FCC SAR Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Xiaomi
MODEL NAME	:	M2102K1G
FCC ID	:	2AFZZK1G
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

The product was received on Dec. 30, 2020 and testing was started from Jan. 16, 2021 and completed on Jan. 30, 2021. We, Sporton International (Kunshan) Inc, would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

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

Rose Wang

Reviewed by: Rose Wang / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

ACCREDITED Cert #5145.02

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

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA0D3003	Rev. 01	Initial issue of report.	Feb. 10, 2021

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, M2102K1G,** 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	0.66	0.43	0.24	1.59
		GSM1900	0.77	**0.74**	0.23	
	WCDMA	Band II	0.74	0.45	0.23	
		Band IV	0.72	0.44	0.28	
		Band V	0.74	0.54	0.30	
	LTE	Band 2	0.70	0.47	0.46	
		Band 5	0.62	0.55	0.31	
		Band 7	0.68	0.52	0.16	
		Band 12/Band 17	0.74	0.36	0.23	
		Band 66/ Band 4	0.31	0.72	0.30	
		Band 4(ANT3&7)	0.83	0.39	0.21	
		Band 41/Band 38	0.69	0.65	0.15	
	5G NR	n5	0.49	0.45	0.30	
		n7	0.72	0.41	0.12	
		n41	0.84	0.59	0.26	
		n77/n78	0.61	0.49	0.20	
DTS	WLAN	2.4GHz WLAN	0.80	0.23	0.25	1.55
NII		5GHz WLAN	**1.08**	0.23	**0.81**	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.52	0.23	<0.10	1.59

Highest 10g SAR Summary			
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)
NII	WLAN	5GHz WLAN	**2.61**
Date of Testing:			2021/1/16 ~ 2021/1/30

Remark:
1. This device supports LTE B4 / B17 / B38 and B66 / B12 / B41. Since the supported frequency span for LTE B4 / B17 / B38 falls completely within the supports frequency span for LTE B66 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66 / B12 / B41. For LTE band 4 performed SAR testing separately for antenna 3/antenna 7 without LTE band66.
2. This device supports 5GNR n78 and 5GNR n77. Since the supported frequency span for 5GNR n78 falls completely within the supports frequency span for 5GNR n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for 5GNR 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 (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

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

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

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

3. Guidance Applied

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

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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	Xiaomi
Model Name	M2102K1G
FCC ID	2AFZZK1G
IMEI Code	SIM1: 861487050000477 SIM2: 861487050000485
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6E UNII -5: 5925 MHz ~ 6425 MHz WLAN 6E UNII -6: 6425 MHz ~ 6525 MHz WLAN 6E UNII -7: 6525 MHz ~ 6875 MHz WLAN 6E UNII -8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz WPT: 110 kHz ~ 148 kHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM,256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz : 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz : 802.11ax HE20/HE40/HE80/HE160 WLAN 6E: 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC:ASK WPT:ASK
HW Version	P2
SW Version	MIUI12

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

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 33.
5. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
6. 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. (DSI 1: receiver on head power; DSI 3: handheld on extremity power; DSI 4: body-worn power; DSI 5: hotspot mode power).
7. For WLAN when transmit simultaneous with WWAN LAT or UAT, power reduction will be activated to head.
8. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
9. This device supports 5GNR n78 and 5GNR n77. Since the supported frequency span for 5GNR n78 falls completely within the supports frequency span for 5GNR n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, power only exhibited one time and SAR was only assessed for 5GNR n77.
10. 5GNR n77/n78 supports HPUE, HPUE power testing performed separately, 5GNR n77/n78 HUPE with higher power, 5GNR n77/n78 HUPE SAR can represent power class 3 level SAR.
11. 5GNR n41/n77/n78 supports MIMO mode, MIMO SAR base on standalone SAR summed together as MIMO SAR. MIMO mode limited to CP-OFDMA, using DFT-s-OFDM SAR is more conservatively than CP-OFDMA mode.
12. For 5GNR EN-DC mode, the simultaneous transmission analysis is summed 5GNR SAR and LTE SAR to show compliance.
13. 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.
14. 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.
15. 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.
16. 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.
17. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.
18. RF exposure report for WPT (Wireless power transfer) will be separately submitted.
19. SAR test report for WIFI 6E UNII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth, always chose higher SAR of WLAN5G UNII-1/2/3/4 and UNII-5/6/7/8.
20. RF Exposure report for WPT will be separately submitted.

<5G NR>

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

4.2 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>2AFZZK1G</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: 1850.7 MHz ~ 1909.3 MHz
LTE Band 4: 1710.7 MHz ~ 1754.3 MHz
LTE Band 5: 824.7 MHz ~ 848.3 MHz
LTE Band 7: 2502.5 MHz ~ 2567.5 MHz
LTE Band 12: 699.7 MHz ~ 715.3 MHz
LTE Band 17: 706.5 MHz ~ 713.5 MHz
LTE Band 38: 2572.5 MHz ~ 2617.5 MHz
LTE Band 41: 2498.5 MHz ~ 2687.5 MHz
LTE Band 66: 1710.7 MHz ~ 1779.3 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 17: 5MHz, 10MHz
LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM /256QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, Cat18</td></tr>
<tr><td>CA Support</td><td>Supported, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table>
</td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, head/body-worn/ hotspot/extremity will trigger reduced power for some LTE bands, the detail please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>1. This device supports LTE Carrier Aggregation (CA) in the uplink for 7C/38C with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.
2. This device supports maximum of 4 carriers in the downlink and 2 carriers in the uplink.</td></tr>
</table>

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

5. Maximum Tune-up Limit

<WWAN Tune-up Limit>

1. For each cellular band, the device has several WWAN antennas, the antenna selection is based on the connection quality condition, and only one antenna will transmit at a time.
2. The device implements the power management and sensor detection for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) by DSI and the device will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description.
   DSI 1: Receiver on head power.
   DSI 3: Handheld on extremity power.
   DSI 4: Body-worn power.
   DSI 5: Hotspot mode power.
3. Below table shows maximum tune up output power configured for this EUT for various transmit conditions (Device State Index DSI) by manufacturer, and the detail power measurement and tune-up limit refer to appendix E.
4. For following 5GNR MIMO mode, TX0/TX1 means per chain of MIMO mode. MIMO SAR summed per chain SAR together, TX0 SAR+TX1SAR.
5. This device supports 5GNR n78 and 5GNR n77. Since the supported frequency span for 5GNR n78 falls completely within the supports frequency span for 5GNR n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for 5GNR n77.
   5GNR n78 NSA power is less than 5GNR n77 at ant.8/ ant.9 when standalone mode, We always using 5GNR n77 SA SAR represent n78 conservatively for higher power level with 5GNR n77.

Mode	Ant 1 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
GSM850 GSM 1 Tx slot	34.00	34.00	34.00	34.00	34.00
GSM850 GPRS 1 Tx slot	34.00	34.00	34.00	34.00	34.00
GSM850 GPRS 2 Tx slots	31.00	31.00	31.00	31.00	31.00
GSM850 GPRS 3 Tx slots	29.20	29.20	29.20	29.20	29.20
GSM850 GPRS 4 Tx slots	28.00	28.00	28.00	28.00	28.00
GSM850 EDGE 1 Tx slot	28.30	28.30	28.30	28.30	28.30
GSM850 EDGE 2 Tx slots	25.30	25.30	25.30	25.30	25.30
GSM850 EDGE 3 Tx slots	23.50	23.50	23.50	23.50	23.50
GSM850 EDGE 4 Tx slots	22.30	22.30	22.30	22.30	22.30
WCDMA V	25.00	25.00	25.00	25.00	25.00
LTE Band 5	25.50	25.50	25.50	25.50	25.50
LTE Band12	25.50	24.50	24.50	25.50	24.50
LTE Band17	25.50	24.50	24.50	25.50	24.50
FR1 n5 SA/NSA	25.50	25.50	24.50	25.50	24.50

Mode	Ant 2 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
GSM1900 GSM 1 Tx slot	31.50	31.50	31.50	31.50	31.50
GSM1900 GPRS 1 Tx slot	31.50	31.50	31.50	31.50	31.50
GSM1900 GPRS 2 Tx slots	28.50	28.50	28.50	28.50	28.50
GSM1900 GPRS 3 Tx slots	26.70	26.70	26.70	26.70	26.70
GSM1900 GPRS 4 Tx slots	25.50	25.50	25.50	25.50	25.50
GSM1900 EDGE 1 Tx slot	27.85	27.85	27.85	27.85	27.85
GSM1900 EDGE 2 Tx slots	24.85	24.85	24.85	24.85	24.85
GSM1900 EDGE 3 Tx slots	23.05	23.05	23.05	23.05	23.05
GSM1900 EDGE 4 Tx slots	21.85	21.85	21.85	21.85	21.85
WCDMA II	25.00	25.00	21.00	25.00	21.00
WCDMA IV	25.00	25.00	22.00	25.00	22.00
LTE Band 2	25.50	25.50	19.50	25.50	23.50
LTE Ban 4	25.50	25.50	21.50	25.50	22.50
LTE Band 7	25.50	25.50	19.50	25.50	19.50
LTE Band 38	25.50	25.50	22.50	25.50	22.50
LTE Band 41	25.50	25.50	22.50	25.50	22.50
LTE Band 66	25.50	25.50	21.50	25.50	22.50
FR1 n7 SA/NSA	21.20	21.20	19.20	21.20	19.20
FR1 n41 SA	25.50	25.50	19.50	25.50	19.50

Mode	Ant 3 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
GSM1900 GSM 1 Tx slot	30.50	28.50	28.50	30.50	30.50
GSM1900 GPRS 1 Tx slot	30.50	28.50	28.50	30.50	30.50
GSM1900 GPRS 2 Tx slots	27.50	25.50	25.50	27.50	27.50
GSM1900 GPRS 3 Tx slots	25.70	23.70	23.70	25.70	25.70
GSM1900 GPRS 4 Tx slots	24.50	22.50	22.50	24.50	24.50
GSM1900 EDGE 1 Tx slot	25.96	23.96	23.96	25.96	25.96
GSM1900 EDGE 2 Tx slots	22.96	20.96	20.96	22.96	22.96
GSM1900 EDGE 3 Tx slots	21.16	19.16	19.16	21.16	21.16
GSM1900 EDGE 4 Tx slots	19.96	17.96	17.96	19.96	19.96
WCDMA II	23.50	17.50	17.50	20.50	19.50
WCDMA IV	23.50	17.50	17.50	21.50	21.50
LTE Ban 4	23.90	17.90	17.90	21.90	21.90
LTE Band 7	24.50	15.00	15.00	20.50	19.50
LTE Band 38	24.50	17.50	17.50	21.50	20.50
LTE Band 41	24.50	17.50	17.50	22.50	22.50
FR1 n7 SA/NSA	25.50	16.50	16.50	18.50	18.50
FR1 n41 SA	25.50	17.50	17.50	19.50	19.50
FR1 n77/78 PC3 SA	24.10	19.60	19.60	22.60	21.60
FR1 n77/78 PC2 SA	25.60	19.60	19.60	22.60	21.60
FR1 n78 PC3 NSA	24.10	19.60	19.60	22.60	21.60
FR1 n78 PC2 NSA	25.60	19.60	19.60	22.60	21.60

Mode	Ant 4 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
GSM850 GSM 1 Tx slot	33.00	33.00	33.00	33.00	33.00
GSM850 GPRS 1 Tx slot	33.00	33.00	33.00	33.00	33.00
GSM850 GPRS 2 Tx slots	30.00	30.00	30.00	30.00	30.00
GSM850 GPRS 3 Tx slots	28.20	28.20	28.20	28.20	28.20
GSM850 GPRS 4 Tx slots	27.00	27.00	27.00	27.00	27.00
GSM850 EDGE 1 Tx slot	26.53	26.53	26.53	26.53	26.53
GSM850 EDGE 2 Tx slots	23.53	23.53	23.53	23.53	23.53
GSM850 EDGE 3 Tx slots	21.73	21.73	21.73	21.73	21.73
GSM850 EDGE 4 Tx slots	20.53	20.53	20.53	20.53	20.53
WCDMA V	24.00	23.00	23.00	24.00	24.00
LTE Band 5	24.60	22.60	21.60	24.60	21.60
LTE Band12	24.50	23.50	23.50	24.50	24.50
LTE Band17	24.50	23.50	23.50	24.50	24.50
FR1 n5 SA/NSA	24.60	22.60	21.60	24.60	21.60
FR1 n77/78 PC3 SA	26.00	19.50	19.50	21.50	19.50
FR1 n77/78 PC2 SA	27.50	19.50	19.50	21.50	19.50
FR1 n78 PC3 NSA	26.00	19.50	19.50	21.50	19.50
FR1 n78 PC2 NSA	27.50	19.50	19.50	21.50	19.50

Mode	Ant 6 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
LTE Band 2	25.20	23.20	22.20	25.20	22.20
LTE Band 4	25.00	23.00	23.00	25.00	23.00
LTE Band 7	25.50	21.50	19.50	24.50	19.50
LTE Band 38	25.50	23.50	21.50	25.50	21.50
LTE Band 41	25.50	23.50	21.50	25.50	21.50
LTE Band 66	25.00	21.00	21.00	25.00	24.00
FR1 n7 SA/NSA	20.00	20.00	18.00	20.00	18.00
FR1 41 SA	25.50	21.50	18.50	23.50	18.50

Mode	Ant 7 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
LTE Band 4	21.30	21.30	21.30	21.30	21.30
LTE Band 7	20.60	19.60	19.60	20.60	20.60
FR1 n7 SA/NSA	22.40	20.40	19.40	22.40	19.40

Mode	Ant 8 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n77/78 PC3 SA	26.00	21.50	21.50	25.50	22.00
FR1 n77/78 PC2 SA	27.50	21.50	21.50	25.50	22.00
FR1 n78 PC3 NSA	21.00	16.50	16.50	20.50	17.00
FR1 n78 PC2 NSA	22.50	16.50	16.50	20.50	17.00

Mode	Ant 9 Standalone				
	Default	Head	Hotspot	Body Worn	Extremity
	Full Power	DSI-1	DSI-5	DSI-4	DSI-3
LTE Band 38	20.50	20.50	20.50	20.50	20.50
LTE Band 41	20.50	20.50	20.50	20.50	20.50
FR1 n41 SA	21.10	21.10	19.10	21.10	19.10
FR1 n77/78 PC3 SA	26.00	26.00	19.50	26.00	19.50
FR1 n77/78 PC2 SA	27.50	27.50	19.50	27.50	19.50
FR1 n78 PC3 NSA	22.50	22.50	16.00	22.50	16.00
FR1 n78 PC2 NSA	24.00	24.00	16.00	24.00	16.00

Mode	MIMO								
	Default	Ant 2 TX1				Ant 3 TX0			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n41	21.50	16.00	16.00	18.00	17.00	16.00	16.00	18.00	17.00

Mode	MIMO								
	Default	Ant 2 TX1				Ant 9 TX0			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n41	21.50	16.00	16.00	18.00	17.00	13.10	13.10	15.10	14.10

Mode	MIMO								
	Default	Ant 3 TX0				Ant 6 TX1			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n41	21.50	16.00	16.00	18.00	17.00	13.50	13.50	15.50	14.50

Mode	MIMO								
	Default	Ant 6 TX1				Ant 9 TX0			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n41	21.50	13.50	13.50	15.50	14.50	13.10	13.10	15.10	14.10

Mode	MIMO								
	Default	Ant 3 TX0				Ant 8 TX1			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n77/78 PC3	21.50	15.60	15.60	18.60	15.60	17.50	17.50	19.50	17.50
FR1 n77/78 PC2	23.00	15.60	15.60	18.60	15.60	17.50	17.50	19.50	17.50

Mode	MIMO								
	Default	Ant 3 TX0				Ant 9 TX1			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n77/78 PC3	21.50	15.60	15.60	18.60	15.60	17.50	17.50	19.50	17.50
FR1 n77/78 PC2	23.00	15.60	15.60	18.60	15.60	17.50	17.50	19.50	17.50

Mode	MIMO								
	Default	Ant 4 TX0				Ant 8 TX1			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n77/78 PC3	21.50	17.50	17.50	19.50	17.50	17.50	17.50	19.50	17.50
FR1 n77/78 PC2	23.00	17.50	17.50	19.50	17.50	17.50	17.50	19.50	17.50

Mode	MIMO								
	Default	Ant 4 TX0				Ant 9 TX1			
		Head	Hotspot	Body Worn	Extremity	Head	Hotspot	Body Worn	Extremity
	Full Power TX0/1	DSI-1	DSI-5	DSI-4	DSI-3	DSI-1	DSI-5	DSI-4	DSI-3
FR1 n77/78 PC3	21.50	17.50	17.50	19.50	17.50	17.50	17.50	19.50	17.50
FR1 n77/78 PC2	23.00	17.50	17.50	19.50	17.50	17.50	17.50	19.50	17.50

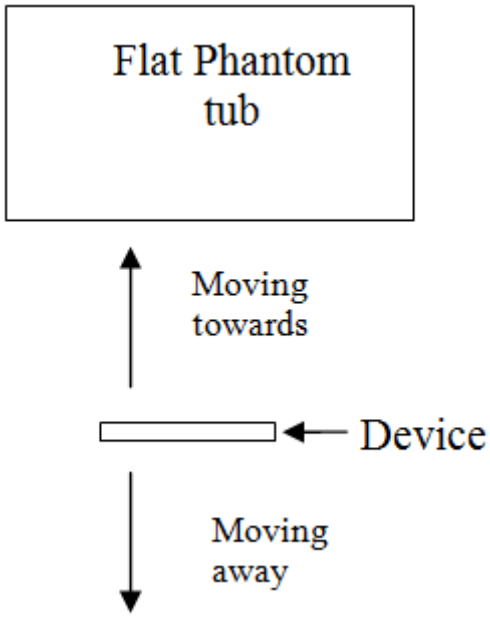
< Bluetooth and WLAN Tune-up Limit>

Mode	Full power	WLAN MIMO Ant						
		Head		Body-Worn		Hotspot	Handheld	
		Standalone	Simultaneous transmission	Standalone	Simultaneous transmission	Standalone	Standalone	Simultaneous transmission
WLAN2.4G Ant5+7	23.50	21.50	15.00	23.50	23.50	20.00	23.50	23.50
WLAN5.2GHz Ant8+11	23.00	19.50	12.50	23.00	23.00	19.50	23.00	23.00
WLAN5.3GHz Ant8+11	23.00	19.50	12.50	23.00	23.00		23.00	23.00
WLAN5.5GHz Ant8+11	22.50	20.50	13.50	22.50	22.50		22.50	22.50
WLAN5.8GHz Ant8+11	23.50	20.50	14.50	23.50	19.00	17.50	23.50	23.50
Bluetooth Ant 5	16.00	16.00	11.00	16.00	16.00	16.00	16.00	16.00
Bluetooth Ant 7	16.00	16.00	12.00	16.00	16.00	16.00	16.00	16.00

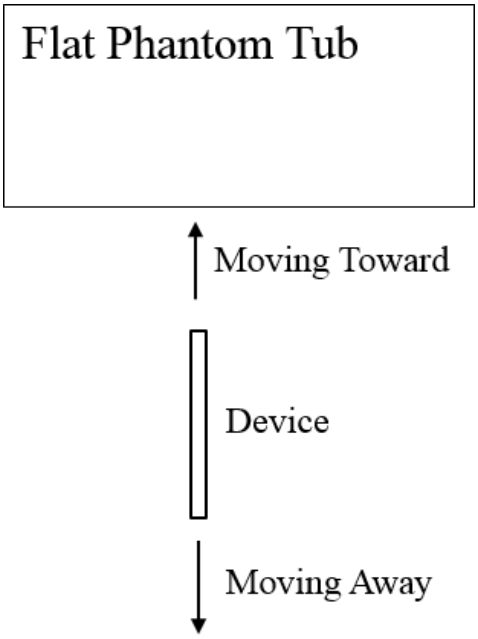
6. Proximity Sensor Triggering Test

6.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.
2. In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back or bottom or left side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
4. P-sensor can detect handheld state, WCDMA band II/IV, LTE band 2/4/7/12/17/38/41/66 and 5GNR n5/n7/n41/n77 PC2&3/n78 PC2&3 for front/back/bottom/right/left sides of product specific 10g SAR condition reduced powers will be active for handheld SAR base on different antenna. The proximity sensors trigger distance can refer to the following table.



handheld detection test set-up, front and back faces



handheld detection test set-up, bottom side, right side and left side

<Handheld>

Antenna 1/2/9:

Position	Front		Back		Bottom Side		Right Side	
	Moving towards	Moving away	Moving towards	Moving towards	Moving towards	Moving away	Moving towards	Moving away
Minimum	16	16	16	16	16	16	6	6

Antenna 3/4/6/7/8/12/14:

Position	Back		Left Side		Right Side	
	Moving towards	Moving towards	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	6	6	6	6	6

7. RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

8. Specific Absorption Rate (SAR)

8.1 Introduction

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

8.2 SAR Definition

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

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

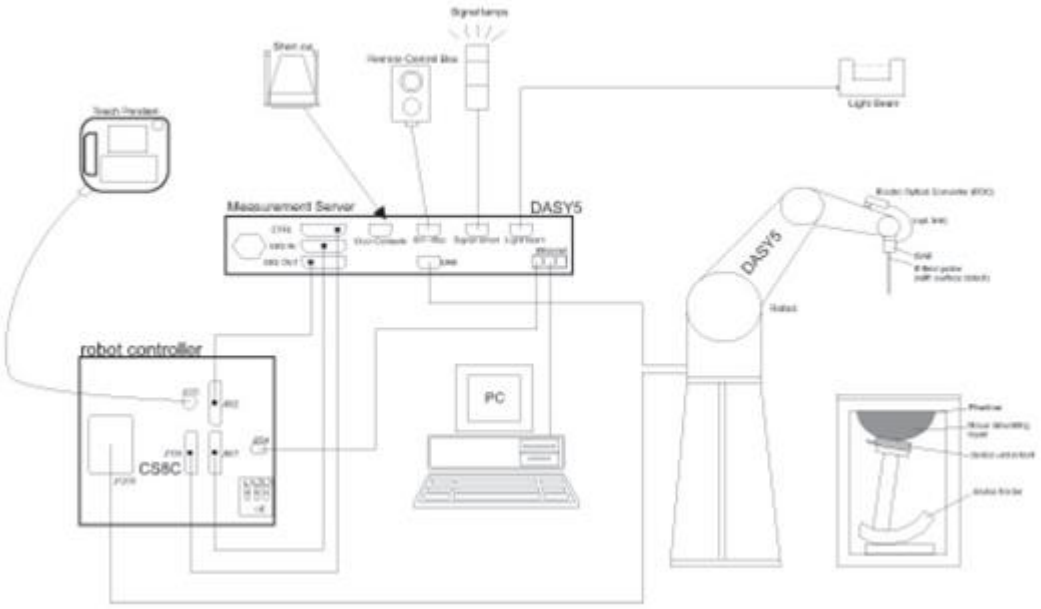
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. System Description and Setup

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



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

9.1 E-Field Probe

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

<EX3DV4 Probe>

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

9.2 Data Acquisition Electronics (DAE)

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

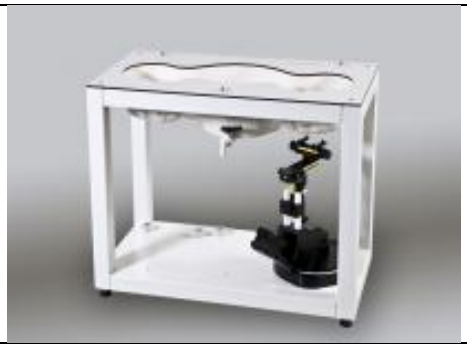
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

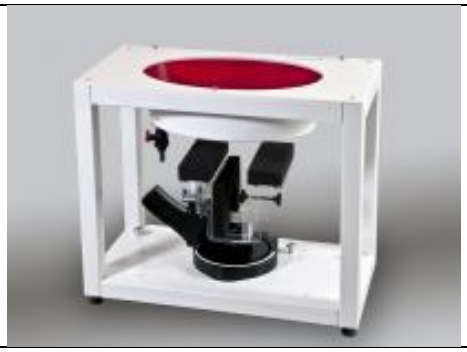
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



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

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

10.1 Spatial Peak SAR Evaluation

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

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

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

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

10.2 Power Reference Measurement

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

10.3 Area Scan

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

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

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

10.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 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.

10.5 Volume Scan Procedures

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

10.6 Power Drift Monitoring

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

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2019/3/27	2022/3/26
SPEAG	835MHz System Validation Kit	D835V2	4d151	2019/3/27	2022/3/26
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2022/3/26
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2022/3/25
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2022/3/24
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2021/11/25
SPEAG	3900MHz System Validation Kit	D3900V2	1022	2019/7/11	2022/7/10
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/23
SPEAG	Data Acquisition Electronics	DAE4	690	2020/3/26	2021/3/25
SPEAG	Dosimetric E-Field Probe	EX3DV4	7592	2020/5/22	2021/5/21
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1697	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2020/4/14	2021/4/13
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2020/5/19	2021/5/18
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2020/8/1	2021/7/31
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2020/12/2	2021/12/1
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/8	2022/1/7
Rohde & Schwarz	Power Meter	NRVD	102081	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2020/8/13	2021/8/12
R&S	CBT BLUETOOTH TESTER	CBT	101246	2020/4/14	2021/4/13
EXA	Spectrum Analyzer	FSV7	101631	2021/1/8	2022/1/7
Testo	Hygrometer	608-H1	1241332088	2021/1/8	2022/1/7
FLUKE	DIGITAC THERMOMETER	51II	97240029	2020/8/14	2021/8/13
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	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	

Note:

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

12. System Verification

12.1 Tissue Simulating Liquids

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

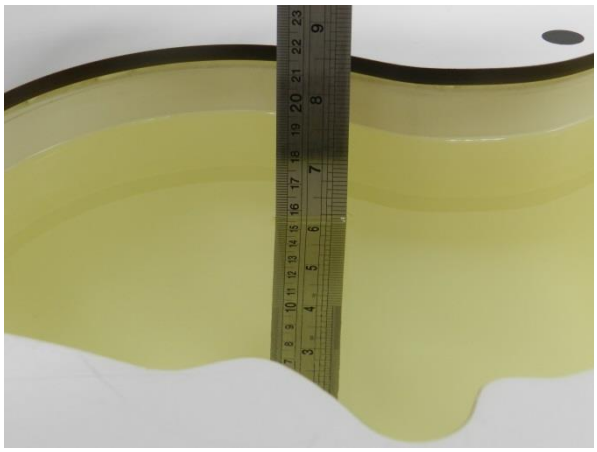


Fig 11.1 Photo of Liquid Height for Head SAR

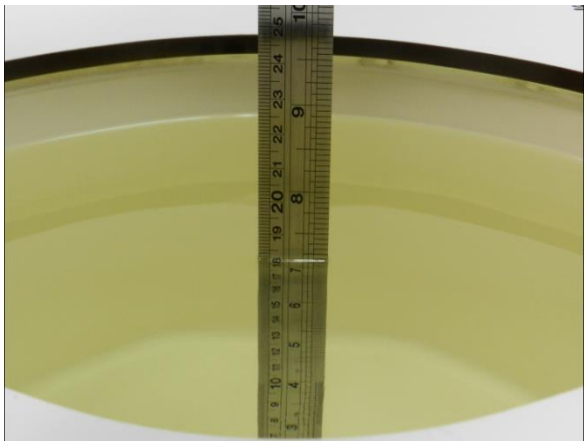


Fig 11.2 Photo of Liquid Height for Body SAR

12.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.6	0.910	40.794	0.89	41.90	2.25	-2.64	±5	2021/1/6
835	Head	22.8	0.924	41.444	0.90	41.50	2.67	-0.13	±5	2021/1/6
1750	Head	22.9	1.351	40.380	1.37	40.10	-1.39	0.70	±5	2021/1/7
1900	Head	22.7	1.451	39.635	1.40	40.00	3.64	-0.91	±5	2021/1/7
2450	Head	22.7	1.720	38.350	1.80	39.20	-4.44	-2.17	±5	2021/1/8
2600	Head	22.8	1.978	39.039	1.96	39.00	0.92	0.10	±5	2021/1/9
3900	Head	22.9	3.196	38.389	3.32	37.50	-3.73	2.37	±5	2021/1/9
5250	Head	22.7	4.639	36.202	4.71	35.90	-1.51	0.84	±5	2021/1/10
5600	Head	22.6	4.984	35.588	5.07	35.50	-1.70	0.25	±5	2021/1/10
5750	Head	22.8	5.220	35.292	5.22	35.40	0.00	-0.31	±5	2021/1/11
750	Head	22.7	0.891	43.672	0.89	41.90	0.11	4.23	±5	2021/1/27
835	Head	22.6	0.928	43.453	0.90	41.50	3.11	4.71	±5	2021/1/12
1750	Head	22.9	1.367	41.091	1.37	40.10	-0.22	2.47	±5	2021/1/28
1900	Head	22.6	1.455	40.875	1.40	40.00	3.93	2.19	±5	2021/1/13
2450	Head	22.7	1.858	40.199	1.80	39.20	3.22	2.55	±5	2021/1/14
2600	Head	22.9	1.982	39.933	1.96	39.00	1.12	2.39	±5	2021/1/29
3900	Head	22.8	3.247	37.816	3.32	37.50	-2.20	0.84	±5	2021/1/15
5250	Head	22.6	4.673	35.232	4.71	35.90	-0.79	-1.86	±5	2021/1/16
5600	Head	22.7	5.018	34.697	5.07	35.50	-1.03	-2.26	±5	2021/1/30
5750	Head	22.8	5.180	34.452	5.22	35.40	-0.77	-2.68	±5	2021/1/17
750	Head	22.8	0.900	42.015	0.89	41.90	1.12	0.27	±5	2021/1/25
835	Head	22.7	0.906	42.176	0.90	41.50	0.67	1.63	±5	2021/1/18
1750	Head	22.9	1.386	41.462	1.37	40.10	1.17	3.40	±5	2021/1/19
1900	Head	22.7	1.397	39.034	1.40	40.00	-0.21	-2.42	±5	2021/1/26
2450	Head	22.9	1.856	39.105	1.80	39.20	3.11	-0.24	±5	2021/1/20
2600	Head	22.7	2.012	37.536	1.96	39.00	2.65	-3.75	±5	2021/1/21
3900	Head	22.9	3.197	38.390	3.32	37.50	-3.70	2.37	±5	2021/1/26
5250	Head	22.6	4.595	36.403	4.71	35.90	-2.44	1.40	±5	2021/1/22
5600	Head	22.8	4.985	35.823	5.07	35.50	-1.68	0.91	±5	2021/1/24
5750	Head	22.7	5.160	35.570	5.22	35.40	-1.15	0.48	±5	2021/1/23

12.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2021/1/6	750	Head	250	1087	7592	690	2.03	8.36	8.12	-2.87
2021/1/6	835	Head	250	4d151	7592	690	2.38	9.30	9.52	2.37
2021/1/7	1750	Head	250	1090	7592	690	8.86	36.40	35.44	-2.64
2021/1/7	1900	Head	250	5d170	7592	690	10.10	39.00	40.4	3.59
2021/1/8	2450	Head	250	908	7592	690	11.90	52.80	47.6	-9.85
2021/1/9	2600	Head	250	1061	7592	690	13.90	56.60	55.6	-1.77
2021/1/9	3900	Head	100	1022	7592	690	6.52	70.50	65.2	-7.52
2021/1/10	5250	Head	100	1113	7592	690	7.65	80.50	76.5	-4.97
2021/1/10	5600	Head	100	1113	7592	690	8.48	83.40	84.8	1.68
2021/1/11	5750	Head	100	1113	7592	690	7.71	80.00	77.1	-3.63
2021/1/27	750	Head	250	1087	7592	690	1.99	8.36	7.96	-4.78
2021/1/12	835	Head	250	4d151	7592	690	2.39	9.30	9.56	2.80
2021/1/28	1750	Head	250	1090	7592	690	8.97	36.40	35.88	-1.43
2021/1/13	1900	Head	250	5d170	7592	690	10.10	39.00	40.4	3.59
2021/1/14	2450	Head	250	908	7592	690	12.80	52.80	51.2	-3.03
2021/1/29	2600	Head	250	1061	7592	690	13.90	56.60	55.6	-1.77
2021/1/15	3900	Head	100	1022	7592	690	6.62	70.50	66.2	-6.10
2021/1/16	5250	Head	100	1113	7592	690	7.71	80.50	77.1	-4.22
2021/1/30	5600	Head	100	1113	7592	690	8.54	83.40	85.4	2.40
2021/1/17	5750	Head	100	1113	7592	690	7.65	80.00	76.5	-4.38
2021/1/25	750	Head	250	1087	7592	690	2.01	8.36	8.04	-3.83
2021/1/18	835	Head	250	4d151	7592	690	2.34	9.30	9.36	0.65
2021/1/19	1750	Head	250	1090	7592	690	9.09	36.40	36.36	-0.11
2021/1/26	1900	Head	250	5d170	7592	690	9.70	39.00	38.8	-0.51
2021/1/20	2450	Head	250	908	7592	690	12.80	52.80	51.2	-3.03
2021/1/21	2600	Head	250	1061	7592	690	14.10	56.60	56.4	-0.35
2021/1/26	3900	Head	100	1022	7592	690	6.52	70.50	65.2	-7.52
2021/1/22	5250	Head	100	1113	7592	690	7.58	80.50	75.8	-5.84
2021/1/24	5600	Head	100	1113	7592	690	8.48	83.40	84.8	1.68
2021/1/23	5750	Head	100	1113	7592	690	7.62	80.00	76.2	-4.75

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2021/1/16	5250	Head	100	1113	7592	690	2.25	23.10	22.5	-2.60
2021/1/30	5600	Head	100	1113	7592	690	2.47	23.80	24.7	3.78

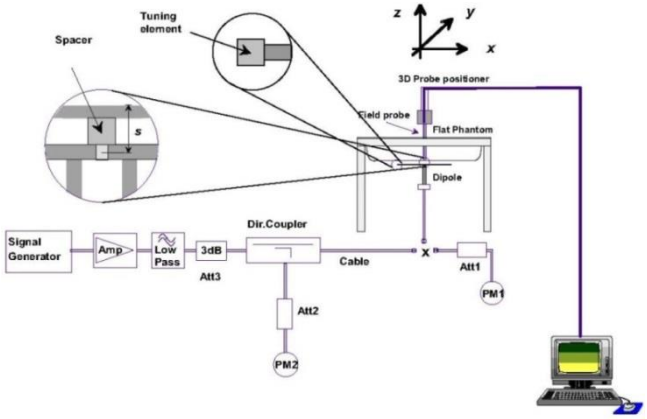


Fig 11.3.1 System Performance Check Setup

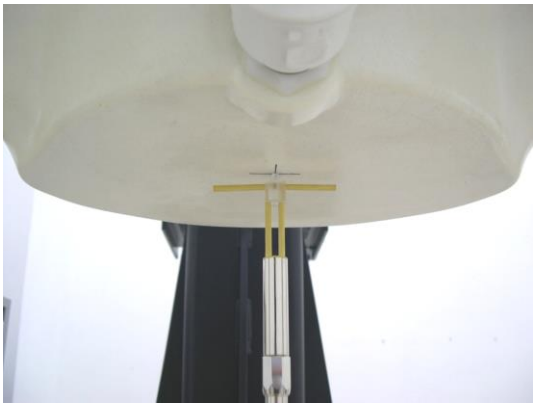


Fig 11.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

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

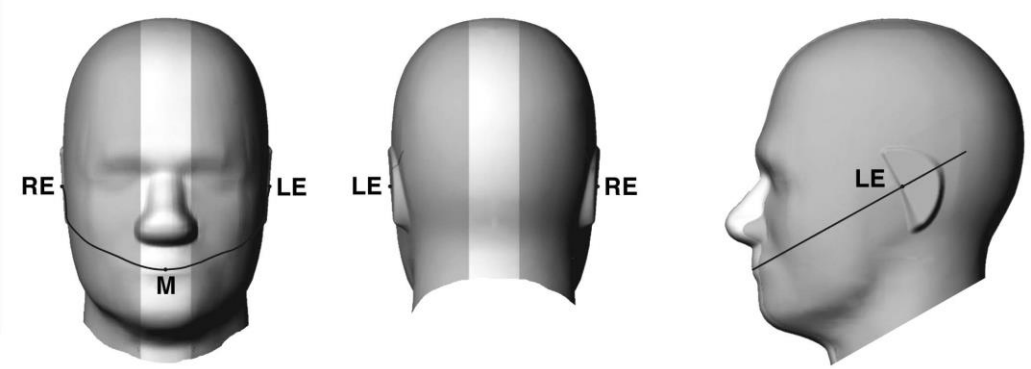


Fig 12.1.1 Front, back, and side views of SAM twin phantom

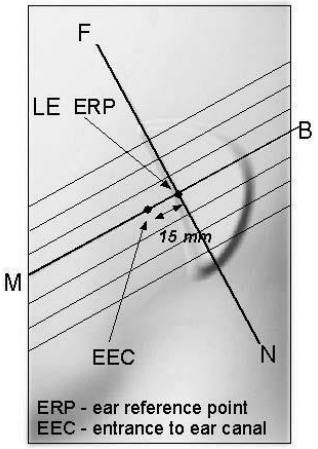


Fig 12.1.2 Close-up side view of phantom showing the ear region.

