900	Head	50	1048	7592	1303	1.140	24.40	22.8	-6.56
2021/11/23	4100	Head	50	1048	7592	1303	1.130	23.70	22.6	-4.64
2021/11/28	5250	Head	50	1113	7592	1303	1.090	23.10	21.8	-5.63
2021/12/1	5600	Head	50	1113	7592	1303	1.110	23.80	22.2	-6.72
2021/12/3	5750	Head	50	1113	7592	1303	1.050	22.80	21	-7.89
2021/11/24	750	Head	50	1087	3279	1356	0.266	5.65	5.32	-5.84
2021/11/25	835	Head	50	4d258	3279	1356	0.327	6.13	6.54	6.69
2021/11/26	1750	Head	50	1090	3279	1356	0.919	19.20	18.38	-4.27
2021/11/27	1900	Head	50	5d170	3279	1356	0.936	20.30	18.72	-7.78
2021/12/3	2450	Head	50	908	3279	1356	1.170	24.20	23.4	-3.31
2021/12/1	2600	Head	50	1061	3279	1356	1.240	25.10	24.8	-1.20
2021/11/17	750	Head	50	1087	3279	1356	0.268	5.65	5.36	-5.13
2021/11/18	835	Head	50	4d258	3279	1356	0.329	6.13	6.58	7.34
2021/11/19	1750	Head	50	1090	3279	1356	0.931	19.20	18.62	-3.02
2021/11/20	1900	Head	50	5d170	3279	1356	0.988	20.30	19.76	-2.66
2021/12/4	2450	Head	50	908	3279	1356	1.170	24.20	23.4	-3.31
2021/12/5	2600	Head	50	1061	3279	1356	1.200	25.10	24	-4.38
2021/12/28	2600	Head	50	1061	7684	1303	1.180	25.10	23.6	-5.98

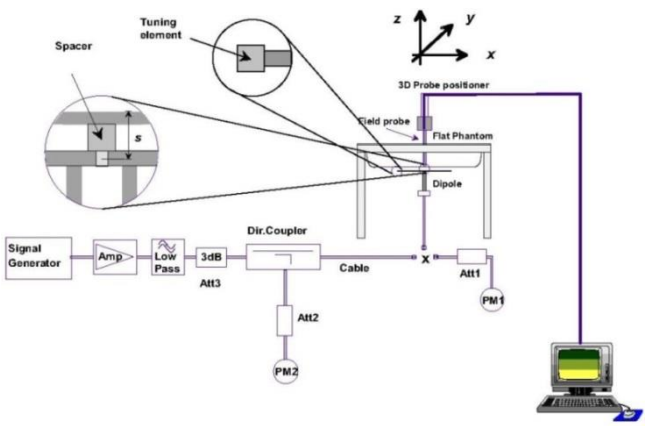


Fig 12.3.1 System Performance Check Setup

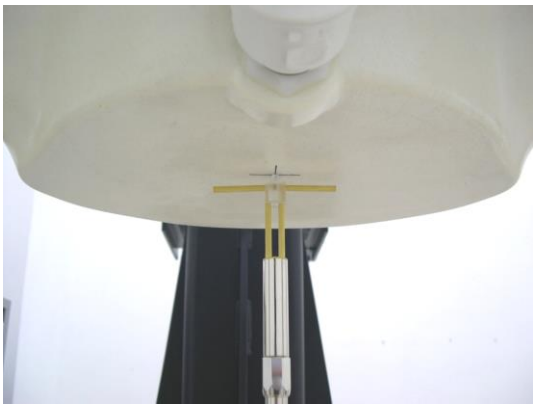


Fig 12.3.2 Setup Photo

13. RF Exposure Positions

13.1 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.

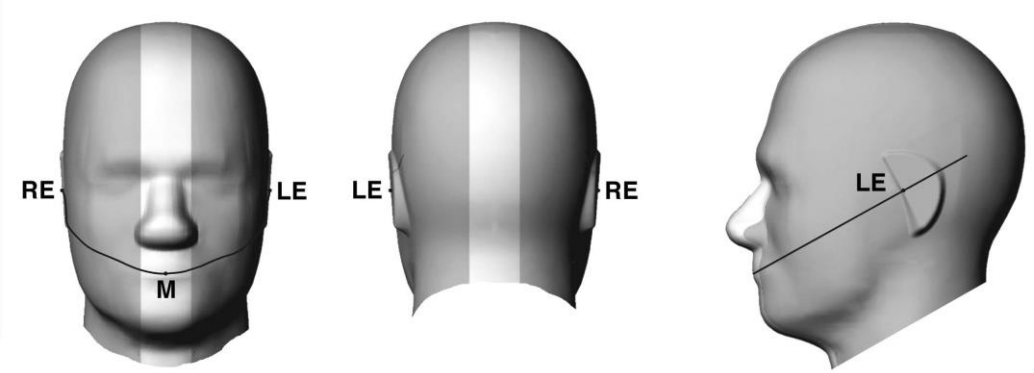


Fig 12.1.1 Front, back, and side views of SAM twin phantom

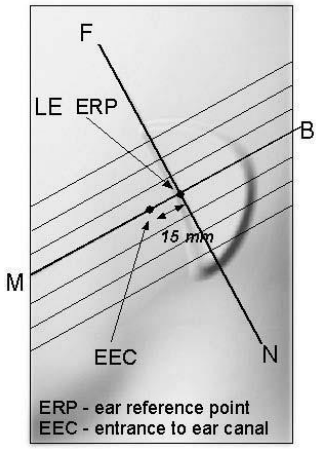


Fig 12.1.2 Close-up side view of phantom showing the ear region.

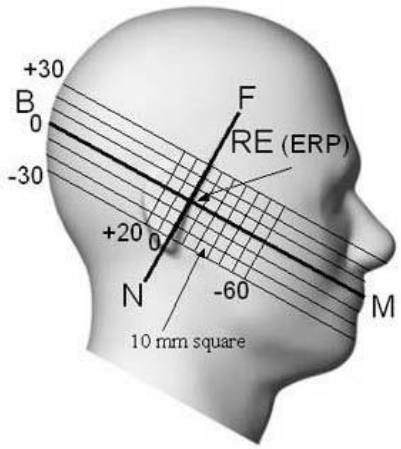


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 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.

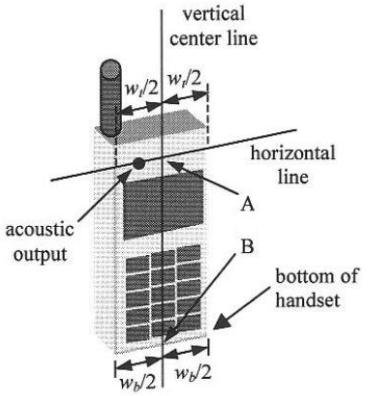


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

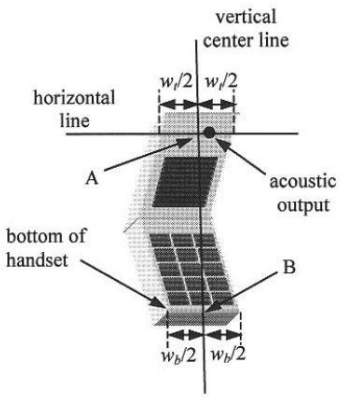


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

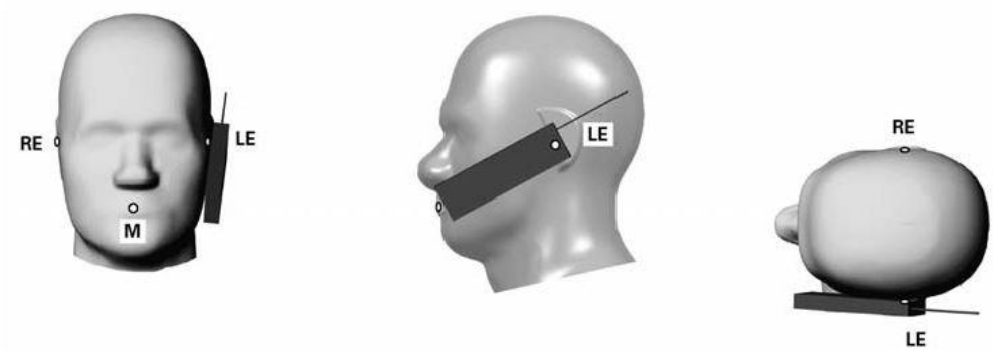


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 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

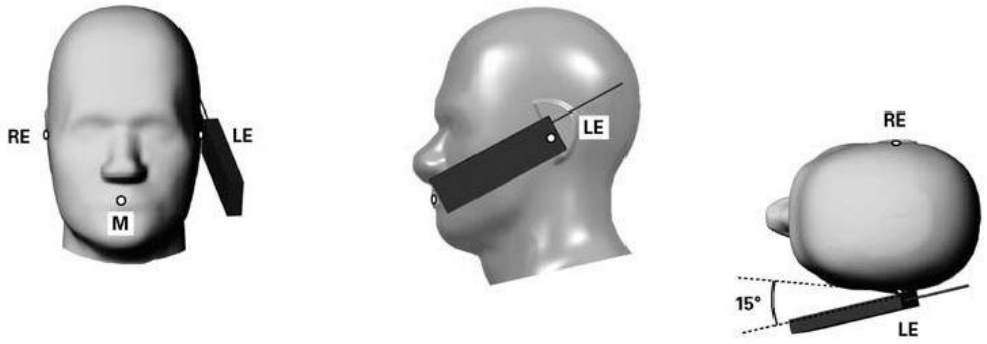


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 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.

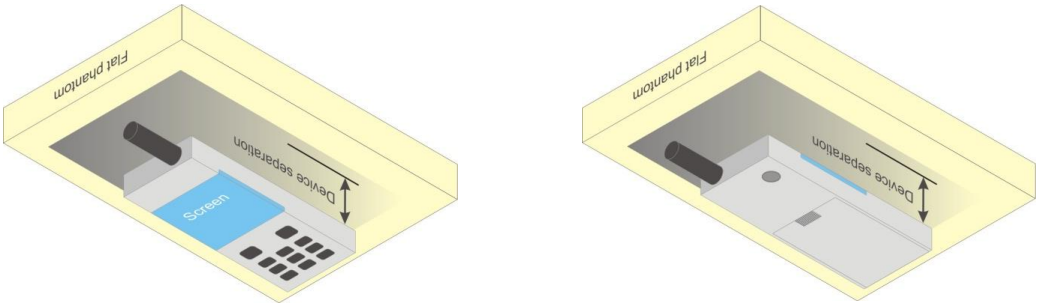


Fig 12.4 Body Worn Position

13.5 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.

13.6 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.

14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

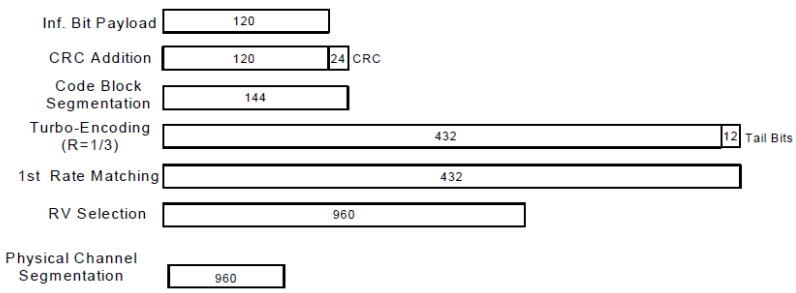


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

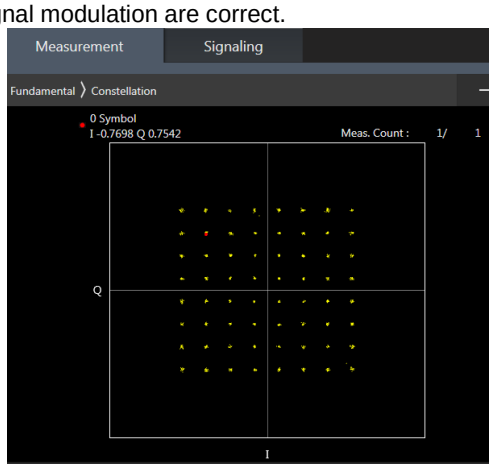
General Note:

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

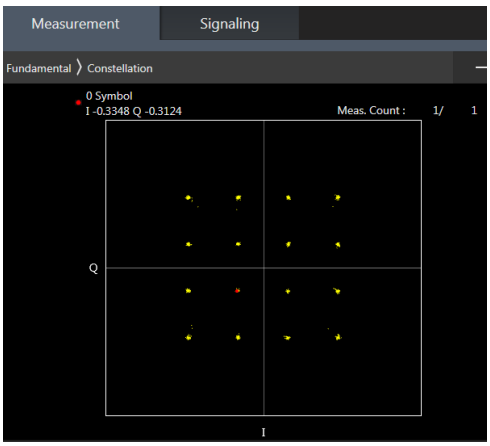
<LTE Conducted Power>

General Note:

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

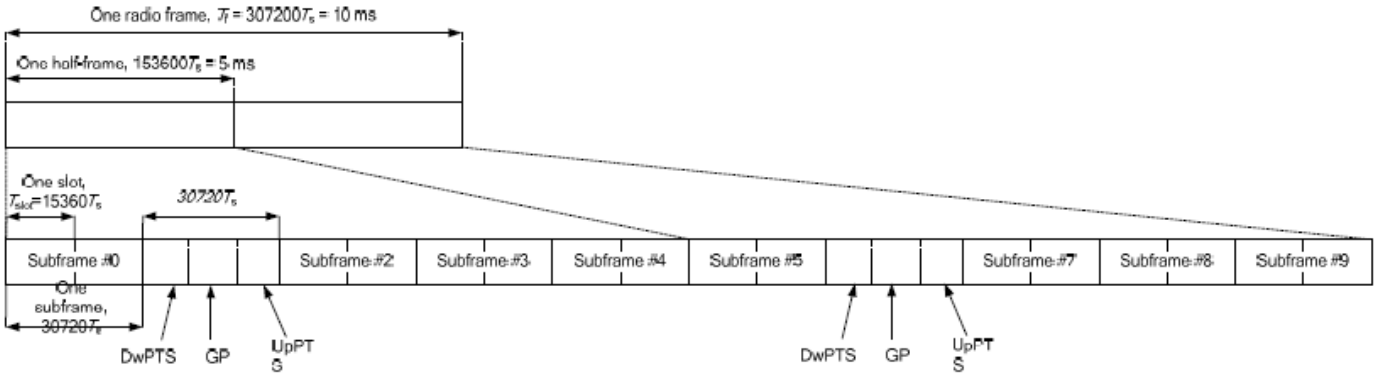


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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.
4. All permutations exist. No restrictions on Pcell & Scell combinations.

2CC Downlink Carrier Aggregation		3CC Downlink Carrier Aggregation		4CC Downlink Carrier Aggregation	
Number	Combination	Number	Combination	Number	Combination
1	CA_2C	1	CA_2A-4A-5A	1	CA_7C-66A-66A
2	CA_2A-4A	2	CA_2A-4A-7A		
3	CA_2A-5A	3	CA_2A-7A-7A		
4	CA_2A-7A	4	CA_2A-7C		
5	CA_5A-7A	5	CA_4A-7C		
6	CA_5A-66A	6	CA_5A-7A-7A		
7	CA_7A-7A	7	CA_5A-7C		
8	CA_7C	8	CA_5A-7A-66A		
9	CA_7A-42A	9	CA_5A-66A-66A		
10	CA_12A-66A	10	CA_7A-66A-66A		
11	CA_38C	11	CA_12A-66A-66A		
12	CA_41A-41A	12	CA_7C-66A		
13	CA_41C	13	CA_41A-41A-41A		
14	CA_66A-66A				
15	CA_7A-66A				
16	CA_2A-66A				
17	CA_42C				
18	CA_5A-41A				
19	CA_4A-48A				
20	CA_5A-48A				
21	CA_12A-48A				
22	CA_41A-48A				
23	CA_48A-48A				
24	CA_48A-66A				
25	CA_4A-5A				
26	CA_4A-7A				
27	CA_66B				
28	CA_66C				

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 4/7/66/38/41/42/48 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/B42/48/B66

LTE Carrier Aggregation Conducted Power (Uplink)

<Intra-band>

2CC Uplink Carrier Aggregation	
Number	Combination
1	7C
2	38C
3	42C

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/B38/B42 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 uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Combination	Band&Ant No.	Band&Ant No.
4A-7A	LTE B4: Ant0/Ant3/Ant4/Ant5	LTE B7: Ant0/Ant3/Ant4/Ant5

General Note:

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. In Part 1 Report, simultaneous transmission compliance was evaluated with other Radios (WLAN or BT) using standalone LTE SAR mode.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n5, n7, n66, n78 supports NSA operation.
2. 5G NR n5, n7, n66, n38, n41, n77, n78 supports SA operation.
3. 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/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM AM 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
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 5G NR n77/n78 supports MIMO mode only limit to SA mode. For per chain power of MIMO mode power level is SISO mode power power level(standalone SA mode).
11. 5GNR n78 supports HPUE, HPUE power and SAR testing performed separately.
12. 5GNR n78 HUPE with higher power, 5GNR n78 HUPE SAR can represent power class 3 level SAR.

<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 List	LTE Ant No.	NR Ant No.
DC_7A-N5A	Ant0/Ant3/Ant4/Ant5	Ant0/Ant1
DC_5A-N66A	Ant0/Ant1	Ant0/Ant3/Ant4/Ant5
DC_12A-N66A	Ant0/Ant1	Ant0/Ant3/Ant4/Ant5
DC_7A-N66A	Ant0/Ant4	Ant3/Ant5
DC_5A-N7A	Ant0/Ant1	Ant0/Ant3/Ant4/Ant5
DC_66A-N7A	Ant3/Ant5	Ant0/Ant4
DC_7A-N78A	Ant0/Ant3/Ant4/Ant5	Ant10/Ant11/Ant12/Ant13
DC_66A-N78A	Ant0/Ant3/Ant4/Ant5	Ant10/Ant11/Ant12/Ant13
DC_38A-N78A	Ant0/Ant3/Ant4/Ant5	Ant10/Ant11/Ant12/Ant13
DC_41A-N78A	Ant0/Ant3/Ant4/Ant5	Ant10/Ant11/Ant12/Ant13
DC_2A-N78A	Ant3/Ant4	Ant10/Ant11/Ant12/Ant13
DC_5A-N78A	Ant0/Ant1	Ant10/Ant11/Ant12/Ant13

UL MIMO combination:

NR UL MIMO	TX Ant	TX Ant
FR1 n77	Ant10/Ant11/Ant12/Ant13	Ant10/Ant11/Ant12/Ant13
FR1 n78	Ant10/Ant11/Ant12/Ant13	Ant10/Ant11/Ant12/Ant13

<WLAN Conducted Power>

General Note:

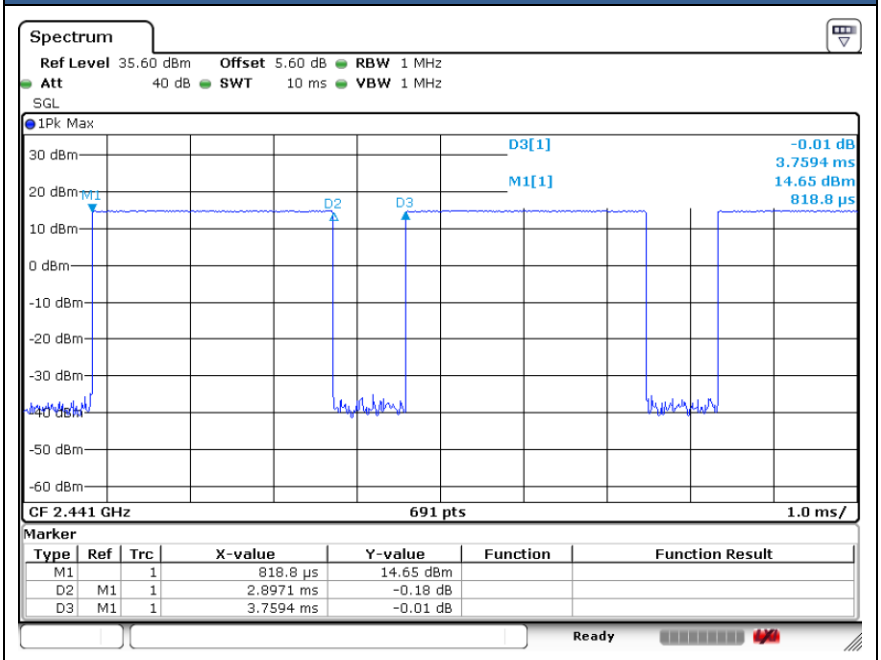
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. 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. For full RU and partial tone size output power measurement, after verification for the partial tone size mode power level will not higher than full tone size power level, so chose full tone power to be measured in this report.

<2.4GHz Bluetooth>

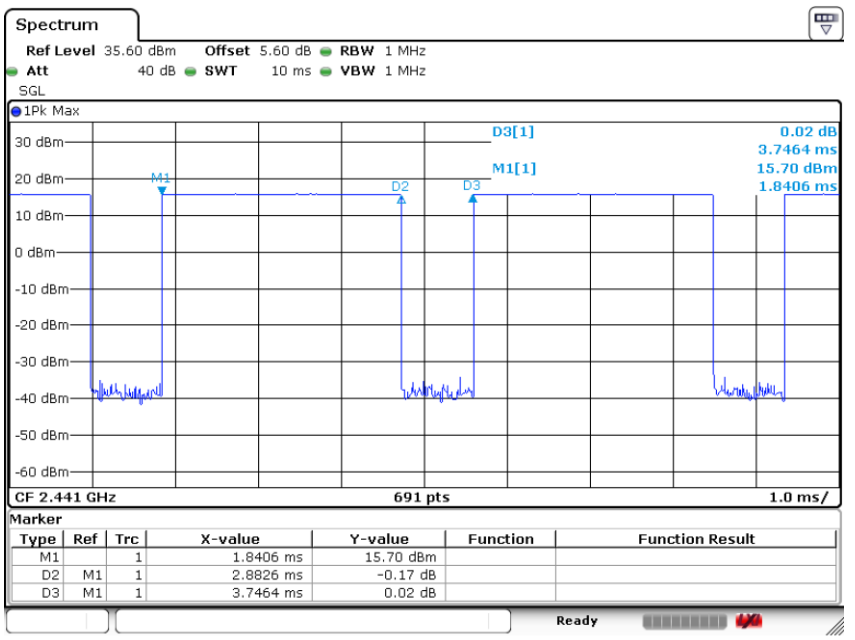
General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 77.06 % for ANT16, and 76.94 % for ANT18 as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to100% for Bluetooth reported SAR calculation

Bluetooth time-domain plot for ANT16



Bluetooth time-domain plot for ANT18



15. Antenna Location

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

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of BT/WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
5. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
6. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head, hotspot, extremity.
7. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
8. 5G NR n77/n78 supports MIMO mode only limit to SA mode.
9. 5GNR n78 supports HPUE, HPUE power and SAR testing performed separately.
10. 5GNR n78 HUPE with higher power, 5GNR n78 HUPE SAR can represent power class 3 level SAR.
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. 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. GSM1900, WCDMA B4 are required to be tested.
    b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
    c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

GSM Note:

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

WCDMA Note:

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

LTE Note:

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

5G NR Note:

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

WLAN Note:

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

DSI status description:

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

This WWAN bands enabled with Qualcomm Smart Transmit feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

Exposure Condition	DSI
Head SAR	DSI 1
Body worn Mode SAR	DSI 4
Hotspot Mode SAR	DSI 5
Extremity(Handheld) SAR	DSI 3

16.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 1	23095	707.5	24.54	25.50	1.247	0.01	0.140	0.175
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 0	DSI 1	23095	707.5	23.54	24.50	1.247	0.04	0.122	0.152
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 1	23095	707.5	24.54	25.50	1.247	0.07	0.092	0.115
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 0	DSI 1	23095	707.5	23.54	24.50	1.247	0.04	0.078	0.097
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 1	23095	707.5	24.54	25.50	1.247	0.03	0.112	0.140
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 0	DSI 1	23095	707.5	23.54	24.50	1.247	-0.02	0.095	0.119
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 1	23095	707.5	24.54	25.50	1.247	0.01	0.080	0.100
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 0	DSI 1	23095	707.5	23.54	24.50	1.247	0.04	0.066	0.082
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 1	23095	707.5	24.46	25.70	1.330	0.13	0.758	1.008
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI 1	23095	707.5	23.54	24.70	1.306	-0.17	0.622	0.812
01	LTE Band 12	10M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 1	23095	707.5	23.53	24.70	1.309	-0.02	0.834	**1.092**
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 1	23095	707.5	24.46	25.70	1.330	0.05	0.316	0.420
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI 1	23095	707.5	23.54	24.70	1.306	0.17	0.303	0.396
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 1	23095	707.5	24.46	25.70	1.330	-0.19	0.584	0.777
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI 1	23095	707.5	23.54	24.70	1.306	0.07	0.515	0.673
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 1	23095	707.5	24.46	25.70	1.330	-0.07	0.269	0.358
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI 1	23095	707.5	23.54	24.70	1.306	-0.07	0.226	0.295
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 1	23230	782	24.53	25.50	1.250	0.02	0.178	0.223
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 0	DSI 1	23230	782	23.63	24.50	1.222	-0.05	0.143	0.175
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 1	23230	782	24.53	25.50	1.250	-0.04	0.128	0.160
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 0	DSI 1	23230	782	23.63	24.50	1.222	0.12	0.103	0.126
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 1	23230	782	24.53	25.50	1.250	0.07	0.157	0.196
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 0	DSI 1	23230	782	23.63	24.50	1.222	0.08	0.127	0.155
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 1	23230	782	24.53	25.50	1.250	-0.15	0.115	0.144
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 0	DSI 1	23230	782	23.63	24.50	1.222	0.03	0.092	0.112
02	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 1	23230	782	22.62	23.70	1.282	-0.05	0.850	**1.090**
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI 1	23230	782	22.48	23.70	1.324	-0.06	0.726	0.961
	LTE Band 13	10M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 1	23230	782	22.42	23.70	1.343	0.16	0.751	1.008
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 1	23230	782	22.62	23.70	1.282	0.18	0.352	0.451
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI 1	23230	782	22.48	23.70	1.324	0.05	0.313	0.415
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 1	23230	782	22.62	23.70	1.282	0.06	0.652	0.836
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI 1	23230	782	22.48	23.70	1.324	0.02	0.521	0.690
	LTE Band 13	10M	QPSK	50	0	Right Cheek	0mm	Ant 1	DSI 1	23230	782	22.42	23.70	1.343	0.03	0.603	0.810
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 1	23230	782	22.62	23.70	1.282	-0.15	0.243	0.312
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI 1	23230	782	22.48	23.70	1.324	0.03	0.231	0.306

