FCC SAR Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Redmi
MODEL NAME	:	22041219G
FCC ID	:	2AFZZ1219G
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Tony Zhang

Reviewed by: Tony Zhang / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA211901	Rev. 01	Initial issue of report.	Mar. 17, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, 22041219G,** 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	0.72	0.37	0.20	1.59
		GSM1900	0.87	0.59	0.50	
	WCDMA	Band II	0.91	1.04	**1.09**	
		Band IV	**1.09**	0.99	0.93	
		Band V	0.90	0.50	0.28	
	LTE	Band 2	0.90	1.07	0.79	
		Band 4	**1.09**	0.95	0.80	
		Band 5	0.80	0.54	0.29	
		Band 7	0.96	1.06	0.81	
		Band 41/Band 38	0.96	**1.09**	0.54	
	5G NR	n5	0.60	0.36	0.23	
		n7	0.97	1.05	0.84	
		n41/ n38	0.92	1.03	0.85	
		n77/ n78	1.00	0.99	0.76	
DTS	WLAN	2.4GHz WLAN	0.54	0.46	0.24	1.57
NII		5GHz WLAN	0.56	0.51	0.50	1.59
DSS	Bluetooth	2.4GHz Bluetooth	<0.10	<0.10	<0.10	1.59

Highest 10g SAR Summary			
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)
NII	WLAN	5GHz WLAN	**2.44**
Date of Testing:			2022/2/15 ~ 2022/3/5

Remark:
1. This device supports LTE B38 and B41. Since the supported frequency span for LTE B38 falls completely within the supports frequency span for LTE 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 B41.
2. This device supports 5G NR n38/ n78 and 5G NR n41/ n77. Since the supported frequency span for 5G NR n38 / n78 falls completely within the supports frequency span for 5G NR n41/ n77, 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/ n77.

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

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

2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-KS	CN1257	314309

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

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

3. Guidance Applied

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

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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	Redmi
Model Name	22041219G
FCC ID	2AFZZ1219G
IMEI Code	SIM1: 864235060054084 SIM2: 864235060054092
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 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 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 n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink) LTE: QPSK, 16QAM, 64QAM LTE: 256QAM(Downlink Only) 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	P2
SW Version	MIUI 13
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark: 1. 802.11n-HT40 is not supported in 2.4GHz WLAN. 2. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. 3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications. 4. 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).	

5. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
6. 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.
7. There are three samples. Sample 1 is 1st source battery for CoxMX of 4G+128G, sample 2 is 2nd source battery for Sunwoda of 6G+128G, and sample 3 is 1st source battery for CoxMX 4G+64G. According to the differences, we choose sample 1 to perform full test.
8. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. Full power table and reduced power table (DSI 1: receiver on reduced power for head; DSI 3/4: P-sensor on for hotspot/ handheld; DSI 2: receiver off/P-sensor off).
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 n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
15. 5G NR n41/n77/n78 HPUE with higher power, n41/n77/n78 HPUE SAR can represent power class 3 level SAR.
16. For 5G NR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
17. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, chose higher power which is SCS30KHz to perform SAR testing
18. 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
			30	10, 15, 20
	n7	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n77	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 80, 90, 100
	n41	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 80, 90, 100
	n78	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 80, 90, 100
SA	n5	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n7	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n38	TDD	15	5, 10, 15, 20
			30	10, 15, 20
	n41	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 80, 90, 100
	n77	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 80, 90, 100
	n78	TDD	15	10, 15, 20, 40, 50
			30	10, 15, 20, 40, 50, 60, 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>2AFZZ1219G</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 38: 2570 MHz ~ 2620 MHz
LTE Band 41: 2496 MHz ~ 2690 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 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, Cat13</td></tr>
<tr><td>CA Support</td><td>Supported, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, when operating in Proximity sensors/receiver detect mechanism, head/body-worn/ hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 13</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Intra-Band possible combinations and the detail power verification pleasereferred to section 13.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band with two component carriers in the uplink. SAR Measurements and conductedpowers were evaluated per FCC Guidance.
2. This device supports maximum of 2 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 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

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 n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
Channel Bandwidth	**For SCS-15KHz:** 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n38: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n41: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz 5G NR n78: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz **For SCS-30KHz:** 5G NR n5: 10MHz, 15MHz, 20MHz 5G NR n7: 10MHz, 15MHz, 20MHz 5G NR n38: 10MHz, 15MHz, 20MHz 5G NR n41: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz
SCS	FDD/TDD: SCS15KHz, SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B7
LTE Anchor Bands for n7	LTE B5/7
LTE Anchor Bands for n77	LTE B41
LTE Anchor Bands for n78	LTE B5/7/38/41
LTE Anchor Bands for n41	LTE B41

NR Band 5 SCS15KHz								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839
NR Band 7 SCS15KHz								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560
NR Band 38 SCS15KHz								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515000	2575	515004	2575.02	515502	2577.51	516000	2580
M	519000	2595	519000	2595	519000	2595	519000	2595
H	523000	2615	522996	2614.98	522498	2612.49	522000	2610

NR Band 41 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	503202	2516.01	504204	2521.02
M	518598	2595.99	518598	2595.99	518598	2595.99	518598	2595.99	518598	2595.99
H	537000	2685	536496	2685.48	535998	2679.99	534000	2670	532998	2664.99

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

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

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

NR Band 41 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01
M	518598	2595.99	518598	2595.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2685.48	535998	2679.99	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640

<3700 MHz ~ 3980 MHz>

NR Band 77 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664668	3970.02	664000	3960	663668	3955.01

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

NR Band 77 SCS30KHz																		
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01	648668	3730.02	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664668	3970.02	664000	3960	663668	3955.02	663334	3950.01	662668	3940.02	662334	3935.01	662000	3930

NR Band 78 SCS30KHz																		
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01	648668	3730.02	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652834	3792.51	652668	3790.02	652000	3780	651668	3775.02	651334	3770.01	650668	3760.02	650334	3755.01		

<3450 MHz ~ 3550 MHz>

NR Band 77 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635334	3530.01		

NR Band 78 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635334	3530.01		

NR Band 77 SCS30KHz																		
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630550	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635334	3530.01	635000	3525	634668	3520.02	634000	3510	633668	3505.02		

NR Band 78 SCS30KHz																		
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630550	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635334	3530.01	635000	3525	634668	3520.02	634000	3510	633668	3505.02		

<3700 MHz ~ 3980 MHz>

NR Band 77													
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649334	3740.01	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	664668	3970.02	664334	3965.01	664000	3960	663668	3955.02	663334	3950.01	662668	3940.02	662000	3930

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

<3450 MHz ~ 3550 MHz>

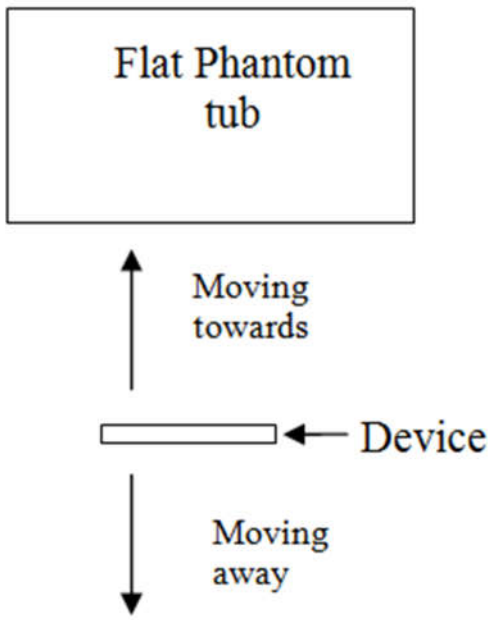
NR Band 77													
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632668	3490.02		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634000	3510		

NR Band 78													
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632668	3490.02		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634000	3510		

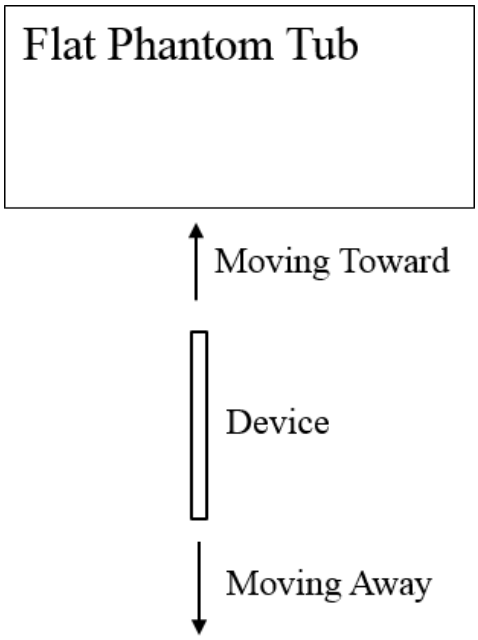
5. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.
2. 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 (3900MHz) and lowest (835MHz) 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 top or left 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. The verification test and more details please refer to sensor operation description.
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 on for Ant1 >

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

<Sensor on for Ant3/4 >

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

<Sensor on for Ant2 >

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Top Side		Left Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	16	16	16	16	6	6	6	6

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

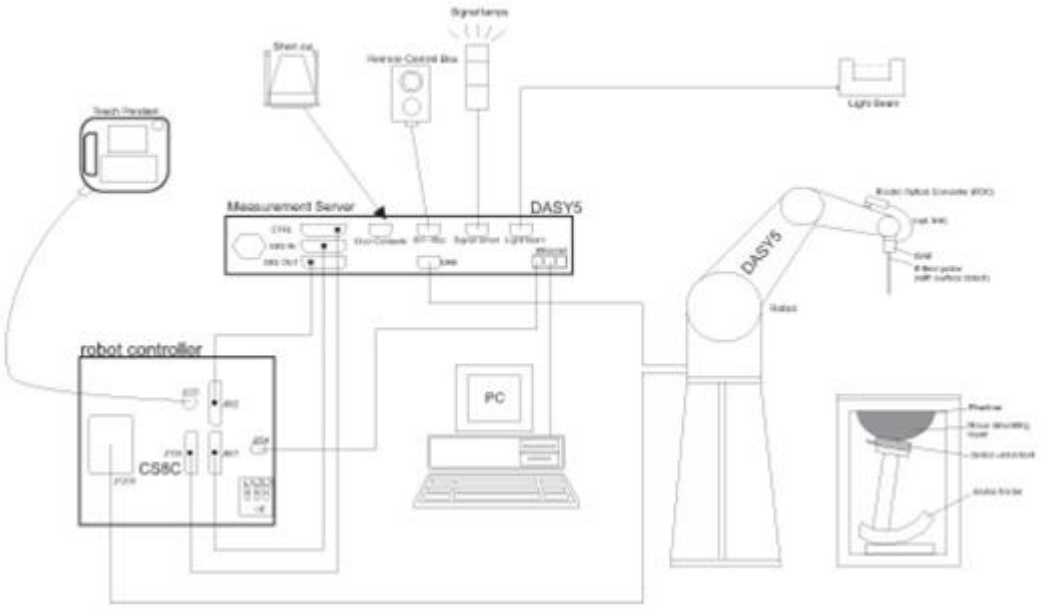
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.1 E-Field Probe

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

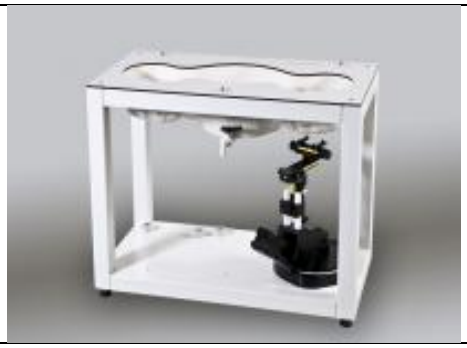
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

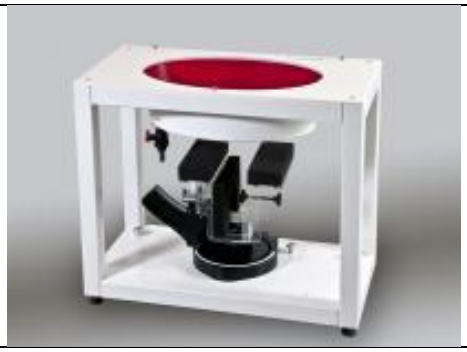
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

9.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

9.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

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

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

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

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

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

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	835MHz System Validation Kit	D835V2	4d258	2020/5/7	2023/5/6
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2022/3/25
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2022/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2022/3/23
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2023/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2023/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/22
SPEAG	Data Acquisition Electronics	DAE4	1650	2021/6/9	2022/6/8
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2021/11/24	2022/11/23
SPEAG	SAM Twin Phantom	SAM Twin	TP-1754	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2021/4/13	2022/4/12
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2021/7/31	2022/7/30
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2021/6/9	2022/6/8
Anritsu	Vector Signal Generator	MG3710A	6201682672	2022/1/6	2023/1/5
Rohde & Schwarz	Power Meter	NRVD	102081	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2021/8/12	2022/8/11
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101631	2021/10/14	2022/10/13
FLUKE	DIGITAC THERMOMETER	51II	97240029	2021/8/13	2022/8/12
Testo	Thermo-Hygrometer	608-H1	1241332102	2022/1/6	2023/1/5
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	

Note:

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

11. System Verification

11.1 Tissue Simulating Liquids

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

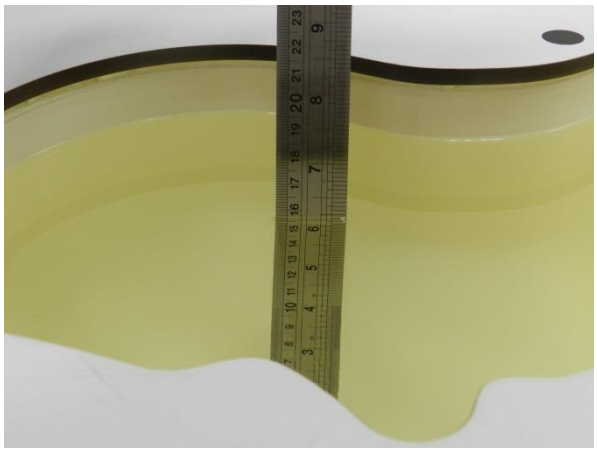


Fig 11.1 Photo of Liquid Height for Head SAR

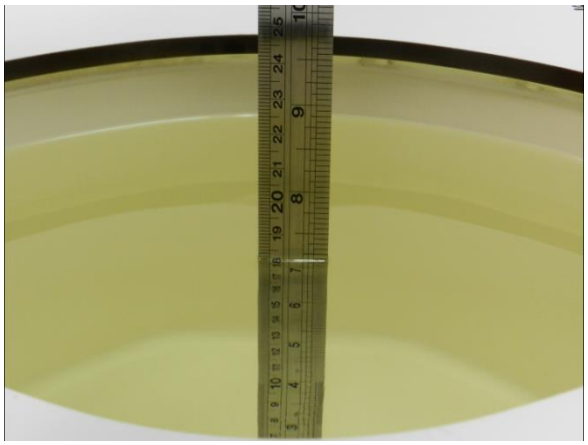


Fig 11.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Head	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
835	Head	22.6	0.924	42.865	0.90	41.50	2.67	3.29	±5	2022/2/15
1750	Head	22.7	1.394	40.496	1.37	40.10	1.75	0.99	±5	2022/2/17
1900	Head	22.8	1.454	40.312	1.40	40.00	3.86	0.78	±5	2022/2/19
2600	Head	22.6	1.975	40.617	1.96	39.00	0.77	4.15	±5	2022/2/20
3500	Head	22.7	2.787	39.118	2.91	37.90	-4.23	3.21	±5	2022/2/22
3900	Head	22.8	3.219	38.420	3.32	37.50	-3.04	2.45	±5	2022/2/24
835	Head	22.7	0.929	40.902	0.90	41.50	3.22	-1.44	±5	2022/2/16
1750	Head	22.6	1.395	40.493	1.37	40.10	1.82	0.98	±5	2022/2/18
1900	Head	22.7	1.457	40.305	1.40	40.00	4.07	0.76	±5	2022/2/20
2600	Head	22.8	2.009	40.660	1.96	39.00	2.50	4.26	±5	2022/2/22
3500	Head	22.9	2.785	38.923	2.91	37.90	-4.30	2.70	±5	2022/2/25
3900	Head	22.8	3.171	38.335	3.32	37.50	-4.49	2.23	±5	2022/2/28
835	Head	22.6	0.930	40.922	0.90	41.50	3.33	-1.39	±5	2022/2/23
1750	Head	22.8	1.401	40.492	1.37	40.10	2.26	0.98	±5	2022/2/25
1900	Head	22.7	1.460	40.076	1.40	40.00	4.29	0.19	±5	2022/2/27
2600	Head	22.6	1.923	38.308	1.96	39.00	-1.89	-1.77	±5	2022/3/1
3500	Head	22.6	2.809	39.007	2.91	37.90	-3.47	2.92	±5	2022/3/3
3900	Head	22.9	3.196	38.389	3.32	37.50	-3.73	2.37	±5	2022/3/5
2450	Head	22.8	1.879	40.822	1.80	39.20	4.39	4.14	±5	2022/3/1
5250	Head	22.9	4.578	36.291	4.71	35.90	-2.80	1.09	±5	2022/3/2
5600	Head	22.8	4.950	35.716	5.07	35.50	-2.37	0.61	±5	2022/3/3
5750	Head	22.7	5.132	35.570	5.22	35.40	-1.69	0.48	±5	2022/3/4
3700	Head	22.6	3.016	38.715	3.12	37.70	-3.33	2.69	±5	2022/2/23
3700	Head	22.7	2.997	38.608	3.12	37.70	-3.94	2.41	±5	2022/2/26
3700	Head	22.8	2.996	38.687	3.12	37.70	-3.97	2.62	±5	2022/3/4

11.3 System Performance Check Results

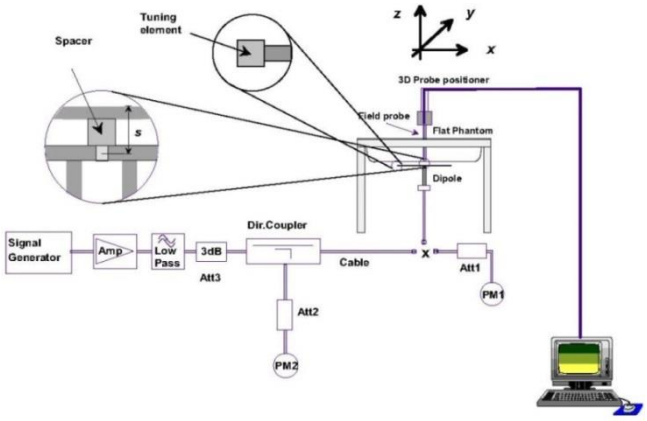
Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the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

<1g SAR>

Date	Frequency (MHz)	Head	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2022/2/15	835	Head	50	4d258	3857	1650	0.441	9.44	8.82	-6.57
2022/2/17	1750	Head	50	1090	3857	1650	1.890	36.40	37.8	3.85
2022/2/19	1900	Head	50	5d170	3857	1650	2.070	39.00	41.4	6.15
2022/2/20	2600	Head	50	1061	3857	1650	2.630	56.60	52.6	-7.07
2022/2/22	3500	Head	50	1037	3857	1650	3.360	68.00	67.2	-1.18
2022/2/24	3900	Head	50	1048	3857	1650	3.260	70.20	65.2	-7.12
2022/2/16	835	Head	50	4d258	3857	1650	0.444	9.44	8.88	-5.93
2022/2/18	1750	Head	50	1090	3857	1650	1.880	36.40	37.6	3.30
2022/2/20	1900	Head	50	5d170	3857	1650	2.080	39.00	41.6	6.67
2022/2/22	2600	Head	50	1061	3857	1650	2.640	56.60	52.8	-6.71
2022/2/25	3500	Head	50	1037	3857	1650	3.390	68.00	67.8	-0.29
2022/2/28	3900	Head	50	1048	3857	1650	3.240	70.20	64.8	-7.69
2022/2/23	835	Head	50	4d258	3857	1650	0.490	9.44	9.8	3.81
2022/2/25	1750	Head	50	1090	3857	1650	1.900	36.40	38	4.40
2022/2/27	1900	Head	50	5d170	3857	1650	2.050	39.00	41	5.13
2022/3/1	2600	Head	50	1061	3857	1650	2.610	56.60	52.2	-7.77
2022/3/3	3500	Head	50	1037	3857	1650	3.380	68.00	67.6	-0.59
2022/3/5	3900	Head	50	1048	3857	1650	3.230	70.20	64.6	-7.98
2022/3/1	2450	Head	50	908	3857	1650	2.550	52.80	51	-3.41
2022/3/2	5250	Head	50	1113	3857	1650	3.830	80.50	76.6	-4.84
2022/3/3	5600	Head	50	1113	3857	1650	3.870	83.40	77.4	-7.19
2022/3/4	5750	Head	50	1113	3857	1650	3.710	80.00	74.2	-7.25
2022/2/23	3700	Head	50	1008	3857	1650	3.450	67.60	69	2.07
2022/2/26	3700	Head	50	1008	3857	1650	3.400	67.60	68	0.59
2022/3/4	3700	Head	50	1008	3857	1650	3.430	67.60	68.6	1.48

<10g SAR>

Date	Frequency (MHz)	Head	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2022/3/2	5250	Head	50	1113	3857	1650	1.130	23.10	22.6	-2.16
2022/3/3	5600	Head	50	1113	3857	1650	1.170	23.80	23.4	-1.68
2022/3/4	5750	Head	50	1113	3857	1650	1.060	22.80	21.2	-7.02



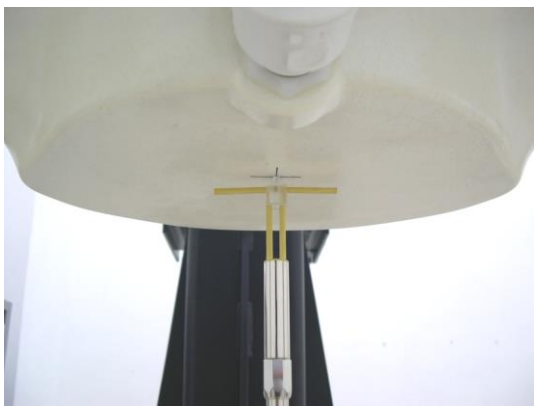


Fig 11.3.1 System Performance Check Setup **Fig 11.3.2 Setup Photo**

12. RF Exposure Positions

12.1 Ear and handset reference point

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

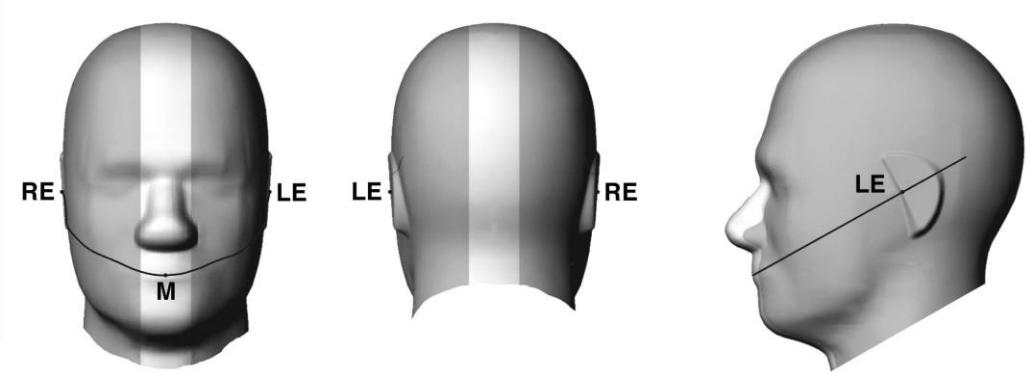


Fig 12.1.1 Front, back, and side views of SAM twin phantom

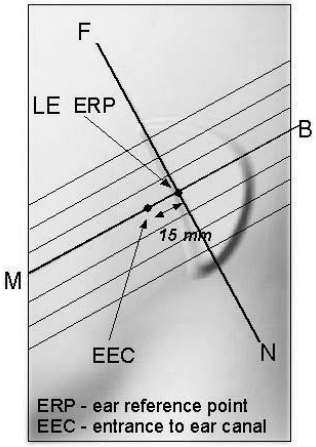


Fig 12.1.2 Close-up side view of phantom showing the ear region.

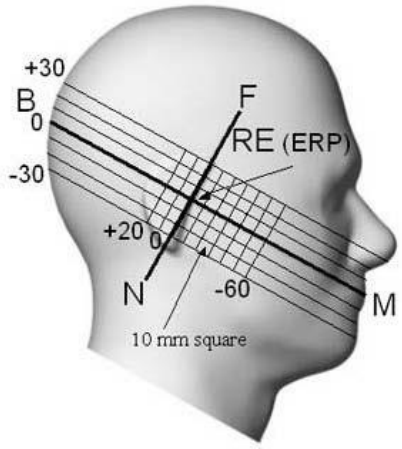


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

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

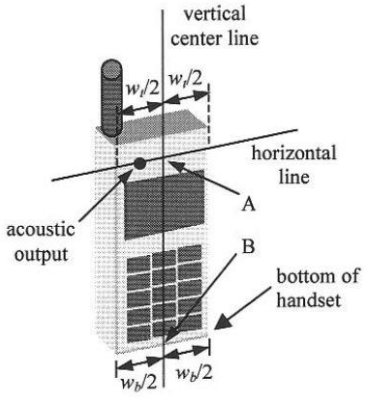


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

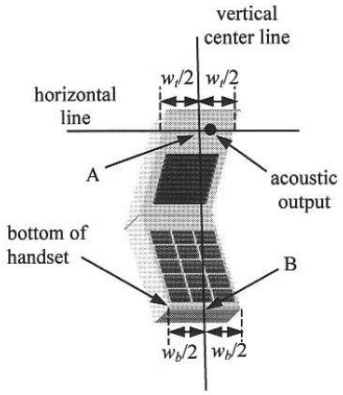


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

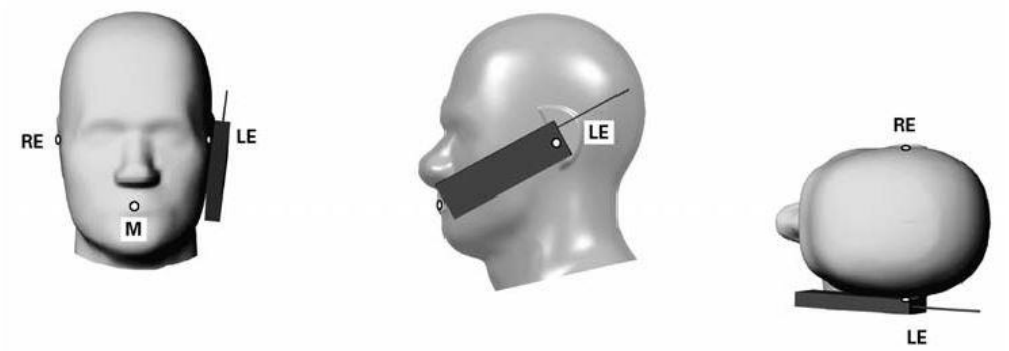


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

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

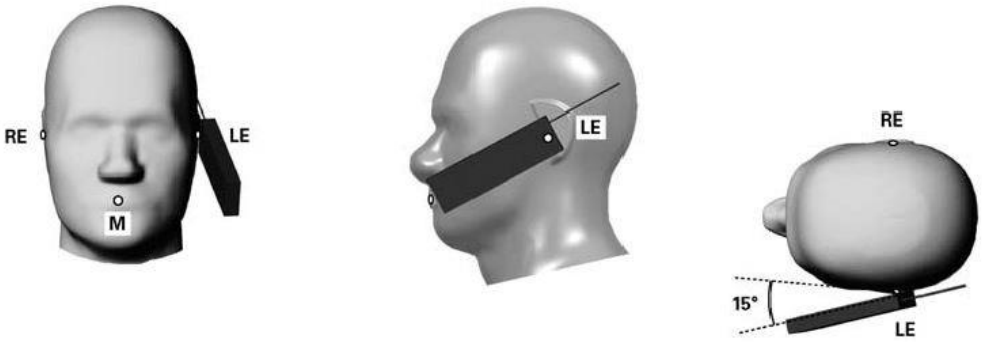


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 12.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

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

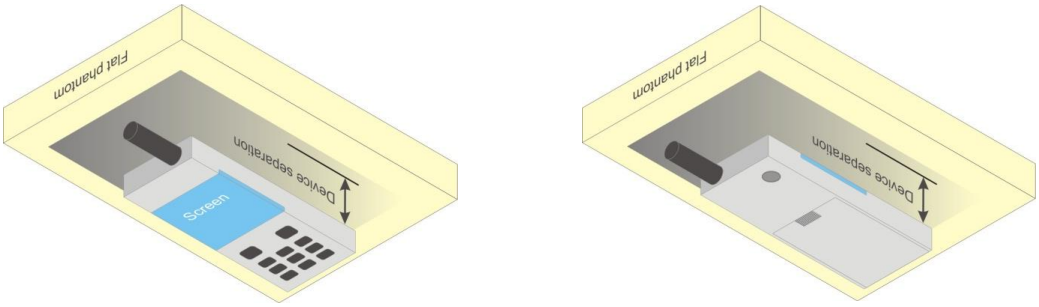


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

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

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

12.6 Wireless Router

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

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

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

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

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

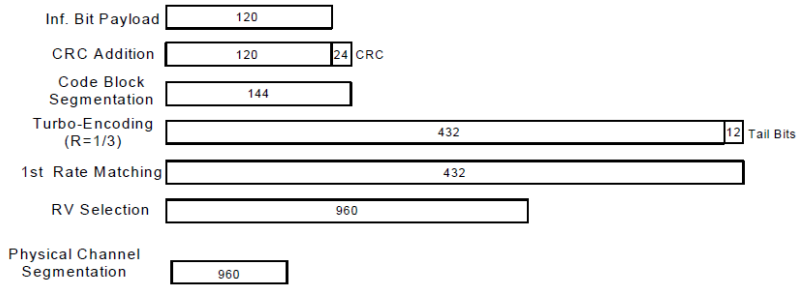


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, 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 = 5.2E:HSPA+:UL with 16QAM
   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, C11.1.4, quoted from the TS 34.121-1 s5.2E
   iii. Set Channel Parms
   iv. Set Cell Power = -86 dBm
   v. Set Channel Type = HSPA
   vi. Set UE Target Power =21 dBm
   vii. Power Ctrl Mode= All Up Bits
   viii. Set Manual Uplink DPCH Bc/Bd = Manual
   ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
   x. Set HSPA Conn DL Channel Levels
   xi. Set HS-SCCH Configs
   xii. Set RB Test Mode Setup
   xiii. Set Common HSUPA Parameters
   xiv. Set Serving Grant
   xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

<WCDMA Conducted Power>

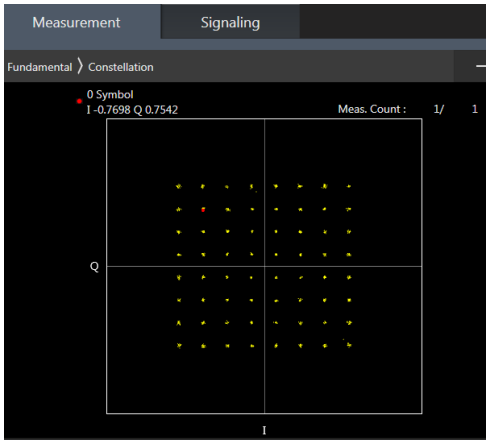
General Note:

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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

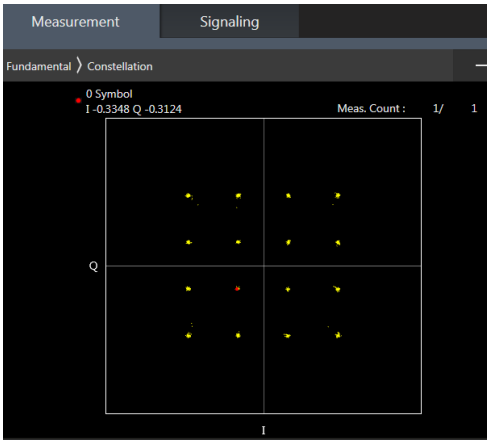
<LTE Conducted Power>

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 / 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 B38 SAR test was covered by 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.