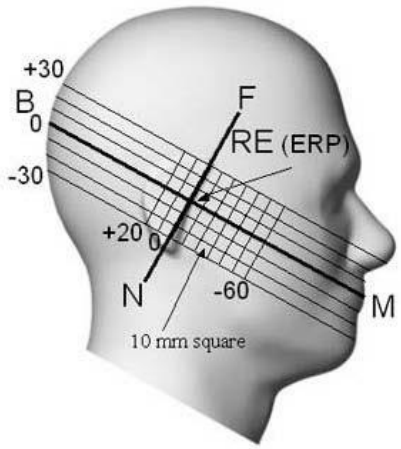


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

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

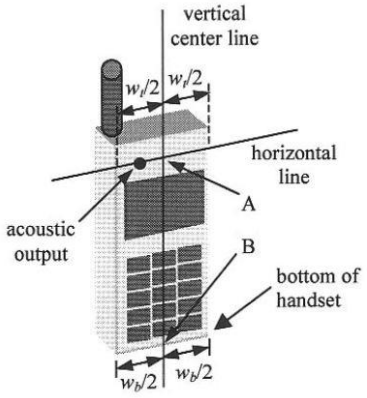


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

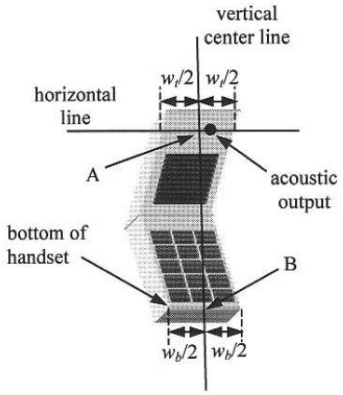


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

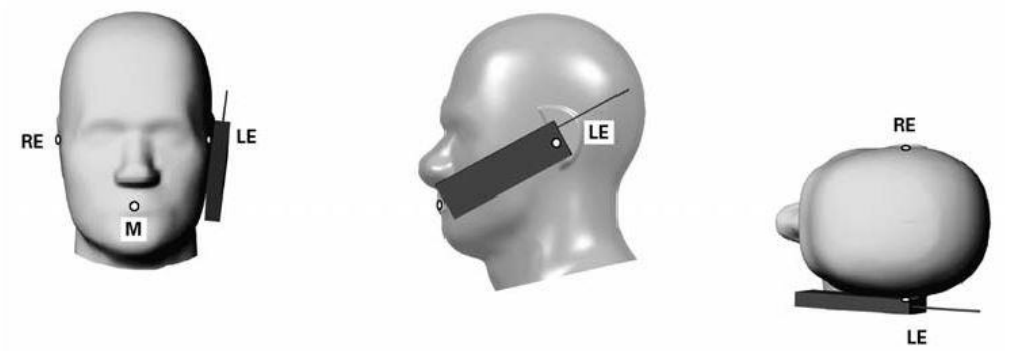


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

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

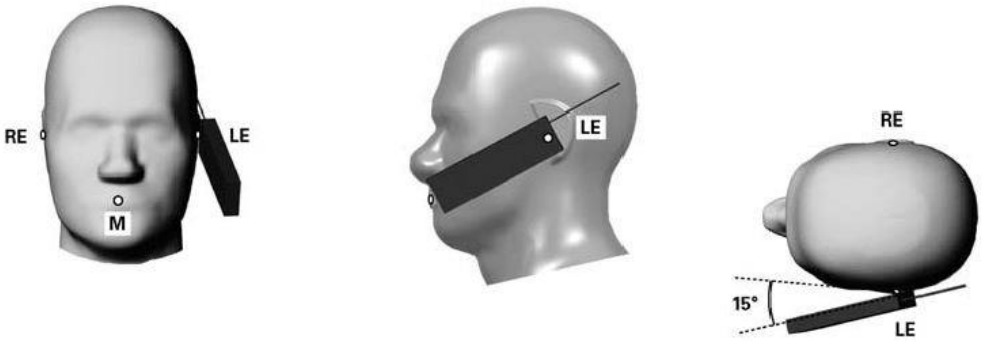


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

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

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

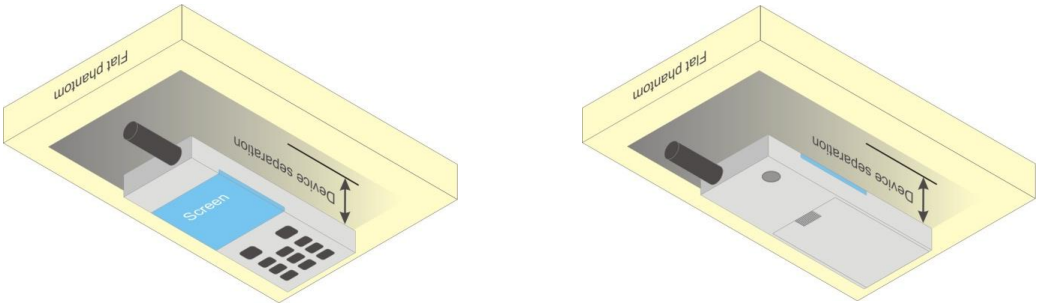


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR Exposure

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

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

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

13.6 Wireless Router

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

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

14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 4Tx slots for GSM850 /GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

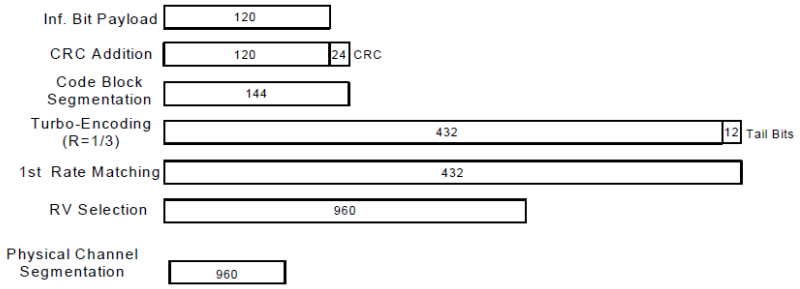


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

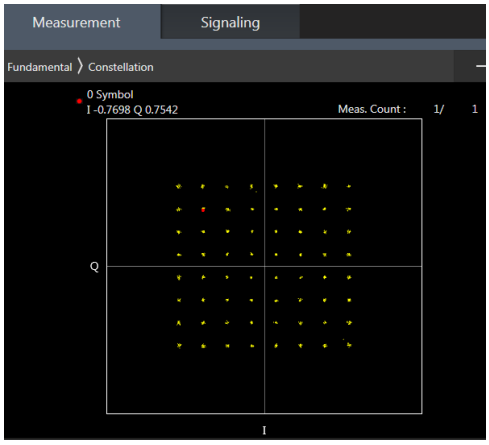
General Note:

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

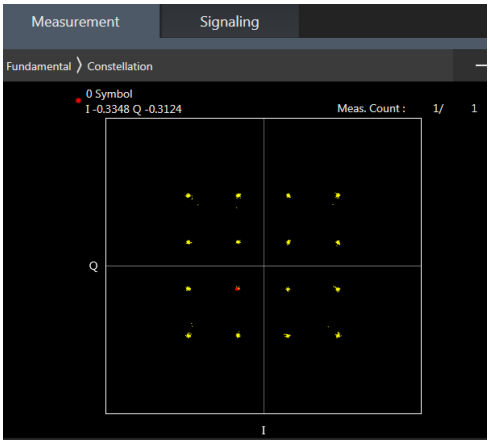
<LTE Conducted Power>

General Note:

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



64QAM



16QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations

b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS

c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

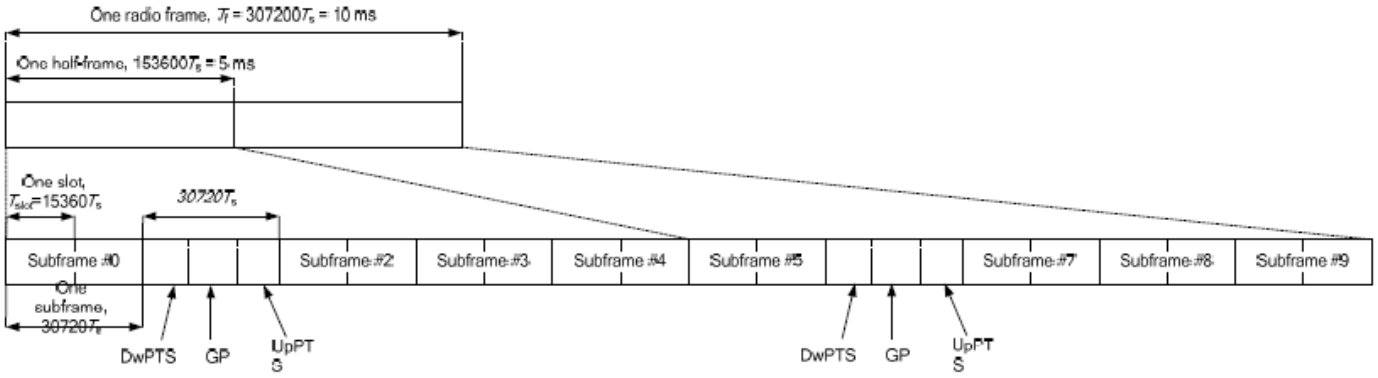


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

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

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

The highest duty factor is resulted from:

For LTE Band 41 Power class 3

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.

ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink

iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%

iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%

v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

<LTE Carrier Aggregation>

General Note:

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

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
2CC #1	CA_2C		3CC #1	CA_2A-4A-7A	
2CC #2	CA_7C	3CC #2	3CC #2	CA_2A-7C	
2CC #3	CA_7A-7A	3CC #3	3CC #3	CA_2A-7A-7A	
2CC #4	CA_66A-66A	4CC #1	3CC #4	CA_4A-7C	
2CC #5	CA_66C		3CC #5	CA_5A-7C	
2CC #6	CA_2A-4A	3CC #1	3CC #6	CA_5A-7A-7A	
2CC #7	CA_2A-7A	3CC #1	3CC #7	CA_5A-7A-66A	4CC #1
2CC #8	CA_4A-5A		3CC #8	CA_5A-66A-66A	4CC #1
2CC #9	CA_4A-7A	3CC #1	3CC #9	CA_7A-66A-66A	4CC #1
2CC #10	CA_5A-7A	3CC #6			
2CC #11	CA_5A-66A	4CC #1			
2CC #12	CA_7A-66A	4CC #1			

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

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

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 Carrier Aggregation Conducted Power (Uplink)

1. This device supports uplink carrier aggregation for LTE CA_7C, LTE CA_38C 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. For the non-contiguously allocated resource blocks which the MPR level is determined by various RB separation and RB sizes requirement, and the allowed MPR levels, settings and the conducted powers are permanently implemented in this device per the 3GPP 36.36.101 section 6.2.3A.1.3 requirements.
2. According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.
3. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs
4. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC.

<Power Measurement Setup>

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n5, n7, n78 supports NSA operations, and n5, n7, n41, n77, n78 supports SA operations.
2. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QMA/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK 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 PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
   e. PI/2 BPSK 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. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
3. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
4. 5GNR n77/n78 supports HPUE, HPUE power testing performed separately, 5GNR n77/n78 HUPE with higher power, 5GNR n77/n78 HUPE SAR can represent power class 3 level SAR.
5. 5GNR n41/n77/n78 supports MIMO mode, MIMO SAR base on standalone SAR summed together as MIMO SAR. MIMO mode limited to CP-OFDMA, using DFT-s-OFDM SAR is more conservatively than CP-OFDMA mode.
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.

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

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

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

EN-DC		4G UL	5G-NRUL
n5	DC_7A_n5A	An2&3&6&7	An1&4
n7	DC_2A_n7A	An2&6	An3&7
	DC_5A_n7A	An1&4	An2&3&6&7
n78	DC_5A_n78A	An1&4	An3&4&8&9
	DC_7A_n78A	An2&3&6&7	An3&4&8&9
	DC_38A_n78A	An2&3&6&9	An3&4&8&9
	DC_41A_n78A	An2&3&6&9	An3&4&8&9
	DC_66A_n78A	An2&6	An3&4&8&9

FR1	UL MIMO	
n41	Ant 3 TX0	Ant 2 TX1
	Ant 9 TX0	Ant 2 TX1
	Ant 3 TX0	Ant 6 TX1
	Ant 9 TX0	Ant 6 TX1
n77/n78 PC2&3	Ant 3 TX0	Ant 8 TX1
	Ant 3 TX0	Ant 9 TX1
	Ant 4 TX0	Ant 8 TX1
	Ant 4 TX0	Ant 9 TX1

Note:
1. Above table gives 5GNR EN-DC components located at different antenna, also 5GNR MIMO antenna component lists.
2. 5GNR EN-DC mode SAR summed standalone LTE SAR and 5GNR SAR is more conservatively.
3. 5GNR n78 with the same tune up power with 5GNR n77, and frequency range located within 5GNR n77, 5GNR n77 SAR can represent n78.
4. 5GNR MIMO summed SAR from TX0 and TX1.

<WLAN Conducted Power>

General Note:

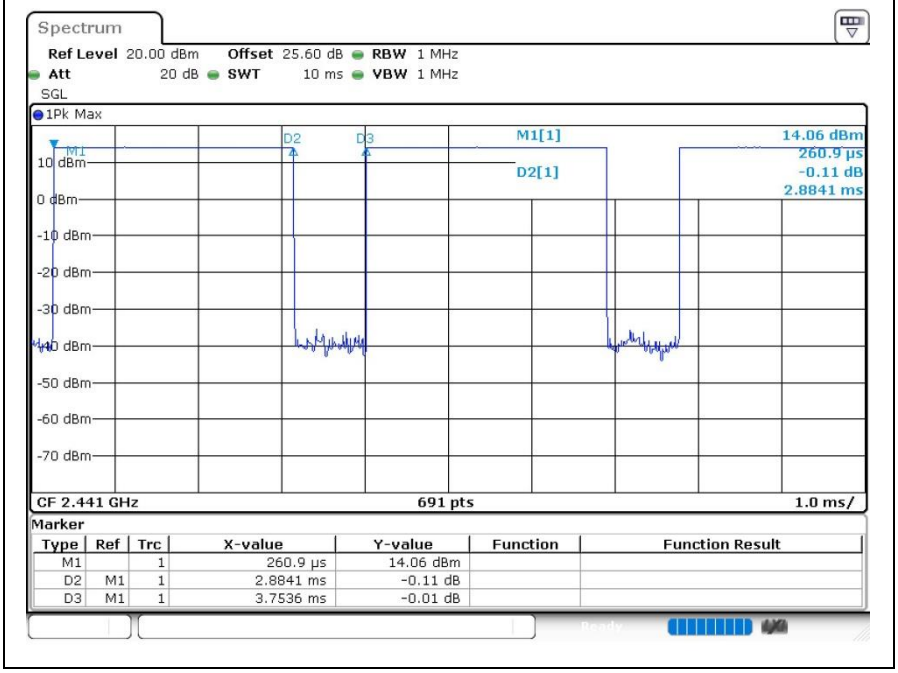
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements.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

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.83 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to100% for Bluetooth reported SAR calculation

Bluetooth time-domain plot



15. Antenna Location

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

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
5. The device implements 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. (DSI 1: receiver on head power; DSI 3: handheld on extremity power; DSI 4: body-worn power; DSI 5: hotspot mode power)
6. For WLAN when transmit simultaneous with WWAN LAT or UAT, power reduction will be activated to head.
7. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
8. 5GNR n77/n78 supports HPUE, HPUE power testing performed separately, 5GNR n77/n78 HUPE with higher power, 5GNR n77/n78 HUPE SAR can represent power class 3 level SAR.
9. 5GNR n41/n77/n78 supports MIMO mode, MIMO SAR base on standalone SAR summed together as MIMO SAR. MIMO mode limited to CP-OFDMA, using DFT-s-OFDM SAR is more conservatively than CP-OFDMA mode.
10. For 5GNR EN-DC mode, the simultaneous transmission analysis is summed 5GNR SAR and LTE SAR to show compliance.
11. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
12. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
13. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
14. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
15. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
    a. All WWAN/WLAN/BT bands hotspot SAR scaled to full power state (for handheld on state, the maximum full power means sensor on reduced power for some bands) are all less than 1.2W/Kg, no need to perform handheld SAR testing.
    b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
    c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 4Tx slots for GSM850/GSM1900 are considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

WCDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17/ B38 and 5GNR n41/n77 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE B4 / B17 / B38 and 5GNR n78 SAR test was covered by LTE B66 / B12 / B41 and 5GNR n77; 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

WLAN/Bluetooth Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode,
7. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of antenna 1 and antenna 2 respectively to calculate sum of the power for MIMO mode
8. Only chose MIMO power to perform SAR testing.

16.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	GSM850_Ant 1	GPRS 4 Tx slot	Right Cheek	DSI-1	128	824.2	26.73	28.00	1.340	0.01	0.065	0.087
	GSM850_Ant 1	GPRS 4 Tx slot	Right Tilted	DSI-1	128	824.2	26.73	28.00	1.340	0.08	0.052	0.070
	GSM850_Ant 1	GPRS 4 Tx slot	Left Cheek	DSI-1	128	824.2	26.73	28.00	1.340	0.06	0.079	0.106
	GSM850_Ant 1	GPRS 4 Tx slot	Left Tilted	DSI-1	128	824.2	26.73	28.00	1.340	0.05	0.044	0.059
01	GSM850_Ant 4	GPRS 4 Tx slots	Right Cheek	DSI-1	189	836.4	25.79	27.00	1.321	-0.08	0.500	**0.661**
	GSM850_Ant 4	GPRS 4 Tx slots	Right Tilted	DSI-1	189	836.4	25.79	27.00	1.321	0.04	0.431	0.569
	GSM850_Ant 4	GPRS 4 Tx slots	Left Cheek	DSI-1	189	836.4	25.79	27.00	1.321	0.05	0.201	0.266
	GSM850_Ant 4	GPRS 4 Tx slots	Left Tilted	DSI-1	189	836.4	25.79	27.00	1.321	-0.01	0.172	0.227
	GSM1900_Ant 2	GPRS 4 Tx slot	Right Cheek	DSI-1	661	1880	24.12	25.50	1.374	0.11	0.030	0.041
	GSM1900_Ant 2	GPRS 4 Tx slot	Right Tilted	DSI-1	661	1880	24.12	25.50	1.374	0.05	0.029	0.040
	GSM1900_Ant 2	GPRS 4 Tx slot	Left Cheek	DSI-1	661	1880	24.12	25.50	1.374	0.09	0.025	0.034
	GSM1900_Ant 2	GPRS 4 Tx slot	Left Tilted	DSI-1	661	1880	24.12	25.50	1.374	0.04	0.031	0.043
	GSM1900_Ant 3	GPRS 4 Tx slots	Right Cheek	DSI-1	661	1880	21.47	22.50	1.268	-0.06	0.485	0.615
02	GSM1900_Ant 3	GPRS 4 Tx slots	Right Tilted	DSI-1	661	1880	21.47	22.50	1.268	-0.08	0.609	**0.772**
	GSM1900_Ant 3	GPRS 4 Tx slots	Left Cheek	DSI-1	661	1880	21.47	22.50	1.268	0.04	0.367	0.465
	GSM1900_Ant 3	GPRS 4 Tx slots	Left Tilted	DSI-1	661	1880	21.47	22.50	1.268	0.11	0.535	0.678

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	DSI-1	9400	1880	24.45	25.00	1.135	0.02	0.061	0.069
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Tilted	DSI-1	9400	1880	24.45	25.00	1.135	0.05	0.052	0.059
	WCDMA II_Ant 2	RMC 12.2Kbps	Left Cheek	DSI-1	9400	1880	24.45	25.00	1.135	-0.01	0.043	0.049
	WCDMA II_Ant 2	RMC 12.2Kbps	Left Tilted	DSI-1	9400	1880	24.45	25.00	1.135	0.07	0.044	0.050
	WCDMA II_Ant 3	RMC 12.2Kbps	Right Cheek	DSI-1	9400	1880	17.16	17.50	1.081	0.08	0.484	0.523
03	WCDMA II_Ant 3	RMC 12.2Kbps	Right Tilted	DSI-1	9400	1880	17.16	17.50	1.081	0.02	0.687	**0.743**
	WCDMA II_Ant 3	RMC 12.2Kbps	Left Cheek	DSI-1	9400	1880	17.16	17.50	1.081	0.18	0.424	0.459
	WCDMA II_Ant 3	RMC 12.2Kbps	Left Tilted	DSI-1	9400	1880	17.16	17.50	1.081	-0.09	0.564	0.610
	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	DSI-1	1413	1732.6	24.32	25.00	1.169	0.09	0.086	0.101
	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Tilted	DSI-1	1413	1732.6	24.32	25.00	1.169	0.01	0.060	0.070
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Cheek	DSI-1	1413	1732.6	24.32	25.00	1.169	-0.05	0.077	0.090
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Tilted	DSI-1	1413	1732.6	24.32	25.00	1.169	0.05	0.061	0.071
	WCDMA IV_Ant 3	RMC 12.2Kbps	Right Cheek	DSI-1	1413	1732.6	17.18	17.50	1.076	0.03	0.484	0.521
04	WCDMA IV_Ant 3	RMC 12.2Kbps	Right Tilted	DSI-1	1413	1732.6	17.18	17.50	1.076	0.09	0.672	**0.723**
	WCDMA IV_Ant 3	RMC 12.2Kbps	Left Cheek	DSI-1	1413	1732.6	17.18	17.50	1.076	0.11	0.431	0.464
	WCDMA IV_Ant 3	RMC 12.2Kbps	Left Tilted	DSI-1	1413	1732.6	17.18	17.50	1.076	0.02	0.559	0.602
	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	DSI-1	4182	836.4	24.20	25.00	1.202	0.07	0.124	0.149
	WCDMA V_Ant 1	RMC 12.2Kbps	Right Tilted	DSI-1	4182	836.4	24.20	25.00	1.202	0.03	0.088	0.106
	WCDMA V_Ant 1	RMC 12.2Kbps	Left Cheek	DSI-1	4182	836.4	24.20	25.00	1.202	0.04	0.144	0.173
	WCDMA V_Ant 1	RMC 12.2Kbps	Left Tilted	DSI-1	4182	836.4	24.20	25.00	1.202	0.01	0.110	0.132
05	WCDMA V_Ant 4	RMC 12.2Kbps	Right Cheek	DSI-1	4182	836.4	22.34	23.00	1.164	-0.1	0.639	**0.744**
	WCDMA V_Ant 4	RMC 12.2Kbps	Right Tilted	DSI-1	4182	836.4	22.34	23.00	1.164	0.16	0.553	0.644
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Cheek	DSI-1	4182	836.4	22.34	23.00	1.164	0.04	0.223	0.260
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Tilted	DSI-1	4182	836.4	22.34	23.00	1.164	0.01	0.197	0.229

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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)
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Cheek	DSI-1	18900	1880	24.44	25.50	1.276	0.04	0.118	0.151
	LTE Band 2_Ant 2	20M	QPSK	50	0	Right Cheek	DSI-1	18900	1880	23.55	24.50	1.245	0.03	0.115	0.143
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Tilted	DSI-1	18900	1880	24.44	25.50	1.276	0.01	0.067	0.086
	LTE Band 2_Ant 2	20M	QPSK	50	0	Right Tilted	DSI-1	18900	1880	23.55	24.50	1.245	-0.03	0.071	0.088
	LTE Band 2_Ant 2	20M	QPSK	1	0	Left Cheek	DSI-1	18900	1880	24.44	25.50	1.276	0.05	0.072	0.092
	LTE Band 2_Ant 2	20M	QPSK	50	0	Left Cheek	DSI-1	18900	1880	23.55	24.50	1.245	0.01	0.073	0.091
	LTE Band 2_Ant 2	20M	QPSK	1	0	Left Tilted	DSI-1	18900	1880	24.44	25.50	1.276	-0.06	0.067	0.086
	LTE Band 2_Ant 2	20M	QPSK	50	0	Left Tilted	DSI-1	18900	1880	23.55	24.50	1.245	0.08	0.071	0.088
	LTE Band 2_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	18900	1880	22.40	23.20	1.202	0.03	0.523	0.629
06	LTE Band 2_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	18900	1880	22.34	23.20	1.219	0.09	0.573	**0.698**
	LTE Band 2_Ant 6	20M	QPSK	1	0	Right Tilted	DSI-1	18900	1880	22.40	23.20	1.202	0.01	0.172	0.207
	LTE Band 2_Ant 6	20M	QPSK	50	0	Right Tilted	DSI-1	18900	1880	22.34	23.20	1.219	0.02	0.179	0.218
	LTE Band 2_Ant 6	20M	QPSK	1	0	Left Cheek	DSI-1	18900	1880	22.40	23.20	1.202	-0.05	0.266	0.320
	LTE Band 2_Ant 6	20M	QPSK	50	0	Left Cheek	DSI-1	18900	1880	22.34	23.20	1.219	0.04	0.288	0.351
	LTE Band 2_Ant 6	20M	QPSK	1	0	Left Tilted	DSI-1	18900	1880	22.40	23.20	1.202	0.01	0.077	0.093
	LTE Band 2_Ant 6	20M	QPSK	50	0	Left Tilted	DSI-1	18900	1880	22.34	23.20	1.219	0.08	0.084	0.102
	LTE Band 5_Ant 1	10M	QPSK	1	0	Right Cheek	DSI-1	20525	836.5	24.45	25.50	1.274	0.02	0.092	0.117
	LTE Band 5_Ant 1	10M	QPSK	25	0	Right Cheek	DSI-1	20525	836.5	23.49	24.50	1.262	0.03	0.064	0.081
	LTE Band 5_Ant 1	10M	QPSK	1	0	Right Tilted	DSI-1	20525	836.5	24.45	25.50	1.274	0.05	0.077	0.098
	LTE Band 5_Ant 1	10M	QPSK	25	0	Right Tilted	DSI-1	20525	836.5	23.49	24.50	1.262	-0.04	0.062	0.078
	LTE Band 5_Ant 1	10M	QPSK	1	0	Left Cheek	DSI-1	20525	836.5	24.45	25.50	1.274	0.05	0.122	0.155
	LTE Band 5_Ant 1	10M	QPSK	25	0	Left Cheek	DSI-1	20525	836.5	23.49	24.50	1.262	0.02	0.102	0.129
	LTE Band 5_Ant 1	10M	QPSK	1	0	Left Tilted	DSI-1	20525	836.5	24.45	25.50	1.274	0.01	0.063	0.080
	LTE Band 5_Ant 1	10M	QPSK	25	0	Left Tilted	DSI-1	20525	836.5	23.49	24.50	1.262	0.08	0.052	0.066
	LTE Band 5_Ant 4	10M	QPSK	1	0	Right Cheek	DSI-1	20525	836.5	21.44	22.60	1.306	0.03	0.436	0.569
07	LTE Band 5_Ant 4	10M	QPSK	25	0	Right Cheek	DSI-1	20525	836.5	21.30	22.60	1.349	-0.05	0.458	**0.618**
	LTE Band 5_Ant 4	10M	QPSK	1	0	Right Tilted	DSI-1	20525	836.5	21.44	22.60	1.306	0.05	0.358	0.468
	LTE Band 5_Ant 4	10M	QPSK	25	0	Right Tilted	DSI-1	20525	836.5	21.30	22.60	1.349	0.03	0.344	0.464
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Cheek	DSI-1	20525	836.5	21.44	22.60	1.306	-0.01	0.178	0.232
	LTE Band 5_Ant 4	10M	QPSK	25	0	Left Cheek	DSI-1	20525	836.5	21.30	22.60	1.349	0.05	0.182	0.246
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Tilted	DSI-1	20525	836.5	21.44	22.60	1.306	0.06	0.165	0.216
	LTE Band 5_Ant 4	10M	QPSK	25	0	Left Tilted	DSI-1	20525	836.5	21.30	22.60	1.349	0.07	0.172	0.232

