FCC SAR Test Report

APPLICANT	:	vivo Mobile Communication Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	vivo
MODEL NAME	:	V2124
FCC ID	:	2AUCY-V2124
STANDARD	:	FCC 47 CFR PART 2 (2.1093)

We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

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

Tony Zhang

Reviewed by: Tony Zhang / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA1D1624	Rev. 01	Initial issue of report	Jan. 10, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **vivo Mobile Communication Co., Ltd. , Mobile Phone, V2124,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 15mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.67	0.43	0.20	1.16
		GSM1900	0.60	0.61	0.47	
	WCDMA	Band V	0.49	0.45	0.22	
		Band IV	0.60	0.51	0.38	
		Band II	0.66	0.53	**0.60**	
	LTE	LTE Band 12	**0.76**	0.24	0.14	
		LTE Band 17	0.64	0.32	0.19	
		LTE Band 26/5/18/19	0.63	0.40	0.20	
		LTE Band 4	**0.76**	0.52	0.29	
		LTE Band 2	0.72	0.61	0.51	
		LTE Band 7	0.64	0.56	0.49	
		LTE Band 41/38	0.41	0.38	0.32	
	5G NR	FR1 n5	0.60	0.20	0.15	
		FR1 n7	0.64	0.40	0.55	
		FR1 n41	0.61	**0.70**	0.54	
DTS	WLAN	2.4GHz WLAN	0.50	0.17	0.14	1.16
NII		5GHz WLAN	0.41	0.25	0.34	1.14
DSS	Bluetooth	2.4GHz Bluetooth	0.10	<0.10	<0.10	1.14

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	WCDMA	Band IV	**2.28**	2.41
		Band II	1.66	
	LTE	Band 2	1.55	
		Band 7	1.53	
	5G NR	FR1 n7	1.86	
		FR1 n41	1.51	
NII	WLAN	5GHz WLAN	1.34	2.41
Date of Testing:			2021/12/08~2021/12/30	

Remark: This device supports LTE B5 / B18 / B19 / B38 and B26 / B41. Since the supported frequency span for LTE B5 / B18 / B19 / B38 falls completely within the supports frequency span for LTE B26 / 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 B26 / B41.

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

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

2. Administration Data

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

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

Applicant	
Company Name	vivo Mobile Communication Co., Ltd.
Address	No.1, vivo Road, Chang'an, Dongguan,Guangdong,China

Manufacturer	
Company Name	vivo Mobile Communication Co., Ltd.
Address	No.1, vivo Road, Chang'an, Dongguan,Guangdong,China

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 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
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	vivo
Model Name	V2124
FCC ID	2AUCY-V2124
IMEI Code	SIM1: 862245059978823 SIM2: 862245059978831
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 18: 815 MHz ~ 830 MHz LTE Band 19: 830 MHz ~ 845 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n41 : 2496 MHz ~ 2690 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 ~ 5720MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA HSPA+(16QAM uplink) LTE: QPSK/ 16QAM / 64QAM / 256QAM(Downlink Only) 5G NR: DFT-s-OFDM (PI/2 BPSK/ QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM) WLAN 2.4GHz 802.11b/g/n HT20 WLAN 2.4GHz: 802.11ac VHT20 WLAN 5GHz 802.11a/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	MP_0.1
SW Version	PD2156BF_EX_A_3.8.5
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Production Unit
Remark: 1. 802.11n-HT40 is not supported in 2.4GHz WLAN. 2. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. 3. This device does not support DTM operation and support GRPS/EGRPS mode up to multi-slot class 12. 4. This device WLAN 2.4GHz supports hotspot operation and Bluetooth support tethering applications.	

5. 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).
6. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
7. The device implements Proximity sensors/receiver/hotspot detect mechanism trigger reduced power for the power management for SAR compliance at different exposure conditions (head, hotspot, body, and extrimity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. Power table (full power: Default power; DSI 4: P-sensor off power/receiver off; DSI 2/3: receiver on head power; DSI 10: hotspot on hotspot power; DSI 5/8/9/10: P-sensor on extremity for Ant 11/13).
8. For WWAN transmitter, while the device WWAN is transmitting simultaneously with the WLAN/Bluetooth antenna, when earpiece receiver worked, reduced power will be active. While the device WWAN is transmitting simultaneously with the WLAN/Bluetooth antenna, when earpiece receiver is not worked, reduced power will be active.
9. For WLAN transmitter, while the device WLAN is transmitting simultaneously with the WWAN/Bluetooth antenna, when earpiece receiver worked, reduced power will be active. While the device WLAN is transmitting simultaneously with the WWAN/Bluetooth antenna, when earpiece receiver is not worked, reduced power will be active.
10. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode.
11. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
12. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time
13. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
14. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
15. For 5G NR NSA modes, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
16. This device supports 5GNR FR1 bands as following table.

<5G NR>

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

4.2 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>2AUCY-V2124</td></tr>
<tr><td>Equipment Name</td><td>Mobile Phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 2: 1850 MHz ~ 1910 MHz
LTE Band 4: 1710 MHz ~ 1755 MHz
LTE Band 5: 824 MHz ~ 849 MHz
LTE Band 7: 2500 MHz ~ 2570 MHz
LTE Band 12: 699 MHz ~ 716 MHz
LTE Band 17: 704 MHz ~ 716 MHz
LTE Band 18: 815 MHz ~ 830 MHz
LTE Band 19: 830 MHz ~ 845 MHz
LTE Band 26: 814 MHz ~ 849 MHz
LTE Band 38: 2570 MHz ~ 2620 MHz
LTE Band 41: 2496 MHz ~ 2690 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 17: 5MHz, 10MHz
LTE Band 18: 5MHz, 10MHz, 15MHz
LTE Band 19: 5MHz, 10MHz, 15MHz
LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz
LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>Uplink Modulations used</td><td>QPSK / 16QAM / 64QAM / 256 QAM (Downlink only)</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Data only / Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, category 13</td></tr>
<tr><td>CA Support</td><td>Yes, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism trigger reduction power applied to satisfy SAR compliance the detail please referred to section 13.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Intra-Band and Inter-Band possible combinations and the detail power verification please referred to section 13.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>(1) This device supports LTE Carrier Aggregation (CA) in the uplink for LTE 7C /38C/41C with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.
(2) This device supports maximum of 2 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.</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 18						
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23875	817.5	23900	820		
M	23925	822.5	23925	822.5	23925	822.5
H	23975	827.5	23950	825		

LTE Band 19						
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	24025	832.5	24050	835		
M	24075	837.5	24075	837.5	24075	837.5
H	24125	842.5	24100	840		

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

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

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

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz
Channel Bandwidth	5G NR n5 : 5MHz/10MHz/15MHz/20MHz 5G NR n7 : 5MHz/10MHz/15MHz/20MHz 5G NR n41 : 10MHz/15MHz/20MHz/30MHz/40MHz/50MHz/60MHz/70MHz/80MHz/90MHz/100MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B7

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band

NR Band 5

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

NR Band 7

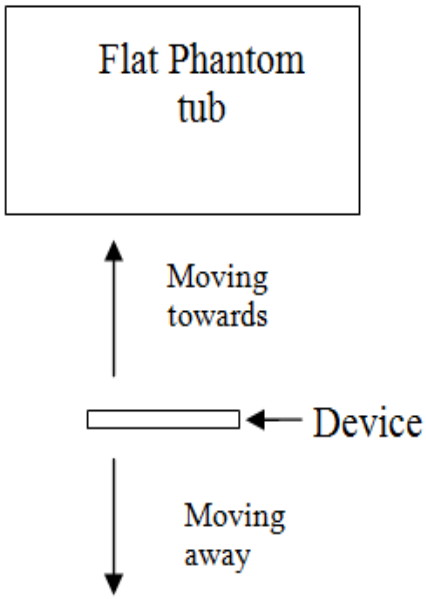
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560

Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2595.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

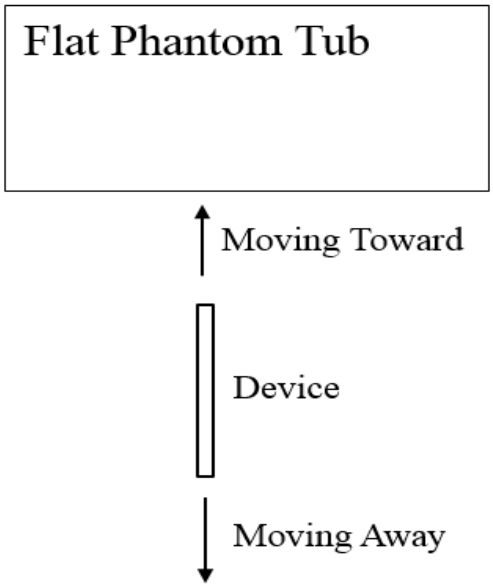
5. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or top or left sides of the device. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
3. The device employs proximity sensors that detect the presence of the user's body or handheld states at the front, back, top, left sides of the device. When front, back, top, left sides of body condition or handheld states is detected reduced power will be active. The data shown in the sections below shows the distance(s).
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



Sensor detection test set-up, front and back sides



Sensor detection test set-up, top /left sides

<P-Sensor>

Antenna 11:

Proximity Sensor Trigger Distance (mm)				
Position	Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	10	10	11	11

Antenna 13:

Proximity Sensor Trigger Distance (mm)						
Position	Front		Back		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	8	11	11	12	12

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

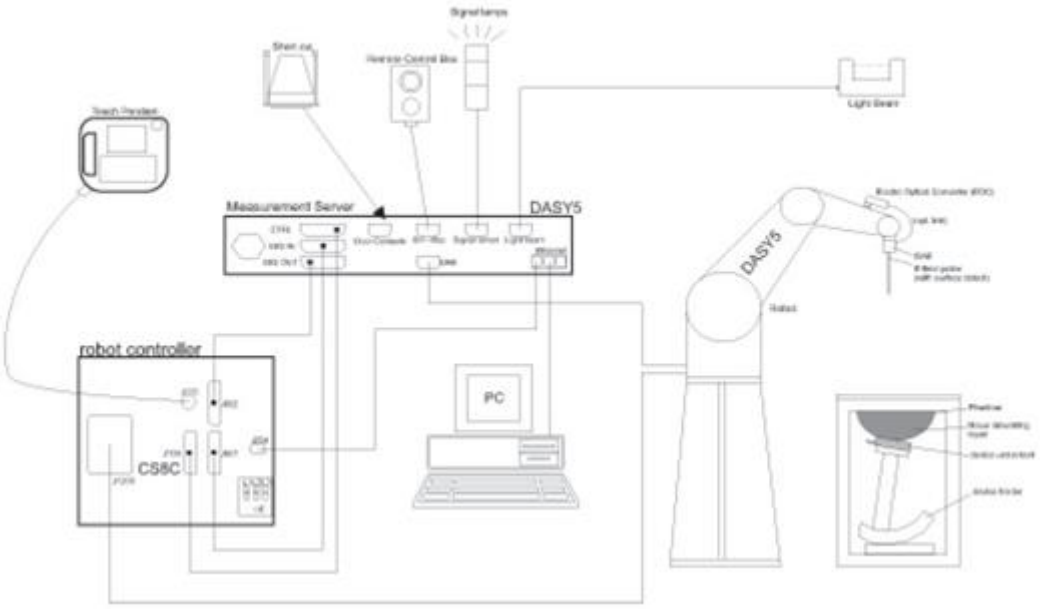
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 E-Field Probe