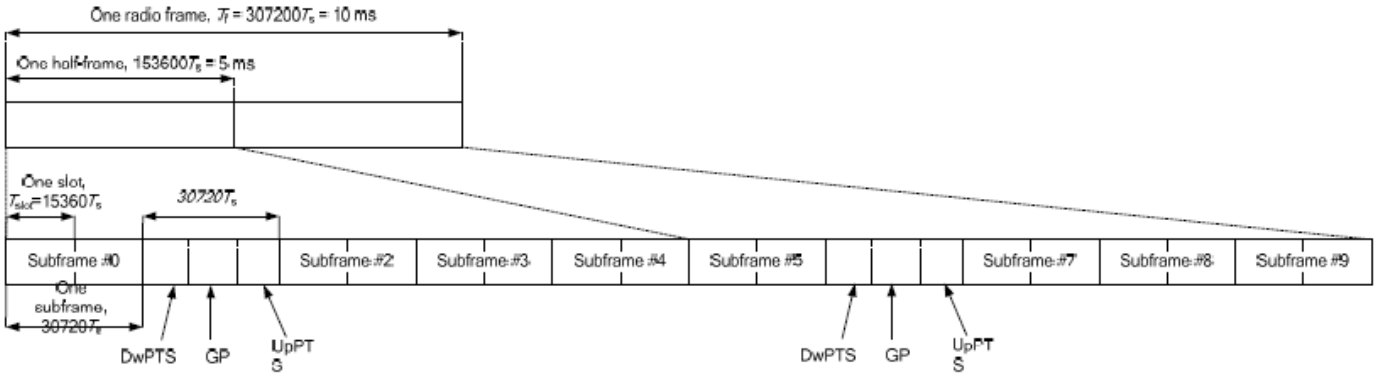


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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	
Number	Combination
1	CA_2C
2	CA_2A-4A
3	CA_2A_5A
4	CA_2A-7A
5	CA_4A-5A
6	CA_4A-7A
7	CA_5A-7A
8	CA_7C
9	CA_7A-7A
10	CA_38C
11	CA_41C
12	CA_41A-41A

LTE Carrier Aggregation Conducted Power (Downlink)

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

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

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

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

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

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

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

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

LTE 4x4 MIMO (Downlink)

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

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

4X4 MIMO	WWAN Band
	LTE Band: B7/B38/B41

LTE Carrier Aggregation Conducted Power (Uplink)

<Intra-band>

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

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/B38 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.

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

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

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

5G NR Output Power (Unit: dBm)

General Note:

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

<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	Ant2	Ant4
DC_5A_n7A	Ant1	Ant2
DC_41A_n77A	Ant2	Ant3
DC_5A_n78A	Ant1	Ant3
DC_7A_n78A	Ant2	Ant3
DC_38A_n78A	Ant2	Ant3
DC_41A_n78A	Ant2	Ant3
DC_7A_n7A	Ant2	Ant1
DC_41A_n41A	Ant2	Ant1

<WLAN Conducted Power>

General Note:

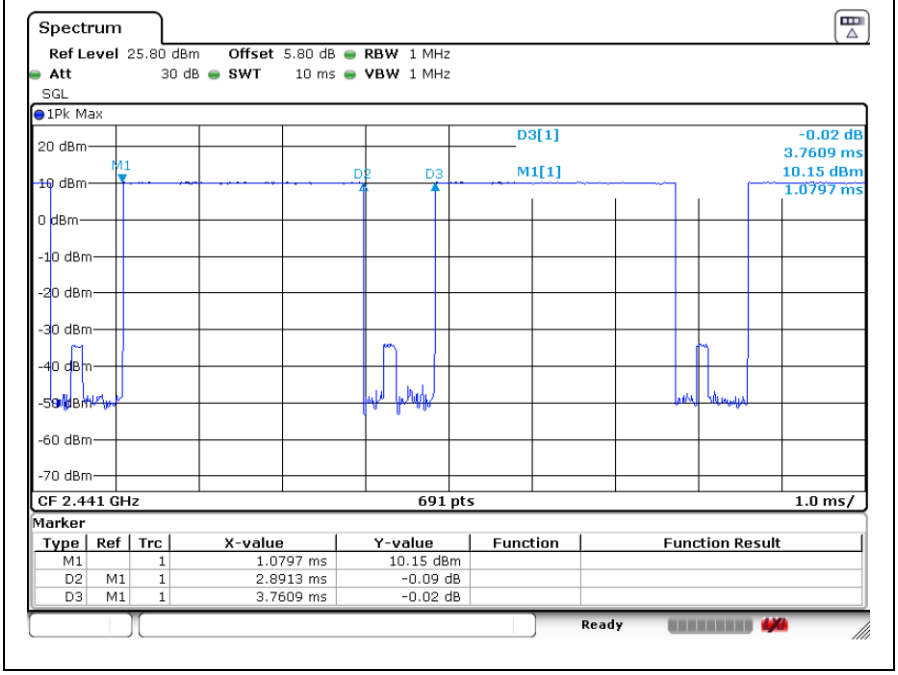
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements.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

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.88 % 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 to 100% for Bluetooth reported SAR calculation

Bluetooth time-domain plot



14. Antenna Location

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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of BT/WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
5. There are three samples. Sample 1 is 1st source battery for CoxMX of 4G+128G, sample 2 is 2nd source battery for Sunwoda of 6G+128G, and sample 3 is 1st source battery for CoxMX 4G+64G. According to the differences, we choose sample 1 to perform full test.
6. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. Full power table and reduced power table (DSI 1: receiver on reduced power for head; DSI 3/4: P-sensor on for hotspot/ handheld; DSI 2: P-sensor off).
7. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
8. 5G NR n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
9. 5G NR n41/n77/n78 HPUE with higher power, n41/n77/n78 HPUE SAR can represent power class 3 level SAR.
10. For 5GNR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
11. NSA and SA mode should perform SAR separately. For the maximum power of 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. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, chose higher power which is SCS30KHz to perform SAR testing
16. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold,

a. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
b. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

17. For different distance SAR always chose higher SAR at the same position to do co-located analysis.
18. For the front and back sensor distance SAR of hotspot exposure condition could be referred to front and back body-worn SAR.

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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

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 / 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 B38 SAR test was covered by 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 n38/n41/n77/n78 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. Based on WLAN2.4GHz and Bluetooth share the same, so Bluetooth RF exposure evaluation chose the worst positon of WLAN 2.4GHz to perform Bluetooth SAR test, and used this Bluetooth SAR value conservatively represent other position do co-located analysis with WWAN.

15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835MHz																		
	GSM850					GPRS (3 Tx slots)	Right Cheek	0mm	Ant 1	DSI 1	189	836.4	29.22	29.50	1.067	-0.07	0.210	0.224
	GSM850					GPRS (3 Tx slots)	Right Tilted	0mm	Ant 1	DSI 1	189	836.4	29.22	29.50	1.067	-0.06	0.106	0.113
	GSM850					GPRS (3 Tx slots)	Left Cheek	0mm	Ant 1	DSI 1	189	836.4	29.22	29.50	1.067	-0.02	0.243	0.259
	GSM850					GPRS (3 Tx slots)	Left Tilted	0mm	Ant 1	DSI 1	189	836.4	29.22	29.50	1.067	0.02	0.136	0.145
	GSM850					GPRS (3 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	189	836.4	27.93	28.50	1.140	0.08	0.601	0.685
	GSM850					GPRS (3 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	189	836.4	27.93	28.50	1.140	0.02	0.538	0.613
01	GSM850					GPRS (3 Tx slots)	Left Cheek	0mm	Ant 4	DSI 1	189	836.4	27.93	28.50	1.140	0.04	0.628	**0.716**
	GSM850					GPRS (3 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	189	836.4	27.93	28.50	1.140	0.04	0.592	0.675
	WCDMA V					RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	4182	836.4	23.98	25.50	1.419	-0.07	0.181	0.257
	WCDMA V					RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	4182	836.4	23.98	25.50	1.419	0.04	0.104	0.148
	WCDMA V					RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	4182	836.4	23.98	25.50	1.419	-0.04	0.204	0.289
	WCDMA V					RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	4182	836.4	23.98	25.50	1.419	-0.04	0.130	0.184
	WCDMA V					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4182	836.4	23.12	24.50	1.374	0.04	0.613	0.842
	WCDMA V					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4132	826.4	23.04	24.50	1.400	0.08	0.585	0.819
02	WCDMA V					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4233	846.6	23.05	24.50	1.396	0.05	0.642	**0.896**
	WCDMA V					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	4182	836.4	23.12	24.50	1.374	0.13	0.579	0.796
	WCDMA V					RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4182	836.4	23.12	24.50	1.374	-0.11	0.614	0.844
	WCDMA V					RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4132	826.4	23.04	24.50	1.400	0.11	0.593	0.830
	WCDMA V					RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4233	846.6	23.05	24.50	1.396	0.04	0.634	0.885
	WCDMA V					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4182	836.4	23.12	24.50	1.374	0.17	0.605	0.831
	WCDMA V					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4132	826.4	23.04	24.50	1.400	-0.13	0.575	0.805
	WCDMA V					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4233	846.6	23.05	24.50	1.396	0.03	0.626	0.874
	LTE Band 5	10M	QPSK	1	0		Right Cheek	0mm	Ant 1	DSI 1	20525	836.5	23.99	25.50	1.416	0.01	0.192	0.272
	LTE Band 5	10M	QPSK	25	0		Right Cheek	0mm	Ant 1	DSI 1	20525	836.5	22.96	24.50	1.426	0.07	0.149	0.212
	LTE Band 5	10M	QPSK	1	0		Right Tilted	0mm	Ant 1	DSI 1	20525	836.5	23.99	25.50	1.416	-0.18	0.111	0.157
	LTE Band 5	10M	QPSK	25	0		Right Tilted	0mm	Ant 1	DSI 1	20525	836.5	22.96	24.50	1.426	0.07	0.087	0.124
	LTE Band 5	10M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	20525	836.5	23.99	25.50	1.416	0.17	0.190	0.269
	LTE Band 5	10M	QPSK	25	0		Left Cheek	0mm	Ant 1	DSI 1	20525	836.5	22.96	24.50	1.426	0.04	0.148	0.211
	LTE Band 5	10M	QPSK	1	0		Left Tilted	0mm	Ant 1	DSI 1	20525	836.5	23.99	25.50	1.416	0.02	0.112	0.159
	LTE Band 5	10M	QPSK	25	0		Left Tilted	0mm	Ant 1	DSI 1	20525	836.5	22.96	24.50	1.426	0.03	0.092	0.131
	LTE Band 5	10M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	20525	836.5	23.32	24.50	1.312	0.1	0.596	0.782
	LTE Band 5	10M	QPSK	25	0		Right Cheek	0mm	Ant 4	DSI 1	20525	836.5	23.20	24.50	1.349	0.13	0.589	0.795
	LTE Band 5	10M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	20525	836.5	23.32	24.50	1.312	0.01	0.567	0.744
	LTE Band 5	10M	QPSK	25	0		Right Tilted	0mm	Ant 4	DSI 1	20525	836.5	23.20	24.50	1.349	0.16	0.560	0.755
	LTE Band 5	10M	QPSK	1	0		Left Cheek	0mm	Ant 4	DSI 1	20525	836.5	23.32	24.50	1.312	0.1	0.600	0.787
	LTE Band 5	10M	QPSK	25	0		Left Cheek	0mm	Ant 4	DSI 1	20525	836.5	23.20	24.50	1.349	0.16	0.589	0.795
03	LTE Band 5	10M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	20525	836.5	23.32	24.50	1.312	-0.06	0.607	**0.797**
	LTE Band 5	10M	QPSK	25	0		Left Tilted	0mm	Ant 4	DSI 1	20525	836.5	23.20	24.50	1.349	-0.12	0.572	0.772
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.11	25.50	1.377	-0.15	0.134	0.185
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.06	25.50	1.393	0.01	0.155	0.216
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.11	25.50	1.377	-0.15	0.079	0.109
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.06	25.50	1.393	0.14	0.090	0.125
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.11	25.50	1.377	-0.19	0.156	0.215
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.06	25.50	1.393	-0.1	0.175	0.244
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.11	25.50	1.377	0.05	0.091	0.125
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.06	25.50	1.393	0.06	0.105	0.146
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.28	24.50	1.324	0.02	0.405	0.536
04	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.25	24.50	1.334	0.11	0.453	**0.604**
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.28	24.50	1.324	0.02	0.381	0.505
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.25	24.50	1.334	-0.14	0.422	0.563
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.28	24.50	1.324	0.05	0.403	0.534

	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.25	24.50	1.334	0.02	0.440	0.587
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.28	24.50	1.324	0.03	0.401	0.531
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.25	24.50	1.334	0.15	0.439	0.585
	FR1 n5 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	21.37	22.50	1.297	0.11	0.352	0.457

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1750MHz																		
	WCDMA IV					RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	1413	1732.6	23.54	25.00	1.400	0.04	0.081	0.113
	WCDMA IV					RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	1413	1732.6	23.54	25.00	1.400	0.03	0.061	0.085
	WCDMA IV					RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	1413	1732.6	23.54	25.00	1.400	-0.06	0.118	0.165
	WCDMA IV					RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	1413	1732.6	23.54	25.00	1.400	0.09	0.000	0.000
	WCDMA IV					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	1413	1732.6	21.08	22.00	1.236	0.18	0.668	0.826
	WCDMA IV					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	1312	1712.4	20.99	22.00	1.262	0.11	0.635	0.801
	WCDMA IV					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	1513	1752.6	21.06	22.00	1.242	-0.01	0.691	0.858
	WCDMA IV					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	1413	1732.6	21.08	22.00	1.236	0.16	0.834	1.031
	WCDMA IV					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	1312	1712.4	20.99	22.00	1.262	0.08	0.784	0.989
05	WCDMA IV					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	1513	1752.6	21.06	22.00	1.242	0.05	0.881	**1.094**
	WCDMA IV					RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	1413	1732.6	21.08	22.00	1.236	0.13	0.538	0.665
	WCDMA IV					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1413	1732.6	21.08	22.00	1.236	0.01	0.695	0.859
	WCDMA IV					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1312	1712.4	20.99	22.00	1.262	0.03	0.640	0.808
	WCDMA IV					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1513	1752.6	21.06	22.00	1.242	-0.16	0.704	0.874
	LTE Band 4	20M	QPSK	1	0		Right Cheek	0mm	Ant 1	DSI 1	20175	1732.5	23.55	25.00	1.396	-0.03	0.064	0.089
	LTE Band 4	20M	QPSK	50	0		Right Cheek	0mm	Ant 1	DSI 1	20175	1732.5	22.52	24.00	1.406	-0.13	0.045	0.063
	LTE Band 4	20M	QPSK	1	0		Right Tilted	0mm	Ant 1	DSI 1	20175	1732.5	23.55	25.00	1.396	0.05	0.048	0.067
	LTE Band 4	20M	QPSK	50	0		Right Tilted	0mm	Ant 1	DSI 1	20175	1732.5	22.52	24.00	1.406	0.11	0.038	0.053
	LTE Band 4	20M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	20175	1732.5	23.55	25.00	1.396	-0.07	0.092	0.128
	LTE Band 4	20M	QPSK	50	0		Left Cheek	0mm	Ant 1	DSI 1	20175	1732.5	22.52	24.00	1.406	-0.18	0.072	0.101
	LTE Band 4	20M	QPSK	1	0		Left Tilted	0mm	Ant 1	DSI 1	20175	1732.5	23.55	25.00	1.396	-0.15	0.000	0.000
	LTE Band 4	20M	QPSK	50	0		Left Tilted	0mm	Ant 1	DSI 1	20175	1732.5	22.52	24.00	1.406	0.01	0.000	0.000
	LTE Band 4	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	21.17	22.00	1.211	-0.02	0.694	0.840
	LTE Band 4	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	21.10	22.00	1.230	0.04	0.688	0.846
	LTE Band 4	20M	QPSK	100	0		Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	21.05	22.00	1.245	-0.05	0.683	0.850
06	LTE Band 4	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.17	22.00	1.211	-0.01	0.897	**1.086**
	LTE Band 4	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.10	22.00	1.230	-0.14	0.879	1.081
	LTE Band 4	20M	QPSK	100	0		Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.05	22.00	1.245	-0.08	0.871	1.084
	LTE Band 4	20M	QPSK	1	0		Left Cheek	0mm	Ant 4	DSI 1	20175	1732.5	21.17	22.00	1.211	-0.02	0.568	0.688
	LTE Band 4	20M	QPSK	50	0		Left Cheek	0mm	Ant 4	DSI 1	20175	1732.5	21.10	22.00	1.230	0.08	0.571	0.702
	LTE Band 4	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.17	22.00	1.211	-0.08	0.737	0.892
	LTE Band 4	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.10	22.00	1.230	0.09	0.722	0.888
	LTE Band 4	20M	QPSK	100	0		Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.05	22.00	1.245	-0.09	0.726	0.904

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 (3 Tx slots)	Right Cheek	0mm	Ant 1	DSI 1	661	1880	24.33	26.00	1.469	0.04	0.105	0.154
	GSM1900					GPRS (3 Tx slots)	Right Tilted	0mm	Ant 1	DSI 1	661	1880	24.33	26.00	1.469	-0.07	0.093	0.137
	GSM1900					GPRS (3 Tx slots)	Left Cheek	0mm	Ant 1	DSI 1	661	1880	24.33	26.00	1.469	0.01	0.156	0.229
	GSM1900					GPRS (3 Tx slots)	Left Tilted	0mm	Ant 1	DSI 1	661	1880	24.33	26.00	1.469	-0.13	0.085	0.125
	GSM1900					GPRS (3 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	661	1880	23.96	25.00	1.271	0.12	0.477	0.606
07	GSM1900					GPRS (3 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	661	1880	23.96	25.00	1.271	-0.05	0.688	**0.874**
	GSM1900					GPRS (3 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	512	1850.2	23.87	25.00	1.297	0.17	0.538	0.698
	GSM1900					GPRS (3 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	810	1909.8	23.77	25.00	1.327	0.15	0.613	0.814
	GSM1900					GPRS (3 Tx slots)	Left Cheek	0mm	Ant 4	DSI 1	661	1880	23.96	25.00	1.271	0.17	0.388	0.493
	GSM1900					GPRS (3 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	661	1880	23.96	25.00	1.271	0.16	0.548	0.696
	WCDMA II					RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	9400	1880	23.64	25.00	1.368	0.06	0.146	0.200
	WCDMA II					RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	9400	1880	23.64	25.00	1.368	0.02	0.133	0.182
	WCDMA II					RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	9400	1880	23.64	25.00	1.368	0.04	0.229	0.313
	WCDMA II					RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	9400	1880	23.64	25.00	1.368	-0.04	0.107	0.146
	WCDMA II					RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	9400	1880	19.60	20.50	1.230	0.07	0.564	0.694
08	WCDMA II					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9400	1880	19.60	20.50	1.230	-0.04	0.742	**0.913**
	WCDMA II					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9262	1852.4	19.53	20.50	1.250	-0.13	0.728	0.910
	WCDMA II					RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9538	1907.6	19.57	20.50	1.239	0.13	0.703	0.871
	WCDMA II					RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	9400	1880	19.60	20.50	1.230	0.06	0.437	0.538
	WCDMA II					RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	9400	1880	19.60	20.50	1.230	0.02	0.583	0.717
	LTE Band 2	20M	QPSK	1	0		Right Cheek	0mm	Ant 1	DSI 1	18900	1880	23.73	25.00	1.340	0.08	0.156	0.209
	LTE Band 2	20M	QPSK	50	0		Right Cheek	0mm	Ant 1	DSI 1	18900	1880	22.67	24.00	1.358	-0.04	0.126	0.171
	LTE Band 2	20M	QPSK	1	0		Right Tilted	0mm	Ant 1	DSI 1	18900	1880	23.73	25.00	1.340	-0.1	0.143	0.192
	LTE Band 2	20M	QPSK	50	0		Right Tilted	0mm	Ant 1	DSI 1	18900	1880	22.67	24.00	1.358	-0.13	0.113	0.153
	LTE Band 2	20M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	18900	1880	23.73	25.00	1.340	0.08	0.250	0.335
	LTE Band 2	20M	QPSK	50	0		Left Cheek	0mm	Ant 1	DSI 1	18900	1880	22.67	24.00	1.358	0.15	0.195	0.265
	LTE Band 2	20M	QPSK	1	0		Left Tilted	0mm	Ant 1	DSI 1	18900	1880	23.73	25.00	1.340	0.16	0.110	0.147
	LTE Band 2	20M	QPSK	50	0		Left Tilted	0mm	Ant 1	DSI 1	18900	1880	22.67	24.00	1.358	0.03	0.083	0.113
	LTE Band 2	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	18900	1880	19.85	20.50	1.161	0.08	0.577	0.670
	LTE Band 2	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	18900	1880	19.77	20.50	1.183	0.06	0.568	0.672
	LTE Band 2	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	18900	1880	19.85	20.50	1.161	-0.1	0.755	0.877
	LTE Band 2	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	18700	1860	19.84	20.50	1.164	0.06	0.741	0.863
	LTE Band 2	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	19100	1900	19.81	20.50	1.172	0.02	0.722	0.846
	LTE Band 2	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	18900	1880	19.77	20.50	1.183	0.05	0.751	0.888
	LTE Band 2	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	18700	1860	19.64	20.50	1.219	0.06	0.731	0.891
	LTE Band 2	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	19100	1900	19.75	20.50	1.189	0.05	0.722	0.858
09	LTE Band 2	20M	QPSK	100	0		Right Tilted	0mm	Ant 4	DSI 1	18900	1880	19.82	20.50	1.169	0.02	0.765	**0.895**
	LTE Band 2	20M	QPSK	1	0		Left Cheek	0mm	Ant 4	DSI 1	18900	1880	19.85	20.50	1.161	0.13	0.453	0.526
	LTE Band 2	20M	QPSK	50	0		Left Cheek	0mm	Ant 4	DSI 1	18900	1880	19.77	20.50	1.183	0.09	0.449	0.531
	LTE Band 2	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	18900	1880	19.85	20.50	1.161	0.02	0.601	0.698
	LTE Band 2	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	18900	1880	19.77	20.50	1.183	-0.08	0.597	0.706