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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)
	LTE Band 7_Ant 2	20M	QPSK	1	0	Right Cheek	DSI-1	21100	2535	24.74	25.50	1.191	0.1	0.013	0.015
	LTE Band 7_Ant 2	20M	QPSK	50	0	Right Cheek	DSI-1	21100	2535	23.88	24.50	1.153	0.03	0.014	0.016
	LTE Band 7_Ant 2	20M	QPSK	1	0	Right Tilted	DSI-1	21100	2535	24.74	25.50	1.191	0.05	0.006	0.007
	LTE Band 7_Ant 2	20M	QPSK	50	0	Right Tilted	DSI-1	21100	2535	23.88	24.50	1.153	-0.03	0.003	0.003
	LTE Band 7_Ant 2	20M	QPSK	1	0	Left Cheek	DSI-1	21100	2535	24.74	25.50	1.191	0.05	0.016	0.019
	LTE Band 7_Ant 2	20M	QPSK	50	0	Left Cheek	DSI-1	21100	2535	23.88	24.50	1.153	0.01	0.015	0.018
	LTE Band 7_Ant 2	20M	QPSK	1	0	Left Tilted	DSI-1	21100	2535	24.74	25.50	1.191	0.04	0.006	0.007
	LTE Band 7_Ant 2	20M	QPSK	50	0	Left Tilted	DSI-1	21100	2535	23.88	24.50	1.153	0.08	0.005	0.006
	LTE Band 7C_Ant 2	20M	QPSK	1	0	Left Cheek	DSI-1	21100+20902	2535+2515.2	24.69	25.50	1.205	0.05	0.014	0.017
	LTE Band 7_Ant 3	20M	QPSK	1	0	Right Cheek	DSI-1	21100	2535	13.95	15.00	1.274	0.03	0.401	0.511
	LTE Band 7_Ant 3	20M	QPSK	50	0	Right Cheek	DSI-1	21100	2535	13.81	15.00	1.315	0.05	0.386	0.508
	LTE Band 7_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	21100	2535	13.95	15.00	1.274	-0.01	0.522	0.665
08	LTE Band 7_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	21100	2535	13.81	15.00	1.315	0.11	0.513	**0.675**
	LTE Band 7_Ant 3	20M	QPSK	1	0	Left Cheek	DSI-1	21100	2535	13.95	15.00	1.274	0.05	0.275	0.350
	LTE Band 7_Ant 3	20M	QPSK	50	0	Left Cheek	DSI-1	21100	2535	13.81	15.00	1.315	0.04	0.268	0.352
	LTE Band 7_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	21100	2535	13.95	15.00	1.274	0.03	0.452	0.576
	LTE Band 7_Ant 3	20M	QPSK	50	0	Left Tilted	DSI-1	21100	2535	13.81	15.00	1.315	0.03	0.473	0.622
	LTE Band 7C_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	21100+20902	2535+2515.2	14.08	15.00	1.236	0.11	0.471	0.582
	LTE Band 7_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	21100	2535	21.24	21.50	1.062	0.03	0.428	0.454
	LTE Band 7_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	21100	2535	21.11	21.50	1.094	0.02	0.446	0.488
	LTE Band 7_Ant 6	20M	QPSK	1	0	Right Tilted	DSI-1	21100	2535	21.24	21.50	1.062	0.05	0.130	0.138
	LTE Band 7_Ant 6	20M	QPSK	50	0	Right Tilted	DSI-1	21100	2535	21.11	21.50	1.094	-0.07	0.138	0.151
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Cheek	DSI-1	21100	2535	21.24	21.50	1.062	0.01	0.199	0.211
	LTE Band 7_Ant 6	20M	QPSK	50	0	Left Cheek	DSI-1	21100	2535	21.11	21.50	1.094	0.08	0.203	0.222
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Tilted	DSI-1	21100	2535	21.24	21.50	1.062	0.09	0.061	0.065
	LTE Band 7_Ant 6	20M	QPSK	50	0	Left Tilted	DSI-1	21100	2535	21.11	21.50	1.094	-0.03	0.062	0.068
	LTE Band 7C_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	21100+20902	2535+2515.2	20.85	21.50	1.161	0.02	0.405	0.470
	LTE Band 7_Ant 7	20M	QPSK	1	0	Right Cheek	DSI-1	21100	2535	18.99	19.60	1.151	0.03	0.189	0.218
	LTE Band 7_Ant 7	20M	QPSK	50	0	Right Cheek	DSI-1	21100	2535	18.88	19.60	1.180	0.07	0.147	0.174
	LTE Band 7_Ant 7	20M	QPSK	1	0	Right Tilted	DSI-1	21100	2535	18.99	19.60	1.151	-0.03	0.064	0.074
	LTE Band 7_Ant 7	20M	QPSK	50	0	Right Tilted	DSI-1	21100	2535	18.88	19.60	1.180	0.05	0.048	0.057
	LTE Band 7_Ant 7	20M	QPSK	1	0	Left Cheek	DSI-1	21100	2535	18.99	19.60	1.151	-0.08	0.529	0.609
	LTE Band 7_Ant 7	20M	QPSK	50	0	Left Cheek	DSI-1	21100	2535	18.88	19.60	1.180	-0.09	0.420	0.496
	LTE Band 7_Ant 7	20M	QPSK	1	0	Left Tilted	DSI-1	21100	2535	18.99	19.60	1.151	0.04	0.141	0.162
	LTE Band 7_Ant 7	20M	QPSK	50	0	Left Tilted	DSI-1	21100	2535	18.88	19.60	1.180	0.02	0.111	0.131
	LTE Band 7C_Ant 7	20M	QPSK	1	0	Left Cheek	DSI-1	21100+20902	2535+2515.2	19.04	19.60	1.138	-0.03	0.466	0.530
	LTE Band 12_Ant 1	10M	QPSK	1	0	Right Cheek	DSI-1	23095	707.5	23.64	24.50	1.219	0.03	0.027	0.033
	LTE Band 12_Ant 1	10M	QPSK	25	0	Right Cheek	DSI-1	23095	707.5	23.35	24.50	1.303	0.01	0.025	0.033
	LTE Band 12_Ant 1	10M	QPSK	1	0	Right Tilted	DSI-1	23095	707.5	23.64	24.50	1.219	-0.05	0.026	0.032
	LTE Band 12_Ant 1	10M	QPSK	25	0	Right Tilted	DSI-1	23095	707.5	23.35	24.50	1.303	0.07	0.022	0.029
	LTE Band 12_Ant 1	10M	QPSK	1	0	Left Cheek	DSI-1	23095	707.5	23.64	24.50	1.219	-0.04	0.042	0.051
	LTE Band 12_Ant 1	10M	QPSK	25	0	Left Cheek	DSI-1	23095	707.5	23.35	24.50	1.303	0.09	0.038	0.050
	LTE Band 12_Ant 1	10M	QPSK	1	0	Left Tilted	DSI-1	23095	707.5	23.64	24.50	1.219	0.01	0.021	0.026
	LTE Band 12_Ant 1	10M	QPSK	25	0	Left Tilted	DSI-1	23095	707.5	23.35	24.50	1.303	-0.02	0.017	0.022
	LTE Band 12_Ant 4	10M	QPSK	1	0	Right Cheek	DSI-1	23095	707.5	22.21	23.50	1.346	0.02	0.541	0.728
	LTE Band 12_Ant 4	10M	QPSK	25	0	Right Cheek	DSI-1	23095	707.5	22.14	23.50	1.368	-0.04	0.459	0.628
09	LTE Band 12_Ant 4	10M	QPSK	1	0	Right Tilted	DSI-1	23095	707.5	22.21	23.50	1.346	-0.14	0.546	**0.735**
	LTE Band 12_Ant 4	10M	QPSK	25	0	Right Tilted	DSI-1	23095	707.5	22.14	23.50	1.368	0.09	0.469	0.641
	LTE Band 12_Ant 4	10M	QPSK	1	0	Left Cheek	DSI-1	23095	707.5	22.21	23.50	1.346	0.06	0.269	0.362
	LTE Band 12_Ant 4	10M	QPSK	25	0	Left Cheek	DSI-1	23095	707.5	22.14	23.50	1.368	0.02	0.222	0.304
	LTE Band 12_Ant 4	10M	QPSK	1	0	Left Tilted	DSI-1	23095	707.5	22.21	23.50	1.346	0.07	0.274	0.369
	LTE Band 12_Ant 4	10M	QPSK	25	0	Left Tilted	DSI-1	23095	707.5	22.14	23.50	1.368	0.08	0.230	0.315

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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)
	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Cheek	DSI-1	132322	1745	24.36	25.50	1.300	-0.09	0.071	0.092
	LTE Band 66_Ant 2	20M	QPSK	50	0	Right Cheek	DSI-1	132322	1745	23.25	24.50	1.334	0.03	0.067	0.089
	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Tilted	DSI-1	132322	1745	24.36	25.50	1.300	0.01	0.043	0.056
	LTE Band 66_Ant 2	20M	QPSK	50	0	Right Tilted	DSI-1	132322	1745	23.25	24.50	1.334	-0.02	0.045	0.060
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Cheek	DSI-1	132322	1745	24.36	25.50	1.300	0.05	0.067	0.087
	LTE Band 66_Ant 2	20M	QPSK	50	0	Left Cheek	DSI-1	132322	1745	23.25	24.50	1.334	0.04	0.066	0.088
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Tilted	DSI-1	132322	1745	24.36	25.50	1.300	0.02	0.041	0.053
	LTE Band 66_Ant 2	20M	QPSK	50	0	Left Tilted	DSI-1	132322	1745	23.25	24.50	1.334	-0.08	0.041	0.055
10	LTE Band 66_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	132322	1745	20.44	21.00	1.138	-0.01	0.271	**0.308**
	LTE Band 66_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	132322	1745	20.05	21.00	1.245	0.07	0.244	0.304
	LTE Band 66_Ant 6	20M	QPSK	1	0	Right Tilted	DSI-1	132322	1745	20.44	21.00	1.138	0.01	0.072	0.082
	LTE Band 66_Ant 6	20M	QPSK	50	0	Right Tilted	DSI-1	132322	1745	20.05	21.00	1.245	0.03	0.072	0.090
	LTE Band 66_Ant 6	20M	QPSK	1	0	Left Cheek	DSI-1	132322	1745	20.44	21.00	1.138	0.08	0.133	0.151
	LTE Band 66_Ant 6	20M	QPSK	50	0	Left Cheek	DSI-1	132322	1745	20.05	21.00	1.245	0.01	0.137	0.170
	LTE Band 66_Ant 6	20M	QPSK	1	0	Left Tilted	DSI-1	132322	1745	20.44	21.00	1.138	-0.02	0.039	0.044
	LTE Band 66_Ant 6	20M	QPSK	50	0	Left Tilted	DSI-1	132322	1745	20.05	21.00	1.245	0.08	0.040	0.050
	LTE Band 4_Ant 3	20M	QPSK	1	0	Right Cheek	DSI-1	20175	1732.5	17.49	17.90	1.099	-0.05	0.552	0.607
	LTE Band 4_Ant 3	20M	QPSK	50	0	Right Cheek	DSI-1	20175	1732.5	17.40	17.90	1.122	-0.02	0.586	0.658
	LTE Band 4_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	20175	1732.5	17.49	17.90	1.099	0.05	0.697	0.766
11	LTE Band 4_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	20175	1732.5	17.40	17.90	1.122	0.01	0.735	**0.825**
	LTE Band 4_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	20050	1720	17.31	17.90	1.146	0.05	0.710	0.813
	LTE Band 4_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	20300	1745	17.31	17.90	1.146	0.07	0.712	0.816
	LTE Band 4_Ant 3	20M	QPSK	100	0	Right Tilted	DSI-1	20175	1732.5	17.27	17.90	1.156	-0.05	0.711	0.822
	LTE Band 4_Ant 3	20M	QPSK	1	0	Left Cheek	DSI-1	20175	1732.5	17.49	17.90	1.099	-0.01	0.478	0.525
	LTE Band 4_Ant 3	20M	QPSK	50	0	Left Cheek	DSI-1	20175	1732.5	17.40	17.90	1.122	0.01	0.500	0.561
	LTE Band 4_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	20175	1732.5	17.49	17.90	1.099	0.07	0.644	0.708
	LTE Band 4_Ant 3	20M	QPSK	50	0	Left Tilted	DSI-1	20175	1732.5	17.40	17.90	1.122	-0.05	0.687	0.771
	LTE Band 4_Ant 7	20M	QPSK	1	0	Right Cheek	DSI-1	20175	1732.5	20.79	21.30	1.125	0.03	0.253	0.285
	LTE Band 4_Ant 7	20M	QPSK	50	0	Right Cheek	DSI-1	20175	1732.5	19.90	20.30	1.096	0.08	0.193	0.212
	LTE Band 4_Ant 7	20M	QPSK	1	0	Right Tilted	DSI-1	20175	1732.5	20.79	21.30	1.125	0.01	0.060	0.067
	LTE Band 4_Ant 7	20M	QPSK	50	0	Right Tilted	DSI-1	20175	1732.5	19.90	20.30	1.096	-0.02	0.047	0.052
	LTE Band 4_Ant 7	20M	QPSK	1	0	Left Cheek	DSI-1	20175	1732.5	20.79	21.30	1.125	0.06	0.580	0.652
	LTE Band 4_Ant 7	20M	QPSK	50	0	Left Cheek	DSI-1	20175	1732.5	19.90	20.30	1.096	0.03	0.447	0.490
	LTE Band 4_Ant 7	20M	QPSK	1	0	Left Tilted	DSI-1	20175	1732.5	20.79	21.30	1.125	0.07	0.119	0.134
	LTE Band 4_Ant 7	20M	QPSK	50	0	Left Tilted	DSI-1	20175	1732.5	19.90	20.30	1.096	-0.09	0.094	0.103

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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)
	LTE Band 41_Ant 2	20M	QPSK	1	0	Right Cheek	DSI-1	40620	2593	24.72	25.50	1.197	62.9	1.006	0.03	0.009	0.011
	LTE Band 41_Ant 2	20M	QPSK	50	0	Right Cheek	DSI-1	40620	2593	23.86	24.50	1.159	62.9	1.006	0.02	0.010	0.012
	LTE Band 41_Ant 2	20M	QPSK	1	0	Right Tilted	DSI-1	40620	2593	24.72	25.50	1.197	62.9	1.006	0.05	0.009	0.011
	LTE Band 41_Ant 2	20M	QPSK	50	0	Right Tilted	DSI-1	40620	2593	23.86	24.50	1.159	62.9	1.006	-0.01	0.009	0.010
	LTE Band 41_Ant 2	20M	QPSK	1	0	Left Cheek	DSI-1	40620	2593	24.72	25.50	1.197	62.9	1.006	0.03	0.017	0.020
	LTE Band 41_Ant 2	20M	QPSK	50	0	Left Cheek	DSI-1	40620	2593	23.86	24.50	1.159	62.9	1.006	-0.02	0.016	0.019
	LTE Band 41_Ant 2	20M	QPSK	1	0	Left Tilted	DSI-1	40620	2593	24.72	25.50	1.197	62.9	1.006	-0.08	0.005	0.006
	LTE Band 41_Ant 2	20M	QPSK	50	0	Left Tilted	DSI-1	40620	2593	23.86	24.50	1.159	62.9	1.006	0.04	0.006	0.007
	LTE Band 38C_Ant 2	20M	QPSK	1	0	Left Cheek	DSI-1	37901+38099	2585.1+2604.9	24.82	25.50	1.169	62.9	1.006	0.08	0.015	0.018
	LTE Band 41_Ant 3	20M	QPSK	1	0	Right Cheek	DSI-1	40620	2593	16.43	17.50	1.279	62.9	1.006	0.04	0.421	0.542
	LTE Band 41_Ant 3	20M	QPSK	50	0	Right Cheek	DSI-1	40620	2593	16.37	17.50	1.297	62.9	1.006	0.05	0.416	0.543
12	LTE Band 41_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	40620	2593	16.43	17.50	1.279	62.9	1.006	0.04	0.534	**0.687**
	LTE Band 41_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	39750	2506	16.03	17.50	1.403	62.9	1.006	0.07	0.485	0.684
	LTE Band 41_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	40185	2549.5	16.18	17.50	1.355	62.9	1.006	-0.09	0.475	0.648
	LTE Band 41_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	41055	2636.5	16.08	17.50	1.387	62.9	1.006	0.11	0.457	0.638
	LTE Band 41_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	41490	2680	16.15	17.50	1.365	62.9	1.006	0.05	0.439	0.603
	LTE Band 41_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	40620	2593	16.37	17.50	1.297	62.9	1.006	0.1	0.525	0.685
	LTE Band 41_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	39750	2506	16.28	17.50	1.324	62.9	1.006	0.04	0.489	0.651
	LTE Band 41_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	40185	2549.5	16.25	17.50	1.334	62.9	1.006	0.01	0.475	0.637
	LTE Band 41_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	41055	2636.5	16.06	17.50	1.393	62.9	1.006	0.05	0.455	0.638
	LTE Band 41_Ant 3	20M	QPSK	50	0	Right Tilted	DSI-1	41490	2680	15.98	17.50	1.419	62.9	1.006	-0.05	0.432	0.617
	LTE Band 41_Ant 3	20M	QPSK	100	0	Right Tilted	DSI-1	40620	2593	16.35	17.50	1.303	62.9	1.006	0.08	0.467	0.612
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Cheek	DSI-1	40620	2593	16.43	17.50	1.279	62.9	1.006	-0.01	0.295	0.380
	LTE Band 41_Ant 3	20M	QPSK	50	0	Left Cheek	DSI-1	40620	2593	16.37	17.50	1.297	62.9	1.006	0.09	0.300	0.391
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	40620	2593	16.43	17.50	1.279	62.9	1.006	0.02	0.479	0.617
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	39750	2506	16.03	17.50	1.403	62.9	1.006	0.04	0.390	0.550
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	40185	2549.5	16.18	17.50	1.355	62.9	1.006	-0.16	0.406	0.554
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	41055	2636.5	16.08	17.50	1.387	62.9	1.006	0.01	0.379	0.529
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Tilted	DSI-1	41490	2680	16.15	17.50	1.365	62.9	1.006	0.15	0.356	0.489
	LTE Band 41_Ant 3	20M	QPSK	50	0	Left Tilted	DSI-1	40620	2593	16.37	17.50	1.297	62.9	1.006	-0.08	0.459	0.599
	LTE Band 41_Ant 3	20M	QPSK	100	0	Left Tilted	DSI-1	40620	2593	16.35	17.50	1.303	62.9	1.006	-0.1	0.396	0.519
	LTE Band 38C_Ant 3	20M	QPSK	1	0	Right Tilted	DSI-1	37901+38099	2585.1+2604.9	16.64	17.50	1.219	62.9	1.006	0.01	0.481	0.590
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	40620	2593	23.09	23.50	1.099	62.9	1.006	0.02	0.554	0.613
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	39750	2506	22.69	23.50	1.205	62.9	1.006	0.05	0.370	0.449
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	40185	2549.5	22.79	23.50	1.178	62.9	1.006	-0.1	0.475	0.563
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	41055	2636.5	22.82	23.50	1.169	62.9	1.006	0.09	0.559	0.658
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Cheek	DSI-1	41490	2680	22.87	23.50	1.156	62.9	1.006	0.05	0.570	0.663
	LTE Band 41_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	40620	2593	22.93	23.50	1.140	62.9	1.006	0.09	0.584	0.670
	LTE Band 41_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	39750	2506	22.45	23.50	1.274	62.9	1.006	0.06	0.398	0.510
	LTE Band 41_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	40185	2549.5	22.71	23.50	1.199	62.9	1.006	0.05	0.489	0.590
	LTE Band 41_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	41055	2636.5	22.75	23.50	1.189	62.9	1.006	0.01	0.559	0.668
	LTE Band 41_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	41490	2680	22.69	23.50	1.205	62.9	1.006	0.05	0.550	0.667
	LTE Band 41_Ant 6	20M	QPSK	100	0	Right Cheek	DSI-1	40620	2593	22.87	23.50	1.156	62.9	1.006	0.08	0.522	0.607
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Tilted	DSI-1	40620	2593	23.09	23.50	1.099	62.9	1.006	0.03	0.179	0.198
	LTE Band 41_Ant 6	20M	QPSK	50	0	Right Tilted	DSI-1	40620	2593	22.93	23.50	1.140	62.9	1.006	-0.07	0.180	0.206
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Cheek	DSI-1	40620	2593	23.09	23.50	1.099	62.9	1.006	0.08	0.263	0.291
	LTE Band 41_Ant 6	20M	QPSK	50	0	Left Cheek	DSI-1	40620	2593	22.93	23.50	1.140	62.9	1.006	0.09	0.270	0.310
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Tilted	DSI-1	40620	2593	23.09	23.50	1.099	62.9	1.006	0.01	0.079	0.087
	LTE Band 41_Ant 6	20M	QPSK	50	0	Left Tilted	DSI-1	40620	2593	22.93	23.50	1.140	62.9	1.006	-0.05	0.083	0.095
	LTE Band 38C_Ant 6	20M	QPSK	50	0	Right Cheek	DSI-1	37901+38099	2585.1+2604.9	22.76	23.50	1.186	62.9	1.006	-0.03	0.512	0.611
	LTE Band 41_Ant 9	20M	QPSK	1	0	Right Cheek	DSI-1	40620	2593	19.89	20.50	1.265	62.9	1.006	0.08	0.053	0.067
	LTE Band 41_Ant 9	20M	QPSK	50	0	Right Cheek	DSI-1	40620	2593	18.97	19.50	1.236	62.9	1.006	0.02	0.040	0.050
	LTE Band 41_Ant 9	20M	QPSK	1	0	Right Tilted	DSI-1	40620	2593	19.89	20.50	1.265	62.9	1.006	0.03	0.033	0.042
	LTE Band 41_Ant 9	20M	QPSK	50	0	Right Tilted	DSI-1	40620	2593	18.97	19.50	1.236	62.9	1.006	-0.05	0.025	0.031
	LTE Band 41_Ant 9	20M	QPSK	1	0	Left Cheek	DSI-1	40620	2593	19.89	20.50	1.265	62.9	1.006	0.07	0.044	0.056
	LTE Band 41_Ant 9	20M	QPSK	50	0	Left Cheek	DSI-1	40620	2593	18.97	19.50	1.236	62.9	1.006	0.06	0.035	0.044
	LTE Band 41_Ant 9	20M	QPSK	1	0	Left Tilted	DSI-1	40620	2593	19.89	20.50	1.265	62.9	1.006	0.01	0.026	0.033
	LTE Band 41_Ant 9	20M	QPSK	50	0	Left Tilted	DSI-1	40620	2593	18.97	19.50	1.236	62.9	1.006	0.09	0.021	0.026
	LTE Band 38C_Ant 9	20M	QPSK	1	0	Right Cheek	DSI-1	37901+38099	2585.1+2604.9	19.42	20.50	1.265	62.9	1.006	-0.06	0.043	0.055

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Power Reduction	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)
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-SCS15KHz	Right Cheek	DSI-1	167300	836.5	25.31	25.50	1.045	0.07	0.077	0.080
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-SCS15KHz	Right Cheek	DSI-1	167300	836.5	25.15	25.50	1.084	0.04	0.086	0.093
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-SCS15KHz	Right Tilted	DSI-1	167300	836.5	25.31	25.50	1.045	-0.06	0.068	0.071
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-SCS15KHz	Right Tilted	DSI-1	167300	836.5	25.15	25.50	1.084	0.16	0.069	0.075
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-SCS15KHz	Left Cheek	DSI-1	167300	836.5	25.31	25.50	1.045	0.01	0.095	0.099
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-SCS15KHz	Left Cheek	DSI-1	167300	836.5	25.15	25.50	1.084	0.02	0.108	0.117
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-SCS15KHz	Left Tilted	DSI-1	167300	836.5	25.31	25.50	1.045	0.04	0.057	0.060
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-SCS15KHz	Left Tilted	DSI-1	167300	836.5	25.15	25.50	1.084	0.01	0.060	0.065
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-SCS15KHz	Right Cheek	DSI-1	167300	836.5	22.10	22.60	1.122	0.1	0.387	0.434
13	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-SCS15KHz	Right Cheek	DSI-1	167300	836.5	22.07	22.60	1.130	-0.01	0.431	**0.487**
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-SCS15KHz	Right Tilted	DSI-1	167300	836.5	22.10	22.60	1.122	0.06	0.314	0.352
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-SCS15KHz	Right Tilted	DSI-1	167300	836.5	22.07	22.60	1.130	0.01	0.349	0.394
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-SCS15KHz	Left Cheek	DSI-1	167300	836.5	22.10	22.60	1.122	0.05	0.137	0.154
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-SCS15KHz	Left Cheek	DSI-1	167300	836.5	22.07	22.60	1.130	0.05	0.160	0.181
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-SCS15KHz	Left Tilted	DSI-1	167300	836.5	22.10	22.60	1.122	0.07	0.112	0.126
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-SCS15KHz	Left Tilted	DSI-1	167300	836.5	22.07	22.60	1.130	-0.03	0.137	0.155
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	21.13	21.20	1.016	0.03	0.022	0.022
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	21.10	21.20	1.023	-0.06	0.024	0.025
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	21.13	21.20	1.016	0.02	0.006	0.006
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	21.10	21.20	1.023	0.01	0.008	0.008
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	21.13	21.20	1.016	0.01	0.020	0.020
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	21.10	21.20	1.023	0.11	0.022	0.023
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	21.13	21.20	1.016	0.09	0.007	0.007
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	21.10	21.20	1.023	0.02	0.009	0.009
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	16.10	16.50	1.096	0.03	0.455	0.499
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	15.75	16.50	1.189	0.03	0.416	0.494
14	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	16.10	16.50	1.096	0.01	0.655	**0.718**
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	15.75	16.50	1.189	0.01	0.599	0.712
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	16.10	16.50	1.096	-0.11	0.366	0.401
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	15.75	16.50	1.189	0.09	0.362	0.430
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	16.10	16.50	1.096	0.1	0.523	0.573
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	15.75	16.50	1.189	0.02	0.574	0.682
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	19.92	20.00	1.019	-0.07	0.578	0.589
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	19.69	20.00	1.074	0.06	0.545	0.585
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	19.92	20.00	1.019	0.05	0.184	0.187
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	19.69	20.00	1.074	0.09	0.233	0.250
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	19.92	20.00	1.019	-0.03	0.334	0.340
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	19.69	20.00	1.074	0.01	0.283	0.304
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	19.92	20.00	1.019	-0.05	0.070	0.071
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	19.69	20.00	1.074	0.04	0.073	0.078
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	20.28	20.40	1.028	0.07	0.083	0.085
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-SCS15KHz	Right Cheek	DSI-1	507000	2535	20.19	20.40	1.050	-0.03	0.147	0.154
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	20.28	20.40	1.028	0.03	0.032	0.033
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-SCS15KHz	Right Tilted	DSI-1	507000	2535	20.19	20.40	1.050	0.05	0.059	0.062
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	20.28	20.40	1.028	0.01	0.292	0.300
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-SCS15KHz	Left Cheek	DSI-1	507000	2535	20.19	20.40	1.050	-0.02	0.415	0.436
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	20.28	20.40	1.028	0.09	0.092	0.095
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-SCS15KHz	Left Tilted	DSI-1	507000	2535	20.19	20.40	1.050	0.04	0.130	0.136

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Power Reduction	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)
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	24.44	25.50	1.276	0.03	0.016	0.020
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	24.25	25.50	1.334	0.05	0.036	0.048
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	24.44	25.50	1.276	0.08	0.040	0.051
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	24.25	25.50	1.334	0.07	0.024	0.032
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	24.44	25.50	1.276	0.01	0.044	0.056
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	24.25	25.50	1.334	-0.01	0.040	0.053
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	24.44	25.50	1.276	0.05	0.008	0.010
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	24.25	25.50	1.334	-0.03	0.020	0.027
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	17.06	17.50	1.107	0.01	0.637	0.705
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	16.99	17.50	1.125	0.05	0.604	0.679
15	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	17.06	17.50	1.107	0.06	0.756	**0.837**
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	16.99	17.50	1.125	0.06	0.729	0.820
	FR1 n41_Ant 3 SA	100M	QPSK	270	0	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	16.87	17.50	1.156	0.05	0.717	0.829
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	17.06	17.50	1.107	0.01	0.536	0.593
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	16.99	17.50	1.125	-0.03	0.555	0.624
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	17.06	17.50	1.107	0.16	0.672	0.744
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	16.99	17.50	1.125	0.02	0.695	0.782
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	21.13	21.50	1.089	0.01	0.388	0.423
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	20.93	21.50	1.140	-0.04	0.542	0.618
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	21.13	21.50	1.089	0.02	0.110	0.120
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	20.93	21.50	1.140	0.08	0.142	0.162
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	21.13	21.50	1.089	0.04	0.200	0.218
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	20.93	21.50	1.140	0.03	0.283	0.323
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	21.13	21.50	1.089	0.01	0.051	0.056
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	20.93	21.50	1.140	-0.03	0.055	0.063
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	20.99	21.10	1.026	0.03	0.118	0.121
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	20.80	21.10	1.072	-0.01	0.093	0.100
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	20.99	21.10	1.026	0.05	0.060	0.062
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	20.80	21.10	1.072	0.05	0.042	0.045
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	20.99	21.10	1.026	0.08	0.068	0.070
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	20.80	21.10	1.072	0.04	0.053	0.057
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	20.99	21.10	1.026	0.16	0.061	0.063
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	20.80	21.10	1.072	0.08	0.056	0.060
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	14.98	16.00	1.265	-0.02	0.011	0.014
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	14.62	16.00	1.374	0.05	0.010	0.014
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	14.98	16.00	1.265	0.01	0.007	0.009
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	14.62	16.00	1.374	0.05	0.005	0.007
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	14.98	16.00	1.265	0.08	0.003	0.004
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	14.62	16.00	1.374	0.07	0.003	0.004
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	14.98	16.00	1.265	0.03	0.002	0.003
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	14.62	16.00	1.374	-0.08	0.001	0.001
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	15.14	16.00	1.219	0.04	0.465	0.567
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	14.95	16.00	1.274	0.05	0.460	0.586
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	15.14	16.00	1.219	-0.02	0.548	0.668
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	14.95	16.00	1.274	-0.07	0.543	0.692
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	15.14	16.00	1.219	0.05	0.339	0.413
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	14.95	16.00	1.274	0.09	0.343	0.437
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	15.14	16.00	1.219	0.04	0.440	0.536
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	14.95	16.00	1.274	0.08	0.442	0.563
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	12.53	13.50	1.250	0.03	0.103	0.129
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	12.50	13.50	1.259	-0.01	0.147	0.185
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	12.53	13.50	1.250	-0.05	0.027	0.034
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	12.50	13.50	1.259	0.01	0.032	0.040
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	12.53	13.50	1.250	0.08	0.060	0.075
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	12.50	13.50	1.259	0.09	0.080	0.101
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	12.53	13.50	1.250	0.1	0.014	0.018
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	12.50	13.50	1.259	0.04	0.016	0.020
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	12.06	13.10	1.271	-0.02	0.017	0.022
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	518598	2592.99	11.71	13.10	1.377	0.02	0.012	0.017
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	12.06	13.10	1.271	0.05	0.010	0.013
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	518598	2592.99	11.71	13.10	1.377	0.03	0.005	0.007
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	12.06	13.10	1.271	0.09	0.011	0.014
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	518598	2592.99	11.71	13.10	1.377	-0.01	0.007	0.010
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	12.06	13.10	1.271	0.08	0.012	0.015
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	518598	2592.99	11.71	13.10	1.377	0.03	0.009	0.012