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

<ES3DV3 Probe>

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

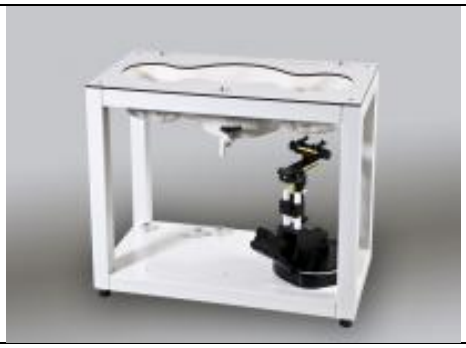
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

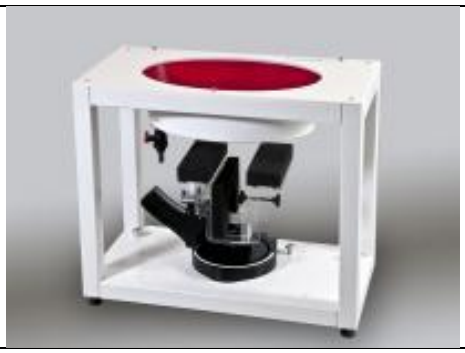
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

9.2 Power Reference Measurement

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

9.3 Area Scan

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

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

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

9.4 Zoom Scan

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

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

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

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

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

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	Mar. 27, 2019	Mar. 24, 2022
SPEAG	835MHz System Validation Kit	D835V2	4d258	May 07, 2020	May 06, 2023
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Oct. 19, 2021	Oct. 18, 2022
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	Mar. 26, 2019	Mar. 24, 2022
SPEAG	2450MHz System Validation Kit	D2450V2	924	Sep. 02, 2020	Sep. 01, 2023
SPEAG	2600MHz System Validation Kit	D2600V2	1061	Nov. 26, 2020	Nov. 25, 2023
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	Sep. 24, 2019	Sep. 22, 2022
SPEAG	Data Acquisition Electronics	DAE4	910	Jul. 15, 2021	Jul. 14, 2022
SPEAG	Data Acquisition Electronics	DAE4	1210	Aug. 25, 2021	Aug. 24, 2022
SPEAG	Dosimetric E-Field Probe	ES3DV3	3191	Feb. 19, 2021	Feb. 18, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3975	Jun. 07, 2021	Jun. 06, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	7577	Nov. 23, 2021	Nov. 22, 2022
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1671	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1795	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 14, 2021	Jul. 13, 2022
Anritsu	Radio communication analyzer	MT8821C	6201588577	Apr. 08, 2021	Apr. 07, 2022
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Jul. 14, 2021	Jul. 13, 2022
Agilent	Network Analyzer	E5071C	MY46523671	Oct. 25, 2021	Oct. 24, 2022
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Dec. 23, 2020	Dec. 22, 2021
Speag	Dielectric Assessment KIT	DAK-3.5	1138	Jun. 09, 2021	Jun. 08, 2022
Agilent	Signal Generator	N5181A	MY50145381	Dec. 25, 2020	Dec. 24, 2021
Agilent	Signal Generator	N5181A	MY50145381	Dec. 28, 2021	Dec. 27, 2022
Anritsu	Power Sensor	MA2411B	1207253	Dec. 25, 2020	Dec. 24, 2021
Anritsu	Power Meter	ML2495A	1218010	Dec. 25, 2020	Dec. 24, 2021
Anritsu	Power Sensor	MA2411B	1306099	Sep. 29, 2021	Sep. 28, 2022
Anritsu	Power Meter	ML2495A	1349001	Sep. 29, 2021	Sep. 28, 2022
R&S	Power Sensor	NRP50S	101254	Apr. 09, 2021	Apr. 08, 2022
R&S	Power Sensor	NRP8S	109228	Apr. 09, 2021	Apr. 08, 2022
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 25, 2020	Dec. 24, 2021
R&S	Spectrum Analyzer	FSP7	100818	Jul. 14, 2021	Jul. 13, 2022
TES	Hygrometer	1310	200505600	Jul. 17, 2021	Jul. 16, 2022
Anymetre	Thermo-Hygrometer	JR593	2015030904	Jul. 17, 2021	Jul. 16, 2022
Anymetre	Thermo-Hygrometer	JR593	2015102801	Jan. 05, 2021	Jan. 04, 2022
SPEAG	Device Holder	N/A	N/A	N/A	N/A
AR	Amplifier	5S1G4	0333096	Note 1	
mini-circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
Weinschel	Attenuator 1	3M-10	N/A	Note 1	

Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. 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. 10.2.

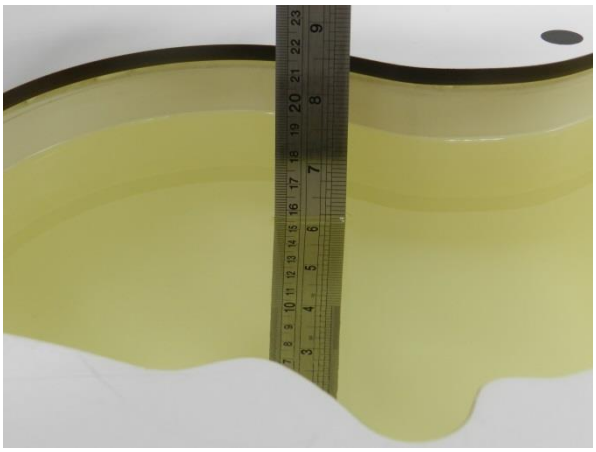


Fig 10.1Photo of Liquid Height for Head SAR

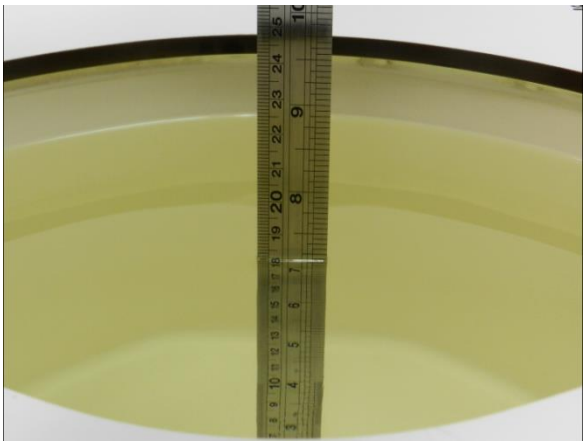


Fig 10.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900	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	22.5	0.921	41.563	0.89	41.90	3.48	-0.80	±5	2021/12/8
835	Head	22.5	0.902	42.419	0.90	41.50	0.22	2.21	±5	2021/12/10
835	Head	22.3	0.925	42.207	0.90	41.50	2.78	1.70	±5	2021/12/20
1750	Head	22.8	1.367	40.221	1.37	40.10	-0.22	0.30	±5	2021/12/12
1750	Head	22.7	1.380	41.322	1.37	40.10	0.73	3.05	±5	2021/12/24
1900	Head	22.4	1.412	38.427	1.40	40.00	0.86	-3.93	±5	2021/12/14
1900	Head	22.9	1.455	39.186	1.40	40.00	3.93	-2.04	±5	2021/12/25
2450	Head	22.7	1.789	39.418	1.80	39.20	-0.61	0.56	±5	2021/12/18
2600	Head	22.6	1.934	37.621	1.96	39.00	-1.33	-3.54	±5	2021/12/16
2600	Head	22.4	1.939	37.940	1.96	39.00	-1.07	-2.72	±5	2021/12/22
5250	Head	22.8	4.626	37.038	4.71	35.95	-1.78	3.03	±5	2021/12/23
5600	Head	22.3	5.034	36.508	5.07	35.50	-0.71	2.84	±5	2021/12/24
5750	Head	22.6	5.203	36.253	5.22	35.35	-0.33	2.55	±5	2021/12/25
2450	Head	22.5	1.850	38.467	1.80	39.20	2.78	-1.87	±5	2021/12/30
5250	Head	22.5	4.726	36.478	4.71	35.95	0.34	1.47	±5	2021/12/30
5600	Head	22.5	5.154	35.866	5.07	35.50	1.66	1.03	±5	2021/12/30
5750	Head	22.5	5.329	35.584	5.22	35.35	2.09	0.66	±5	2021/12/30

11.3 System Performance Check Results

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

1g

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 (%)
2021/12/8	750	Head	250	1087	3191	910	2.07	8.36	8.28	-0.96
2021/12/10	835	Head	250	4d258	3191	910	2.31	9.44	9.24	-2.12
2021/12/20	835	Head	250	4d258	3191	910	2.43	9.44	9.72	2.97
2021/12/12	1750	Head	250	1137	3191	910	8.65	36.50	34.6	-5.21
2021/12/24	1750	Head	250	1137	3191	910	8.45	36.50	33.8	-7.40
2021/12/14	1900	Head	250	5d170	3191	910	9.62	39.00	38.48	-1.33
2021/12/25	1900	Head	250	5d170	3191	910	10.40	39.00	41.6	6.67
2021/12/18	2450	Head	250	924	3191	910	12.60	51.40	50.4	-1.95
2021/12/16	2600	Head	250	1061	3191	910	13.50	56.60	54	-4.59
2021/12/22	2600	Head	250	1061	3191	910	14.50	56.60	58	2.47
2021/12/23	5250	Head	100	1113	3975	1210	7.86	80.50	78.6	-2.36
2021/12/24	5600	Head	100	1113	3975	1210	8.32	83.40	83.2	-0.24
2021/12/25	5750	Head	100	1113	3975	1210	7.93	80.00	79.3	-0.88
2021/12/30	2450	Head	250	924	7577	910	12.80	51.40	51.2	-0.39
2021/12/30	5250	Head	100	1113	7577	910	7.72	80.50	77.2	-4.10
2021/12/30	5600	Head	100	1113	7577	910	7.96	83.40	79.6	-4.56
2021/12/30	5750	Head	100	1113	7577	910	7.64	80.00	76.4	-4.50