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0		Right Cheek	0mm	Ant 1	DSI 1	21100	2535	24.09	25.50	1.384		1.000	-0.12	0.100	0.138
	LTE Band 7	20M	QPSK	50	0		Right Cheek	0mm	Ant 1	DSI 1	21100	2535	23.07	24.50	1.390		1.000	0.02	0.078	0.108
	LTE Band 7	20M	QPSK	1	0		Right Tilted	0mm	Ant 1	DSI 1	21100	2535	24.09	25.50	1.384		1.000	0.13	0.096	0.133
	LTE Band 7	20M	QPSK	50	0		Right Tilted	0mm	Ant 1	DSI 1	21100	2535	23.07	24.50	1.390		1.000	0.18	0.075	0.104
	LTE Band 7	20M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	21100	2535	24.09	25.50	1.384		1.000	0.17	0.108	0.149
	LTE Band 7_CA 7C	20M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	21100+ 21298	2535+ 2554.8	23.58	25.50	1.556		1.000	-0.02	0.089	0.138
	LTE Band 7	20M	QPSK	50	0		Left Cheek	0mm	Ant 1	DSI 1	21100	2535	23.07	24.50	1.390		1.000	0.01	0.085	0.118
	LTE Band 7	20M	QPSK	1	0		Left Tilted	0mm	Ant 1	DSI 1	21100	2535	24.09	25.50	1.384		1.000	0.05	0.054	0.075
	LTE Band 7	20M	QPSK	50	0		Left Tilted	0mm	Ant 1	DSI 1	21100	2535	23.07	24.50	1.390		1.000	0.02	0.045	0.063
	LTE Band 7 ENDC	20M	QPSK	1	0		Right Cheek	0mm	Ant 2	DSI 1	21100	2535	16.95	18.00	1.274		1.000	0.13	0.383	0.488
	LTE Band 7 ENDC	20M	QPSK	50	0		Right Cheek	0mm	Ant 2	DSI 1	21100	2535	16.93	18.00	1.279		1.000	-0.01	0.399	0.510
	LTE Band 7 ENDC	20M	QPSK	1	0		Right Tilted	0mm	Ant 2	DSI 1	21100	2535	16.95	18.00	1.274		1.000	0.02	0.196	0.250
	LTE Band 7 ENDC	20M	QPSK	50	0		Right Tilted	0mm	Ant 2	DSI 1	21100	2535	16.93	18.00	1.279		1.000	-0.16	0.197	0.252
	LTE Band 7 ENDC	20M	QPSK	1	0		Left Cheek	0mm	Ant 2	DSI 1	21100	2535	16.95	18.00	1.274		1.000	0.02	0.091	0.116
	LTE Band 7 ENDC	20M	QPSK	50	0		Left Cheek	0mm	Ant 2	DSI 1	21100	2535	16.93	18.00	1.279		1.000	0.07	0.102	0.130
	LTE Band 7 ENDC	20M	QPSK	1	0		Left Tilted	0mm	Ant 2	DSI 1	21100	2535	16.95	18.00	1.274		1.000	0.06	0.095	0.121
	LTE Band 7 ENDC	20M	QPSK	50	0		Left Tilted	0mm	Ant 2	DSI 1	21100	2535	16.93	18.00	1.279		1.000	0.03	0.090	0.115
	LTE Band 7	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	21100	2535	18.42	20.00	1.439		1.000	-0.17	0.478	0.688
	LTE Band 7	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	21100	2535	18.27	20.00	1.489		1.000	0.04	0.478	0.712
10	LTE Band 7	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	21100	2535	18.42	20.00	1.439		1.000	-0.03	0.664	**0.955**
	LTE Band 7_CA 7C	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	21100+ 21298	2535+ 2554.8	18.52	20.00	1.406		1.000	0.03	0.647	0.910
	LTE Band 7	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	20850	2510	18.30	20.00	1.479		1.000	0.01	0.621	0.919
	LTE Band 7	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	21350	2560	18.32	20.00	1.472		1.000	-0.02	0.611	0.900
	LTE Band 7	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	21100	2535	18.27	20.00	1.489		1.000	0.01	0.633	0.943
	LTE Band 7	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	20850	2510	18.07	20.00	1.560		1.000	0.03	0.611	0.953
	LTE Band 7	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	21350	2560	18.25	20.00	1.496		1.000	-0.12	0.602	0.901
	LTE Band 7	20M	QPSK	100	0		Right Tilted	0mm	Ant 4	DSI 1	21100	2535	18.09	20.00	1.552		1.000	-0.06	0.600	0.931
	LTE Band 7	20M	QPSK	1	0		Left Cheek	0mm	Ant 4	DSI 1	21100	2535	18.42	20.00	1.439		1.000	0.05	0.360	0.518
	LTE Band 7	20M	QPSK	50	0		Left Cheek	0mm	Ant 4	DSI 1	21100	2535	18.27	20.00	1.489		1.000	0.07	0.363	0.541
	LTE Band 7	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	21100	2535	18.42	20.00	1.439		1.000	0.07	0.489	0.704
	LTE Band 7	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	21100	2535	18.27	20.00	1.489		1.000	-0.02	0.489	0.728
	LTE Band 41	20M	QPSK	1	0		Right Cheek	0mm	Ant 1	DSI 1	40620	2593	24.12	25.50	1.374	62.9	1.006	0.01	0.112	0.155
	LTE Band 41_CA 38C	20M	QPSK	1	0		Right Cheek	0mm	Ant 1	DSI 1	38000+ 38150	2595+ 2610	23.97	25.50	1.422	62.9	1.006	0.03	0.095	0.136
	LTE Band 41	20M	QPSK	50	0		Right Cheek	0mm	Ant 1	DSI 1	40620	2593	23.08	24.50	1.387	62.9	1.006	0.14	0.089	0.124
	LTE Band 41	20M	QPSK	1	0		Right Tilted	0mm	Ant 1	DSI 1	40620	2593	24.12	25.50	1.374	62.9	1.006	-0.03	0.074	0.102
	LTE Band 41	20M	QPSK	50	0		Right Tilted	0mm	Ant 1	DSI 1	40620	2593	23.08	24.50	1.387	62.9	1.006	0.12	0.058	0.081
	LTE Band 41	20M	QPSK	1	0		Left Cheek	0mm	Ant 1	DSI 1	40620	2593	24.12	25.50	1.374	62.9	1.006	0.03	0.068	0.094
	LTE Band 41	20M	QPSK	50	0		Left Cheek	0mm	Ant 1	DSI 1	40620	2593	23.08	24.50	1.387	62.9	1.006	-0.09	0.049	0.068
	LTE Band 41	20M	QPSK	1	0		Left Tilted	0mm	Ant 1	DSI 1	40620	2593	24.12	25.50	1.374	62.9	1.006	0.16	0.044	0.061
	LTE Band 41	20M	QPSK	50	0		Left Tilted	0mm	Ant 1	DSI 1	40620	2593	23.08	24.50	1.387	62.9	1.006	0.05	0.000	0.000
	LTE Band 41 ENDC	20M	QPSK	1	0		Right Cheek	0mm	Ant 2	DSI 1	40620	2593	17.99	19.00	1.262	62.9	1.006	0.05	0.411	0.522
	LTE Band 41 ENDC	20M	QPSK	50	0		Right Cheek	0mm	Ant 2	DSI 1	40620	2593	17.86	19.00	1.300	62.9	1.006	0.09	0.416	0.544
	LTE Band 41 ENDC	20M	QPSK	1	0		Right Tilted	0mm	Ant 2	DSI 1	40620	2593	17.99	19.00	1.262	62.9	1.006	0.07	0.174	0.221
	LTE Band 41 ENDC	20M	QPSK	50	0		Right Tilted	0mm	Ant 2	DSI 1	40620	2593	17.86	19.00	1.300	62.9	1.006	0.06	0.174	0.228
	LTE Band 41 ENDC	20M	QPSK	1	0		Left Cheek	0mm	Ant 2	DSI 1	40620	2593	17.99	19.00	1.262	62.9	1.006	0.14	0.100	0.127
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Cheek	0mm	Ant 2	DSI 1	40620	2593	17.86	19.00	1.300	62.9	1.006	0.08	0.098	0.128
	LTE Band 41 ENDC	20M	QPSK	1	0		Left Tilted	0mm	Ant 2	DSI 1	40620	2593	17.99	19.00	1.262	62.9	1.006	-0.17	0.130	0.165
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Tilted	0mm	Ant 2	DSI 1	40620	2593	17.86	19.00	1.300	62.9	1.006	-0.05	0.129	0.169
	LTE Band 41	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	40620	2593	21.50	23.00	1.413	62.9	1.006	-0.09	0.495	0.703
	LTE Band 41	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	39750	2506	21.33	23.00	1.469	62.9	1.006	-0.04	0.456	0.674

	LTE Band 41	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	40185	2549.5	21.47	23.00	1.422	62.9	1.006	0.08	0.422	0.604
	LTE Band 41	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	41055	2636.5	21.30	23.00	1.479	62.9	1.006	0.06	0.431	0.641
	LTE Band 41	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	DSI 1	41490	2680	21.42	23.00	1.439	62.9	1.006	0.16	0.487	0.705
	LTE Band 41	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	40620	2593	21.46	23.00	1.426	62.9	1.006	0.09	0.527	0.756
	LTE Band 41	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	39750	2506	21.35	23.00	1.462	62.9	1.006	-0.12	0.532	0.783
	LTE Band 41	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	40185	2549.5	21.42	23.00	1.439	62.9	1.006	-0.04	0.543	0.786
	LTE Band 41	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	41055	2636.5	21.40	23.00	1.445	62.9	1.006	-0.12	0.550	0.800
	LTE Band 41	20M	QPSK	50	0		Right Cheek	0mm	Ant 4	DSI 1	41490	2680	21.34	23.00	1.466	62.9	1.006	-0.11	0.527	0.777
	LTE Band 41	20M	QPSK	100	0		Right Cheek	0mm	Ant 4	DSI 1	40620	2593	21.38	23.00	1.452	62.9	1.006	-0.15	0.538	0.786
	LTE Band 41	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	40620	2593	21.50	23.00	1.413	62.9	1.006	-0.03	0.632	0.898
	LTE Band 41	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	39750	2506	21.33	23.00	1.469	62.9	1.006	0.07	0.632	0.934
	LTE Band 41	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	40185	2549.5	21.47	23.00	1.422	62.9	1.006	0.02	0.633	0.906
	LTE Band 41	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	41055	2636.5	21.30	23.00	1.479	62.9	1.006	0.04	0.641	0.954
	LTE Band 41	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	41490	2680	21.42	23.00	1.439	62.9	1.006	0.03	0.615	0.890
11	LTE Band 41	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	40620	2593	21.46	23.00	1.426	62.9	1.006	-0.04	0.667	**0.957**
	LTE Band 41_CA 38C	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	38000+ 38150	2595+ 2610	21.31	23.00	1.476	62.9	1.006	-0.01	0.635	0.943
	LTE Band 41	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	39750	2506	21.35	23.00	1.462	62.9	1.006	0.07	0.643	0.946
	LTE Band 41	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	40185	2549.5	21.42	23.00	1.439	62.9	1.006	-0.16	0.612	0.886
	LTE Band 41	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	41055	2636.5	21.40	23.00	1.445	62.9	1.006	0.06	0.634	0.922
	LTE Band 41	20M	QPSK	50	0		Right Tilted	0mm	Ant 4	DSI 1	41490	2680	21.34	23.00	1.466	62.9	1.006	0.08	0.618	0.911
	LTE Band 41	20M	QPSK	100	0		Right Tilted	0mm	Ant 4	DSI 1	40620	2593	21.38	23.00	1.452	62.9	1.006	0.11	0.623	0.910
	LTE Band 41	20M	QPSK	1	0		Left Cheek	0mm	Ant 4	DSI 1	40620	2593	21.50	23.00	1.413	62.9	1.006	0.03	0.368	0.523
	LTE Band 41	20M	QPSK	50	0		Left Cheek	0mm	Ant 4	DSI 1	40620	2593	21.46	23.00	1.426	62.9	1.006	0.01	0.389	0.558
	LTE Band 41	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	40620	2593	21.50	23.00	1.413	62.9	1.006	0.12	0.467	0.664
	LTE Band 41	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	39750	2506	21.33	23.00	1.469	62.9	1.006	-0.03	0.412	0.609
	LTE Band 41	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	40185	2549.5	21.47	23.00	1.422	62.9	1.006	0.1	0.445	0.637
	LTE Band 41	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	41055	2636.5	21.30	23.00	1.479	62.9	1.006	0.13	0.423	0.629
	LTE Band 41	20M	QPSK	1	0		Left Tilted	0mm	Ant 4	DSI 1	41490	2680	21.42	23.00	1.439	62.9	1.006	-0.15	0.426	0.617
	LTE Band 41	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	40620	2593	21.46	23.00	1.426	62.9	1.006	0.02	0.499	0.716
	LTE Band 41	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	39750	2506	21.35	23.00	1.462	62.9	1.006	0.02	0.512	0.753
	LTE Band 41	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	40185	2549.5	21.42	23.00	1.439	62.9	1.006	0.12	0.487	0.705
	LTE Band 41	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	41055	2636.5	21.40	23.00	1.445	62.9	1.006	0.01	0.521	0.758
	LTE Band 41	20M	QPSK	50	0		Left Tilted	0mm	Ant 4	DSI 1	41490	2680	21.34	23.00	1.466	62.9	1.006	-0.07	0.533	0.786
	LTE Band 41	20M	QPSK	100	0		Left Tilted	0mm	Ant 4	DSI 1	40620	2593	21.38	23.00	1.452	62.9	1.006	0.07	0.524	0.765
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	507000	2535	24.45	25.50	1.274		1.000	-0.06	0.077	0.098
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	507000	2535	24.42	25.50	1.282		1.000	-0.12	0.099	0.127
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	507000	2535	24.45	25.50	1.274		1.000	0.06	0.083	0.106
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	507000	2535	24.42	25.50	1.282		1.000	0.06	0.096	0.123
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	507000	2535	24.45	25.50	1.274		1.000	0.06	0.107	0.136
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	507000	2535	24.42	25.50	1.282		1.000	-0.02	0.108	0.138
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	507000	2535	24.45	25.50	1.274		1.000	0.07	0.043	0.055
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	507000	2535	24.42	25.50	1.282		1.000	0.04	0.050	0.064
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	20.77	22.00	1.327		1.000	0.02	0.653	0.867
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	502000	2510	20.65	22.00	1.365		1.000	0.04	0.654	0.892
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	512000	2560	20.49	22.00	1.416		1.000	0.01	0.660	0.934
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	20.76	22.00	1.330		1.000	-0.06	0.710	0.945
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	502000	2510	20.56	22.00	1.393		1.000	-0.02	0.677	0.943
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	512000	2560	20.60	22.00	1.380		1.000	-0.01	0.679	0.937
	FR1 n7 ENDC	20M	QPSK	50	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	20.73	22.00	1.340		1.000	-0.04	0.644	0.863
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	507000	2535	20.77	22.00	1.327		1.000	0.07	0.312	0.414
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	507000	2535	20.76	22.00	1.330		1.000	0.09	0.332	0.442
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	507000	2535	20.77	22.00	1.327		1.000	-0.05	0.164	0.218
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	507000	2535	20.76	22.00	1.330		1.000	0.07	0.162	0.216
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	507000	2535	20.77	22.00	1.327		1.000	0.02	0.147	0.195
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	507000	2535	20.76	22.00	1.330		1.000	0.08	0.151	0.201
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	19.02	19.50	1.117		1.000	0.04	0.623	0.696

	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	18.99	19.50	1.125		1.000	-0.17	0.617	0.694
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	19.02	19.50	1.117		1.000	0.14	0.846	0.945
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	502000	2510	18.88	19.50	1.153		1.000	0.04	0.833	0.961
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	512000	2560	18.98	19.50	1.127		1.000	-0.01	0.824	0.929
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.99	19.50	1.125		1.000	-0.01	0.840	0.945
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	502000	2510	18.75	19.50	1.189		1.000	0.04	0.813	0.966
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	512000	2560	18.86	19.50	1.159		1.000	-0.03	0.822	0.953
12	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.95	19.50	1.135		1.000	0.05	0.857	**0.973**
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	19.02	19.50	1.117		1.000	-0.11	0.459	0.513
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	18.99	19.50	1.125		1.000	-0.08	0.446	0.502
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	19.02	19.50	1.117		1.000	0.16	0.623	0.696
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	18.99	19.50	1.125		1.000	-0.19	0.623	0.701
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	518598	2592.99	24.84	26.00	1.306		1.000	0.01	0.122	0.159
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 1	518598	2592.99	24.82	26.00	1.312		1.000	-0.05	0.129	0.169
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	518598	2592.99	24.84	26.00	1.306		1.000	-0.1	0.093	0.121
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 1	518598	2592.99	24.82	26.00	1.312		1.000	0.06	0.094	0.123
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	518598	2592.99	24.84	26.00	1.306		1.000	0.16	0.086	0.112
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 1	518598	2592.99	24.82	26.00	1.312		1.000	0.09	0.089	0.117
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	518598	2592.99	24.84	26.00	1.306		1.000	0.1	0.059	0.077
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 1	518598	2592.99	24.82	26.00	1.312		1.000	0.01	0.058	0.076
13	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	18.82	20.00	1.312		1.000	0.01	0.698	**0.916**
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	18.84	20.00	1.306		1.000	-0.13	0.687	0.897
	FR1 n41 ENDC	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	18.76	20.00	1.330		1.000	0.08	0.627	0.834
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	518598	2592.99	18.82	20.00	1.312		1.000	0.07	0.282	0.370
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	518598	2592.99	18.84	20.00	1.306		1.000	-0.11	0.271	0.354
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	518598	2592.99	18.82	20.00	1.312		1.000	-0.02	0.173	0.227
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	518598	2592.99	18.84	20.00	1.306		1.000	0.06	0.173	0.226
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	518598	2592.99	18.82	20.00	1.312		1.000	-0.19	0.224	0.294
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	518598	2592.99	18.84	20.00	1.306		1.000	0.05	0.221	0.289
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	15.86	17.00	1.300		1.000	0.05	0.526	0.684
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	15.79	17.00	1.321		1.000	0.09	0.536	0.708
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	15.86	17.00	1.300		1.000	0.12	0.701	0.911
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	15.79	17.00	1.321		1.000	-0.15	0.671	0.887
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	15.80	17.00	1.318		1.000	0.1	0.621	0.819
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	15.86	17.00	1.300		1.000	0.03	0.388	0.504
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	15.79	17.00	1.321		1.000	0.09	0.388	0.513
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	15.86	17.00	1.300		1.000	0.16	0.521	0.677
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	15.79	17.00	1.321		1.000	0.17	0.528	0.698

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
3500MHz																		
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	656000	3840	19.78	21.00	1.324	-0.02	0.650	0.861
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	656000	3840	19.72	21.00	1.343	-0.11	0.640	0.859
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	656000	3840	19.72	21.00	1.343	-0.01	0.634	0.851
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	656000	3840	19.78	21.00	1.324	0.07	0.276	0.366
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	656000	3840	19.72	21.00	1.343	-0.18	0.278	0.373
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	656000	3840	19.78	21.00	1.324	0.06	0.210	0.278
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	656000	3840	19.72	21.00	1.343	-0.06	0.212	0.285
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	656000	3840	19.78	21.00	1.324	0.11	0.144	0.191
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	656000	3840	19.72	21.00	1.343	0.07	0.147	0.197
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	633334	3500.01	19.64	21.00	1.368	0.11	0.592	0.810
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	633334	3500.01	19.63	21.00	1.371	0.01	0.583	0.799
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 1	633334	3500.01	19.48	21.00	1.419	0.03	0.558	0.792
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	633334	3500.01	19.64	21.00	1.368	0.05	0.534	0.730
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 1	633334	3500.01	19.63	21.00	1.371	0.17	0.559	0.766
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	633334	3500.01	19.64	21.00	1.368	0.03	0.276	0.377
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 1	633334	3500.01	19.63	21.00	1.371	0.17	0.277	0.380
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	633334	3500.01	19.64	21.00	1.368	-0.1	0.268	0.367
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 1	633334	3500.01	19.63	21.00	1.371	0.07	0.274	0.376
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	18.61	19.00	1.094	0.08	0.539	0.590
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	18.55	19.00	1.109	0.16	0.559	0.620
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	656000	3840	18.61	19.00	1.094	-0.17	0.709	0.776
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	656000	3840	18.55	19.00	1.109	0.11	0.559	0.620
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	656000	3840	18.61	19.00	1.094	-0.11	0.717	0.784
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	656000	3840	18.55	19.00	1.109	-0.16	0.697	0.773
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	18.61	19.00	1.094	0.07	0.892	0.976
14	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	18.55	19.00	1.109	0.05	0.900	**0.998**
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	18.46	19.00	1.132	0.03	0.762	0.863
	FR1 n77 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	15.63	16.00	1.089	0.02	0.421	0.458
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	18.37	19.00	1.156	-0.12	0.275	0.318
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	18.27	19.00	1.183	0.03	0.277	0.328
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	633334	3500.01	18.37	19.00	1.156	-0.12	0.338	0.391
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 1	633334	3500.01	18.27	19.00	1.183	-0.15	0.342	0.405
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	633334	3500.01	18.37	19.00	1.156	0.08	0.463	0.535
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 1	633334	3500.01	18.27	19.00	1.183	-0.04	0.468	0.554
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	18.37	19.00	1.156	-0.09	0.511	0.591
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	18.27	19.00	1.183	0.07	0.526	0.622
	FR1 n77 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	15.27	16.00	1.183	0.01	0.274	0.324
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	656000	3840	15.59	17.00	1.384	0.16	0.070	0.097
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	656000	3840	15.53	17.00	1.403	0.02	0.074	0.104
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	656000	3840	15.59	17.00	1.384	0.04	0.061	0.084
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	656000	3840	15.53	17.00	1.403	0.06	0.053	0.074
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	15.59	17.00	1.384	0.11	0.387	0.535
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	15.53	17.00	1.403	-0.02	0.403	0.565
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	656000	3840	15.59	17.00	1.384	0.05	0.174	0.241
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	656000	3840	15.53	17.00	1.403	0.02	0.166	0.233
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.48	17.00	1.419	0.17	0.107	0.152
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.40	17.00	1.445	0.09	0.113	0.163
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.48	17.00	1.419	0.12	0.107	0.152
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.40	17.00	1.445	0.04	0.113	0.163
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.48	17.00	1.419	-0.08	0.679	0.964
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.40	17.00	1.445	-0.13	0.660	0.954
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.36	17.00	1.459	0.14	0.585	0.853

	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.48	17.00	1.419	0.05	0.237	0.336
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.40	17.00	1.445	-0.18	0.248	0.358
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 1	656000	3840	22.54	23.00	1.112	-0.07	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 1	656000	3840	22.53	23.00	1.114	-0.17	0.044	0.049
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 1	656000	3840	22.54	23.00	1.112	0.08	0.000	0.000
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 1	656000	3840	22.53	23.00	1.114	0.05	0.037	0.041
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 1	656000	3840	22.54	23.00	1.112	0.08	0.041	0.046
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 1	656000	3840	22.53	23.00	1.114	-0.15	0.045	0.050
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 1	656000	3840	22.54	23.00	1.112	0.02	0.050	0.056
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 1	656000	3840	22.53	23.00	1.114	0.01	0.048	0.053
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 1	633334	3500.01	21.43	23.00	1.435	0.1	0.167	0.240
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 1	633334	3500.01	21.40	23.00	1.445	0.02	0.172	0.249
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 1	633334	3500.01	21.43	23.00	1.435	-0.08	0.224	0.322
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 1	633334	3500.01	21.40	23.00	1.445	-0.03	0.235	0.340
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 1	633334	3500.01	21.43	23.00	1.435	0.01	0.302	0.434
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 1	633334	3500.01	21.40	23.00	1.445	0.07	0.297	0.429
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 1	633334	3500.01	21.43	23.00	1.435	0.01	0.143	0.205
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 1	633334	3500.01	21.40	23.00	1.445	0.03	0.150	0.217

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7	receiver on	6	2437	12.76	14.50	1.493	100	1.000	0.13	0.153	0.228
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7	receiver on	6	2437	12.76	14.50	1.493	100	1.000	-0.16	0.093	0.139
15	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7	receiver on	6	2437	12.76	14.50	1.493	100	1.000	0.06	0.364	**0.543**
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7	receiver on	6	2437	12.76	14.50	1.493	100	1.000	0.07	0.239	0.357
16	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	Full	39	2441	10.83	12.00	1.309	76.88	1.301	0.09	0.022	**0.037**
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	Full	0	2402	10.76	12.00	1.330	76.88	1.301	0.02	0.008	0.014
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	Full	78	2480	10.65	12.00	1.365	76.88	1.301	0.06	0.013	0.023
5000MHz																
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	receiver on	58	5290	15.43	17.00	1.435	90.69	1.103	0.08	0.152	0.241
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	receiver on	58	5290	15.43	17.00	1.435	90.69	1.103	-0.1	0.177	0.280
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	receiver on	58	5290	15.43	17.00	1.435	90.69	1.103	0.02	0.278	0.440
17	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	receiver on	58	5290	15.43	17.00	1.435	90.69	1.103	-0.02	0.332	**0.526**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	receiver on	138	5690	14.12	15.50	1.374	90.69	1.103	0.05	0.224	0.339
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	receiver on	138	5690	14.12	15.50	1.374	90.69	1.103	0.04	0.279	0.423
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	receiver on	138	5690	14.12	15.50	1.374	90.69	1.103	-0.13	0.360	0.546
18	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	receiver on	138	5690	14.12	15.50	1.374	90.69	1.103	0.05	0.368	**0.558**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	receiver on	155	5775	14.37	16.00	1.455	90.69	1.103	0.02	0.178	0.286
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	receiver on	155	5775	14.37	16.00	1.455	90.69	1.103	-0.11	0.247	0.397
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	receiver on	155	5775	14.37	16.00	1.455	90.69	1.103	0.02	0.317	0.509
19	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	receiver on	155	5775	14.37	16.00	1.455	90.69	1.103	0.06	0.339	**0.544**

15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835MHz																		
	GSM850					GPRS (3 Tx slots)	Front	10mm	Ant 1	DSI 3	189	836.4	29.22	29.50	1.067	0.03	0.153	0.163
	GSM850					GPRS (3 Tx slots)	Back	10mm	Ant 1	DSI 3	189	836.4	29.22	29.50	1.067	-0.01	0.299	0.319
	GSM850					GPRS (3 Tx slots)	Left Side	10mm	Ant 1	DSI 2	189	836.4	29.22	29.50	1.067	0.1	0.111	0.118
	GSM850					GPRS (3 Tx slots)	Right Side	10mm	Ant 1	DSI 2	189	836.4	29.22	29.50	1.067	0.07	0.102	0.109
	GSM850					GPRS (3 Tx slots)	Bottom Side	10mm	Ant 1	DSI 3	189	836.4	29.22	29.50	1.067	0.07	0.120	0.128
	GSM850					GPRS (3 Tx slots)	Front	10mm	Ant 4	DSI 4	189	836.4	28.85	29.00	1.035	0.08	0.209	0.216
20	GSM850					GPRS (3 Tx slots)	Back	10mm	Ant 4	DSI 4	189	836.4	28.85	29.00	1.035	-0.04	0.353	**0.365**
	GSM850					GPRS (3 Tx slots)	Left Side	10mm	Ant 4	DSI 2	189	836.4	29.26	29.50	1.057	-0.17	0.059	0.062
	GSM850					GPRS (3 Tx slots)	Top Side	10mm	Ant 4	DSI 4	189	836.4	28.85	29.00	1.035	-0.04	0.237	0.245
	GSM850					GPRS (3 Tx slots)	Top Side	15mm	Ant 4	DSI 2	189	836.4	29.26	29.50	1.057	0.07	0.148	0.156
	WCDMA V					RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	4182	836.4	23.03	24.50	1.403	0.02	0.104	0.146
	WCDMA V					RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	4182	836.4	23.03	24.50	1.403	-0.07	0.216	0.303
	WCDMA V					RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 2	4182	836.4	23.98	25.50	1.419	-0.16	0.125	0.177
	WCDMA V					RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 2	4182	836.4	23.98	25.50	1.419	0.02	0.104	0.148
	WCDMA V					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	4182	836.4	23.03	24.50	1.403	0.09	0.084	0.118
	WCDMA V					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	4182	836.4	23.98	25.50	1.419	-0.16	0.065	0.092
	WCDMA V					RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	4182	836.4	24.31	25.50	1.315	-0.16	0.211	0.278
21	WCDMA V					RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	4182	836.4	24.31	25.50	1.315	0.02	0.380	**0.500**
	WCDMA V					RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 2	4182	836.4	24.31	25.50	1.315	-0.15	0.073	0.096
	WCDMA V					RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 4	4182	836.4	24.31	25.50	1.315	0.08	0.216	0.284
	LTE Band 5	10M	QPSK	1	0		Front	10mm	Ant 1	DSI 3	20525	836.5	22.92	24.50	1.439	0.07	0.129	0.186
	LTE Band 5	10M	QPSK	25	0		Front	10mm	Ant 1	DSI 3	20525	836.5	22.81	24.50	1.476	0.05	0.128	0.189
	LTE Band 5	10M	QPSK	1	0		Back	10mm	Ant 1	DSI 3	20525	836.5	22.92	24.50	1.439	0.01	0.253	0.364
	LTE Band 5	10M	QPSK	25	0		Back	10mm	Ant 1	DSI 3	20525	836.5	22.81	24.50	1.476	0.08	0.242	0.357
	LTE Band 5	10M	QPSK	1	0		Left Side	10mm	Ant 1	DSI 2	20525	836.5	23.99	25.50	1.416	0.08	0.160	0.227
	LTE Band 5	10M	QPSK	25	0		Left Side	10mm	Ant 1	DSI 2	20525	836.5	22.96	24.50	1.426	-0.07	0.125	0.178
	LTE Band 5	10M	QPSK	1	0		Right Side	10mm	Ant 1	DSI 2	20525	836.5	23.99	25.50	1.416	-0.04	0.129	0.183
	LTE Band 5	10M	QPSK	25	0		Right Side	10mm	Ant 1	DSI 2	20525	836.5	22.96	24.50	1.426	-0.02	0.103	0.147
	LTE Band 5	10M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	20525	836.5	22.92	24.50	1.439	0.05	0.138	0.199
	LTE Band 5	10M	QPSK	25	0		Bottom Side	10mm	Ant 1	DSI 3	20525	836.5	22.81	24.50	1.476	0.08	0.138	0.204
	LTE Band 5	10M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	20525	836.5	23.99	25.50	1.416	-0.15	0.074	0.105
	LTE Band 5	10M	QPSK	1	0		Front	10mm	Ant 4	DSI 4	20525	836.5	24.24	25.50	1.337	0.06	0.227	0.303
	LTE Band 5	10M	QPSK	25	0		Front	10mm	Ant 4	DSI 4	20525	836.5	23.13	24.50	1.371	-0.14	0.177	0.243
22	LTE Band 5	10M	QPSK	1	0		Back	10mm	Ant 4	DSI 4	20525	836.5	24.24	25.50	1.337	-0.06	0.404	**0.540**
	LTE Band 5	10M	QPSK	25	0		Back	10mm	Ant 4	DSI 4	20525	836.5	23.13	24.50	1.371	0.01	0.315	0.432
	LTE Band 5	10M	QPSK	1	0		Left Side	10mm	Ant 4	DSI 2	20525	836.5	24.24	25.50	1.337	0.1	0.078	0.104
	LTE Band 5	10M	QPSK	25	0		Left Side	10mm	Ant 4	DSI 2	20525	836.5	23.13	24.50	1.371	-0.13	0.060	0.082
	LTE Band 5	10M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	20525	836.5	24.24	25.50	1.337	-0.02	0.257	0.344
	LTE Band 5	10M	QPSK	25	0		Top Side	10mm	Ant 4	DSI 4	20525	836.5	23.13	24.50	1.371	-0.12	0.201	0.276
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	167300	836.5	23.22	24.50	1.343	0.07	0.094	0.126
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	167300	836.5	23.21	24.50	1.346	0.05	0.101	0.136
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	167300	836.5	23.22	24.50	1.343	0.03	0.177	0.238
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	167300	836.5	23.21	24.50	1.346	-0.18	0.195	0.262
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 2	167300	836.5	24.11	25.50	1.377	-0.17	0.102	0.140
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 2	167300	836.5	24.06	25.50	1.393	0.04	0.113	0.157
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 2	167300	836.5	24.11	25.50	1.377	0.05	0.089	0.123
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 2	167300	836.5	24.06	25.50	1.393	-0.17	0.101	0.141
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	167300	836.5	23.22	24.50	1.343	0.08	0.086	0.115
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	167300	836.5	23.21	24.50	1.346	0.04	0.134	0.180
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	167300	836.5	24.11	25.50	1.377	0.04	0.052	0.072
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	167300	836.5	24.22	25.50	1.343	-0.19	0.133	0.179