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 1	189	836.4	26.58	27.50	1.236	0.04	0.183	0.226
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 1	189	836.4	26.58	27.50	1.236	0.11	0.095	0.117
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 1	189	836.4	26.58	27.50	1.236	-0.05	0.113	0.140
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 1	189	836.4	26.58	27.50	1.236	-0.04	0.062	0.077
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 1	189	836.4	24.47	26.00	1.422	0.01	0.645	**0.917**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 1	128	824.2	24.31	26.00	1.476	0.06	0.613	0.905
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 1	251	848.8	24.42	26.00	1.439	-0.06	0.625	0.899
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI 1	189	836.4	24.47	26.00	1.422	0.04	0.080	0.114
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 1	189	836.4	24.47	26.00	1.422	-0.06	0.424	0.603
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 1	189	836.4	24.47	26.00	1.422	0.02	0.067	0.095
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 1	4182	836.4	24.34	25.00	1.164	0.08	0.255	0.297
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 1	4182	836.4	24.34	25.00	1.164	0.05	0.131	0.153
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 1	4182	836.4	24.34	25.00	1.164	0.1	0.175	0.204
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 1	4182	836.4	24.34	25.00	1.164	0.04	0.106	0.123
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	4182	836.4	21.50	22.00	1.122	-0.02	0.690	**0.774**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	4182	836.4	21.50	22.00	1.122	0.04	0.102	0.114
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	4182	836.4	21.50	22.00	1.122	0.05	0.484	0.543
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	4182	836.4	21.50	22.00	1.122	0.18	0.096	0.108
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	26865	831.5	24.35	25.50	1.303	-0.05	0.253	0.330
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 1	26865	831.5	23.41	24.50	1.285	0.08	0.216	0.278
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	26865	831.5	24.35	25.50	1.303	0.02	0.141	0.184
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 1	26865	831.5	23.41	24.50	1.285	0.06	0.121	0.156
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	26865	831.5	24.35	25.50	1.303	0.11	0.169	0.220
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 1	26865	831.5	23.41	24.50	1.285	-0.02	0.137	0.176
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	26865	831.5	24.35	25.50	1.303	-0.12	0.109	0.142
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 1	26865	831.5	23.41	24.50	1.285	-0.1	0.083	0.107
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 1	26865	831.5	21.46	22.70	1.330	0.11	0.536	0.713
05	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI 1	26865	831.5	21.42	22.70	1.343	-0.01	0.596	**0.800**
	LTE Band 26	15M	QPSK	75	0	-	Left Cheek	0mm	Ant 1	DSI 1	26865	831.5	21.43	22.70	1.340	0.06	0.531	0.711
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 1	26865	831.5	21.46	22.70	1.330	-0.15	0.066	0.088
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 1	DSI 1	26865	831.5	21.42	22.70	1.343	0.03	0.072	0.097
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 1	26865	831.5	21.46	22.70	1.330	0.08	0.316	0.420
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 1	DSI 1	26865	831.5	21.42	22.70	1.343	-0.07	0.376	0.505
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 1	26865	831.5	21.46	22.70	1.330	0.06	0.060	0.080
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 1	DSI 1	26865	831.5	21.42	22.70	1.343	0.13	0.064	0.086
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.20	25.50	1.072	0.16	0.240	0.257
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.17	25.50	1.079	0.04	0.244	0.263
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.20	25.50	1.072	0.06	0.138	0.148
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.17	25.50	1.079	-0.17	0.123	0.133
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.20	25.50	1.072	-0.12	0.156	0.167
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.17	25.50	1.079	0.04	0.153	0.165
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.20	25.50	1.072	0.02	0.104	0.111
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.17	25.50	1.079	-0.09	0.096	0.104
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.65	23.20	1.135	0.09	0.650	0.738
06	FR1 n5	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.56	23.20	1.159	0.09	0.821	**0.951**
	FR1 n5	20M	QPSK	100	0	DFT-15	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.55	23.20	1.161	-0.16	0.582	0.676
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 1	167300	836.5	22.65	23.20	1.135	0.04	0.079	0.090
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 1	DSI 1	167300	836.5	22.56	23.20	1.159	0.19	0.099	0.115
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.65	23.20	1.135	0.03	0.422	0.479
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.56	23.20	1.159	0.17	0.529	0.613
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 1	167300	836.5	22.65	23.20	1.135	-0.16	0.071	0.081
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 1	DSI 1	167300	836.5	22.56	23.20	1.159	0.19	0.086	0.100

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	Left Cheek	0mm	Ant 3	DSI 1	1413	1732.6	23.99	25.00	1.262	-0.01	0.236	0.298
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DSI 1	1413	1732.6	23.99	25.00	1.262	-0.06	0.072	0.091
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 1	1413	1732.6	23.99	25.00	1.262	-0.1	0.176	0.222
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 1	1413	1732.6	23.99	25.00	1.262	0.16	0.078	0.098
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	1413	1732.6	14.92	16.00	1.282	0.01	0.246	0.315
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1413	1732.6	14.92	16.00	1.282	-0.15	0.395	0.507
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	1413	1732.6	14.92	16.00	1.282	0.02	0.338	0.433
07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	1413	1732.6	14.92	16.00	1.282	0.04	0.465	**0.596**
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	132322	1745	23.07	24.50	1.390	-0.04	0.015	0.021
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	132322	1745	22.09	23.50	1.384	0.09	0.017	0.024
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	132322	1745	23.07	24.50	1.390	-0.12	0.021	0.029
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	132322	1745	22.09	23.50	1.384	0.07	0.024	0.033
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	132322	1745	23.07	24.50	1.390	0.17	0.061	0.085
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	132322	1745	22.09	23.50	1.384	-0.03	0.054	0.075
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	132322	1745	23.07	24.50	1.390	0.05	0.011	0.015
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	132322	1745	22.09	23.50	1.384	0.06	0.009	0.012
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 1	132322	1745	24.48	25.50	1.265	0.05	0.174	0.220
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 1	132322	1745	23.53	24.50	1.250	-0.03	0.177	0.221
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 1	132322	1745	24.48	25.50	1.265	-0.16	0.055	0.070
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 1	132322	1745	23.53	24.50	1.250	0.03	0.069	0.086
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 1	132322	1745	24.48	25.50	1.265	-0.07	0.128	0.162
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 1	132322	1745	23.53	24.50	1.250	0.16	0.126	0.158
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 1	132322	1745	24.48	25.50	1.265	0.04	0.072	0.091
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 1	132322	1745	23.53	24.50	1.250	0.06	0.070	0.088
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	16.71	18.00	1.346	0.17	0.262	0.353
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	16.67	18.00	1.358	-0.04	0.266	0.361
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	16.71	18.00	1.346	0.02	0.504	0.678
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	16.67	18.00	1.358	-0.1	0.510	0.693
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	16.71	18.00	1.346	0.07	0.383	0.515
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	16.67	18.00	1.358	0.08	0.378	0.513
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	16.71	18.00	1.346	-0.04	0.601	0.809
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	132072	1720	16.64	18.00	1.368	0.06	0.526	0.719
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	132572	1770	16.66	18.00	1.361	0.03	0.571	0.777
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	16.67	18.00	1.358	0.13	0.577	0.784
	LTE Band 66	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	16.64	18.00	1.368	0.01	0.556	0.760
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 1	132322	1745	20.09	21.50	1.384	-0.08	0.233	0.322
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DSI 1	132322	1745	20.05	21.50	1.396	0.06	0.238	0.332
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 1	132322	1745	20.09	21.50	1.384	0.05	0.113	0.156
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 1	132322	1745	20.05	21.50	1.396	0.09	0.113	0.158
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	132322	1745	20.09	21.50	1.384	0.02	0.634	0.877
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	132072	1720	20.01	21.50	1.409	0.06	0.594	0.837
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	132572	1770	19.86	21.50	1.459	-0.05	0.603	0.880
08	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	132322	1745	20.05	21.50	1.396	0.03	0.651	**0.909**
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	132072	1720	19.90	21.50	1.445	0.02	0.603	0.872
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	132572	1770	19.81	21.50	1.476	0.03	0.610	0.900
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 5	DSI 1	132322	1745	19.99	21.50	1.416	0.09	0.579	0.820
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 1	132322	1745	20.09	21.50	1.384	0.14	0.288	0.398
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 1	132322	1745	20.05	21.50	1.396	0.07	0.298	0.416
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	349000	1745	22.95	24.50	1.429	0.18	0.026	0.037
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	349000	1745	22.91	24.50	1.442	0.08	0.028	0.040
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	349000	1745	22.95	24.50	1.429	-0.12	0.020	0.029
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	349000	1745	22.91	24.50	1.442	0.08	0.024	0.035
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	349000	1745	22.95	24.50	1.429	0.09	0.059	0.084

	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	349000	1745	22.91	24.50	1.442	-0.17	0.068	0.098
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	349000	1745	22.95	24.50	1.429	0.02	0.016	0.023
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	349000	1745	22.91	24.50	1.442	0.03	0.013	0.019
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 3	DSI 1	349000	1745	22.82	24.00	1.312	0.09	0.184	0.241
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 3	DSI 1	349000	1745	22.70	24.00	1.349	0.05	0.201	0.271
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 3	DSI 1	349000	1745	22.82	24.00	1.312	0.08	0.050	0.066
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 3	DSI 1	349000	1745	22.70	24.00	1.349	0.06	0.000	0.000
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 3	DSI 1	349000	1745	22.82	24.00	1.312	-0.13	0.190	0.249
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 3	DSI 1	349000	1745	22.70	24.00	1.349	0.03	0.190	0.256
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 3	DSI 1	349000	1745	22.82	24.00	1.312	0.08	0.073	0.096
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 3	DSI 1	349000	1745	22.70	24.00	1.349	0.01	0.078	0.105
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	17.64	18.50	1.219	0.02	0.495	0.603
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	17.60	18.50	1.230	0.01	0.485	0.597
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	17.64	18.50	1.219	0.19	0.744	0.907
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	17.60	18.50	1.230	-0.08	0.728	0.896
	FR1 n66	40M	QPSK	216	0	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	17.61	18.50	1.227	-0.14	0.646	0.793
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	17.64	18.50	1.219	0.07	0.773	0.942
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	17.60	18.50	1.230	-0.17	0.796	0.979
	FR1 n66	40M	QPSK	216	0	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	17.61	18.50	1.227	0.14	0.771	0.946
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	17.64	18.50	1.219	0.04	0.821	1.001
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	17.60	18.50	1.230	-0.02	0.841	1.035
	FR1 n66	40M	QPSK	216	0	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	17.61	18.50	1.227	-0.02	0.804	0.987
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 5	DSI 1	349000	1745	20.68	22.00	1.355	-0.05	0.221	0.299
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 5	DSI 1	349000	1745	20.63	22.00	1.371	0.16	0.247	0.339
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 5	DSI 1	349000	1745	20.68	22.00	1.355	0.11	0.134	0.182
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 5	DSI 1	349000	1745	20.63	22.00	1.371	0.08	0.125	0.171
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 5	DSI 1	349000	1745	20.68	22.00	1.355	-0.03	0.754	1.022
09	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 5	DSI 1	349000	1745	20.63	22.00	1.371	-0.06	0.798	**1.094**
	FR1 n66	40M	QPSK	216	0	DFT-15	Right Cheek	0mm	Ant 5	DSI 1	349000	1745	20.54	22.00	1.400	0.03	0.593	0.830
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 5	DSI 1	349000	1745	20.68	22.00	1.355	-0.16	0.227	0.308
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 5	DSI 1	349000	1745	20.63	22.00	1.371	-0.1	0.261	0.358

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)	Left Cheek	0mm	Ant 3	DSI 1	661	1880	23.32	24.50	1.312	0.14	0.092	0.121
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 3	DSI 1	661	1880	23.32	24.50	1.312	0.08	0.000	0.000
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DSI 1	661	1880	23.32	24.50	1.312	0.05	0.074	0.097
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DSI 1	661	1880	23.32	24.50	1.312	0.06	0.000	0.000
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 4	DSI 1	661	1880	22.93	24.50	1.435	-0.03	0.417	0.599
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	661	1880	22.93	24.50	1.435	0.07	0.593	0.851
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	512	1850.2	22.85	24.50	1.462	0.16	0.415	0.607
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	810	1909.8	22.81	24.50	1.476	-0.1	0.586	0.865
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	661	1880	22.93	24.50	1.435	0.08	0.658	0.945
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	512	1850.2	22.85	24.50	1.462	0.08	0.529	0.773
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	810	1909.8	22.81	24.50	1.476	0.04	0.486	0.717
10	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	661	1880	22.93	24.50	1.435	0.04	0.700	**1.005**
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	512	1850.2	22.85	24.50	1.462	-0.14	0.512	0.749
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	810	1909.8	22.81	24.50	1.476	0.06	0.634	0.936
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DSI 1	9400	1880	23.93	25.00	1.279	0.11	0.221	0.283
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DSI 1	9400	1880	23.93	25.00	1.279	0.04	0.091	0.116
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 1	9400	1880	23.93	25.00	1.279	-0.13	0.184	0.235
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 1	9400	1880	23.93	25.00	1.279	-0.01	0.090	0.115
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	9400	1880	14.91	16.00	1.285	0.01	0.261	0.335
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	9400	1880	14.91	16.00	1.285	0.08	0.379	**0.487**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	9400	1880	14.91	16.00	1.285	0.17	0.305	0.392
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9400	1880	14.91	16.00	1.285	0.04	0.378	0.486
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 1	26340	1880	24.29	25.50	1.321	-0.05	0.174	0.230
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 1	26340	1880	23.31	24.50	1.315	0.11	0.140	0.184
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 1	26340	1880	24.29	25.50	1.321	-0.02	0.079	0.104
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 1	26340	1880	23.31	24.50	1.315	0.06	0.064	0.084
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 1	26340	1880	24.29	25.50	1.321	-0.1	0.166	0.219
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 1	26340	1880	23.31	24.50	1.315	0.03	0.131	0.172
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 1	26340	1880	24.29	25.50	1.321	0.03	0.077	0.102
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 1	26340	1880	23.31	24.50	1.315	-0.12	0.060	0.079
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	26340	1880	17.36	18.50	1.300	-0.08	0.373	0.485
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	26340	1880	17.29	18.50	1.321	0.08	0.292	0.386
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	26340	1880	17.36	18.50	1.300	0.03	0.536	0.697
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	26340	1880	17.29	18.50	1.321	0.05	0.429	0.567
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	26340	1880	17.36	18.50	1.300	0.07	0.606	0.788
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	26340	1880	17.29	18.50	1.321	-0.04	0.486	0.642
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	26340	1880	17.36	18.50	1.300	-0.05	0.663	0.862
12	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	26140	1860	17.34	18.50	1.306	-0.03	0.671	**0.876**
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	26590	1905	17.32	18.50	1.312	-0.1	0.622	0.816
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	26340	1880	17.29	18.50	1.321	0.03	0.540	0.713
	LTE Band 25	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 1	26340	1880	17.25	18.50	1.334	0.15	0.545	0.727

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	-	Left Cheek	0mm	Ant 0	DSI 1	21100	2535	23.21	24.50	1.346	-	-	0.09	0.183	0.246
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100+21298	2535+2554.8	22.91	24.50	1.442	-	-	0.09	0.146	0.211
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100	2535	22.19	23.50	1.352	-	-	0.07	0.151	0.204
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	21100	2535	23.21	24.50	1.346	-	-	0.12	0.048	0.065
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	21100	2535	22.19	23.50	1.352	-	-	0.01	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	21100	2535	23.21	24.50	1.346	-	-	-0.03	0.104	0.140
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	21100	2535	22.19	23.50	1.352	-	-	-0.15	0.084	0.114
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	21100	2535	23.21	24.50	1.346	-	-	-0.02	0.069	0.093
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	21100	2535	22.19	23.50	1.352	-	-	0.15	0.064	0.087
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 1	21100	2535	24.35	25.50	1.303	-	-	0.04	0.174	0.227
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 1	21100	2535	23.42	24.50	1.282	-	-	0.04	0.140	0.180
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 1	21100	2535	24.35	25.50	1.303	-	-	0.03	0.097	0.126
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 1	21100	2535	23.42	24.50	1.282	-	-	-0.18	0.087	0.112
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 1	21100	2535	24.35	25.50	1.303	-	-	0.11	0.218	0.284
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 1	21100+21298	2535+2554.8	24.00	25.50	1.413	-	-	0.11	0.189	0.267
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 1	21100	2535	23.42	24.50	1.282	-	-	0.05	0.174	0.223
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 1	21100	2535	24.35	25.50	1.303	-	-	0.07	0.090	0.117
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 1	21100	2535	23.42	24.50	1.282	-	-	-0.12	0.068	0.087
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	17.80	18.50	1.175	-	-	0.05	0.430	0.505
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	17.77	18.50	1.183	-	-	0.02	0.440	0.521
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	17.80	18.50	1.175	-	-	0.01	0.487	0.572
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	17.77	18.50	1.183	-	-	0.16	0.494	0.584
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	17.80	18.50	1.175	-	-	0.04	0.563	0.661
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	17.77	18.50	1.183	-	-	-0.19	0.566	0.670
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	17.80	18.50	1.175	-	-	-0.14	0.634	0.745
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	17.77	18.50	1.183	-	-	-0.01	0.652	0.771
	LTE Band 7_UL_CA	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100+21298	2535+2554.8	17.57	18.50	1.239	-	-	-0.01	0.613	0.759
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 1	21100	2535	21.32	22.50	1.312	-	-	0.09	0.165	0.217
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DSI 1	21100	2535	21.26	22.50	1.330	-	-	0.08	0.167	0.222
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 1	21100	2535	21.32	22.50	1.312	-	-	0.02	0.096	0.126
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 1	21100	2535	21.26	22.50	1.330	-	-	0.02	0.099	0.132
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	21100	2535	21.32	22.50	1.312	-	-	-0.04	0.657	0.862
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	20850	2510	21.21	22.50	1.346	-	-	0.06	0.621	0.836
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	21350	2560	21.18	22.50	1.355	-	-	0.08	0.611	0.828
13	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	21100	2535	21.26	22.50	1.330	-	-	-0.16	0.673	**0.895**
	LTE Band 7_UL_CA	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	21100+21298	2535+2554.8	21.12	22.50	1.374	-	-	0.05	0.615	0.845
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	20850	2510	21.09	22.50	1.384	-	-	0.12	0.634	0.877
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	21350	2560	21.17	22.50	1.358	-	-	0.09	0.634	0.861
	LTE Band 7	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 5	DSI 1	21100	2535	21.28	22.50	1.324	-	-	-0.11	0.594	0.787
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 1	21100	2535	21.32	22.50	1.312	-	-	-0.04	0.245	0.321
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 1	21100	2535	21.26	22.50	1.330	-	-	-0.05	0.252	0.335
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 1	21100	2535	23.24	24.50	1.337	-	-	0.03	0.013	0.017
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 1	21100	2535	22.18	23.50	1.355	-	-	0.11	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 1	21100	2535	23.24	24.50	1.337	-	-	0.02	0.012	0.016
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 1	21100	2535	22.18	23.50	1.355	-	-	-0.1	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 1	21100	2535	23.24	24.50	1.337	-	-	0.09	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 1	21100	2535	22.18	23.50	1.355	-	-	-0.01	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 1	21100	2535	23.24	24.50	1.337	-	-	0.13	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 1	21100	2535	22.18	23.50	1.355	-	-	0.11	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620	2593	22.95	24.50	1.429	62.9	1.006	0.07	0.137	0.197
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	37901+38099	2585.1+2604.9	22.93	24.50	1.435	62.9	1.006	0.06	0.097	0.140
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620	2593	22.00	23.50	1.413	62.9	1.006	0.03	0.112	0.159

	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	40620	2593	22.95	24.50	1.429	62.9	1.006	0.07	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	40620	2593	22.00	23.50	1.413	62.9	1.006	0.04	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	40620	2593	22.95	24.50	1.429	62.9	1.006	0.09	0.072	0.103
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	40620	2593	22.00	23.50	1.413	62.9	1.006	0.09	0.066	0.094
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	40620	2593	22.95	24.50	1.429	62.9	1.006	0.04	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	40620	2593	22.00	23.50	1.413	62.9	1.006	0.03	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 1	40620	2593	24.37	25.50	1.297	62.9	1.006	-0.16	0.095	0.124
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 1	40620	2593	23.39	24.50	1.291	62.9	1.006	0.07	0.074	0.096
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 1	40620	2593	24.37	25.50	1.297	62.9	1.006	-0.15	0.070	0.091
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 1	40620	2593	23.39	24.50	1.291	62.9	1.006	-0.1	0.060	0.078
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 1	40620	2593	24.37	25.50	1.297	62.9	1.006	0.07	0.129	0.168
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 1	37901+38099	2585.1+2604.9	23.98	25.50	1.419	62.9	1.006	0.02	0.089	0.127
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 1	40620	2593	23.39	24.50	1.291	62.9	1.006	-0.14	0.098	0.127
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 1	40620	2593	24.37	25.50	1.297	62.9	1.006	0.05	0.051	0.067
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 1	40620	2593	23.39	24.50	1.291	62.9	1.006	0.05	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	19.05	19.50	1.109	62.9	1.006	0.02	0.330	0.368
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	18.99	19.50	1.125	62.9	1.006	-0.12	0.333	0.377
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	19.05	19.50	1.109	62.9	1.006	0.1	0.383	0.427
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	18.99	19.50	1.125	62.9	1.006	0.1	0.393	0.445
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	19.05	19.50	1.109	62.9	1.006	-0.17	0.418	0.466
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	18.99	19.50	1.125	62.9	1.006	0.05	0.417	0.472
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	19.05	19.50	1.109	62.9	1.006	0.03	0.475	0.530
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	37901+38099	2585.1+2604.9	18.00	19.50	1.413	62.9	1.006	0.07	0.311	0.442
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	18.99	19.50	1.125	62.9	1.006	-0.01	0.468	0.529
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 1	40620	2593	22.34	23.50	1.306	62.9	1.006	-0.06	0.137	0.180
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DSI 1	40620	2593	22.29	23.50	1.321	62.9	1.006	0.01	0.114	0.152
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 1	40620	2593	22.34	23.50	1.306	62.9	1.006	-0.01	0.088	0.116
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 1	40620	2593	22.29	23.50	1.321	62.9	1.006	-0.16	0.072	0.096
14	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	40620	2593	22.34	23.50	1.306	62.9	1.006	-0.01	0.574	**0.754**
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	37901+38099	2585.1+2604.9	22.21	23.50	1.346	62.9	1.006	0.03	0.511	0.692
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	39750	2506	22.25	23.50	1.334	62.9	1.006	0.05	0.513	0.688
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	40185	2549.5	22.15	23.50	1.365	62.9	1.006	0.06	0.469	0.644
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	41055	2636.5	22.16	23.50	1.361	62.9	1.006	0.12	0.502	0.688
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 1	41490	2680	22.11	23.50	1.377	62.9	1.006	0.02	0.486	0.673
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 1	40620	2593	22.29	23.50	1.321	62.9	1.006	0.05	0.451	0.599
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 5	DSI 1	40620	2593	22.16	23.50	1.361	62.9	1.006	0.13	0.426	0.583
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 1	40620	2593	22.34	23.50	1.306	62.9	1.006	-0.1	0.238	0.313
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 1	40620	2593	22.29	23.50	1.321	62.9	1.006	0.06	0.196	0.261
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	507000	2535	23.52	24.50	1.253	-	-	0.01	0.168	0.211
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	507000	2535	23.44	24.50	1.276	-	-	0.15	0.164	0.209
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	507000	2535	23.52	24.50	1.253	-	-	0.07	0.042	0.053
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	507000	2535	23.44	24.50	1.276	-	-	0.05	0.039	0.050
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	507000	2535	23.52	24.50	1.253	-	-	-0.02	0.090	0.113
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	507000	2535	23.44	24.50	1.276	-	-	0.17	0.091	0.116
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	507000	2535	23.52	24.50	1.253	-	-	0.12	0.069	0.086
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	507000	2535	23.44	24.50	1.276	-	-	0.06	0.064	0.082
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 3	DSI 1	507000	2535	23.20	24.00	1.202	-	-	-0.18	0.075	0.090
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 3	DSI 1	507000	2535	23.13	24.00	1.222	-	-	0.04	0.092	0.112
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 3	DSI 1	507000	2535	23.20	24.00	1.202	-	-	0.09	0.061	0.073
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 3	DSI 1	507000	2535	23.13	24.00	1.222	-	-	0.03	0.064	0.078
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 3	DSI 1	507000	2535	23.20	24.00	1.202	-	-	0.14	0.113	0.136
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 3	DSI 1	507000	2535	23.13	24.00	1.222	-	-	-0.1	0.114	0.139
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 3	DSI 1	507000	2535	23.20	24.00	1.202	-	-	-0.15	0.054	0.065
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 3	DSI 1	507000	2535	23.13	24.00	1.222	-	-	0.04	0.053	0.065
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	17.35	17.50	1.035	-	-	-0.03	0.333	0.345
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	17.26	17.50	1.057	-	-	0.13	0.333	0.352