10g

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 (%)
2021/12/8	750	Head	250	1087	3191	910	1.37	5.65	5.48	-3.01
2021/12/10	835	Head	250	4d258	3191	910	1.51	6.13	6.04	-1.47
2021/12/20	835	Head	250	4d258	3191	910	1.59	6.13	6.36	3.75
2021/12/12	1750	Head	250	1137	3191	910	4.70	19.20	18.8	-2.08
2021/12/24	1750	Head	250	1137	3191	910	4.57	19.20	18.28	-4.79
2021/12/14	1900	Head	250	5d170	3191	910	4.99	20.30	19.96	-1.67
2021/12/25	1900	Head	250	5d170	3191	910	5.31	20.30	21.24	4.63
2021/12/18	2450	Head	250	924	3191	910	5.87	24.00	23.48	-2.17
2021/12/16	2600	Head	250	1061	3191	910	6.03	25.10	24.12	-3.90
2021/12/22	2600	Head	250	1061	3191	910	6.32	25.10	25.28	0.72
2021/12/23	5250	Head	100	1113	3975	1210	2.15	23.10	21.5	-6.93
2021/12/24	5600	Head	100	1113	3975	1210	2.27	23.80	22.7	-4.62
2021/12/25	5750	Head	100	1113	3975	1210	2.17	22.80	21.7	-4.82
2021/12/30	2450	Head	250	924	7577	910	5.87	24.00	23.48	-2.17
2021/12/30	5250	Head	100	1113	7577	910	2.16	23.10	21.6	-6.49
2021/12/30	5600	Head	100	1113	7577	910	2.30	23.80	23	-3.36
2021/12/30	5750	Head	100	1113	7577	910	2.13	22.80	21.3	-6.58

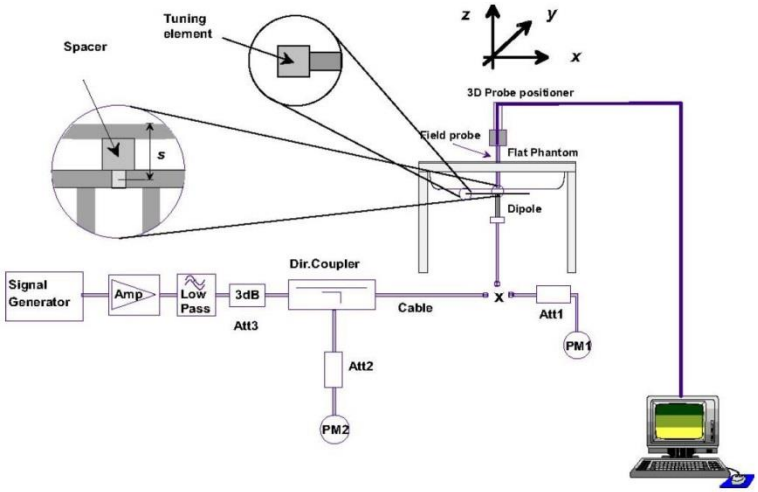


Fig 10.3.1 System Performance Check Setup

Fig 10.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

Figure 11.1.1 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 11.1.2 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 11.1.3). 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 11.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

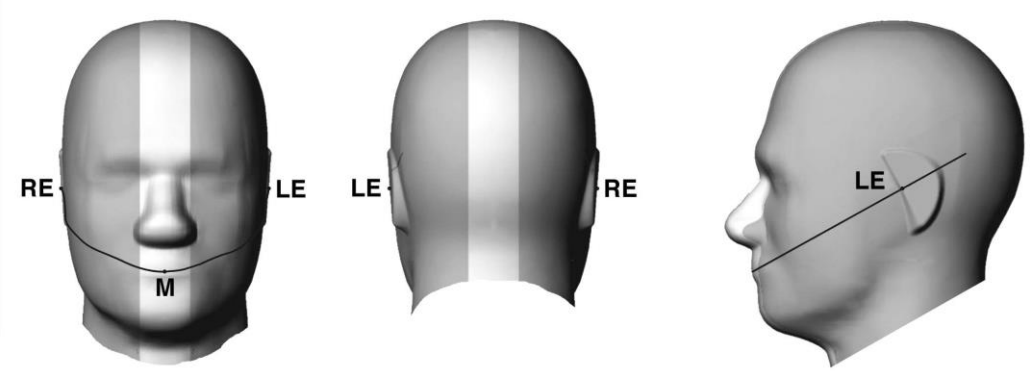


Fig 11.1.1 Front, back, and side views of SAM twin phantom

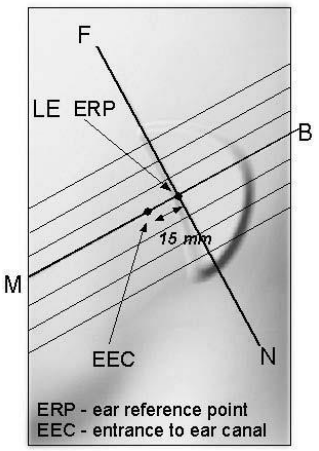


Fig 11.1.2 Close-up side view of phantom showing the ear region.

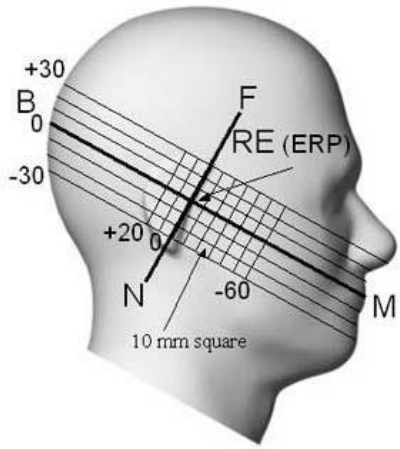


Fig 11.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 11.2.1 and Figure 11.2.2), 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 11.2.1). 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 11.2.2), 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 11.2.3), 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 11.2.3. The actual rotation angles should be documented in the test report.

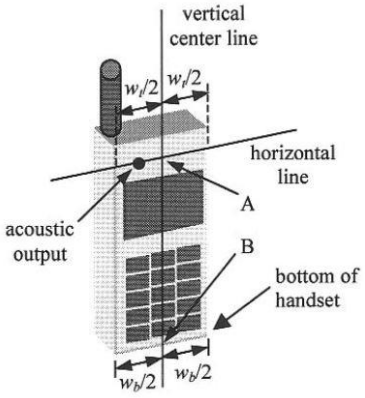


Fig 11.2.1 Handset vertical and horizontal reference lines—"fixed case

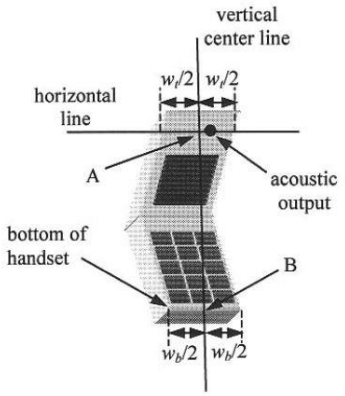


Fig 11.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

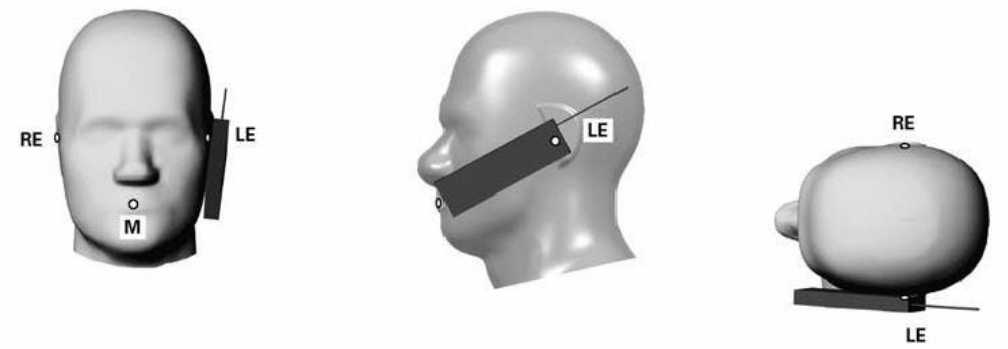


Fig 11.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 11.3.1. 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

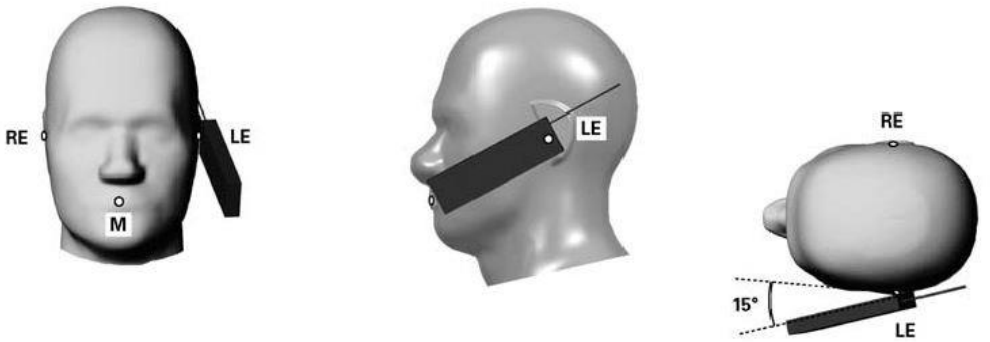


Fig 11.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). 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.