	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	167300	836.5	24.08	25.50	1.387	0.19	0.157	0.218
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	167300	836.5	24.22	25.50	1.343	0.03	0.228	0.306
23	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	167300	836.5	24.08	25.50	1.387	0.04	0.258	**0.358**
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 2	167300	836.5	24.22	25.50	1.343	-0.04	0.045	0.060
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 2	167300	836.5	24.08	25.50	1.387	0.04	0.052	0.072
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 4	167300	836.5	24.22	25.50	1.343	-0.04	0.171	0.230
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 4	167300	836.5	24.08	25.50	1.387	-0.03	0.241	0.334

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1750MHz																		
	WCDMA IV					RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	1413	1732.6	19.16	20.50	1.361	-0.13	0.197	0.268
	WCDMA IV					RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	1413	1732.6	19.16	20.50	1.361	0.06	0.565	0.769
	WCDMA IV					RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 2	1413	1732.6	21.59	23.00	1.384	0.11	0.070	0.097
	WCDMA IV					RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 2	1413	1732.6	21.59	23.00	1.384	0.06	0.130	0.180
	WCDMA IV					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	1413	1732.6	19.16	20.50	1.361	0.08	0.700	0.953
	WCDMA IV					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	1312	1712.4	19.08	20.50	1.387	-0.03	0.677	0.939
24	WCDMA IV					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	1513	1752.6	19.10	20.50	1.380	0.05	0.717	**0.990**
	WCDMA IV					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	1413	1732.6	21.59	23.00	1.384	0.15	0.669	0.926
	WCDMA IV					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	1312	1712.4	21.45	23.00	1.429	0.15	0.672	0.960
	WCDMA IV					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	1513	1752.6	21.46	23.00	1.426	-0.06	0.683	0.974
	WCDMA IV					RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	1413	1732.6	18.81	20.00	1.315	-0.14	0.137	0.180
	WCDMA IV					RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	1413	1732.6	18.81	20.00	1.315	0.04	0.513	0.675
	WCDMA IV					RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 2	1413	1732.6	23.87	25.00	1.297	-0.15	0.158	0.205
	WCDMA IV					RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 4	1413	1732.6	18.81	20.00	1.315	0.13	0.264	0.347
	WCDMA IV					RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI 2	1413	1732.6	23.87	25.00	1.297	0.08	0.460	0.597
	LTE Band 4	20M	QPSK	1	0		Front	10mm	Ant 1	DSI 3	20175	1732.5	19.02	20.50	1.406	-0.11	0.180	0.253
	LTE Band 4	20M	QPSK	50	0		Front	10mm	Ant 1	DSI 3	20175	1732.5	18.82	20.50	1.472	0.03	0.179	0.264
	LTE Band 4	20M	QPSK	1	0		Back	10mm	Ant 1	DSI 3	20175	1732.5	19.02	20.50	1.406	0.1	0.411	0.578
	LTE Band 4	20M	QPSK	50	0		Back	10mm	Ant 1	DSI 3	20175	1732.5	18.82	20.50	1.472	0.02	0.431	0.635
	LTE Band 4	20M	QPSK	1	0		Left Side	10mm	Ant 1	DSI 2	20175	1732.5	21.55	23.00	1.396	-0.17	0.120	0.168
	LTE Band 4	20M	QPSK	50	0		Left Side	10mm	Ant 1	DSI 2	20175	1732.5	21.47	23.00	1.422	0.08	0.094	0.134
	LTE Band 4	20M	QPSK	1	0		Right Side	10mm	Ant 1	DSI 2	20175	1732.5	21.55	23.00	1.396	0.17	0.204	0.285
	LTE Band 4	20M	QPSK	50	0		Right Side	10mm	Ant 1	DSI 2	20175	1732.5	21.47	23.00	1.422	0.03	0.165	0.235
	LTE Band 4	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	20175	1732.5	19.02	20.50	1.406	-0.07	0.607	0.853
	LTE Band 4	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	20175	1732.5	18.82	20.50	1.472	0.17	0.601	0.885
	LTE Band 4	20M	QPSK	100	0		Bottom Side	10mm	Ant 1	DSI 3	20175	1732.5	18.66	20.50	1.528	0.07	0.613	0.936
25	LTE Band 4	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	20175	1732.5	21.55	23.00	1.396	0.12	0.682	**0.952**
	LTE Band 4	20M	QPSK	100	0		Bottom Side	15mm	Ant 1	DSI 2	20175	1732.5	21.45	23.00	1.429	0.06	0.662	0.946
	LTE Band 4	20M	QPSK	1	0		Front	10mm	Ant 4	DSI 4	20175	1732.5	19.14	20.00	1.219	0.02	0.130	0.158
	LTE Band 4	20M	QPSK	50	0		Front	10mm	Ant 4	DSI 4	20175	1732.5	19.09	20.00	1.233	0.08	0.128	0.158
	LTE Band 4	20M	QPSK	1	0		Back	10mm	Ant 4	DSI 4	20175	1732.5	19.14	20.00	1.219	0.1	0.507	0.618
	LTE Band 4	20M	QPSK	50	0		Back	10mm	Ant 4	DSI 4	20175	1732.5	19.09	20.00	1.233	0.07	0.499	0.615
	LTE Band 4	20M	QPSK	1	0		Left Side	10mm	Ant 4	DSI 2	20175	1732.5	24.14	25.00	1.219	0.01	0.159	0.194
	LTE Band 4	20M	QPSK	50	0		Left Side	10mm	Ant 4	DSI 2	20175	1732.5	23.02	24.00	1.253	-0.12	0.120	0.150
	LTE Band 4	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	20175	1732.5	19.14	20.00	1.219	0.06	0.259	0.316
	LTE Band 4	20M	QPSK	50	0		Top Side	10mm	Ant 4	DSI 4	20175	1732.5	19.09	20.00	1.233	0.05	0.256	0.316
	LTE Band 4	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	20175	1732.5	24.14	25.00	1.219	0.04	0.465	0.567

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 (3 Tx slots)	Front	10mm	Ant 1	DSI 3	661	1880	20.80	22.00	1.318	0.03	0.133	0.175
	GSM1900					GPRS (3 Tx slots)	Back	10mm	Ant 1	DSI 3	661	1880	20.80	22.00	1.318	0.04	0.340	0.448
	GSM1900					GPRS (3 Tx slots)	Left Side	10mm	Ant 1	DSI 2	661	1880	24.33	26.00	1.469	-0.15	0.052	0.076
	GSM1900					GPRS (3 Tx slots)	Right Side	10mm	Ant 1	DSI 2	661	1880	24.33	26.00	1.469	0.16	0.090	0.132
	GSM1900					GPRS (3 Tx slots)	Bottom Side	10mm	Ant 1	DSI 3	661	1880	20.80	22.00	1.318	0.09	0.421	0.555
	GSM1900					GPRS (3 Tx slots)	Bottom Side	15mm	Ant 1	DSI 2	661	1880	24.33	26.00	1.469	0.05	0.393	0.577
	GSM1900					GPRS (3 Tx slots)	Front	10mm	Ant 4	DSI 4	661	1880	22.43	23.00	1.140	-0.18	0.149	0.170
26	GSM1900					GPRS (3 Tx slots)	Back	10mm	Ant 4	DSI 4	661	1880	22.43	23.00	1.140	0.07	0.515	**0.587**
	GSM1900					GPRS (3 Tx slots)	Left Side	10mm	Ant 4	DSI 2	661	1880	24.21	26.00	1.510	0.1	0.081	0.122
	GSM1900					GPRS (3 Tx slots)	Top Side	10mm	Ant 4	DSI 4	661	1880	22.43	23.00	1.140	-0.06	0.452	0.515
	GSM1900					GPRS (3 Tx slots)	Top Side	15mm	Ant 4	DSI 2	661	1880	24.21	26.00	1.510	0.06	0.147	0.222
	WCDMA II					RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	9400	1880	18.66	20.00	1.361	0.03	0.188	0.256
	WCDMA II					RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	9400	1880	18.66	20.00	1.361	-0.06	0.518	0.705
	WCDMA II					RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 2	9400	1880	21.55	23.00	1.396	0.08	0.129	0.180
	WCDMA II					RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 2	9400	1880	21.55	23.00	1.396	0.02	0.188	0.263
	WCDMA II					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	9400	1880	18.66	20.00	1.361	0.15	0.676	0.920
	WCDMA II					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	9262	1852.4	18.65	20.00	1.365	0.02	0.667	0.910
	WCDMA II					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 3	9538	1907.6	18.62	20.00	1.374	-0.13	0.630	0.866
27	WCDMA II					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	9400	1880	21.55	23.00	1.396	0.04	0.744	**1.039**
	WCDMA II					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	9262	1852.4	21.38	23.00	1.452	-0.11	0.703	1.021
	WCDMA II					RMC 12.2Kbps	Bottom Side	15mm	Ant 1	DSI 2	9538	1907.6	21.43	23.00	1.435	0.14	0.710	1.019
	WCDMA II					RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	9400	1880	19.69	20.50	1.205	0.03	0.171	0.206
	WCDMA II					RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	9400	1880	19.69	20.50	1.205	0.01	0.604	0.728
	WCDMA II					RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 2	9400	1880	24.12	25.00	1.225	0.08	0.188	0.230
	WCDMA II					RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 4	9400	1880	19.69	20.50	1.205	0.02	0.511	0.616
	WCDMA II					RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI 2	9400	1880	24.12	25.00	1.225	0.04	0.717	0.878
	WCDMA II					RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI 2	9262	1852.4	24.06	25.00	1.242	0.08	0.700	0.869
	WCDMA II					RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI 2	9538	1907.6	24.08	25.00	1.236	0.06	0.703	0.869
	LTE Band 2	20M	QPSK	1	0		Front	10mm	Ant 1	DSI 3	18900	1880	18.87	20.50	1.455	0.04	0.177	0.258
	LTE Band 2	20M	QPSK	50	0		Front	10mm	Ant 1	DSI 3	18900	1880	18.75	20.50	1.496	0.17	0.174	0.260
	LTE Band 2	20M	QPSK	1	0		Back	10mm	Ant 1	DSI 3	18900	1880	18.87	20.50	1.455	-0.11	0.429	0.624
	LTE Band 2	20M	QPSK	50	0		Back	10mm	Ant 1	DSI 3	18900	1880	18.75	20.50	1.496	-0.07	0.430	0.643
	LTE Band 2	20M	QPSK	1	0		Left Side	10mm	Ant 1	DSI 2	18900	1880	21.53	23.00	1.403	-0.17	0.161	0.226
	LTE Band 2	20M	QPSK	50	0		Left Side	10mm	Ant 1	DSI 2	18900	1880	21.49	23.00	1.416	-0.02	0.159	0.225
	LTE Band 2	20M	QPSK	1	0		Right Side	10mm	Ant 1	DSI 2	18900	1880	21.53	23.00	1.403	0.02	0.263	0.369
	LTE Band 2	20M	QPSK	50	0		Right Side	10mm	Ant 1	DSI 2	18900	1880	21.49	23.00	1.416	-0.04	0.261	0.370
	LTE Band 2	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	18900	1880	18.87	20.50	1.455	0.03	0.630	0.917
	LTE Band 2	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	18700	1860	18.65	20.50	1.531	-0.09	0.617	0.945
	LTE Band 2	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	19100	1900	18.72	20.50	1.507	0.01	0.600	0.904
	LTE Band 2	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	18900	1880	18.75	20.50	1.496	-0.07	0.620	0.928
	LTE Band 2	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	18700	1860	18.70	20.50	1.514	0.02	0.621	0.940
	LTE Band 2	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	19100	1900	18.58	20.50	1.556	0.04	0.595	0.926
	LTE Band 2	20M	QPSK	100	0		Bottom Side	10mm	Ant 1	DSI 3	18900	1880	18.78	20.50	1.486	0.03	0.632	0.939
28	LTE Band 2	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	18900	1880	21.53	23.00	1.403	0.12	0.761	**1.068**
	LTE Band 2	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	18700	1860	21.38	23.00	1.452	0.09	0.713	1.035
	LTE Band 2	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	19100	1900	21.41	23.00	1.442	0.01	0.712	1.027
	LTE Band 2	20M	QPSK	100	0		Bottom Side	15mm	Ant 1	DSI 2	18900	1880	21.43	23.00	1.435	-0.12	0.698	1.002
	LTE Band 2	20M	QPSK	1	0		Front	10mm	Ant 4	DSI 4	18900	1880	19.98	20.50	1.127	0.05	0.152	0.171
	LTE Band 2	20M	QPSK	50	0		Front	10mm	Ant 4	DSI 4	18900	1880	19.94	20.50	1.138	0.01	0.152	0.173
	LTE Band 2	20M	QPSK	1	0		Back	10mm	Ant 4	DSI 4	18900	1880	19.98	20.50	1.127	0.07	0.555	0.626
	LTE Band 2	20M	QPSK	50	0		Back	10mm	Ant 4	DSI 4	18900	1880	19.94	20.50	1.138	0.17	0.553	0.629
	LTE Band 2	20M	QPSK	1	0		Left Side	10mm	Ant 4	DSI 2	18900	1880	24.26	25.00	1.186	-0.07	0.171	0.203

	LTE Band 2	20M	QPSK	50	0		Left Side	10mm	Ant 4	DSI 2	18900	1880	23.23	24.00	1.194	0.08	0.130	0.155
	LTE Band 2	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	18900	1880	19.98	20.50	1.127	0.02	0.473	0.533
	LTE Band 2	20M	QPSK	50	0		Top Side	10mm	Ant 4	DSI 4	18900	1880	19.94	20.50	1.138	-0.07	0.469	0.534
	LTE Band 2	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	18900	1880	24.26	25.00	1.186	0.03	0.695	0.824
	LTE Band 2	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	18700	1860	24.24	25.00	1.191	0.03	0.676	0.805
	LTE Band 2	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	19100	1900	24.20	25.00	1.202	0.08	0.683	0.821
	LTE Band 2	20M	QPSK	100	0		Top Side	15mm	Ant 4	DSI 2	18900	1880	23.20	24.00	1.202	0.1	0.642	0.772

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 1	DSI 3	21100	2535	18.16	19.50	1.361		1.000	0.04	0.180	0.245
	LTE Band 7	20M	QPSK	50	0		Front	10mm	Ant 1	DSI 3	21100	2535	18.09	19.50	1.384		1.000	0.08	0.179	0.248
	LTE Band 7	20M	QPSK	1	0		Back	10mm	Ant 1	DSI 3	21100	2535	18.16	19.50	1.361		1.000	-0.04	0.439	0.598
	LTE Band 7	20M	QPSK	50	0		Back	10mm	Ant 1	DSI 3	21100	2535	18.09	19.50	1.384		1.000	0.03	0.443	0.613
	LTE Band 7	20M	QPSK	1	0		Left Side	10mm	Ant 1	DSI 2	21100	2535	22.55	24.00	1.396		1.000	-0.07	0.214	0.299
	LTE Band 7	20M	QPSK	50	0		Left Side	10mm	Ant 1	DSI 2	21100	2535	22.43	24.00	1.435		1.000	-0.16	0.169	0.243
	LTE Band 7	20M	QPSK	1	0		Right Side	10mm	Ant 1	DSI 2	21100	2535	22.55	24.00	1.396		1.000	0.06	0.116	0.162
	LTE Band 7	20M	QPSK	50	0		Right Side	10mm	Ant 1	DSI 2	21100	2535	22.43	24.00	1.435		1.000	0.07	0.092	0.132
	LTE Band 7	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	21100	2535	18.16	19.50	1.361		1.000	0.07	0.590	0.803
	LTE Band 7	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	20850	2510	17.97	19.50	1.422		1.000	-0.03	0.572	0.814
	LTE Band 7	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	21350	2560	18.11	19.50	1.377		1.000	-0.11	0.566	0.780
	LTE Band 7	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	21100	2535	18.09	19.50	1.384		1.000	0.07	0.591	0.818
	LTE Band 7	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	20850	2510	17.94	19.50	1.432		1.000	0.08	0.583	0.835
	LTE Band 7	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	21350	2560	17.96	19.50	1.426		1.000	-0.11	0.576	0.821
	LTE Band 7	20M	QPSK	100	0		Bottom Side	10mm	Ant 1	DSI 3	21100	2535	18.06	19.50	1.393		1.000	0.06	0.580	0.808
29	LTE Band 7	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	21100	2535	22.55	24.00	1.396		1.000	0.18	0.762	**1.064**
	LTE Band 7_CA 7C	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	21100+ 21298	2535+ 2554.8	22.38	24.00	1.452		1.000	0.01	0.732	1.063
	LTE Band 7	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	20850	2510	22.44	24.00	1.432		1.000	0.02	0.723	1.035
	LTE Band 7	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	21350	2560	22.23	24.00	1.503		1.000	-0.04	0.692	1.040
	LTE Band 7	20M	QPSK	100	0		Bottom Side	15mm	Ant 1	DSI 2	21100	2535	22.38	24.00	1.452		1.000	-0.17	0.700	1.016
	LTE Band 7 ENDC	20M	QPSK	1	0		Front	10mm	Ant 2	DSI 4	21100	2535	15.15	16.00	1.216		1.000	-0.09	0.048	0.058
	LTE Band 7 ENDC	20M	QPSK	50	0		Front	10mm	Ant 2	DSI 4	21100	2535	15.12	16.00	1.225		1.000	-0.15	0.048	0.059
	LTE Band 7 ENDC	20M	QPSK	1	0		Back	10mm	Ant 2	DSI 4	21100	2535	15.15	16.00	1.216		1.000	0.09	0.274	0.333
	LTE Band 7 ENDC	20M	QPSK	50	0		Back	10mm	Ant 2	DSI 4	21100	2535	15.12	16.00	1.225		1.000	0.08	0.312	0.382
	LTE Band 7 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	21100	2535	20.56	21.50	1.242		1.000	0.1	0.682	0.847
	LTE Band 7 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	20850	2510	20.25	21.50	1.334		1.000	0.05	0.654	0.872
	LTE Band 7 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	21350	2560	20.23	21.50	1.340		1.000	-0.02	0.684	0.916
	LTE Band 7 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	21100	2535	20.44	21.50	1.276		1.000	0.16	0.659	0.841
	LTE Band 7 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	20850	2510	20.32	21.50	1.312		1.000	-0.17	0.639	0.838
	LTE Band 7 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	21350	2560	20.22	21.50	1.343		1.000	-0.11	0.675	0.906
	LTE Band 7 ENDC	20M	QPSK	100	0		Left Side	10mm	Ant 2	DSI 2	21100	2535	20.35	21.50	1.303		1.000	-0.18	0.612	0.798
	LTE Band 7 ENDC	20M	QPSK	1	0		Top Side	10mm	Ant 2	DSI 2	21100	2535	20.56	21.50	1.242		1.000	-0.06	0.082	0.102
	LTE Band 7 ENDC	20M	QPSK	50	0		Top Side	10mm	Ant 2	DSI 2	21100	2535	20.44	21.50	1.276		1.000	0.08	0.085	0.108
	LTE Band 7	20M	QPSK	1	0		Front	10mm	Ant 4	DSI 4	21100	2535	16.98	18.50	1.419		1.000	0.08	0.073	0.104
	LTE Band 7	20M	QPSK	50	0		Front	10mm	Ant 4	DSI 4	21100	2535	16.91	18.50	1.442		1.000	-0.16	0.072	0.104
	LTE Band 7	20M	QPSK	1	0		Back	10mm	Ant 4	DSI 4	21100	2535	16.98	18.50	1.419		1.000	0.08	0.251	0.356
	LTE Band 7	20M	QPSK	50	0		Back	10mm	Ant 4	DSI 4	21100	2535	16.91	18.50	1.442		1.000	-0.11	0.254	0.366
	LTE Band 7	20M	QPSK	1	0		Left Side	10mm	Ant 4	DSI 2	21100	2535	23.85	25.50	1.462		1.000	0.02	0.030	0.044
	LTE Band 7	20M	QPSK	50	0		Left Side	10mm	Ant 4	DSI 2	21100	2535	22.72	24.50	1.507		1.000	0.03	0.000	0.000
	LTE Band 7	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	21100	2535	16.98	18.50	1.419		1.000	0.07	0.295	0.419
	LTE Band 7	20M	QPSK	50	0		Top Side	10mm	Ant 4	DSI 4	21100	2535	16.91	18.50	1.442		1.000	0.09	0.292	0.421
	LTE Band 7	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	21100	2535	23.85	25.50	1.462		1.000	0.04	0.727	1.063
	LTE Band 7_CA 7C	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	21100+ 21298	2535+ 2554.8	23.80	25.50	1.479		1.000	-0.01	0.712	1.053
	LTE Band 7	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	20850	2510	23.79	25.50	1.483		1.000	0.06	0.700	1.038

	LTE Band 7	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	21350	2560	23.83	25.50	1.469		1.000	0.02	0.698	1.025
	LTE Band 7	20M	QPSK	100	0		Top Side	15mm	Ant 4	DSI 2	21100	2535	22.66	24.50	1.528		1.000	0.02	0.692	1.057
	LTE Band 41	20M	QPSK	1	0		Front	10mm	Ant 1	DSI 3	40620	2593	20.18	21.50	1.355	62.9	1.006	-0.13	0.119	0.162
	LTE Band 41	20M	QPSK	50	0		Front	10mm	Ant 1	DSI 3	40620	2593	20.10	21.50	1.380	62.9	1.006	0.05	0.114	0.158
	LTE Band 41	20M	QPSK	1	0		Back	10mm	Ant 1	DSI 3	40620	2593	20.18	21.50	1.355	62.9	1.006	0.02	0.302	0.412
	LTE Band 41	20M	QPSK	50	0		Back	10mm	Ant 1	DSI 3	40620	2593	20.10	21.50	1.380	62.9	1.006	0.06	0.307	0.426
	LTE Band 41	20M	QPSK	1	0		Left Side	10mm	Ant 1	DSI 2	40620	2593	24.12	25.50	1.374	62.9	1.006	0.03	0.109	0.151
	LTE Band 41	20M	QPSK	50	0		Left Side	10mm	Ant 1	DSI 2	40620	2593	23.08	24.50	1.387	62.9	1.006	0.18	0.086	0.120
	LTE Band 41	20M	QPSK	1	0		Right Side	10mm	Ant 1	DSI 2	40620	2593	24.12	25.50	1.374	62.9	1.006	0.04	0.094	0.130
	LTE Band 41	20M	QPSK	50	0		Right Side	10mm	Ant 1	DSI 2	40620	2593	23.08	24.50	1.387	62.9	1.006	0.11	0.073	0.102
	LTE Band 41	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	40620	2593	20.18	21.50	1.355	62.9	1.006	0.04	0.602	0.821
	LTE Band 41	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	39750	2506	19.97	21.50	1.422	62.9	1.006	0.07	0.589	0.843
	LTE Band 41	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	40185	2549.5	20.07	21.50	1.390	62.9	1.006	0.02	0.588	0.822
	LTE Band 41	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	41055	2636.5	20.09	21.50	1.384	62.9	1.006	0.19	0.576	0.802
	LTE Band 41	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 3	41490	2680	20.08	21.50	1.387	62.9	1.006	-0.13	0.590	0.823
	LTE Band 41	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	40620	2593	20.10	21.50	1.380	62.9	1.006	0.03	0.442	0.614
	LTE Band 41	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	39750	2506	19.86	21.50	1.459	62.9	1.006	0.02	0.452	0.663
	LTE Band 41	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	40185	2549.5	20.00	21.50	1.413	62.9	1.006	-0.1	0.545	0.774
	LTE Band 41	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	41055	2636.5	20.02	21.50	1.406	62.9	1.006	0.04	0.512	0.724
	LTE Band 41	20M	QPSK	50	0		Bottom Side	10mm	Ant 1	DSI 3	41490	2680	19.96	21.50	1.426	62.9	1.006	0.16	0.498	0.714
	LTE Band 41	20M	QPSK	100	0		Bottom Side	10mm	Ant 1	DSI 3	40620	2593	20.03	21.50	1.403	62.9	1.006	0.04	0.533	0.752
	LTE Band 41	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	40620	2593	24.12	25.50	1.374	62.9	1.006	0.14	0.733	1.013
	LTE Band 41_CA 38C	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	38000+ 38150	2595+ 2610	23.97	25.50	1.422	62.9	1.006	-0.03	0.701	1.003
	LTE Band 41	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	39750	2506	23.93	25.50	1.435	62.9	1.006	0.05	0.695	1.004
	LTE Band 41	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	40185	2549.5	23.99	25.50	1.416	62.9	1.006	-0.07	0.685	0.976
	LTE Band 41	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	41055	2636.5	24.02	25.50	1.406	62.9	1.006	0.08	0.677	0.958
	LTE Band 41	20M	QPSK	1	0		Bottom Side	15mm	Ant 1	DSI 2	41490	2680	24.07	25.50	1.390	62.9	1.006	0.02	0.699	0.977
	LTE Band 41	20M	QPSK	100	0		Bottom Side	15mm	Ant 1	DSI 2	40620	2593	23.09	24.50	1.384	62.9	1.006	-0.18	0.722	1.005
	LTE Band 41 ENDC	20M	QPSK	1	0		Front	10mm	Ant 2	DSI 4	40620	2593	17.61	18.50	1.227	62.9	1.006	0.16	0.070	0.086
	LTE Band 41 ENDC	20M	QPSK	50	0		Front	10mm	Ant 2	DSI 4	40620	2593	17.51	18.50	1.256	62.9	1.006	-0.03	0.069	0.087
	LTE Band 41 ENDC	20M	QPSK	1	0		Back	10mm	Ant 2	DSI 4	40620	2593	17.61	18.50	1.227	62.9	1.006	-0.16	0.478	0.590
	LTE Band 41 ENDC	20M	QPSK	50	0		Back	10mm	Ant 2	DSI 4	40620	2593	17.51	18.50	1.256	62.9	1.006	0.13	0.457	0.577
	LTE Band 41 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	40620	2593	20.08	21.00	1.236	62.9	1.006	-0.06	0.718	0.893
	LTE Band 41 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	39750	2506	19.96	21.00	1.271	62.9	1.006	0.02	0.244	0.312
	LTE Band 41 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	40185	2549.5	19.95	21.00	1.274	62.9	1.006	-0.03	0.606	0.776
30	LTE Band 41 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	41055	2636.5	19.58	21.00	1.387	62.9	1.006	0.15	0.784	**1.094**
	LTE Band 41 ENDC	20M	QPSK	1	0		Left Side	10mm	Ant 2	DSI 2	41490	2680	19.91	21.00	1.285	62.9	1.006	0.04	0.781	1.010
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	40620	2593	19.91	21.00	1.285	62.9	1.006	0.08	0.627	0.811
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	39750	2506	19.85	21.00	1.303	62.9	1.006	0.01	0.195	0.256
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	40185	2549.5	19.88	21.00	1.294	62.9	1.006	0.03	0.513	0.668
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	41055	2636.5	19.77	21.00	1.327	62.9	1.006	-0.12	0.639	0.853
	LTE Band 41 ENDC	20M	QPSK	50	0		Left Side	10mm	Ant 2	DSI 2	41490	2680	19.79	21.00	1.321	62.9	1.006	0.09	0.622	0.827
	LTE Band 41 ENDC	20M	QPSK	100	0		Left Side	10mm	Ant 2	DSI 2	40620	2593	19.86	21.00	1.300	62.9	1.006	0.18	0.587	0.768
	LTE Band 41 ENDC	20M	QPSK	1	0		Top Side	10mm	Ant 2	DSI 2	40620	2593	20.08	21.00	1.236	62.9	1.006	0.05	0.074	0.092
	LTE Band 41 ENDC	20M	QPSK	50	0		Top Side	10mm	Ant 2	DSI 2	40620	2593	19.91	21.00	1.285	62.9	1.006	0.01	0.073	0.094
	LTE Band 41	20M	QPSK	1	0		Front	10mm	Ant 4	DSI 4	40620	2593	20.96	22.50	1.426	62.9	1.006	0.08	0.082	0.118
	LTE Band 41	20M	QPSK	50	0		Front	10mm	Ant 4	DSI 4	40620	2593	20.88	22.50	1.452	62.9	1.006	0.02	0.082	0.120
	LTE Band 41	20M	QPSK	1	0		Back	10mm	Ant 4	DSI 4	40620	2593	20.96	22.50	1.426	62.9	1.006	0.04	0.295	0.423
	LTE Band 41	20M	QPSK	50	0		Back	10mm	Ant 4	DSI 4	40620	2593	20.88	22.50	1.452	62.9	1.006	0.02	0.286	0.418
	LTE Band 41	20M	QPSK	1	0		Left Side	10mm	Ant 4	DSI 2	40620	2593	23.96	25.50	1.426	62.9	1.006	0.03	0.000	0.000
	LTE Band 41	20M	QPSK	50	0		Left Side	10mm	Ant 4	DSI 2	40620	2593	22.94	24.50	1.432	62.9	1.006	0.15	0.000	0.000
	LTE Band 41	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	40620	2593	20.96	22.50	1.426	62.9	1.006	0.02	0.433	0.621
	LTE Band 41_CA 38C	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	38000+ 38150	2595+ 2610	20.74	22.50	1.500	62.9	1.006	-0.05	0.410	0.619
	LTE Band 41	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	39750	2506	20.78	22.50	1.486	62.9	1.006	-0.05	0.412	0.616
	LTE Band 41	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	40185	2549.5	20.83	22.50	1.469	62.9	1.006	-0.08	0.416	0.615