	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	17.35	17.50	1.035	-	-	0.14	0.380	0.393
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	17.26	17.50	1.057	-	-	0.09	0.390	0.412
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	17.35	17.50	1.035	-	-	0.01	0.407	0.421
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	17.26	17.50	1.057	-	-	0.06	0.361	0.382
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	17.35	17.50	1.035	-	-	0.04	0.522	0.540
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	17.26	17.50	1.057	-	-	-0.19	0.436	0.461
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 5	DSI 1	507000	2535	21.68	23.00	1.355	-	-	0.05	0.109	0.148
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 5	DSI 1	507000	2535	21.49	23.00	1.416	-	-	-0.16	0.134	0.190
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 5	DSI 1	507000	2535	21.68	23.00	1.355	-	-	0.01	0.053	0.072
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 5	DSI 1	507000	2535	21.49	23.00	1.416	-	-	0.02	0.071	0.101
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 5	DSI 1	507000	2535	21.68	23.00	1.355	-	-	-0.08	0.451	0.611
15	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 5	DSI 1	507000	2535	21.49	23.00	1.416	-	-	-0.16	0.570	**0.807**
	FR1 n7	40M	QPSK	216	0	DFT-15	Right Cheek	0mm	Ant 5	DSI 1	507000	2535	20.65	22.00	1.365	-	-	-0.14	0.477	0.651
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 5	DSI 1	507000	2535	21.68	23.00	1.355	-	-	0.04	0.143	0.194
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 5	DSI 1	507000	2535	21.49	23.00	1.416	-	-	0.09	0.186	0.263
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 0	DSI 1	518598	2592.99	21.00	22.50	1.413	-	-	0.07	0.162	0.229
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 0	DSI 1	518598	2592.99	20.81	22.50	1.476	-	-	0.18	0.150	0.221
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 0	DSI 1	518598	2592.99	21.00	22.50	1.413	-	-	0.18	0.073	0.103
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 0	DSI 1	518598	2592.99	20.81	22.50	1.476	-	-	0.05	0.082	0.121
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 0	DSI 1	518598	2592.99	21.00	22.50	1.413	-	-	0.07	0.093	0.131
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 0	DSI 1	518598	2592.99	20.81	22.50	1.476	-	-	0.08	0.097	0.143
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 0	DSI 1	518598	2592.99	21.00	22.50	1.413	-	-	-0.03	0.115	0.162
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 0	DSI 1	518598	2592.99	20.81	22.50	1.476	-	-	0.04	0.117	0.173
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 3	DSI 1	518598	2592.99	22.99	24.00	1.262	-	-	0.04	0.084	0.106
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 3	DSI 1	518598	2592.99	22.97	24.00	1.268	-	-	0.03	0.068	0.086
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 3	DSI 1	518598	2592.99	22.99	24.00	1.262	-	-	0.02	0.065	0.082
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 3	DSI 1	518598	2592.99	22.97	24.00	1.268	-	-	0.07	0.060	0.076
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 3	DSI 1	518598	2592.99	22.99	24.00	1.262	-	-	-0.01	0.115	0.145
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 3	DSI 1	518598	2592.99	22.97	24.00	1.268	-	-	-0.06	0.086	0.109
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 3	DSI 1	518598	2592.99	22.99	24.00	1.262	-	-	0.13	0.054	0.068
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 3	DSI 1	518598	2592.99	22.97	24.00	1.268	-	-	-0.16	0.047	0.060
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.38	20.00	1.153	-	-	0.04	0.605	0.698
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.23	20.00	1.194	-	-	0.01	0.517	0.617
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.38	20.00	1.153	-	-	0.04	0.680	0.784
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.23	20.00	1.194	-	-	0.06	0.590	0.704
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.38	20.00	1.153	-	-	0.04	0.681	0.786
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	19.23	20.00	1.194	-	-	-0.02	0.633	0.756
16	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.38	20.00	1.153	-	-	-0.06	0.832	**0.960**
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.23	20.00	1.194	-	-	-0.04	0.746	0.891
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.22	20.00	1.197	-	-	-0.01	0.709	0.848
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 5	DSI 1	518598	2592.99	21.48	22.20	1.180	-	-	0.16	0.165	0.195
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	DSI 1	518598	2592.99	21.43	22.20	1.194	-	-	0.05	0.160	0.191
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 5	DSI 1	518598	2592.99	21.48	22.20	1.180	-	-	0.06	0.086	0.102
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	DSI 1	518598	2592.99	21.43	22.20	1.194	-	-	0.14	0.097	0.116
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	518598	2592.99	21.48	22.20	1.180	-	-	-0.03	0.738	0.871
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	518598	2592.99	21.48	22.20	1.180	-	-	0.15	0.688	0.812
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	518598	2592.99	21.42	22.20	1.197	-	-	0.1	0.709	0.848
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 5	DSI 1	518598	2592.99	21.48	22.20	1.180	-	-	0.02	0.243	0.287
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	DSI 1	518598	2592.99	21.43	22.20	1.194	-	-	0.11	0.254	0.303

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										
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 1	42590	3500	21.12	21.70	1.143	62.9	1.006	0.05	0.328	0.377
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 1	42590	3500	21.10	21.70	1.148	62.9	1.006	-0.04	0.325	0.375
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	DSI 1	42590	3500	21.12	21.70	1.143	62.9	1.006	0.05	0.330	0.379
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DSI 1	42590	3500	21.10	21.70	1.148	62.9	1.006	0.02	0.342	0.395
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DSI 1	42590	3500	21.12	21.70	1.143	62.9	1.006	-0.01	0.661	0.760
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DSI 1	42590	3500	21.10	21.70	1.148	62.9	1.006	0.08	0.644	0.744
17	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 1	42590	3500	21.12	21.70	1.143	62.9	1.006	-0.06	0.722	**0.830**
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 1	42590+42788	3500+3519.8	20.13	21.70	1.435	62.9	1.006	0.05	0.542	0.783
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 1	42190	3460	21.07	21.70	1.156	62.9	1.006	-0.04	0.645	0.750
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 1	42990	3540	21.05	21.70	1.161	62.9	1.006	-0.08	0.603	0.705
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 1	42590	3500	21.10	21.70	1.148	62.9	1.006	0.03	0.705	0.814
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 1	42190	3460	21.06	21.70	1.159	62.9	1.006	0.06	0.675	0.787
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 1	42990	3540	21.07	21.70	1.156	62.9	1.006	-0.13	0.670	0.779
	LTE Band 42	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 10	DSI 1	42590	3500	21.07	21.70	1.156	62.9	1.006	0.08	0.641	0.746
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 11	DSI 1	42590	3500	21.18	22.50	1.355	62.9	1.006	0.02	0.064	0.087
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DSI 1	42590	3500	20.14	21.50	1.368	62.9	1.006	0.14	0.050	0.069
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	DSI 1	42590	3500	21.18	22.50	1.355	62.9	1.006	-0.18	0.053	0.072
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DSI 1	42590	3500	20.14	21.50	1.368	62.9	1.006	0.03	0.061	0.084
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	DSI 1	42590	3500	21.18	22.50	1.355	62.9	1.006	-0.08	0.234	0.319
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	DSI 1	42590+42788	3500+3519.8	20.76	22.50	1.493	62.9	1.006	0.02	0.158	0.237
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 1	42590	3500	20.14	21.50	1.368	62.9	1.006	0.02	0.192	0.264
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 11	DSI 1	42590	3500	21.18	22.50	1.355	62.9	1.006	-0.05	0.107	0.146
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DSI 1	42590	3500	20.14	21.50	1.368	62.9	1.006	0.12	0.085	0.117
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 12	DSI 1	42590	3500	20.35	22.00	1.462	62.9	1.006	-0.18	0.008	0.012
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 12	DSI 1	42590	3500	19.41	21.00	1.442	62.9	1.006	0.07	0.009	0.013
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 12	DSI 1	42590	3500	20.35	22.00	1.462	62.9	1.006	0.04	0.011	0.016
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 12	DSI 1	42590	3500	19.41	21.00	1.442	62.9	1.006	-0.04	0.000	0.000
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 12	DSI 1	42590	3500	20.35	22.00	1.462	62.9	1.006	-0.02	0.025	0.037
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 12	DSI 1	42590+42788	3500+3519.8	20.30	22.00	1.479	62.9	1.006	0.01	0.020	0.030
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 12	DSI 1	42590	3500	19.41	21.00	1.442	62.9	1.006	0.04	0.017	0.025
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 12	DSI 1	42590	3500	20.35	22.00	1.462	62.9	1.006	0.07	0.013	0.019
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 12	DSI 1	42590	3500	19.41	21.00	1.442	62.9	1.006	0.04	0.011	0.016
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 13	DSI 1	42590	3500	24.85	25.70	1.216	62.9	1.006	0.09	0.069	0.084
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 1	42590	3500	23.97	24.70	1.183	62.9	1.006	-0.12	0.054	0.064
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 13	DSI 1	42590	3500	24.85	25.70	1.216	62.9	1.006	0.01	0.000	0.000
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 1	42590	3500	23.97	24.70	1.183	62.9	1.006	-0.04	0.029	0.035
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 13	DSI 1	42590	3500	24.85	25.70	1.216	62.9	1.006	-0.04	0.219	0.268
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 13	DSI 1	42590+42788	3500+3519.8	24.07	25.70	1.455	62.9	1.006	0.02	0.158	0.231
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 1	42590	3500	23.97	24.70	1.183	62.9	1.006	0.16	0.183	0.218
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 13	DSI 1	42590	3500	24.85	25.70	1.216	62.9	1.006	0.11	0.054	0.066
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 1	42590	3500	23.97	24.70	1.183	62.9	1.006	0.02	0.046	0.055
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 1	56150	3641	17.66	18.50	1.214	62.9	1.006	0.08	0.197	0.241
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 1	56150	3641	17.42	18.50	1.282	62.9	1.006	0.16	0.195	0.252
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	DSI 1	56150	3641	17.66	18.50	1.214	62.9	1.006	0.07	0.239	0.292
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DSI 1	56150	3641	17.42	18.50	1.282	62.9	1.006	0.09	0.222	0.286
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DSI 1	56150	3641	17.66	18.50	1.214	62.9	1.006	0.06	0.370	0.452
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DSI 1	56150	3641	17.42	18.50	1.282	62.9	1.006	0.03	0.361	0.466
18	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 1	56150	3641	17.66	18.50	1.214	62.9	1.006	-0.03	0.435	**0.531**
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 1	56150	3641	17.42	18.50	1.282	62.9	1.006	-0.01	0.406	0.524
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 11	DSI 1	56150	3641	18.75	20.00	1.334	62.9	1.006	0.02	0.094	0.126
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DSI 1	56150	3641	17.87	19.00	1.297	62.9	1.006	0.09	0.099	0.129
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	DSI 1	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.02	0.083	0.111

	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DSI 1	56150	3641	17.87	19.00	1.297	62.9	1.006	0.07	0.067	0.087
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	DSI 1	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.04	0.395	0.530
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 1	56150	3641	17.87	19.00	1.297	62.9	1.006	0.07	0.320	0.418
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 11	DSI 1	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.12	0.177	0.237
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DSI 1	56150	3641	17.87	19.00	1.297	62.9	1.006	0.17	0.147	0.192
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 12	DSI 1	56150	3641	17.79	19.50	1.483	62.9	1.006	0.01	0.014	0.021
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 12	DSI 1	56150	3641	16.99	18.50	1.416	62.9	1.006	0.05	0.011	0.016
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 12	DSI 1	56150	3641	17.79	19.50	1.483	62.9	1.006	-0.16	0.031	0.046
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 12	DSI 1	56150	3641	16.99	18.50	1.416	62.9	1.006	0.03	0.026	0.037
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 12	DSI 1	56150	3641	17.79	19.50	1.483	62.9	1.006	0.09	0.013	0.019
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 12	DSI 1	56150	3641	16.99	18.50	1.416	62.9	1.006	0.11	0.020	0.028
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 12	DSI 1	56150	3641	17.79	19.50	1.483	62.9	1.006	-0.13	0.017	0.025
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 12	DSI 1	56150	3641	16.99	18.50	1.416	62.9	1.006	-0.12	0.009	0.013
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 13	DSI 1	56150	3641	22.42	23.50	1.282	62.9	1.006	-0.11	0.061	0.079
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 1	56150	3641	21.47	22.50	1.268	62.9	1.006	-0.16	0.062	0.079
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 13	DSI 1	56150	3641	22.42	23.50	1.282	62.9	1.006	0.18	0.071	0.092
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 1	56150	3641	21.47	22.50	1.268	62.9	1.006	0.04	0.071	0.091
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 13	DSI 1	56150	3641	22.42	23.50	1.282	62.9	1.006	0.05	0.076	0.098
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 1	56150	3641	21.47	22.50	1.268	62.9	1.006	0.02	0.077	0.098
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 13	DSI 1	56150	3641	22.42	23.50	1.282	62.9	1.006	0.03	0.087	0.112
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 1	56150	3641	21.47	22.50	1.268	62.9	1.006	0.11	0.085	0.108
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	656000	3840	18.98	19.70	1.180	-	-	0.16	0.259	0.306
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	656000	3840	18.94	19.70	1.191	-	-	0.03	0.254	0.303
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	656000	3840	18.98	19.70	1.180	-	-	0.15	0.289	0.341
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	656000	3840	18.94	19.70	1.191	-	-	0.14	0.279	0.332
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	656000	3840	18.98	19.70	1.180	-	-	-0.14	0.659	0.778
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	656000	3840	18.94	19.70	1.191	-	-	-0.05	0.626	0.746
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	656000	3840	18.98	19.70	1.180	-	-	-0.01	0.593	0.700
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	656000	3840	18.94	19.70	1.191	-	-	-0.09	0.588	0.700
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.10	19.70	1.148	-	-	-0.03	0.315	0.362
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.08	19.70	1.153	-	-	-0.13	0.346	0.399
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.10	19.70	1.148	-	-	-0.03	0.337	0.387
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.08	19.70	1.153	-	-	-0.03	0.379	0.437
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.10	19.70	1.148	-	-	0.02	0.700	0.804
19	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.08	19.70	1.153	-	-	-0.03	0.711	**0.820**
	FR1 n77	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	633334	3500.01	18.99	19.70	1.178	-	-	0.11	0.693	0.816
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.10	19.70	1.148	-	-	0.14	0.682	0.783
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.08	19.70	1.153	-	-	0.13	0.673	0.776
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	656000	3840	20.27	20.70	1.104	-	-	0.04	0.082	0.091
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	656000	3840	20.38	20.70	1.076	-	-	-0.1	0.077	0.083
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	656000	3840	20.27	20.70	1.104	-	-	-0.18	0.073	0.081
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	656000	3840	20.38	20.70	1.076	-	-	0.09	0.068	0.073
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	656000	3840	20.27	20.70	1.104	-	-	-0.02	0.428	0.473
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	656000	3840	20.38	20.70	1.076	-	-	0.13	0.394	0.424
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	656000	3840	20.27	20.70	1.104	-	-	0.08	0.125	0.138
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	656000	3840	20.38	20.70	1.076	-	-	0.08	0.117	0.126
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	20.26	20.70	1.107	-	-	-0.06	0.070	0.077
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	20.21	20.70	1.119	-	-	-0.14	0.082	0.092
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	20.26	20.70	1.107	-	-	0.02	0.056	0.062
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	20.21	20.70	1.119	-	-	0.03	0.060	0.067
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	20.26	20.70	1.107	-	-	0.16	0.314	0.347
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	20.21	20.70	1.119	-	-	-0.09	0.334	0.374
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	20.26	20.70	1.107	-	-	-0.13	0.130	0.144
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	20.21	20.70	1.119	-	-	-0.07	0.137	0.153
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	656000	3840	24.58	25.70	1.294	-	-	-0.08	0.005	0.006
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	656000	3840	24.39	25.70	1.352	-	-	-0.07	0.004	0.005

	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	656000	3840	24.58	25.70	1.294	-	-	0.11	0.007	0.009
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	656000	3840	24.39	25.70	1.352	-	-	-0.15	0.005	0.007
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	656000	3840	24.58	25.70	1.294	-	-	-0.03	0.011	0.014
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	656000	3840	24.39	25.70	1.352	-	-	-0.11	0.008	0.011
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	656000	3840	24.58	25.70	1.294	-	-	-0.03	0.005	0.006
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	656000	3840	24.39	25.70	1.352	-	-	0.03	0.005	0.007
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	24.63	25.70	1.279	-	-	0.05	0.002	0.003
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	24.06	25.70	1.459	-	-	0.02	0.002	0.003
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	24.63	25.70	1.279	-	-	0.02	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	24.06	25.70	1.459	-	-	0.04	0.000	0.000
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	24.63	25.70	1.279	-	-	0.06	0.006	0.008
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	24.06	25.70	1.459	-	-	-0.19	0.009	0.013
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	24.63	25.70	1.279	-	-	-0.15	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	24.06	25.70	1.459	-	-	0.04	0.000	0.000
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	656000	3840	25.12	25.70	1.143	-	-	0.06	0.032	0.037
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	656000	3840	25.11	25.70	1.146	-	-	0.07	0.021	0.024
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	656000	3840	25.12	25.70	1.143	-	-	0.09	0.011	0.013
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	656000	3840	25.11	25.70	1.146	-	-	0.18	0.008	0.009
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	656000	3840	25.12	25.70	1.143	-	-	0.13	0.123	0.141
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	656000	3840	25.11	25.70	1.146	-	-	-0.14	0.111	0.127
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	656000	3840	25.12	25.70	1.143	-	-	0.05	0.015	0.017
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	656000	3840	25.11	25.70	1.146	-	-	0.11	0.013	0.015
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	25.30	25.70	1.096	-	-	0.03	0.056	0.061
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	24.93	25.70	1.194	-	-	-0.16	0.057	0.068
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	25.30	25.70	1.096	-	-	0.07	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	24.93	25.70	1.194	-	-	0.07	0.026	0.031
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	25.30	25.70	1.096	-	-	0.12	0.175	0.192
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	24.93	25.70	1.194	-	-	0.05	0.180	0.215
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	25.30	25.70	1.096	-	-	0.06	0.054	0.059
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	24.93	25.70	1.194	-	-	0.01	0.050	0.060
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	650000	3750	19.43	20.00	1.140	-	-	-0.15	0.476	0.543
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	650000	3750	19.27	20.00	1.183	-	-	-0.06	0.424	0.502
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	650000	3750	19.43	20.00	1.140	-	-	0.15	0.518	0.591
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	650000	3750	19.27	20.00	1.183	-	-	-0.05	0.489	0.579
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	650000	3750	19.43	20.00	1.140	-	-	-0.18	0.776	0.885
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	650000	3750	19.27	20.00	1.183	-	-	-0.05	0.840	0.994
	FR1 n78	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	650000	3750	19.25	20.00	1.189	-	-	-0.18	0.762	0.906
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	650000	3750	19.43	20.00	1.140	-	-	0.08	0.855	0.975
20	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	650000	3750	19.27	20.00	1.183	-	-	-0.04	0.897	**1.061**
	FR1 n78	100M	QPSK	270	0	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	650000	3750	19.25	20.00	1.189	-	-	0.11	0.856	1.017
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.50	20.00	1.122	-	-	0.04	0.392	0.440
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.35	20.00	1.161	-	-	0.05	0.414	0.481
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.50	20.00	1.122	-	-	-0.18	0.420	0.471
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.35	20.00	1.161	-	-	-0.1	0.456	0.530
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.50	20.00	1.122	-	-	0.08	0.851	0.955
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.35	20.00	1.161	-	-	-0.07	0.877	1.019
	FR1 n78	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 10	DSI 1	633334	3500.01	19.27	20.00	1.183	-	-	-0.06	0.781	0.924
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.50	20.00	1.122	-	-	0.16	0.787	0.883
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.35	20.00	1.161	-	-	0.09	0.816	0.948
	FR1 n78	100M	QPSK	270	0	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	633334	3500.01	19.27	20.00	1.183	-	-	-0.15	0.773	0.914
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	650000	3750	22.57	23.00	1.104	-	-	0.03	0.134	0.148
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	650000	3750	22.50	23.00	1.122	-	-	0.11	0.145	0.163
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	650000	3750	22.57	23.00	1.104	-	-	-0.17	0.118	0.130
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	650000	3750	22.50	23.00	1.122	-	-	0.13	0.129	0.145
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	650000	3750	22.57	23.00	1.104	-	-	0.01	0.707	0.781
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	650000	3750	22.50	23.00	1.122	-	-	-0.06	0.809	0.908

	FR1 n78	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	650000	3750	22.53	23.00	1.114	-	-	-0.09	0.771	0.859
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	650000	3750	22.57	23.00	1.104	-	-	-0.15	0.206	0.227
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	650000	3750	22.50	23.00	1.122	-	-	-0.16	0.224	0.251
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	22.59	23.00	1.099	-	-	0.08	0.143	0.157
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	22.48	23.00	1.127	-	-	-0.07	0.159	0.179
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	22.59	23.00	1.099	-	-	-0.07	0.111	0.122
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	22.48	23.00	1.127	-	-	-0.11	0.121	0.136
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	22.59	23.00	1.099	-	-	-0.15	0.557	0.612
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	22.48	23.00	1.127	-	-	-0.01	0.643	0.725
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	22.59	23.00	1.099	-	-	0.05	0.247	0.271
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	22.48	23.00	1.127	-	-	-0.16	0.266	0.300
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	650000	3750	25.23	27.00	1.503	-	-	0.06	0.024	0.036
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	650000	3750	25.10	27.00	1.549	-	-	0.14	0.023	0.036
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	650000	3750	25.23	27.00	1.503	-	-	0.06	0.000	0.000
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	650000	3750	25.10	27.00	1.549	-	-	-0.09	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	650000	3750	25.23	27.00	1.503	-	-	-0.18	0.024	0.036
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	650000	3750	25.10	27.00	1.549	-	-	0.02	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	650000	3750	25.23	27.00	1.503	-	-	0.02	0.026	0.039
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	650000	3750	25.10	27.00	1.549	-	-	0.04	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	25.27	27.00	1.489	-	-	-0.07	0.011	0.016
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	25.28	27.00	1.486	-	-	0.03	0.012	0.018
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	25.27	27.00	1.489	-	-	0.07	0.000	0.000
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	25.28	27.00	1.486	-	-	0.06	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	25.27	27.00	1.489	-	-	0.06	0.013	0.019
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	25.28	27.00	1.486	-	-	-0.08	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	25.27	27.00	1.489	-	-	-0.01	0.015	0.022
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	25.28	27.00	1.486	-	-	-0.18	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	650000	3750	26.10	27.00	1.230	-	-	0.09	0.029	0.036
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	650000	3750	25.89	27.00	1.291	-	-	-0.17	0.032	0.041
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	650000	3750	26.10	27.00	1.230	-	-	0.12	0.031	0.038
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	650000	3750	25.89	27.00	1.291	-	-	0.04	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	650000	3750	26.10	27.00	1.230	-	-	0.05	0.087	0.107
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	650000	3750	25.89	27.00	1.291	-	-	0.03	0.071	0.092
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	650000	3750	26.10	27.00	1.230	-	-	0.15	0.000	0.000
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	650000	3750	25.89	27.00	1.291	-	-	0.03	0.026	0.034
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	26.20	27.00	1.202	-	-	0.06	0.059	0.071
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	25.94	27.00	1.276	-	-	0.02	0.067	0.086
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	26.20	27.00	1.202	-	-	0.02	0.026	0.031
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	25.94	27.00	1.276	-	-	0.04	0.000	0.000
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	26.20	27.00	1.202	-	-	0.02	0.182	0.219
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	25.94	27.00	1.276	-	-	0.03	0.195	0.249
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	26.20	27.00	1.202	-	-	0.01	0.056	0.067
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	25.94	27.00	1.276	-	-	-0.05	0.050	0.064