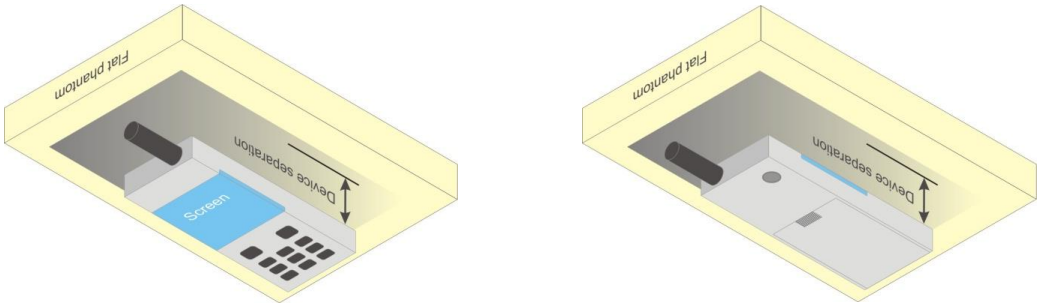


Fig 11.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

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

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

12.6 Wireless Router

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

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

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

General Note:

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2E:HSPA+:UL with 16QAM
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
   iii. Set Channel Parms
   iv. Set Cell Power = -86 dBm
   v. Set Channel Type = HSPA
   vi. Set UE Target Power =21 dBm
   vii. Power Ctrl Mode= All Up Bits
   viii. Set Manual Uplink DPCH Bc/Bd = Manual
   ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
   x. Set HSPA Conn DL Channel Levels
   xi. Set HS-SCCH Configs
   xii. Set RB Test Mode Setup
   xiii. Set Common HSUPA Parameters
   xiv. Set Serving Grant
   xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

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

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

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

Setup Configuration

<WCDMA Conducted Power>

General Note:

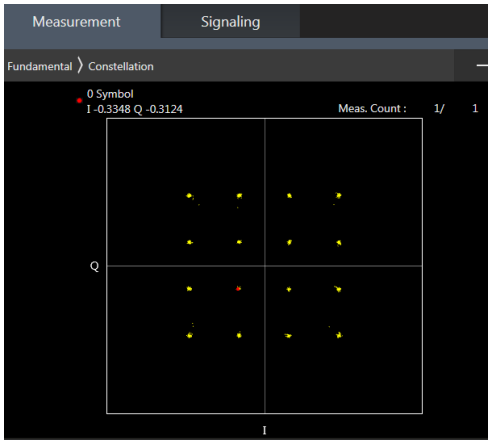
1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / HSPA+ is ≤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

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM 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 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 4 / 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 band 5/18/19/38 SAR test was covered by Band 26/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.

64QAM



16QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

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

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

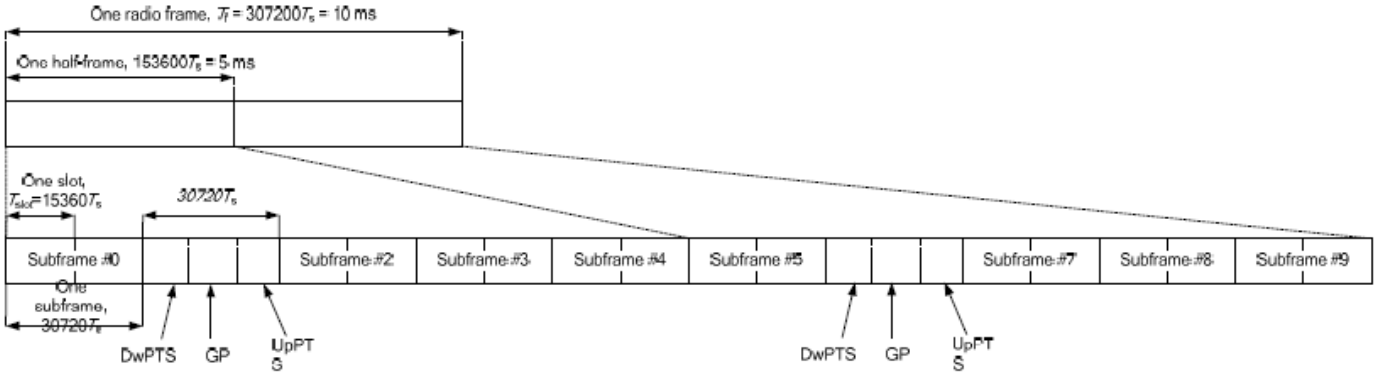


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

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

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

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

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

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

<LTE Carrier Aggregation>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
3. All permutations exist. No restrictions on Pcell & Scell combinations.

2CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-5A			
2	CA_2A-7A			
3	CA_2A-12A			
4	CA_2A-17A			
5	CA_4A-4A			
6	CA_4A-5A			
7	CA_4A-7A			
8	CA_4A-12A			
9	CA_4A-17A			
10	CA_5A-7A			
11	CA_5A-41A			
12	CA_7A-7A			
13	CA_7C			
14	CA_38A-38A			
15	CA_38C			
16	CA_41A-41A			
17	CA_41C			

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)

2CC Uplink Carrier Aggregation			
Number	Combination	Antenna	
1	7C	Ant13	Ant31
2	38C	Ant13	Ant31
3	41C	Ant13	Ant31

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/B38/B41 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

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

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

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

5G NR Output Power (Unit: dBm)

General Note:

1. NR implementation of n5 is limited to EN-DC operations only (NSA), with LTE Bands B7 acting as anchor bands, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. 5G NR n7 / n41 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s PI/2 BPSK and the reported SAR for the DFT-s PI/2 BPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for 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
4. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
5. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
6. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time
7. For 5G NR NSA modes, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.

<3GPP 38.101 MPR for EN-DC>

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

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

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

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

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

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

<EN-DC combination and combine Total Power>

EN-DC configuration	Uplink EN-DC configuration	LTE UL Antenna	5GNR UL Antenna
DC_7A_n5A	DC_7A_n5A	Ant13/31	Ant13/41

<WLAN Conducted Power>

General Note:

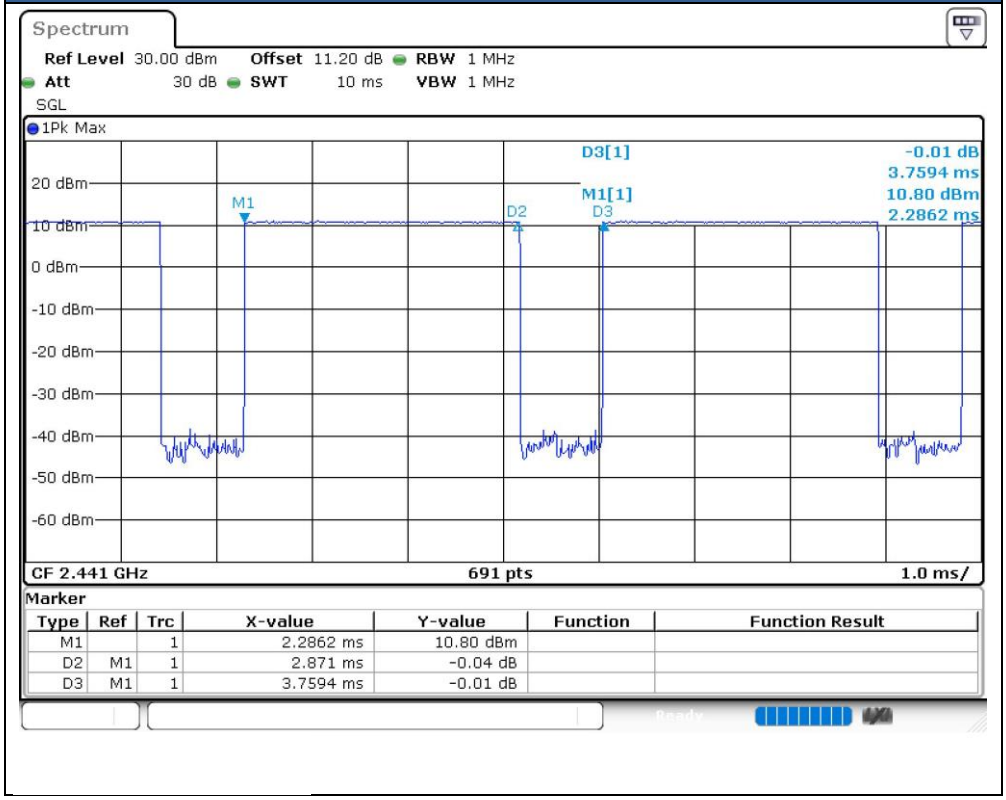
1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04, no additional SAR measurements for MIMO.
3. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) 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 in the initial test configuration, for each frequency band or when MIMO mode was not performed, due to for each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode. Additional output power measurements were not necessary.
4. 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.
5. 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).
6. 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.
7. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
    a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
    b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
    c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.37 % 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 WLAN/Bluetooth: 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 (W/kg) = 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 only when the measured SAR is ≥0.8W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15cm or an overall diagonal dimension > 16cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, in this report all the hotspot mode results are < 1.2W/kg.
6. 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 (for handheld on state, the maximum full power means reduced power), including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
   a. For this device SAR for WWAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of WCDMA Band II/IV, LTE Band 2/7, and 5GNR n7/n41, therefore product specific 10g SAR is necessary.
   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.
7. The following table “n/a” means the measured SAR is too small to find the 10g cube SAR.

GSM Note:

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

WCDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM 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 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 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 B 5/18/19/38 SAR test was covered by LTE B26/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

For 5G NR test procedure was following step similar FCC KDB 941225 D05:

a. SAR testing start with the largest channel bandwidth and measure SAR for 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.

b. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure.

c. 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.

d. 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.

e. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device

f.

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.

16.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	GSM850	GPRS 4 Tx slots	Right Cheek	0mm	Ant 13	DSI 2/3	128	824.2	23.69	24.50	1.205	-0.16	0.557	**0.671**
	GSM850	GPRS 4 Tx slots	Right Tilted	0mm	Ant 13	DSI 2/3	128	824.2	23.69	24.50	1.205	-0.05	0.412	0.496
	GSM850	GPRS 4 Tx slots	Left Cheek	0mm	Ant 13	DSI 2/3	128	824.2	23.69	24.50	1.205	-0.11	0.415	0.500
	GSM850	GPRS 4 Tx slots	Left Tilted	0mm	Ant 13	DSI 2/3	128	824.2	23.69	24.50	1.205	-0.13	0.360	0.434
	GSM850	GPRS 2 Tx slots	Right Cheek	0mm	Ant 41	DSI 2/3	128	824.2	30.47	31.50	1.268	0.03	0.067	0.085
	GSM850	GPRS 2 Tx slots	Right Tilted	0mm	Ant 41	DSI 2/3	128	824.2	30.47	31.50	1.268	0.06	0.059	0.075
	GSM850	GPRS 2 Tx slots	Left Cheek	0mm	Ant 41	DSI 2/3	128	824.2	30.47	31.50	1.268	0.11	0.094	0.119
	GSM850	GPRS 2 Tx slots	Left Tilted	0mm	Ant 41	DSI 2/3	128	824.2	30.47	31.50	1.268	0.15	0.082	0.104
	GSM1900	GPRS 2 Tx slots	Right Cheek	0mm	Ant 13	DSI 2/3	810	1909.8	18.97	20.00	1.268	0.18	0.345	0.437
02	GSM1900	GPRS 2 Tx slots	Right Tilted	0mm	Ant 13	DSI 2/3	810	1909.8	18.97	20.00	1.268	0.16	0.474	**0.601**
	GSM1900	GPRS 2 Tx slots	Left Cheek	0mm	Ant 13	DSI 2/3	810	1909.8	18.97	20.00	1.268	0.16	0.247	0.313
	GSM1900	GPRS 2 Tx slots	Left Tilted	0mm	Ant 13	DSI 2/3	810	1909.8	18.97	20.00	1.268	-0.06	0.274	0.347
	GSM1900	GPRS 2 Tx slots	Right Cheek	0mm	Ant 31	DSI 2/3	810	1909.8	27.75	28.50	1.189	-0.04	0.087	0.103
	GSM1900	GPRS 2 Tx slots	Right Tilted	0mm	Ant 31	DSI 2/3	810	1909.8	27.75	28.50	1.189	-0.1	0.075	0.089
	GSM1900	GPRS 2 Tx slots	Left Cheek	0mm	Ant 31	DSI 2/3	810	1909.8	27.75	28.50	1.189	-0.01	0.101	0.120
	GSM1900	GPRS 2 Tx slots	Left Tilted	0mm	Ant 31	DSI 2/3	810	1909.8	27.75	28.50	1.189	-0.05	0.077	0.092