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Power Reduction	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)
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	18.28	19.60	1.355	0.01	0.343	0.465
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	18.10	19.60	1.413	-0.06	0.307	0.434
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	18.28	19.60	1.355	0.06	0.409	0.554
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	18.10	19.60	1.413	0.08	0.358	0.506
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	18.28	19.60	1.355	0.01	0.176	0.239
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	18.10	19.60	1.413	0.08	0.146	0.206
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	18.28	19.60	1.355	0.12	0.229	0.310
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	18.10	19.60	1.413	0.05	0.178	0.251
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	18.05	19.50	1.396	0.03	0.396	0.553
16	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	17.92	19.50	1.439	-0.06	0.424	**0.610**
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	18.05	19.50	1.396	0.08	0.398	0.556
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	17.92	19.50	1.439	0.04	0.321	0.462
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	18.05	19.50	1.396	0.01	0.154	0.215
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	17.92	19.50	1.439	0.09	0.143	0.206
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	18.05	19.50	1.396	0.02	0.189	0.264
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	17.92	19.50	1.439	0.05	0.158	0.227
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	20.74	21.50	1.191	0.01	0.086	0.102
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	20.67	21.50	1.211	0.03	0.090	0.109
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	20.74	21.50	1.191	-0.05	0.071	0.084
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	20.67	21.50	1.211	0.08	0.070	0.085
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	20.74	21.50	1.191	0.01	0.417	0.497
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	20.67	21.50	1.211	0.02	0.434	0.525
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	20.74	21.50	1.191	0.01	0.216	0.257
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	20.67	21.50	1.211	0.11	0.194	0.235
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	26.33	27.50	1.309	-0.05	0.144	0.189
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	26.10	27.50	1.380	0.03	0.098	0.135
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	26.33	27.50	1.309	0.01	0.061	0.080
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	26.10	27.50	1.380	-0.02	0.052	0.072
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	26.33	27.50	1.309	0.08	0.099	0.130
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	26.10	27.50	1.380	0.01	0.073	0.101
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	26.33	27.50	1.309	0.05	0.103	0.135
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	26.10	27.50	1.380	-0.01	0.084	0.116
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	15.18	15.60	1.102	0.03	0.141	0.155
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	14.86	15.60	1.186	0.02	0.126	0.149
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	15.18	15.60	1.102	-0.08	0.181	0.199
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	14.86	15.60	1.186	-0.05	0.151	0.179
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	15.18	15.60	1.102	0.04	0.058	0.064
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	14.86	15.60	1.186	0.09	0.054	0.064
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	15.18	15.60	1.102	-0.02	0.082	0.090
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	14.86	15.60	1.186	0.05	0.078	0.092
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	16.47	17.50	1.268	0.03	0.251	0.318
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	16.09	17.50	1.384	0.02	0.275	0.380
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	16.47	17.50	1.268	0.07	0.280	0.355
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	16.09	17.50	1.384	-0.01	0.219	0.303
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	16.47	17.50	1.268	0.05	0.088	0.112
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	16.09	17.50	1.384	-0.05	0.078	0.108
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	16.47	17.50	1.268	0.01	0.089	0.113
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	16.09	17.50	1.384	0.08	0.096	0.133
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	16.79	17.50	1.178	0.03	0.036	0.042
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	16.58	17.50	1.236	0.02	0.039	0.048
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	16.79	17.50	1.178	0.01	0.035	0.041
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	16.58	17.50	1.236	-0.03	0.035	0.043
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	16.79	17.50	1.178	0.03	0.167	0.197
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	16.58	17.50	1.236	0.05	0.175	0.216
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	16.79	17.50	1.178	0.09	0.083	0.098
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	16.58	17.50	1.236	-0.07	0.085	0.105
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	17.29	17.50	1.050	-0.08	0.045	0.047
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Cheek	DSI-1	656000	3840	17.03	17.50	1.114	0.03	0.043	0.048
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	17.29	17.50	1.050	0.05	0.023	0.024
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Right Tilted	DSI-1	656000	3840	17.03	17.50	1.114	-0.01	0.024	0.027
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	17.29	17.50	1.050	0.07	0.039	0.041
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Cheek	DSI-1	656000	3840	17.03	17.50	1.114	0.05	0.033	0.037
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	17.29	17.50	1.050	0.08	0.035	0.037
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-SCS30KHz	Left Tilted	DSI-1	656000	3840	17.03	17.50	1.114	0.04	0.036	0.040

<2.4GHz WLAN SAR>

Plot No.	Band	Mode	Test Position	Antenna	Power Reduction	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)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Ant 5+7	Reduced	11	2462	20.11	21.50	1.377	100	1.000	0.03	0.260	0.358
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Ant 5+7	Reduced	11	2462	20.11	21.50	1.377	100	1.000	0.05	0.397	0.547
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Ant 5+7	Reduced	11	2462	20.11	21.50	1.377	100	1.000	0.09	0.567	0.781
17	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Ant 5+7	Reduced	11	2462	20.11	21.50	1.377	100	1.000	-0.08	0.579	**0.797**
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Ant 5+7	Reduced-Simultaneous	11	2462	13.71	15.00	1.346	100	1.000	0.03	0.065	0.087
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Ant 5+7	Reduced-Simultaneous	11	2462	13.71	15.00	1.346	100	1.000	0.01	0.081	0.109
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Ant 5+7	Reduced-Simultaneous	11	2462	13.71	15.00	1.346	100	1.000	0.07	0.146	0.196
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Ant 5+7	Reduced-Simultaneous	11	2462	13.71	15.00	1.346	100	1.000	0.09	0.163	0.219

<5GHz WLAN SAR>

Plot No.	Band	Mode	Test Position	Antenna	Power Reduction	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)
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	Ant 8+11	Reduced	58	5290	18.03	19.50	1.403	100	1.000	0.03	0.377	0.529
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	Ant 8+11	Reduced	58	5290	18.03	19.50	1.403	100	1.000	0.01	0.472	0.662
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	Ant 8+11	Reduced	58	5290	18.03	19.50	1.403	100	1.000	0.08	0.585	0.821
18	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	Ant 8+11	Reduced	58	5290	18.03	19.50	1.403	100	1.000	-0.05	0.641	**0.899**
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	Ant 8+11	Reduced-Simultaneous	58	5290	10.94	12.50	1.432	100	1.000	0.02	0.101	0.145
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	Ant 8+11	Reduced-Simultaneous	58	5290	10.94	12.50	1.432	100	1.000	0.07	0.094	0.135
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	Ant 8+11	Reduced-Simultaneous	58	5290	10.94	12.50	1.432	100	1.000	0.09	0.122	0.175
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	Ant 8+11	Reduced-Simultaneous	58	5290	10.94	12.50	1.432	100	1.000	-0.05	0.150	0.215
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	Ant 8+11	Reduced	106	5530	18.98	20.50	1.419	100	1.000	0.09	0.307	0.436
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	Ant 8+11	Reduced	106	5530	18.98	20.50	1.419	100	1.000	-0.05	0.407	0.578
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	Ant 8+11	Reduced	106	5530	18.98	20.50	1.419	100	1.000	0.07	0.605	0.859
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	Ant 8+11	Reduced	122	5610	18.77	20.50	1.489	100	1.000	0.05	0.621	0.925
19	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	Ant 8+11	Reduced	106	5530	18.98	20.50	1.419	100	1.000	-0.02	0.764	**1.084**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	Ant 8+11	Reduced	122	5610	18.77	20.50	1.489	100	1.000	0.02	0.633	0.943
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	Ant 8+11	Reduced-Simultaneous	106	5530	12.21	13.50	1.346	100	1.000	0.09	0.159	0.214
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	Ant 8+11	Reduced-Simultaneous	106	5530	12.21	13.50	1.346	100	1.000	-0.05	0.114	0.153
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	Ant 8+11	Reduced-Simultaneous	106	5530	12.21	13.50	1.346	100	1.000	0.07	0.145	0.195
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	Ant 8+11	Reduced-Simultaneous	106	5530	12.21	13.50	1.346	100	1.000	-0.06	0.193	0.260
	WLAN5.8GHz	802.11n-HT40 MCS0	Right Cheek	Ant 8+11	Reduced	151	5755	19.88	20.50	1.153	100	1.000	0.08	0.381	0.439
	WLAN5.8GHz	802.11n-HT40 MCS0	Right Tilted	Ant 8+11	Reduced	151	5755	19.88	20.50	1.153	100	1.000	-0.09	0.446	0.514
	WLAN5.8GHz	802.11n-HT40 MCS0	Left Cheek	Ant 8+11	Reduced	151	5755	19.88	20.50	1.153	100	1.000	0.04	0.649	0.749
20	WLAN5.8GHz	802.11n-HT40 MCS0	Left Tilted	Ant 8+11	Reduced	151	5755	19.88	20.50	1.153	100	1.000	-0.08	0.933	**1.076**
	WLAN5.8GHz	802.11n-HT40 MCS0	Left Tilted	Ant 8+11	Reduced	159	5795	19.78	20.50	1.180	100	1.000	0.11	0.868	1.025
	WLAN5.8GHz	802.11n-HT40 MCS0	Right Cheek	Ant 8+11	Reduced-Simultaneous	151	5755	13.62	14.50	1.225	100	1.000	0.08	0.174	0.213
	WLAN5.8GHz	802.11n-HT40 MCS0	Right Tilted	Ant 8+11	Reduced-Simultaneous	151	5755	13.62	14.50	1.225	100	1.000	-0.09	0.159	0.195
	WLAN5.8GHz	802.11n-HT40 MCS0	Left Cheek	Ant 8+11	Reduced-Simultaneous	151	5755	13.62	14.50	1.225	100	1.000	0.04	0.155	0.190
	WLAN5.8GHz	802.11n-HT40 MCS0	Left Tilted	Ant 8+11	Reduced-Simultaneous	151	5755	13.62	14.50	1.225	100	1.000	-0.07	0.226	0.277

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Antenna	Power Reduction	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)
	Bluetooth	1Mbps	Right Cheek	Ant 5	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.03	0.134	0.216
	Bluetooth	1Mbps	Right Tilted	Ant 5	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.01	0.159	0.256
21	Bluetooth	1Mbps	Left Cheek	Ant 5	Full	39	2441	15.07	16.00	1.239	76.83	1.302	-0.17	0.322	**0.519**
	Bluetooth	1Mbps	Left Tilted	Ant 5	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.05	0.286	0.461
	Bluetooth	1Mbps	Right Cheek	Ant 5	Reduced-Simultaneous	39	2441	10.13	11.00	1.222	76.83	1.302	0.03	0.071	0.113
	Bluetooth	1Mbps	Right Tilted	Ant 5	Reduced-Simultaneous	39	2441	10.13	11.00	1.222	76.83	1.302	0.01	0.095	0.151
	Bluetooth	1Mbps	Left Cheek	Ant 5	Reduced-Simultaneous	39	2441	10.13	11.00	1.222	76.83	1.302	-0.02	0.157	0.250
	Bluetooth	1Mbps	Left Tilted	Ant 5	Reduced-Simultaneous	39	2441	10.13	11.00	1.222	76.83	1.302	0.05	0.140	0.223
	Bluetooth	1Mbps	Right Cheek	Ant 7	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.03	0.101	0.147
	Bluetooth	1Mbps	Right Tilted	Ant 7	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.04	0.035	0.051
	Bluetooth	1Mbps	Left Cheek	Ant 7	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.05	0.262	0.381
	Bluetooth	1Mbps	Left Tilted	Ant 7	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.01	0.066	0.096
	Bluetooth	1Mbps	Right Cheek	Ant 7	Reduced-Simultaneous	39	2441	11.38	12.00	1.153	76.83	1.302	0.03	0.062	0.093
	Bluetooth	1Mbps	Right Tilted	Ant 7	Reduced-Simultaneous	39	2441	11.38	12.00	1.153	76.83	1.302	0.04	0.024	0.036
	Bluetooth	1Mbps	Left Cheek	Ant 7	Reduced-Simultaneous	39	2441	11.38	12.00	1.153	76.83	1.302	0.07	0.172	0.258
	Bluetooth	1Mbps	Left Tilted	Ant 7	Reduced-Simultaneous	39	2441	11.38	12.00	1.153	76.83	1.302	0.01	0.146	0.219

16.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	GSM850_Ant 1	GPRS 4 Tx slot	Front	10mm	DSI-5	128	824.2	26.73	28.00	1.340	0.01	0.160	0.214
22	GSM850_Ant 1	GPRS 4 Tx slot	Back	10mm	DSI-5	128	824.2	26.73	28.00	1.340	-0.05	0.317	**0.425**
	GSM850_Ant 1	GPRS 4 Tx slot	Right Side	10mm	DSI-5	128	824.2	26.73	28.00	1.340	0.07	0.068	0.091
	GSM850_Ant 1	GPRS 4 Tx slot	Bottom Side	10mm	DSI-5	128	824.2	26.73	28.00	1.340	0.04	0.138	0.185
	GSM850_Ant 4	GPRS 4 Tx slots	Front	10mm	DSI-5	189	836.4	25.79	27.00	1.321	0.03	0.159	0.210
	GSM850_Ant 4	GPRS 4 Tx slots	Back	10mm	DSI-5	189	836.4	25.79	27.00	1.321	0.07	0.126	0.166
	GSM850_Ant 4	GPRS 4 Tx slots	Left Side	10mm	DSI-5	189	836.4	25.79	27.00	1.321	-0.06	0.194	0.256
	GSM850_Ant 4	GPRS 4 Tx slots	Top Side	10mm	DSI-5	189	836.4	25.79	27.00	1.321	0.04	0.099	0.131
	GSM1900_Ant 2	GPRS 4 Tx slot	Front	10mm	DSI-5	661	1880	24.12	25.50	1.374	0.08	0.211	0.290
	GSM1900_Ant 2	GPRS 4 Tx slot	Back	10mm	DSI-5	661	1880	24.12	25.50	1.374	0.02	0.461	0.633
	GSM1900_Ant 2	GPRS 4 Tx slot	Left Side	10mm	DSI-5	661	1880	24.12	25.50	1.374	0.07	0.137	0.188
23	GSM1900_Ant 2	GPRS 4 Tx slot	Bottom Side	10mm	DSI-5	661	1880	24.12	25.50	1.374	0.05	0.537	**0.738**
	GSM1900_Ant 3	GPRS 4 Tx slots	Front	10mm	DSI-5	661	1880	21.47	22.50	1.268	0.08	0.074	0.094
	GSM1900_Ant 3	GPRS 4 Tx slots	Back	10mm	DSI-5	661	1880	21.47	22.50	1.268	0.01	0.054	0.068
	GSM1900_Ant 3	GPRS 4 Tx slots	Left Side	10mm	DSI-5	661	1880	21.47	22.50	1.268	-0.03	0.010	0.013
	GSM1900_Ant 3	GPRS 4 Tx slots	Top Side	10mm	DSI-5	661	1880	21.47	22.50	1.268	0.1	0.274	0.347

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	WCDMA II_Ant 2	RMC 12.2Kbps	Front	10mm	DSI-5	9400	1880	20.14	21.00	1.219	0.02	0.198	0.241
24	WCDMA II_Ant 2	RMC 12.2Kbps	Back	10mm	DSI-5	9400	1880	20.14	21.00	1.219	-0.07	0.369	**0.450**
	WCDMA II_Ant 2	RMC 12.2Kbps	Left Side	10mm	DSI-5	9400	1880	20.14	21.00	1.219	-0.08	0.263	0.321
	WCDMA II_Ant 2	RMC 12.2Kbps	Bottom Side	10mm	DSI-5	9400	1880	20.14	21.00	1.219	0.01	0.365	0.445
	WCDMA II_Ant 3	RMC 12.2Kbps	Front	10mm	DSI-5	9400	1880	17.16	17.50	1.081	-0.01	0.108	0.117
	WCDMA II_Ant 3	RMC 12.2Kbps	Back	10mm	DSI-5	9400	1880	17.16	17.50	1.081	0.09	0.082	0.089
	WCDMA II_Ant 3	RMC 12.2Kbps	Left Side	10mm	DSI-5	9400	1880	17.16	17.50	1.081	0.04	0.013	0.014
	WCDMA II_Ant 3	RMC 12.2Kbps	Top Side	10mm	DSI-5	9400	1880	17.16	17.50	1.081	-0.05	0.311	0.336
	WCDMA IV_Ant 2	RMC 12.2Kbps	Front	10mm	DSI-5	1413	1732.6	20.98	22.00	1.265	0.07	0.161	0.204
25	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	DSI-5	1413	1732.6	20.98	22.00	1.265	-0.05	0.347	**0.439**
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Side	10mm	DSI-5	1413	1732.6	20.98	22.00	1.265	-0.03	0.129	0.163
	WCDMA IV_Ant 2	RMC 12.2Kbps	Bottom Side	10mm	DSI-5	1413	1732.6	20.98	22.00	1.265	0.04	0.297	0.376
	WCDMA IV_Ant 3	RMC 12.2Kbps	Front	10mm	DSI-5	1413	1732.6	17.18	17.50	1.076	0.02	0.193	0.208
	WCDMA IV_Ant 3	RMC 12.2Kbps	Back	10mm	DSI-5	1413	1732.6	17.18	17.50	1.076	0.03	0.137	0.147
	WCDMA IV_Ant 3	RMC 12.2Kbps	Left Side	10mm	DSI-5	1413	1732.6	17.18	17.50	1.076	0.05	0.021	0.023
	WCDMA IV_Ant 3	RMC 12.2Kbps	Top Side	10mm	DSI-5	1413	1732.6	17.18	17.50	1.076	-0.02	0.351	0.378
	WCDMA V_Ant 1	RMC 12.2Kbps	Front	10mm	DSI-5	4182	836.4	24.20	25.00	1.202	0.03	0.284	0.341
26`	WCDMA V_Ant 1	RMC 12.2Kbps	Back	10mm	DSI-5	4182	836.4	24.20	25.00	1.202	-0.08	0.449	**0.540**
	WCDMA V_Ant 1	RMC 12.2Kbps	Right Side	10mm	DSI-5	4182	836.4	24.20	25.00	1.202	0.01	0.134	0.161
	WCDMA V_Ant 1	RMC 12.2Kbps	Bottom Side	10mm	DSI-5	4182	836.4	24.20	25.00	1.202	-0.05	0.251	0.302
	WCDMA V_Ant 4	RMC 12.2Kbps	Front	10mm	DSI-5	4182	836.4	22.34	23.00	1.164	0.09	0.170	0.198
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	10mm	DSI-5	4182	836.4	22.34	23.00	1.164	0.05	0.134	0.156
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Side	10mm	DSI-5	4182	836.4	22.34	23.00	1.164	-0.07	0.179	0.208
	WCDMA V_Ant 4	RMC 12.2Kbps	Top Side	10mm	DSI-5	4182	836.4	22.34	23.00	1.164	0.02	0.108	0.126

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 2_Ant 2	20M	QPSK	1	0	Front	10mm	DSI-5	18900	1880	18.61	19.50	1.227	0.02	0.085	0.104
	LTE Band 2_Ant 2	20M	QPSK	50	0	Front	10mm	DSI-5	18900	1880	18.46	19.50	1.271	0.03	0.086	0.109
	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	10mm	DSI-5	18900	1880	18.61	19.50	1.227	-0.04	0.147	0.180
	LTE Band 2_Ant 2	20M	QPSK	50	0	Back	10mm	DSI-5	18900	1880	18.46	19.50	1.271	0.08	0.144	0.183
	LTE Band 2_Ant 2	20M	QPSK	1	0	Left Side	10mm	DSI-5	18900	1880	18.61	19.50	1.227	0.07	0.112	0.137
	LTE Band 2_Ant 2	20M	QPSK	50	0	Left Side	10mm	DSI-5	18900	1880	18.46	19.50	1.271	0.01	0.113	0.144
27	LTE Band 2_Ant 2	20M	QPSK	1	0	Bottom Side	10mm	DSI-5	18900	1880	18.61	19.50	1.227	0.17	0.386	**0.474**
	LTE Band 2_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	18900	1880	18.46	19.50	1.271	0.06	0.370	0.470
	LTE Band 2_Ant 6	20M	QPSK	1	0	Front	10mm	DSI-5	18900	1880	21.44	22.20	1.191	0.11	0.082	0.098
	LTE Band 2_Ant 6	20M	QPSK	50	0	Front	10mm	DSI-5	18900	1880	21.26	22.20	1.242	0.01	0.089	0.111
	LTE Band 2_Ant 6	20M	QPSK	1	0	Back	10mm	DSI-5	18900	1880	21.44	22.20	1.191	-0.16	0.089	0.106
	LTE Band 2_Ant 6	20M	QPSK	50	0	Back	10mm	DSI-5	18900	1880	21.26	22.20	1.242	0.13	0.096	0.119
	LTE Band 2_Ant 6	20M	QPSK	1	0	Left Side	10mm	DSI-5	18900	1880	21.44	22.20	1.191	0.06	0.239	0.285
	LTE Band 2_Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI-5	18900	1880	21.26	22.20	1.242	-0.13	0.259	0.322
	LTE Band 2_Ant 6	20M	QPSK	1	0	Top Side	10mm	DSI-5	18900	1880	21.44	22.20	1.191	-0.07	0.026	0.031
	LTE Band 2_Ant 6	20M	QPSK	50	0	Top Side	10mm	DSI-5	18900	1880	21.26	22.20	1.242	-0.08	0.023	0.029
	LTE Band 5_Ant 1	10M	QPSK	1	0	Front	10mm	DSI-5	20525	836.5	24.45	25.50	1.274	0.04	0.191	0.243
	LTE Band 5_Ant 1	10M	QPSK	25	0	Front	10mm	DSI-5	20525	836.5	23.49	24.50	1.262	-0.09	0.156	0.197
28	LTE Band 5_Ant 1	10M	QPSK	1	0	Back	10mm	DSI-5	20525	836.5	24.45	25.50	1.274	-0.02	0.428	**0.545**
	LTE Band 5_Ant 1	10M	QPSK	25	0	Back	10mm	DSI-5	20525	836.5	23.49	24.50	1.262	-0.13	0.335	0.423
	LTE Band 5_Ant 1	10M	QPSK	1	0	Left Side	10mm	DSI-5	20525	836.5	24.45	25.50	1.274	0.07	0.142	0.181
	LTE Band 5_Ant 1	10M	QPSK	25	0	Left Side	10mm	DSI-5	20525	836.5	23.49	24.50	1.262	0.08	0.113	0.143
	LTE Band 5_Ant 1	10M	QPSK	1	0	Right Side	10mm	DSI-5	20525	836.5	24.45	25.50	1.274	-0.14	0.167	0.213
	LTE Band 5_Ant 1	10M	QPSK	25	0	Right Side	10mm	DSI-5	20525	836.5	23.49	24.50	1.262	-0.1	0.135	0.170
	LTE Band 5_Ant 1	10M	QPSK	1	0	Bottom Side	10mm	DSI-5	20525	836.5	24.45	25.50	1.274	0.13	0.353	0.450
	LTE Band 5_Ant 1	10M	QPSK	25	0	Bottom Side	10mm	DSI-5	20525	836.5	23.49	24.50	1.262	-0.1	0.284	0.358
	LTE Band 5_Ant 4	10M	QPSK	1	0	Front	10mm	DSI-5	20525	836.5	20.38	21.60	1.324	0.02	0.090	0.119
	LTE Band 5_Ant 4	10M	QPSK	25	0	Front	10mm	DSI-5	20525	836.5	20.31	21.60	1.346	0.03	0.104	0.140
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	10mm	DSI-5	20525	836.5	20.38	21.60	1.324	-0.06	0.089	0.118
	LTE Band 5_Ant 4	10M	QPSK	25	0	Back	10mm	DSI-5	20525	836.5	20.31	21.60	1.346	0.01	0.097	0.131
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Side	10mm	DSI-5	20525	836.5	20.38	21.60	1.324	0.08	0.090	0.119
	LTE Band 5_Ant 4	10M	QPSK	25	0	Left Side	10mm	DSI-5	20525	836.5	20.31	21.60	1.346	-0.09	0.094	0.127
	LTE Band 5_Ant 4	10M	QPSK	1	0	Top Side	10mm	DSI-5	20525	836.5	20.38	21.60	1.324	-0.04	0.174	0.230
	LTE Band 5_Ant 4	10M	QPSK	25	0	Top Side	10mm	DSI-5	20525	836.5	20.31	21.60	1.346	0.05	0.146	0.196

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 7_Ant 2	20M	QPSK	1	0	Front	10mm	DSI-5	21100	2535	18.80	19.50	1.175	0.02	0.063	0.074
	LTE Band 7_Ant 2	20M	QPSK	50	0	Front	10mm	DSI-5	21100	2535	18.79	19.50	1.178	0.04	0.062	0.073
	LTE Band 7_Ant 2	20M	QPSK	1	0	Back	10mm	DSI-5	21100	2535	18.80	19.50	1.175	0.01	0.102	0.120
	LTE Band 7_Ant 2	20M	QPSK	50	0	Back	10mm	DSI-5	21100	2535	18.79	19.50	1.178	0.05	0.104	0.122
	LTE Band 7_Ant 2	20M	QPSK	1	0	Left Side	10mm	DSI-5	21100	2535	18.80	19.50	1.175	-0.03	0.045	0.053
	LTE Band 7_Ant 2	20M	QPSK	50	0	Left Side	10mm	DSI-5	21100	2535	18.79	19.50	1.178	0.05	0.044	0.052
	LTE Band 7_Ant 2	20M	QPSK	1	0	Bottom Side	10mm	DSI-5	21100	2535	18.80	19.50	1.175	0.08	0.423	0.497
29	LTE Band 7_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	21100	2535	18.79	19.50	1.178	-0.02	0.438	**0.516**
	LTE Band 7C_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	21100+20902	2535+2515.2	18.79	19.50	1.178	-0.12	0.396	0.466
	LTE Band 7_Ant 3	20M	QPSK	1	0	Front	10mm	DSI-5	21100	2535	13.95	15.00	1.274	0.09	0.070	0.089
	LTE Band 7_Ant 3	20M	QPSK	50	0	Front	10mm	DSI-5	21100	2535	13.81	15.00	1.315	0.1	0.069	0.091
	LTE Band 7_Ant 3	20M	QPSK	1	0	Back	10mm	DSI-5	21100	2535	13.95	15.00	1.274	-0.1	0.055	0.070
	LTE Band 7_Ant 3	20M	QPSK	50	0	Back	10mm	DSI-5	21100	2535	13.81	15.00	1.315	0.15	0.057	0.075
	LTE Band 7_Ant 3	20M	QPSK	1	0	Left Side	10mm	DSI-5	21100	2535	13.95	15.00	1.274	0.08	0.035	0.045
	LTE Band 7_Ant 3	20M	QPSK	50	0	Left Side	10mm	DSI-5	21100	2535	13.81	15.00	1.315	0.02	0.034	0.045
	LTE Band 7_Ant 3	20M	QPSK	1	0	Top Side	10mm	DSI-5	21100	2535	13.95	15.00	1.274	-0.03	0.171	0.218
	LTE Band 7_Ant 3	20M	QPSK	50	0	Top Side	10mm	DSI-5	21100	2535	13.81	15.00	1.315	-0.12	0.183	0.241
	LTE Band 7C_Ant 3	20M	QPSK	50	0	Top Side	10mm	DSI-5	21100+20902	2535+2515.2	14.08	15.00	1.236	0.03	0.166	0.205
	LTE Band 7_Ant 6	20M	QPSK	1	0	Front	10mm	DSI-5	21100	2535	19.20	19.50	1.072	0.05	0.071	0.076
	LTE Band 7_Ant 6	20M	QPSK	50	0	Front	10mm	DSI-5	21100	2535	19.10	19.50	1.096	-0.03	0.075	0.082
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	10mm	DSI-5	21100	2535	19.20	19.50	1.072	-0.11	0.071	0.076
	LTE Band 7_Ant 6	20M	QPSK	50	0	Back	10mm	DSI-5	21100	2535	19.10	19.50	1.096	0.06	0.072	0.079
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Side	10mm	DSI-5	21100	2535	19.20	19.50	1.072	0.17	0.230	0.246
	LTE Band 7_Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI-5	21100	2535	19.10	19.50	1.096	0.05	0.244	0.268
	LTE Band 7C_Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI-5	21100+20902	2535+2515.2	18.87	19.50	1.156	0.08	0.223	0.258
	LTE Band 7_Ant 7	20M	QPSK	1	0	Front	10mm	DSI-5	21100	2535	18.99	19.60	1.151	0.08	0.080	0.092
	LTE Band 7_Ant 7	20M	QPSK	50	0	Front	10mm	DSI-5	21100	2535	18.88	19.60	1.180	0.07	0.092	0.109
	LTE Band 7_Ant 7	20M	QPSK	1	0	Back	10mm	DSI-5	21100	2535	18.99	19.60	1.151	-0.07	0.074	0.085
	LTE Band 7_Ant 7	20M	QPSK	50	0	Back	10mm	DSI-5	21100	2535	18.88	19.60	1.180	0.16	0.088	0.104
	LTE Band 7_Ant 7	20M	QPSK	1	0	Left Side	10mm	DSI-5	21100	2535	18.99	19.60	1.151	0.11	0.007	0.008
	LTE Band 7_Ant 7	20M	QPSK	50	0	Left Side	10mm	DSI-5	21100	2535	18.88	19.60	1.180	0.16	0.007	0.008
	LTE Band 7_Ant 7	20M	QPSK	1	0	Right Side	10mm	DSI-5	21100	2535	18.99	19.60	1.151	-0.01	0.288	0.331
	LTE Band 7_Ant 7	20M	QPSK	50	0	Right Side	10mm	DSI-5	21100	2535	18.88	19.60	1.180	-0.11	0.334	0.394
	LTE Band 7_Ant 7	20M	QPSK	1	0	Top Side	10mm	DSI-5	21100	2535	18.99	19.60	1.151	0.17	0.056	0.064
	LTE Band 7_Ant 7	20M	QPSK	50	0	Top Side	10mm	DSI-5	21100	2535	18.88	19.60	1.180	0.08	0.068	0.080
	LTE Band 7C_Ant 7	20M	QPSK	50	0	Right Side	10mm	DSI-5	21100+20902	2535+2515.2	19.04	19.60	1.138	-0.13	0.314	0.357