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																
	WLAN 2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 16+18	Standalone	6	2437	17.13	18.00	1.222	100	1.000	0.15	0.220	0.269
	WLAN 2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 16+18	Standalone	6	2437	17.13	18.00	1.222	100	1.000	-0.05	0.280	0.342
21	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 16+18	Standalone	6	2437	17.13	18.00	1.222	100	1.000	-0.06	0.778	**0.951**
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 16+18	DBS	6	2437	15.94	16.50	1.138	100	1.000	-0.03	0.517	0.588
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 16+18	Simultaneous	6	2437	11.05	11.50	1.109	100	1.000	-0.12	0.167	0.185
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 16+18	Standalone	1	2412	16.91	18.00	1.285	100	1.000	-0.04	0.731	0.940
	WLAN 2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 16+18	Standalone	6	2437	17.13	18.00	1.222	100	1.000	-0.16	0.430	0.525
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 16	Receiver On	39	2441	7.38	8.50	1.294	77.06	1.298	0.03	0.014	0.024
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 16	Receiver On	39	2441	7.38	8.50	1.294	77.06	1.298	-0.05	0.019	0.032
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 16	Receiver On	39	2441	7.38	8.50	1.294	77.06	1.298	-0.17	0.027	0.045
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 16	Receiver On	39	2441	7.38	8.50	1.294	77.06	1.298	0.02	0.029	0.049
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 18	Receiver On	78	2480	8.66	9.00	1.081	76.94	1.300	-0.04	0.043	0.060
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 18	Receiver On	78	2480	8.66	9.00	1.081	76.94	1.300	-0.16	0.025	0.035
22	Bluetooth	1Mbps	Left Cheek	0mm	Ant 18	Receiver On	78	2480	8.66	9.00	1.081	76.94	1.300	0.03	0.186	**0.261**
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 18	Receiver On	78	2480	8.66	9.00	1.081	76.94	1.300	-0.18	0.083	0.117
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 17+18	Standalone	60	5300	17.73	19.00	1.340	100	1.000	-0.09	0.296	0.397
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 17+18	Standalone	60	5300	17.73	19.00	1.340	100	1.000	0.09	0.332	0.445
23	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Standalone	60	5300	17.73	19.00	1.340	100	1.000	0.03	0.743	**0.995**
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	DBS	60	5300	15.75	17.00	1.334	100	1.000	-0.01	0.524	0.699
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Simultaneous	60	5300	11.31	12.50	1.315	100	1.000	-0.11	0.178	0.234
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Standalone	64	5320	17.65	19.00	1.365	100	1.000	-0.15	0.700	0.955
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Standalone	60	5300	17.73	19.00	1.340	100	1.000	0.1	0.711	0.953
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Standalone	64	5320	17.65	19.00	1.365	100	1.000	-0.01	0.705	0.962
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	DBS	64	5320	15.88	17.00	1.294	100	1.000	0.06	0.425	0.550
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Simultaneous	64	5320	11.13	12.50	1.371	100	1.000	-0.15	0.126	0.173
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 17+18	Standalone	116	5580	15.52	17.00	1.406	100	1.000	0.18	0.388	0.546
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 17+18	Standalone	116	5580	15.52	17.00	1.406	100	1.000	0.06	0.419	0.589
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Standalone	116	5580	15.52	17.00	1.406	100	1.000	-0.1	0.607	0.853
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	DBS	116	5580	14.36	15.50	1.300	100	1.000	-0.02	0.211	0.274
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Simultaneous	116	5580	11.46	12.50	1.271	100	1.000	-0.17	0.123	0.156
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Standalone	132	5660	15.45	17.00	1.429	100	1.000	-0.08	0.596	0.852
24	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Standalone	116	5580	15.52	17.00	1.406	100	1.000	0.05	0.764	**1.074**
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	DBS	116	5580	14.36	15.50	1.300	100	1.000	-0.18	0.305	0.397
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Simultaneous	116	5580	11.46	12.50	1.271	100	1.000	0.1	0.161	0.205
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Standalone	132	5660	15.45	17.00	1.429	100	1.000	-0.01	0.741	1.059
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 17+18	Standalone	157	5785	15.67	17.00	1.358	100	1.000	-0.18	0.290	0.394
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 17+18	Standalone	157	5785	15.67	17.00	1.358	100	1.000	0.12	0.356	0.484
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 17+18	Standalone	157	5785	15.67	17.00	1.358	100	1.000	0.14	0.477	0.648
25	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Standalone	157	5785	15.67	17.00	1.358	100	1.000	-0.08	0.669	**0.909**
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	DBS	157	5785	14.71	16.00	1.346	100	1.000	0.14	0.532	0.716
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Simultaneous	157	5785	10.41	11.50	1.285	100	1.000	0.1	0.129	0.166
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 17+18	Standalone	165	5825	15.53	17.00	1.403	100	1.000	0.03	0.628	0.881

16.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 0	DSI 5	23095	707.5	24.54	25.50	1.247	0.06	0.190	0.237
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 0	DSI 5	23095	707.5	23.54	24.50	1.247	-0.18	0.159	0.198
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 0	DSI 5	23095	707.5	24.54	25.50	1.247	0.11	0.233	0.291
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 0	DSI 5	23095	707.5	23.54	24.50	1.247	0.09	0.191	0.238
	LTE Band 12	10M	QPSK	1	0	Left Side	10mm	Ant 0	DSI 5	23095	707.5	24.54	25.50	1.247	0.02	0.288	0.359
	LTE Band 12	10M	QPSK	25	0	Left Side	10mm	Ant 0	DSI 5	23095	707.5	23.54	24.50	1.247	-0.03	0.230	0.287
	LTE Band 12	10M	QPSK	1	0	Bottom Side	10mm	Ant 0	DSI 5	23095	707.5	24.54	25.50	1.247	0.18	0.095	0.119
	LTE Band 12	10M	QPSK	25	0	Bottom Side	10mm	Ant 0	DSI 5	23095	707.5	23.54	24.50	1.247	-0.09	0.081	0.101
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 1	DSI 5	23095	707.5	24.46	25.70	1.330	0.02	0.361	0.480
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 1	DSI 5	23095	707.5	23.54	24.70	1.306	0.06	0.326	0.426
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 1	DSI 5	23095	707.5	24.46	25.70	1.330	-0.12	0.323	0.430
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 1	DSI 5	23095	707.5	23.54	24.70	1.306	-0.09	0.290	0.379
27	LTE Band 12	10M	QPSK	1	0	Left Side	10mm	Ant 1	DSI 5	23095	707.5	24.46	25.70	1.330	-0.04	0.657	**0.874**
	LTE Band 12	10M	QPSK	25	0	Left Side	10mm	Ant 1	DSI 5	23095	707.5	23.54	24.70	1.306	-0.14	0.571	0.746
	LTE Band 12	10M	QPSK	50	0	Left Side	10mm	Ant 1	DSI 5	23095	707.5	23.53	24.70	1.309	0.08	0.601	0.787
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 0	DSI 5	23230	782	24.54	25.50	1.247	0.02	0.240	0.299
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 0	DSI 5	23230	782	23.63	24.50	1.222	0.14	0.197	0.241
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 0	DSI 5	23230	782	24.54	25.50	1.247	-0.05	0.252	0.314
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 0	DSI 5	23230	782	23.63	24.50	1.222	0.13	0.200	0.244
	LTE Band 13	10M	QPSK	1	0	Left Side	10mm	Ant 0	DSI 5	23230	782	24.54	25.50	1.247	0.08	0.163	0.203
	LTE Band 13	10M	QPSK	25	0	Left Side	10mm	Ant 0	DSI 5	23230	782	23.63	24.50	1.222	-0.05	0.131	0.160
	LTE Band 13	10M	QPSK	1	0	Bottom Side	10mm	Ant 0	DSI 5	23230	782	24.54	25.50	1.247	0.02	0.130	0.162
	LTE Band 13	10M	QPSK	25	0	Bottom Side	10mm	Ant 0	DSI 5	23230	782	23.63	24.50	1.222	0.05	0.106	0.130
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 1	DSI 5	23230	782	22.62	23.70	1.282	0.02	0.353	0.453
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 1	DSI 5	23230	782	22.48	23.70	1.324	0.08	0.316	0.418
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 1	DSI 5	23230	782	22.62	23.70	1.282	-0.05	0.316	0.405
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 1	DSI 5	23230	782	22.48	23.70	1.324	-0.07	0.296	0.392
28	LTE Band 13	10M	QPSK	1	0	Left Side	10mm	Ant 1	DSI 5	23230	782	22.62	23.70	1.282	-0.06	0.590	**0.757**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835Mhz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI 5	189	836.4	26.58	27.50	1.236	-0.15	0.063	0.078
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI 5	189	836.4	26.58	27.50	1.236	-0.01	0.060	0.074
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 0	DSI 5	189	836.4	26.58	27.50	1.236	0.04	0.011	0.014
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 0	DSI 5	189	836.4	26.58	27.50	1.236	-0.06	0.112	0.138
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 5	189	836.4	24.47	25.00	1.130	0.14	0.450	0.508
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 5	189	836.4	24.47	25.00	1.130	-0.19	0.454	0.513
29	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 1	DSI 5	189	836.4	24.47	25.00	1.130	-0.08	0.707	**0.799**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 5	4182	836.4	24.34	25.00	1.164	0.09	0.192	0.224
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 5	4182	836.4	24.34	25.00	1.164	0.04	0.263	0.306
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	DSI 5	4182	836.4	24.34	25.00	1.164	-0.02	0.300	0.349
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 5	4182	836.4	24.34	25.00	1.164	0.14	0.159	0.185
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 5	4182	836.4	21.50	22.00	1.122	0.05	0.288	0.323
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 5	4182	836.4	21.50	22.00	1.122	-0.04	0.300	0.337
30	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 5	4182	836.4	21.50	22.00	1.122	0.03	0.496	**0.557**
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	26865	831.5	24.35	25.50	1.303	-0.14	0.226	0.295
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 0	DSI 5	26865	831.5	23.41	24.50	1.285	0.09	0.180	0.231
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	26865	831.5	24.35	25.50	1.303	0.03	0.307	0.400
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 0	DSI 5	26865	831.5	23.41	24.50	1.285	0.16	0.246	0.316
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 5	26865	831.5	24.35	25.50	1.303	-0.01	0.326	0.425
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 0	DSI 5	26865	831.5	23.41	24.50	1.285	0.03	0.261	0.335
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	26865	831.5	24.35	25.50	1.303	0.01	0.193	0.252
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant 0	DSI 5	26865	831.5	23.41	24.50	1.285	0.14	0.155	0.199
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 5	26865	831.5	21.46	22.70	1.330	-0.15	0.203	0.270
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 1	DSI 5	26865	831.5	21.42	22.70	1.343	0.18	0.217	0.291
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 5	26865	831.5	21.46	22.70	1.330	0.05	0.214	0.285
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 1	DSI 5	26865	831.5	21.42	22.70	1.343	-0.13	0.236	0.317
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 5	26865	831.5	21.46	22.70	1.330	-0.04	0.337	0.448
31	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 1	DSI 5	26865	831.5	21.42	22.70	1.343	-0.03	0.359	**0.482**
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 5	167300	836.5	25.20	25.50	1.072	0.11	0.243	0.260
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 0	DSI 5	167300	836.5	25.17	25.50	1.079	0.12	0.247	0.266
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 5	167300	836.5	25.20	25.50	1.072	0.16	0.340	0.364
	FR1 n5	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 0	DSI 5	167300	836.5	25.17	25.50	1.079	0.03	0.335	0.361
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 0	DSI 5	167300	836.5	25.20	25.50	1.072	-0.08	0.341	0.365
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 0	DSI 5	167300	836.5	25.17	25.50	1.079	0.03	0.333	0.359
	FR1 n5	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	DSI 5	167300	836.5	25.20	25.50	1.072	-0.15	0.217	0.233
	FR1 n5	20M	QPSK	50	28	DFT-15	Bottom Side	10mm	Ant 0	DSI 5	167300	836.5	25.17	25.50	1.079	0.02	0.222	0.240
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 1	DSI 5	167300	836.5	24.47	25.20	1.183	0.16	0.435	0.515
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 1	DSI 5	167300	836.5	24.43	25.20	1.194	-0.11	0.552	0.659
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 1	DSI 5	167300	836.5	24.47	25.20	1.183	-0.06	0.452	0.535
	FR1 n5	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 1	DSI 5	167300	836.5	24.43	25.20	1.194	-0.14	0.580	0.693
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 1	DSI 5	167300	836.5	24.47	25.20	1.183	0.09	0.695	0.822
32	FR1 n5	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 1	DSI 5	167300	836.5	24.43	25.20	1.194	-0.14	0.803	**0.959**
	FR1 n5	20M	QPSK	100	0	DFT-15	Left Side	10mm	Ant 1	DSI 5	167300	836.5	23.57	24.70	1.297	0.03	0.653	0.847

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
								1750Mhz										
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 3	DSI 5	1413	1732.6	21.04	22.00	1.247	0.05	0.349	0.435
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	1413	1732.6	21.04	22.00	1.247	-0.1	0.333	0.415
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 3	DSI 5	1413	1732.6	21.04	22.00	1.247	0.19	0.121	0.151
33	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	1413	1732.6	21.04	22.00	1.247	-0.05	0.553	**0.690**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 5	1413	1732.6	14.92	16.00	1.282	-0.05	0.228	0.292
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 5	1413	1732.6	14.92	16.00	1.282	-0.1	0.311	0.399
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 5	1413	1732.6	14.92	16.00	1.282	0.06	0.101	0.130
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 5	1413	1732.6	14.92	16.00	1.282	-0.07	0.428	0.549
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	132322	1745	23.07	24.50	1.390	0.07	0.238	0.331
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	132322	1745	22.09	23.50	1.384	0.01	0.228	0.315
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	132322	1745	23.07	24.50	1.390	0.04	0.210	0.292
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	132322	1745	22.09	23.50	1.384	0.13	0.180	0.249
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 5	132322	1745	23.07	24.50	1.390	0.06	0.257	0.357
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 5	132322	1745	22.09	23.50	1.384	-0.12	0.239	0.331
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	132322	1745	23.07	24.50	1.390	-0.12	0.180	0.250
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	132322	1745	22.09	23.50	1.384	0.06	0.161	0.223
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	132322	1745	21.48	22.50	1.265	0.14	0.407	0.515
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	132322	1745	21.46	22.50	1.271	0.02	0.401	0.510
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	132322	1745	21.48	22.50	1.265	0.01	0.382	0.483
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	132322	1745	21.46	22.50	1.271	0.14	0.395	0.502
	LTE Band 66	20M	QPSK	1	0	-	Right Side	10mm	Ant 3	DSI 5	132322	1745	21.48	22.50	1.265	-0.04	0.138	0.175
	LTE Band 66	20M	QPSK	50	0	-	Right Side	10mm	Ant 3	DSI 5	132322	1745	21.46	22.50	1.271	0.17	0.142	0.180
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	132322	1745	21.48	22.50	1.265	-0.07	0.644	0.814
34	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	132072	1720	21.44	22.50	1.276	0.18	0.668	**0.853**
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	132572	1770	21.45	22.50	1.274	0.03	0.628	0.800
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	132322	1745	21.46	22.50	1.271	0.02	0.647	0.822
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	132072	1720	21.40	22.50	1.288	0.1	0.660	0.850
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	132572	1770	21.42	22.50	1.282	0.01	0.600	0.769
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 3	DSI 5	132322	1745	21.47	22.50	1.268	-0.17	0.659	0.835
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	132322	1745	18.36	19.50	1.300	-0.04	0.166	0.216
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	132322	1745	18.32	19.50	1.312	-0.11	0.134	0.176
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	132322	1745	18.36	19.50	1.300	0.06	0.240	0.312
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	132322	1745	18.32	19.50	1.312	0.05	0.187	0.245
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	132322	1745	18.36	19.50	1.300	0.06	0.061	0.079
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	132322	1745	18.32	19.50	1.312	0.07	0.047	0.062
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	132322	1745	18.36	19.50	1.300	-0.05	0.377	0.490
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	132322	1745	18.32	19.50	1.312	-0.03	0.266	0.349
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 5	132322	1745	20.09	21.50	1.384	0.02	0.123	0.170
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 5	132322	1745	20.05	21.50	1.396	-0.15	0.128	0.179
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 5	132322	1745	20.09	21.50	1.384	0.04	0.176	0.244
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 5	132322	1745	20.05	21.50	1.396	0.03	0.186	0.260
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	132322	1745	20.09	21.50	1.384	0.11	0.365	0.505
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	132322	1745	20.05	21.50	1.396	-0.09	0.360	0.503
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	132322	1745	20.09	21.50	1.384	0.04	0.000	0.000
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	132322	1745	20.05	21.50	1.396	-0.17	0.000	0.000
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 5	349000	1745	22.95	24.50	1.429	0.04	0.300	0.429
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 0	DSI 5	349000	1745	22.91	24.50	1.442	0.11	0.344	0.496
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 5	349000	1745	22.95	24.50	1.429	-0.01	0.250	0.357
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 0	DSI 5	349000	1745	22.91	24.50	1.442	0.06	0.268	0.386
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 0	DSI 5	349000	1745	22.95	24.50	1.429	0.03	0.421	0.602
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 0	DSI 5	349000	1745	22.91	24.50	1.442	-0.11	0.466	0.672
	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	DSI 5	349000	1745	22.95	24.50	1.429	-0.12	0.309	0.442
	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 0	DSI 5	349000	1745	22.91	24.50	1.442	0.01	0.325	0.469

	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 3	DSI 5	349000	1745	21.85	23.00	1.303	0.01	0.511	0.666
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 3	DSI 5	349000	1745	21.82	23.00	1.312	0.13	0.526	0.690
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 3	DSI 5	349000	1745	21.85	23.00	1.303	0.02	0.494	0.644
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 3	DSI 5	349000	1745	21.82	23.00	1.312	0.03	0.543	0.713
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 3	DSI 5	349000	1745	21.85	23.00	1.303	-0.11	0.206	0.268
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Side	10mm	Ant 3	DSI 5	349000	1745	21.82	23.00	1.312	-0.08	0.202	0.265
35	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 3	DSI 5	349000	1745	21.85	23.00	1.303	-0.07	0.786	**1.024**
	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 3	DSI 5	349000	1745	21.82	23.00	1.312	0.07	0.773	1.014
	FR1 n66	40M	QPSK	216	0	DFT-15	Bottom Side	10mm	Ant 3	DSI 5	349000	1745	21.74	23.00	1.337	0.11	0.716	0.957
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 5	349000	1745	17.64	18.50	1.219	0.05	0.156	0.190
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 4	DSI 5	349000	1745	17.60	18.50	1.230	0.08	0.152	0.187
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 5	349000	1745	17.64	18.50	1.219	0.05	0.211	0.257
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 4	DSI 5	349000	1745	17.60	18.50	1.230	0.08	0.205	0.252
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 4	DSI 5	349000	1745	17.64	18.50	1.219	-0.09	0.058	0.071
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 4	DSI 5	349000	1745	17.60	18.50	1.230	0.08	0.064	0.079
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 5	349000	1745	17.64	18.50	1.219	-0.18	0.306	0.373
	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 4	DSI 5	349000	1745	17.60	18.50	1.230	0.04	0.301	0.370
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 5	DSI 5	349000	1745	21.78	23.00	1.324	0.05	0.092	0.122
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 5	DSI 5	349000	1745	21.68	23.00	1.355	-0.15	0.101	0.137
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 5	DSI 5	349000	1745	21.78	23.00	1.324	-0.15	0.125	0.166
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 5	DSI 5	349000	1745	21.68	23.00	1.355	-0.18	0.137	0.186
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 5	DSI 5	349000	1745	21.78	23.00	1.324	-0.17	0.225	0.298
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 5	DSI 5	349000	1745	21.68	23.00	1.355	0.1	0.275	0.373
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 5	DSI 5	349000	1745	21.78	23.00	1.324	-0.02	0.036	0.048
	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 5	DSI 5	349000	1745	21.68	23.00	1.355	-0.05	0.034	0.046

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	Ant 3	DSI 5	661	1880	23.32	24.50	1.312	0.1	0.390	0.512
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 3	DSI 5	661	1880	23.32	24.50	1.312	0.1	0.386	0.507
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 3	DSI 5	661	1880	23.32	24.50	1.312	0.04	0.126	0.165
36	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 3	DSI 5	661	1880	23.32	24.50	1.312	0.09	0.626	**0.821**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 3	DSI 5	512	1850.2	23.31	24.50	1.315	0.16	0.596	0.784
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 3	DSI 5	810	1909.8	23.19	24.50	1.352	0.05	0.581	0.786
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	10mm	Ant 4	DSI 5	661	1880	22.93	24.50	1.435	0.08	0.211	0.303
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	10mm	Ant 4	DSI 5	661	1880	22.93	24.50	1.435	0.17	0.264	0.379
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Side	10mm	Ant 4	DSI 5	661	1880	22.93	24.50	1.435	0.12	0.105	0.151
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Top Side	10mm	Ant 4	DSI 5	661	1880	22.93	24.50	1.435	-0.03	0.470	0.675
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 3	DSI 5	9400	1880	21.12	22.00	1.225	0.03	0.309	0.378
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	9400	1880	21.12	22.00	1.225	0.05	0.310	0.380
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 3	DSI 5	9400	1880	21.12	22.00	1.225	-0.11	0.121	0.148
37	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	9400	1880	21.12	22.00	1.225	-0.06	0.571	**0.699**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 5	9400	1880	14.91	16.00	1.285	0.17	0.072	0.093
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 5	9400	1880	14.91	16.00	1.285	-0.02	0.096	0.123
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 5	9400	1880	14.91	16.00	1.285	0.04	0.036	0.046
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 5	9400	1880	14.91	16.00	1.285	0.01	0.179	0.230
	LTE Band 25	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	26340	1880	22.45	23.50	1.274	-0.17	0.311	0.396
	LTE Band 25	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	26340	1880	22.44	23.50	1.276	0.01	0.307	0.392
	LTE Band 25	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	26340	1880	22.45	23.50	1.274	0.06	0.321	0.409
	LTE Band 25	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	26340	1880	22.44	23.50	1.276	0.04	0.317	0.405
	LTE Band 25	20M	QPSK	1	0	-	Right Side	10mm	Ant 3	DSI 5	26340	1880	22.45	23.50	1.274	0.11	0.121	0.154
	LTE Band 25	20M	QPSK	50	0	-	Right Side	10mm	Ant 3	DSI 5	26340	1880	22.44	23.50	1.276	0.03	0.114	0.146
38	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	26340	1880	22.45	23.50	1.274	-0.01	0.596	**0.759**
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	26340	1880	22.44	23.50	1.276	0.03	0.586	0.748
	LTE Band 25	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	26340	1880	17.54	18.50	1.247	0.12	0.123	0.153
	LTE Band 25	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	26340	1880	17.50	18.50	1.259	-0.1	0.093	0.117
	LTE Band 25	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	26340	1880	17.54	18.50	1.247	-0.04	0.158	0.197
	LTE Band 25	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	26340	1880	17.50	18.50	1.259	0.11	0.124	0.156
	LTE Band 25	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	26340	1880	17.54	18.50	1.247	0.04	0.064	0.080
	LTE Band 25	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	26340	1880	17.50	18.50	1.259	0.13	0.053	0.067
	LTE Band 25	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	26340	1880	17.54	18.50	1.247	-0.03	0.319	0.398
	LTE Band 25	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	26340	1880	17.50	18.50	1.259	-0.08	0.243	0.306