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
03	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 13	DSI 2/3	4182	836.4	19.36	20.50	1.300	0.05	0.376	**0.489**
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 13	DSI 2/3	4182	836.4	19.36	20.50	1.300	0.05	0.308	0.400
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 13	DSI 2/3	4182	836.4	19.36	20.50	1.300	-0.1	0.250	0.325
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 13	DSI 2/3	4182	836.4	19.36	20.50	1.300	0.01	0.212	0.276
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 41	DSI 2/3	4182	836.4	23.41	24.50	1.285	0.05	0.143	0.184
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 41	DSI 2/3	4182	836.4	23.41	24.50	1.285	0.06	0.067	0.086
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 41	DSI 2/3	4182	836.4	23.41	24.50	1.285	0.03	0.172	0.221
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 41	DSI 2/3	4182	836.4	23.41	24.50	1.285	0.04	0.071	0.091
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 13	DSI 2/3	1413	1732.6	15.05	16.00	1.245	-0.13	0.361	0.449
04	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 13	DSI 2/3	1413	1732.6	15.05	16.00	1.245	0.14	0.481	**0.599**
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 13	DSI 2/3	1413	1732.6	15.05	16.00	1.245	-0.04	0.256	0.319
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 13	DSI 2/3	1413	1732.6	15.05	16.00	1.245	0.16	0.338	0.421
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 31	DSI 2/3	1413	1732.6	23.72	24.50	1.197	0.03	0.090	0.108
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 31	DSI 2/3	1413	1732.6	23.72	24.50	1.197	0.05	0.098	0.118
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 31	DSI 2/3	1413	1732.6	23.72	24.50	1.197	0.02	0.136	0.163
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 31	DSI 2/3	1413	1732.6	23.72	24.50	1.197	0.1	0.092	0.110
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 13	DSI 2/3	9400	1880	12.90	14.00	1.288	0.1	0.394	0.508
05	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 13	DSI 2/3	9400	1880	12.90	14.00	1.288	0.17	0.511	**0.658**
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 13	DSI 2/3	9400	1880	12.90	14.00	1.288	-0.07	0.271	0.349
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 13	DSI 2/3	9400	1880	12.90	14.00	1.288	0.11	0.333	0.429
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 31	DSI 2/3	9400	1880	23.45	24.50	1.274	0.05	0.112	0.143
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 31	DSI 2/3	9400	1880	23.45	24.50	1.274	0.08	0.115	0.146
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 31	DSI 2/3	9400	1880	23.45	24.50	1.274	0.11	0.174	0.222
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 31	DSI 2/3	9400	1880	23.45	24.50	1.274	0.06	0.111	0.141

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	LTE Band 12	10M	QPSK	1	25	Right Cheek	0mm	Ant 13	DSI 2/3	23095	707.5	22.39	23.50	1.291	0.05	0.586	**0.757**
	LTE Band 12	10M	QPSK	1	25	Right Tilted	0mm	Ant 13	DSI 2/3	23095	707.5	22.39	23.50	1.291	0.03	0.441	0.569
	LTE Band 12	10M	QPSK	1	25	Left Cheek	0mm	Ant 13	DSI 2/3	23095	707.5	22.39	23.50	1.291	-0.04	0.325	0.420
	LTE Band 12	10M	QPSK	1	25	Left Tilted	0mm	Ant 13	DSI 2/3	23095	707.5	22.39	23.50	1.291	0.07	0.238	0.307
	LTE Band 12	10M	QPSK	25	12	Right Cheek	0mm	Ant 13	DSI 2/3	23095	707.5	21.88	23.00	1.294	0.06	0.474	0.613
	LTE Band 12	10M	QPSK	25	12	Right Tilted	0mm	Ant 13	DSI 2/3	23095	707.5	21.88	23.00	1.294	0.04	0.389	0.503
	LTE Band 12	10M	QPSK	25	12	Left Cheek	0mm	Ant 13	DSI 2/3	23095	707.5	21.88	23.00	1.294	0.03	0.287	0.371
	LTE Band 12	10M	QPSK	25	12	Left Tilted	0mm	Ant 13	DSI 2/3	23095	707.5	21.88	23.00	1.294	0.07	0.208	0.269
	LTE Band 12	10M	QPSK	1	25	Right Cheek	0mm	Ant 41	DSI 2/3	23095	707.5	23.11	24.00	1.227	-0.12	0.072	0.089
	LTE Band 12	10M	QPSK	1	25	Right Tilted	0mm	Ant 41	DSI 2/3	23095	707.5	23.11	24.00	1.227	-0.11	0.034	0.041
	LTE Band 12	10M	QPSK	1	25	Left Cheek	0mm	Ant 41	DSI 2/3	23095	707.5	23.11	24.00	1.227	0.15	0.098	0.120
	LTE Band 12	10M	QPSK	1	25	Left Tilted	0mm	Ant 41	DSI 2/3	23095	707.5	23.11	24.00	1.227	-0.17	0.040	0.048
	LTE Band 12	10M	QPSK	25	12	Right Cheek	0mm	Ant 41	DSI 2/3	23095	707.5	22.10	23.00	1.230	-0.16	0.054	0.066
	LTE Band 12	10M	QPSK	25	12	Right Tilted	0mm	Ant 41	DSI 2/3	23095	707.5	22.10	23.00	1.230	0.11	0.027	0.033
	LTE Band 12	10M	QPSK	25	12	Left Cheek	0mm	Ant 41	DSI 2/3	23095	707.5	22.10	23.00	1.230	0.1	0.073	0.090
	LTE Band 12	10M	QPSK	25	12	Left Tilted	0mm	Ant 41	DSI 2/3	23095	707.5	22.10	23.00	1.230	0.15	0.032	0.039
	LTE Band 17	10M	QPSK	1	25	Right Cheek	0mm	Ant 13	DSI 2/3	23790	710	22.42	23.50	1.282	0.18	0.500	0.641
	LTE Band 17	10M	QPSK	1	25	Right Tilted	0mm	Ant 13	DSI 2/3	23790	710	22.42	23.50	1.282	0.09	0.436	0.559
	LTE Band 17	10M	QPSK	1	25	Left Cheek	0mm	Ant 13	DSI 2/3	23790	710	22.42	23.50	1.282	0.03	0.335	0.430
	LTE Band 17	10M	QPSK	1	25	Left Tilted	0mm	Ant 13	DSI 2/3	23790	710	22.42	23.50	1.282	0.17	0.243	0.312
07	LTE Band 17	10M	QPSK	25	12	Right Cheek	0mm	Ant 13	DSI 2/3	23790	710	22.39	23.50	1.291	0.14	0.499	**0.644**
	LTE Band 17	10M	QPSK	25	12	Right Tilted	0mm	Ant 13	DSI 2/3	23790	710	22.39	23.50	1.291	0.01	0.418	0.540
	LTE Band 17	10M	QPSK	25	12	Left Cheek	0mm	Ant 13	DSI 2/3	23790	710	22.39	23.50	1.291	0.04	0.334	0.431
	LTE Band 17	10M	QPSK	25	12	Left Tilted	0mm	Ant 13	DSI 2/3	23790	710	22.39	23.50	1.291	-0.15	0.241	0.311
	LTE Band 17	10M	QPSK	1	25	Right Cheek	0mm	Ant 41	DSI 2/3	23790	710	23.14	24.50	1.368	0.14	0.088	0.120
	LTE Band 17	10M	QPSK	1	25	Right Tilted	0mm	Ant 41	DSI 2/3	23790	710	23.14	24.50	1.368	-0.07	0.042	0.057
	LTE Band 17	10M	QPSK	1	25	Left Cheek	0mm	Ant 41	DSI 2/3	23790	710	23.14	24.50	1.368	-0.09	0.111	0.152
	LTE Band 17	10M	QPSK	1	25	Left Tilted	0mm	Ant 41	DSI 2/3	23790	710	23.14	24.50	1.368	0.14	0.051	0.069
	LTE Band 17	10M	QPSK	25	12	Right Cheek	0mm	Ant 41	DSI 2/3	23790	710	22.15	23.50	1.365	0.11	0.070	0.096
	LTE Band 17	10M	QPSK	25	12	Right Tilted	0mm	Ant 41	DSI 2/3	23790	710	22.15	23.50	1.365	-0.16	0.034	0.046
	LTE Band 17	10M	QPSK	25	12	Left Cheek	0mm	Ant 41	DSI 2/3	23790	710	22.15	23.50	1.365	0.16	0.090	0.123
	LTE Band 17	10M	QPSK	25	12	Left Tilted	0mm	Ant 41	DSI 2/3	23790	710	22.15	23.50	1.365	0.13	0.040	0.055
08	LTE Band 26	15M	QPSK	1	37	Right Cheek	0mm	Ant 13	DSI 2/3	26865	831.5	20.38	21.50	1.294	0.04	0.488	**0.632**
	LTE Band 26	15M	QPSK	1	37	Right Tilted	0mm	Ant 13	DSI 2/3	26865	831.5	20.38	21.50	1.294	0.05	0.371	0.480
	LTE Band 26	15M	QPSK	1	37	Left Cheek	0mm	Ant 13	DSI 2/3	26865	831.5	20.38	21.50	1.294	0.03	0.342	0.443
	LTE Band 26	15M	QPSK	1	37	Left Tilted	0mm	Ant 13	DSI 2/3	26865	831.5	20.38	21.50	1.294	-0.06	0.309	0.400
	LTE Band 26	15M	QPSK	36	20	Right Cheek	0mm	Ant 13	DSI 2/3	26865	831.5	20.35	21.50	1.303	0.07	0.482	0.628
	LTE Band 26	15M	QPSK	36	20	Right Tilted	0mm	Ant 13	DSI 2/3	26865	831.5	20.35	21.50	1.303	0.03	0.365	0.476
	LTE Band 26	15M	QPSK	36	20	Left Cheek	0mm	Ant 13	DSI 2/3	26865	831.5	20.35	21.50	1.303	-0.02	0.330	0.430
	LTE Band 26	15M	QPSK	36	20	Left Tilted	0mm	Ant 13	DSI 2/3	26865	831.5	20.35	21.50	1.303	-0.08	0.306	0.399
	LTE Band 26	15M	QPSK	1	37	Right Cheek	0mm	Ant 41	DSI 2/3	26865	831.5	23.40	24.50	1.288	0.08	0.119	0.153
	LTE Band 26	15M	QPSK	1	37	Right Tilted	0mm	Ant 41	DSI 2/3	26865	831.5	23.40	24.50	1.288	-0.13	0.052	0.067
	LTE Band 26	15M	QPSK	1	37	Left Cheek	0mm	Ant 41	DSI 2/3	26865	831.5	23.40	24.50	1.288	0.03	0.159	0.205
	LTE Band 26	15M	QPSK	1	37	Left Tilted	0mm	Ant 41	DSI 2/3	26865	831.5	23.40	24.50	1.288	-0.04	0.071	0.091
	LTE Band 26	15M	QPSK	36	20	Right Cheek	0mm	Ant 41	DSI 2/3	26865	831.5	22.32	23.50	1.312	0.04	0.095	0.125
	LTE Band 26	15M	QPSK	36	20	Right Tilted	0mm	Ant 41	DSI 2/3	26865	831.5	22.32	23.50	1.312	0.04	0.044	0.058
	LTE Band 26	15M	QPSK	36	20	Left Cheek	0mm	Ant 41	DSI 2/3	26865	831.5	22.32	23.50	1.312	0.19	0.122	0.160
	LTE Band 26	15M	QPSK	36	20	Left Tilted	0mm	Ant 41	DSI 2/3	26865	831.5	22.32	23.50	1.312	-0.11	0.053	0.070
	LTE Band 4	20M	QPSK	1	49	Right Cheek	0mm	Ant 13	DSI 2/3	20175	1732.5	15.55	16.50	1.245	-0.13	0.448	0.558
09	LTE Band 4	20M	QPSK	1	49	Right Tilted	0mm	Ant 13	DSI 2/3	20175	1732.5	15.55	16.50	1.245	0.12	0.614	**0.764**
	LTE Band 4	20M	QPSK	1	49	Left Cheek	0mm	Ant 13	DSI 2/3	20175	1732.5	15.55	16.50	1.245	0.05	0.322	0.401
	LTE Band 4	20M	QPSK	1	49	Left Tilted	0mm	Ant 13	DSI 2/3	20175	1732.5	15.55	16.50	1.245	-0.19	0.386	0.480