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 12_Ant 1	10M	QPSK	1	0	Front	10mm	DSI-5	23095	707.5	23.64	24.50	1.219	0.06	0.143	0.174
	LTE Band 12_Ant 1	10M	QPSK	25	0	Front	10mm	DSI-5	23095	707.5	23.35	24.50	1.303	-0.01	0.120	0.156
30	LTE Band 12_Ant 1	10M	QPSK	1	0	Back	10mm	DSI-5	23095	707.5	23.64	24.50	1.219	-0.09	0.291	**0.355**
	LTE Band 12_Ant 1	10M	QPSK	25	0	Back	10mm	DSI-5	23095	707.5	23.35	24.50	1.303	-0.04	0.219	0.285
	LTE Band 12_Ant 1	10M	QPSK	1	0	Right Side	10mm	DSI-5	23095	707.5	23.64	24.50	1.219	0.05	0.159	0.194
	LTE Band 12_Ant 1	10M	QPSK	25	0	Right Side	10mm	DSI-5	23095	707.5	23.35	24.50	1.303	-0.08	0.136	0.177
	LTE Band 12_Ant 1	10M	QPSK	1	0	Bottom Side	10mm	DSI-5	23095	707.5	23.64	24.50	1.219	0.1	0.230	0.280
	LTE Band 12_Ant 1	10M	QPSK	25	0	Bottom Side	10mm	DSI-5	23095	707.5	23.35	24.50	1.303	0.01	0.193	0.252
	LTE Band 12_Ant 4	10M	QPSK	1	0	Front	10mm	DSI-5	23095	707.5	22.21	23.50	1.346	0.11	0.095	0.128
	LTE Band 12_Ant 4	10M	QPSK	25	0	Front	10mm	DSI-5	23095	707.5	22.14	23.50	1.368	0.14	0.085	0.116
	LTE Band 12_Ant 4	10M	QPSK	1	0	Back	10mm	DSI-5	23095	707.5	22.21	23.50	1.346	-0.06	0.127	0.171
	LTE Band 12_Ant 4	10M	QPSK	25	0	Back	10mm	DSI-5	23095	707.5	22.14	23.50	1.368	-0.16	0.108	0.148
	LTE Band 12_Ant 4	10M	QPSK	1	0	Left Side	10mm	DSI-5	23095	707.5	22.21	23.50	1.346	-0.15	0.118	0.159
	LTE Band 12_Ant 4	10M	QPSK	25	0	Left Side	10mm	DSI-5	23095	707.5	22.14	23.50	1.368	0.01	0.100	0.137
	LTE Band 12_Ant 4	10M	QPSK	1	0	Top Side	10mm	DSI-5	23095	707.5	22.21	23.50	1.346	-0.08	0.106	0.143
	LTE Band 12_Ant 4	10M	QPSK	25	0	Top Side	10mm	DSI-5	23095	707.5	22.14	23.50	1.368	0.03	0.092	0.126
	LTE Band 66_Ant 2	20M	QPSK	1	0	Front	10mm	DSI-5	132322	1745	20.29	21.50	1.321	0.03	0.102	0.135
	LTE Band 66_Ant 2	20M	QPSK	50	0	Front	10mm	DSI-5	132322	1745	20.15	21.50	1.365	0.05	0.098	0.134
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	10mm	DSI-5	132322	1745	20.29	21.50	1.321	0.07	0.191	0.252
	LTE Band 66_Ant 2	20M	QPSK	50	0	Back	10mm	DSI-5	132322	1745	20.15	21.50	1.365	0.04	0.187	0.255
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Side	10mm	DSI-5	132322	1745	20.29	21.50	1.321	-0.05	0.122	0.161
	LTE Band 66_Ant 2	20M	QPSK	50	0	Left Side	10mm	DSI-5	132322	1745	20.15	21.50	1.365	0.01	0.122	0.166
	LTE Band 66_Ant 2	20M	QPSK	1	0	Bottom Side	10mm	DSI-5	132322	1745	20.29	21.50	1.321	0.06	0.540	0.713
31	LTE Band 66_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	132322	1745	20.15	21.50	1.365	0.19	0.530	**0.723**
	LTE Band 66_Ant 6	20M	QPSK	1	0	Front	10mm	DSI-5	132322	1745	20.44	21.00	1.138	0.11	0.126	0.143
	LTE Band 66_Ant 6	20M	QPSK	50	0	Front	10mm	DSI-5	132322	1745	20.05	21.00	1.245	-0.06	0.116	0.144
	LTE Band 66_Ant 6	20M	QPSK	1	0	Back	10mm	DSI-5	132322	1745	20.44	21.00	1.138	0.15	0.078	0.089
	LTE Band 66_Ant 6	20M	QPSK	50	0	Back	10mm	DSI-5	132322	1745	20.05	21.00	1.245	0.02	0.073	0.091
	LTE Band 66_Ant 6	20M	QPSK	1	0	Left Side	10mm	DSI-5	132322	1745	20.44	21.00	1.138	0.01	0.197	0.224
	LTE Band 66_Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI-5	132322	1745	20.05	21.00	1.245	-0.11	0.174	0.217
	LTE Band 4_Ant 3	20M	QPSK	1	0	Front	10mm	DSI-5	20175	1732.5	17.49	17.90	1.099	-0.15	0.166	0.182
	LTE Band 4_Ant 3	20M	QPSK	50	0	Front	10mm	DSI-5	20175	1732.5	17.40	17.90	1.122	-0.1	0.139	0.156
	LTE Band 4_Ant 3	20M	QPSK	1	0	Back	10mm	DSI-5	20175	1732.5	17.49	17.90	1.099	0.06	0.136	0.149
	LTE Band 4_Ant 3	20M	QPSK	50	0	Back	10mm	DSI-5	20175	1732.5	17.40	17.90	1.122	0.04	0.115	0.129
	LTE Band 4_Ant 3	20M	QPSK	1	0	Left Side	10mm	DSI-5	20175	1732.5	17.49	17.90	1.099	-0.12	0.023	0.025
	LTE Band 4_Ant 3	20M	QPSK	50	0	Left Side	10mm	DSI-5	20175	1732.5	17.40	17.90	1.122	-0.11	0.018	0.020
32	LTE Band 4_Ant 3	20M	QPSK	1	0	Top Side	10mm	DSI-5	20175	1732.5	17.49	17.90	1.099	-0.06	0.355	**0.390**
	LTE Band 4_Ant 3	20M	QPSK	50	0	Top Side	10mm	DSI-5	20175	1732.5	17.40	17.90	1.122	-0.04	0.298	0.334
	LTE Band 4_Ant 7	20M	QPSK	1	0	Front	10mm	DSI-5	20175	1732.5	20.79	21.30	1.125	0.12	0.078	0.088
	LTE Band 4_Ant 7	20M	QPSK	50	0	Front	10mm	DSI-5	20175	1732.5	19.90	20.30	1.096	-0.07	0.056	0.061
	LTE Band 4_Ant 7	20M	QPSK	1	0	Back	10mm	DSI-5	20175	1732.5	20.79	21.30	1.125	0.17	0.085	0.096
	LTE Band 4_Ant 7	20M	QPSK	50	0	Back	10mm	DSI-5	20175	1732.5	19.90	20.30	1.096	0.04	0.063	0.069
	LTE Band 4_Ant 7	20M	QPSK	1	0	Right Side	10mm	DSI-5	20175	1732.5	20.79	21.30	1.125	-0.16	0.398	0.328
	LTE Band 4_Ant 7	20M	QPSK	50	0	Right Side	10mm	DSI-5	20175	1732.5	19.90	20.30	1.096	0.11	0.294	0.318
	LTE Band 4_Ant 7	20M	QPSK	1	0	Top Side	10mm	DSI-5	20175	1732.5	20.79	21.30	1.125	0.12	0.026	0.029
	LTE Band 4_Ant 7	20M	QPSK	50	0	Top Side	10mm	DSI-5	20175	1732.5	19.90	20.30	1.096	0.02	0.025	0.027

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 41_Ant 2	20M	QPSK	1	0	Front	10mm	DSI-5	40620	2593	21.76	22.50	1.186	62.9	1.006	0.03	0.089	0.106
	LTE Band 41_Ant 2	20M	QPSK	50	0	Front	10mm	DSI-5	40620	2593	21.67	22.50	1.211	62.9	1.006	0.02	0.090	0.110
	LTE Band 41_Ant 2	20M	QPSK	1	0	Back	10mm	DSI-5	40620	2593	21.76	22.50	1.186	62.9	1.006	0.05	0.132	0.157
	LTE Band 41_Ant 2	20M	QPSK	50	0	Back	10mm	DSI-5	40620	2593	21.67	22.50	1.211	62.9	1.006	-0.09	0.137	0.167
	LTE Band 41_Ant 2	20M	QPSK	1	0	Left Side	10mm	DSI-5	40620	2593	21.76	22.50	1.186	62.9	1.006	0.04	0.058	0.069
	LTE Band 41_Ant 2	20M	QPSK	50	0	Left Side	10mm	DSI-5	40620	2593	21.67	22.50	1.211	62.9	1.006	0.08	0.059	0.072
	LTE Band 41_Ant 2	20M	QPSK	1	0	Bottom Side	10mm	DSI-5	40620	2593	21.76	22.50	1.186	62.9	1.006	-0.04	0.502	0.599
33	LTE Band 41_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	40620	2593	21.67	22.50	1.211	62.9	1.006	-0.05	0.531	**0.647**
	LTE Band 41_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	39750	2506	21.49	22.50	1.262	62.9	1.006	-0.05	0.502	0.637
	LTE Band 41_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	40185	2549.5	21.43	22.50	1.279	62.9	1.006	-0.05	0.499	0.642
	LTE Band 41_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	41055	2636.5	21.37	22.50	1.297	62.9	1.006	-0.05	0.494	0.645
	LTE Band 41_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	41490	2680	21.38	22.50	1.294	62.9	1.006	-0.05	0.490	0.638
	LTE Band 41_Ant 2	20M	QPSK	100	0	Bottom Side	10mm	DSI-5	40620	2593	21.66	22.50	1.213	62.9	1.006	-0.05	0.467	0.570
	LTE Band 38C_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	37901+38099	2585.1+2604.9	21.82	22.50	1.169	62.9	1.006	-0.03	0.512	0.602
	LTE Band 41_Ant 3	20M	QPSK	1	0	Front	10mm	DSI-5	40620	2593	16.43	17.50	1.279	62.9	1.006	0.02	0.074	0.095
	LTE Band 41_Ant 3	20M	QPSK	50	0	Front	10mm	DSI-5	40620	2593	16.37	17.50	1.297	62.9	1.006	0.06	0.074	0.097
	LTE Band 41_Ant 3	20M	QPSK	1	0	Back	10mm	DSI-5	40620	2593	16.43	17.50	1.279	62.9	1.006	0.04	0.058	0.075
	LTE Band 41_Ant 3	20M	QPSK	50	0	Back	10mm	DSI-5	40620	2593	16.37	17.50	1.297	62.9	1.006	-0.02	0.058	0.076
	LTE Band 41_Ant 3	20M	QPSK	1	0	Left Side	10mm	DSI-5	40620	2593	16.43	17.50	1.279	62.9	1.006	0.07	0.029	0.037
	LTE Band 41_Ant 3	20M	QPSK	50	0	Left Side	10mm	DSI-5	40620	2593	16.37	17.50	1.297	62.9	1.006	0.09	0.029	0.038
	LTE Band 41_Ant 3	20M	QPSK	1	0	Top Side	10mm	DSI-5	40620	2593	16.43	17.50	1.279	62.9	1.006	-0.05	0.170	0.219
	LTE Band 41_Ant 3	20M	QPSK	50	0	Top Side	10mm	DSI-5	40620	2593	16.37	17.50	1.297	62.9	1.006	0.01	0.192	0.251
	LTE Band 38C_Ant 3	20M	QPSK	50	0	Top Side	10mm	DSI-5	37901+38099	2585.1+2604.9	16.64	17.50	1.219	62.9	1.006	-0.03	0.161	0.197
	LTE Band 41_Ant 6	20M	QPSK	1	0	Front	10mm	DSI-5	40620	2593	21.13	21.50	1.089	62.9	1.006	0.09	0.093	0.102
	LTE Band 41_Ant 6	20M	QPSK	50	0	Front	10mm	DSI-5	40620	2593	20.94	21.50	1.138	62.9	1.006	-0.1	0.095	0.109
	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	10mm	DSI-5	40620	2593	21.13	21.50	1.089	62.9	1.006	-0.15	0.088	0.096
	LTE Band 41_Ant 6	20M	QPSK	50	0	Back	10mm	DSI-5	40620	2593	20.94	21.50	1.138	62.9	1.006	0.13	0.091	0.104
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Side	10mm	DSI-5	40620	2593	21.13	21.50	1.089	62.9	1.006	0.02	0.291	0.319
	LTE Band 41_Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI-5	40620	2593	20.94	21.50	1.138	62.9	1.006	0.01	0.305	0.349
	LTE Band 38C_Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI-5	37901+38099	2585.1+2604.9	20.61	21.50	1.227	62.9	1.006	0.08	0.255	0.315
	LTE Band 41_Ant 9	20M	QPSK	1	0	Front	10mm	DSI-5	40620	2593	19.89	20.50	1.151	62.9	1.006	0.02	0.080	0.093
	LTE Band 41_Ant 9	20M	QPSK	50	0	Front	10mm	DSI-5	40620	2593	18.97	19.50	1.130	62.9	1.006	0.03	0.059	0.067
	LTE Band 41_Ant 9	20M	QPSK	1	0	Back	10mm	DSI-5	40620	2593	19.89	20.50	1.151	62.9	1.006	0.05	0.117	0.135
	LTE Band 41_Ant 9	20M	QPSK	50	0	Back	10mm	DSI-5	40620	2593	18.97	19.50	1.130	62.9	1.006	0.09	0.091	0.103
	LTE Band 41_Ant 9	20M	QPSK	1	0	Right Side	10mm	DSI-5	40620	2593	19.89	20.50	1.151	62.9	1.006	-0.09	0.250	0.289
	LTE Band 41_Ant 9	20M	QPSK	50	0	Right Side	10mm	DSI-5	40620	2593	18.97	19.50	1.130	62.9	1.006	-0.02	0.190	0.216
	LTE Band 41_Ant 9	20M	QPSK	1	0	Bottom Side	10mm	DSI-5	40620	2593	19.89	20.50	1.151	62.9	1.006	0.01	0.203	0.235
	LTE Band 41_Ant 9	20M	QPSK	50	0	Bottom Side	10mm	DSI-5	40620	2593	18.97	19.50	1.130	62.9	1.006	0.05	0.159	0.181
	LTE Band 38C_Ant 9	20M	QPSK	1	0	Right Side	10mm	DSI-5	37901+38099	2585.1+2604.9	19.42	20.50	1.282	62.9	1.006	-0.16	0.214	0.276

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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)
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-15KHz	Front	10mm	DSI-5	167300	836.5	24.34	24.50	1.038	0.03	0.281	0.292
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-15KHz	Front	10mm	DSI-5	167300	836.5	24.25	24.50	1.059	-0.11	0.288	0.305
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-15KHz	Back	10mm	DSI-5	167300	836.5	24.34	24.50	1.038	0.02	0.407	0.422
34	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-15KHz	Back	10mm	DSI-5	167300	836.5	24.25	24.50	1.059	-0.06	0.424	**0.449**
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-15KHz	Right side	10mm	DSI-5	167300	836.5	24.34	24.50	1.038	0.09	0.124	0.129
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-15KHz	Right side	10mm	DSI-5	167300	836.5	24.25	24.50	1.059	0.01	0.138	0.146
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-15KHz	Bottom side	10mm	DSI-5	167300	836.5	24.34	24.50	1.038	-0.05	0.248	0.257
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-15KHz	Bottom side	10mm	DSI-5	167300	836.5	24.25	24.50	1.059	0.04	0.238	0.252
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-15KHz	Front	10mm	DSI-5	167300	836.5	21.06	21.60	1.132	0.06	0.091	0.103
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-15KHz	Front	10mm	DSI-5	167300	836.5	20.97	21.60	1.156	0.04	0.104	0.120
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-15KHz	Back	10mm	DSI-5	167300	836.5	21.06	21.60	1.132	0.05	0.084	0.095
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-15KHz	Back	10mm	DSI-5	167300	836.5	20.97	21.60	1.156	-0.02	0.066	0.076
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-15KHz	Left side	10mm	DSI-5	167300	836.5	21.06	21.60	1.132	0.05	0.121	0.137
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-15KHz	Left side	10mm	DSI-5	167300	836.5	20.97	21.60	1.156	0.03	0.144	0.166
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-15KHz	Top side	10mm	DSI-5	167300	836.5	21.06	21.60	1.132	0.04	0.076	0.086
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-15KHz	Top side	10mm	DSI-5	167300	836.5	20.97	21.60	1.156	0.07	0.085	0.098
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-15KHz	Front	10mm	DSI-5	507000	2535	18.75	19.20	1.109	0.04	0.073	0.081
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-15KHz	Front	10mm	DSI-5	507000	2535	18.66	19.20	1.132	-0.03	0.081	0.092
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-15KHz	Back	10mm	DSI-5	507000	2535	18.75	19.20	1.109	0.08	0.145	0.161
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-15KHz	Back	10mm	DSI-5	507000	2535	18.66	19.20	1.132	0.01	0.158	0.179
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	18.75	19.20	1.109	0.08	0.035	0.039
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	18.66	19.20	1.132	0.01	0.035	0.040
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-15KHz	Bottom side	10mm	DSI-5	507000	2535	18.75	19.20	1.109	-0.03	0.310	0.344
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-15KHz	Bottom side	10mm	DSI-5	507000	2535	18.66	19.20	1.132	0.14	0.346	0.392
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-15KHz	Front	10mm	DSI-5	507000	2535	16.10	16.50	1.096	-0.06	0.133	0.146
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-15KHz	Front	10mm	DSI-5	507000	2535	15.75	16.50	1.189	0.09	0.119	0.141
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-15KHz	Back	10mm	DSI-5	507000	2535	16.10	16.50	1.096	0.05	0.108	0.118
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-15KHz	Back	10mm	DSI-5	507000	2535	15.75	16.50	1.189	0.08	0.098	0.116
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	16.10	16.50	1.096	0.01	0.058	0.064
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	15.75	16.50	1.189	-0.07	0.051	0.061
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-15KHz	Top side	10mm	DSI-5	507000	2535	16.10	16.50	1.096	0.11	0.330	0.362
35	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-15KHz	Top side	10mm	DSI-5	507000	2535	15.75	16.50	1.189	-0.04	0.344	**0.409**
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-15KHz	Front	10mm	DSI-5	507000	2535	17.83	18.00	1.040	0.11	0.077	0.080
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-15KHz	Front	10mm	DSI-5	507000	2535	17.63	18.00	1.089	-0.05	0.073	0.079
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-15KHz	Back	10mm	DSI-5	507000	2535	17.83	18.00	1.040	0.08	0.103	0.107
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-15KHz	Back	10mm	DSI-5	507000	2535	17.63	18.00	1.089	0.01	0.096	0.105
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	17.83	18.00	1.040	-0.19	0.226	0.235
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	17.63	18.00	1.089	0.03	0.215	0.234
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Front	10mm	DSI-5	507000	2535	18.95	19.40	1.109	0.01	0.072	0.080
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Front	10mm	DSI-5	507000	2535	18.80	19.40	1.148	-0.06	0.075	0.086
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Back	10mm	DSI-5	507000	2535	18.95	19.40	1.109	0.08	0.094	0.104
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Back	10mm	DSI-5	507000	2535	18.80	19.40	1.148	0.04	0.092	0.106
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	18.95	19.40	1.109	0.11	0.004	0.004
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Left side	10mm	DSI-5	507000	2535	18.80	19.40	1.148	0.06	0.004	0.005
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Right side	10mm	DSI-5	507000	2535	18.95	19.40	1.109	0.07	0.233	0.258
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Right side	10mm	DSI-5	507000	2535	18.80	19.40	1.148	-0.07	0.268	0.308
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Top side	10mm	DSI-5	507000	2535	18.95	19.40	1.109	0.01	0.033	0.037
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Top side	10mm	DSI-5	507000	2535	18.80	19.40	1.148	-0.09	0.045	0.052

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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)
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	18.19	19.5	1.352	0.01	0.118	0.160
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	18.17	19.5	1.358	0.08	0.144	0.196
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	18.19	19.5	1.352	0.06	0.178	0.241
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	18.17	19.5	1.358	-0.01	0.217	0.295
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	18.19	19.5	1.352	0.05	0.047	0.064
	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	18.17	19.5	1.358	0.11	0.053	0.072
	FR1 n41_Ant 2 SA	100M	QPSK	1	1	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	18.19	19.5	1.352	0.08	0.353	0.477
36	FR1 n41_Ant 2 SA	100M	QPSK	135	69	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	18.17	19.5	1.358	-0.05	0.436	**0.592**
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	17.06	17.50	1.107	0.08	0.166	0.184
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	16.99	17.50	1.125	-0.03	0.170	0.191
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	17.06	17.50	1.107	0.01	0.117	0.129
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	16.99	17.50	1.125	0.16	0.111	0.125
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	17.06	17.50	1.107	0.03	0.052	0.058
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	16.99	17.50	1.125	0.01	0.043	0.048
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	518598	2592.99	17.06	17.50	1.107	0.05	0.464	0.513
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	518598	2592.99	16.99	17.50	1.125	0.02	0.473	0.532
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	18.17	18.50	1.079	0.02	0.076	0.082
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	17.93	18.50	1.140	0.09	0.093	0.106
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	18.17	18.50	1.079	0.04	0.104	0.112
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	17.93	18.50	1.140	-0.06	0.123	0.140
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	18.17	18.50	1.079	0.11	0.193	0.208
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	17.93	18.50	1.140	-0.03	0.257	0.293
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	18.99	19.10	1.026	-0.01	0.154	0.158
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	18.61	19.10	1.119	0.07	0.103	0.115
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	18.99	19.10	1.026	0.05	0.238	0.244
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	18.61	19.10	1.119	0.09	0.162	0.181
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	18.99	19.10	1.026	-0.13	0.501	0.514
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	18.61	19.10	1.119	-0.02	0.331	0.371
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	18.99	19.10	1.026	0.07	0.287	0.294
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	18.61	19.10	1.119	0.11	0.231	0.259
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	14.98	16.00	1.265	-0.04	0.058	0.073
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	14.62	16.00	1.374	0.07	0.095	0.131
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	14.98	16.00	1.265	0.04	0.102	0.129
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	14.62	16.00	1.374	0.11	0.132	0.181
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	14.98	16.00	1.265	0.07	0.017	0.022
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	14.62	16.00	1.374	0.01	0.023	0.032
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	14.98	16.00	1.265	-0.05	0.041	0.052
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	14.62	16.00	1.374	0.01	0.046	0.063
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	14.98	16.00	1.265	-0.04	0.220	0.278
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	14.62	16.00	1.374	-0.08	0.281	0.386
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	15.14	16.00	1.219	0.07	0.107	0.130
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	14.95	16.00	1.274	0.01	0.108	0.138
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	15.14	16.00	1.219	-0.03	0.087	0.106
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	14.95	16.00	1.274	0.11	0.082	0.104
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	15.14	16.00	1.219	0.08	0.031	0.038
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	14.95	16.00	1.274	0.07	0.026	0.033
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	15.14	16.00	1.219	-0.08	0.011	0.013
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	14.95	16.00	1.274	0.01	0.012	0.015
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	518598	2592.99	15.14	16.00	1.219	0.05	0.286	0.349
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	518598	2592.99	14.95	16.00	1.274	-0.06	0.308	0.392
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	12.53	13.50	1.250	0.01	0.015	0.019
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	12.50	13.50	1.259	-0.09	0.022	0.028
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	12.53	13.50	1.250	0.07	0.013	0.016

	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	12.50	13.50	1.259	-0.03	0.022	0.028
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	12.53	13.50	1.250	-0.01	0.050	0.063
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	12.50	13.50	1.259	-0.04	0.070	0.088
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	12.53	13.50	1.250	0.05	0.002	0.003
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	12.50	13.50	1.259	0.08	0.002	0.003
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	518598	2592.99	12.53	13.50	1.250	0.11	0.004	0.005
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	518598	2592.99	12.50	13.50	1.259	0.08	0.005	0.006
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	12.06	13.10	1.271	0.03	0.046	0.058
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	518598	2592.99	11.71	13.10	1.377	-0.02	0.034	0.047
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	12.06	13.10	1.271	0.05	0.064	0.081
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	518598	2592.99	11.71	13.10	1.377	0.01	0.049	0.067
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	12.06	13.10	1.271	0.06	0.003	0.004
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	518598	2592.99	11.71	13.10	1.377	-0.03	0.002	0.003
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	12.06	13.10	1.271	-0.1	0.117	0.149
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	518598	2592.99	11.71	13.10	1.377	0.05	0.092	0.127
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	12.06	13.10	1.271	0.07	0.075	0.095
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Bottom side	10mm	DSI-5	518598	2592.99	11.71	13.10	1.377	0.06	0.074	0.102

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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)
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	18.28	19.60	1.355	0.02	0.046	0.062
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	18.10	19.60	1.413	0.08	0.047	0.066
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	18.28	19.60	1.355	0.04	0.090	0.122
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	18.10	19.60	1.413	0.07	0.077	0.109
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	18.28	19.60	1.355	-0.09	0.030	0.041
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	18.10	19.60	1.413	0.01	0.035	0.049
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	18.28	19.60	1.355	0.09	0.181	0.245
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	18.10	19.60	1.413	0.03	0.137	0.194
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	18.05	19.50	1.396	0.03	0.106	0.148
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	17.92	19.50	1.439	0.05	0.102	0.147
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	18.05	19.50	1.396	-0.04	0.084	0.117
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	17.92	19.50	1.439	0.01	0.090	0.129
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	18.05	19.50	1.396	0.08	0.282	0.394
37	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	17.92	19.50	1.439	0.03	0.340	**0.489**
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	18.05	19.50	1.396	-0.03	0.215	0.300
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	17.92	19.50	1.439	0.01	0.167	0.240
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	20.74	21.50	1.191	0.02	0.088	0.105
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	20.67	21.50	1.211	0.03	0.085	0.103
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	20.74	21.50	1.191	0.05	0.058	0.069
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	20.67	21.50	1.211	-0.03	0.053	0.064
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	20.74	21.50	1.191	0.07	0.209	0.249
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	20.67	21.50	1.211	0.01	0.210	0.254
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	20.74	21.50	1.191	0.09	0.009	0.011
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	20.67	21.50	1.211	0.03	0.006	0.007
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	20.74	21.50	1.191	-0.09	0.040	0.048
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	20.67	21.50	1.211	0.04	0.042	0.051
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	19.08	19.50	1.102	0.02	0.056	0.062
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	18.95	19.50	1.135	0.03	0.044	0.050
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	19.08	19.50	1.102	0.04	0.138	0.152
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	18.95	19.50	1.135	-0.08	0.090	0.102
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	19.08	19.50	1.102	0.03	0.260	0.286
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	18.95	19.50	1.135	0.04	0.226	0.257
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Bottom side	10mm	DSI-5	656000	3840	19.08	19.50	1.102	0.01	0.106	0.117
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Bottom side	10mm	DSI-5	656000	3840	18.95	19.50	1.135	-0.03	0.091	0.103
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	15.18	15.60	1.102	0.02	0.031	0.034
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	14.86	15.60	1.186	0.01	0.030	0.036
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	15.18	15.60	1.102	-0.05	0.018	0.020
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	14.86	15.60	1.186	0.07	0.026	0.031
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	15.18	15.60	1.102	0.02	0.011	0.012
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	14.86	15.60	1.186	-0.01	0.024	0.028
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	15.18	15.60	1.102	0.05	0.028	0.031
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	14.86	15.60	1.186	0.09	0.028	0.033
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	15.18	15.60	1.102	-0.03	0.097	0.107
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	14.86	15.60	1.186	0.02	0.087	0.103
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	16.47	17.50	1.268	0.03	0.102	0.129
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	16.09	17.50	1.384	0.01	0.102	0.141
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	16.47	17.50	1.268	0.05	0.084	0.106
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	16.09	17.50	1.384	0.09	0.095	0.131
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	16.47	17.50	1.268	0.07	0.256	0.325
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	16.09	17.50	1.384	-0.04	0.344	0.476
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	16.47	17.50	1.268	0.04	0.047	0.060
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	16.09	17.50	1.384	-0.03	0.010	0.014
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	16.47	17.50	1.268	0.05	0.222	0.281

	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	16.09	17.50	1.384	0.09	0.158	0.219
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	16.79	17.50	1.178	0.01	0.057	0.067
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	16.58	17.50	1.236	0.08	0.060	0.074
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	16.79	17.50	1.178	0.01	0.038	0.045
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	16.58	17.50	1.236	-0.03	0.065	0.080
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	16.79	17.50	1.178	0.05	0.112	0.132
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	16.58	17.50	1.236	0.11	0.126	0.156
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	16.79	17.50	1.178	0.07	0.043	0.051
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	16.58	17.50	1.236	-0.04	0.147	0.182
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	16.79	17.50	1.178	-0.07	0.045	0.053
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Top side	10mm	DSI-5	656000	3840	16.58	17.50	1.236	0.08	0.080	0.099
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Front	10mm	DSI-5	656000	3840	17.29	17.50	1.050	0.03	0.094	0.099
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Front	10mm	DSI-5	656000	3840	17.03	17.50	1.114	0.07	0.085	0.095
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Back	10mm	DSI-5	656000	3840	17.29	17.50	1.050	-0.01	0.168	0.176
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Back	10mm	DSI-5	656000	3840	17.03	17.50	1.114	0.07	0.142	0.158
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	17.29	17.50	1.050	0.11	0.021	0.022
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Left side	10mm	DSI-5	656000	3840	17.03	17.50	1.114	0.05	0.013	0.014
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	17.29	17.50	1.050	0.01	0.313	0.329
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Right side	10mm	DSI-5	656000	3840	17.03	17.50	1.114	0.08	0.241	0.269
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Bottom side	10mm	DSI-5	656000	3840	17.29	17.50	1.050	0.01	0.149	0.156
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Bottom side	10mm	DSI-5	656000	3840	17.03	17.50	1.114	0.09	0.126	0.140

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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)
	WLAN2.4GHz	802.11b 1Mbps	Front	Ant 5+7	10mm	Reduced	11	2462	18.56	20.00	1.393	100	1.000	0.03	0.077	0.107
	WLAN2.4GHz	802.11b 1Mbps	Back	Ant 5+7	10mm	Reduced	11	2462	18.56	20.00	1.393	100	1.000	0.05	0.056	0.078
	WLAN2.4GHz	802.11b 1Mbps	Right Side	Ant 5+7	10mm	Reduced	11	2462	18.56	20.00	1.393	100	1.000	-0.04	0.050	0.070
38	WLAN2.4GHz	802.11b 1Mbps	Top Side	Ant 5+7	10mm	Reduced	11	2462	18.56	20.00	1.393	100	1.000	0.02	0.166	**0.231**

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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)
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	Ant 8+11	10mm	Reduced	42	5210	18.05	19.50	1.396	100	1.000	0.02	0.068	0.095
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	Ant 8+11	10mm	Reduced	42	5210	18.05	19.50	1.396	100	1.000	0.01	0.082	0.115
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	Ant 8+11	10mm	Reduced	42	5210	18.05	19.50	1.396	100	1.000	0.08	0.042	0.059
39	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	Ant 8+11	10mm	Reduced	42	5210	18.05	19.50	1.396	100	1.000	-0.05	0.154	**0.215**
	WLAN5.8GHz	802.11n-HT40 MCS0	Front	Ant 8+11	10mm	Reduced	151	5755	15.77	17.50	1.489	100	1.000	0.03	0.040	0.060
	WLAN5.8GHz	802.11n-HT40 MCS0	Back	Ant 8+11	10mm	Reduced	151	5755	15.77	17.50	1.489	100	1.000	0.05	0.134	0.200
	WLAN5.8GHz	802.11n-HT40 MCS0	Right Side	Ant 8+11	10mm	Reduced	151	5755	15.77	17.50	1.489	100	1.000	-0.04	0.040	0.059
40	WLAN5.8GHz	802.11n-HT40 MCS0	Top Side	Ant 8+11	10mm	Reduced	151	5755	15.77	17.50	1.489	100	1.000	0.04	0.156	**0.232**

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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)
	Bluetooth	1Mbps	Front	Ant 5	10mm	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.01	0.037	0.060
	Bluetooth	1Mbps	Back	Ant 5	10mm	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.07	0.036	0.058
	Bluetooth	1Mbps	Right Side	Ant 5	10mm	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.08	0.032	0.052
	Bluetooth	1Mbps	Top Side	Ant 5	10mm	Full	39	2441	15.07	16.00	1.239	76.83	1.302	-0.07	0.095	0.153
	Bluetooth	1Mbps	Front	Ant 7	10mm	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.02	0.081	0.118
	Bluetooth	1Mbps	Back	Ant 7	10mm	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.03	0.065	0.095
41	Bluetooth	1Mbps	Right Side	Ant 7	10mm	Full	39	2441	15.52	16.00	1.117	76.83	1.302	-0.05	0.159	**0.231**
	Bluetooth	1Mbps	Top Side	Ant 7	10mm	Full	39	2441	15.52	16.00	1.117	76.83	1.302	-0.01	0.020	0.029

16.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	GSM850_Ant 1	GPRS 4 Tx slot	Front	15mm	DSI-4	128	824.2	26.73	28.00	1.340	-0.05	0.075	0.100
42	GSM850_Ant 1	GPRS 4 Tx slot	Back	15mm	DSI-4	128	824.2	26.73	28.00	1.340	-0.09	0.179	**0.240**
	GSM850_Ant 4	GPRS 4 Tx slots	Front	15mm	DSI-4	189	836.4	25.79	27.00	1.321	-0.03	0.069	0.091
	GSM850_Ant 4	GPRS 4 Tx slots	Back	15mm	DSI-4	189	836.4	25.79	27.00	1.321	0.01	0.042	0.055
	GSM1900_Ant 2	GPRS 4 Tx slot	Front	15mm	DSI-4	661	1880	24.12	25.50	1.374	0.01	0.086	0.118
43	GSM1900_Ant 2	GPRS 4 Tx slot	Back	15mm	DSI-4	661	1880	24.12	25.50	1.374	-0.07	0.164	**0.225**
	GSM1900_Ant 3	GPRS 4 Tx slots	Front	15mm	DSI-4	661	1880	23.43	24.50	1.279	-0.07	0.110	0.141
	GSM1900_Ant 3	GPRS 4 Tx slots	Back	15mm	DSI-4	661	1880	23.43	24.50	1.279	0.05	0.070	0.090

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	WCDMA II_Ant 2	RMC 12.2Kbps	Front	15mm	DSI-4	9400	1880	24.45	25.00	1.135	0.01	0.128	0.145
44	WCDMA II_Ant 2	RMC 12.2Kbps	Back	15mm	DSI-4	9400	1880	24.45	25.00	1.135	-0.05	0.201	**0.228**
	WCDMA II_Ant 3	RMC 12.2Kbps	Front	15mm	DSI-4	9400	1880	19.92	20.50	1.143	0.03	0.067	0.077
	WCDMA II_Ant 3	RMC 12.2Kbps	Back	15mm	DSI-4	9400	1880	19.92	20.50	1.143	0.05	0.058	0.066
	WCDMA IV_Ant 2	RMC 12.2Kbps	Front	15mm	DSI-4	1413	1732.6	24.32	25.00	1.169	0.09	0.130	0.152
45	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	15mm	DSI-4	1413	1732.6	24.32	25.00	1.169	-0.1	0.236	**0.276**
	WCDMA IV_Ant 3	RMC 12.2Kbps	Front	15mm	DSI-4	1413	1732.6	21.17	21.50	1.079	0.13	0.156	0.168
	WCDMA IV_Ant 3	RMC 12.2Kbps	Back	15mm	DSI-4	1413	1732.6	21.17	21.50	1.079	0.06	0.121	0.131
	WCDMA V_Ant 1	RMC 12.2Kbps	Front	15mm	DSI-4	4182	836.4	24.20	25.00	1.202	0.05	0.178	0.214
46	WCDMA V_Ant 1	RMC 12.2Kbps	Back	15mm	DSI-4	4182	836.4	24.20	25.00	1.202	-0.08	0.253	**0.304**
	WCDMA V_Ant 4	RMC 12.2Kbps	Front	15mm	DSI-4	4182	836.4	23.25	24.00	1.189	-0.13	0.094	0.112
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	15mm	DSI-4	4182	836.4	23.25	24.00	1.189	0.05	0.065	0.077