	LTE Band 41	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	41055	2636.5	20.83	22.50	1.469	62.9	1.006	0.09	0.400	0.591
	LTE Band 41	20M	QPSK	1	0		Top Side	10mm	Ant 4	DSI 4	41490	2680	20.81	22.50	1.476	62.9	1.006	-0.11	0.417	0.619
	LTE Band 41	20M	QPSK	100	0		Top Side	10mm	Ant 4	DSI 4	40620	2593	20.68	22.50	1.521	62.9	1.006	0.17	0.398	0.609
	LTE Band 41	20M	QPSK	50	0		Top Side	10mm	Ant 4	DSI 4	40620	2593	20.88	22.50	1.452	62.9	1.006	-0.08	0.326	0.476
	LTE Band 41	20M	QPSK	1	0		Top Side	15mm	Ant 4	DSI 2	40620	2593	23.96	25.50	1.426	62.9	1.006	-0.07	0.350	0.502
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	507000	2535	18.55	19.50	1.245		1.000	-0.12	0.179	0.223
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	507000	2535	18.51	19.50	1.256		1.000	0.15	0.182	0.229
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	507000	2535	18.55	19.50	1.245		1.000	0.06	0.460	0.572
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	507000	2535	18.51	19.50	1.256		1.000	0.03	0.459	0.577
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 2	507000	2535	22.97	24.00	1.268		1.000	0.09	0.146	0.185
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 2	507000	2535	22.92	24.00	1.282		1.000	-0.18	0.158	0.203
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 2	507000	2535	22.97	24.00	1.268		1.000	0.01	0.082	0.104
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 2	507000	2535	22.92	24.00	1.282		1.000	0.09	0.097	0.124
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	507000	2535	18.55	19.50	1.245		1.000	0.07	0.592	0.737
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	507000	2535	18.51	19.50	1.256		1.000	-0.12	0.599	0.752
31	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	507000	2535	22.97	24.00	1.268		1.000	0.16	0.824	**1.045**
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	502000	2510	22.80	24.00	1.318		1.000	0.05	0.788	1.039
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	512000	2560	22.81	24.00	1.315		1.000	0.07	0.790	1.039
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	507000	2535	22.90	23.00	1.023		1.000	-0.17	0.798	0.817
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	507000	2535	18.86	20.50	1.459		1.000	0.08	0.099	0.144
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	507000	2535	18.71	20.50	1.510		1.000	0.05	0.109	0.165
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	507000	2535	18.86	20.50	1.459		1.000	0.06	0.560	0.817
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	507000	2535	18.71	20.50	1.510		1.000	0.07	0.674	1.018
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	502000	2510	18.62	20.50	1.542		1.000	0.02	0.623	0.960
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	512000	2560	18.55	20.50	1.567		1.000	-0.15	0.642	1.006
	FR1 n7 ENDC	20M	QPSK	50	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	507000	2535	18.80	19.50	1.175		1.000	0.02	0.612	0.719
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	507000	2535	21.57	23.00	1.390		1.000	0.03	0.519	0.721
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	507000	2535	21.48	23.00	1.419		1.000	-0.06	0.638	0.905
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	502000	2510	21.28	23.00	1.486		1.000	-0.09	0.617	0.917
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	512000	2560	21.44	23.00	1.432		1.000	0.01	0.621	0.889
	FR1 n7 ENDC	20M	QPSK	50	0	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	507000	2535	21.34	23.00	1.466		1.000	-0.16	0.471	0.690
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	507000	2535	21.57	23.00	1.390		1.000	0.04	0.102	0.142
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	507000	2535	21.48	23.00	1.419		1.000	0.01	0.098	0.139
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	507000	2535	17.08	17.50	1.102		1.000	-0.16	0.085	0.094
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	507000	2535	16.95	17.50	1.135		1.000	0.03	0.083	0.094
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	507000	2535	17.08	17.50	1.102		1.000	0.07	0.258	0.284
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	507000	2535	16.95	17.50	1.135		1.000	0.03	0.271	0.308
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 2	507000	2535	23.41	24.00	1.146		1.000	0.03	0.060	0.069
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 2	507000	2535	23.32	24.00	1.169		1.000	-0.17	0.043	0.050
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 4	507000	2535	17.08	17.50	1.102		1.000	0.04	0.698	0.769
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 4	507000	2535	16.95	17.50	1.135		1.000	-0.16	0.669	0.759
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	507000	2535	23.41	24.00	1.146		1.000	0.19	0.724	0.829
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	502000	2510	23.40	24.00	1.148		1.000	0.13	0.687	0.789
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	512000	2560	23.38	24.00	1.153		1.000	0.17	0.690	0.796
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	507000	2535	22.34	23.00	1.164		1.000	0.17	0.689	0.802
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	518598	2592.99	18.95	19.50	1.135		1.000	-0.12	0.211	0.239
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	518598	2592.99	18.84	19.50	1.164		1.000	0.02	0.216	0.251
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	518598	2592.99	18.95	19.50	1.135		1.000	0.07	0.520	0.590
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	518598	2592.99	18.84	19.50	1.164		1.000	-0.13	0.536	0.624
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 2	518598	2592.99	24.81	25.50	1.172		1.000	0.19	0.125	0.147
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 2	518598	2592.99	24.72	25.50	1.197		1.000	0.05	0.107	0.128
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 2	518598	2592.99	24.81	25.50	1.172		1.000	0.09	0.122	0.143
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 2	518598	2592.99	24.72	25.50	1.197		1.000	-0.06	0.101	0.121

	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	518598	2592.99	18.95	19.50	1.135		1.000	0.01	0.774	0.878
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	509202	2546.01	18.74	19.50	1.191		1.000	0.07	0.735	0.876
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	528000	2640	18.53	19.50	1.250		1.000	-0.17	0.700	0.875
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	518598	2592.99	18.84	19.50	1.164		1.000	-0.09	0.741	0.863
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	509202	2546.01	18.77	19.50	1.183		1.000	-0.04	0.721	0.853
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	528000	2640	18.58	19.50	1.236		1.000	0.02	0.708	0.875
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 3	518598	2592.99	18.80	19.50	1.175		1.000	0.11	0.696	0.818
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	518598	2592.99	24.81	25.50	1.172		1.000	0.07	0.679	0.796
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	509202	2546.01	24.59	25.50	1.233		1.000	0.08	0.639	0.788
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	528000	2640	24.53	25.50	1.250		1.000	-0.02	0.623	0.779
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	15mm	Ant 1	DSI 2	518598	2592.99	24.29	25.50	1.321		1.000	0.13	0.654	0.864
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	518598	2592.99	17.46	18.50	1.271		1.000	0.15	0.111	0.141
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	518598	2592.99	17.38	18.50	1.294		1.000	-0.15	0.096	0.124
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	518598	2592.99	17.46	18.50	1.271		1.000	-0.16	0.692	0.879
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	518598	2592.99	17.38	18.50	1.294		1.000	0.02	0.653	0.845
	FR1 n41 ENDC	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	518598	2592.99	17.32	18.50	1.312		1.000	0.05	0.657	0.862
32	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	-0.02	0.805	**1.028**
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	509202	2546.01	20.19	21.50	1.352		1.000	0.02	0.759	1.026
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	528000	2640	20.26	21.50	1.330		1.000	-0.1	0.769	1.023
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	0.18	0.776	0.991
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	509202	2546.01	20.17	21.50	1.358		1.000	0.07	0.734	0.997
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	528000	2640	20.14	21.50	1.368		1.000	0.13	0.733	1.003
	FR1 n41 ENDC	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	518598	2592.99	20.40	21.50	1.288		1.000	0.19	0.705	0.908
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	0.02	0.121	0.154
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	0.13	0.113	0.144
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	518598	2592.99	14.94	16.00	1.276		1.000	-0.09	0.091	0.116
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	518598	2592.99	14.88	16.00	1.294		1.000	-0.13	0.091	0.118
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	518598	2592.99	14.94	16.00	1.276		1.000	0.01	0.276	0.352
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	518598	2592.99	14.88	16.00	1.294		1.000	0.07	0.273	0.353
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 2	518598	2592.99	23.40	24.50	1.288		1.000	0.08	0.058	0.075
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 2	518598	2592.99	23.35	24.50	1.303		1.000	-0.14	0.037	0.048
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 4	518598	2592.99	14.94	16.00	1.276		1.000	0.04	0.342	0.437
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 4	518598	2592.99	14.88	16.00	1.294		1.000	-0.07	0.324	0.419
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	518598	2592.99	23.40	24.50	1.288		1.000	-0.09	0.727	0.937
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	509202	2546.01	23.12	24.50	1.374		1.000	0.04	0.680	0.934
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	528000	2640	23.26	24.50	1.330		1.000	0.05	0.689	0.917
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Top Side	15mm	Ant 4	DSI 2	518598	2592.99	23.36	24.50	1.300		1.000	-0.17	0.677	0.880

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
							3500MHz											
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	656000	3840	17.81	19.00	1.315	-0.13	0.092	0.121
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	656000	3840	17.77	19.00	1.327	0.08	0.096	0.127
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	656000	3840	17.81	19.00	1.315	-0.07	0.584	0.768
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	656000	3840	17.77	19.00	1.327	-0.17	0.566	0.751
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	656000	3840	20.78	22.00	1.324	0.03	0.675	0.894
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	656000	3840	20.72	22.00	1.343	0.08	0.520	0.698
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	656000	3840	20.69	22.00	1.352	-0.04	0.534	0.722
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	656000	3840	20.78	22.00	1.324	0.17	0.098	0.130
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	656000	3840	20.72	22.00	1.343	-0.05	0.100	0.134
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	633334	3500.01	17.65	19.00	1.365	0.04	0.116	0.158
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	633334	3500.01	17.46	19.00	1.426	0.09	0.116	0.165
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	633334	3500.01	17.65	19.00	1.365	0.03	0.332	0.453
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 4	633334	3500.01	17.46	19.00	1.426	0.16	0.351	0.500
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	633334	3500.01	20.65	22.00	1.365	0.02	0.531	0.725
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 2	633334	3500.01	20.57	22.00	1.390	-0.07	0.513	0.713
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	633334	3500.01	20.65	22.00	1.365	0.16	0.155	0.212
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 2	633334	3500.01	20.57	22.00	1.390	-0.17	0.159	0.221
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	656000	3840	19.19	19.50	1.074	-0.13	0.146	0.157
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	656000	3840	18.91	19.50	1.146	-0.02	0.125	0.143
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	656000	3840	19.19	19.50	1.074	0.03	0.389	0.418
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	656000	3840	18.91	19.50	1.146	0.18	0.417	0.478
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 3	DSI 2	656000	3840	23.61	24.00	1.094	0.08	0.147	0.161
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 3	DSI 2	656000	3840	23.49	24.00	1.125	0.17	0.097	0.109
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	656000	3840	19.19	19.50	1.074	0.04	0.518	0.556
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	656000	3840	18.91	19.50	1.146	0.09	0.374	0.428
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 3	DSI 2	656000	3840	23.61	24.00	1.094	0.09	0.646	0.707
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	633334	3500.01	18.83	19.50	1.167	0.11	0.113	0.132
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 4	633334	3500.01	18.78	19.50	1.180	0.02	0.118	0.139
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	633334	3500.01	18.83	19.50	1.167	0.06	0.398	0.464
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 4	633334	3500.01	18.78	19.50	1.180	0.07	0.345	0.407
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 3	DSI 2	633334	3500.01	23.50	24.00	1.122	0.07	0.218	0.245
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 3	DSI 2	633334	3500.01	23.42	24.00	1.143	-0.1	0.204	0.233
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	633334	3500.01	18.83	19.50	1.167	0.07	0.350	0.408
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 4	633334	3500.01	18.78	19.50	1.180	0.07	0.361	0.426
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	15mm	Ant 3	DSI 2	633334	3500.01	23.50	24.00	1.122	0.03	0.418	0.469
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 2	656000	3840	15.59	17.00	1.384	0.08	0.055	0.076
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 2	656000	3840	15.53	17.00	1.403	-0.07	0.047	0.066
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 2	656000	3840	15.59	17.00	1.384	-0.08	0.339	0.469
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 2	656000	3840	15.53	17.00	1.403	0.04	0.322	0.452
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	656000	3840	15.59	17.00	1.384	-0.1	0.317	0.439
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	656000	3840	15.53	17.00	1.403	0.04	0.315	0.442
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI 2	656000	3840	15.59	17.00	1.384	0.06	0.041	0.057
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI 2	656000	3840	15.53	17.00	1.403	-0.03	0.042	0.059
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 2	633334	3500.01	15.48	17.00	1.419	0.04	0.130	0.184
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 2	633334	3500.01	15.40	17.00	1.445	-0.05	0.117	0.169
33	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 2	633334	3500.01	15.48	17.00	1.419	-0.02	0.699	**0.992**
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 2	633334	3500.01	15.40	17.00	1.445	0.08	0.650	0.940
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 2	633334	3500.01	15.36	17.00	1.459	0.02	0.677	0.988
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	15.48	17.00	1.419	0.15	0.629	0.893
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	15.40	17.00	1.445	0.08	0.593	0.857
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	15.36	17.00	1.459	0.05	0.547	0.798
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI 2	633334	3500.01	15.48	17.00	1.419	0.16	0.070	0.099

	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI 2	633334	3500.01	15.40	17.00	1.445	-0.11	0.066	0.095
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 2	656000	3840	17.57	18.00	1.104	0.06	0.114	0.126
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 2	656000	3840	17.54	18.00	1.112	0.05	0.107	0.119
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 2	656000	3840	17.57	18.00	1.104	0.02	0.374	0.413
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 2	656000	3840	17.54	18.00	1.112	0.07	0.319	0.355
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 2	656000	3840	17.57	18.00	1.104	0.05	0.179	0.198
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 2	656000	3840	17.54	18.00	1.112	0.03	0.174	0.193
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 2	656000	3840	17.57	18.00	1.104	0.07	0.124	0.137
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 2	656000	3840	17.54	18.00	1.112	0.06	0.130	0.145
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 2	633334	3500.01	16.48	18.00	1.419	0.01	0.070	0.099
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 2	633334	3500.01	16.40	18.00	1.445	0.07	0.077	0.111
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 2	633334	3500.01	16.48	18.00	1.419	0.08	0.283	0.402
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 2	633334	3500.01	16.40	18.00	1.445	-0.03	0.271	0.392
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 2	633334	3500.01	16.42	18.00	1.439	0.05	0.302	0.435
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 2	633334	3500.01	16.48	18.00	1.419	0.04	0.215	0.305
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 2	633334	3500.01	16.40	18.00	1.445	-0.02	0.204	0.295
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 2	633334	3500.01	16.48	18.00	1.419	0.02	0.090	0.128
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 2	633334	3500.01	16.40	18.00	1.445	0.12	0.104	0.150

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																
34	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 1	Full	6	2437	19.22	21.00	1.507	100	1.000	0.05	0.302	**0.455**
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 1	Full	6	2437	19.22	21.00	1.507	100	1.000	-0.13	0.300	0.452
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 1	Full	6	2437	19.22	21.00	1.507	100	1.000	-0.14	0.227	0.342
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 1	Full	6	2437	19.22	21.00	1.507	100	1.000	-0.18	0.177	0.267
35	Bluetooth	1Mbps	Front	10mm	Ant 1	Full	39	2441	10.83	12.00	1.309	76.88	1.301	0.07	0.011	**0.019**
	Bluetooth	1Mbps	Back	10mm	Ant 1	Full	39	2441	10.83	12.00	1.309	76.88	1.301	0.07	0.005	0.009
5000MHz																
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 1	Full	40	5200	15.91	17.50	1.442	97.46	1.026	0.03	0.095	0.140
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 1	Full	40	5200	15.91	17.50	1.442	97.46	1.026	-0.11	0.309	0.460
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 1	Full	40	5200	15.91	17.50	1.442	97.46	1.026	0.05	0.205	0.270
36	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 1	Full	40	5200	15.91	17.50	1.442	97.46	1.026	-0.02	0.328	0.485
	WLAN5.8GHz	802.11a 6Mbps	Front	10mm	Ant 1	Full	165	5825	15.18	16.50	1.355	97.46	1.026	0.1	0.086	0.120
	WLAN5.8GHz	802.11a 6Mbps	Back	10mm	Ant 1	Full	165	5825	15.18	16.50	1.355	97.46	1.026	0.06	0.333	0.463
	WLAN5.8GHz	802.11a 6Mbps	Right Side	10mm	Ant 1	Full	165	5825	15.18	16.50	1.355	97.46	1.026	-0.17	0.257	0.357
37	WLAN5.8GHz	802.11a 6Mbps	Top Side	10mm	Ant 1	Full	165	5825	15.18	16.50	1.355	97.46	1.026	0.09	0.368	**0.511**

15.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835MHz																		
	GSM850					GPRS (3 Tx slots)	Front	15mm	Ant 1	DSI 2	189	836.4	29.22	29.50	1.067	0.02	0.116	0.124
	GSM850					GPRS (3 Tx slots)	Back	15mm	Ant 1	DSI 2	189	836.4	29.22	29.50	1.067	0.02	0.146	0.156
	GSM850					GPRS (3 Tx slots)	Front	15mm	Ant 4	DSI 2	189	836.4	29.26	29.50	1.057	0.03	0.150	0.159
38	GSM850					GPRS (3 Tx slots)	Back	15mm	Ant 4	DSI 2	189	836.4	29.26	29.50	1.057	0.01	0.190	**0.201**
	WCDMA V					RMC 12.2Kbps	Front	15mm	Ant 1	DSI 2	4182	836.4	23.98	25.50	1.419	0.05	0.154	0.219
39	WCDMA V					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	4182	836.4	23.98	25.50	1.419	-0.09	0.196	**0.278**
	WCDMA V					RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	4182	836.4	24.31	25.50	1.315	0.03	0.104	0.137
	WCDMA V					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	4182	836.4	24.31	25.50	1.315	0.06	0.150	0.197
	LTE Band 5	10M	QPSK	1	0		Front	15mm	Ant 1	DSI 2	20525	836.5	23.99	25.50	1.416	0.04	0.165	0.234
	LTE Band 5	10M	QPSK	25	0		Front	15mm	Ant 1	DSI 2	20525	836.5	22.96	24.50	1.426	0.04	0.129	0.184
40	LTE Band 5	10M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	20525	836.5	23.99	25.50	1.416	-0.13	0.205	**0.290**
	LTE Band 5	10M	QPSK	25	0		Back	15mm	Ant 1	DSI 2	20525	836.5	22.96	24.50	1.426	-0.17	0.161	0.230
	LTE Band 5	10M	QPSK	1	0		Front	15mm	Ant 4	DSI 2	20525	836.5	24.24	25.50	1.337	0.12	0.112	0.150
	LTE Band 5	10M	QPSK	25	0		Front	15mm	Ant 4	DSI 2	20525	836.5	23.13	24.50	1.371	0.03	0.089	0.122
	LTE Band 5	10M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	20525	836.5	24.24	25.50	1.337	0.03	0.165	0.221
	LTE Band 5	10M	QPSK	25	0		Back	15mm	Ant 4	DSI 2	20525	836.5	23.13	24.50	1.371	0.01	0.131	0.180
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI 2	167300	836.5	24.11	25.50	1.377	-0.11	0.117	0.161
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI 2	167300	836.5	24.06	25.50	1.393	0.04	0.130	0.181
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI 2	167300	836.5	24.11	25.50	1.377	0.07	0.149	0.205
41	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI 2	167300	836.5	24.06	25.50	1.393	-0.03	0.166	**0.231**
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 2	167300	836.5	24.22	25.50	1.343	0.07	0.075	0.101
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 2	167300	836.5	24.08	25.50	1.387	-0.1	0.085	0.118
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	167300	836.5	24.22	25.50	1.343	0.08	0.111	0.149
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	167300	836.5	24.08	25.50	1.387	0.02	0.124	0.172
1750MHz																		
	WCDMA IV					RMC 12.2Kbps	Front	15mm	Ant 1	DSI 2	1413	1732.6	21.59	23.00	1.384	0.01	0.216	0.299
	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	1413	1732.6	21.59	23.00	1.384	-0.12	0.569	0.787
	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	1312	1712.4	21.45	23.00	1.429	0.1	0.547	0.782
	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	1513	1752.6	21.46	23.00	1.426	-0.04	0.550	0.784
	WCDMA IV					RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	1413	1732.6	23.87	25.00	1.297	0.16	0.204	0.265
	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	1413	1732.6	23.87	25.00	1.297	0.02	0.702	0.911
	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	1312	1712.4	23.86	25.00	1.300	0.11	0.667	0.867
42	WCDMA IV					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	1513	1752.6	23.84	25.00	1.306	-0.06	0.715	**0.934**
	LTE Band 4	20M	QPSK	1	0		Front	15mm	Ant 1	DSI 2	20175	1732.5	21.55	23.00	1.396	0.15	0.197	0.275
	LTE Band 4	20M	QPSK	50	0		Front	15mm	Ant 1	DSI 2	20175	1732.5	21.47	23.00	1.422	-0.09	0.153	0.218
	LTE Band 4	20M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	20175	1732.5	21.55	23.00	1.396	-0.02	0.452	0.631
	LTE Band 4	20M	QPSK	50	0		Back	15mm	Ant 1	DSI 2	20175	1732.5	21.47	23.00	1.422	0.03	0.415	0.590
	LTE Band 4	20M	QPSK	1	0		Front	15mm	Ant 4	DSI 2	20175	1732.5	24.14	25.00	1.219	0.02	0.181	0.221
	LTE Band 4	20M	QPSK	50	0		Front	15mm	Ant 4	DSI 2	20175	1732.5	23.02	24.00	1.253	-0.15	0.144	0.180
43	LTE Band 4	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	20175	1732.5	24.14	25.00	1.219	0.02	0.653	**0.796**
	LTE Band 4	20M	QPSK	50	0		Back	15mm	Ant 4	DSI 2	20175	1732.5	23.02	24.00	1.253	0.09	0.518	0.649

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 (3 Tx slots)	Front	15mm	Ant 1	DSI 2	661	1880	24.33	26.00	1.469	-0.02	0.155	0.228
44	GSM1900					GPRS (3 Tx slots)	Back	15mm	Ant 1	DSI 2	661	1880	24.33	26.00	1.469	0.1	0.341	**0.501**
	GSM1900					GPRS (3 Tx slots)	Front	15mm	Ant 4	DSI 2	661	1880	24.21	26.00	1.510	0.01	0.067	0.101
	GSM1900					GPRS (3 Tx slots)	Back	15mm	Ant 4	DSI 2	661	1880	24.21	26.00	1.510	0.03	0.248	0.374
	WCDMA II					RMC 12.2Kbps	Front	15mm	Ant 1	DSI 2	9400	1880	21.55	23.00	1.396	-0.19	0.264	0.369
	WCDMA II					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	9400	1880	21.55	23.00	1.396	0.06	0.624	0.871
45	WCDMA II					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	9262	1852.4	21.38	23.00	1.452	0.04	0.748	**1.086**
	WCDMA II					RMC 12.2Kbps	Back	15mm	Ant 1	DSI 2	9538	1907.6	21.43	23.00	1.435	-0.16	0.677	0.972
	WCDMA II					RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	9400	1880	24.12	25.00	1.225	0.06	0.204	0.250
	WCDMA II					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	9400	1880	24.12	25.00	1.225	-0.03	0.664	0.813
	WCDMA II					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	9262	1852.4	24.06	25.00	1.242	-0.09	0.640	0.795
	WCDMA II					RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	9538	1907.6	24.08	25.00	1.236	-0.11	0.647	0.800
	LTE Band 2	20M	QPSK	1	0		Front	15mm	Ant 1	DSI 2	18900	1880	21.53	23.00	1.403	0.05	0.230	0.323
	LTE Band 2	20M	QPSK	50	0		Front	15mm	Ant 1	DSI 2	18900	1880	21.49	23.00	1.416	0.07	0.223	0.316
46	LTE Band 2	20M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	18900	1880	21.53	23.00	1.403	0.01	0.561	**0.787**
	LTE Band 2	20M	QPSK	50	0		Back	15mm	Ant 1	DSI 2	18900	1880	21.49	23.00	1.416	0.06	0.547	0.774
	LTE Band 2	20M	QPSK	1	0		Front	15mm	Ant 4	DSI 2	18900	1880	24.26	25.00	1.186	0.14	0.203	0.241
	LTE Band 2	20M	QPSK	50	0		Front	15mm	Ant 4	DSI 2	18900	1880	23.23	24.00	1.194	-0.09	0.159	0.190
	LTE Band 2	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	18900	1880	24.26	25.00	1.186	-0.02	0.663	0.786
	LTE Band 2	20M	QPSK	50	0		Back	15mm	Ant 4	DSI 2	18900	1880	23.23	24.00	1.194	-0.12	0.522	0.623