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
										2600Mhz										
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	21100	2535	20.45	21.50	1.274	-	-	0.09	0.154	0.196
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	21100	2535	20.33	21.50	1.309	-	-	0.04	0.156	0.204
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	21100	2535	20.45	21.50	1.274	-	-	-0.19	0.191	0.243
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	21100	2535	20.33	21.50	1.309	-	-	-0.04	0.185	0.242
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 5	21100	2535	20.45	21.50	1.274	-	-	0.07	0.072	0.092
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 5	21100	2535	20.33	21.50	1.309	-	-	-0.16	0.074	0.097
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	21100	2535	20.45	21.50	1.274	-	-	-0.01	0.295	0.376
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	21100+21298	2535+2554.8	20.03	21.50	1.403	-	-	0.05	0.211	0.296
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	21100	2535	20.33	21.50	1.309	-	-	-0.19	0.284	0.372
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	21100	2535	19.41	20.50	1.285	-	-	0.16	0.181	0.233
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	21100	2535	19.38	20.50	1.294	-	-	0.08	0.177	0.229
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	21100	2535	19.41	20.50	1.285	-	-	0.06	0.238	0.306
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	21100	2535	19.38	20.50	1.294	-	-	0.03	0.242	0.313
	LTE Band 7	20M	QPSK	1	0	-	Right Side	10mm	Ant 3	DSI 5	21100	2535	19.41	20.50	1.285	-	-	-0.16	0.070	0.090
	LTE Band 7	20M	QPSK	50	0	-	Right Side	10mm	Ant 3	DSI 5	21100	2535	19.38	20.50	1.294	-	-	-0.03	0.073	0.094
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	21100	2535	19.41	20.50	1.285	-	-	0.09	0.375	0.482
39	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	21100	2535	19.38	20.50	1.294	-	-	-0.06	0.388	**0.502**
	LTE Band 7_UL_CA	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	21100+21298	2535+2554.8	19.25	20.50	1.334	-	-	0.01	0.315	0.420
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	21100	2535	17.80	18.50	1.175	-	-	0.14	0.148	0.174
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	21100	2535	17.77	18.50	1.183	-	-	-0.15	0.117	0.138
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	21100	2535	17.80	18.50	1.175	-	-	0.08	0.213	0.250
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	21100	2535	17.77	18.50	1.183	-	-	-0.17	0.162	0.192
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	21100	2535	17.80	18.50	1.175	-	-	0.09	0.059	0.069
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	21100	2535	17.77	18.50	1.183	-	-	0.17	0.045	0.053
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	21100	2535	17.80	18.50	1.175	-	-	0.11	0.269	0.316
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	21100	2535	17.77	18.50	1.183	-	-	-0.03	0.334	0.395
	LTE Band 7_UL_CA	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	21100+21298	2535+2554.8	17.63	18.50	1.222	-	-	0.02	0.312	0.381
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 5	21100	2535	20.45	21.50	1.274	-	-	-0.17	0.079	0.101
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 5	21100	2535	20.38	21.50	1.294	-	-	-0.02	0.079	0.102
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 5	21100	2535	20.45	21.50	1.274	-	-	-0.01	0.094	0.120
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 5	21100	2535	20.38	21.50	1.294	-	-	-0.16	0.097	0.126
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	21100	2535	20.45	21.50	1.274	-	-	0.14	0.198	0.252
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	21100	2535	20.38	21.50	1.294	-	-	-0.08	0.205	0.265
	LTE Band 7_UL_CA	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	21100+21298	2535+2554.8	19.85	21.50	1.462	-	-	0.05	0.156	0.228
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	21100	2535	20.45	21.50	1.274	-	-	0.04	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	21100	2535	20.38	21.50	1.294	-	-	0.06	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 5	21100	2535	23.24	24.50	1.337	-	-	0.11	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 5	21100	2535	22.18	23.50	1.355	-	-	0.01	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 5	21100	2535	23.24	24.50	1.337	-	-	-0.09	0.348	0.465
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 5	21100	2535	22.18	23.50	1.355	-	-	0.11	0.279	0.378
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 7	DSI 5	21100	2535	23.24	24.50	1.337	-	-	0.06	0.089	0.119
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 7	DSI 5	21100	2535	22.18	23.50	1.355	-	-	0.05	0.075	0.102
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	40620	2593	22.95	24.50	1.429	62.9	1.006	-0.16	0.226	0.325
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	40620	2593	22.00	23.50	1.413	62.9	1.006	-0.03	0.173	0.246
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	40620	2593	22.95	24.50	1.429	62.9	1.006	0.01	0.266	0.382
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	40620	2593	22.00	23.50	1.413	62.9	1.006	0.03	0.209	0.297
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 5	40620	2593	22.95	24.50	1.429	62.9	1.006	-0.08	0.105	0.151
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 5	40620	2593	22.00	23.50	1.413	62.9	1.006	0.05	0.080	0.114
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	40620	2593	22.95	24.50	1.429	62.9	1.006	0.04	0.333	0.479
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	37901+38099	2585.1+2604.9	22.93	24.50	1.435	62.9	1.006	0.12	0.311	0.449
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	40620	2593	22.00	23.50	1.413	62.9	1.006	0.09	0.317	0.450
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	40620	2593	23.50	24.50	1.259	62.9	1.006	-0.07	0.330	0.418

	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	40620	2593	23.46	24.50	1.271	62.9	1.006	0.05	0.318	0.406
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	40620	2593	23.50	24.50	1.259	62.9	1.006	0.01	0.429	0.543
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	40620	2593	23.46	24.50	1.271	62.9	1.006	0.03	0.415	0.530
	LTE Band 41	20M	QPSK	1	0	-	Right Side	10mm	Ant 3	DSI 5	40620	2593	23.50	24.50	1.259	62.9	1.006	0.08	0.120	0.152
	LTE Band 41	20M	QPSK	50	0	-	Right Side	10mm	Ant 3	DSI 5	40620	2593	23.46	24.50	1.271	62.9	1.006	0.13	0.119	0.152
40	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	40620	2593	23.50	24.50	1.259	62.9	1.006	-0.01	0.673	**0.852**
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	37901+38099	2585.1+2604.9	22.74	24.50	1.500	62.9	1.006	0.06	0.548	0.827
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	39750	2506	23.37	24.50	1.297	62.9	1.006	-0.03	0.566	0.739
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	40185	2549.5	23.34	24.50	1.306	62.9	1.006	0.01	0.564	0.741
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	41055	2636.5	23.48	24.50	1.265	62.9	1.006	0.03	0.630	0.802
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	41490	2680	23.35	24.50	1.303	62.9	1.006	0.05	0.630	0.826
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	40620	2593	23.46	24.50	1.271	62.9	1.006	0.05	0.655	0.837
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	39750	2506	23.25	24.50	1.334	62.9	1.006	0.1	0.563	0.755
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	40185	2549.5	23.24	24.50	1.337	62.9	1.006	0.07	0.633	0.851
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	41055	2636.5	23.32	24.50	1.312	62.9	1.006	0.02	0.630	0.832
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	41490	2680	23.28	24.50	1.324	62.9	1.006	-0.1	0.596	0.794
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 3	DSI 5	40620	2593	23.43	24.50	1.279	62.9	1.006	0.09	0.657	0.846
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	40620	2593	19.05	19.50	1.109	62.9	1.006	0.03	0.179	0.200
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	40620	2593	18.99	19.50	1.125	62.9	1.006	-0.09	0.140	0.158
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	40620	2593	19.05	19.50	1.109	62.9	1.006	-0.13	0.239	0.267
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	40620	2593	18.99	19.50	1.125	62.9	1.006	0.12	0.184	0.208
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	40620	2593	19.05	19.50	1.109	62.9	1.006	0.03	0.095	0.106
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	40620	2593	18.99	19.50	1.125	62.9	1.006	0.12	0.045	0.051
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	40620	2593	19.05	19.50	1.109	62.9	1.006	-0.14	0.289	0.322
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	40620	2593	18.99	19.50	1.125	62.9	1.006	-0.06	0.385	0.436
	LTE Band 38_UL_CA	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	37901+38099	2585.1+2604.9	17.95	19.50	1.429	62.9	1.006	0.11	0.285	0.410
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 5	40620	2593	24.38	25.50	1.294	62.9	1.006	-0.01	0.187	0.243
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 5	40620	2593	23.45	24.50	1.274	62.9	1.006	0.03	0.149	0.191
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 5	40620	2593	24.38	25.50	1.294	62.9	1.006	0.05	0.214	0.279
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 5	40620	2593	23.45	24.50	1.274	62.9	1.006	-0.05	0.179	0.229
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	40620	2593	24.38	25.50	1.294	62.9	1.006	-0.09	0.416	0.542
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	37901+38099	2585.1+2604.9	22.18	23.50	1.355	62.9	1.006	0.11	0.263	0.359
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	40620	2593	23.45	24.50	1.274	62.9	1.006	0.04	0.333	0.427
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	40620	2593	24.38	25.50	1.294	62.9	1.006	-0.13	0.061	0.079
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	40620	2593	23.45	24.50	1.274	62.9	1.006	-0.16	0.055	0.070
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 5	507000	2535	22.67	23.50	1.211	-	-	-0.16	0.170	0.206
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 0	DSI 5	507000	2535	22.60	23.50	1.230	-	-	0.04	0.186	0.229
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 5	507000	2535	22.67	23.50	1.211	-	-	0.14	0.221	0.268
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 0	DSI 5	507000	2535	22.60	23.50	1.230	-	-	-0.13	0.232	0.285
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 0	DSI 5	507000	2535	22.67	23.50	1.211	-	-	0.13	0.081	0.098
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 0	DSI 5	507000	2535	22.60	23.50	1.230	-	-	0.08	0.085	0.105
	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	DSI 5	507000	2535	22.67	23.50	1.211	-	-	0.05	0.278	0.337
	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 0	DSI 5	507000	2535	22.60	23.50	1.230	-	-	-0.09	0.309	0.380
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 3	DSI 5	507000	2535	21.47	22.00	1.130	-	-	0.13	0.256	0.289
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 3	DSI 5	507000	2535	21.36	22.00	1.159	-	-	0.09	0.269	0.312
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 3	DSI 5	507000	2535	21.47	22.00	1.130	-	-	0.07	0.340	0.384
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 3	DSI 5	507000	2535	21.36	22.00	1.159	-	-	-0.12	0.338	0.392
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 3	DSI 5	507000	2535	21.47	22.00	1.130	-	-	-0.08	0.101	0.114
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Side	10mm	Ant 3	DSI 5	507000	2535	21.36	22.00	1.159	-	-	-0.17	0.099	0.115
	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 3	DSI 5	507000	2535	21.47	22.00	1.130	-	-	-0.15	0.546	0.617
41	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 3	DSI 5	507000	2535	21.36	22.00	1.159	-	-	-0.06	0.554	**0.642**
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 5	507000	2535	17.35	17.50	1.035	-	-	0.18	0.072	0.075
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 4	DSI 5	507000	2535	17.26	17.50	1.057	-	-	-0.09	0.074	0.078
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 5	507000	2535	17.35	17.50	1.035	-	-	0.07	0.131	0.136
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 4	DSI 5	507000	2535	17.26	17.50	1.057	-	-	0.05	0.121	0.128
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 4	DSI 5	507000	2535	17.35	17.50	1.035	-	-	-0.19	0.034	0.035

	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 4	DSI 5	507000	2535	17.26	17.50	1.057	-	-	0.12	0.038	0.040
	FR1 n7	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 5	507000	2535	17.35	17.50	1.035	-	-	-0.01	0.195	0.202
	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 4	DSI 5	507000	2535	17.26	17.50	1.057	-	-	0.05	0.182	0.192
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 5	DSI 5	507000	2535	21.68	23.00	1.355	-	-	0.04	0.068	0.092
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 5	DSI 5	507000	2535	21.49	23.00	1.416	-	-	0.17	0.103	0.146
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 5	DSI 5	507000	2535	21.68	23.00	1.355	-	-	0.06	0.078	0.106
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 5	DSI 5	507000	2535	21.49	23.00	1.416	-	-	0.04	0.104	0.147
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 5	DSI 5	507000	2535	21.68	23.00	1.355	-	-	-0.12	0.149	0.202
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 5	DSI 5	507000	2535	21.49	23.00	1.416	-	-	-0.09	0.207	0.293
	FR1 n7	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 5	DSI 5	507000	2535	21.68	23.00	1.355	-	-	-0.14	0.000	0.000
	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 5	DSI 5	507000	2535	21.49	23.00	1.416	-	-	0.16	0.000	0.000
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 0	DSI 5	518598	2592.99	21.00	22.50	1.413	-	-	-0.08	0.140	0.198
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 0	DSI 5	518598	2592.99	20.81	22.50	1.476	-	-	0.03	0.133	0.196
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 0	DSI 5	518598	2592.99	21.00	22.50	1.413	-	-	0.09	0.183	0.258
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 0	DSI 5	518598	2592.99	20.81	22.50	1.476	-	-	0.07	0.175	0.258
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 0	DSI 5	518598	2592.99	21.00	22.50	1.413	-	-	0.01	0.084	0.119
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 0	DSI 5	518598	2592.99	20.81	22.50	1.476	-	-	0.17	0.073	0.108
	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 0	DSI 5	518598	2592.99	21.00	22.50	1.413	-	-	-0.08	0.263	0.371
	FR1 n41	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 0	DSI 5	518598	2592.99	20.81	22.50	1.476	-	-	-0.07	0.295	0.435
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 3	DSI 5	518598	2592.99	21.06	22.00	1.242	-	-	0.07	0.348	0.432
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 3	DSI 5	518598	2592.99	20.93	22.00	1.279	-	-	-0.11	0.369	0.472
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 3	DSI 5	518598	2592.99	21.06	22.00	1.242	-	-	-0.07	0.473	0.587
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 3	DSI 5	518598	2592.99	20.93	22.00	1.279	-	-	0.05	0.474	0.606
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 3	DSI 5	518598	2592.99	21.06	22.00	1.242	-	-	-0.01	0.123	0.153
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 3	DSI 5	518598	2592.99	20.93	22.00	1.279	-	-	0.17	0.116	0.148
	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 3	DSI 5	518598	2592.99	21.06	22.00	1.242	-	-	0.04	0.754	0.936
42	FR1 n41	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 3	DSI 5	518598	2592.99	20.93	22.00	1.279	-	-	-0.08	0.787	**1.007**
	FR1 n41	100M	QPSK	270	0	DFT-30	Bottom Side	10mm	Ant 3	DSI 5	518598	2592.99	20.88	22.00	1.294	-	-	0.04	0.754	0.976
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 4	DSI 5	518598	2592.99	20.23	20.50	1.064	-	-	0.05	0.180	0.192
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 4	DSI 5	518598	2592.99	20.08	20.50	1.102	-	-	0.07	0.160	0.176
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 4	DSI 5	518598	2592.99	20.23	20.50	1.064	-	-	0.11	0.262	0.279
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 4	DSI 5	518598	2592.99	20.08	20.50	1.102	-	-	-0.12	0.233	0.257
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	20.23	20.50	1.064	-	-	0.06	0.067	0.071
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	20.08	20.50	1.102	-	-	0.09	0.056	0.062
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 4	DSI 5	518598	2592.99	20.23	20.50	1.064	-	-	-0.07	0.466	0.496
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 4	DSI 5	518598	2592.99	20.08	20.50	1.102	-	-	-0.14	0.356	0.392
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 5	DSI 5	518598	2592.99	24.69	25.70	1.262	-	-	-0.02	0.261	0.329
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 5	DSI 5	518598	2592.99	24.48	25.70	1.324	-	-	0.03	0.302	0.400
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 5	DSI 5	518598	2592.99	24.69	25.70	1.262	-	-	-0.13	0.323	0.408
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 5	DSI 5	518598	2592.99	24.48	25.70	1.324	-	-	0.03	0.365	0.483
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	24.69	25.70	1.262	-	-	-0.15	0.654	0.825
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	24.48	25.70	1.324	-	-	0.02	0.618	0.818
	FR1 n41	100M	QPSK	270	0	DFT-30	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	23.51	24.70	1.315	-	-	0.13	0.611	0.804
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 5	DSI 5	518598	2592.99	24.69	25.70	1.262	-	-	-0.18	0.119	0.150
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 5	DSI 5	518598	2592.99	24.48	25.70	1.324	-	-	0.18	0.138	0.183

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										
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 10	DSI 5	42590	3500	21.12	21.70	1.143	62.9	1.006	0.05	0.103	0.118
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 10	DSI 5	42590	3500	21.10	21.70	1.148	62.9	1.006	-0.04	0.085	0.098
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 10	DSI 5	42590	3500	21.12	21.70	1.143	62.9	1.006	0.05	0.074	0.085
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 10	DSI 5	42590	3500	21.10	21.70	1.148	62.9	1.006	0.02	0.074	0.085
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant 10	DSI 5	42590	3500	21.12	21.70	1.143	62.9	1.006	-0.01	0.024	0.028
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant 10	DSI 5	42590	3500	21.10	21.70	1.148	62.9	1.006	0.08	0.020	0.023
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 10	DSI 5	42590	3500	21.12	21.70	1.143	62.9	1.006	-0.07	0.127	0.146
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Top Side	10mm	Ant 10	DSI 5	42590+42788	3500+3519.8	20.13	21.70	1.435	62.9	1.006	0.02	0.089	0.129
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 10	DSI 5	42590	3500	21.10	21.70	1.148	62.9	1.006	0.03	0.106	0.122
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 11	DSI 5	42590	3500	21.18	22.50	1.355	62.9	1.006	0.05	0.091	0.124
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 5	42590	3500	20.14	21.50	1.368	62.9	1.006	-0.04	0.000	0.000
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 11	DSI 5	42590	3500	21.18	22.50	1.355	62.9	1.006	0.05	0.000	0.000
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 5	42590	3500	20.14	21.50	1.368	62.9	1.006	0.02	0.000	0.000
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant 11	DSI 5	42590	3500	21.18	22.50	1.355	62.9	1.006	-0.01	0.120	0.164
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Left Side	10mm	Ant 11	DSI 5	42590+42788	3500+3519.8	20.76	22.50	1.493	62.9	1.006	0.05	0.075	0.113
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 5	42590	3500	20.14	21.50	1.368	62.9	1.006	-0.05	0.118	0.162
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 11	DSI 5	42590	3500	21.18	22.50	1.355	62.9	1.006	0.06	0.079	0.108
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 5	42590	3500	20.14	21.50	1.368	62.9	1.006	0.03	0.074	0.102
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 12	DSI 5	42590	3500	20.35	22.00	1.462	62.9	1.006	0.05	0.119	0.175
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 12	DSI 5	42590	3500	19.41	21.00	1.442	62.9	1.006	-0.04	0.098	0.142
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 12	DSI 5	42590	3500	20.35	22.00	1.462	62.9	1.006	0.05	0.211	0.310
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 12	DSI 5	42590	3500	19.41	21.00	1.442	62.9	1.006	0.02	0.170	0.247
	LTE Band 42	20M	QPSK	1	0	-	Right Side	10mm	Ant 12	DSI 5	42590	3500	20.35	22.00	1.462	62.9	1.006	-0.01	0.035	0.051
	LTE Band 42	20M	QPSK	50	0	-	Right Side	10mm	Ant 12	DSI 5	42590	3500	19.41	21.00	1.442	62.9	1.006	0.08	0.039	0.057
	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 12	DSI 5	42590	3500	20.35	22.00	1.462	62.9	1.006	0.06	0.235	0.346
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 12	DSI 5	42590+42788	3500+3519.8	20.30	22.00	1.479	62.9	1.006	-0.06	0.189	0.281
	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 12	DSI 5	42590	3500	19.41	21.00	1.442	62.9	1.006	0.14	0.222	0.322
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 13	DSI 5	42590	3500	19.96	20.70	1.186	62.9	1.006	0.05	0.019	0.023
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 13	DSI 5	42590	3500	19.90	20.70	1.202	62.9	1.006	-0.04	0.015	0.018
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 13	DSI 5	42590	3500	19.96	20.70	1.186	62.9	1.006	0.05	0.368	0.439
43	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 5	42590	3500	19.90	20.70	1.202	62.9	1.006	0.02	0.397	**0.480**
	LTE Band 42_UL_CA	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 5	42590+42788	3500+3519.8	19.22	20.70	1.406	62.9	1.006	0.15	0.302	0.427
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant 13	DSI 5	42590	3500	19.90	20.70	1.202	62.9	1.006	-0.01	0.108	0.131
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant 13	DSI 5	42590	3500	19.96	20.70	1.186	62.9	1.006	0.08	0.088	0.105
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 13	DSI 5	42590	3500	19.90	20.70	1.202	62.9	1.006	0.06	0.014	0.017
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 5	42590	3500	18.97	20.70	1.489	62.9	1.006	0.03	0.013	0.019
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 10	DSI 5	56150	3641	17.66	18.50	1.214	62.9	1.006	0.01	0.062	0.076
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 10	DSI 5	56150	3641	17.42	18.50	1.282	62.9	1.006	0.02	0.060	0.077
	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 10	DSI 5	56150	3641	17.66	18.50	1.214	62.9	1.006	-0.04	0.104	0.127
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 10	DSI 5	56150	3641	17.42	18.50	1.282	62.9	1.006	-0.06	0.098	0.126
	LTE Band 48	20M	QPSK	1	0	-	Left Side	10mm	Ant 10	DSI 5	56150	3641	17.66	18.50	1.214	62.9	1.006	0.04	0.024	0.029
	LTE Band 48	20M	QPSK	50	0	-	Left Side	10mm	Ant 10	DSI 5	56150	3641	17.42	18.50	1.282	62.9	1.006	0.06	0.033	0.043
	LTE Band 48	20M	QPSK	1	0	-	Top Side	10mm	Ant 10	DSI 5	56150	3641	17.66	18.50	1.214	62.9	1.006	0.08	0.091	0.111
	LTE Band 48	20M	QPSK	50	0	-	Top Side	10mm	Ant 10	DSI 5	56150	3641	17.42	18.50	1.282	62.9	1.006	-0.02	0.087	0.112
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 11	DSI 5	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.06	0.019	0.025
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 5	56150	3641	17.87	19.00	1.297	62.9	1.006	-0.08	0.019	0.025
	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 11	DSI 5	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.02	0.034	0.046
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 5	56150	3641	17.87	19.00	1.297	62.9	1.006	0.02	0.036	0.047
	LTE Band 48	20M	QPSK	1	0	-	Left Side	10mm	Ant 11	DSI 5	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.01	0.091	0.122
	LTE Band 48	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 5	56150	3641	17.87	19.00	1.297	62.9	1.006	0.03	0.077	0.100
	LTE Band 48	20M	QPSK	1	0	-	Top Side	10mm	Ant 11	DSI 5	56150	3641	18.75	20.00	1.334	62.9	1.006	0.05	0.020	0.027
	LTE Band 48	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 5	56150	3641	17.87	19.00	1.297	62.9	1.006	0.06	0.013	0.017

	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 12	DSI 5	56150	3641	17.79	19.50	1.483	62.9	1.006	-0.06	0.146	0.218
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 12	DSI 5	56150	3641	16.99	18.50	1.416	62.9	1.006	0.08	0.114	0.162
44	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 12	DSI 5	56150	3641	17.79	19.50	1.483	62.9	1.006	-0.18	0.272	**0.406**
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 12	DSI 5	56150	3641	16.99	18.50	1.416	62.9	1.006	-0.04	0.217	0.309
	LTE Band 48	20M	QPSK	1	0	-	Right Side	10mm	Ant 12	DSI 5	56150	3641	17.79	19.50	1.483	62.9	1.006	0.08	0.037	0.055
	LTE Band 48	20M	QPSK	50	0	-	Right Side	10mm	Ant 12	DSI 5	56150	3641	16.99	18.50	1.416	62.9	1.006	0.03	0.029	0.041
	LTE Band 48	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 12	DSI 5	56150	3641	17.79	19.50	1.483	62.9	1.006	0.07	0.249	0.371
	LTE Band 48	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 12	DSI 5	56150	3641	16.99	18.50	1.416	62.9	1.006	-0.01	0.193	0.275
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 13	DSI 5	56150	3641	19.47	20.50	1.268	62.9	1.006	-0.07	0.017	0.022
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 13	DSI 5	56150	3641	19.45	20.50	1.274	62.9	1.006	0.06	0.014	0.018
	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 13	DSI 5	56150	3641	19.47	20.50	1.268	62.9	1.006	0.07	0.285	0.363
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 5	56150	3641	19.45	20.50	1.274	62.9	1.006	0.02	0.224	0.287
	LTE Band 48	20M	QPSK	1	0	-	Left Side	10mm	Ant 13	DSI 5	56150	3641	19.47	20.50	1.268	62.9	1.006	0.03	0.083	0.106
	LTE Band 48	20M	QPSK	50	0	-	Left Side	10mm	Ant 13	DSI 5	56150	3641	19.45	20.50	1.274	62.9	1.006	0.08	0.067	0.086
	LTE Band 48	20M	QPSK	1	0	-	Top Side	10mm	Ant 13	DSI 5	56150	3641	19.47	20.50	1.268	62.9	1.006	-0.03	0.011	0.014
	LTE Band 48	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 5	56150	3641	19.45	20.50	1.274	62.9	1.006	-0.08	0.010	0.013
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 10	DSI 5	656000	3840	21.16	21.70	1.132	-	-	-0.04	0.054	0.061
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 10	DSI 5	656000	3840	21.05	21.70	1.161	-	-	-0.03	0.061	0.071
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 10	DSI 5	656000	3840	21.16	21.70	1.132	-	-	-0.12	0.140	0.159
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 10	DSI 5	656000	3840	21.05	21.70	1.161	-	-	-0.11	0.100	0.116
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 10	DSI 5	656000	3840	21.16	21.70	1.132	-	-	0.06	0.017	0.019
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 10	DSI 5	656000	3840	21.05	21.70	1.161	-	-	0.14	0.016	0.019
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 10	DSI 5	656000	3840	21.16	21.70	1.132	-	-	-0.09	0.142	0.161
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 10	DSI 5	656000	3840	21.05	21.70	1.161	-	-	0.03	0.095	0.110
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 10	DSI 5	633334	3500.1	21.15	21.70	1.135	-	-	0.03	0.067	0.076
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 10	DSI 5	633334	3500.1	20.87	21.70	1.211	-	-	0.02	0.079	0.096
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 10	DSI 5	633334	3500.1	21.15	21.70	1.135	-	-	0.01	0.120	0.136
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 10	DSI 5	633334	3500.1	20.87	21.70	1.211	-	-	-0.03	0.146	0.177
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 10	DSI 5	633334	3500.1	21.15	21.70	1.135	-	-	-0.04	0.019	0.022
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 10	DSI 5	633334	3500.1	20.87	21.70	1.211	-	-	0.06	0.021	0.025
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 10	DSI 5	633334	3500.1	21.15	21.70	1.135	-	-	-0.05	0.138	0.157
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 10	DSI 5	633334	3500.1	20.87	21.70	1.211	-	-	0.02	0.109	0.132
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 5	656000	3840	23.44	23.70	1.062	-	-	0.03	0.118	0.125
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 5	656000	3840	23.18	23.70	1.127	-	-	0.05	0.103	0.116
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 5	656000	3840	23.44	23.70	1.062	-	-	0.02	0.169	0.179
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 5	656000	3840	23.18	23.70	1.127	-	-	-0.02	0.150	0.169
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 5	656000	3840	23.44	23.70	1.062	-	-	-0.06	0.172	0.183
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 5	656000	3840	23.18	23.70	1.127	-	-	0.06	0.192	0.216
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 5	656000	3840	23.44	23.70	1.062	-	-	0.06	0.070	0.074
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 5	656000	3840	23.18	23.70	1.127	-	-	-0.08	0.073	0.082
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 5	633334	3500.1	23.37	23.70	1.079	-	-	0.04	0.074	0.080
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 5	633334	3500.1	22.97	23.70	1.183	-	-	0.05	0.080	0.095
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 5	633334	3500.1	23.37	23.70	1.079	-	-	0.05	0.149	0.161
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 5	633334	3500.1	22.97	23.70	1.183	-	-	0.04	0.154	0.182
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 5	633334	3500.1	23.37	23.70	1.079	-	-	0.09	0.166	0.179
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 5	633334	3500.1	22.97	23.70	1.183	-	-	-0.19	0.171	0.202
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 5	633334	3500.1	23.37	23.70	1.079	-	-	-0.04	0.065	0.070
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 5	633334	3500.1	22.97	23.70	1.183	-	-	-0.08	0.077	0.091
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 5	656000	3840	23.67	24.70	1.268	-	-	-0.02	0.161	0.204
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 5	656000	3840	23.38	24.70	1.355	-	-	-0.04	0.174	0.236
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 5	656000	3840	23.67	24.70	1.268	-	-	-0.05	0.295	0.374
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 5	656000	3840	23.38	24.70	1.355	-	-	0.06	0.301	0.408
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 12	DSI 5	656000	3840	23.67	24.70	1.268	-	-	0.06	0.038	0.048
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 12	DSI 5	656000	3840	23.38	24.70	1.355	-	-	-0.03	0.038	0.051
	FR1 n77	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	656000	3840	23.67	24.70	1.268	-	-	0.03	0.272	0.345
	FR1 n77	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	656000	3840	23.38	24.70	1.355	-	-	0.02	0.278	0.377