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 2_Ant 2	20M	QPSK	1	0	Front	15mm	DSI-4	18900	1880	24.44	25.50	1.276	0.03	0.225	0.287
	LTE Band 2_Ant 2	20M	QPSK	50	0	Front	15mm	DSI-4	18900	1880	23.55	24.50	1.245	0.01	0.230	0.286
47	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	15mm	DSI-4	18900	1880	24.44	25.50	1.276	-0.02	0.362	**0.462**
	LTE Band 2_Ant 2	20M	QPSK	50	0	Back	15mm	DSI-4	18900	1880	23.55	24.50	1.245	0.08	0.365	0.454
	LTE Band 2_Ant 6	20M	QPSK	1	0	Front	15mm	DSI-4	18900	1880	24.37	25.20	1.211	0.03	0.026	0.031
	LTE Band 2_Ant 6	20M	QPSK	50	0	Front	15mm	DSI-4	18900	1880	23.48	24.20	1.180	-0.05	0.032	0.038
	LTE Band 2_Ant 6	20M	QPSK	1	0	Back	15mm	DSI-4	18900	1880	24.37	25.20	1.211	-0.01	0.039	0.047
	LTE Band 2_Ant 6	20M	QPSK	50	0	Back	15mm	DSI-4	18900	1880	23.48	24.20	1.180	0.01	0.034	0.040
	LTE Band 5_Ant 1	10M	QPSK	1	0	Front	15mm	DSI-4	20525	836.5	24.45	25.50	1.274	-0.09	0.161	0.205
	LTE Band 5_Ant 1	10M	QPSK	25	0	Front	15mm	DSI-4	20525	836.5	23.49	24.50	1.262	0.12	0.134	0.169
48	LTE Band 5_Ant 1	10M	QPSK	1	0	Back	15mm	DSI-4	20525	836.5	24.45	25.50	1.274	-0.08	0.242	**0.308**
	LTE Band 5_Ant 1	10M	QPSK	25	0	Back	15mm	DSI-4	20525	836.5	23.49	24.50	1.262	0.02	0.191	0.241
	LTE Band 5_Ant 4	10M	QPSK	1	0	Front	15mm	DSI-4	20525	836.5	23.27	24.60	1.358	0.03	0.111	0.151
	LTE Band 5_Ant 4	10M	QPSK	25	0	Front	15mm	DSI-4	20525	836.5	22.42	23.60	1.312	-0.1	0.091	0.119
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	15mm	DSI-4	20525	836.5	23.27	24.60	1.358	0.17	0.101	0.137
	LTE Band 5_Ant 4	10M	QPSK	25	0	Back	15mm	DSI-4	20525	836.5	22.42	23.60	1.312	0.06	0.086	0.113
	LTE Band 7_Ant 2	20M	QPSK	1	0	Front	15mm	DSI-4	21100	2535	24.74	25.50	1.191	-0.03	0.068	0.081
	LTE Band 7_Ant 2	20M	QPSK	50	0	Front	15mm	DSI-4	21100	2535	23.88	24.50	1.153	-0.1	0.070	0.081
	LTE Band 7_Ant 2	20M	QPSK	1	0	Back	15mm	DSI-4	21100	2535	24.74	25.50	1.191	-0.04	0.094	0.112
	LTE Band 7_Ant 2	20M	QPSK	50	0	Back	15mm	DSI-4	21100	2535	23.88	24.50	1.153	0.17	0.096	0.111
	LTE Band 7C_Ant 2	20M	QPSK	1	0	Back	15mm	DSI-4	21100+20902	2535+2515.2	24.69	25.50	1.205	-0.12	0.085	0.102
	LTE Band 7_Ant 3	20M	QPSK	1	0	Front	15mm	DSI-4	21100	2535	19.38	20.50	1.294	0.13	0.094	0.122
	LTE Band 7_Ant 3	20M	QPSK	50	0	Front	15mm	DSI-4	21100	2535	19.36	20.50	1.300	0.07	0.097	0.126
49	LTE Band 7_Ant 3	20M	QPSK	1	0	Back	15mm	DSI-4	21100	2535	19.38	20.50	1.294	0.04	0.121	**0.157**
	LTE Band 7_Ant 3	20M	QPSK	50	0	Back	15mm	DSI-4	21100	2535	19.36	20.50	1.300	0.1	0.112	0.146
	LTE Band 7C_Ant 3	20M	QPSK	1	0	Back	15mm	DSI-4	21100+20902	2535+2515.2	19.56	20.50	1.242	-0.03	0.102	0.127
	LTE Band 7_Ant 6	20M	QPSK	1	0	Front	15mm	DSI-4	21100	2535	24.20	24.50	1.072	0.13	0.077	0.083
	LTE Band 7_Ant 6	20M	QPSK	50	0	Front	15mm	DSI-4	21100	2535	23.90	24.50	1.148	0.01	0.067	0.077
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	15mm	DSI-4	21100	2535	24.20	24.50	1.072	-0.08	0.111	0.119
	LTE Band 7_Ant 6	20M	QPSK	50	0	Back	15mm	DSI-4	21100	2535	23.90	24.50	1.148	0.1	0.092	0.106
	LTE Band 7C_Ant 6	20M	QPSK	1	0	Back	15mm	DSI-4	21100+20902	2535+2515.2	23.87	24.50	1.156	-0.05	0.098	0.113
	LTE Band 7_Ant 7	20M	QPSK	1	0	Front	15mm	DSI-4	21100	2535	19.89	20.60	1.178	0.12	0.059	0.069
	LTE Band 7_Ant 7	20M	QPSK	50	0	Front	15mm	DSI-4	21100	2535	19.07	19.60	1.130	0.1	0.047	0.053
	LTE Band 7_Ant 7	20M	QPSK	1	0	Back	15mm	DSI-4	21100	2535	19.89	20.60	1.178	0.03	0.069	0.081
	LTE Band 7_Ant 7	20M	QPSK	50	0	Back	15mm	DSI-4	21100	2535	19.07	19.60	1.130	-0.16	0.053	0.060
	LTE Band 7C_Ant 7	20M	QPSK	1	0	Back	15mm	DSI-4	21100+20902	2535+2515.2	20.16	20.60	1.107	0.02	0.059	0.065
	LTE Band 12_Ant 1	10M	QPSK	1	0	Front	15mm	DSI-4	23095	707.5	24.44	25.50	1.276	-0.03	0.119	0.152
	LTE Band 12_Ant 1	10M	QPSK	25	0	Front	15mm	DSI-4	23095	707.5	23.50	24.50	1.259	0.1	0.099	0.125
50	LTE Band 12_Ant 1	10M	QPSK	1	0	Back	15mm	DSI-4	23095	707.5	24.44	25.50	1.276	-0.04	0.181	**0.231**
	LTE Band 12_Ant 1	10M	QPSK	25	0	Back	15mm	DSI-4	23095	707.5	23.50	24.50	1.259	-0.12	0.160	0.201
	LTE Band 12_Ant 4	10M	QPSK	1	0	Front	15mm	DSI-4	23095	707.5	23.15	24.50	1.365	-0.02	0.134	0.183
	LTE Band 12_Ant 4	10M	QPSK	25	0	Front	15mm	DSI-4	23095	707.5	22.24	23.50	1.337	0.13	0.115	0.154
	LTE Band 12_Ant 4	10M	QPSK	1	0	Back	15mm	DSI-4	23095	707.5	23.15	24.50	1.365	0.15	0.122	0.166
	LTE Band 12_Ant 4	10M	QPSK	25	0	Back	15mm	DSI-4	23095	707.5	22.24	23.50	1.337	0.09	0.104	0.139
	LTE Band 66_Ant 2	20M	QPSK	1	0	Front	15mm	DSI-4	132322	1745	24.36	25.50	1.300	0.15	0.138	0.179
	LTE Band 66_Ant 2	20M	QPSK	50	0	Front	15mm	DSI-4	132322	1745	23.25	24.50	1.334	0.11	0.133	0.177
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	15mm	DSI-4	132322	1745	24.36	25.50	1.300	0.01	0.224	0.291
51	LTE Band 66_Ant 2	20M	QPSK	50	0	Back	15mm	DSI-4	132322	1745	23.25	24.50	1.334	-0.07	0.226	**0.301**
	LTE Band 66_Ant 6	20M	QPSK	1	0	Front	15mm	DSI-4	132322	1745	24.38	25.00	1.153	0.14	0.072	0.083
	LTE Band 66_Ant 6	20M	QPSK	50	0	Front	15mm	DSI-4	132322	1745	23.55	24.00	1.109	-0.01	0.065	0.072
	LTE Band 66_Ant 6	20M	QPSK	1	0	Back	15mm	DSI-4	132322	1745	24.38	25.00	1.153	-0.01	0.081	0.093
	LTE Band 66_Ant 6	20M	QPSK	50	0	Back	15mm	DSI-4	132322	1745	23.55	24.00	1.109	0.12	0.074	0.082
	LTE Band 4_Ant 3	20M	QPSK	1	0	Front	15mm	DSI-4	20175	1732.5	21.45	21.90	1.109	0.07	0.162	0.180
	LTE Band 4_Ant 3	20M	QPSK	50	0	Front	15mm	DSI-4	20175	1732.5	21.42	21.90	1.117	0.08	0.134	0.150
52	LTE Band 4_Ant 3	20M	QPSK	1	0	Back	15mm	DSI-4	20175	1732.5	21.45	21.90	1.109	0.02	0.190	**0.211**
	LTE Band 4_Ant 3	20M	QPSK	50	0	Back	15mm	DSI-4	20175	1732.5	21.42	21.90	1.117	0.05	0.077	0.086
	LTE Band 4_Ant 7	20M	QPSK	1	0	Front	15mm	DSI-4	20175	1732.5	20.79	21.30	1.125	0.16	0.052	0.058
	LTE Band 4_Ant 7	20M	QPSK	50	0	Front	15mm	DSI-4	20175	1732.5	19.90	20.30	1.096	0.07	0.039	0.043
	LTE Band 4_Ant 7	20M	QPSK	1	0	Back	15mm	DSI-4	20175	1732.5	20.79	21.30	1.125	0.12	0.057	0.064
	LTE Band 4_Ant 7	20M	QPSK	50	0	Back	15mm	DSI-4	20175	1732.5	19.90	20.30	1.096	0.09	0.045	0.049

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 41_Ant 2	20M	QPSK	1	0	Front	15mm	DSI-4	40620	2593	24.72	25.50	1.197	62.9	1.006	-0.13	0.092	0.111
	LTE Band 41_Ant 2	20M	QPSK	50	0	Front	15mm	DSI-4	40620	2593	23.86	24.50	1.159	62.9	1.006	0.09	0.091	0.106
	LTE Band 41_Ant 2	20M	QPSK	1	0	Back	15mm	DSI-4	40620	2593	24.72	25.50	1.197	62.9	1.006	-0.05	0.115	0.138
	LTE Band 41_Ant 2	20M	QPSK	50	0	Back	15mm	DSI-4	40620	2593	23.86	24.50	1.159	62.9	1.006	0.06	0.117	0.136
	LTE Band 38C_Ant 2	20M	QPSK	1	0	Back	15mm	DSI-4	37901+38099	2585.1+2604.9	24.82	25.50	1.169	62.9	1.006	-0.03	0.102	0.120
	LTE Band 41_Ant 3	20M	QPSK	1	0	Front	15mm	DSI-4	40620	2593	21.41	22.50	1.285	62.9	1.006	-0.14	0.090	0.116
	LTE Band 41_Ant 3	20M	QPSK	50	0	Front	15mm	DSI-4	40620	2593	21.22	22.50	1.343	62.9	1.006	0.14	0.091	0.123
	LTE Band 41_Ant 3	20M	QPSK	1	0	Back	15mm	DSI-4	40620	2593	21.41	22.50	1.285	62.9	1.006	0.02	0.109	0.141
	LTE Band 41_Ant 3	20M	QPSK	50	0	Back	15mm	DSI-4	40620	2593	21.22	22.50	1.343	62.9	1.006	-0.03	0.102	0.138
	LTE Band 38C_Ant 3	20M	QPSK	1	0	Back	15mm	DSI-4	37901+38099	2585.1+2604.9	21.63	22.50	1.222	62.9	1.006	-0.03	0.098	0.120
	LTE Band 41_Ant 6	20M	QPSK	1	0	Front	15mm	DSI-4	40620	2593	25.19	25.50	1.074	62.9	1.006	0.03	0.098	0.106
	LTE Band 41_Ant 6	20M	QPSK	50	0	Front	15mm	DSI-4	40620	2593	24.21	24.50	1.069	62.9	1.006	0.08	0.080	0.086
53	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	15mm	DSI-4	40620	2593	25.19	25.50	1.074	62.9	1.006	-0.07	0.137	**0.148**
	LTE Band 41_Ant 6	20M	QPSK	50	0	Back	15mm	DSI-4	40620	2593	24.21	24.50	1.069	62.9	1.006	-0.01	0.111	0.119
	LTE Band 38C_Ant 6	20M	QPSK	1	0	Back	15mm	DSI-4	37901+38099	2585.1+2604.9	24.69	25.50	1.205	62.9	1.006	0.05	0.118	0.143
	LTE Band 41_Ant 9	20M	QPSK	1	0	Front	15mm	DSI-4	40620	2593	19.89	20.50	1.151	62.9	1.006	0.03	0.035	0.041
	LTE Band 41_Ant 9	20M	QPSK	50	0	Front	15mm	DSI-4	40620	2593	18.97	19.50	1.130	62.9	1.006	0.02	0.027	0.031
	LTE Band 41_Ant 9	20M	QPSK	1	0	Back	15mm	DSI-4	40620	2593	19.89	20.50	1.151	62.9	1.006	0.07	0.050	0.058
	LTE Band 41_Ant 9	20M	QPSK	50	0	Back	15mm	DSI-4	40620	2593	18.97	19.50	1.130	62.9	1.006	-0.02	0.037	0.042
	LTE Band 38C_Ant 9	20M	QPSK	1	0	Back	15mm	DSI-4	37901+38099	2585.1+2604.9	19.42	20.50	1.282	62.9	1.006	0.07	0.041	0.053

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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)
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-15KHz	Front	15mm	DSI-4	167300	836.5	25.31	25.50	1.045	0.03	0.212	0.221
	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-15KHz	Front	15mm	DSI-4	167300	836.5	25.15	25.50	1.084	0.01	0.179	0.194
	FR1 n5_Ant 1	20M	QPSK	1	1	DFT-15KHz	Back	15mm	DSI-4	167300	836.5	25.31	25.50	1.045	0.08	0.268	0.280
54	FR1 n5_Ant 1	20M	QPSK	50	28	DFT-15KHz	Back	15mm	DSI-4	167300	836.5	25.15	25.50	1.084	-0.07	0.277	**0.300**
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-15KHz	Front	15mm	DSI-4	167300	836.5	24.18	24.60	1.102	0.07	0.046	0.051
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-15KHz	Front	15mm	DSI-4	167300	836.5	23.04	24.60	1.432	0.09	0.052	0.074
	FR1 n5_Ant 4	20M	QPSK	1	1	DFT-15KHz	Back	15mm	DSI-4	167300	836.5	24.18	24.60	1.102	0.05	0.046	0.051
	FR1 n5_Ant 4	20M	QPSK	50	28	DFT-15KHz	Back	15mm	DSI-4	167300	836.5	23.04	24.60	1.432	-0.1	0.053	0.076
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-15KHz	Front	15mm	DSI-4	507000	2535	21.13	21.20	1.016	0.02	0.070	0.071
	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-15KHz	Front	15mm	DSI-4	507000	2535	21.10	21.20	1.023	0.01	0.076	0.078
	FR1 n7_Ant 2	20M	QPSK	1	1	DFT-15KHz	Back	15mm	DSI-4	507000	2535	21.13	21.20	1.016	-0.03	0.114	0.116
55	FR1 n7_Ant 2	20M	QPSK	50	28	DFT-15KHz	Back	15mm	DSI-4	507000	2535	21.10	21.20	1.023	0.04	0.119	**0.122**
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-15KHz	Front	15mm	DSI-4	507000	2535	18.13	18.50	1.089	0.02	0.055	0.060
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-15KHz	Front	15mm	DSI-4	507000	2535	18.05	18.50	1.109	0.03	0.057	0.063
	FR1 n7_Ant 3	20M	QPSK	1	1	DFT-15KHz	Back	15mm	DSI-4	507000	2535	18.13	18.50	1.089	-0.05	0.072	0.078
	FR1 n7_Ant 3	20M	QPSK	50	28	DFT-15KHz	Back	15mm	DSI-4	507000	2535	18.05	18.50	1.109	-0.01	0.074	0.082
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-15KHz	Front	15mm	DSI-4	507000	2535	19.92	20.00	1.019	0.02	0.067	0.068
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-15KHz	Front	15mm	DSI-4	507000	2535	19.69	20.00	1.074	0.02	0.037	0.040
	FR1 n7_Ant 6	20M	QPSK	1	1	DFT-15KHz	Back	15mm	DSI-4	507000	2535	19.92	20.00	1.019	0.03	0.052	0.053
	FR1 n7_Ant 6	20M	QPSK	50	28	DFT-15KHz	Back	15mm	DSI-4	507000	2535	19.69	20.00	1.074	0.07	0.038	0.041
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Front	15mm	DSI-4	507000	2535	21.60	22.40	1.202	0.02	0.043	0.052
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Front	15mm	DSI-4	507000	2535	21.43	22.40	1.250	0.01	0.046	0.058
	FR1 n7_Ant 7	20M	QPSK	1	1	DFT-15KHz	Back	15mm	DSI-4	507000	2535	21.60	22.40	1.202	-0.03	0.050	0.060
	FR1 n7_Ant 7	20M	QPSK	50	28	DFT-15KHz	Back	15mm	DSI-4	507000	2535	21.43	22.40	1.250	0.07	0.053	0.066

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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)
	FR1 n41_Ant 2	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	24.44	25.50	1.276	0.02	0.090	0.115
	FR1 n41_Ant 2	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	24.25	25.50	1.334	0.01	0.136	0.181
	FR1 n41_Ant 2	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	24.44	25.50	1.276	0.05	0.151	0.193
56	FR1 n41_Ant 2	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	24.25	25.50	1.334	0.04	0.191	**0.255**
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	19.07	19.50	1.104	0.08	0.090	0.099
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	19.03	19.50	1.114	0.03	0.084	0.093
	FR1 n41_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	19.07	19.50	1.104	0.04	0.085	0.093
	FR1 n41_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	19.03	19.50	1.114	-0.05	0.067	0.075
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	23.24	23.50	1.062	0.03	0.107	0.114
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	23.17	23.50	1.079	0.05	0.145	0.156
	FR1 n41_Ant 6 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	23.24	23.50	1.062	-0.06	0.032	0.033
	FR1 n41_Ant 6 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	23.17	23.50	1.079	-0.02	0.043	0.047
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	20.99	21.10	1.026	0.02	0.089	0.091
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	20.80	21.10	1.072	0.01	0.064	0.069
	FR1 n41_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	20.99	21.10	1.026	-0.09	0.122	0.125
	FR1 n41_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	20.80	21.10	1.072	-0.03	0.082	0.088
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	16.84	18.00	1.306	0.07	0.045	0.059
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	16.49	18.00	1.416	0.01	0.057	0.081
	FR1 n41_Ant 2 TX1	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	16.84	18.00	1.306	-0.1	0.066	0.086
	FR1 n41_Ant 2 TX1	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	16.49	18.00	1.416	-0.08	0.082	0.116
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	17.33	18.00	1.167	0.11	0.086	0.100
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	17.30	18.00	1.175	0.01	0.096	0.113
	FR1 n41_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	17.33	18.00	1.167	-0.03	0.094	0.110
	FR1 n41_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	17.30	18.00	1.175	0.09	0.103	0.121
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	14.93	15.50	1.140	0.09	0.014	0.016
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	14.51	15.50	1.256	-0.18	0.022	0.028
	FR1 n41_Ant 6 TX1	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	14.93	15.50	1.140	0.05	0.016	0.018
	FR1 n41_Ant 6 TX1	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	14.51	15.50	1.256	0.01	0.021	0.026
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	14.70	15.10	1.096	0.03	0.025	0.027
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	518598	2592.99	14.37	15.10	1.183	0.01	0.030	0.035
	FR1 n41_Ant 9 TX0	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	14.70	15.10	1.096	-0.04	0.032	0.035
	FR1 n41_Ant 9 TX0	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	518598	2592.99	14.37	15.10	1.183	0.07	0.015	0.018

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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)
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	21.22	22.60	1.374	0.01	0.052	0.071
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	20.99	22.60	1.449	-0.08	0.047	0.068
	FR1 n77_Ant 3 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	21.22	22.60	1.374	-0.03	0.060	0.083
	FR1 n77_Ant 3 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	20.99	22.60	1.449	0.04	0.052	0.075
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	20.23	21.50	1.340	0.02	0.109	0.146
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	20.01	21.50	1.409	0.01	0.078	0.110
	FR1 n77_Ant 4 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	20.23	21.50	1.340	-0.05	0.083	0.111
	FR1 n77_Ant 4 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	20.01	21.50	1.409	0.09	0.071	0.100
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	25.05	25.50	1.109	0.06	0.123	0.136
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	24.81	25.50	1.172	0.03	0.110	0.129
	FR1 n77_Ant 8 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	25.05	25.50	1.109	-0.01	0.070	0.077
	FR1 n77_Ant 8 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	24.81	25.50	1.172	0.05	0.077	0.090
	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	26.33	27.50	1.309	0.03	0.072	0.094
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	26.10	27.50	1.380	0.01	0.052	0.072
57	FR1 n77_Ant 9 SA	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	26.33	27.50	1.309	-0.09	0.156	**0.204**
	FR1 n77_Ant 9 SA	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	26.10	27.50	1.380	-0.02	0.125	0.173
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	17.71	18.60	1.227	0.01	0.019	0.023
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	17.34	18.60	1.337	-0.08	0.027	0.036
	FR1 n77_Ant 3 TX0	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	17.71	18.60	1.227	0.08	0.018	0.022
	FR1 n77_Ant 3 TX0	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	17.34	18.60	1.337	0.07	0.022	0.029
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	18.50	19.50	1.259	0.15	0.081	0.102
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	18.33	19.50	1.309	-0.01	0.081	0.106
	FR1 n77_Ant 4 TX0	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	18.50	19.50	1.259	0.07	0.060	0.076
	FR1 n77_Ant 4 TX0	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	18.33	19.50	1.309	0.04	0.072	0.094
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	18.87	19.50	1.156	0.03	0.042	0.049
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	18.52	19.50	1.253	-0.01	0.048	0.060
	FR1 n77_Ant 8 TX1	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	18.87	19.50	1.156	0.07	0.026	0.030
	FR1 n77_Ant 8 TX1	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	18.52	19.50	1.253	0.04	0.025	0.031
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Front	15mm	DSI-4	656000	3840	18.87	19.50	1.156	0.01	0.092	0.106
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Front	15mm	DSI-4	656000	3840	18.52	19.50	1.253	0.05	0.084	0.105
	FR1 n77_Ant 9 TX1	100M	QPSK	1	1	DFT-30KHz	Back	15mm	DSI-4	656000	3840	18.87	19.50	1.156	-0.13	0.032	0.037
	FR1 n77_Ant 9 TX1	100M	QPSK	135	69	DFT-30KHz	Back	15mm	DSI-4	656000	3840	18.52	19.50	1.253	0.04	0.124	0.155

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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)
58	WLAN2.4GHz	802.11b 1Mbps	Front	Ant 5+7	15mm	Full	11	2462	21.76	23.50	1.493	100	1.000	-0.03	0.167	**0.249**
	WLAN2.4GHz	802.11b 1Mbps	Back	Ant 5+7	15mm	Full	11	2462	21.76	23.50	1.493	100	1.000	0.01	0.140	0.209

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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)
	WLAN5.3GHz	802.11a 6Mbps	Front	Ant 8+11	15mm	Full	56	5280	21.87	23.00	1.297	99.05	1.010	0.05	0.114	0.149
59	WLAN5.3GHz	802.11a 6Mbps	Back	Ant 8+11	15mm	Full	56	5280	21.87	23.00	1.297	99.05	1.010	-0.03	0.184	**0.241**
	WLAN5.5GHz	802.11a 6Mbps	Front	Ant 8+11	15mm	Full	100	5500	20.97	22.50	1.422	99.05	1.010	-0.03	0.100	0.144
60	WLAN5.5GHz	802.11a 6Mbps	Back	Ant 8+11	15mm	Full	100	5500	20.97	22.50	1.422	99.05	1.010	-0.09	0.220	**0.316**
	WLAN5.8GHz	802.11a 6Mbps	Front	Ant 8+11	15mm	Full	157	5785	22.18	23.50	1.355	99.05	1.010	0.02	0.202	0.276
61	WLAN5.8GHz	802.11a 6Mbps	Back	Ant 8+11	15mm	Full	157	5785	22.18	23.50	1.355	99.05	1.010	-0.05	0.594	**0.813**
	WLAN5.8GHz	802.11a 6Mbps	Back	Ant 8+11	15mm	Full	165	5825	22.08	23.50	1.387	99.05	1.010	0.04	0.397	0.556
	WLAN5.8GHz	802.11a 6Mbps	Front	Ant 8+11	15mm	Reduced -Simultaneous	157	5785	17.67	19.00	1.358	99.05	1.010	0.02	0.050	0.069
	WLAN5.8GHz	802.11a 6Mbps	Back	Ant 8+11	15mm	Reduced -Simultaneous	157	5785	17.67	19.00	1.358	99.05	1.010	-0.09	0.161	0.221

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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)
	Bluetooth	1Mbps	Front	Ant 5	15mm	Full	39	2441	15.07	16.00	1.239	76.83	1.302	-0.06	0.023	0.038
	Bluetooth	1Mbps	Back	Ant 5	15mm	Full	39	2441	15.07	16.00	1.239	76.83	1.302	0.01	0.021	0.034
62	Bluetooth	1Mbps	Front	Ant 7	15mm	Full	39	2441	15.52	16.00	1.117	76.83	1.302	-0.08	0.032	**0.047**
	Bluetooth	1Mbps	Back	Ant 7	15mm	Full	39	2441	15.52	16.00	1.117	76.83	1.302	0.03	0.027	0.039

16.4 Product specific 10g SAR

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Antenna	Gap (mm)	Power Reduction	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	Ant 8+11	0mm	Full	56	5280	21.87	23.00	1.297	99.05	1.010	0.01	0.630	0.825
	WLAN5.3GHz	802.11a 6Mbps	Back	Ant 8+11	0mm	Full	56	5280	21.87	23.00	1.297	99.05	1.010	0.09	0.377	0.494
	WLAN5.3GHz	802.11a 6Mbps	Right Side	Ant 8+11	0mm	Full	56	5280	21.87	23.00	1.297	99.05	1.010	-0.07	0.113	0.148
63	WLAN5.3GHz	802.11a 6Mbps	Top Side	Ant 8+11	0mm	Full	56	5280	21.87	23.00	1.297	99.05	1.010	0.02	1.990	**2.607**
	WLAN5.3GHz	802.11a 6Mbps	Top Side	Ant 8+11	0mm	Full	52	5260	21.17	23.00	1.523	99.05	1.010	0.02	1.650	2.537
	WLAN5.5GHz	802.11a 6Mbps	Front	Ant 8+11	0mm	Full	100	5500	20.97	22.50	1.422	99.05	1.010	0.03	0.347	0.498
	WLAN5.5GHz	802.11a 6Mbps	Back	Ant 8+11	0mm	Full	100	5500	20.97	22.50	1.422	99.05	1.010	-0.01	0.280	0.402
	WLAN5.5GHz	802.11a 6Mbps	Right Side	Ant 8+11	0mm	Full	100	5500	20.97	22.50	1.422	99.05	1.010	0.11	0.090	0.129
64	WLAN5.5GHz	802.11a 6Mbps	Top Side	Ant 8+11	0mm	Full	100	5500	20.97	22.50	1.422	99.05	1.010	0.01	1.310	**1.882**

16.5 Repeated SAR Measurement

<1g>

No.	Band	Mode	Test Position	Antenna	Power Reduction	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	WLAN5.8GHz	802.11n-HT40 MCS0	Left Tilted	Ant 8+11	Reduced	151	5755	19.88	20.50	1.153	100	1.000	-0.08	0.933	1	1.076
2nd	WLAN5.8GHz	802.11n-HT40 MCS0	Left Tilted	Ant 8+11	Reduced	151	5755	19.88	20.50	1.153	100	1.000	-0.08	0.901	1.036	1.039

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.

17. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN+BT1	Yes	Yes	Yes	Yes
2.	WWAN+BT2	Yes	Yes	Yes	Yes
3.	WWAN+ WLAN 2.4G SISO/MIMO	Yes	Yes	Yes	Yes
4.	WWAN+ WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
5.	WWAN+ WLAN 2.4G SISO/MIMO + WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
6.	WWAN+BT1+ WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
7.	WWAN+BT2+ WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
8.	WLAN 2.4G SISO/MIMO + WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
9.	BT1+ WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
10.	BT2+ WLAN 5G SISO/MIMO	Yes	Yes	Yes	Yes
11.	BT1+WIFI 6E SISO/MIMO	Yes	Yes		Yes
12.	BT2+ WIFI 6E SISO/MIMO	Yes	Yes		Yes
13.	WWAN+ WIFI 6E SISO/MIMO	Yes	Yes		Yes
14.	WWAN+ WLAN 2.4G SISO/MIMO + WIFI 6E SISO/MIMO	Yes	Yes		Yes
15.	WWAN+BT1+ WIFI 6E SISO/MIMO	Yes	Yes		Yes
16.	WWAN+BT2+ WIFI 6E SISO/MIMO	Yes	Yes		Yes
17.	WLAN 2.4G SISO/MIMO + WIFI 6E SISO/MIMO	Yes	Yes		Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
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 WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
5. WIFI 6E has no hotspot function.
6. WLAN2.4GHz and Bluetooth share the same antenna, so can't transmit simultaneously.
7. According to the character of EUT, WLAN5GHz and Bluetooth can transmit simultaneously.
8. WIFI 6E can transmit simultaneously with Bluetooth or WLAN2.4GHz.
9. WLAN2.4GHz/WLAN5GHz MIMO SAR can represent SISO SAR to do co-located SAR analysis.
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.
15. The following chapter 17.1 to 17.3 for transmission simultaneously analysis always base on antenna.
16. Transmission simultaneously analysis divided into three situations, WWAN All Bands Including 5GNR SA co-located with WLAN/Bluetooth, 5GNR EN-DC co-located with WLAN/Bluetooth, 5GNR MIMO co-located with WLAN/Bluetooth. They can represent all transmission simultaneously situation.
17. For EN-DC mode, Inter Band EN-DC Configuration at chapter 14 give the detail LTE and 5GNR component list based on different antenna. EN-DC SAR summed the standalone 5GNR SAR and LTE standalone SAR more

conservatively.

18. When EN-DC SAR co-located with WLAN/Bluetooth, chose the worst SAR among all LTE bands per each test position and also the worst SAR of 5GNR to do co-located with WLAN/Bluetooth. This is the worst co-located analysis and can represent each LTE bands and each 5GNR bands.
19. For head SAR, considering the actual EN-DC components, LTE and 5GNR located with different antenna, every EN-DC component analysis. They also chose the worst SAR per positon with LTE bands and the worst SAR based on 5GNR to do co-located with WLAN/BT analysis.
20. For hotspot/body worn SAR, whether 5GNR or LTE with the same antenna or not, always chose the worst SAR based on LTE bands and the worst SAR based on 5GNR to do co-located with WLAN/BT analysis.
21. 5GNR MIMIO SAR, summed TX0 SAR and TX1 SAR as MIMO SAR to do co-located with WLAN/BT analysis.
22. 5GNR MIMO antenna components mentioned at chapter 14, always chose the worst TX0 SAR per positon and
23. TX1 SAR per positon to sum and then do co-located with WLAN/BT.
24. SAR test report for WIFI 6E UNII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth, always chose higher SAR of WLAN5G UNII-1/2/3/4 and UNII-5/6/7/8.