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 1	DSI 2	21100	2535	22.55	24.00	1.396		1.000	-0.19	0.205	0.286
	LTE Band 7	20M	QPSK	50	0		Front	15mm	Ant 1	DSI 2	21100	2535	22.43	24.00	1.435		1.000	0.15	0.159	0.228
	LTE Band 7	20M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	21100	2535	22.55	24.00	1.396		1.000	-0.05	0.458	0.640
	LTE Band 7_CA 7C	20M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	21100+ 21298	2535+ 2554.8	22.38	24.00	1.452		1.000	0.01	0.435	0.632
	LTE Band 7	20M	QPSK	50	0		Back	15mm	Ant 1	DSI 2	21100	2535	22.43	24.00	1.435		1.000	0.11	0.388	0.557
	LTE Band 7	20M	QPSK	1	0		Front	15mm	Ant 2	DSI 2	21100	2535	20.56	21.50	1.242		1.000	0.13	0.075	0.093
	LTE Band 7	20M	QPSK	50	0		Front	15mm	Ant 2	DSI 2	21100	2535	20.44	21.50	1.276		1.000	-0.09	0.056	0.071
	LTE Band 7	20M	QPSK	1	0		Back	15mm	Ant 2	DSI 2	21100	2535	20.56	21.50	1.242		1.000	-0.06	0.440	0.546
	LTE Band 7	20M	QPSK	50	0		Back	15mm	Ant 2	DSI 2	21100	2535	20.44	21.50	1.276		1.000	-0.07	0.338	0.431
	LTE Band 7	20M	QPSK	1	0		Front	15mm	Ant 4	DSI 2	21100	2535	23.85	25.50	1.462		1.000	-0.04	0.186	0.272
	LTE Band 7	20M	QPSK	50	0		Front	15mm	Ant 4	DSI 2	21100	2535	22.72	24.50	1.507		1.000	-0.13	0.150	0.226
47	LTE Band 7	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	21100	2535	23.85	25.50	1.462		1.000	0.07	0.554	**0.810**
	LTE Band 7_CA 7C	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	21100+ 21298	2535+ 2554.8	23.80	25.50	1.479		1.000	0.02	0.523	0.774
	LTE Band 7	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	20850	2510	23.79	25.50	1.483		1.000	0.03	0.529	0.784
	LTE Band 7	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	21350	2560	23.83	25.50	1.469		1.000	0.04	0.542	0.796
	LTE Band 7	20M	QPSK	50	0		Back	15mm	Ant 4	DSI 2	21100	2535	22.72	24.50	1.507		1.000	0.15	0.439	0.661
	LTE Band 7	20M	QPSK	100	0		Back	15mm	Ant 4	DSI 2	21100	2535	22.66	24.50	1.528		1.000	0.02	0.439	0.671
	LTE Band 41	20M	QPSK	1	0		Front	15mm	Ant 1	DSI 2	40620	2593	24.12	25.50	1.374	62.9	1.006	0.12	0.161	0.223
	LTE Band 41	20M	QPSK	50	0		Front	15mm	Ant 1	DSI 2	40620	2593	23.08	24.50	1.387	62.9	1.006	0.18	0.134	0.187
	LTE Band 41	20M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	40620	2593	24.12	25.50	1.374	62.9	1.006	0.01	0.358	0.495
	LTE Band 38_CA 38C	20M	QPSK	1	0		Back	15mm	Ant 1	DSI 2	38000+ 38150	2595+ 2610	23.97	25.50	1.422	62.9	1.006	-0.03	0.302	0.432
	LTE Band 41	20M	QPSK	50	0		Back	15mm	Ant 1	DSI 2	40620	2593	23.08	24.50	1.387	62.9	1.006	0.13	0.285	0.398
	LTE Band 41 ENDC	20M	QPSK	1	0		Front	15mm	Ant 2	DSI 2	40620	2593	20.08	21.00	1.236	62.9	1.006	0.04	0.072	0.090
	LTE Band 41 ENDC	20M	QPSK	50	0		Front	15mm	Ant 2	DSI 2	40620	2593	19.91	21.00	1.285	62.9	1.006	0.11	0.059	0.076
48	LTE Band 41 ENDC	20M	QPSK	1	0		Back	15mm	Ant 2	DSI 2	40620	2593	20.08	21.00	1.236	62.9	1.006	0.04	0.431	**0.536**
	LTE Band 41 ENDC	20M	QPSK	50	0		Back	15mm	Ant 2	DSI 2	40620	2593	19.91	21.00	1.285	62.9	1.006	0.02	0.354	0.458
	LTE Band 41	20M	QPSK	1	0		Front	15mm	Ant 4	DSI 2	40620	2593	23.96	25.50	1.426	62.9	1.006	-0.04	0.080	0.115
	LTE Band 41	20M	QPSK	50	0		Front	15mm	Ant 4	DSI 2	40620	2593	22.94	24.50	1.432	62.9	1.006	0.18	0.064	0.092
	LTE Band 41	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	40620	2593	23.96	25.50	1.426	62.9	1.006	0.06	0.325	0.466
	LTE Band 41_CA 38C	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 2	38000+ 38150	2595+ 2610	23.54	25.50	1.570	62.9	1.006	0.04	0.300	0.474
	LTE Band 41	20M	QPSK	50	0		Back	15mm	Ant 4	DSI 2	40620	2593	22.94	24.50	1.432	62.9	1.006	-0.06	0.200	0.288
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI 2	507000	2535	22.97	24.00	1.268		1.000	-0.17	0.191	0.242
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI 2	507000	2535	22.92	24.00	1.282		1.000	0.07	0.196	0.251
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI 2	507000	2535	22.97	24.00	1.268		1.000	-0.16	0.453	0.574
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI 2	507000	2535	22.92	24.00	1.282		1.000	-0.04	0.478	0.613
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	507000	2535	21.57	23.00	1.390		1.000	0.12	0.109	0.152
	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	507000	2535	21.48	23.00	1.419		1.000	-0.1	0.109	0.155
	FR1 n7 ENDC	20M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	507000	2535	21.57	23.00	1.390		1.000	0.16	0.543	0.755
49	FR1 n7 ENDC	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	507000	2535	21.48	23.00	1.419		1.000	-0.05	0.590	**0.837**
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 2	507000	2535	23.41	24.00	1.146		1.000	0.06	0.213	0.244
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 2	507000	2535	23.32	24.00	1.169		1.000	0.05	0.208	0.243
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	507000	2535	23.41	24.00	1.146		1.000	-0.01	0.474	0.543
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	507000	2535	23.32	24.00	1.169		1.000	0.11	0.462	0.540
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI 2	518598	2592.99	24.81	25.50	1.172		1.000	-0.1	0.139	0.163
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 1	DSI 2	518598	2592.99	24.72	25.50	1.197		1.000	0.06	0.136	0.163
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI 2	518598	2592.99	24.81	25.50	1.172		1.000	-0.15	0.309	0.362
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 1	DSI 2	518598	2592.99	24.72	25.50	1.197		1.000	-0.01	0.312	0.373
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	0.06	0.087	0.111
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	0.05	0.077	0.098
	FR1 n41 ENDC	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	-0.01	0.483	0.617
	FR1 n41 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	518598	2592.99	20.44	21.50	1.276		1.000	-0.08	0.466	0.595

	FR1 n41 ENDC	100M	QPSK	270	0	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	518598	2592.99	20.40	21.50	1.288		1.000	0.05	0.385	0.496
	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 2	518598	2592.99	23.40	24.50	1.288		1.000	0.14	0.234	0.301
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 2	518598	2592.99	23.35	24.50	1.303		1.000	0.04	0.211	0.275
50	FR1 n41 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	518598	2592.99	23.40	24.50	1.288		1.000	-0.06	0.656	**0.845**
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	518598	2592.99	23.35	24.50	1.303		1.000	0.08	0.575	0.749
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 2	518598	2592.99	23.36	24.50	1.300		1.000	0.12	0.513	0.667

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
3500MHz																		
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	656000	3840	20.78	22.00	1.324	-0.08	0.105	0.139
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	656000	3840	20.72	22.00	1.343	0.04	0.106	0.142
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	656000	3840	20.78	22.00	1.324	-0.09	0.423	0.560
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	656000	3840	20.72	22.00	1.343	0.02	0.496	0.666
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	633334	3500.01	20.65	22.00	1.365	0.06	0.121	0.165
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 2	633334	3500.01	20.57	22.00	1.390	0.06	0.119	0.165
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	633334	3500.01	20.65	22.00	1.365	0.03	0.304	0.415
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 2	633334	3500.01	20.57	22.00	1.390	-0.19	0.298	0.414
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 2	656000	3840	23.61	24.00	1.094	-0.13	0.195	0.213
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 2	656000	3840	23.49	24.00	1.125	-0.06	0.212	0.238
	FR1 n77 HPUE	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 2	656000	3840	23.61	24.00	1.094	-0.08	0.655	0.717
51	FR1 n77 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 2	656000	3840	23.49	24.00	1.125	-0.01	0.671	**0.755**
	FR1 n77 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 2	656000	3840	20.42	21.00	1.143	0.02	0.389	0.445
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 2	633334	3500.01	23.50	24.00	1.122	0.05	0.131	0.147
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 2	633334	3500.01	23.42	24.00	1.143	-0.14	0.156	0.178
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 2	633334	3500.01	23.50	24.00	1.122	0.06	0.455	0.511
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 2	633334	3500.01	23.42	24.00	1.143	0.03	0.494	0.565
	FR1 n77 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 2	633334	3500.01	20.36	21.00	1.159	0.01	0.232	0.269
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 2	656000	3840	15.59	17.00	1.384	0.1	0.025	0.035
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 2	656000	3840	15.53	17.00	1.403	-0.05	0.030	0.042
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 2	656000	3840	15.59	17.00	1.384	0.08	0.174	0.241
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 2	656000	3840	15.53	17.00	1.403	0.12	0.183	0.257
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 2	633334	3500.01	15.48	17.00	1.419	-0.14	0.050	0.071
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 2	633334	3500.01	15.40	17.00	1.445	-0.12	0.051	0.074
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 2	633334	3500.01	15.48	17.00	1.419	0.03	0.240	0.341
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 2	633334	3500.01	15.40	17.00	1.445	0.08	0.242	0.350
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 2	633334	3500.01	15.36	17.00	1.459	0.08	0.256	0.373
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 2	656000	3840	17.57	18.00	1.104	-0.04	0.068	0.075
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 2	656000	3840	17.54	18.00	1.112	0.07	0.073	0.081
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 2	656000	3840	17.57	18.00	1.104	-0.05	0.146	0.161
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 2	656000	3840	17.54	18.00	1.112	0.01	0.161	0.179
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 2	633334	3500.01	16.48	18.00	1.419	-0.01	0.041	0.058
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 2	633334	3500.01	16.40	18.00	1.445	0.05	0.044	0.064
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 2	633334	3500.01	16.48	18.00	1.419	0.05	0.151	0.214
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 2	633334	3500.01	16.40	18.00	1.445	-0.03	0.143	0.207

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																
52	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 1	Full	6	2437	19.22	21.00	1.507	100	1.000	0.01	0.156	**0.235**
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 1	Full	6	2437	19.22	21.00	1.507	100	1.000	0.06	0.154	0.232
53	Bluetooth	1Mbps	Front	15mm	Ant 1	Full	39	2441	10.83	12.00	1.309	76.88	1.301	0.07	0.002	**0.003**
	Bluetooth	1Mbps	Back	15mm	Ant 1	Full	39	2441	10.83	12.00	1.309	76.88	1.301	0.01	0.001	0.002
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Front	15mm	Ant 1	Full	60	5300	17.05	19.00	1.567	97.46	1.026	0.07	0.116	0.186
54	WLAN5.3GHz	802.11a 6Mbps	Back	15mm	Ant 1	Full	60	5300	17.05	19.00	1.567	97.46	1.026	0.01	0.310	**0.498**
	WLAN5.5GHz	802.11a 6Mbps	Front	15mm	Ant 1	Full	116	5580	17.20	19.00	1.514	97.46	1.026	0.04	0.080	0.124
55	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant 1	Full	116	5580	17.20	19.00	1.514	97.46	1.026	0.06	0.323	**0.502**
	WLAN5.8GHz	802.11a 6Mbps	Front	15mm	Ant 1	Full	165	5825	15.18	16.50	1.355	97.46	1.026	0.09	0.082	0.114
56	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 1	Full	165	5825	15.18	16.50	1.355	97.46	1.026	-0.05	0.240	**0.334**

15.4 Product Specific SAR

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 1	Full	60	5300	17.05	19.00	1.567	97.46	1.026	-0.11	0.385	0.619
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 1	Full	60	5300	17.05	19.00	1.567	97.46	1.026	-0.09	0.775	1.246
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 1	Full	60	5300	17.05	19.00	1.567	97.46	1.026	-0.03	0.360	0.579
57	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 1	Full	60	5300	17.05	19.00	1.567	97.46	1.026	0.08	1.26	**2.025**
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 1	Full	116	5580	17.20	19.00	1.514	97.46	1.026	0.15	0.497	0.772
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 1	Full	116	5580	17.20	19.00	1.514	97.46	1.026	0.12	1.24	1.926
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 1	Full	116	5580	17.20	19.00	1.514	97.46	1.026	0.14	0.798	1.239
58	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 1	Full	116	5580	17.20	19.00	1.514	97.46	1.026	0.01	1.57	**2.438**

15.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 4	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.17	22.00	1.211		1.000	-0.01	0.897	1	1.086
2nd	LTE Band 4	20M	QPSK	1	0		Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	21.17	22.00	1.211		1.000	0.03	0.887	1.011	1.074
1st	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.95	19.50	1.135		1.000	0.05	0.857	1	0.973
2nd	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.95	19.50	1.135		1.000	0.01	0.852	1.006	0.967
1st	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	18.55	19.00	1.109		1.000	0.05	0.900	1	0.998
2nd	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	18.55	19.00	1.109		1.000	0.01	0.877	1.026	0.973

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	Bluetooth + WLAN5GHz	Yes	Yes	Yes	Yes
5.	WWAN + Bluetooth + WLAN5GHz	Yes	Yes	Yes	Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP) and LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands.
3. EN-DC SAR summed the standalone 5GNR SAR and LTE standalone SAR more conservatively.
4. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. 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).
7. WLAN2.4GHz and Bluetooth share the same antenna, so can't transmit simultaneously.
8. According to the characteristic of EUT, WLAN5GHz and Bluetooth can transmit simultaneously.
9. According to the EUT character, WLAN 2.4GHz and WLAN 5GHz cannot transmit simultaneously.
10. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
11. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
12. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
13. The reported SAR summation is calculated based on the same configuration and test position.
14. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR and SPLSR≤ 0.10 for 10g SAR , simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
    v) The SPLSR calculated results please refer to section 16.4.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz	WLAN5GHz	Bluetooth	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Right Cheek	0.945	0.228	0.339	0.037	1.17	1.32
	Right Tilted	1.094	0.139	0.423	0.037	1.23	1.55
	Left Cheek	0.964	0.543	0.546	0.037	1.51	1.55
	Left Tilted	0.998	0.357	0.558	0.037	1.36	1.59

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	FR1	WLAN2.4GHz	WLAN5GHz	Bluetooth	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE All Bands Ant1	FR1 All Bands Ant2	Right Cheek	0.272	0.916	0.228	0.339	0.037	1.42	1.56
		Right Tilted	0.192	0.766	0.139	0.423	0.037	1.10	1.42
		Left Cheek	0.335	0.380	0.543	0.546	0.037	1.26	1.30
		Left Tilted	0.159	0.376	0.357	0.558	0.037	0.89	1.13
LTE All Bands Ant1	FR1 All Bands Ant3	Right Cheek	0.272	0.458	0.228	0.339	0.037	0.96	1.11
		Right Tilted	0.192	0.458	0.139	0.423	0.037	0.79	1.11
		Left Cheek	0.335	0.458	0.543	0.546	0.037	1.34	1.38
		Left Tilted	0.159	0.458	0.357	0.558	0.037	0.97	1.21
LTE All Bands Ant2	FR1 All Bands Ant3	Right Cheek	0.541	0.458	0.228	0.339	0.037	1.23	1.38
		Right Tilted	0.252	0.458	0.139	0.423	0.037	0.85	1.17
		Left Cheek	0.130	0.458	0.543	0.546	0.037	1.13	1.17
		Left Tilted	0.168	0.458	0.357	0.558	0.037	0.98	1.22
LTE All Bands Ant2	FR1 All Bands Ant4	Right Cheek	0.541	0.451	0.228	0.339	0.037	1.22	1.37
		Right Tilted	0.252	0.451	0.139	0.423	0.037	0.84	1.16
		Left Cheek	0.130	0.451	0.543	0.546	0.037	1.12	1.16
		Left Tilted	0.168	0.451	0.357	0.558	0.037	0.98	1.21
LTE Band7 Ant2	FR1 n7 Ant1	Right Cheek	0.510	0.127	0.228	0.339	0.037	0.87	1.01
		Right Tilted	0.252	0.123	0.139	0.423	0.037	0.51	0.84
		Left Cheek	0.130	0.138	0.543	0.546	0.037	0.81	0.85
		Left Tilted	0.121	0.064	0.357	0.558	0.037	0.54	0.78
LTE Band41 Ant2	FR1 n41 Ant1	Right Cheek	0.544	0.169	0.228	0.339	0.037	0.94	1.09
		Right Tilted	0.228	0.123	0.139	0.423	0.037	0.49	0.81
		Left Cheek	0.128	0.117	0.543	0.546	0.037	0.79	0.83
		Left Tilted	0.169	0.077	0.357	0.558	0.037	0.60	0.84

16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz	WLAN5GHz	Bluetooth	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Front	0.303	0.455	0.140	0.019	0.76	0.46
	Back	1.018	0.452	0.463	0.019	1.47	1.50
	Left side	1.094			0.019	1.09	1.11
	Right side	0.893	0.342	0.357	0.019	1.24	1.27
	Top side	1.063	0.267	0.511	0.019	1.33	1.59
	Bottom side	1.068			0.019	1.07	1.09

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5	Case No
			WWAN	FR1	WLAN2.4GHz	WLAN5GHz	Bluetooth	Summed	Summed	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE All Bands Ant1	FR1 All Bands Ant3	Front	0.264	0.157	0.455	0.140	0.019	0.88	0.58	
		Back	0.643	0.478	0.452	0.463	0.009	**1.57**	**1.59**	
		Left side	0.299				0.019	0.30	0.32	
		Right side	0.370	0.245	0.342	0.357	0.019	0.96	0.99	
		Top side		0.707	0.267	0.511	0.019	0.97	1.24	
		Bottom side	1.068				0.019	1.07	1.09	
LTE All Bands Ant2	FR1 All Bands Ant3	Front	0.087	0.157	0.455	0.140	0.019	0.70	0.40	
		Back	0.590	0.478	0.452	0.463	0.009	1.52	1.54	
		Left side	1.094				0.019	1.09	1.11	
		Right side		0.245	0.342	0.357	0.019	0.59	0.62	
		Top side	0.108	0.707	0.267	0.511	0.019	1.08	1.35	
		Bottom side					0.019	0.00	0.02	
LTE All Bands Ant2	FR1 All Bands Ant4	Front	0.087	0.218	0.455	0.140	0.019	0.76	0.46	
		Back	0.590	0.358	0.452	0.463	0.009	1.40	1.42	
		Left side	1.094	0.075			0.019	1.17	1.19	
		Right side			0.342	0.357	0.019	0.34	0.38	
		Top side	0.108	0.937	0.267	0.511	0.019	1.31	1.58	
		Bottom side					0.019	0.00	0.02	
LTE Band 5 Ant1	FR1 n7 Ant2	Front	0.189	0.165	0.455	0.140	0.019	0.81	0.51	
		Back	0.364	1.018	0.452	0.463	0.009	**1.83**	**1.85**	**1/2**
		Left side	0.227	0.917			0.019	1.14	1.16	
		Right side	0.183		0.342	0.357	0.019	0.53	0.56	
		Top side		0.142	0.267	0.511	0.019	0.41	0.67	
		Bottom side	0.204				0.019	0.20	0.22	
LTE Band 7 Ant2	FR1 n7 Ant1	Front	0.059	0.229	0.455	0.140	0.019	0.74	0.45	
		Back	0.382	0.577	0.452	0.463	0.009	1.41	1.43	
		Left side	0.916	0.203			0.019	1.12	1.14	
		Right side		0.124	0.342	0.357	0.019	0.47	0.50	
		Top side	0.108		0.267	0.511	0.019	0.38	0.64	
		Bottom side		1.045			0.019	1.05	1.06	
LTE Band 41 Ant2	FR1 n41 Ant1	Front	0.087	0.251	0.455	0.140	0.019	0.79	0.50	
		Back	0.590	0.624	0.452	0.463	0.009	**1.67**	**1.69**	**3/4**
		Left side	1.094	0.147			0.019	1.24	1.26	
		Right side		0.143	0.342	0.357	0.019	0.49	0.52	
		Top side	0.094		0.267	0.511	0.019	0.36	0.62	
		Bottom side		0.878			0.019	0.88	0.90	

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz	WLAN5GHz	Bluetooth	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Front	0.369	0.235	0.186	0.003	0.60	0.56
	Back	1.086	0.232	0.502	0.002	1.32	1.59

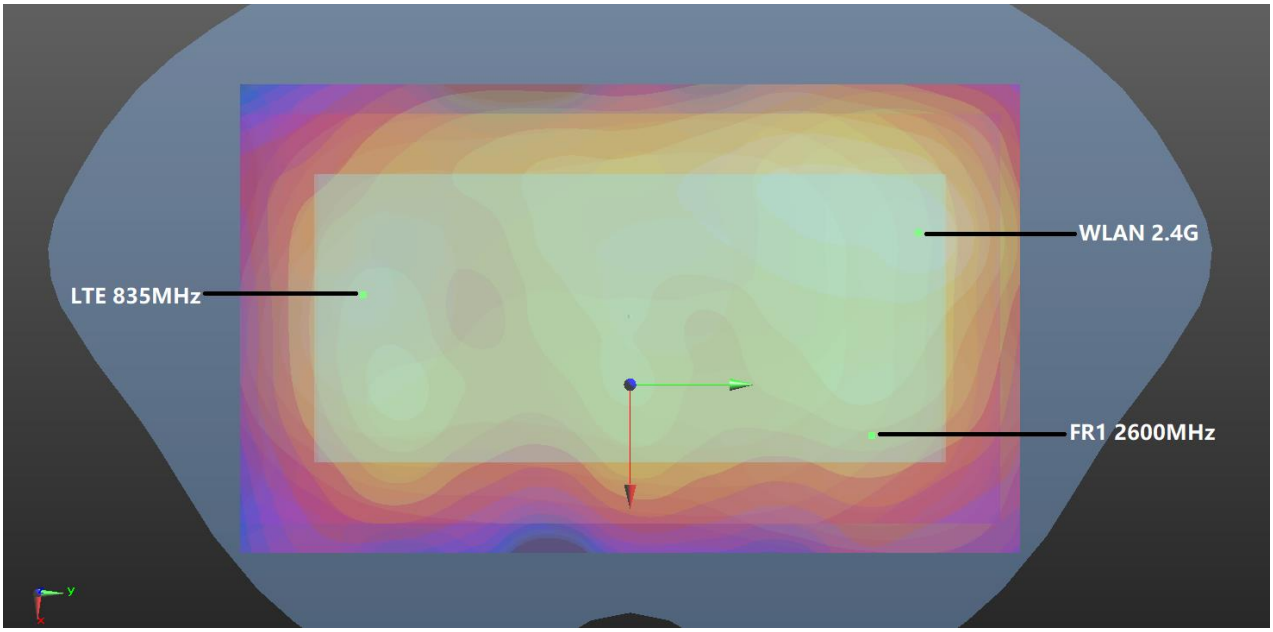
<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5	Case No
			WWAN	FR1	WLAN2.4GHz	WLAN5GHz	Bluetooth	Summed	Summed	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE All Bands Ant1	FR1 All Bands Ant3	Front	0.323	0.238	0.235	0.186	0.003	0.80	0.75	
		Back	0.640	0.445	0.232	0.502	0.002	1.32	1.59	
LTE All Bands Ant2	FR1 All Bands Ant3	Front	0.093	0.238	0.235	0.186	0.003	0.57	0.52	
		Back	0.546	0.445	0.232	0.502	0.002	1.22	1.50	
LTE Band 7 Ant2	FR1 n5 Ant4	Front	0.093	0.118	0.235	0.186	0.003	0.45	0.40	
		Back	0.546	0.172	0.232	0.502	0.002	0.95	1.22	
LTE Band5 Ant1	FR1 n7 Ant2	Front	0.234	0.155	0.235	0.186	0.003	0.62	0.58	
		Back	0.290	0.837	0.232	0.502	0.002	1.36	**1.63**	**5**
LTE Band7 Ant2	FR1 n7 Ant1	Front	0.093	0.251	0.235	0.186	0.003	0.58	0.53	
		Back	0.546	0.613	0.232	0.502	0.002	1.39	**1.66**	**6**
LTE Band41 Ant2	FR1 n41 Ant1	Front	0.090	0.163	0.235	0.186	0.003	0.49	0.44	
		Back	0.536	0.373	0.232	0.502	0.002	1.14	1.41	

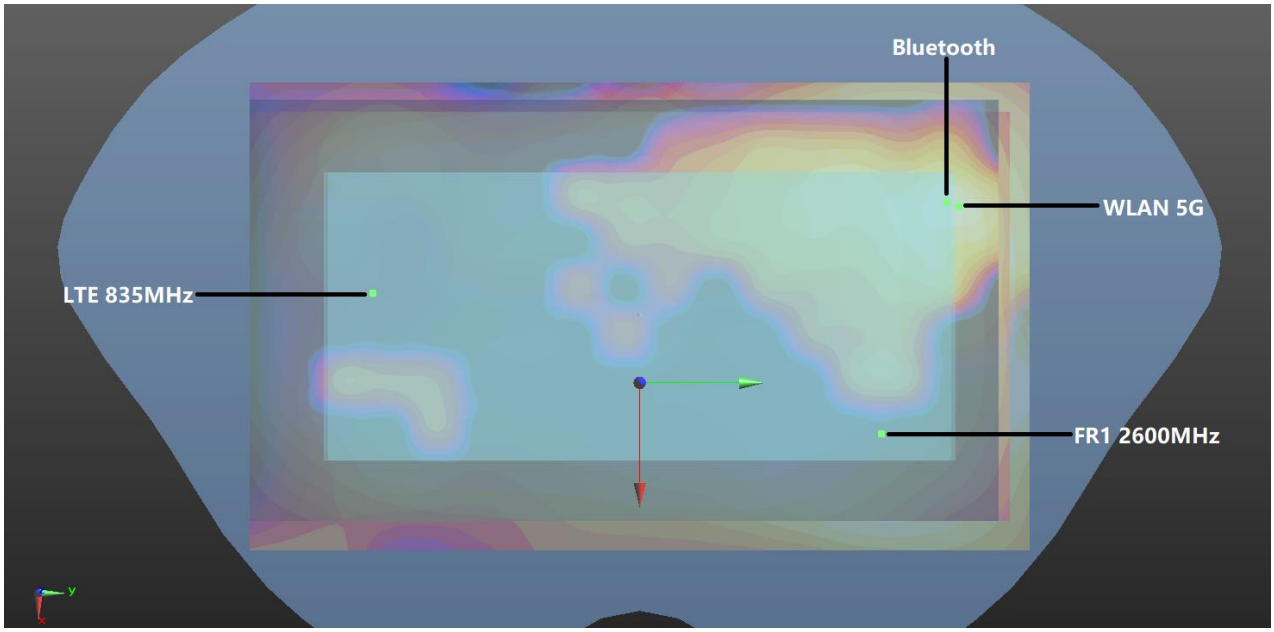
16.4 SPLSR Evaluation and Analysis

General Note:

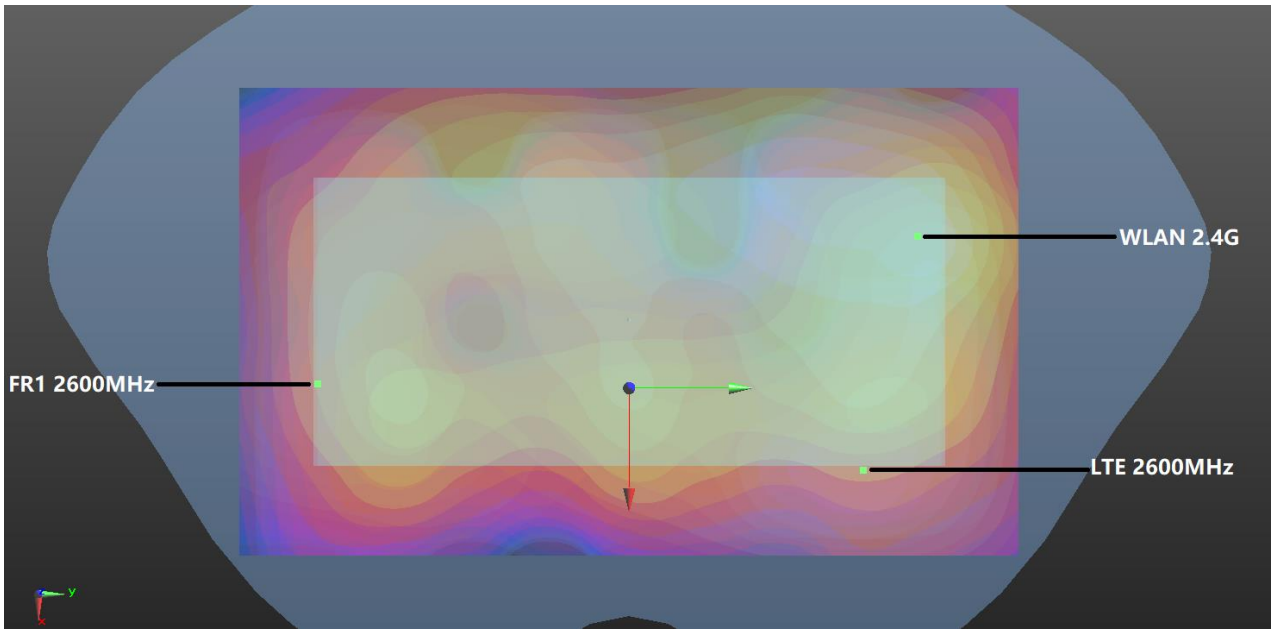
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of [(x1−x2)2 + (y1−y2)2 + (z1−z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as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



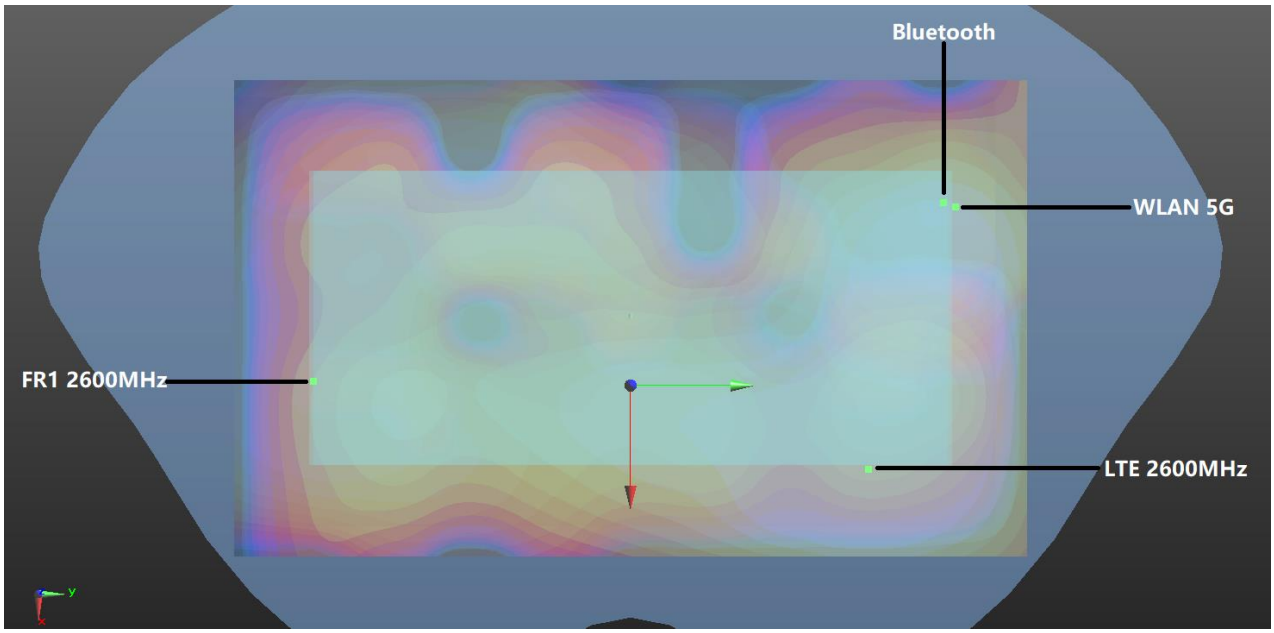
LTE Ant 1+FR1 Ant 2+WLAN 2.4GHz for Hotspot