	LTE Band 4	20M	QPSK	50	24	Right Cheek	0mm	Ant 13	DSI 2/3	20175	1732.5	15.53	16.50	1.250	0.15	0.441	0.551
	LTE Band 4	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2/3	20175	1732.5	15.53	16.50	1.250	0.04	0.584	0.730
	LTE Band 4	20M	QPSK	50	24	Left Cheek	0mm	Ant 13	DSI 2/3	20175	1732.5	15.53	16.50	1.250	-0.11	0.318	0.398
	LTE Band 4	20M	QPSK	50	24	Left Tilted	0mm	Ant 13	DSI 2/3	20175	1732.5	15.53	16.50	1.250	0.09	0.381	0.476
	LTE Band 4	20M	QPSK	1	49	Right Cheek	0mm	Ant 31	DSI 2/3	20175	1732.5	23.15	24.00	1.216	-0.13	0.077	0.094
	LTE Band 4	20M	QPSK	1	49	Right Tilted	0mm	Ant 31	DSI 2/3	20175	1732.5	23.15	24.00	1.216	-0.06	0.073	0.089
	LTE Band 4	20M	QPSK	1	49	Left Cheek	0mm	Ant 31	DSI 2/3	20175	1732.5	23.15	24.00	1.216	0.16	0.128	0.156
	LTE Band 4	20M	QPSK	1	49	Left Tilted	0mm	Ant 31	DSI 2/3	20175	1732.5	23.15	24.00	1.216	-0.05	0.070	0.085
	LTE Band 4	20M	QPSK	50	24	Right Cheek	0mm	Ant 31	DSI 2/3	20175	1732.5	22.06	23.00	1.242	0.08	0.056	0.070
	LTE Band 4	20M	QPSK	50	24	Right Tilted	0mm	Ant 31	DSI 2/3	20175	1732.5	22.06	23.00	1.242	0.11	0.046	0.057
	LTE Band 4	20M	QPSK	50	24	Left Cheek	0mm	Ant 31	DSI 2/3	20175	1732.5	22.06	23.00	1.242	-0.04	0.104	0.129
	LTE Band 4	20M	QPSK	50	24	Left Tilted	0mm	Ant 31	DSI 2/3	20175	1732.5	22.06	23.00	1.242	0.09	0.050	0.062
	LTE Band 2	20M	QPSK	1	49	Right Cheek	0mm	Ant 13	DSI 2/3	19100	1900	13.46	14.50	1.271	-0.07	0.423	0.537
	LTE Band 2	20M	QPSK	1	49	Right Tilted	0mm	Ant 13	DSI 2/3	19100	1900	13.46	14.50	1.271	0.11	0.546	0.694
	LTE Band 2	20M	QPSK	1	49	Left Cheek	0mm	Ant 13	DSI 2/3	19100	1900	13.46	14.50	1.271	-0.07	0.302	0.384
	LTE Band 2	20M	QPSK	1	49	Left Tilted	0mm	Ant 13	DSI 2/3	19100	1900	13.46	14.50	1.271	0.08	0.363	0.461
	LTE Band 2	20M	QPSK	50	24	Right Cheek	0mm	Ant 13	DSI 2/3	19100	1900	13.43	14.50	1.279	0.17	0.428	0.548
10	LTE Band 2	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2/3	19100	1900	13.43	14.50	1.279	0.04	0.559	**0.715**
	LTE Band 2	20M	QPSK	50	24	Left Cheek	0mm	Ant 13	DSI 2/3	19100	1900	13.43	14.50	1.279	-0.18	0.302	0.386
	LTE Band 2	20M	QPSK	50	24	Left Tilted	0mm	Ant 13	DSI 2/3	19100	1900	13.43	14.50	1.279	-0.08	0.366	0.468
	LTE Band 2	20M	QPSK	1	49	Right Cheek	0mm	Ant 31	DSI 2/3	19100	1900	22.92	24.00	1.282	0.1	0.108	0.138
	LTE Band 2	20M	QPSK	1	49	Right Tilted	0mm	Ant 31	DSI 2/3	19100	1900	22.92	24.00	1.282	0.1	0.095	0.122
	LTE Band 2	20M	QPSK	1	49	Left Cheek	0mm	Ant 31	DSI 2/3	19100	1900	22.92	24.00	1.282	0.12	0.183	0.235
	LTE Band 2	20M	QPSK	1	49	Left Tilted	0mm	Ant 31	DSI 2/3	19100	1900	22.92	24.00	1.282	-0.19	0.112	0.144
	LTE Band 2	20M	QPSK	50	24	Right Cheek	0mm	Ant 31	DSI 2/3	19100	1900	21.86	23.00	1.300	-0.01	0.085	0.111
	LTE Band 2	20M	QPSK	50	24	Right Tilted	0mm	Ant 31	DSI 2/3	19100	1900	21.86	23.00	1.300	-0.11	0.076	0.099
	LTE Band 2	20M	QPSK	50	24	Left Cheek	0mm	Ant 31	DSI 2/3	19100	1900	21.86	23.00	1.300	-0.04	0.102	0.133
	LTE Band 2	20M	QPSK	50	24	Left Tilted	0mm	Ant 31	DSI 2/3	19100	1900	21.86	23.00	1.300	-0.04	0.083	0.108
	LTE Band 7	20M	QPSK	1	49	Right Cheek	0mm	Ant 13	DSI 2/3	21100	2535	14.99	16.00	1.262	-0.05	0.332	0.419
	LTE Band 7	20M	QPSK	1	49	Right Tilted	0mm	Ant 13	DSI 2/3	21100	2535	14.99	16.00	1.262	0.11	0.485	0.612
	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	Ant 13	DSI 2/3	21100	2535	14.99	16.00	1.262	-0.08	0.242	0.305
	LTE Band 7	20M	QPSK	1	49	Left Tilted	0mm	Ant 13	DSI 2/3	21100	2535	14.99	16.00	1.262	-0.1	0.311	0.392
	LTE Band 7	20M	QPSK	50	24	Right Cheek	0mm	Ant 13	DSI 2/3	21100	2535	14.95	16.00	1.274	0.1	0.330	0.420
11	LTE Band 7	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2/3	21100	2535	14.95	16.00	1.274	0.11	0.502	**0.639**
	LTE Band 7	20M	QPSK	50	24	Left Cheek	0mm	Ant 13	DSI 2/3	21100	2535	14.95	16.00	1.274	-0.01	0.247	0.315
	LTE Band 7	20M	QPSK	50	24	Left Tilted	0mm	Ant 13	DSI 2/3	21100	2535	14.95	16.00	1.274	-0.17	0.315	0.401
	LTE Band 7C	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2/3	21100+ 20902	2535+ 2515.2	14.94	16.00	1.276	0.1	0.468	0.597
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Right Cheek	0mm	Ant 13	DSI 2	21100	2535	12.92	14.00	1.282	0.15	0.218	0.280
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Right Tilted	0mm	Ant 13	DSI 2	21100	2535	12.92	14.00	1.282	-0.03	0.298	0.382
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Left Cheek	0mm	Ant 13	DSI 2	21100	2535	12.92	14.00	1.282	-0.16	0.139	0.178
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Left Tilted	0mm	Ant 13	DSI 2	21100	2535	12.92	14.00	1.282	-0.04	0.186	0.239
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Right Cheek	0mm	Ant 13	DSI 2	21100	2535	11.95	13.00	1.274	0.01	0.173	0.220
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2	21100	2535	11.95	13.00	1.274	-0.13	0.234	0.298
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Left Cheek	0mm	Ant 13	DSI 2	21100	2535	11.95	13.00	1.274	0.06	0.109	0.139
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Left Tilted	0mm	Ant 13	DSI 2	21100	2535	11.95	13.00	1.274	0.14	0.152	0.194
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Right Cheek	0mm	Ant 13	DSI 3	21100	2535	11.90	13.00	1.288	0.15	0.176	0.227
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Right Tilted	0mm	Ant 13	DSI 3	21100	2535	11.90	13.00	1.288	-0.07	0.241	0.310
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Left Cheek	0mm	Ant 13	DSI 3	21100	2535	11.90	13.00	1.288	-0.11	0.098	0.126
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Left Tilted	0mm	Ant 13	DSI 3	21100	2535	11.90	13.00	1.288	-0.19	0.146	0.188
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Right Cheek	0mm	Ant 13	DSI 3	21100	2535	10.95	12.00	1.274	0.08	0.145	0.185
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 3	21100	2535	10.95	12.00	1.274	-0.06	0.191	0.243
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Left Cheek	0mm	Ant 13	DSI 3	21100	2535	10.95	12.00	1.274	-0.08	0.082	0.104
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Left Tilted	0mm	Ant 13	DSI 3	21100	2535	10.95	12.00	1.274	-0.13	0.117	0.149
	LTE Band 7	20M	QPSK	1	49	Right Cheek	0mm	Ant 31	DSI 2/3	21100	2535	22.82	24.00	1.312	0.14	0.355	0.466
	LTE Band 7	20M	QPSK	1	49	Right Tilted	0mm	Ant 31	DSI 2/3	21100	2535	22.82	24.00	1.312	-0.03	0.148	0.194