17.1 Head Exposure Conditions

WWAN All Bands Including 5GNR SA

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
WWAN All Bands Including 5GNR SA	Right Cheek	0.744	0.087	0.214	0.113	0.093	1.05	1.07	1.05
	Right Tilted	0.837	0.109	0.195	0.151	0.036	1.14	1.18	1.07
	Left Cheek	0.652	0.196	0.195	0.250	0.258	1.04	1.10	1.11
	Left Tilted	0.782	0.219	0.277	0.223	0.219	1.28	1.28	1.28

5GNR EN-DC

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n5			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
DC_7A_n5A	LTE Band 7	Right Cheek	0.511	0.087	0.214	0.113	0.093	0.487	1.30	1.33	1.31
		Right Tilted	0.675	0.109	0.195	0.151	0.036	0.394	1.37	1.42	1.30
		Left Cheek	0.609	0.196	0.195	0.250	0.258	0.181	1.18	1.24	1.24
		Left Tilted	0.622	0.219	0.277	0.223	0.219	0.155	1.27	1.28	1.27

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n7			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
DC_2A_n7A	LTE Band 2	Right Cheek	0.698	0.087	0.214	0.113	0.093	0.499	1.50	1.52	1.50
		Right Tilted	0.218	0.109	0.195	0.151	0.036	0.718	1.24	1.28	1.17
		Left Cheek	0.351	0.196	0.195	0.250	0.258	0.436	1.18	1.23	1.24
		Left Tilted	0.102	0.219	0.277	0.223	0.219	0.682	1.28	1.28	1.28

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6	1+3+4+6	1+3+5+6
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n7	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
DC_5A_n7A	LTE Band 5	Right Cheek	0.618	0.087	0.214	0.113	0.093	0.589	1.51	1.53	1.51
		Right Tilted	0.468	0.109	0.195	0.151	0.036	0.718	1.49	1.53	1.42
		Left Cheek	0.246	0.196	0.195	0.250	0.258	0.436	1.07	1.13	1.14
		Left Tilted	0.232	0.219	0.277	0.223	0.219	0.682	1.41	1.41	1.41

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6	1+3+4+6	1+3+5+6
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n77(78)	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
DC_5A_78A	LTE Band 5	Right Cheek	0.618	0.087	0.214	0.113	0.093	0.610	1.53	1.56	1.54
		Right Tilted	0.468	0.109	0.195	0.151	0.036	0.556	1.33	1.37	1.26
		Left Cheek	0.246	0.196	0.195	0.250	0.258	0.525	1.16	1.22	1.22
		Left Tilted	0.232	0.219	0.277	0.223	0.219	0.310	1.04	1.04	1.04
DC_7A_78A	LTE Band 7	Right Cheek	0.511	0.087	0.214	0.113	0.093	0.610	1.42	1.45	1.43
		Right Tilted	0.675	0.109	0.195	0.151	0.036	0.556	1.54	1.58	1.46
		Left Cheek	0.609	0.196	0.195	0.250	0.258	0.525	1.53	1.58	**1.59**
		Left Tilted	0.622	0.219	0.277	0.223	0.219	0.310	1.43	1.43	1.43
DC_41_n78A	LTE Band 41(38)	Right Cheek	0.543	0.087	0.214	0.113	0.093	0.610	1.45	1.48	1.46
		Right Tilted	0.687	0.109	0.195	0.151	0.036	0.556	**1.55**	**1.59**	1.47
		Left Cheek	0.391	0.196	0.195	0.250	0.258	0.525	1.31	1.36	1.37
		Left Tilted	0.617	0.219	0.277	0.223	0.219	0.310	1.42	1.43	1.42
DC_66_n78A	LTE Band 66	Right Cheek	0.308	0.087	0.214	0.113	0.093	0.610	1.22	1.25	1.23
		Right Tilted	0.090	0.109	0.195	0.151	0.036	0.556	0.95	0.99	0.88
		Left Cheek	0.170	0.196	0.195	0.250	0.258	0.525	1.09	1.14	1.15
		Left Tilted	0.055	0.219	0.277	0.223	0.219	0.310	0.86	0.87	0.86

5GNR MIMO

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n41 TX1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
ULMIMO	FR1 n41 TX0	Right Cheek	0.586	0.087	0.214	0.113	0.093	0.185	1.07	1.10	1.08
		Right Tilted	0.692	0.109	0.195	0.151	0.036	0.040	1.04	1.08	0.96
		Left Cheek	0.437	0.196	0.195	0.250	0.258	0.101	0.93	0.98	0.99
		Left Tilted	0.563	0.219	0.277	0.223	0.219	0.020	1.08	1.08	1.08

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n77 TX1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
ULMIMO	FR1 n77 TX0	Right Cheek	0.380	0.087	0.214	0.113	0.093	0.048	0.73	0.76	0.74
		Right Tilted	0.355	0.109	0.195	0.151	0.036	0.043	0.70	0.74	0.63
		Left Cheek	0.112	0.196	0.195	0.250	0.258	0.216	0.72	0.77	0.78
		Left Tilted	0.133	0.219	0.277	0.223	0.219	0.105	0.73	0.74	0.73

17.2 Hotspot Exposure Conditions

WWAN All Bands Including 5GNR SA

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN Ant 8+11	Bluetooth Ant 5	Bluetooth Ant 7			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
WWAN All Bands Including 5GNR SA	Front	0.341	0.107	0.095	0.060	0.118	0.54	0.50	0.55
	Back	0.633	0.078	0.200	0.058	0.095	0.91	0.89	0.93
	Left side	0.489					0.49	0.49	0.49
	Right side	0.514	0.070	0.059	0.052	0.231	0.64	0.63	0.80
	Top side	0.532	0.231	0.232	0.153	0.029	1.00	0.92	0.79
	Bottom side	0.738					0.74	0.74	0.74

5GNR EN-DC

WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN Ant 8+11	Bluetooth Ant 5	Bluetooth Ant 7	FR1			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
5GNR EN-DC	Front	0.243	0.107	0.095	0.060	0.118	0.305	0.75	0.70	0.76
	Back	0.545	0.078	0.200	0.058	0.095	0.449	1.27	1.25	1.29
	Left side	0.349					0.489	0.84	0.84	0.84
	Right side	0.394	0.070	0.059	0.052	0.231	0.308	0.83	0.81	0.99
	Top side	0.251	0.231	0.232	0.153	0.029	0.409	1.12	1.05	0.92
	Bottom side	0.723					0.392	1.12	1.12	1.12

5GNR MIMO

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN Ant 8+11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n41 TX1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
ULMIMO	FR1 n41 TX0	Front	0.138	0.107	0.095	0.060	0.118	0.131	0.47	0.42	0.48
		Back	0.106	0.078	0.200	0.058	0.095	0.181	0.57	0.55	0.58
		Left side	0.038					0.088	0.13	0.13	0.13
		Right side	0.149	0.070	0.059	0.052	0.231	0.063	0.34	0.32	0.50
		Top side	0.392	0.231	0.232	0.153	0.029	0.006	0.86	0.78	0.66
		Bottom side	0.102					0.386	0.49	0.49	0.49

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN Ant 8+11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n77 TX1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
ULMIMO	FR1 n77 TX0	Front	0.141	0.107	0.095	0.060	0.118	0.099	0.44	0.40	0.45
		Back	0.131	0.078	0.200	0.058	0.095	0.176	0.59	0.57	0.60
		Left side	0.476					0.156	0.63	0.63	0.63
		Right side	0.060	0.070	0.059	0.052	0.231	0.329	0.52	0.50	0.68
		Top side	0.281	0.231	0.232	0.153	0.029	0.099	0.84	0.77	0.64
		Bottom side						0.156	0.16	0.16	0.16

17.3 Body-Worn Accessory Exposure Conditions

WWAN All Bands Including 5GNR SA

WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
WWAN All Bands Including 5GNR SA	Front	0.287	0.249	0.149	0.038	0.047	0.69	0.47	0.48
	Back	0.462	0.209	0.316	0.034	0.039	0.99	0.81	0.82

5GNR EN-DC

WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
5GNR EN-DC	Front	0.287	0.249	0.149	0.038	0.047	0.221	0.91	0.70	0.70
	Back	0.462	0.209	0.316	0.034	0.039	0.300	1.29	1.11	1.12

5GNR MIMO

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	1+3+5+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n41 TX1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
ULMIMO	FR1 n41 TX0	Front	0.113	0.249	0.149	0.038	0.047	0.081	0.59	0.38	0.39
		Back	0.121	0.209	0.316	0.034	0.039	0.116	0.76	0.59	0.59

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3+6	1+3+4+6	1+3+5+6
			WWAN	2.4GHz WLAN Ant 5+7	5GHz WLAN/ WLAN 6E Ant 8+10&11	Bluetooth Ant 5	Bluetooth Ant 7	FR1 n77 TX1	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
ULMIMO	FR1 n77 TX0	Front	0.106	0.249	0.149	0.038	0.047	0.106	0.61	0.40	0.41
		Back	0.094	0.209	0.316	0.034	0.039	0.155	0.77	0.60	0.60

Test Engineer : Nick Hu, John Liu, Hank Chang, Yuankai Kong

18. Uncertainty Assessment

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

19. References

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

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

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

[4] SPEAG DASY System Handbook

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

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

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

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

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

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

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

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

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

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

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

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.6

System Check_Head_750MHz

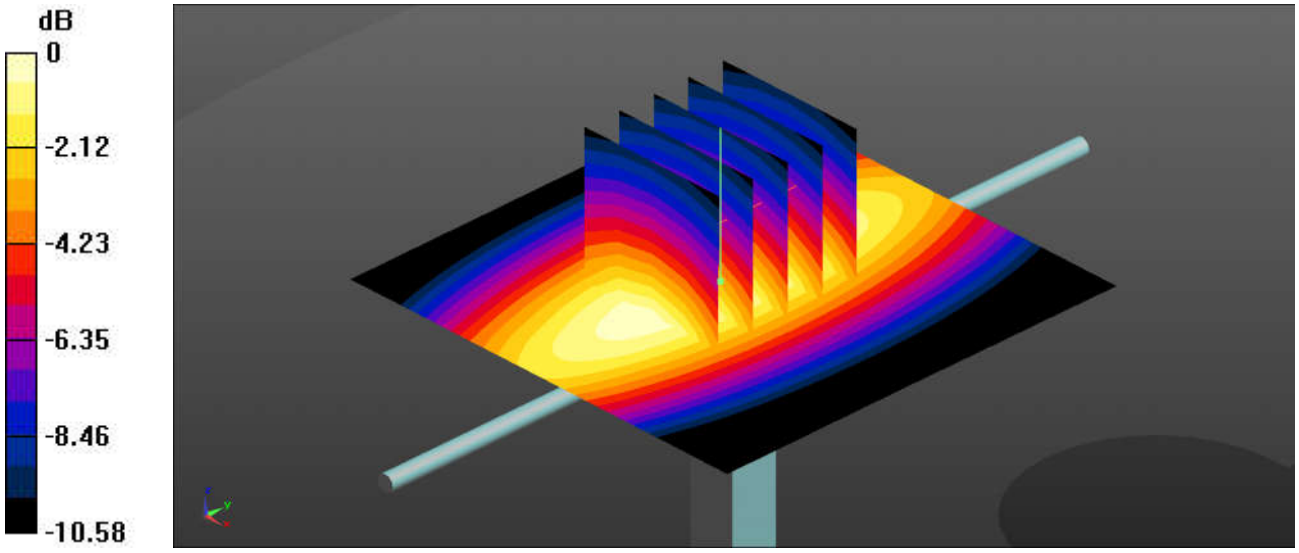
DUT: D750V3 - SN:1087

Communication System: UID 0, CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.91 S/m; ε_r = 40.794; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(10.31, 10.31, 10.31); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.56 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.02 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.99 W/kg
SAR(1 g) = 2.03 W/kg; SAR(10 g) = 1.34 W/kg
Maximum value of SAR (measured) = 2.56 W/kg



0 dB = 2.56 W/kg = 4.08 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.6

System Check_Head_835MHz

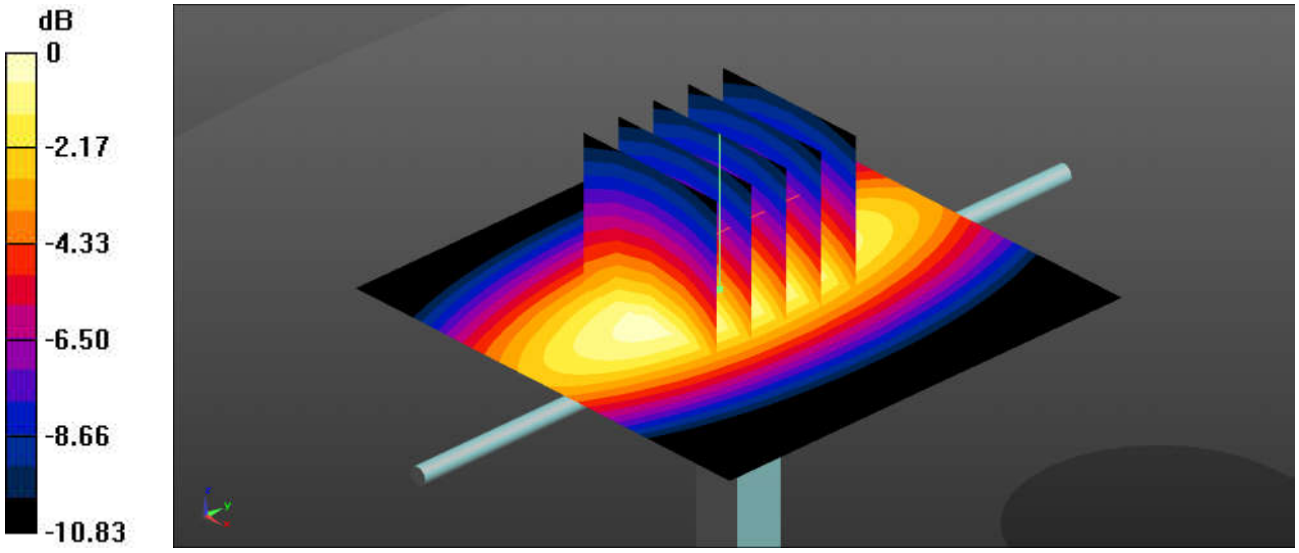
DUT: D835V2 - SN:4d151

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_850 Medium parameters used: f = 835 MHz; σ = 0.924 S/m; ε_r = 41.444; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(10.05, 10.05, 10.05); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.05 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.32 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.61 W/kg
SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.55 W/kg
Maximum value of SAR (measured) = 3.04 W/kg



0 dB = 3.04 W/kg = 4.83 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.7

System Check_Head_1750MHz

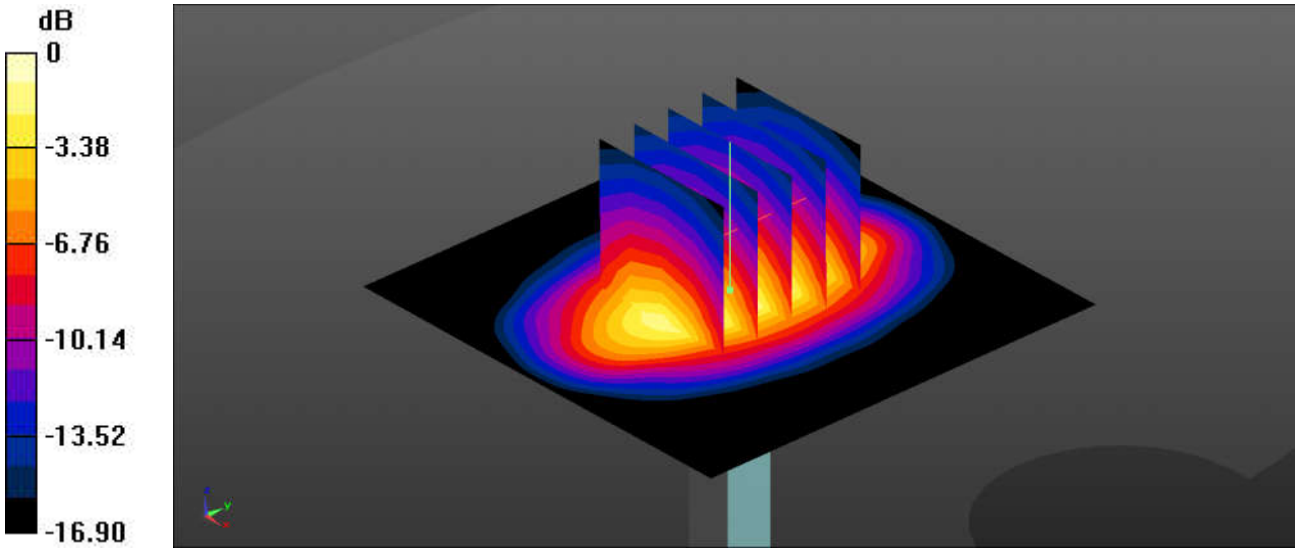
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.351 S/m; ε_r = 40.38; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(8.41, 8.41, 8.41); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 13.8 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 103.3 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 16.7 W/kg
SAR(1 g) = 8.86 W/kg; SAR(10 g) = 4.72 W/kg
Maximum value of SAR (measured) = 13.9 W/kg



0 dB = 13.9 W/kg = 11.43 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.7

System Check_Head_1900MHz

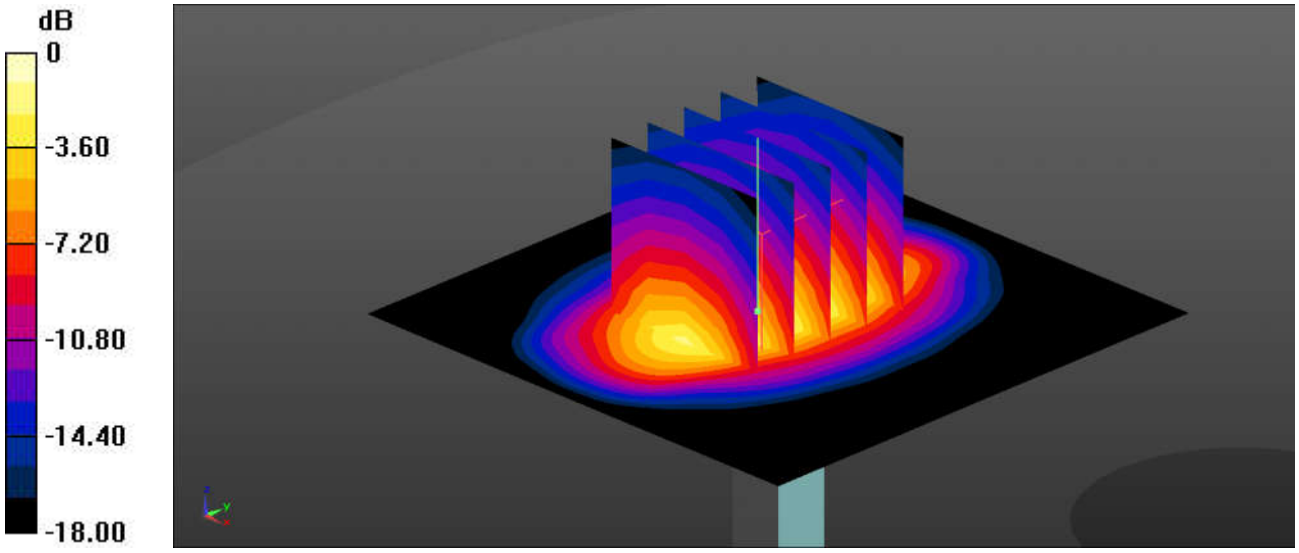
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.451 S/m; ε_r = 39.635; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(8.22, 8.22, 8.22); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.7 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 104.0 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.24 W/kg
Maximum value of SAR (measured) = 15.8 W/kg



0 dB = 15.8 W/kg = 11.99 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.8

System Check_Head_2450MHz

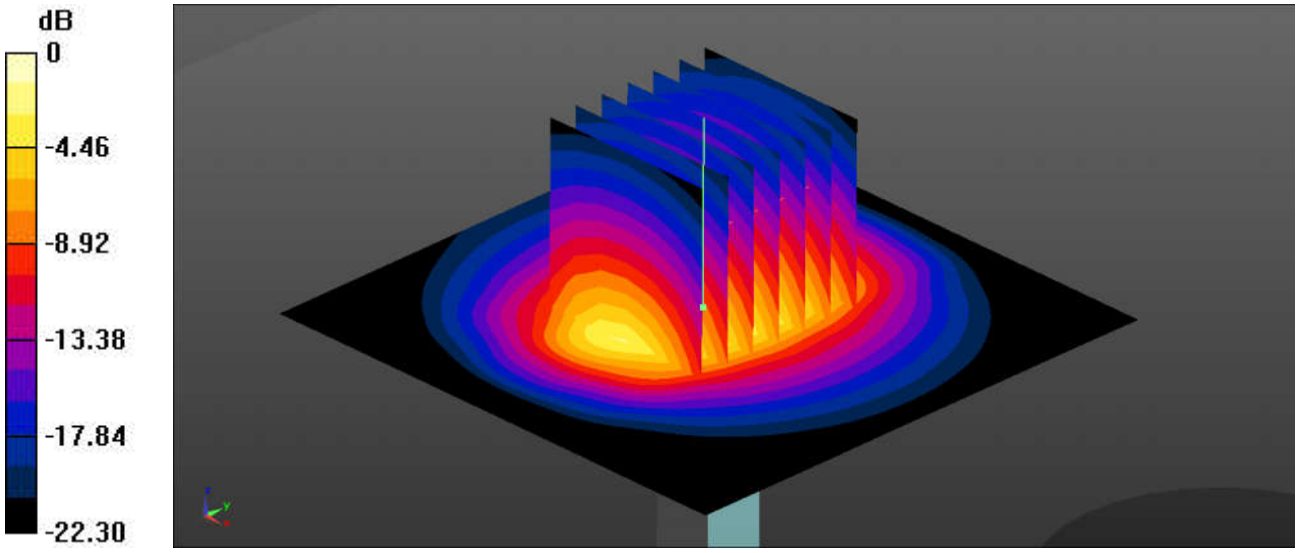
DUT: D2450V2 - SN:908

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.72 S/m; ε_r = 38.35; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(7.57, 7.57, 7.57); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 18.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.53 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 24.6 W/kg
SAR(1 g) = 11.9 W/kg; SAR(10 g) = 5.49 W/kg
Maximum value of SAR (measured) = 18.3 W/kg



0 dB = 18.3 W/kg = 12.62 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.9

System Check_Head_2600MHz

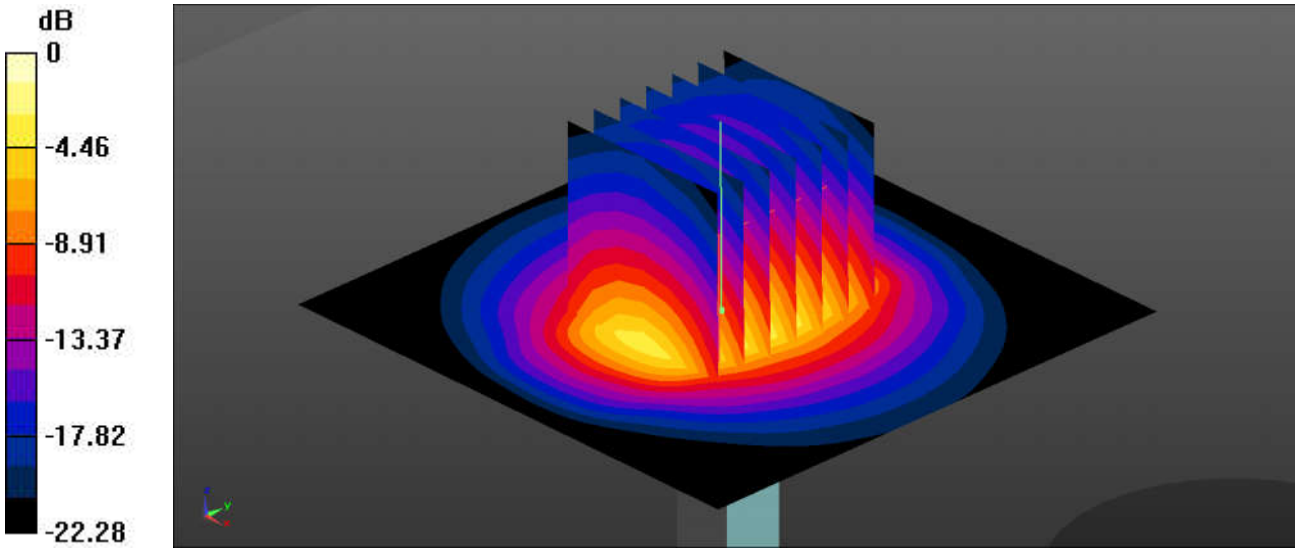
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.978 S/m; ε_r = 39.039; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(7.31, 7.31, 7.31); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 23.7 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 111.2 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.3 W/kg
Maximum value of SAR (measured) = 23.7 W/kg



0 dB = 23.7 W/kg = 13.75 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.9

System Check_Head_3900MHz

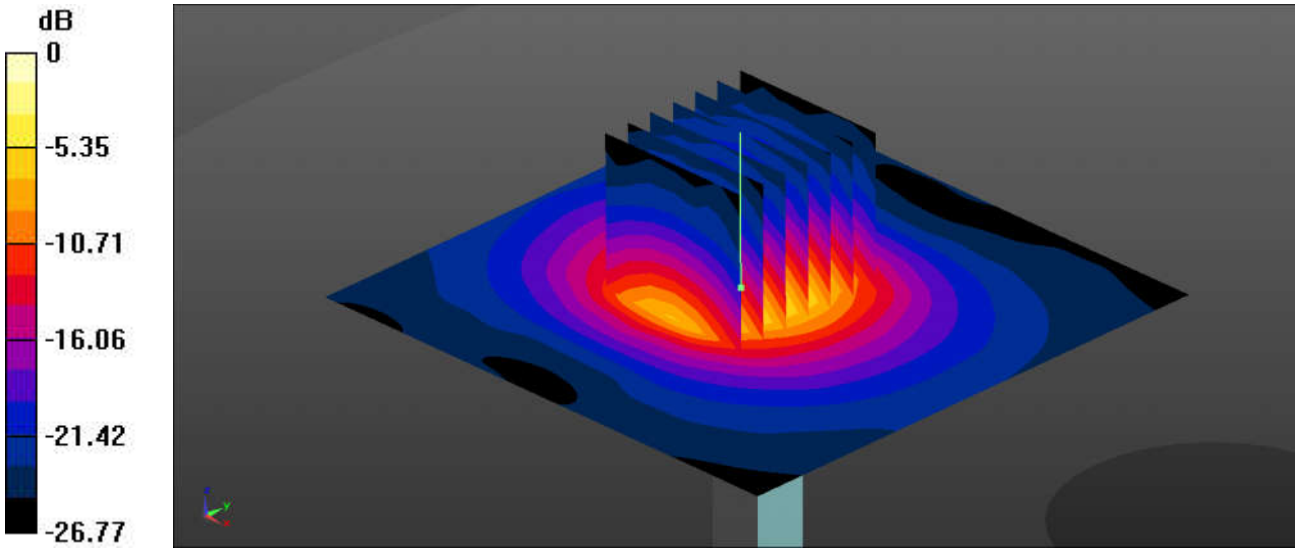
DUT: D3900V2 - SN:1022

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1
Medium: HSL_3900 Medium parameters used: f = 3900 MHz; σ = 3.196 S/m; ε_r = 38.389; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(6.43, 6.43, 6.43); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 10.8 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm
Reference Value = 45.34 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 6.52 W/kg; SAR(10 g) = 2.32 W/kg
Maximum value of SAR (measured) = 11.7 W/kg



0 dB = 11.7 W/kg = 10.68 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.10

System Check_Head_5250MHz

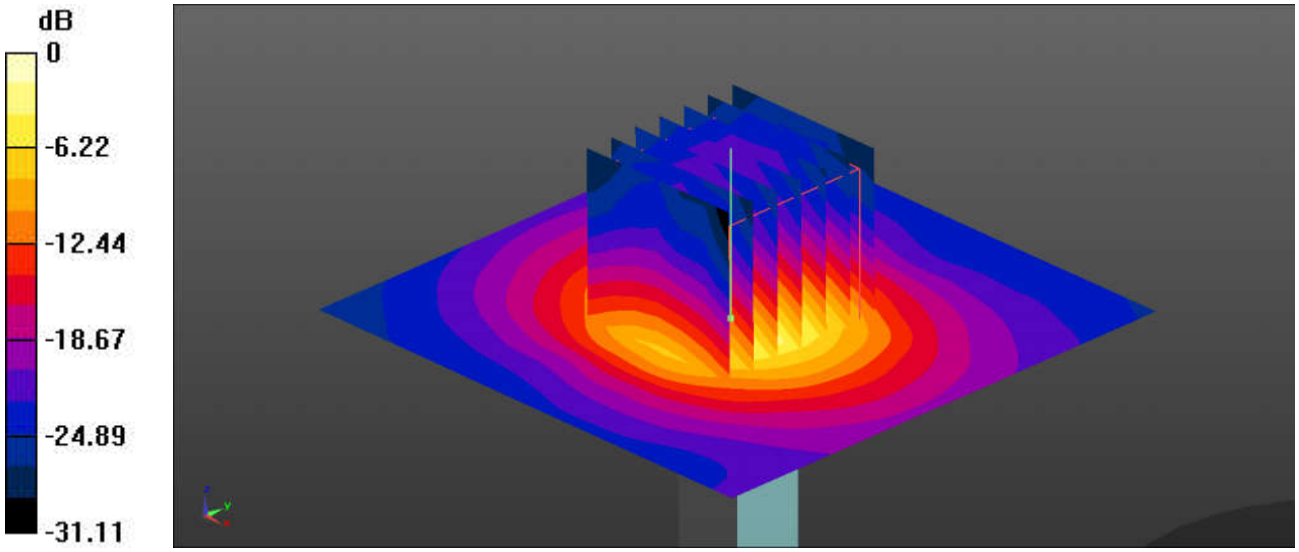
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5250 MHz; σ = 4.639 S/m; ε_r = 36.202; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(5.24, 5.24, 5.24); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.5 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.81 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 28.8 W/kg
SAR(1 g) = 7.65 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.8 W/kg = 12.74 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.10

System Check_Head_5600MHz

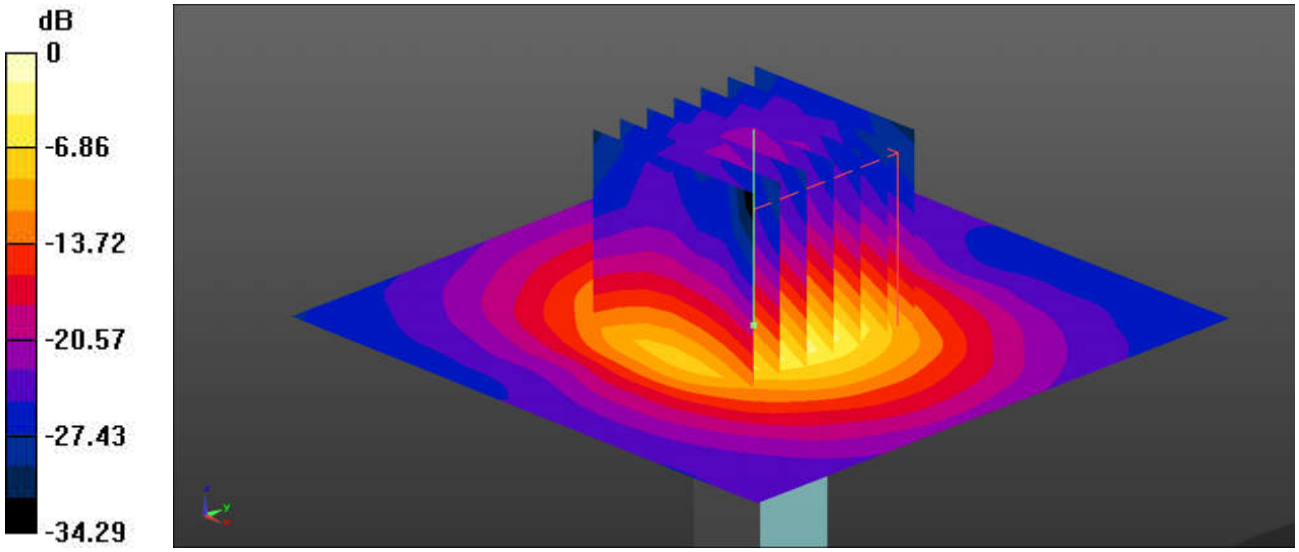
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5600 MHz; σ = 4.984 S/m; ε_r = 35.588; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(4.65, 4.65, 4.65); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 20.8 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 70.33 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 34.9 W/kg
SAR(1 g) = 8.48 W/kg; SAR(10 g) = 2.45 W/kg
Maximum value of SAR (measured) = 21.7 W/kg