	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 5	633334	3500.1	23.64	24.70	1.276	-	-	-0.06	0.164	0.209
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 5	633334	3500.1	23.39	24.70	1.352	-	-	0.03	0.171	0.231
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 5	633334	3500.1	23.64	24.70	1.276	-	-	0.08	0.333	0.425
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 5	633334	3500.1	23.39	24.70	1.352	-	-	0.08	0.310	0.419
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 12	DSI 5	633334	3500.1	23.64	24.70	1.276	-	-	0.04	0.045	0.057
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 12	DSI 5	633334	3500.1	23.39	24.70	1.352	-	-	0.09	0.046	0.062
	FR1 n77	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	633334	3500.1	23.64	24.70	1.276	-	-	0.04	0.318	0.406
	FR1 n77	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	633334	3500.1	23.39	24.70	1.352	-	-	0.06	0.298	0.403
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 13	DSI 5	656000	3840	19.89	20.20	1.074	-	-	0.03	0.020	0.021
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 13	DSI 5	656000	3840	19.67	20.20	1.130	-	-	0.02	0.020	0.023
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 13	DSI 5	656000	3840	19.89	20.20	1.074	-	-	-0.05	0.335	0.360
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 13	DSI 5	656000	3840	19.67	20.20	1.130	-	-	0.06	0.290	0.328
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 13	DSI 5	656000	3840	19.89	20.20	1.074	-	-	-0.09	0.120	0.129
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 13	DSI 5	656000	3840	19.67	20.20	1.130	-	-	0.1	0.100	0.113
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 13	DSI 5	633334	3500.1	19.73	20.20	1.114	-	-	0.06	0.016	0.018
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 13	DSI 5	633334	3500.1	19.55	20.20	1.161	-	-	0.04	0.032	0.037
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 13	DSI 5	633334	3500.1	19.73	20.20	1.114	-	-	0.13	0.387	0.431
45	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 13	DSI 5	633334	3500.1	19.55	20.20	1.161	-	-	0.09	0.389	**0.452**
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 13	DSI 5	633334	3500.1	19.73	20.20	1.114	-	-	0.16	0.163	0.182
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 13	DSI 5	633334	3500.1	19.55	20.20	1.161	-	-	-0.08	0.174	0.202
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 10	DSI 5	650000	3750	19.43	20.00	1.140	-	-	0.03	0.091	0.104
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 10	DSI 5	650000	3750	19.27	20.00	1.183	-	-	0.02	0.081	0.096
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 10	DSI 5	650000	3750	19.43	20.00	1.140	-	-	-0.19	0.171	0.195
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 10	DSI 5	650000	3750	19.27	20.00	1.183	-	-	-0.04	0.162	0.192
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 10	DSI 5	650000	3750	19.43	20.00	1.140	-	-	-0.06	0.033	0.038
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 10	DSI 5	650000	3750	19.27	20.00	1.183	-	-	0.05	0.032	0.038
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 10	DSI 5	650000	3750	19.43	20.00	1.140	-	-	0.04	0.169	0.193
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 10	DSI 5	650000	3750	19.27	20.00	1.183	-	-	-0.05	0.147	0.174
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 10	DSI 5	633334	3500.1	19.29	20.00	1.178	-	-	0.13	0.095	0.112
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 10	DSI 5	633334	3500.1	19.19	20.00	1.205	-	-	0.12	0.114	0.137
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 10	DSI 5	633334	3500.1	19.29	20.00	1.178	-	-	0.06	0.171	0.201
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 10	DSI 5	633334	3500.1	19.19	20.00	1.205	-	-	-0.08	0.196	0.236
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 10	DSI 5	633334	3500.1	19.29	20.00	1.178	-	-	-0.05	0.024	0.028
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 10	DSI 5	633334	3500.1	19.19	20.00	1.205	-	-	0.02	0.027	0.033
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 10	DSI 5	633334	3500.1	19.29	20.00	1.178	-	-	-0.06	0.122	0.144
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 10	DSI 5	633334	3500.1	19.19	20.00	1.205	-	-	0.05	0.143	0.172
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 5	650000	3750	23.59	24.00	1.099	-	-	0.06	0.085	0.093
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 5	650000	3750	23.39	24.00	1.151	-	-	0.06	0.105	0.121
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 5	650000	3750	23.59	24.00	1.099	-	-	0.05	0.145	0.159
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 5	650000	3750	23.39	24.00	1.151	-	-	0.04	0.159	0.183
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 5	650000	3750	23.59	24.00	1.099	-	-	0.05	0.153	0.168
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 5	650000	3750	23.39	24.00	1.151	-	-	0.07	0.212	0.244
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 5	650000	3750	23.59	24.00	1.099	-	-	0.02	0.050	0.055
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 5	650000	3750	23.39	24.00	1.151	-	-	-0.04	0.063	0.073
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 5	633334	3500.1	23.52	24.00	1.117	-	-	0.06	0.068	0.076
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 5	633334	3500.1	23.20	24.00	1.202	-	-	0.04	0.071	0.085
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 5	633334	3500.1	23.52	24.00	1.117	-	-	0.06	0.141	0.157
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 5	633334	3500.1	23.20	24.00	1.202	-	-	0.08	0.147	0.177
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 5	633334	3500.1	23.52	24.00	1.117	-	-	-0.08	0.195	0.218
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 5	633334	3500.1	23.20	24.00	1.202	-	-	0.09	0.179	0.215
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 5	633334	3500.1	23.52	24.00	1.117	-	-	-0.04	0.026	0.029
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 5	633334	3500.1	23.20	24.00	1.202	-	-	-0.01	0.029	0.035
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 5	650000	3750	24.68	26.50	1.521	-	-	0.05	0.139	0.211
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 5	650000	3750	24.65	26.50	1.531	-	-	0.05	0.136	0.208
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 5	650000	3750	24.68	26.50	1.521	-	-	0.09	0.275	0.418
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 5	650000	3750	24.65	26.50	1.531	-	-	0.08	0.304	0.465

	FR1 n78	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 12	DSI 5	650000	3750	24.68	26.50	1.521	-	-	-0.05	0.033	0.050
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 12	DSI 5	650000	3750	24.65	26.50	1.531	-	-	-0.01	0.037	0.057
	FR1 n78	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	650000	3750	24.68	26.50	1.521	-	-	-0.03	0.293	0.446
	FR1 n78	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	650000	3750	24.65	26.50	1.531	-	-	0.06	0.274	0.420
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 5	633334	3500.1	24.69	26.50	1.517	-	-	0.08	0.144	0.218
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 5	633334	3500.1	24.68	26.50	1.521	-	-	0.04	0.152	0.231
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 5	633334	3500.1	24.69	26.50	1.517	-	-	0.14	0.277	0.420
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 5	633334	3500.1	24.68	26.50	1.521	-	-	0.15	0.274	0.417
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 12	DSI 5	633334	3500.1	24.69	26.50	1.517	-	-	0.06	0.038	0.058
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 12	DSI 5	633334	3500.1	24.68	26.50	1.521	-	-	0.09	0.036	0.055
	FR1 n78	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	633334	3500.1	24.69	26.50	1.517	-	-	-0.08	0.321	0.487
	FR1 n78	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 12	DSI 5	633334	3500.1	24.68	26.50	1.521	-	-	0.08	0.343	0.522
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 13	DSI 5	650000	3750	21.54	22.50	1.247	-	-	0.06	0.022	0.027
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 13	DSI 5	650000	3750	21.41	22.50	1.285	-	-	0.05	0.019	0.024
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 13	DSI 5	650000	3750	21.54	22.50	1.247	-	-	-0.06	0.398	0.496
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 13	DSI 5	650000	3750	21.41	22.50	1.285	-	-	0.08	0.366	0.470
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 13	DSI 5	650000	3750	21.54	22.50	1.247	-	-	-0.05	0.162	0.202
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 13	DSI 5	650000	3750	21.41	22.50	1.285	-	-	-0.06	0.161	0.207
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 13	DSI 5	633334	3500.1	21.69	22.50	1.205	-	-	0.03	0.019	0.023
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 13	DSI 5	633334	3500.1	21.51	22.50	1.256	-	-	0.02	0.024	0.030
46	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 13	DSI 5	633334	3500.1	21.69	22.50	1.205	-	-	-0.03	0.441	**0.531**
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 13	DSI 5	633334	3500.1	21.51	22.50	1.256	-	-	-0.04	0.386	0.485
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 13	DSI 5	633334	3500.1	21.69	22.50	1.205	-	-	-0.08	0.146	0.176
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 13	DSI 5	633334	3500.1	21.51	22.50	1.256	-	-	0.09	0.161	0.202

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																
	WLAN 2.4GHz	802.11b 1Mbps	Front	10mm	Ant 16+18	Simultaneous	6	2437	17.39	18.50	1.291	100	1.000	0.02	0.162	0.209
	WLAN 2.4GHz	802.11b 1Mbps	Back	10mm	Ant 16+18	Simultaneous	6	2437	17.39	18.50	1.291	100	1.000	0.03	0.218	0.281
	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 16+18	Simultaneous	6	2437	17.39	18.50	1.291	100	1.000	-0.02	0.001	0.001
47	WLAN 2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 16+18	Simultaneous	6	2437	17.39	18.50	1.291	100	1.000	0.05	0.293	**0.378**
	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 16+18	Simultaneous	6	2437	17.39	18.50	1.291	100	1.000	0.06	0.167	0.216
	Bluetooth	1Mbps	Front	10mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	-0.05	0.041	0.070
	Bluetooth	1Mbps	Back	10mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	0.06	0.075	0.129
	Bluetooth	1Mbps	Left Side	10mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	0.07	0.000	0.000
	Bluetooth	1Mbps	Right Side	10mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	0.08	0.032	0.055
48	Bluetooth	1Mbps	Top Side	10mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	-0.08	0.147	**0.253**
	Bluetooth	1Mbps	Front	10mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	0.06	0.023	0.037
	Bluetooth	1Mbps	Back	10mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	-0.03	0.073	0.117
	Bluetooth	1Mbps	Left Side	10mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	0.08	0.000	0.000
	Bluetooth	1Mbps	Right Side	10mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	-0.07	0.013	0.021
	Bluetooth	1Mbps	Top Side	10mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	-0.12	0.100	0.160
5000Mhz																
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 17+18	Full	44	5220	21.24	23.00	1.499	100	1.000	-0.05	0.212	0.318
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 17+18	Full	44	5220	21.24	23.00	1.499	100	1.000	-0.07	0.242	0.363
	WLAN5.2GHz	802.11a 6Mbps	Left Side	10mm	Ant 17+18	Full	44	5220	21.24	23.00	1.499	100	1.000	-0.06	0.081	0.121
49	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 17+18	Full	44	5220	21.24	23.00	1.499	100	1.000	-0.01	0.314	**0.471**
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 17+18	Full	44	5220	21.24	23.00	1.499	100	1.000	-0.08	0.202	0.303
	WLAN5.8GHz	802.11a 6Mbps	Front	10mm	Ant 17+18	Simultaneous	157	5785	17.24	18.50	1.337	100	1.000	0.05	0.164	0.219
	WLAN5.8GHz	802.11a 6Mbps	Back	10mm	Ant 17+18	Simultaneous	157	5785	17.24	18.50	1.337	100	1.000	-0.03	0.235	0.314
	WLAN5.8GHz	802.11a 6Mbps	Left Side	10mm	Ant 17+18	Simultaneous	157	5785	17.24	18.50	1.337	100	1.000	0.08	0.094	0.126
	WLAN5.8GHz	802.11a 6Mbps	Right Side	10mm	Ant 17+18	Simultaneous	157	5785	17.24	18.50	1.337	100	1.000	-0.02	0.231	0.309
50	WLAN5.8GHz	802.11a 6Mbps	Top Side	10mm	Ant 17+18	Simultaneous	157	5785	17.24	18.50	1.337	100	1.000	0.02	0.315	**0.421**

16.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Front	15mm	Ant 0	DSI 4	23095	707.5	24.54	25.50	1.247	0.04	0.136	0.170
	LTE Band 12	10M	QPSK	25	0	Front	15mm	Ant 0	DSI 4	23095	707.5	23.54	24.50	1.247	0.06	0.109	0.136
	LTE Band 12	10M	QPSK	1	0	Back	15mm	Ant 0	DSI 4	23095	707.5	24.54	25.50	1.247	-0.09	0.154	0.192
	LTE Band 12	10M	QPSK	25	0	Back	15mm	Ant 0	DSI 4	23095	707.5	23.54	24.50	1.247	0.08	0.125	0.156
	LTE Band 12	10M	QPSK	1	0	Front	15mm	Ant 1	DSI 4	23095	707.5	24.46	25.70	1.330	-0.02	0.227	0.302
	LTE Band 12	10M	QPSK	25	0	Front	15mm	Ant 1	DSI 4	23095	707.5	23.54	24.70	1.306	0.15	0.186	0.243
52	LTE Band 12	10M	QPSK	1	0	Back	15mm	Ant 1	DSI 4	23095	707.5	24.46	25.70	1.330	-0.07	0.245	**0.326**
	LTE Band 12	10M	QPSK	25	0	Back	15mm	Ant 1	DSI 4	23095	707.5	23.54	24.70	1.306	0.01	0.197	0.257
	LTE Band 13	10M	QPSK	1	0	Front	15mm	Ant 0	DSI 4	23230	782	24.54	25.50	1.247	0.08	0.225	0.281
	LTE Band 13	10M	QPSK	25	0	Front	15mm	Ant 0	DSI 4	23230	782	23.63	24.50	1.222	-0.11	0.182	0.222
	LTE Band 13	10M	QPSK	1	0	Back	15mm	Ant 0	DSI 4	23230	782	24.54	25.50	1.247	-0.01	0.253	0.316
	LTE Band 13	10M	QPSK	25	0	Back	15mm	Ant 0	DSI 4	23230	782	23.63	24.50	1.222	0.01	0.199	0.243
	LTE Band 13	10M	QPSK	1	0	Front	15mm	Ant 1	DSI 4	23230	782	24.62	25.70	1.282	-0.15	0.331	0.424
	LTE Band 13	10M	QPSK	25	0	Front	15mm	Ant 1	DSI 4	23230	782	23.70	24.70	1.259	-0.14	0.277	0.349
53	LTE Band 13	10M	QPSK	1	0	Back	15mm	Ant 1	DSI 4	23230	782	24.62	25.70	1.282	-0.03	0.342	**0.439**
	LTE Band 13	10M	QPSK	25	0	Back	15mm	Ant 1	DSI 4	23230	782	23.70	24.70	1.259	-0.17	0.273	0.344

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)
850MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 0	DSI 4	189	836.4	26.58	27.50	1.236	0.04	0.152	0.188
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 0	DSI 4	189	836.4	26.58	27.50	1.236	-0.08	0.145	0.179
54	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 1	DSI 4	189	836.4	26.48	28.00	1.419	-0.04	0.245	**0.348**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 1	DSI 4	189	836.4	26.48	28.00	1.419	0.02	0.240	0.341
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 4	4182	836.4	24.34	25.00	1.164	-0.06	0.186	0.217
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 4	4182	836.4	24.34	25.00	1.164	0.01	0.202	0.235
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	DSI 4	4182	836.4	24.36	25.00	1.159	0.08	0.286	0.331
55	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI 4	4182	836.4	24.36	25.00	1.159	-0.02	0.309	**0.358**
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	26865	831.5	24.35	25.50	1.303	0.07	0.182	0.237
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 0	DSI 4	26865	831.5	23.41	24.50	1.285	0.08	0.144	0.185
	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	26865	831.5	24.35	25.50	1.303	-0.05	0.194	0.253
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 0	DSI 4	26865	831.5	23.41	24.50	1.285	0.05	0.159	0.204
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 4	26865	831.5	24.32	25.70	1.374	-0.07	0.222	0.305
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 1	DSI 4	26865	831.5	23.35	24.70	1.365	-0.11	0.174	0.237
56	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 4	26865	831.5	24.32	25.70	1.374	-0.14	0.232	**0.319**
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 1	DSI 4	26865	831.5	23.35	24.70	1.365	0.07	0.183	0.250
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 4	167300	836.5	25.20	25.50	1.072	0.16	0.187	0.200
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	15mm	Ant 0	DSI 4	167300	836.5	25.17	25.50	1.079	0.09	0.177	0.191
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 4	167300	836.5	25.20	25.50	1.072	0.08	0.207	0.222
	FR1 n5	20M	QPSK	50	28	DFT-15	Back	15mm	Ant 0	DSI 4	167300	836.5	25.17	25.50	1.079	0.07	0.205	0.221
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 1	DSI 4	167300	836.5	25.04	25.70	1.164	0.06	0.187	0.218
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	15mm	Ant 1	DSI 4	167300	836.5	24.95	25.70	1.189	0.01	0.243	0.289
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 1	DSI 4	167300	836.5	25.04	25.70	1.164	-0.14	0.191	0.222
57	FR1 n5	20M	QPSK	50	28	DFT-15	Back	15mm	Ant 1	DSI 4	167300	836.5	24.95	25.70	1.189	-0.03	0.247	**0.294**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 3	DSI 4	1413	1732.6	23.99	25.00	1.262	0.06	0.376	0.474
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 3	DSI 4	1413	1732.6	23.99	25.00	1.262	-0.06	0.355	0.448
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI 4	1413	1732.6	24.06	25.00	1.242	0.03	0.348	0.432
58	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI 4	1413	1732.6	24.06	25.00	1.242	-0.06	0.526	**0.653**
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	132322	1745	23.07	24.50	1.390	0.11	0.059	0.082
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	132322	1745	22.09	23.50	1.384	0.01	0.026	0.036
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	132322	1745	23.07	24.50	1.390	0.07	0.085	0.118
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	132322	1745	22.09	23.50	1.384	-0.09	0.043	0.059
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	132322	1745	24.48	25.50	1.265	0.07	0.419	0.530
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	132322	1745	23.53	24.50	1.250	0.17	0.326	0.408
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	132322	1745	24.48	25.50	1.265	-0.12	0.360	0.455
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	132322	1745	23.53	24.50	1.250	-0.11	0.286	0.358
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	132322	1745	24.20	25.50	1.349	0.02	0.516	0.696
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	132322	1745	23.18	24.50	1.355	-0.14	0.394	0.534
59	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	132322	1745	24.20	25.50	1.349	0.03	0.676	**0.912**
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	132072	1720	24.06	25.50	1.393	0.03	0.653	0.910
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	132572	1770	24.11	25.50	1.377	0.03	0.632	0.870
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	132322	1745	23.18	24.50	1.355	0.06	0.598	0.810
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	132072	1720	23.10	24.50	1.380	0.11	0.603	0.832
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	132572	1770	23.11	24.50	1.377	0.13	0.611	0.841
	LTE Band 66	20M	QPSK	100	0	-	Back	15mm	Ant 4	DSI 4	132322	1745	23.15	24.50	1.365	0.03	0.641	0.875
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 4	132322	1745	21.14	22.50	1.368	-0.05	0.057	0.078
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 4	132322	1745	21.09	22.50	1.384	-0.06	0.045	0.062
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	132322	1745	21.14	22.50	1.368	0.01	0.079	0.108
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 4	132322	1745	21.09	22.50	1.384	-0.14	0.062	0.086
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 4	349000	1745	22.95	24.50	1.429	0.03	0.122	0.174
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 0	DSI 4	349000	1745	22.91	24.50	1.442	-0.06	0.132	0.190
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 4	349000	1745	22.95	24.50	1.429	0.01	0.094	0.134
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 0	DSI 4	349000	1745	22.91	24.50	1.442	-0.11	0.103	0.149
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 3	DSI 4	349000	1745	22.82	24.00	1.312	0.05	0.460	0.604
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 3	DSI 4	349000	1745	22.70	24.00	1.349	0.01	0.466	0.629
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 3	DSI 4	349000	1745	22.82	24.00	1.312	0.08	0.442	0.580
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 3	DSI 4	349000	1745	22.70	24.00	1.349	0.08	0.451	0.608
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 4	DSI 4	349000	1745	24.66	25.50	1.213	0.01	0.481	0.584
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 4	DSI 4	349000	1745	24.64	25.50	1.219	-0.04	0.439	0.535
60	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 4	DSI 4	349000	1745	24.66	25.50	1.213	-0.08	0.662	**0.803**
	FR1 n66	40M	QPSK	216	0	DFT-15	Back	15mm	Ant 4	DSI 4	349000	1745	23.68	24.50	1.208	-0.08	0.632	0.763
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 4	DSI 4	349000	1745	24.64	25.50	1.219	0.07	0.597	0.728
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 5	DSI 4	349000	1745	21.78	23.00	1.324	0.06	0.076	0.101
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 5	DSI 4	349000	1745	21.68	23.00	1.355	-0.18	0.084	0.114
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 5	DSI 4	349000	1745	21.78	23.00	1.324	-0.02	0.106	0.140
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 5	DSI 4	349000	1745	21.68	23.00	1.355	-0.01	0.112	0.152

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	15mm	Ant 3	DSI 4	661	1880	23.32	24.50	1.312	0.08	0.098	0.129
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 3	DSI 4	661	1880	23.32	24.50	1.312	0.01	0.084	0.110
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 4	DSI 4	661	1880	23.38	24.50	1.294	-0.16	0.122	0.158
61	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 4	DSI 4	661	1880	23.38	24.50	1.294	-0.04	0.173	**0.224**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 3	DSI 4	9400	1880	23.93	25.00	1.279	0.03	0.377	0.482
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 3	DSI 4	9400	1880	23.93	25.00	1.279	0.08	0.375	0.480
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI 4	9400	1880	24.03	25.00	1.250	-0.05	0.339	0.424
62	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI 4	9400	1880	24.03	25.00	1.250	0.16	0.450	**0.563**
	LTE Band 25	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	26340	1880	24.29	25.50	1.321	-0.06	0.401	0.530
	LTE Band 25	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	26340	1880	23.31	24.50	1.315	0.06	0.330	0.434
	LTE Band 25	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	26340	1880	24.29	25.50	1.321	0.06	0.385	0.509
	LTE Band 25	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	26340	1880	23.31	24.50	1.315	-0.18	0.316	0.416
	LTE Band 25	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	26340	1880	24.37	25.50	1.297	0.02	0.361	0.468
	LTE Band 25	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	26340	1880	23.44	24.50	1.276	-0.06	0.296	0.378
63	LTE Band 25	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	26340	1880	24.37	25.50	1.297	0.12	0.507	**0.658**
	LTE Band 25	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	26340	1880	23.44	24.50	1.276	0.12	0.415	0.530