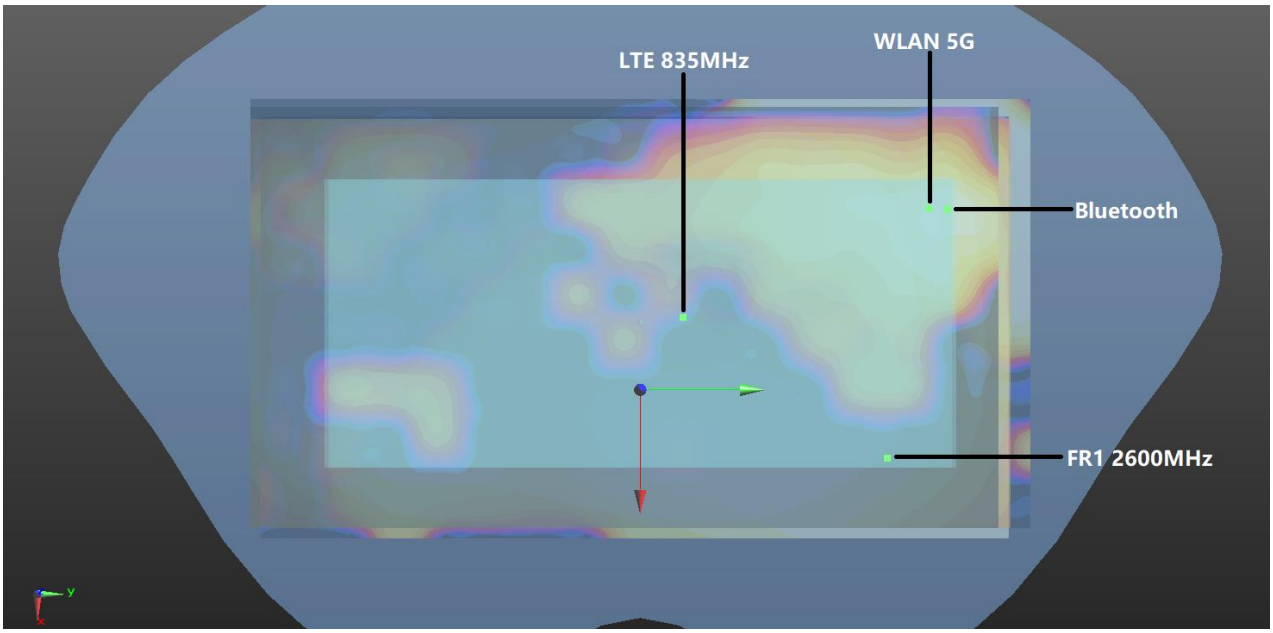
LTE Ant 1+FR1 Ant 2+WLAN 5G GHz +BT for Hotspot



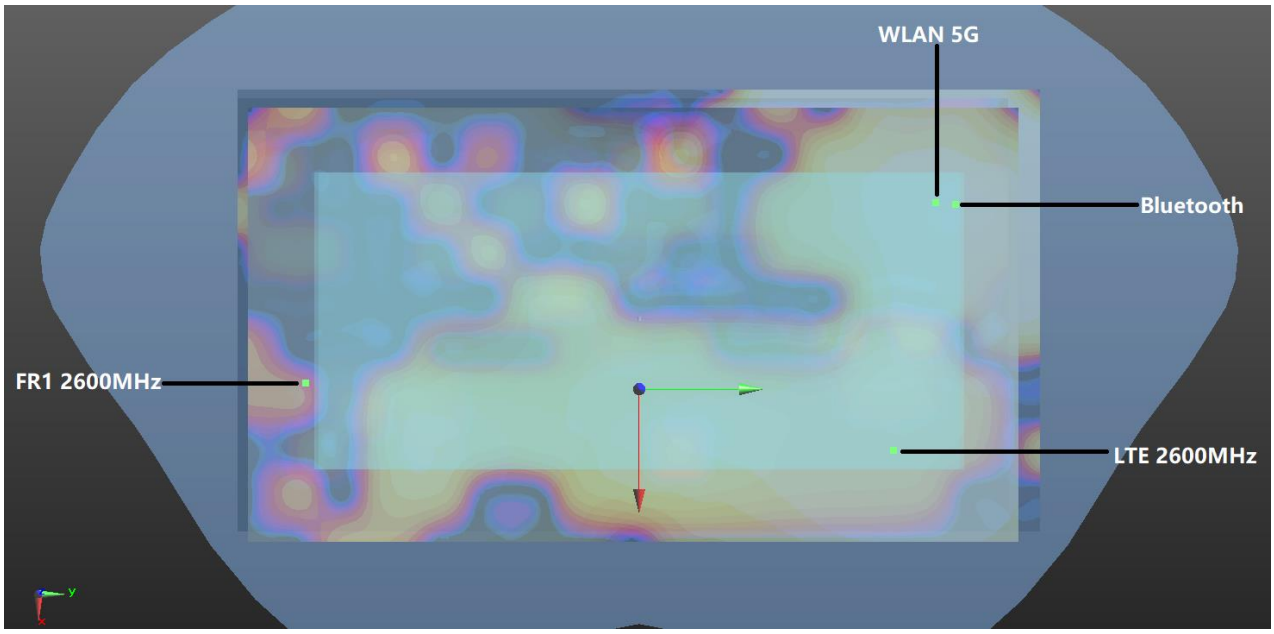
LTE Ant 2+FR1 Ant 1+WLAN 2.4G GHz for Hotspot



LTE Ant 2+FR1 Ant 1+WLAN 5G GHz +BT for Hotspot



LTE Ant 1+FR1 Ant 2+WLAN 5GHz +BT for Body-worn



LTE Ant 2+FR1 Ant 1+WLAN 5GHz+BT for Body-worn

For Hotspot

	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 1	LTE Band 5 Ant 1	Back	0.364	10	-4.4	-71.7	-2.8	134.2	1.38	0.01	Not required
	FR1 n7 Ant 2		1.018	10	30	58	-3.12				
	LTE Band 5 Ant 1	Back	0.364	10	-4.4	-71.7	-2.8	154.2	0.82	0.00	Not required
	WALN2.4G		0.452	10	-26	81	-3.23				
	FR1 n7 Ant 2	Back	1.018	10	30	58	-3.12	60.5	1.47	0.03	Not required
	WALN2.4G		0.452	10	-26	81	-3.23				

	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 2	LTE Band 5 Ant 1	Back	0.364	10	-4.4	-71.7	-2.8	134.2	1.38	0.01	Not required
	FR1 n7 Ant 2		1.018	10	30	58	-3.12				
	LTE Band 5 Ant 1	Back	0.364	10	-4.4	-71.7	-2.8	157.3	0.83	0.00	Not required
	WALN5G		0.463	10	-29.6	83.6	-3.18				
	LTE Band 5 Ant 1	Back	0.364	10	-4.4	-71.7	-2.8	156.3	0.37	0.00	Not required
	Bluetooth		0.009	10	-28.1	82.8	-3.06				
	FR1 n7 Ant 2	Back	1.018	10	30	58	-3.12	64.9	1.48	0.03	Not required
	WALN5G		0.463	10	-29.6	83.6	-3.18				
	FR1 n7 Ant 2	Back	1.018	10	30	58	-3.12	63.2	1.03	0.02	Not required
	Bluetooth		0.009	10	-28.1	82.8	-3.06				

	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 3	LTE Band 41 Ant 2	Back	0.59	10	35	56	-3.11	137.6	1.21	0.01	Not required
	FR1 n41 Ant 1		0.624	10	14	-80	-2.9				
	LTE Band 41 Ant 2	Back	0.59	10	35	56	-3.11	65.9	1.04	0.02	Not required
	WALN2.4G		0.452	10	-26	81	-3.23				
	FR1 n41 Ant 1	Back	0.624	10	14	-80	-2.9	165.9	1.08	0.01	Not required
	WALN2.4G		0.452	10	-26	81	-3.23				

	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 4	LTE Band 41 Ant 2	Back	0.59	10	35	56	-3.11	137.6	1.21	0.01	Not required
	FR1 n41 Ant 1		0.624	10	14	-80	-2.9				
	LTE Band 41 Ant 2	Back	0.59	10	35	56	-3.11	70.2	1.05	0.02	Not required
	WALN5G		0.463	10	-29.6	83.6	-3.18				
	LTE Band 41 Ant 2	Back	0.59	10	35	56	-3.11	68.6	0.60	0.01	Not required
	Bluetooth		0.009	10	-28.1	82.8	-3.06				
	FR1 n41 Ant 1	Back	0.624	10	14	-80	-2.9	169.3	1.09	0.01	Not required
	WALN5G		0.463	10	-29.6	83.6	-3.18				
	FR1 n41 Ant 1	Back	0.624	10	14	-80	-2.9	168.2	0.63	0.00	Not required
	Bluetooth		0.009	10	-28.1	82.8	-3.06				

For Body Worn

	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 5	LTE B5 Ant 1	Back	0.29	15	-1.5	11	-3.79	63.6	1.13	0.02	Not required
	FR1 n7 Ant 2		0.837	15	34.6	63.3	-3.01				
	LTE B5 Ant 1	Back	0.29	15	-1.5	11	-3.79	68.9	0.79	0.01	Not required
	WALN5G		0.502	15	-29.5	74	-3.45				
	LTE B5 Ant 1	Back	0.29	15	-1.5	11	-3.79	76.6	0.29	0.00	Not required
	Bluetooth		0.002	15	-28.1	82.8	-3.06				
	FR1 n7 Ant 2	Back	0.837	15	34.6	63.3	-3.01	65.0	1.34	0.02	Not required
	WALN5G		0.502	15	-29.5	74	-3.45				
	FR1 n7 Ant 2	Back	0.837	15	34.6	63.3	-3.01	65.7	0.84	0.01	Not required
	Bluetooth		0.002	15	-28.1	82.8	-3.06				

	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 6	LTE B7 Ant 2	Back	0.546	15	31.2	65.3	-2.99	149.0	1.16	0.01	Not required
	FR1 n7 Ant 1		0.613	15	17.4	-83.1	-2.82				
	LTE B7 Ant 2	Back	0.546	15	31.2	65.3	-2.99	61.3	1.05	0.02	Not required
	WALN5G		0.502	15	-29.5	74	-3.45				
	LTE B7 Ant 2	Back	0.546	15	31.2	65.3	-2.99	61.8	0.55	0.01	Not required
	Bluetooth		0.002	15	-28.1	82.8	-3.06				
	FR1 n7 Ant 1	Back	0.613	15	17.4	-83.1	-2.82	164.0	1.12	0.01	Not required
	WALN5G		0.502	15	-29.5	74	-3.45				
	FR1 n7 Ant 1	Back	0.613	15	17.4	-83.1	-2.82	172.0	0.62	0.00	Not required
	Bluetooth		0.002	15	-28.1	82.8	-3.06				

Test Engineer : Bruce Li, Martin Li, Ricky u

17. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

18. References

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

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

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

[4] SPEAG DASY System Handbook

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

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

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

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

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

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

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

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

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

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

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

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.15

System Check_Head_835MHz

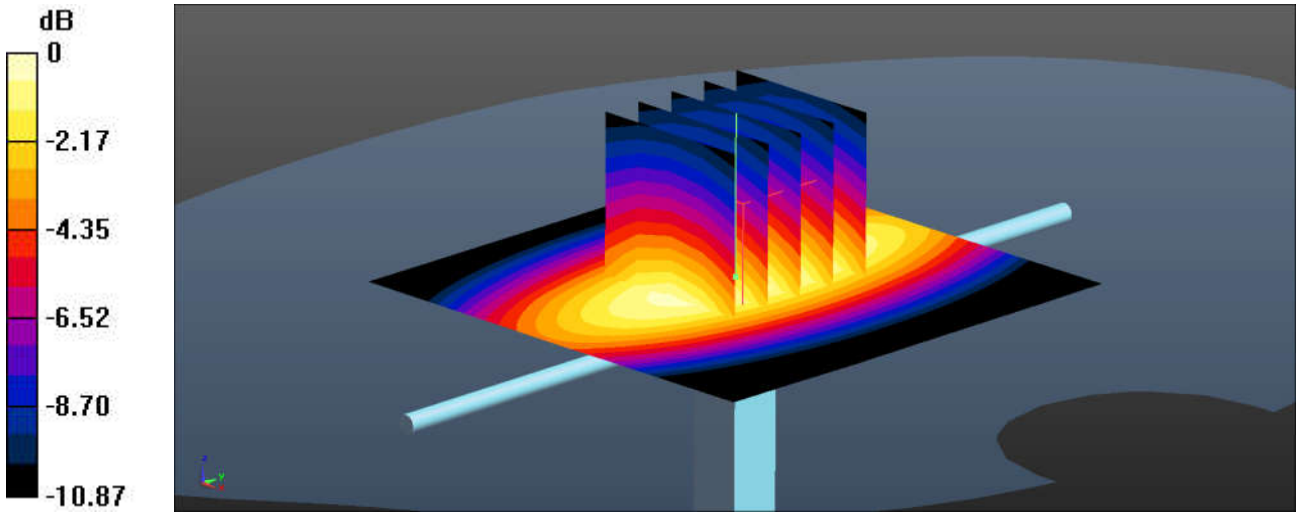
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.924 S/m; ε_r = 42.865; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.18, 9.18, 9.18); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.651 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.20 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.824 W/kg
SAR(1 g) = 0.441 W/kg; SAR(10 g) = 0.330 W/kg
Maximum value of SAR (measured) = 0.638 W/kg



0 dB = 0.638 W/kg = -1.95 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.17

System Check_Head_1750MHz

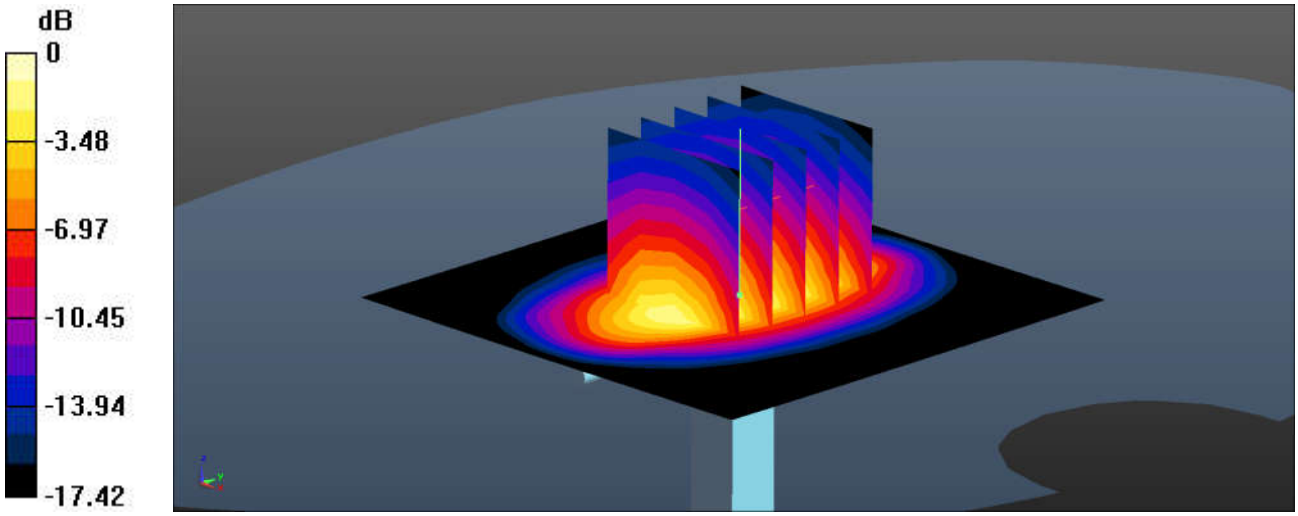
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.394 S/m; ε_r = 40.496; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.13, 8.13, 8.13); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.91 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.30 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 1.89 W/kg; SAR(10 g) = 0.997 W/kg
Maximum value of SAR (measured) = 2.92 W/kg



0 dB = 2.92 W/kg = 4.65 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.19

System Check_Head_1900MHz

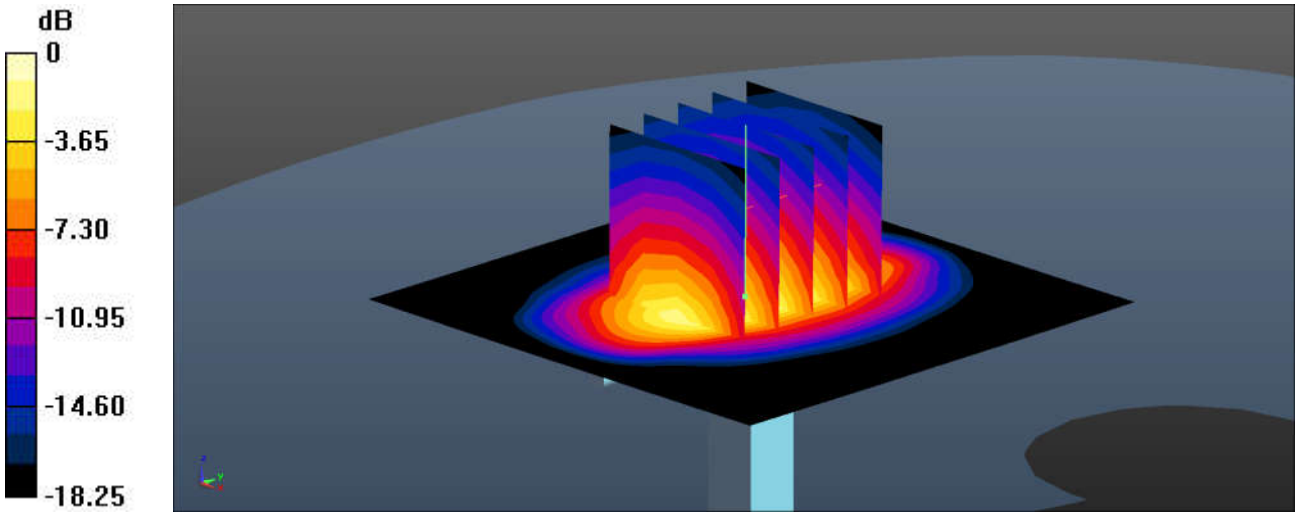
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.454 S/m; ε_r = 40.312; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.86, 7.86, 7.86); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.26 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.67 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.89 W/kg
SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.06 W/kg
Maximum value of SAR (measured) = 3.26 W/kg



0 dB = 3.26 W/kg = 5.13 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.20

System Check_Head_2600MHz

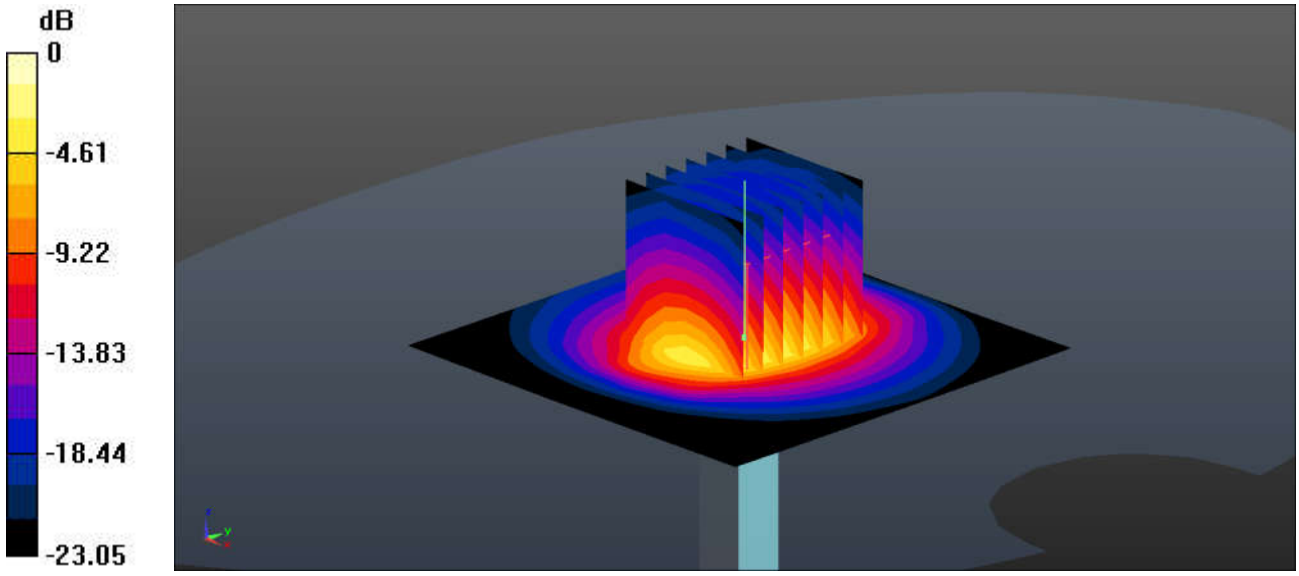
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.975 S/m; ε_r = 40.617; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.28, 7.28, 7.28); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.41 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 46.22 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 5.81 W/kg
SAR(1 g) = 2.63 W/kg; SAR(10 g) = 1.16 W/kg
Maximum value of SAR (measured) = 4.53 W/kg



0 dB = 4.53 W/kg = 6.56 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.22

System Check_Head_3500MHz

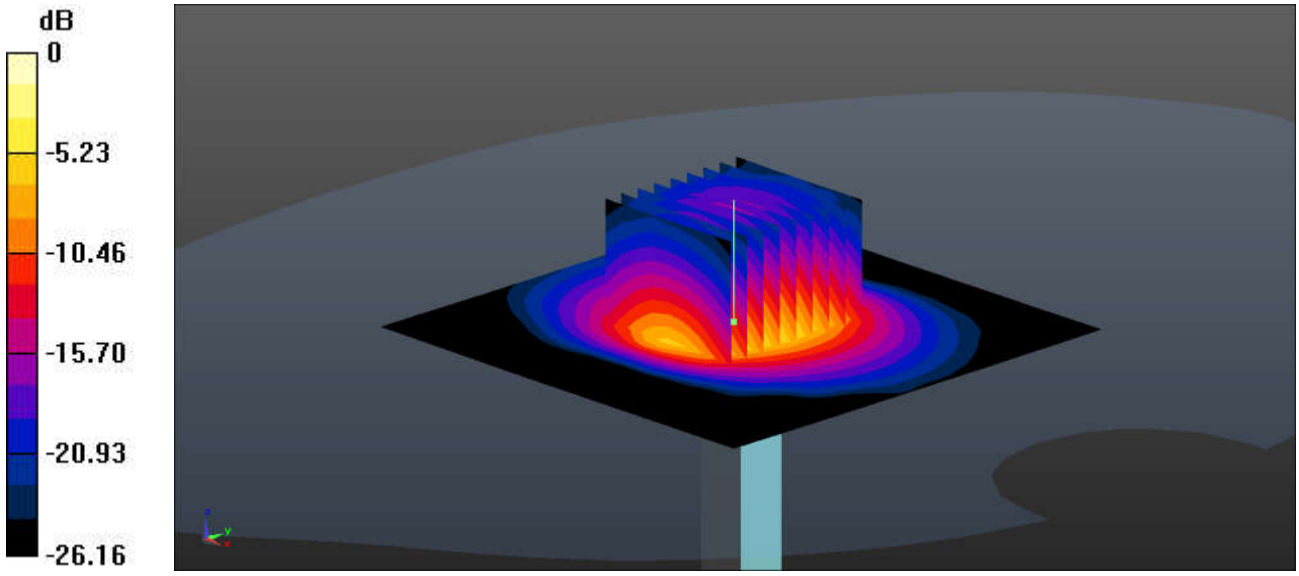
DUT: D3500V2 - SN:1037

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1
Medium: HSL_3500 Medium parameters used: f = 3500 MHz; σ = 2.787 S/m; ε_r = 39.118; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.65, 6.65, 6.65); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.50 W/kg

Pin=50mW/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 46.84 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 8.57 W/kg
SAR(1 g) = 3.36 W/kg; SAR(10 g) = 1.29 W/kg
Maximum value of SAR (measured) = 6.46 W/kg



0 dB = 6.46 W/kg = 8.10 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.24

System Check_Head_3900MHz

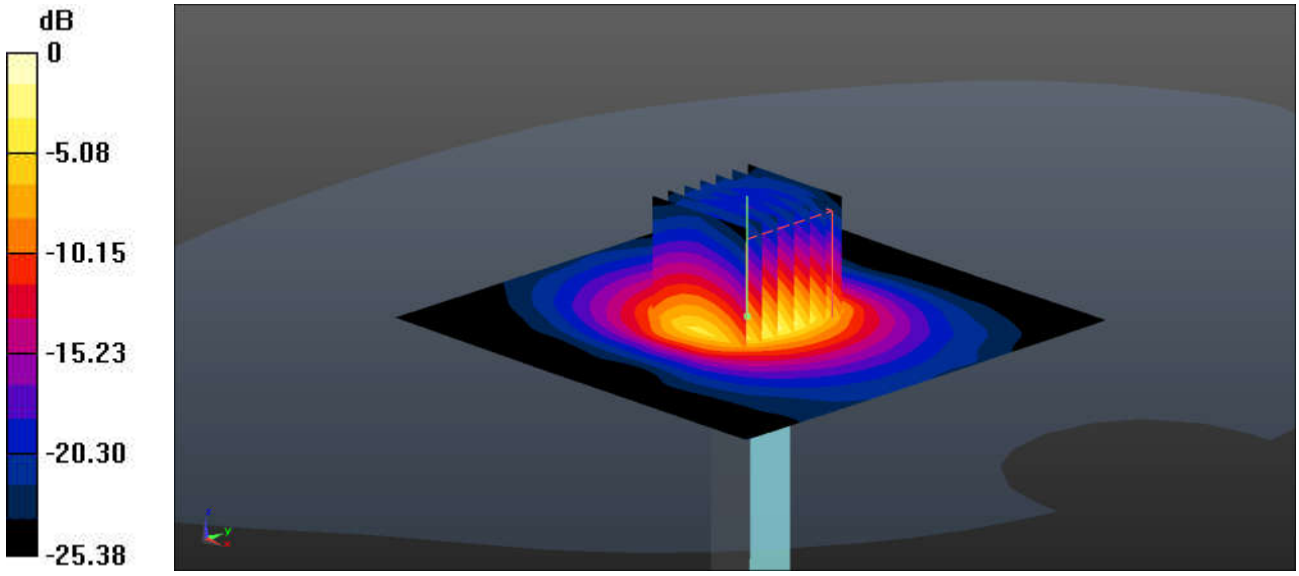
DUT: D3900V2 - SN:1048

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1
Medium: HSL_3900 Medium parameters used: f = 3900 MHz; σ = 3.219 S/m; ε_r = 38.42; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.58, 6.58, 6.58); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.61 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.94 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 8.72 W/kg
SAR(1 g) = 3.26 W/kg; SAR(10 g) = 1.16 W/kg
Maximum value of SAR (measured) = 6.57 W/kg



0 dB = 6.57 W/kg = 8.18 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.16

System Check_Head_835MHz

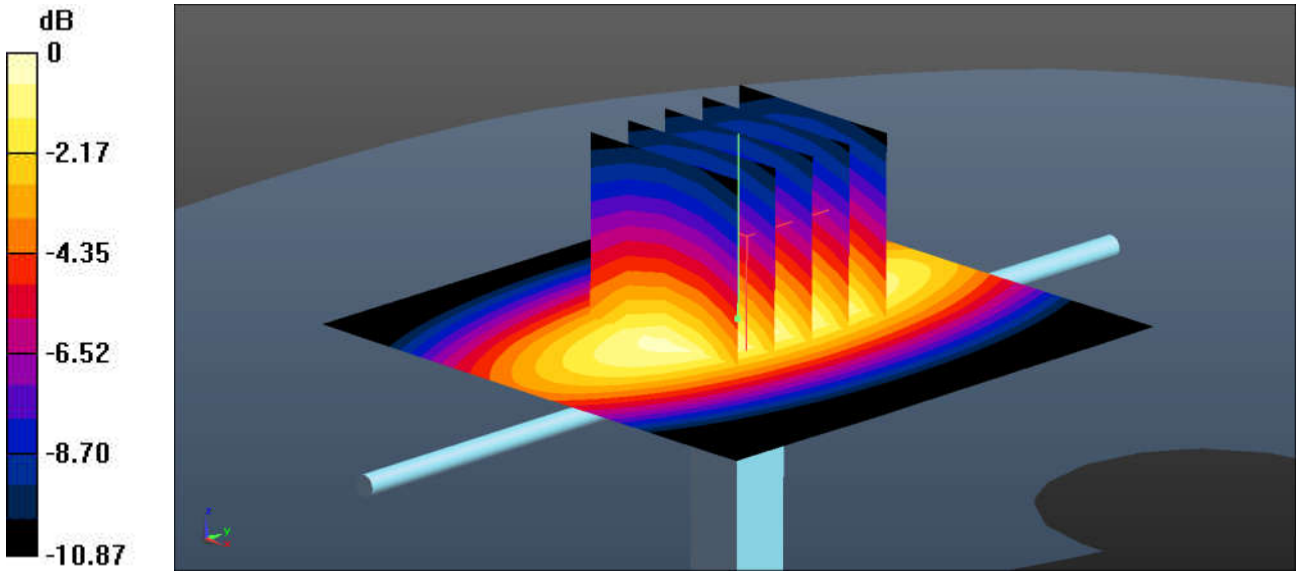
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.929 S/m; ε_r = 40.902; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.18, 9.18, 9.18); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.655 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.20 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.444 W/kg; SAR(10 g) = 0.331 W/kg
Maximum value of SAR (measured) = 0.642 W/kg