	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	Ant 31	DSI 2/3	21100	2535	22.82	24.00	1.312	-0.1	0.162	0.213
	LTE Band 7	20M	QPSK	1	49	Left Tilted	0mm	Ant 31	DSI 2/3	21100	2535	22.82	24.00	1.312	0.19	0.110	0.144
	LTE Band 7C	20M	QPSK	1	49	Right Cheek	0mm	Ant 31	DSI 2/3	21100+ 20902	2535+ 2515.2	22.81	24.00	1.315	0.16	0.332	0.437
	LTE Band 7	20M	QPSK	50	24	Right Cheek	0mm	Ant 31	DSI 2/3	21100	2535	21.79	23.00	1.321	0.15	0.270	0.357
	LTE Band 7	20M	QPSK	50	24	Right Tilted	0mm	Ant 31	DSI 2/3	21100	2535	21.79	23.00	1.321	-0.17	0.114	0.151
	LTE Band 7	20M	QPSK	50	24	Left Cheek	0mm	Ant 31	DSI 2/3	21100	2535	21.79	23.00	1.321	-0.08	0.126	0.166
	LTE Band 7	20M	QPSK	50	24	Left Tilted	0mm	Ant 31	DSI 2/3	21100	2535	21.79	23.00	1.321	0.18	0.092	0.122

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 13	DSI 2/3	41490	2680	17.35	18.00	1.161	62.9	1.006	0.05	0.261	0.305
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 13	DSI 2/3	41490	2680	17.35	18.00	1.161	62.9	1.006	0.09	0.332	0.388
	LTE Band 41	20M	QPSK	1	49	Left Cheek	0mm	Ant 13	DSI 2/3	41490	2680	17.35	18.00	1.161	62.9	1.006	0.15	0.132	0.154
	LTE Band 41	20M	QPSK	1	49	Left Tilted	0mm	Ant 13	DSI 2/3	41490	2680	17.35	18.00	1.161	62.9	1.006	-0.01	0.188	0.220
	LTE Band 41	20M	QPSK	50	24	Right Cheek	0mm	Ant 13	DSI 2/3	41490	2680	17.32	18.00	1.169	62.9	1.006	0.14	0.263	0.309
12	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2/3	41490	2680	17.32	18.00	1.169	62.9	1.006	0.06	0.345	**0.406**
	LTE Band 41	20M	QPSK	50	24	Left Cheek	0mm	Ant 13	DSI 2/3	41490	2680	17.32	18.00	1.169	62.9	1.006	0.07	0.133	0.156
	LTE Band 41	20M	QPSK	50	24	Left Tilted	0mm	Ant 13	DSI 2/3	41490	2680	17.32	18.00	1.169	62.9	1.006	-0.19	0.192	0.226
	LTE Band 41C	20M	QPSK	50	24	Right Tilted	0mm	Ant 13	DSI 2/3	41490+ 41292	2680+ 2660.2	17.21	18.00	1.199	62.9	1.006	-0.04	0.319	0.385
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 31	DSI 2/3	41490	2680	23.25	24.50	1.334	62.9	1.006	0.14	0.257	0.345
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 31	DSI 2/3	41490	2680	23.25	24.50	1.334	62.9	1.006	-0.09	0.071	0.095
	LTE Band 41	20M	QPSK	1	49	Left Cheek	0mm	Ant 31	DSI 2/3	41490	2680	23.25	24.50	1.334	62.9	1.006	-0.1	0.091	0.122
	LTE Band 41	20M	QPSK	1	49	Left Tilted	0mm	Ant 31	DSI 2/3	41490	2680	23.25	24.50	1.334	62.9	1.006	0.19	0.068	0.091
	LTE Band 41C	20M	QPSK	1	49	Right Cheek	0mm	Ant 31	DSI 2/3	41490+ 41292	2680+ 2660.2	23.23	24.50	1.340	62.9	1.006	-0.16	0.215	0.290
	LTE Band 41	20M	QPSK	50	24	Right Cheek	0mm	Ant 31	DSI 2/3	41490	2680	22.23	23.50	1.340	62.9	1.006	0.08	0.193	0.260
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 31	DSI 2/3	41490	2680	22.23	23.50	1.340	62.9	1.006	-0.07	0.053	0.071
	LTE Band 41	20M	QPSK	50	24	Left Cheek	0mm	Ant 31	DSI 2/3	41490	2680	22.23	23.50	1.340	62.9	1.006	0.07	0.067	0.090
	LTE Band 41	20M	QPSK	50	24	Left Tilted	0mm	Ant 31	DSI 2/3	41490	2680	22.23	23.50	1.340	62.9	1.006	0.15	0.055	0.074

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
13	FR1 N5	20M	BPSK	1	53	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	167300	836.5	20.24	21.50	1.337	0.06	0.449	**0.600**
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	167300	836.5	20.24	21.50	1.337	0.03	0.345	0.461
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	167300	836.5	20.24	21.50	1.337	0.15	0.302	0.404
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	167300	836.5	20.24	21.50	1.337	0.05	0.240	0.321
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	167300	836.5	20.21	21.50	1.346	0.06	0.422	0.568
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	167300	836.5	20.21	21.50	1.346	0.04	0.333	0.448
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	167300	836.5	20.21	21.50	1.346	0.11	0.298	0.401
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	167300	836.5	20.21	21.50	1.346	0.08	0.231	0.311
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Cheek	0mm	Ant 13	DSI 3	167300	836.5	19.28	20.50	1.324	0.04	0.381	0.505
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Tilted	0mm	Ant 13	DSI 3	167300	836.5	19.28	20.50	1.324	-0.14	0.294	0.389
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Cheek	0mm	Ant 13	DSI 3	167300	836.5	19.28	20.50	1.324	-0.08	0.271	0.359
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Tilted	0mm	Ant 13	DSI 3	167300	836.5	19.28	20.50	1.324	0.14	0.204	0.270
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 13	DSI 3	167300	836.5	19.26	20.50	1.330	-0.05	0.377	0.502
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 13	DSI 3	167300	836.5	19.26	20.50	1.330	0.19	0.289	0.385
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 13	DSI 3	167300	836.5	19.26	20.50	1.330	0.02	0.267	0.355
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 13	DSI 3	167300	836.5	19.26	20.50	1.330	0.15	0.312	0.415
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Cheek	0mm	Ant 41	DSI 2/3	167300	836.5	23.19	24.00	1.205	-0.01	0.097	0.117
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Tilted	0mm	Ant 41	DSI 2/3	167300	836.5	23.19	24.00	1.205	0.19	0.045	0.054
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Cheek	0mm	Ant 41	DSI 2/3	167300	836.5	23.19	24.00	1.205	-0.05	0.115	0.139
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Tilted	0mm	Ant 41	DSI 2/3	167300	836.5	23.19	24.00	1.205	0.11	0.058	0.070
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 41	DSI 2/3	167300	836.5	23.17	24.00	1.211	0.14	0.096	0.116
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 41	DSI 2/3	167300	836.5	23.17	24.00	1.211	0.07	0.045	0.054
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 41	DSI 2/3	167300	836.5	23.17	24.00	1.211	0.08	0.120	0.145
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 41	DSI 2/3	167300	836.5	23.17	24.00	1.211	0.02	0.062	0.075
	FR1 N7	20M	BPSK	1	53	DFT-15	Right Cheek	0mm	Ant 11	DSI 2/3	507000	2535	16.47	17.50	1.268	-0.08	0.421	0.534
	FR1 N7	20M	BPSK	1	53	DFT-15	Right Tilted	0mm	Ant 11	DSI 2/3	507000	2535	16.47	17.50	1.268	-0.06	0.085	0.108
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Cheek	0mm	Ant 11	DSI 2/3	507000	2535	16.47	17.50	1.268	-0.05	0.148	0.188
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Tilted	0mm	Ant 11	DSI 2/3	507000	2535	16.47	17.50	1.268	0.08	0.050	0.063
	FR1 N7	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 11	DSI 2/3	507000	2535	16.45	17.50	1.274	0.16	0.438	0.558
	FR1 N7	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 11	DSI 2/3	507000	2535	16.45	17.50	1.274	-0.04	0.087	0.111
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 11	DSI 2/3	507000	2535	16.45	17.50	1.274	-0.13	0.153	0.195
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 11	DSI 2/3	507000	2535	16.45	17.50	1.274	-0.05	0.051	0.065
	FR1 N7	20M	BPSK	1	53	DFT-15	Right Cheek	0mm	Ant 13	DSI 2/3	507000	2535	14.95	16.00	1.274	0.09	0.361	0.460
	FR1 N7	20M	BPSK	1	53	DFT-15	Right Tilted	0mm	Ant 13	DSI 2/3	507000	2535	14.95	16.00	1.274	0.12	0.497	0.633
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Cheek	0mm	Ant 13	DSI 2/3	507000	2535	14.95	16.00	1.274	0.05	0.202	0.257
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Tilted	0mm	Ant 13	DSI 2/3	507000	2535	14.95	16.00	1.274	0.14	0.271	0.345
	FR1 N7	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 13	DSI 2/3	507000	2535	14.93	16.00	1.279	-0.11	0.370	0.473
14	FR1 N7	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 13	DSI 2/3	507000	2535	14.93	16.00	1.279	-0.13	0.500	**0.640**
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 13	DSI 2/3	507000	2535	14.93	16.00	1.279	-0.16	0.211	0.270
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 13	DSI 2/3	507000	2535	14.93	16.00	1.279	-0.15	0.275	0.352
	FR1 N41	100M	BPSK	1	137	DFT-30	Right Cheek	0mm	Ant 11	DSI 2/3	518598	2592.99	16.48	17.50	1.265	0.15	0.344	0.435
	FR1 N41	100M	BPSK	1	137	DFT-30	Right Tilted	0mm	Ant 11	DSI 2/3	518598	2592.99	16.48	17.50	1.265	0.07	0.079	0.100
	FR1 N41	100M	BPSK	1	137	DFT-30	Left Cheek	0mm	Ant 11	DSI 2/3	518598	2592.99	16.48	17.50	1.265	-0.09	0.121	0.153
	FR1 N41	100M	BPSK	1	137	DFT-30	Left Tilted	0mm	Ant 11	DSI 2/3	518598	2592.99	16.48	17.50	1.265	0.18	0.044	0.056
	FR1 N41	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 2/3	518598	2592.99	16.45	17.50	1.274	0.16	0.349	0.444
	FR1 N41	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 2/3	518598	2592.99	16.45	17.50	1.274	-0.1	0.080	0.102
	FR1 N41	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 2/3	518598	2592.99	16.45	17.50	1.274	-0.03	0.123	0.157
	FR1 N41	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 2/3	518598	2592.99	16.45	17.50	1.274	-0.07	0.047	0.060
	FR1 N41	100M	BPSK	1	137	DFT-30	Right Cheek	0mm	Ant 13	DSI 2/3	518598	2592.99	14.56	15.50	1.242	0.11	0.366	0.454
15	FR1 N41	100M	BPSK	1	137	DFT-30	Right Tilted	0mm	Ant 13	DSI 2/3	518598	2592.99	14.56	15.50	1.242	0.11	0.493	**0.612**
	FR1 N41	100M	BPSK	1	137	DFT-30	Left Cheek	0mm	Ant 13	DSI 2/3	518598	2592.99	14.56	15.50	1.242	0.01	0.210	0.261