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	21100	2535	23.21	24.50	1.346	-	-	0.03	0.109	0.147
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	21100	2535	22.19	23.50	1.352	-	-	0.06	0.091	0.123
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	21100	2535	23.21	24.50	1.346	-	-	-0.05	0.150	0.202
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	21100+21298	2535+2554.8	22.91	24.50	1.442	-	-	0.02	0.111	0.160
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	21100	2535	22.19	23.50	1.352	-	-	0.16	0.124	0.168
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	21100	2535	24.35	25.50	1.303	-	-	0.06	0.366	0.477
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	21100	2535	23.42	24.50	1.282	-	-	0.02	0.295	0.378
64	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	21100	2535	24.35	25.50	1.303	-	-	-0.03	0.452	**0.589**
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	21100+21298	2535+2554.8	24.00	25.50	1.413	-	-	0.05	0.416	0.588
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	21100	2535	23.42	24.50	1.282	-	-	-0.17	0.374	0.480
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	21100	2535	24.77	25.50	1.183	-	-	-0.07	0.363	0.429
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	21100	2535	23.81	24.50	1.172	-	-	0.07	0.271	0.318
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	21100	2535	24.77	25.50	1.183	-	-	0.11	0.478	0.565
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	21100+21298	2535+2554.8	24.43	25.50	1.279	-	-	0.05	0.402	0.514
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	21100	2535	23.81	24.50	1.172	-	-	0.06	0.386	0.452
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 4	21100	2535	20.45	21.50	1.274	-	-	-0.05	0.038	0.048
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 4	21100	2535	20.38	21.50	1.294	-	-	0.05	0.030	0.039
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	21100	2535	20.45	21.50	1.274	-	-	-0.01	0.047	0.060
	LTE Band 7_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	21100+21298	2535+2554.8	20.03	21.50	1.403	-	-	0.05	0.031	0.043
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 4	21100	2535	20.38	21.50	1.294	-	-	0.06	0.038	0.049
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 7	DSI 4	21100	2535	23.24	24.50	1.337	-	-	0.02	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 7	DSI 4	21100	2535	22.18	23.50	1.355	-	-	0.01	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 7	DSI 4	21100	2535	23.24	24.50	1.337	-	-	0.07	0.136	0.182
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 7	DSI 4	21100	2535	22.18	23.50	1.355	-	-	0.03	0.111	0.150
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	40620	2593	22.95	24.50	1.429	62.9	1.006	0.11	0.064	0.092
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	40620	2593	22.00	23.50	1.413	62.9	1.006	0.09	0.046	0.065
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	40620	2593	22.95	24.50	1.429	62.9	1.006	-0.15	0.092	0.132
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	37901+38099	2585.1+2604.9	22.93	24.50	1.435	62.9	1.006	0.15	0.073	0.105
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	40620	2593	22.00	23.50	1.413	62.9	1.006	-0.09	0.068	0.097
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	40620	2593	24.37	25.50	1.297	62.9	1.006	0.07	0.218	0.284
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	40620	2593	23.39	24.50	1.291	62.9	1.006	0.1	0.181	0.235

65	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	40620	2593	24.37	25.50	1.297	62.9	1.006	-0.09	0.268	**0.350**
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	37901+38099	2585.1+2604.9	23.98	25.50	1.419	62.9	1.006	0.05	0.213	0.304
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	40620	2593	23.39	24.50	1.291	62.9	1.006	0.16	0.219	0.284
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	40620	2593	24.84	25.50	1.164	62.9	1.006	-0.02	0.212	0.248
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	40620	2593	23.92	24.50	1.143	62.9	1.006	0.03	0.143	0.164
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	40620	2593	24.84	25.50	1.164	62.9	1.006	0.11	0.246	0.288
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	37901+38099	2585.1+2604.9	24.19	25.50	1.352	62.9	1.006	0.13	0.210	0.286
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	40620	2593	23.92	24.50	1.143	62.9	1.006	-0.07	0.200	0.230
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 4	40620	2593	24.38	25.50	1.294	62.9	1.006	0.06	0.082	0.107
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 4	40620	2593	23.45	24.50	1.274	62.9	1.006	-0.14	0.067	0.086
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	40620	2593	24.38	25.50	1.294	62.9	1.006	0.13	0.103	0.134
	LTE Band 38_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	37901+38099	2585.1+2604.9	22.80	24.50	1.479	62.9	1.006	0.11	0.086	0.128
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 4	40620	2593	23.45	24.50	1.274	62.9	1.006	-0.14	0.082	0.105
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 4	507000	2535	23.52	24.50	1.253	-	-	-0.07	0.108	0.135
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 0	DSI 4	507000	2535	23.44	24.50	1.276	-	-	0.09	0.114	0.146
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 4	507000	2535	23.52	24.50	1.253	-	-	-0.07	0.142	0.178
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 0	DSI 4	507000	2535	23.44	24.50	1.276	-	-	-0.01	0.166	0.212
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 3	DSI 4	507000	2535	23.20	24.00	1.202	-	-	0.12	0.281	0.338
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 3	DSI 4	507000	2535	23.13	24.00	1.222	-	-	0.06	0.305	0.373
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 3	DSI 4	507000	2535	23.20	24.00	1.202	-	-	0.07	0.340	0.409
66	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 3	DSI 4	507000	2535	23.13	24.00	1.222	-	-	0.07	0.375	**0.458**
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 4	DSI 4	507000	2535	25.37	25.50	1.030	-	-	-0.15	0.143	0.147
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 4	DSI 4	507000	2535	25.27	25.50	1.054	-	-	-0.15	0.162	0.171
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 4	DSI 4	507000	2535	25.37	25.50	1.030	-	-	-0.06	0.235	0.242
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 4	DSI 4	507000	2535	25.27	25.50	1.054	-	-	-0.06	0.263	0.277
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 5	DSI 4	507000	2535	21.68	23.00	1.355	-	-	0.07	0.037	0.050
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 5	DSI 4	507000	2535	21.49	23.00	1.416	-	-	0.03	0.048	0.068
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 5	DSI 4	507000	2535	21.68	23.00	1.355	-	-	0.07	0.044	0.060
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 5	DSI 4	507000	2535	21.49	23.00	1.416	-	-	-0.07	0.057	0.081
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 0	DSI 4	518598	2592.99	21.00	22.50	1.413	-	-	0.12	0.114	0.161
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 0	DSI 4	518598	2592.99	20.81	22.50	1.476	-	-	0.08	0.096	0.142
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 0	DSI 4	518598	2592.99	21.00	22.50	1.413	-	-	0.08	0.148	0.209
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 0	DSI 4	518598	2592.99	20.81	22.50	1.476	-	-	0.09	0.139	0.205
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 3	DSI 4	518598	2592.99	22.99	24.00	1.262	-	-	0.07	0.171	0.216
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 3	DSI 4	518598	2592.99	22.97	24.00	1.268	-	-	0.15	0.141	0.179
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 3	DSI 4	518598	2592.99	22.99	24.00	1.262	-	-	-0.05	0.208	0.262
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 3	DSI 4	518598	2592.99	22.97	24.00	1.268	-	-	0.12	0.196	0.248
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 4	DSI 4	518598	2592.99	24.92	25.50	1.143	-	-	0.05	0.177	0.202
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 4	DSI 4	518598	2592.99	24.87	25.50	1.156	-	-	-0.02	0.229	0.265
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 4	DSI 4	518598	2592.99	24.92	25.50	1.143	-	-	0.08	0.252	0.288
67	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 4	DSI 4	518598	2592.99	24.87	25.50	1.156	-	-	-0.06	0.294	**0.340**
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 5	DSI 4	518598	2592.99	24.69	25.70	1.262	-	-	-0.07	0.075	0.095
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 5	DSI 4	518598	2592.99	24.48	25.70	1.324	-	-	-0.07	0.082	0.109
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 5	DSI 4	518598	2592.99	24.69	25.70	1.262	-	-	-0.1	0.091	0.115
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 5	DSI 4	518598	2592.99	24.48	25.70	1.324	-	-	-0.04	0.107	0.142

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										
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 10	DSI 4	42590	3500	24.84	25.70	1.219	62.9	1.006	0.05	0.117	0.143
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 10	DSI 4	42590	3500	24.01	24.70	1.172	62.9	1.006	-0.04	0.102	0.120
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 10	DSI 4	42590	3500	24.84	25.70	1.219	62.9	1.006	-0.09	0.187	0.229
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 10	DSI 4	42590+42788	3500+3519.8	24.07	25.70	1.455	62.9	1.006	0.02	0.123	0.180
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 10	DSI 4	42590	3500	24.01	24.70	1.172	62.9	1.006	0.02	0.158	0.186
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 11	DSI 4	42590	3500	21.18	22.50	1.355	62.9	1.006	0.05	0.016	0.022
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	42590	3500	20.14	21.50	1.368	62.9	1.006	-0.04	0.000	0.000
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 11	DSI 4	42590	3500	21.18	22.50	1.355	62.9	1.006	0.05	0.038	0.052
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 11	DSI 4	42590+42788	3500+3519.8	20.76	22.50	1.493	62.9	1.006	0.02	0.021	0.032
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	42590	3500	20.14	21.50	1.368	62.9	1.006	0.09	0.032	0.044
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 12	DSI 4	42590	3500	20.35	22.00	1.462	62.9	1.006	0.05	0.067	0.099
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 12	DSI 4	42590	3500	19.41	21.00	1.442	62.9	1.006	-0.04	0.036	0.052
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 12	DSI 4	42590	3500	20.35	22.00	1.462	62.9	1.006	0.01	0.109	0.160
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 12	DSI 4	42590+42788	3500+3519.8	20.30	22.00	1.479	62.9	1.006	0.05	0.102	0.152
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 12	DSI 4	42590	3500	19.41	21.00	1.442	62.9	1.006	0.02	0.094	0.136
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 13	DSI 4	42590	3500	19.96	20.70	1.186	62.9	1.006	0.05	0.052	0.062
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	42590	3500	19.90	20.70	1.202	62.9	1.006	-0.04	0.000	0.000
68	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 13	DSI 4	42590	3500	19.96	20.70	1.186	62.9	1.006	-0.04	0.435	**0.519**
	LTE Band 42_UL_CA	20M	QPSK	1	0	-	Back	15mm	Ant 13	DSI 4	42590+42788	3500+3519.8	19.25	20.70	1.396	62.9	1.006	0.11	0.346	0.486
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	42590	3500	19.90	20.70	1.202	62.9	1.006	0.02	0.368	0.445
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 10	DSI 4	56150	3641	22.42	23.50	1.282	62.9	1.006	0.06	0.032	0.041
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 10	DSI 4	56150	3641	21.58	22.50	1.236	62.9	1.006	-0.14	0.029	0.036
	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 10	DSI 4	56150	3641	22.42	23.50	1.282	62.9	1.006	-0.18	0.028	0.036
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 10	DSI 4	56150	3641	21.58	22.50	1.236	62.9	1.006	0.07	0.030	0.037
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 11	DSI 4	56150	3641	18.75	20.00	1.334	62.9	1.006	0.13	0.029	0.039
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	56150	3641	17.87	19.00	1.297	62.9	1.006	0.07	0.037	0.048
	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 11	DSI 4	56150	3641	18.75	20.00	1.334	62.9	1.006	-0.08	0.051	0.068
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	56150	3641	17.87	19.00	1.297	62.9	1.006	0.03	0.041	0.054
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 12	DSI 4	56150	3641	17.79	19.50	1.483	62.9	1.006	0.03	0.087	0.130
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 12	DSI 4	56150	3641	16.99	18.50	1.416	62.9	1.006	0.08	0.069	0.098
	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 12	DSI 4	56150	3641	17.79	19.50	1.483	62.9	1.006	0.18	0.137	0.204
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 12	DSI 4	56150	3641	16.99	18.50	1.416	62.9	1.006	0.07	0.111	0.158
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 13	DSI 4	56150	3641	19.47	20.50	1.268	62.9	1.006	0.01	0.217	0.277
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	56150	3641	19.45	20.50	1.274	62.9	1.006	0.04	0.275	0.352
69	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 13	DSI 4	56150	3641	19.47	20.50	1.268	62.9	1.006	-0.03	0.449	**0.573**
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	56150	3641	19.45	20.50	1.274	62.9	1.006	0.03	0.348	0.446
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 10	DSI 4	656000	3840	25.02	25.70	1.169	-	-	-0.13	0.115	0.134
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 10	DSI 4	656000	3840	24.80	25.70	1.230	-	-	-0.1	0.121	0.149
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 10	DSI 4	656000	3840	25.02	25.70	1.169	-	-	0.04	0.200	0.234
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 10	DSI 4	656000	3840	24.80	25.70	1.230	-	-	0.04	0.171	0.210
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 10	DSI 4	633334	3500.1	25.13	25.70	1.140	-	-	-0.02	0.169	0.193
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 10	DSI 4	633334	3500.1	24.77	25.70	1.239	-	-	0.06	0.192	0.238
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 10	DSI 4	633334	3500.1	25.13	25.70	1.140	-	-	-0.04	0.271	0.309
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 10	DSI 4	633334	3500.1	24.77	25.70	1.239	-	-	-0.16	0.306	0.379
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	656000	3840	24.37	24.70	1.079	-	-	0.08	0.067	0.072
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	656000	3840	24.27	24.70	1.104	-	-	0.05	0.060	0.066
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	656000	3840	24.37	24.70	1.079	-	-	-0.02	0.090	0.097
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	656000	3840	24.27	24.70	1.104	-	-	0.09	0.084	0.093
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	633334	3500.1	24.23	24.70	1.114	-	-	-0.13	0.047	0.052
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	633334	3500.1	24.14	24.70	1.138	-	-	-0.05	0.047	0.053
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	633334	3500.1	24.23	24.70	1.114	-	-	0.02	0.082	0.091
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	633334	3500.1	24.14	24.70	1.138	-	-	-0.09	0.093	0.106

	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	656000	3840	23.67	24.70	1.268	-	-	-0.03	0.066	0.084
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	656000	3840	23.38	24.70	1.355	-	-	-0.14	0.082	0.111
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	656000	3840	23.67	24.70	1.268	-	-	0.08	0.123	0.156
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	656000	3840	23.38	24.70	1.355	-	-	-0.12	0.137	0.186
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	633334	3500.1	23.64	24.70	1.276	-	-	-0.07	0.073	0.093
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	633334	3500.1	23.39	24.70	1.352	-	-	0.06	0.079	0.107
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	633334	3500.1	23.64	24.70	1.276	-	-	-0.14	0.143	0.183
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	633334	3500.1	23.39	24.70	1.352	-	-	-0.07	0.150	0.203
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 13	DSI 4	656000	3840	22.39	22.70	1.074	-	-	-0.05	0.023	0.025
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 13	DSI 4	656000	3840	22.17	22.70	1.130	-	-	-0.09	0.025	0.028
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	656000	3840	22.39	22.70	1.074	-	-	-0.01	0.236	0.253
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	656000	3840	22.17	22.70	1.130	-	-	0.09	0.208	0.235
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 13	DSI 4	633334	3500.1	22.23	22.70	1.114	-	-	-0.14	0.030	0.033
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 13	DSI 4	633334	3500.1	22.05	22.70	1.161	-	-	0.1	0.034	0.039
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	633334	3500.1	22.23	22.70	1.114	-	-	0.08	0.392	0.437
70	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	633334	3500.1	22.05	22.70	1.161	-	-	-0.02	0.405	**0.470**
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 10	DSI 4	650000	3750	26.34	27.00	1.164	-	-	0.08	0.172	0.200
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 10	DSI 4	650000	3750	26.22	27.00	1.197	-	-	0.14	0.154	0.184
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 10	DSI 4	650000	3750	26.34	27.00	1.164	-	-	-0.03	0.329	0.383
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 10	DSI 4	650000	3750	26.22	27.00	1.197	-	-	0.04	0.293	0.351
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 10	DSI 4	633334	3500.1	26.14	27.00	1.219	-	-	0.12	0.174	0.212
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 10	DSI 4	633334	3500.1	25.93	27.00	1.279	-	-	0.18	0.187	0.239
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 10	DSI 4	633334	3500.1	26.14	27.00	1.219	-	-	0.03	0.291	0.355
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 10	DSI 4	633334	3500.1	25.93	27.00	1.279	-	-	-0.02	0.321	0.411
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	650000	3750	24.62	25.00	1.091	-	-	0.04	0.105	0.115
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	650000	3750	24.29	25.00	1.178	-	-	0.16	0.111	0.131
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	650000	3750	24.62	25.00	1.091	-	-	-0.05	0.163	0.178
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	650000	3750	24.29	25.00	1.178	-	-	0.05	0.149	0.175
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	633334	3500.1	24.70	25.00	1.072	-	-	0.08	0.075	0.080
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	633334	3500.1	24.32	25.00	1.169	-	-	0.09	0.086	0.101
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	633334	3500.1	24.70	25.00	1.072	-	-	-0.07	0.125	0.134
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	633334	3500.1	24.32	25.00	1.169	-	-	-0.02	0.111	0.130
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	650000	3750	24.68	26.50	1.521	-	-	-0.08	0.075	0.114
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	650000	3750	24.65	26.50	1.531	-	-	0.02	0.085	0.130
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	650000	3750	24.68	26.50	1.521	-	-	-0.06	0.136	0.207
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	650000	3750	24.65	26.50	1.531	-	-	0.02	0.140	0.214
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	633334	3500.1	24.69	26.50	1.517	-	-	0.07	0.082	0.124
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	633334	3500.1	24.68	26.50	1.521	-	-	0.06	0.085	0.129
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	633334	3500.1	24.69	26.50	1.517	-	-	0.03	0.167	0.253
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	633334	3500.1	24.68	26.50	1.521	-	-	-0.17	0.168	0.255
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 13	DSI 4	650000	3750	21.54	22.50	1.247	-	-	0.16	0.030	0.037
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 13	DSI 4	650000	3750	21.41	22.50	1.285	-	-	-0.09	0.022	0.028
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	650000	3750	21.54	22.50	1.247	-	-	-0.12	0.337	0.420
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	650000	3750	21.41	22.50	1.285	-	-	0.01	0.369	0.474
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 13	DSI 4	633334	3500.1	21.69	22.50	1.205	-	-	0.08	0.018	0.022
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 13	DSI 4	633334	3500.1	21.51	22.50	1.256	-	-	-0.09	0.028	0.035
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	633334	3500.1	21.69	22.50	1.205	-	-	0.07	0.443	0.534
71	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	633334	3500.1	21.51	22.50	1.256	-	-	-0.05	0.451	**0.566**

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																
	WLAN 2.4GHz	802.11b 1Mbps	Front	15mm	Ant 16+18	Full	6	2437	22.44	23.50	1.277	100	1.000	0.03	0.216	0.276
72	WLAN 2.4GHz	802.11b 1Mbps	Back	15mm	Ant 16+18	Full	6	2437	22.44	23.50	1.277	100	1.000	-0.02	0.219	**0.280**
	Bluetooth	1Mbps	Front	15mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	0.04	0.020	0.034
	Bluetooth	1Mbps	Back	15mm	Ant 16	Full	39	2441	15.28	16.50	1.324	77.06	1.298	-0.1	0.042	0.072
	Bluetooth	1Mbps	Front	15mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	0.05	0.013	0.021
73	Bluetooth	1Mbps	Back	15mm	Ant 18	Full	78	2480	16.11	17.00	1.228	76.94	1.300	0.01	0.063	**0.100**
5000MHz																
	WLAN 5.3GHz	802.11a 6Mbps	Front	15mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	0.02	0.150	0.215
74	WLAN 5.3GHz	802.11a 6Mbps	Back	15mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	-0.03	0.190	**0.273**
	WLAN 5.5GHz	802.11a 6Mbps	Front	15mm	Ant 17+18	Full	116	5580	21.29	23.00	1.482	100	1.000	-0.01	0.200	0.296
75	WLAN 5.5GHz	802.11a 6Mbps	Back	15mm	Ant 17+18	Full	116	5580	21.29	23.00	1.482	100	1.000	-0.09	0.223	**0.331**
	WLAN5.8GHz	802.11a 6Mbps	Front	15mm	Ant 17+18	Full	157	5785	21.41	23.00	1.443	100	1.000	-0.03	0.180	0.260
76	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 17+18	Full	157	5785	21.41	23.00	1.443	100	1.000	-0.01	0.256	**0.369**

16.4 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	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
1750Mhz														
77	WCDMA IV	RMC 12.2Kbps	Top Side	0mm	Ant 4	DSI 3	1413	1732.6	19.09	20.00	1.233	0.04	1.270	**1.566**
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	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
1900Mhz														
78	GSM1900	GPRS (4 Tx slots)	Top Side	0mm	Ant 4	DSI 3	661	1880	23.38	24.50	1.294	0.04	1.250	**1.618**

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																
	WLAN 5.3GHz	802.11a 6Mbps	Front	0mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	-0.05	1.664	2.389
	WLAN 5.3GHz	802.11a 6Mbps	Front	0mm	Ant 17+18	Full	64	5320	21.43	23.00	1.435	100	1.000	0.06	1.569	2.252
	WLAN 5.3GHz	802.11a 6Mbps	Back	0mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	-0.02	0.493	0.708
	WLAN 5.3GHz	802.11a 6Mbps	Left Side	0mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	-0.01	0.056	0.080
	WLAN 5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	-0.03	1.388	1.993
79	WLAN 5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 17+18	Full	60	5300	21.43	23.00	1.436	100	1.000	-0.06	1.740	**2.498**
	WLAN 5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 17+18	Simultaneous	60	5300	17.15	18.50	1.365	100	1.000	-0.05	0.679	0.927
	WLAN 5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 17+18	Full	56	5280	21.40	23.00	1.444	100	1.000	-0.05	1.483	2.142
	WLAN 5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 17+18	Full	64	5320	21.43	23.00	1.435	100	1.000	0.08	1.531	2.197
	WLAN 5.5GHz	802.11a 6Mbps	Front	0mm	Ant 17+18	Simultaneous	116	5580	15.95	17.50	1.429	100	1.000	0.01	0.550	0.786
	WLAN 5.5GHz	802.11a 6Mbps	Back	0mm	Ant 17+18	Simultaneous	116	5580	15.95	17.50	1.429	100	1.000	0.02	0.244	0.349
	WLAN 5.5GHz	802.11a 6Mbps	Left Side	0mm	Ant 17+18	Simultaneous	116	5580	15.95	17.50	1.429	100	1.000	-0.07	0.039	0.056
	WLAN 5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 17+18	Simultaneous	116	5580	15.95	17.50	1.429	100	1.000	-0.06	0.581	0.830
80	WLAN 5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 17+18	Simultaneous	116	5580	15.95	17.50	1.429	100	1.000	-0.04	0.615	**0.879**

16.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 13	10M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	23230	782	22.62	23.70	1.282	-0.05	0.850	1	1.090
2nd	LTE Band 13	10M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	23230	782	22.62	23.70	1.282	0.01	0.841	1.011	1.078
1st	FR1 n5	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.56	23.20	1.159	0.09	0.821	1	0.951
2nd	FR1 n5	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	22.56	23.20	1.159	0.11	0.812	1.011	0.941
1st	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	17.60	18.50	1.230	-0.02	0.841	1	1.035
2nd	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	17.60	18.50	1.230	0.03	0.825	1.019	1.015
1st	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.38	20.00	1.153	-0.06	0.832	1	0.960
2nd	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	19.38	20.00	1.153	0.02	0.805	1.034	0.929
1st	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	650000	3750	19.27	20.00	1.183	-0.04	0.897	1	1.061
2nd	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 1	650000	3750	19.27	20.00	1.183	0.02	0.881	1.018	1.042

General Note:

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

17. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + WLAN 5GHz + Bluetooth Ant 16	Yes	Yes	Yes	Yes
2.	WWAN + WLAN 5GHz + Bluetooth Ant 18	Yes	Yes	Yes	Yes
3.	WWAN + WLAN 2.4GHz + WLAN 5GHz	Yes	Yes	Yes	Yes
4.	WWAN + WLAN 6GHz + Bluetooth Ant 16	Yes	Yes		Yes
5.	WWAN + WLAN 6GHz + Bluetooth Ant 18	Yes	Yes		Yes
6.	WWAN + WLAN 2.4GHz + WLAN 6GHz	Yes	Yes		Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands.
3. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
4. For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation. In Part 1 Report, simultaneous transmission compliance was evaluated individually with other Radios (WLAN or BT) using one of 4G or 5G NR.
5. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
6. 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). WIFI 6E has no hotspot function.
7. WLAN2.4GHz and Bluetooth share the same antenna, so can't transmit simultaneously.
8. WLAN2.4GHz/WLAN5GHz/WLAN6GHz MIMO SAR can represent SISO SAR to do co-located SAR analysis.
9. According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
10. According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can transmit simultaneously.
11. According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz can't transmit simultaneously.
12. 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.
13. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
14. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
15. The reported SAR summation is calculated based on the same configuration and test position.
16. SAR Power density test report for WLAN6E U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth, always chose higher SAR of WLAN5G U-NII-1/2A/2C/3 and U-NII-5/6/7/8.
17. 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.

17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis

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

Since WLAN and BT do not employ time-averaging, 1gSAR and 10gSAR measurement for WLAN and BT need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.