0 dB = 21.7 W/kg = 13.36 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.11

System Check_Head_5750MHz

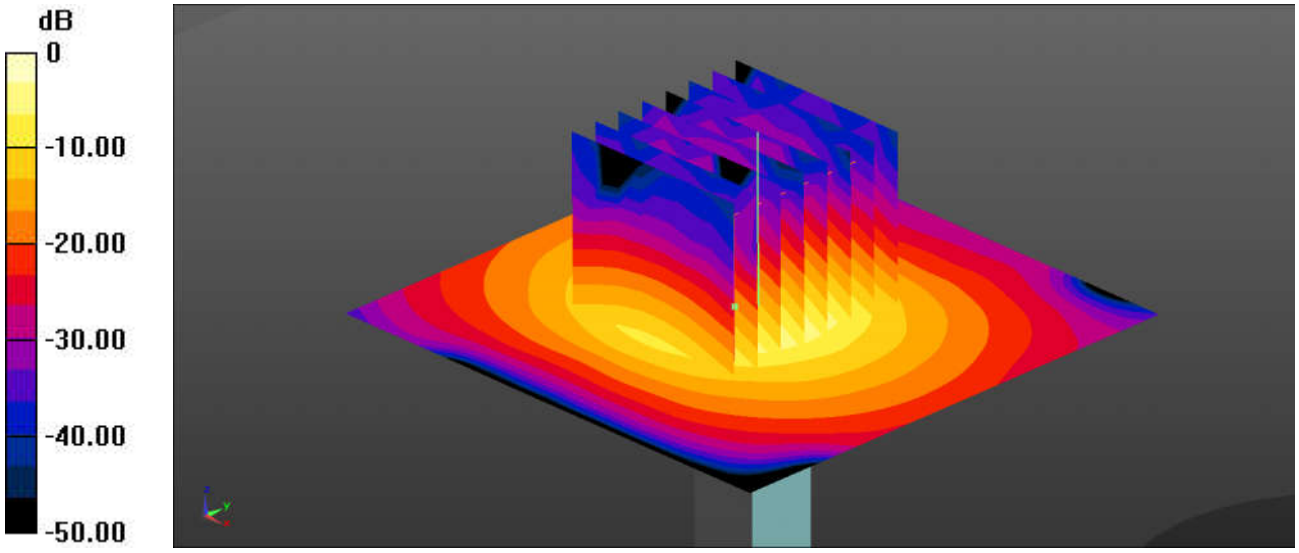
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5750 MHz; σ = 5.22 S/m; ε_r = 35.292; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(4.69, 4.69, 4.69); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 18.7 W/kg

Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 39.34 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 32.2 W/kg
SAR(1 g) = 7.71 W/kg; SAR(10 g) = 2.2 W/kg
Maximum value of SAR (measured) = 17.9 W/kg



0 dB = 17.9 W/kg = 12.53 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.27

System Check_Head_750MHz

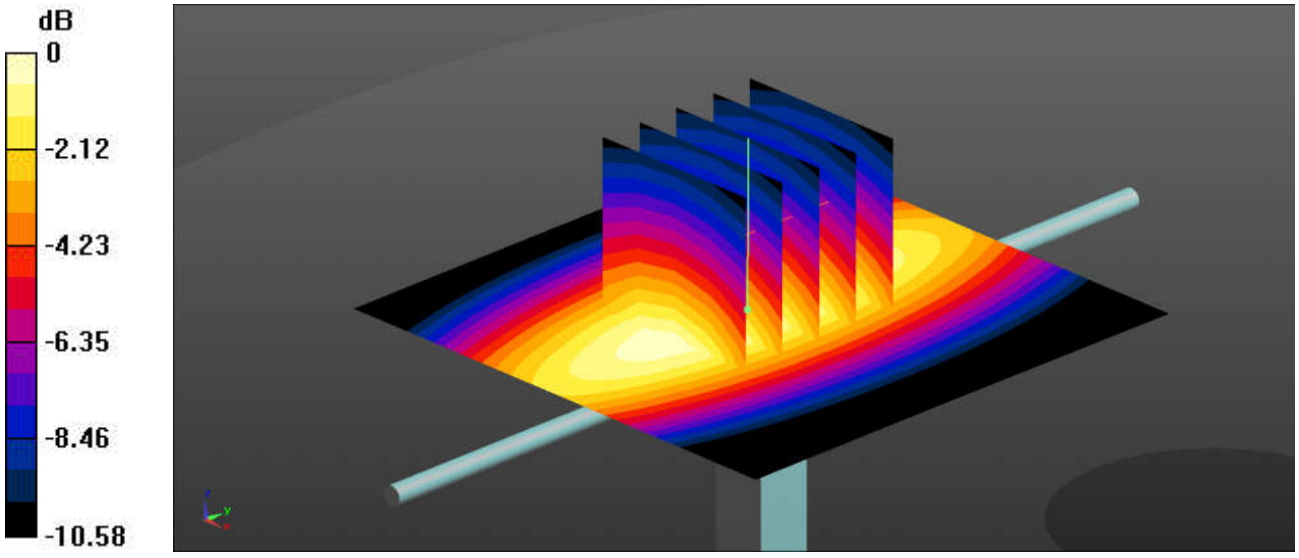
DUT: D750V3 - SN:1087

Communication System: UID 0, CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.891 S/m; ε_r = 43.672; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(10.31, 10.31, 10.31); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.51 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.02 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.93 W/kg
SAR(1 g) = 1.99 W/kg; SAR(10 g) = 1.31 W/kg
Maximum value of SAR (measured) = 2.51 W/kg



0 dB = 2.51 W/kg = 4.00 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.12

System Check_Head_835MHz

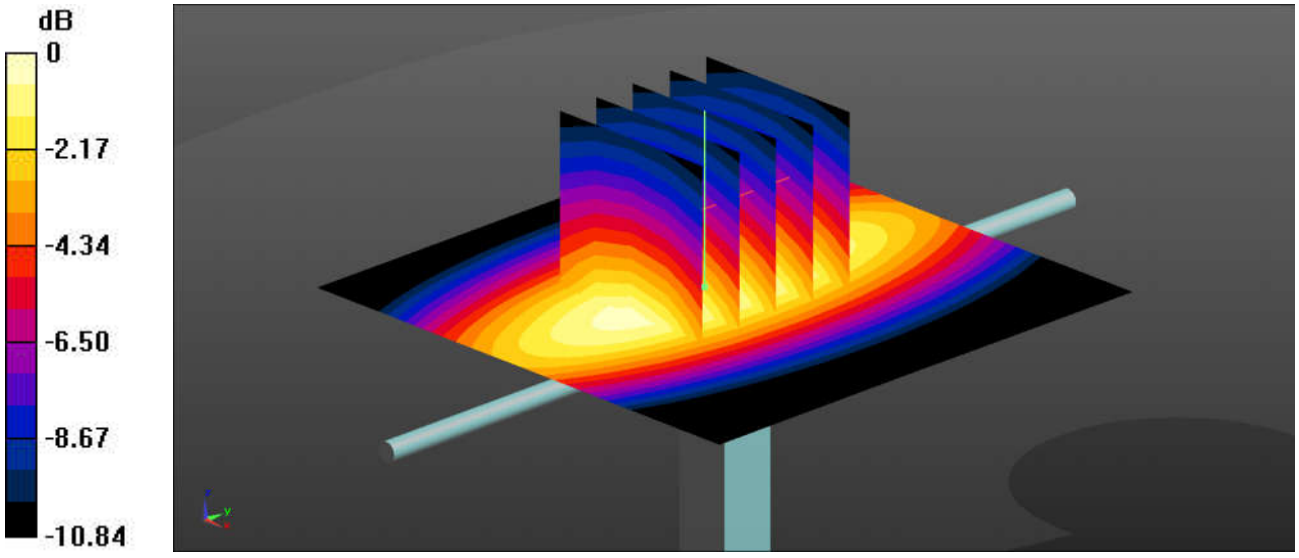
DUT: D835V2 - SN:4d151

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_850 Medium parameters used: f = 835 MHz; σ = 0.928 S/m; ε_r = 43.453; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(10.05, 10.05, 10.05); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.06 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.32 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.62 W/kg
SAR(1 g) = 2.39 W/kg; SAR(10 g) = 1.56 W/kg
Maximum value of SAR (measured) = 3.06 W/kg



0 dB = 3.06 W/kg = 4.86 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.28

System Check_Head_1750MHz

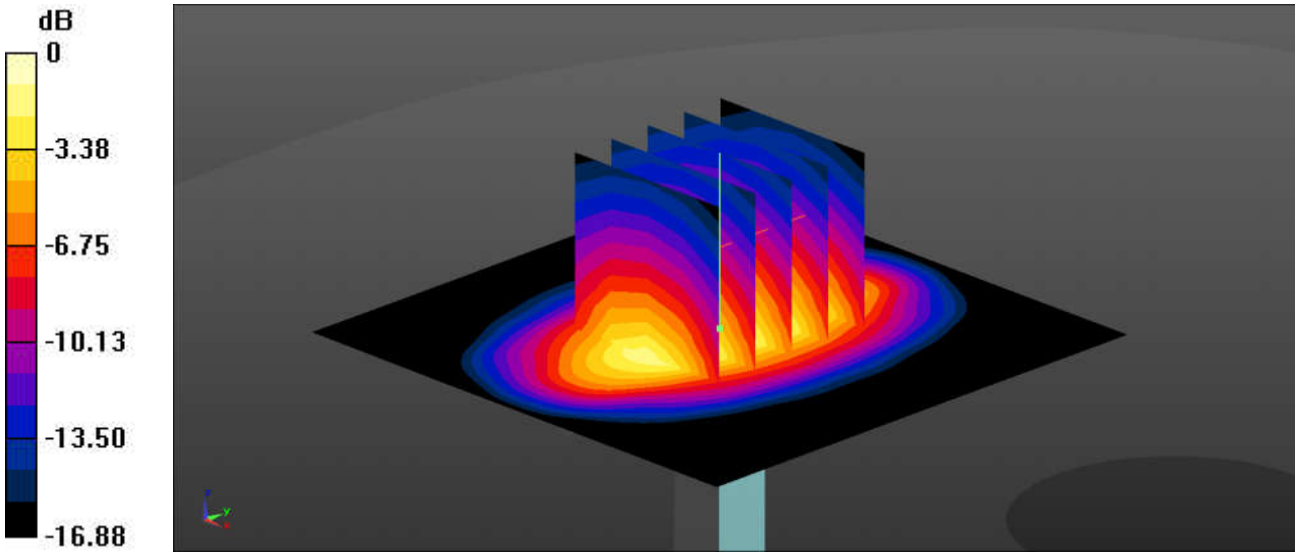
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.367 S/m; ε_r = 41.091; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(8.41, 8.41, 8.41); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.0 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 103.3 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 8.97 W/kg; SAR(10 g) = 4.77 W/kg
Maximum value of SAR (measured) = 14.0 W/kg



0 dB = 14.0 W/kg = 11.46 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.13

System Check_Head_1900MHz

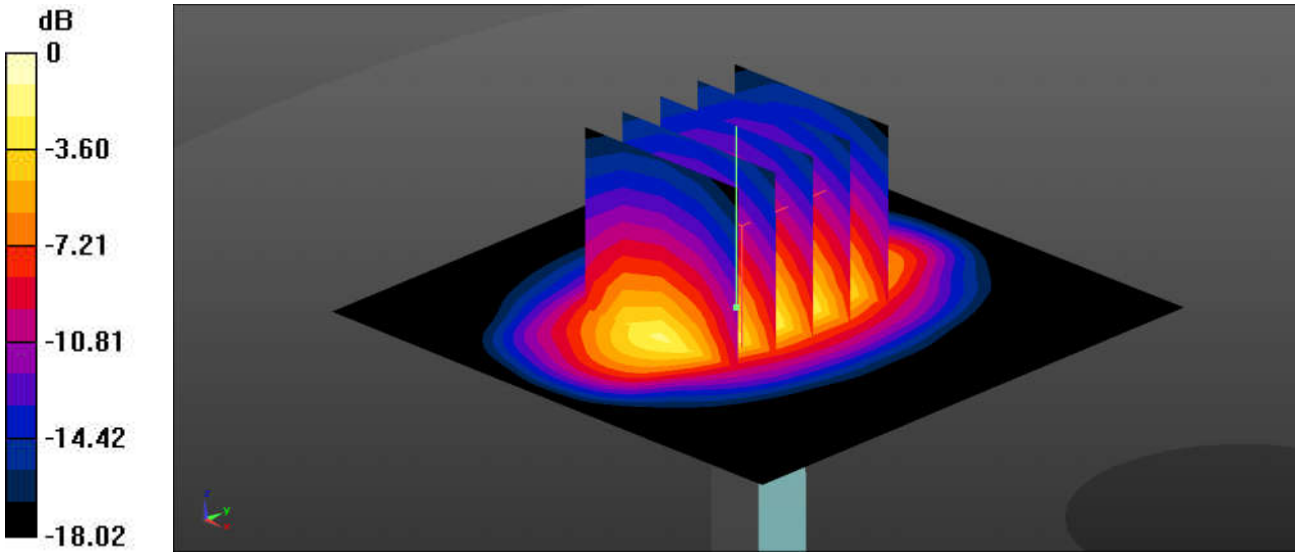
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.455 S/m; ε_r = 40.875; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(8.22, 8.22, 8.22); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.8 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 104.0 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.26 W/kg
Maximum value of SAR (measured) = 15.9 W/kg



0 dB = 15.9 W/kg = 12.01 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.14

System Check_Head_2450MHz

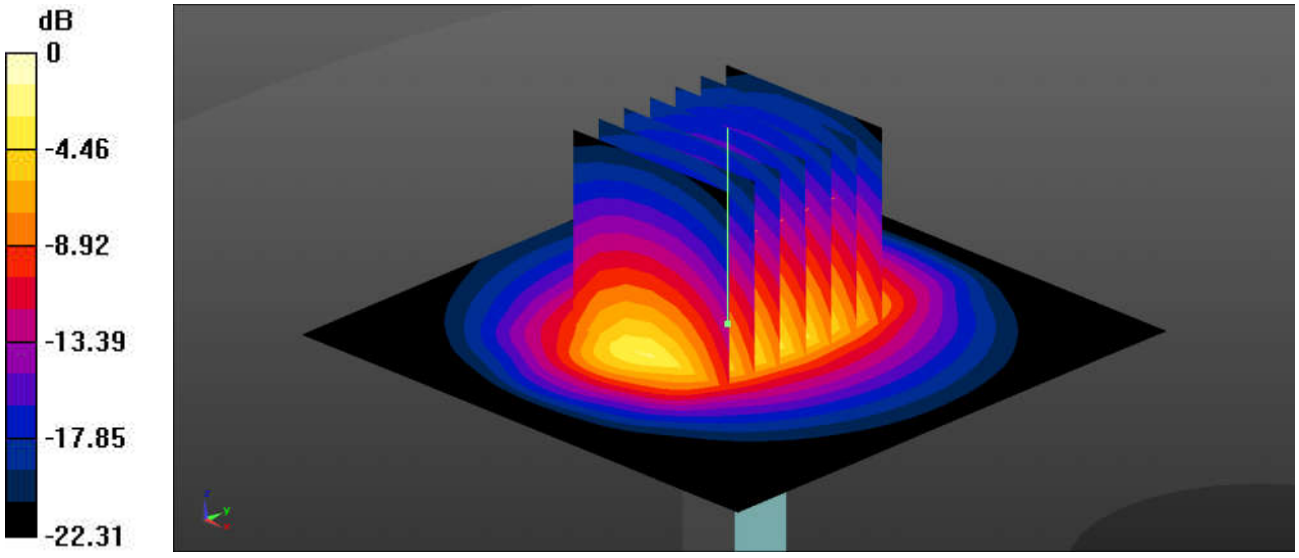
DUT: D2450V2 - SN:908

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.858 S/m; ε_r = 40.199; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(7.57, 7.57, 7.57); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 20.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.53 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 26.6 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.93 W/kg
Maximum value of SAR (measured) = 19.8 W/kg



0 dB = 19.8 W/kg = 12.97 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.29

System Check_Head_2600MHz

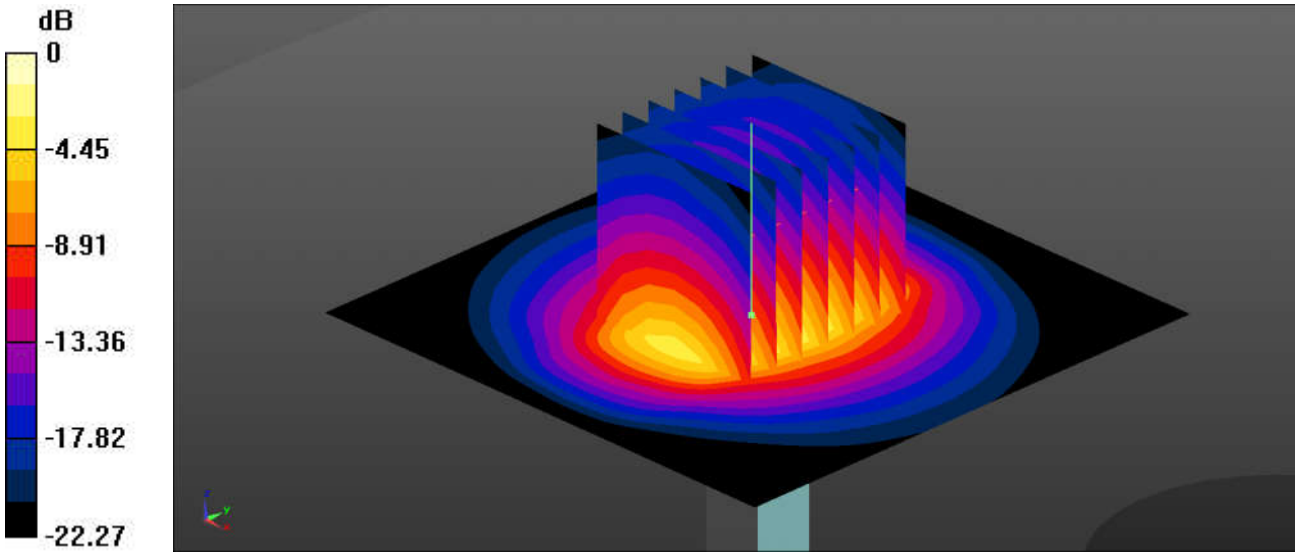
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.982 S/m; ε_r = 39.933; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(7.31, 7.31, 7.31); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 23.8 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 111.2 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 29.4 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.32 W/kg
Maximum value of SAR (measured) = 23.7 W/kg



0 dB = 23.7 W/kg = 13.75 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.15

System Check_Head_3900MHz

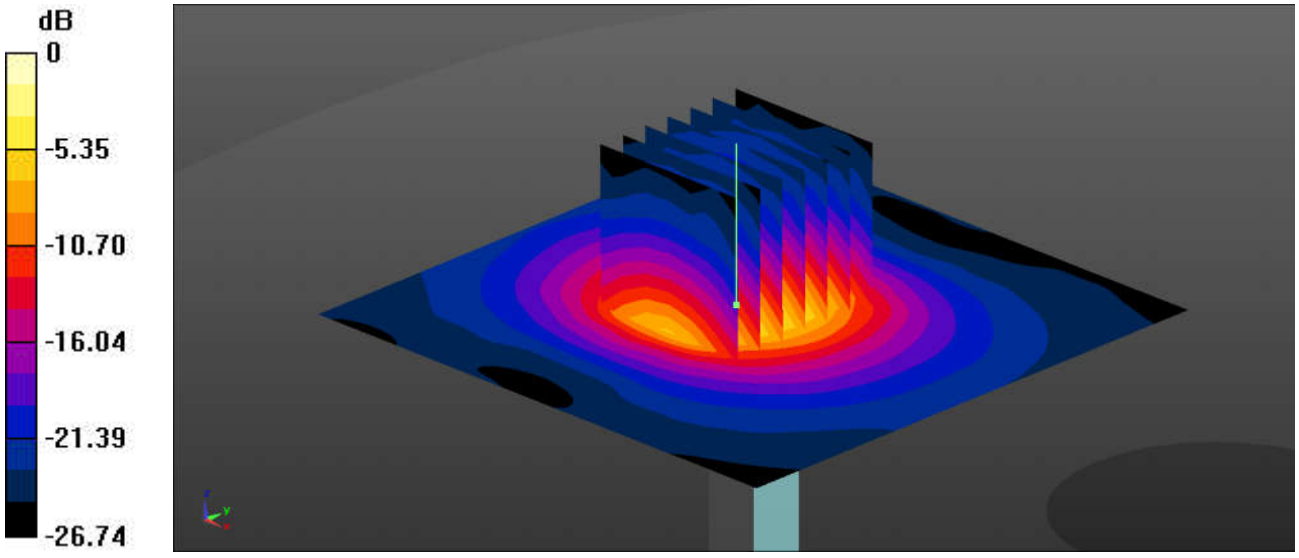
DUT: D3900V2 - SN:1022

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1
Medium: HSL_3900 Medium parameters used: f = 3900 MHz; σ = 3.247 S/m; ε_r = 37.816; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(6.43, 6.43, 6.43); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 10.9 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm
Reference Value = 45.34 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 6.62 W/kg; SAR(10 g) = 2.35 W/kg
Maximum value of SAR (measured) = 11.8 W/kg



0 dB = 11.8 W/kg = 10.72 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.16

System Check_Head_5250MHz

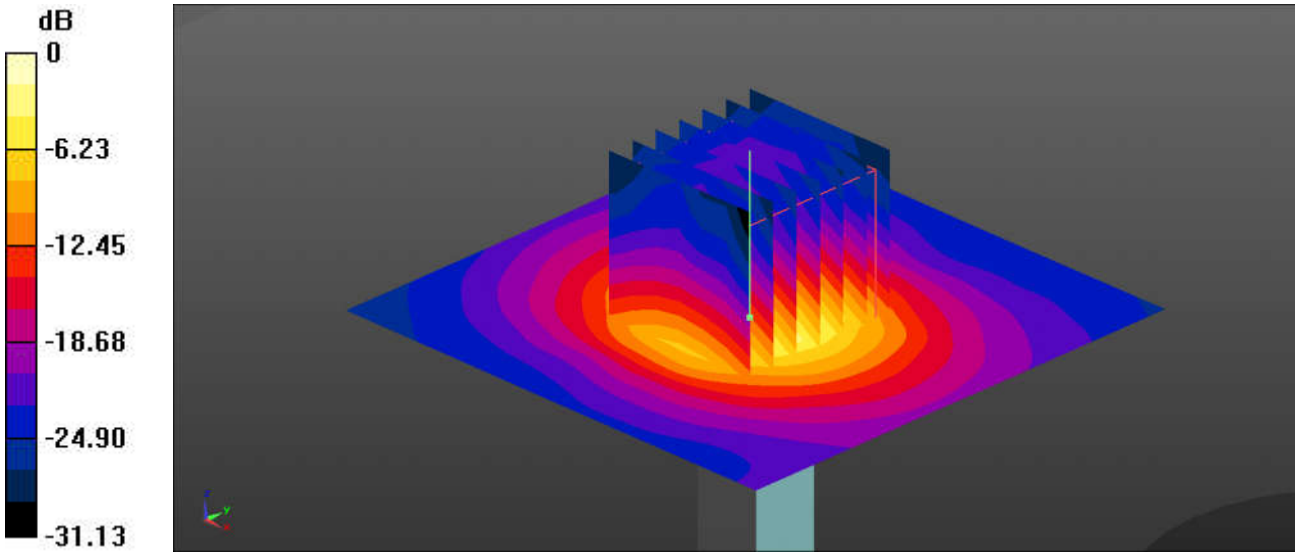
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5250 MHz; σ = 4.673 S/m; ε_r = 35.232; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(5.24, 5.24, 5.24); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.6 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.81 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 29.0 W/kg
SAR(1 g) = 7.71 W/kg; SAR(10 g) = 2.25 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 19.0 W/kg = 12.79 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.30

System Check_Head_5600MHz

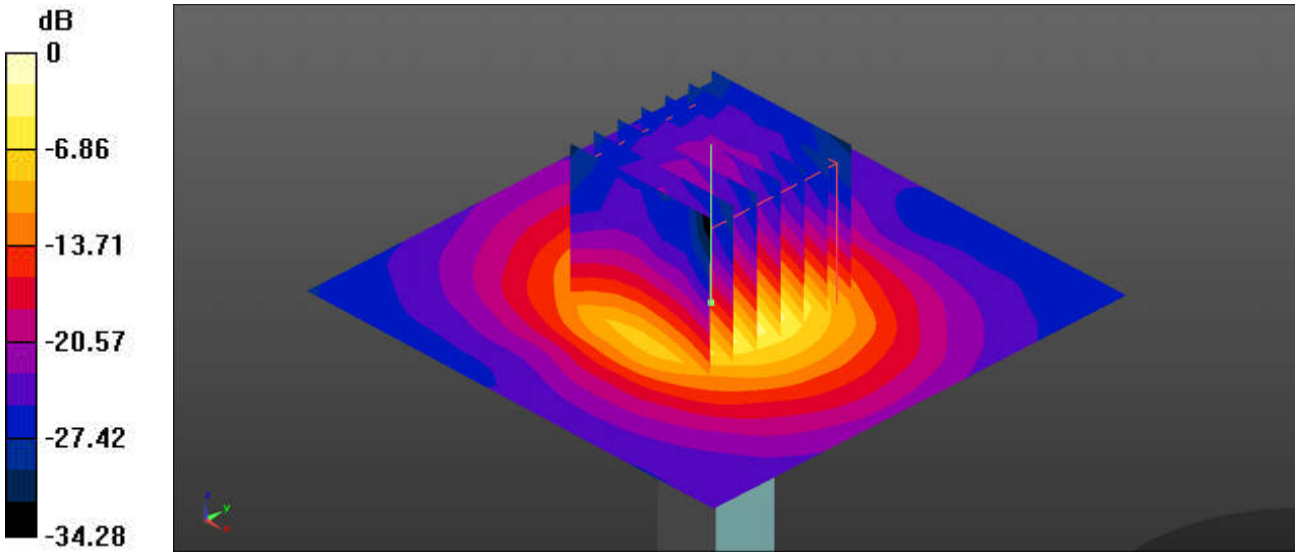
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5600 MHz; σ = 5.018 S/m; ε_r = 34.697; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(4.65, 4.65, 4.65); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 20.9 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 70.33 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 35.2 W/kg
SAR(1 g) = 8.54 W/kg; SAR(10 g) = 2.47 W/kg
Maximum value of SAR (measured) = 21.8 W/kg



0 dB = 21.8 W/kg = 13.38 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.17

System Check_Head_5750MHz

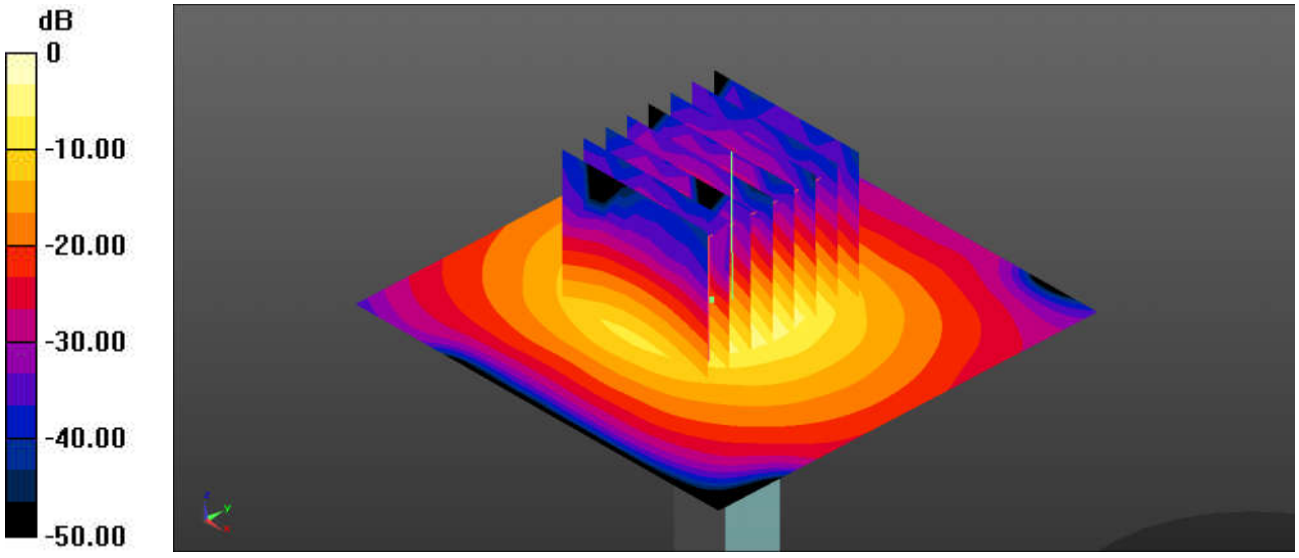
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5750 MHz; σ = 5.18 S/m; ε_r = 34.452; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(4.69, 4.69, 4.69); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 18.5 W/kg

Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 39.34 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 32.0 W/kg
SAR(1 g) = 7.65 W/kg; SAR(10 g) = 2.19 W/kg
Maximum value of SAR (measured) = 17.7 W/kg



0 dB = 17.7 W/kg = 12.48 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.1.25

System Check_Head_750MHz

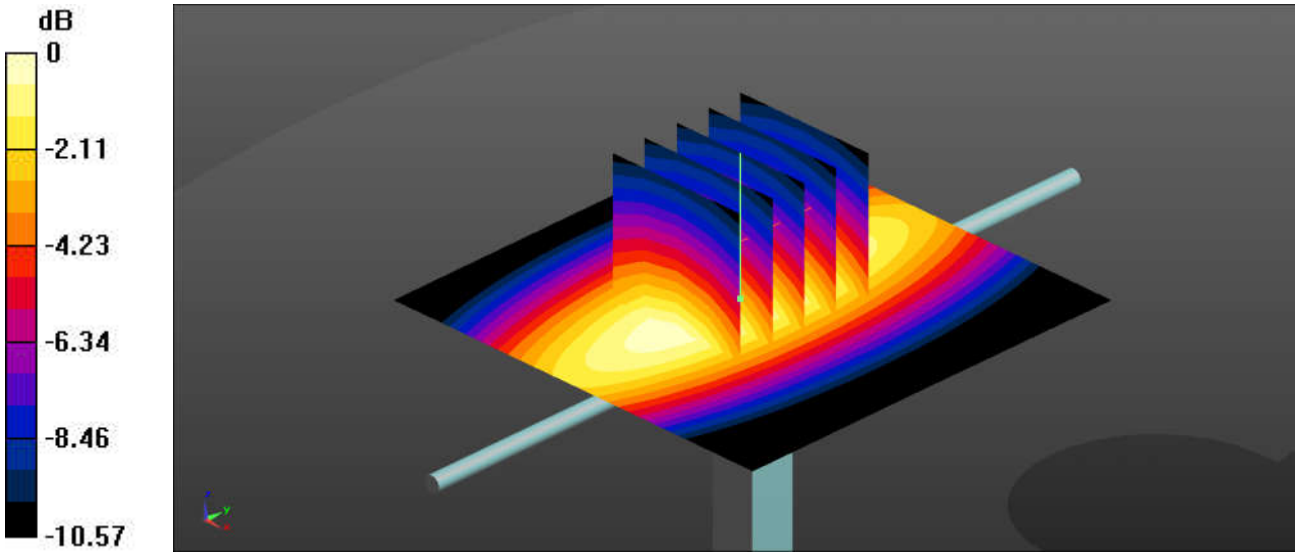
DUT: D750V3 - SN:1087

Communication System: UID 0, CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.9 S/m; ε_r = 42.015; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(10.31, 10.31, 10.31); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn690; Calibrated: 2020.3.26
- Phantom: SAM1; Type: SAM; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.54 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.02 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.96 W/kg
SAR(1 g) = 2.01 W/kg; SAR(10 g) = 1.32 W/kg
Maximum value of SAR (measured) = 2.53 W/kg



0 dB = 2.53 W/kg = 4.03 dBW/kg