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

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.18

System Check_Head_1750MHz

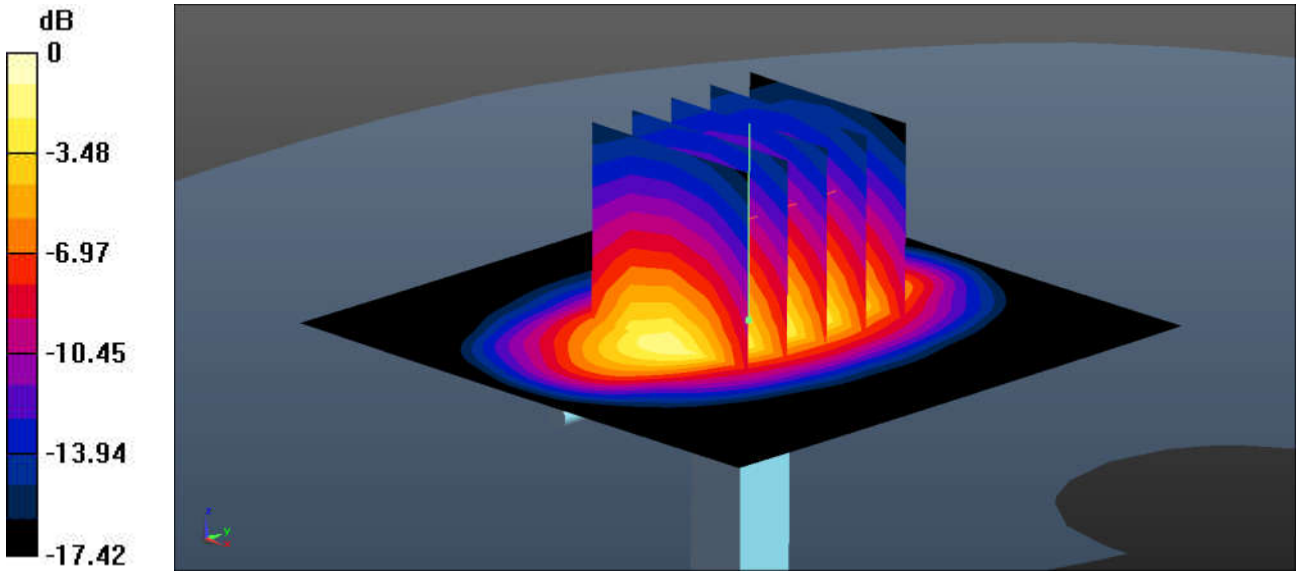
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.395 S/m; ε_r = 40.493; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.13, 8.13, 8.13); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.91 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.30 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 1.88 W/kg; SAR(10 g) = 0.993 W/kg
Maximum value of SAR (measured) = 2.92 W/kg



0 dB = 2.92 W/kg = 4.65 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.20

System Check_Head_1900MHz

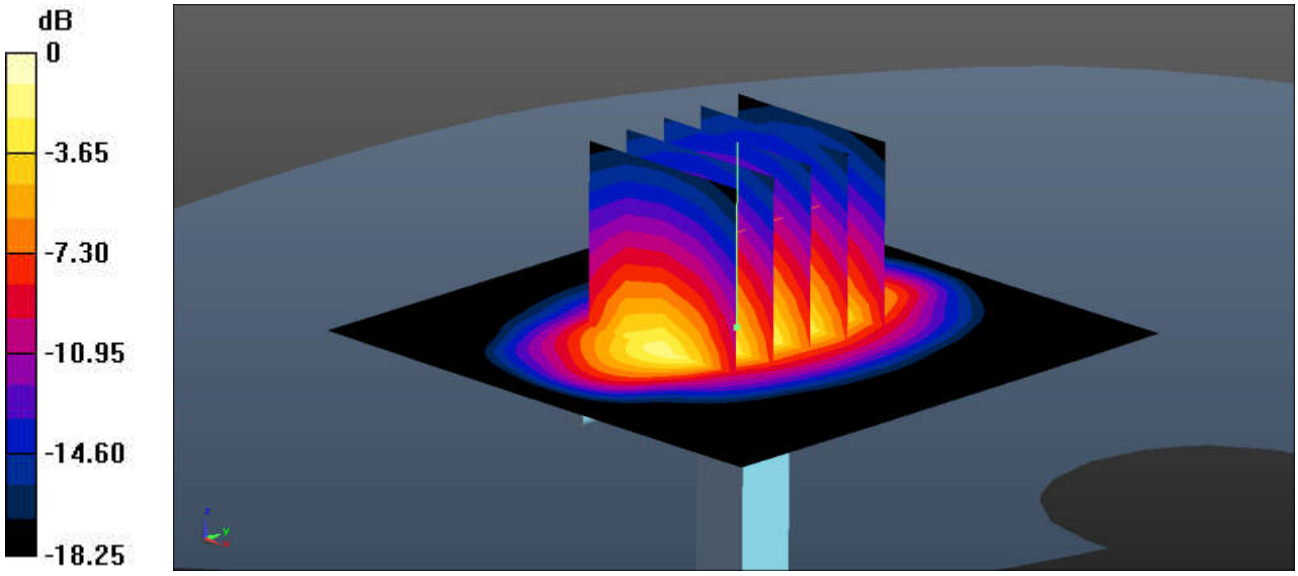
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.457 S/m; ε_r = 40.305; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.86, 7.86, 7.86); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.26 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.67 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.90 W/kg
SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.06 W/kg
Maximum value of SAR (measured) = 3.27 W/kg



0 dB = 3.27 W/kg = 5.15 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.22

System Check_Head_2600MHz

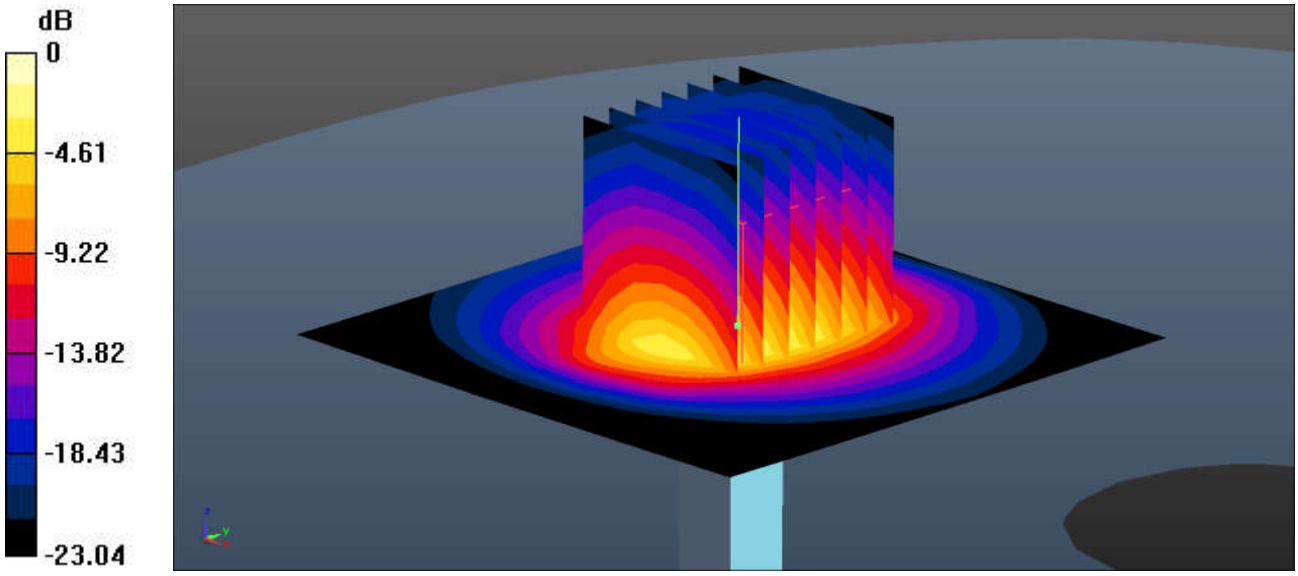
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 2.009 S/m; ε_r = 40.66; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.28, 7.28, 7.28); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.48 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 46.22 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 5.91 W/kg
SAR(1 g) = 2.64 W/kg; SAR(10 g) = 1.18 W/kg
Maximum value of SAR (measured) = 4.60 W/kg



0 dB = 4.60 W/kg = 6.63 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.25

System Check_Head_3500MHz

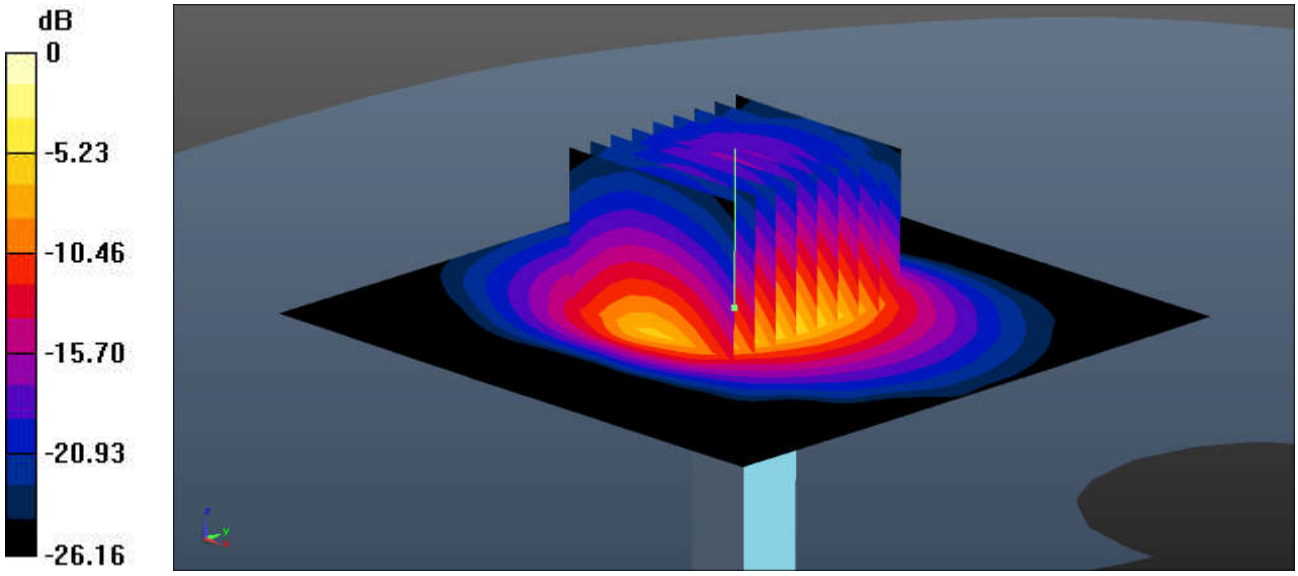
DUT: D3500V2 - SN:1037

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1
Medium: HSL_3500 Medium parameters used: f = 3500 MHz; σ = 2.785 S/m; ε_r = 38.923; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.65, 6.65, 6.65); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.49 W/kg

Pin=50mW/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 46.84 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 8.57 W/kg
SAR(1 g) = 3.39 W/kg; SAR(10 g) = 1.28 W/kg
Maximum value of SAR (measured) = 6.45 W/kg



0 dB = 6.45 W/kg = 8.10 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.28

System Check_Head_3900MHz

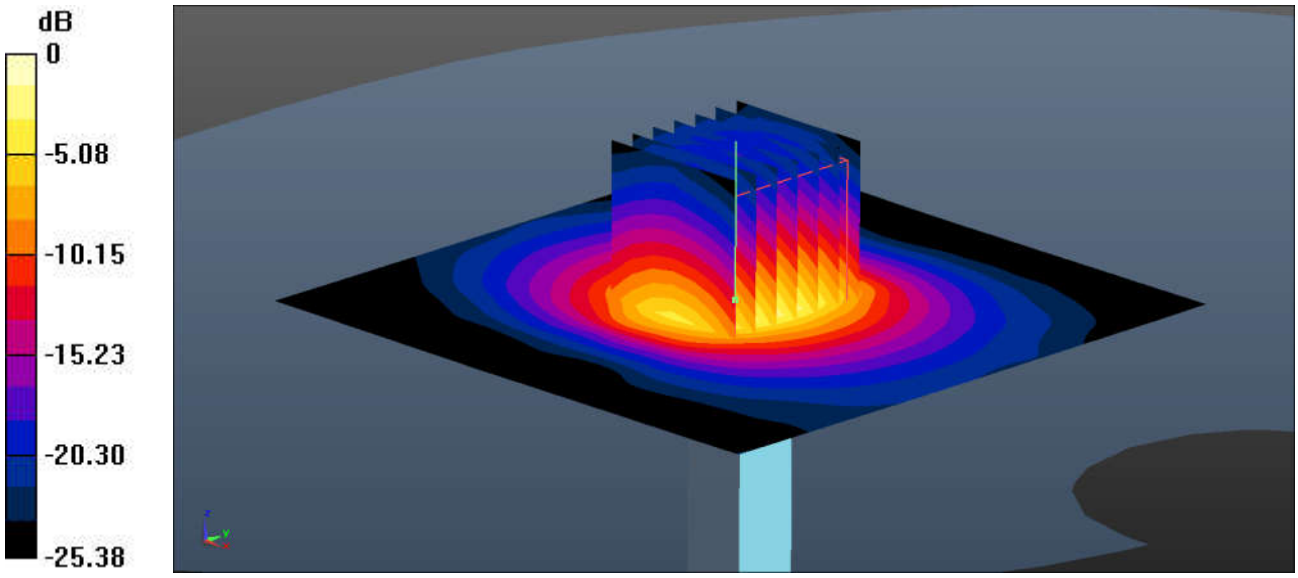
DUT: D3900V2 - SN:1048

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1
Medium: HSL_3900 Medium parameters used: f = 3900 MHz; σ = 3.171 S/m; ε_r = 38.335; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.58, 6.58, 6.58); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.49 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm,dy=4mm, dz=1.4mm
Reference Value = 48.94 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 8.57 W/kg
SAR(1 g) = 3.24 W/kg; SAR(10 g) = 1.14 W/kg
Maximum value of SAR (measured) = 6.46 W/kg



0 dB = 6.46 W/kg = 8.10 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.23

System Check_Head_835MHz

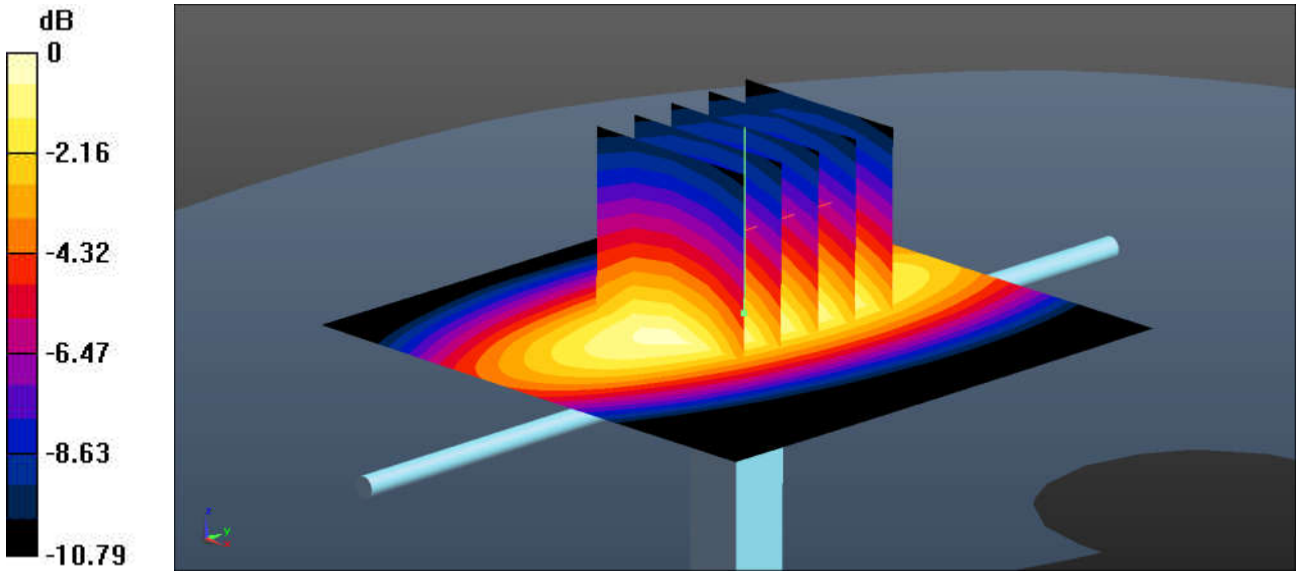
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.93 S/m; ε_r = 40.922; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.18, 9.18, 9.18); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.565 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.98 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.731 W/kg
SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.320 W/kg
Maximum value of SAR (measured) = 0.573 W/kg



0 dB = 0.573 W/kg = -2.42 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.25

System Check_Head_1750MHz

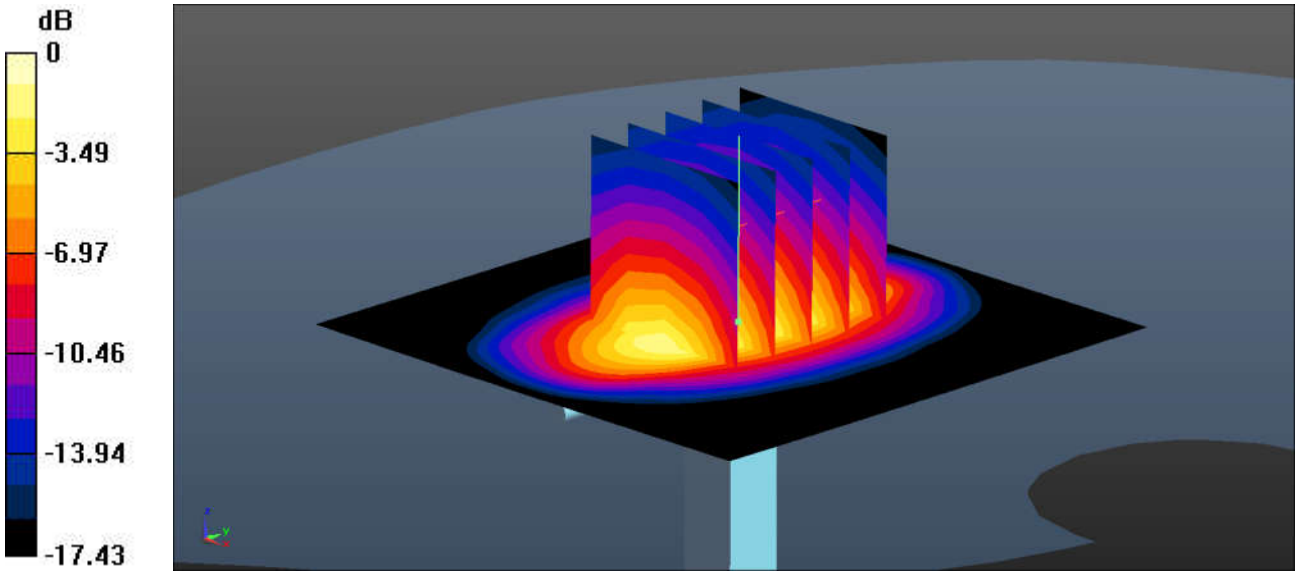
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.401 S/m; ε_r = 40.492; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.13, 8.13, 8.13); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.93 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.30 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.52 W/kg
SAR(1 g) = 1.9 W/kg; SAR(10 g) = 1 W/kg
Maximum value of SAR (measured) = 2.94 W/kg



0 dB = 2.94 W/kg = 4.68 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.2.27

System Check_Head_1900MHz

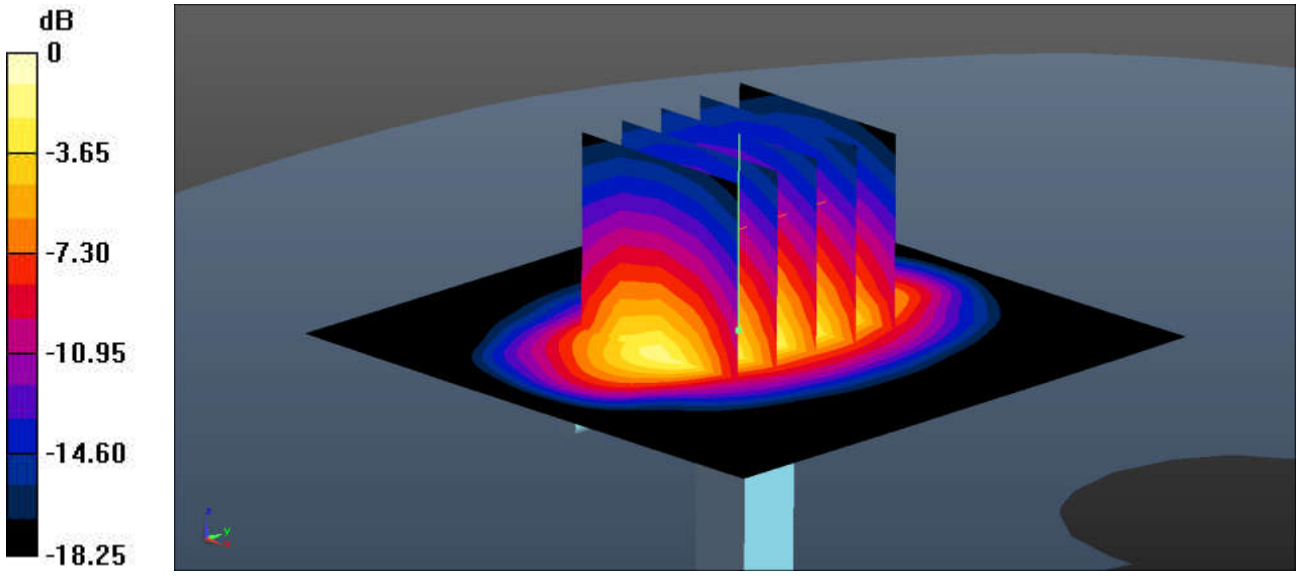
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.46 S/m; ε_r = 40.076; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.86, 7.86, 7.86); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.23 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.67 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.85 W/kg
SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.05 W/kg
Maximum value of SAR (measured) = 3.23 W/kg



0 dB = 3.23 W/kg = 5.09 dBW/kg

System Check_Head_2600MHz

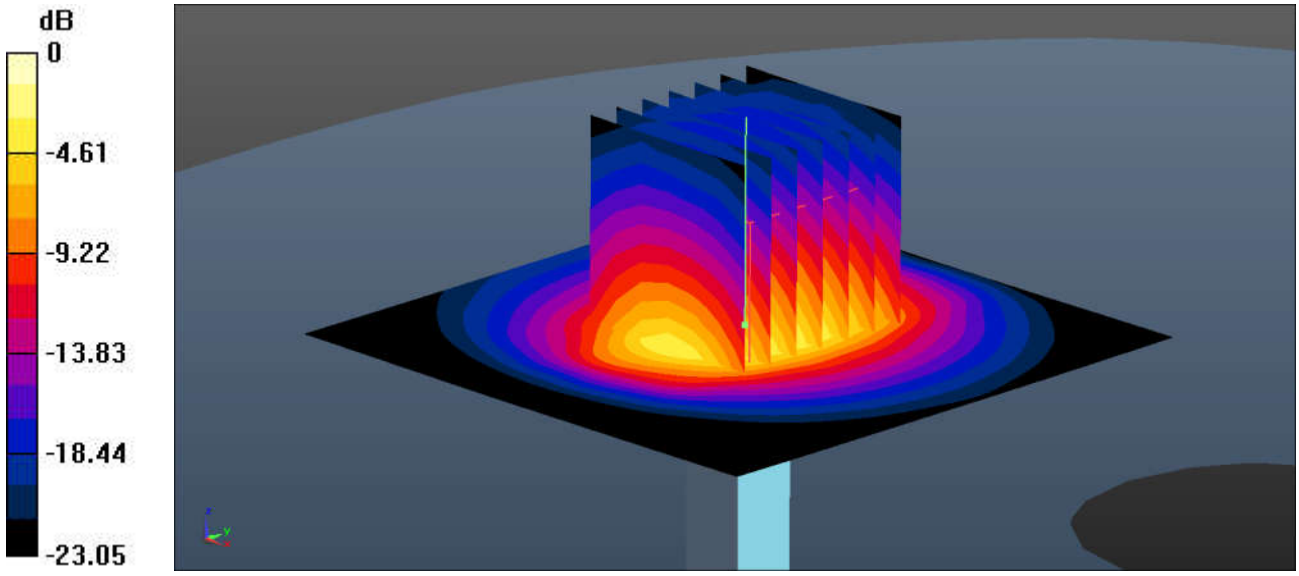
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.923 S/m; ε_r = 38.308; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.28, 7.28, 7.28); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.29 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 46.22 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 5.66 W/kg
SAR(1 g) = 2.61 W/kg; SAR(10 g) = 1.13 W/kg
Maximum value of SAR (measured) = 4.41 W/kg



0 dB = 4.41 W/kg = 6.44 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022.3.3

System Check_Head_3500MHz

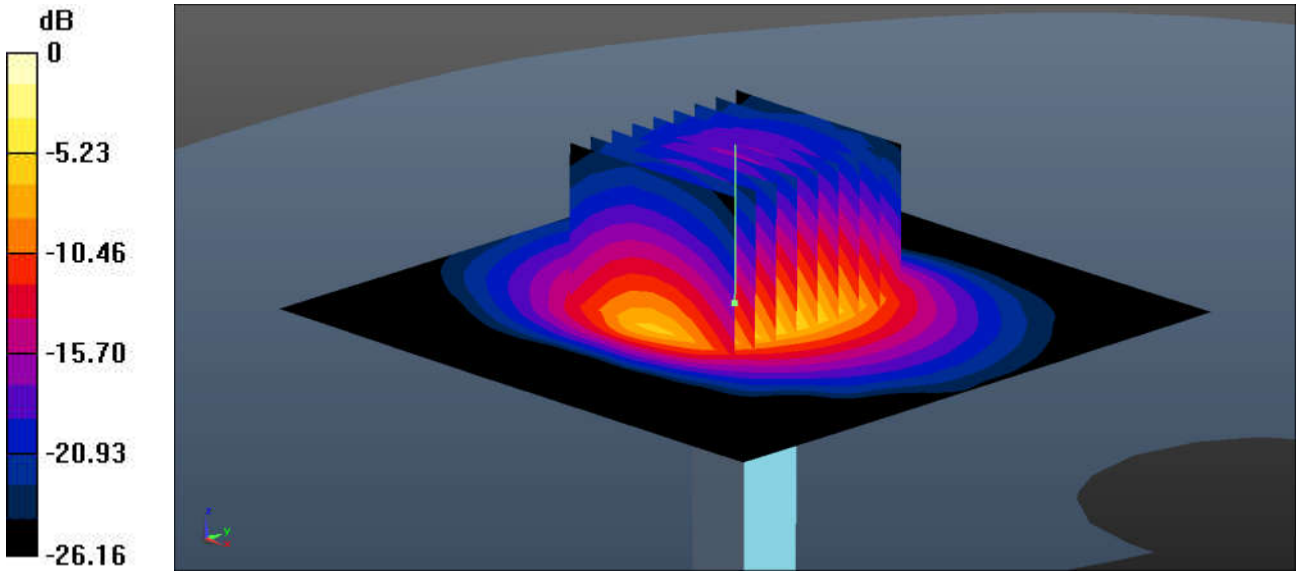
DUT: D3500V2 - SN:1037

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 = 39.007; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.65, 6.65, 6.65); Calibrated: 2021.11.24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1650; Calibrated: 2021.6.9
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.55 W/kg

Pin=50mW/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 46.84 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 8.64 W/kg
SAR(1 g) = 3.38 W/kg; SAR(10 g) = 1.3 W/kg
Maximum value of SAR (measured) = 6.50 W/kg



0 dB = 6.50 W/kg = 8.13 dBW/kg