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

$x\% * A + (100-x)\% * B \leq 1.0,$

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

Let C = normalized reported SAR exposure ratio from WLAN+BT, then for compliance,

$x\% * A + (100-x)\% * B + C \leq 1.0$ (1)

$x\% * A + (100-x)\% * B \leq x\% * \max(A, B) + (100-x)\% * \max(A, B) \leq \max(A, B)$

$x\% * A + (100-x)\% * B + C \leq \max(A, B) + C \leq 1.0$ (2)

if A + C ≤ 1.0 and B + C ≤ 1.0 can be proven, then “x% * A + (100-x)% * B + C ≤ 1.0”. Therefore simultaneous transmission analysis for 5G NR + LTE + WLAN + BT can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + WLAN + BT < 1

Step 2: Prove total exposure ratio (TER) of 5G NR + WLAN + BT < 1

Above analysis is also apply to LTE inter band uplink, LTE1 + LTE2 + WLAN + BT simultaneous transmission, So inter band CA uplink no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of LTE + WLAN + BT < 1.

Above analysis is also apply to NR band UL MIMO, NR1 + NR2 + WLAN + BT simultaneous transmission, So UL MIMO no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of NR + WLAN + BT < 1.

17.2 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	2+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+5+7 Summed 1g SAR (W/kg)	1+3+8 Summed 1g SAR (W/kg)	1+8+6 Summed 1g SAR (W/kg)	1+8+7 Summed 1g SAR (W/kg)
		WWAN	WLAN2.4GHz DBS Ant 16+18	WLAN 2.4GHz Simultaneous Ant 16+18	WLAN 5GHz DBS Ant 17+18	WLAN 5GHz Simultaneous Ant 17+18	Bluetooth Ant 16	Bluetooth Ant 18	6E WIFI Ant 17+18							
		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)							
WWAN All Bands	Right Cheek	1.094	0.588	0.185	0.716	0.234	0.024	0.060	0.145	1.30	1.51	1.35	1.39	1.42	1.26	1.30
	Right Tilted	1.061	0.588	0.185	0.716	0.234	0.032	0.035	0.188	1.30	1.48	1.33	1.33	1.43	1.28	1.28
	Left Cheek	1.092	0.588	0.185	0.699	0.234	0.045	0.261	0.160	1.29	1.51	1.37	**1.59**	1.44	1.30	1.51
	Left Tilted	0.907	0.588	0.185	0.716	0.205	0.049	0.117	0.491	1.30	1.30	1.16	1.23	**1.58**	1.45	1.52

17.3 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	3	5	6	7	1+3+5 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+5+7 Summed 1g SAR (W/kg)	1+3+8 Summed 1g SAR (W/kg)	1+8+6 Summed 1g SAR (W/kg)	1+8+7 Summed 1g SAR (W/kg)
		WWAN	WLAN 2.4GHz Simultaneous Ant 16+18	WLAN 5GHz Simultaneous Ant 17+18	Bluetooth Ant 16	Bluetooth Ant 18						
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)						
WWAN All Band	Front	0.690	0.209	0.318	0.070	0.037	1.22	1.08	1.05	0.90	0.76	0.73
	Back	0.713	0.281	0.363	0.129	0.117	1.36	1.21	1.19	0.99	0.84	0.83
	Left side	0.959	0.001	0.126			1.09	1.09	1.09	0.96	0.96	0.96
	Right side	0.268	0.378	0.471	0.055	0.021	1.12	0.79	0.76	0.65	0.32	0.29
	Top side	0.675	0.216	0.421	0.253	0.160	1.31	1.35	1.26	0.89	0.93	0.84
	Bottom side	1.024					1.02	1.02	1.02	1.02	1.02	1.02

17.4 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	1+3+5 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+5+7 Summed 1g SAR (W/kg)	1+3+8 Summed 1g SAR (W/kg)	1+8+6 Summed 1g SAR (W/kg)	1+8+7 Summed 1g SAR (W/kg)
		WWAN	WLAN2.4GHz DBS Ant 16+18	WLAN 2.4GHz Simultaneous Ant 16+18	WLAN 5GHz DBS Ant 17+18	WLAN 5GHz Simultaneous Ant 17+18	Bluetooth Ant 16	Bluetooth Ant 18	6E WIFI Ant 17+18						
		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)						
GSM850	Front	0.696	0.276	0.276	0.296	0.296	0.034	0.021	0.085	1.27	1.03	1.01	1.06	0.82	0.80
	Back	0.912	0.280	0.280	0.369	0.369	0.072	0.100	0.043	1.56	1.35	1.38	1.24	1.03	1.06

17.5 Product Specific 10g SAR Exposure Conditions

WWAN Band	Exposure Position	1	3	5	6	7	8	1+3+5 Summed 10g SAR (W/kg)	1+5+6 Summed 10g SAR (W/kg)	1+5+7 Summed 10g SAR (W/kg)	1+3+8 Summed 10g SAR (W/kg)	1+8+6 Summed 10g SAR (W/kg)	1+8+7 Summed 10g SAR (W/kg)
		WWAN	WLAN 2.4GHz Simultaneous Ant 16+18	WLAN 5GHz Simultaneous Ant 17+18	Bluetooth Ant 16	Bluetooth Ant 18	6E WIFI Ant 17+18						
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)						
WWAN All Band	Front			0.927			0.276	0.93	0.93	0.93	0.28	0.28	0.28
	Back			0.927			0.148	0.93	0.93	0.93	0.15	0.15	0.15
	Left side			0.927			0.001	0.93	0.93	0.93	0.00	0.00	0.00
	Right side			0.927			0.054	0.93	0.93	0.93	0.05	0.05	0.05
	Top side	1.618		0.927			0.804	**2.55**	2.55	2.55	2.42	2.42	2.42
	Bottom side						0.001	0.00	0.00	0.00	0.00	0.00	0.00

Test Engineer : Seven Xu, Bruce Li, Martin Li

18. 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.

19. 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: 2021.11.10

System Check_Head_750MHz

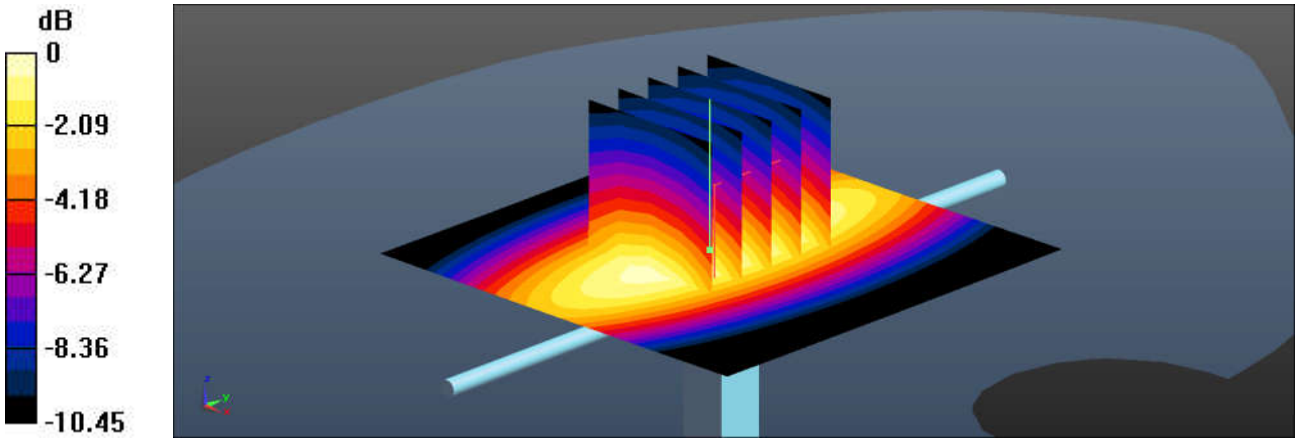
DUT: D750V3 - SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.903 S/m; ε_r = 41.431; ρ = 1000 kg/m^3
Ambient Temperature：23.3 °C; Liquid Temperature：22.7 °C

DASY5 Configuration:
- Probe: ES3DV3 - SN3279; ConvF(6.48, 6.48, 6.48); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- 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) = 0.471 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.38 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.596 W/kg
SAR(1 g) = 0.403 W/kg; SAR(10 g) = 0.264 W/kg
Maximum value of SAR (measured) = 0.471 W/kg



0 dB = 0.471 W/kg = -3.27 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.11.11

System Check_Head_835MHz

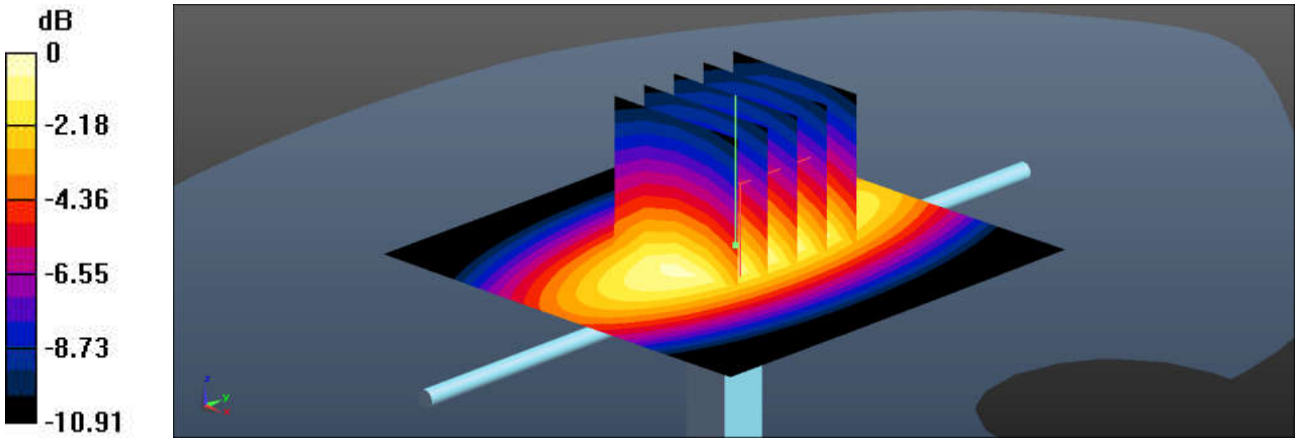
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.933 S/m; ε_r = 41.178; ρ = 1000 kg/m^3
Ambient Temperature：23.3 °C; Liquid Temperature：22.7 °C

DASY5 Configuration:
- Probe: ES3DV3 - SN3279; ConvF(6.23, 6.23, 6.23); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- 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) = 0.584 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.88 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.746 W/kg
SAR(1 g) = 0.500 W/kg; SAR(10 g) = 0.324 W/kg
Maximum value of SAR (measured) = 0.589 W/kg



0 dB = 0.589 W/kg = -2.30 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.11.12

System Check_Head_1750MHz

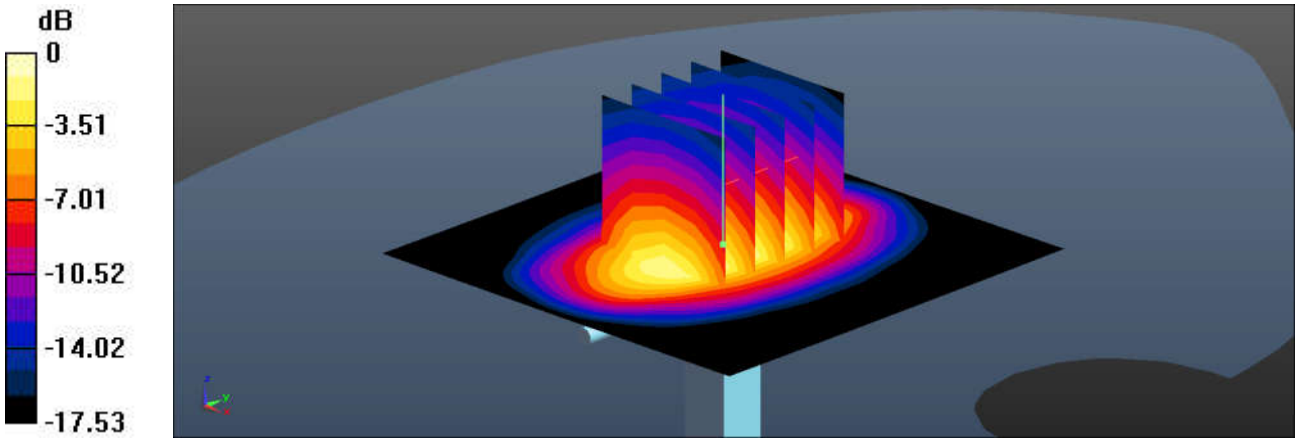
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.343 S/m; ε_r = 38.989; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3279; ConvF(5.52, 5.52, 5.52); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- 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) = 2.19 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 41.00 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.13 W/kg
SAR(1 g) = 1.75 W/kg; SAR(10 g) = 0.922 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: 2021.11.13

System Check_Head_1900MHz

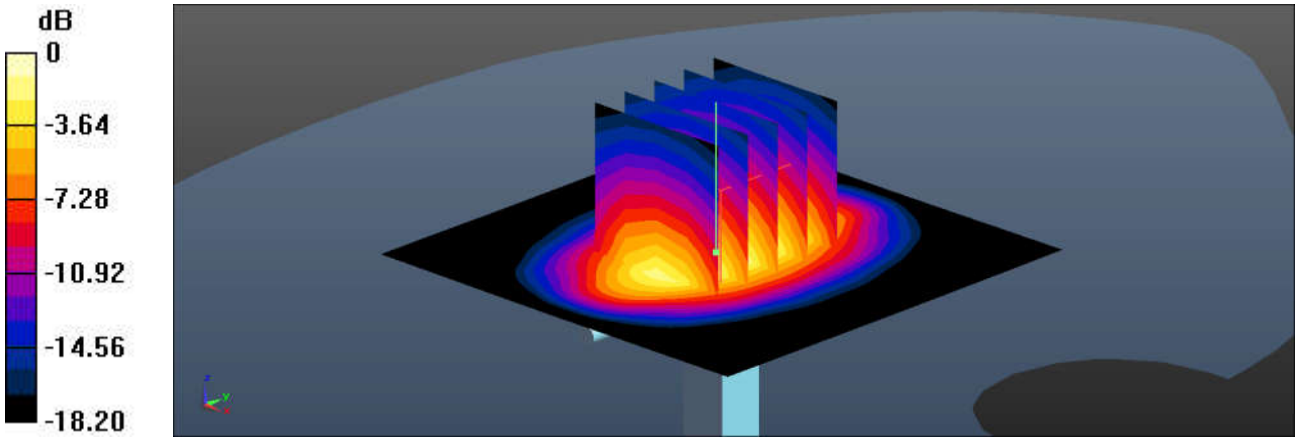
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.427 S/m; ε_r = 38.725; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3279; ConvF(5.28, 5.28, 5.28); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- 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) = 2.52 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,dy=8mm, dz=5mm
Reference Value = 43.43 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.64 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

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.11.16

System Check_Head_2450MHz

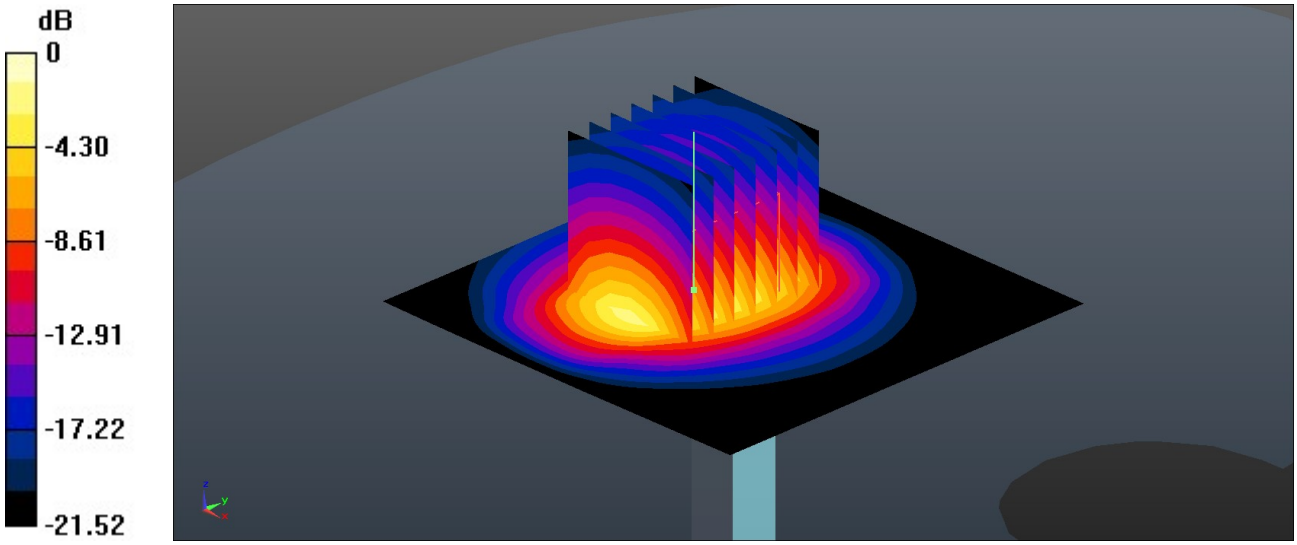
DUT: D2450V2 - SN:908

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.868 S/m; ε_r = 40.798; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3279; ConvF(4.75, 4.75, 4.75); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- 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) = 3.55 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.86 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 5.38 W/kg
SAR(1 g) = 2.63 W/kg; SAR(10 g) = 1.23 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: 2021.11.14

System Check_Head_2600MHz

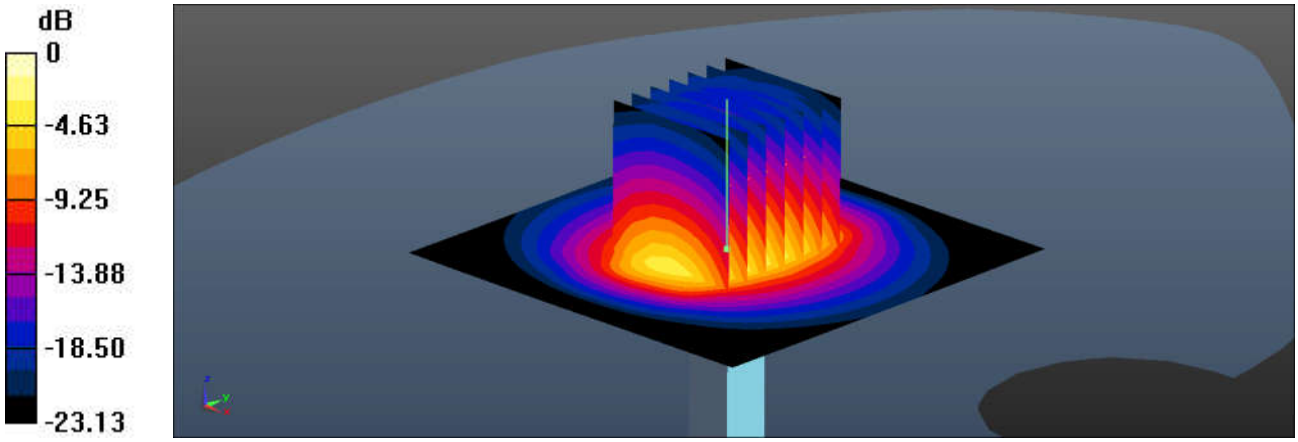
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.927 S/m; ε_r = 38.263; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3279; ConvF(4.47, 4.47, 4.47); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- 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) = 3.80 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 45.11 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 5.77 W/kg
SAR(1 g) = 2.75 W/kg; SAR(10 g) = 1.23 W/kg
Maximum value of SAR (measured) = 3.68 W/kg



0 dB = 3.68 W/kg = 5.66 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.11.20

System Check_Head_3300MHz

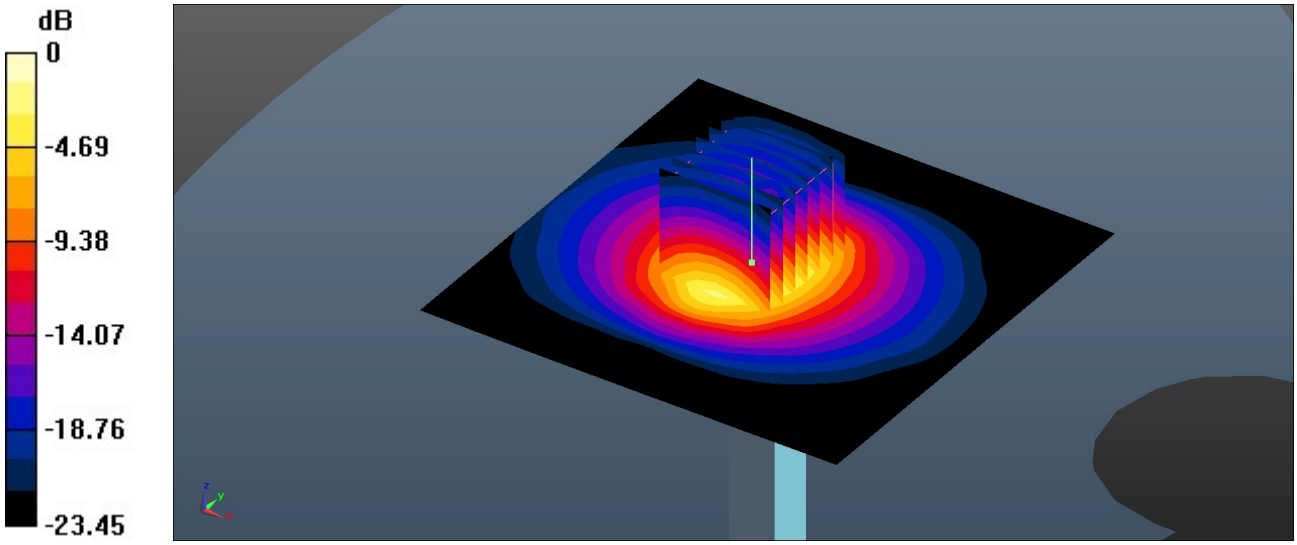
DUT: D3300V2 - SN:1007

Communication System: UID 0, CW (0); Frequency: 3300 MHz;Duty Cycle: 1:1
Medium: HSL_3300 Medium parameters used: f = 3300 MHz; σ = 2.628 S/m; ε_r = 39.369; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(7.07, 7.07, 7.07); Calibrated: 2021.6.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 5.86 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 45.77 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 7.65 W/kg
SAR(1 g) = 3.15 W/kg; SAR(10 g) = 1.21 W/kg
Maximum value of SAR (measured) = 5.64 W/kg



0 dB = 5.64 W/kg = 7.51 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.11.22

System Check_Head_3500MHz

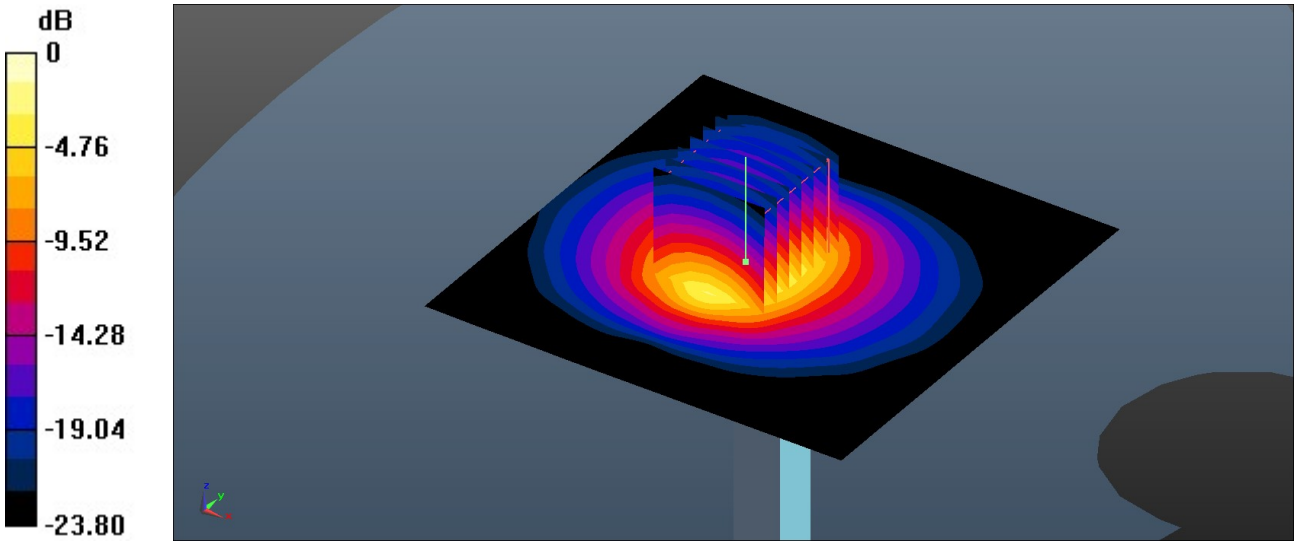
DUT: D3500V2 - SN:1037

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1
Medium: HSL_3500 Medium parameters used: f = 3500 MHz; σ = 2.809 S/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(6.69, 6.69, 6.69); Calibrated: 2021.6.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.06 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 42.90 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 8.04 W/kg
SAR(1 g) = 3.17 W/kg; SAR(10 g) = 1.18 W/kg
Maximum value of SAR (measured) = 5.98 W/kg



0 dB = 5.98 W/kg = 7.77 dBW/kg