	FR1 N41	100M	BPSK	1	137	DFT-30	Left Tilted	0mm	Ant 13	DSI 2/3	518598	2592.99	14.56	15.50	1.242	-0.09	0.273	0.339
	FR1 N41	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 13	DSI 2/3	518598	2592.99	14.54	15.50	1.247	-0.02	0.364	0.454
	FR1 N41	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 13	DSI 2/3	518598	2592.99	14.54	15.50	1.247	-0.14	0.485	0.605
	FR1 N41	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 13	DSI 2/3	518598	2592.99	14.54	15.50	1.247	0.01	0.209	0.261
	FR1 N41	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 13	DSI 2/3	518598	2592.99	14.54	15.50	1.247	0.12	0.271	0.338
	FR1 N41	100M	BPSK	270	0	DFT-30	Right Tilted	0mm	Ant 13	DSI 2/3	518598	2592.99	14.51	15.50	1.256	0.05	0.484	0.608

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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	0mm	Ant 22	Reduced	6	2437	16.10	17.00	1.230	100	1.000	0.09	0.156	0.192
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 22	Reduced	6	2437	16.10	17.00	1.230	100	1.000	-0.01	0.192	0.236
16	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 22	Reduced	6	2437	16.10	17.00	1.230	100	1.000	0.18	0.407	**0.501**
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 22	Reduced	6	2437	16.10	17.00	1.230	100	1.000	0.03	0.328	0.404

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 22	Reduced	54	5270	11.34	12.50	1.306	94.92	1.054	0.06	0.053	0.073
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 22	Reduced	54	5270	11.34	12.50	1.306	94.92	1.054	0.08	0.067	0.092
17	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 22	Reduced	54	5270	11.34	12.50	1.306	94.92	1.054	-0.02	0.134	**0.184**
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 22	Reduced	54	5270	11.34	12.50	1.306	94.92	1.054	0.13	0.127	0.175
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 22	Reduced	138	5690	10.81	12.50	1.476	90.32	1.107	0.14	0.081	0.132
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 22	Reduced	138	5690	10.81	12.50	1.476	90.32	1.107	0.02	0.127	0.207
18	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Reduced	138	5690	10.81	12.50	1.476	90.32	1.107	-0.06	0.228	**0.372**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 22	Reduced	138	5690	10.81	12.50	1.476	90.32	1.107	0.09	0.199	0.325
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 22	Reduced	155	5775	10.65	12.50	1.531	90.32	1.107	0.11	0.069	0.117
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 22	Reduced	155	5775	10.65	12.50	1.531	90.32	1.107	0.15	0.085	0.144
19	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Reduced	155	5775	10.65	12.50	1.531	90.32	1.107	0.09	0.240	**0.407**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 22	Reduced	155	5775	10.65	12.50	1.531	90.32	1.107	-0.01	0.204	0.346

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	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	DH5 1Mbps	Right Cheek	0mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.03	0.030	0.039
	Bluetooth	DH5 1Mbps	Right Tilted	0mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.11	0.035	0.046
20	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.18	0.078	**0.102**
	Bluetooth	DH5 1Mbps	Left Tilted	0mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.06	0.058	0.076

16.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS 2 Tx slots	Front	10mm	Ant 13	DSI 10	128	824.2	30.06	31.00	1.242	0.02	0.206	0.256
21	GSM850	GPRS 2 Tx slots	Back	10mm	Ant 13	DSI 10	128	824.2	30.06	31.00	1.242	-0.11	0.347	**0.431**
	GSM850	GPRS 2 Tx slots	Left Side	10mm	Ant 13	DSI 10	128	824.2	30.06	31.00	1.242	-0.1	0.056	0.070
	GSM850	GPRS 2 Tx slots	Right Side	10mm	Ant 13	DSI 10	128	824.2	30.06	31.00	1.242	0.04	0.137	0.170
	GSM850	GPRS 2 Tx slots	Top Side	10mm	Ant 13	DSI 10	128	824.2	30.06	31.00	1.242	-0.17	0.241	0.299
	GSM850	GPRS 2 Tx slots	Front	10mm	Ant 41	DSI 10	128	824.2	30.47	31.50	1.268	-0.04	0.148	0.188
	GSM850	GPRS 2 Tx slots	Back	10mm	Ant 41	DSI 10	128	824.2	30.47	31.50	1.268	-0.13	0.230	0.292
	GSM850	GPRS 2 Tx slots	Left Side	10mm	Ant 41	DSI 10	128	824.2	30.47	31.50	1.268	-0.19	0.160	0.203
	GSM850	GPRS 2 Tx slots	Right Side	10mm	Ant 41	DSI 10	128	824.2	30.47	31.50	1.268	0.12	0.058	0.074
	GSM850	GPRS 2 Tx slots	Bottom Side	10mm	Ant 41	DSI 10	128	824.2	30.47	31.50	1.268	0.13	0.057	0.072
	GSM1900	GPRS 1 Tx slots	Front	10mm	Ant 13	DSI 10	810	1909.8	26.17	27.50	1.358	0.17	0.225	0.306
	GSM1900	GPRS 1 Tx slots	Back	10mm	Ant 13	DSI 10	810	1909.8	26.17	27.50	1.358	-0.11	0.282	0.383
	GSM1900	GPRS 1 Tx slots	Left Side	10mm	Ant 13	DSI 10	810	1909.8	26.17	27.50	1.358	0.04	0.031	0.042
	GSM1900	GPRS 1 Tx slots	Right Side	10mm	Ant 13	DSI 10	810	1909.8	26.17	27.50	1.358	0.12	0.019	0.026
22	GSM1900	GPRS 1 Tx slots	Top Side	10mm	Ant 13	DSI 10	810	1909.8	26.17	27.50	1.358	0.15	0.447	**0.607**
	GSM1900	GPRS 2 Tx slots	Front	10mm	Ant 31	DSI 10	810	1909.8	26.20	27.00	1.202	0.11	0.234	0.281
	GSM1900	GPRS 2 Tx slots	Back	10mm	Ant 31	DSI 10	810	1909.8	26.20	27.00	1.202	0.05	0.378	0.454
	GSM1900	GPRS 2 Tx slots	Left Side	10mm	Ant 31	DSI 10	810	1909.8	26.20	27.00	1.202	0.16	0.078	0.094
	GSM1900	GPRS 2 Tx slots	Right Side	10mm	Ant 31	DSI 10	810	1909.8	26.20	27.00	1.202	0.03	0.181	0.218
	GSM1900	GPRS 2 Tx slots	Bottom Side	10mm	Ant 31	DSI 10	810	1909.8	26.20	27.00	1.202	0.04	0.475	0.571

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	10mm	Ant 13	DSI 10	4182	836.4	23.37	24.50	1.297	-0.08	0.166	0.215
	WCDMA V	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	4182	836.4	23.37	24.50	1.297	0.01	0.293	0.380
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 13	DSI 10	4182	836.4	23.37	24.50	1.297	-0.1	0.064	0.083
	WCDMA V	RMC 12.2Kbps	Right Side	10mm	Ant 13	DSI 10	4182	836.4	23.37	24.50	1.297	-0.08	0.100	0.130
	WCDMA V	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	4182	836.4	23.37	24.50	1.297	-0.17	0.214	0.278
	WCDMA V	RMC 12.2Kbps	Front	10mm	Ant 41	DSI 10	4182	836.4	23.41	24.50	1.285	0.08	0.215	0.276
23	WCDMA V	RMC 12.2Kbps	Back	10mm	Ant 41	DSI 10	4182	836.4	23.41	24.50	1.285	0.05	0.349	**0.449**
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 41	DSI 10	4182	836.4	23.41	24.50	1.285	-0.04	0.211	0.271
	WCDMA V	RMC 12.2Kbps	Right Side	10mm	Ant 41	DSI 10	4182	836.4	23.41	24.50	1.285	-0.13	0.092	0.118
	WCDMA V	RMC 12.2Kbps	Bottom Side	10mm	Ant 41	DSI 10	4182	836.4	23.41	24.50	1.285	0.09	0.080	0.103
	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 13	DSI 10	1413	1732.6	17.23	18.50	1.340	0.18	0.179	0.240
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	1413	1732.6	17.23	18.50	1.340	0.11	0.186	0.249
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 13	DSI 10	1413	1732.6	17.23	18.50	1.340	0.05	0.029	0.039
	WCDMA IV	RMC 12.2Kbps	Right Side	10mm	Ant 13	DSI 10	1413	1732.6	17.23	18.50	1.340	0.03	0.029	0.038
	WCDMA IV	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	1413	1732.6	17.23	18.50	1.340	0.01	0.305	0.409
	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 31	DSI 10	1413	1732.6	19.13	20.00	1.222	-0.09	0.210	0.257
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 31	DSI 10	1413	1732.6	19.13	20.00	1.222	-0.04	0.359	0.439
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 31	DSI 10	1413	1732.6	19.13	20.00	1.222	-0.01	0.045	0.055
	WCDMA IV	RMC 12.2Kbps	Right Side	10mm	Ant 31	DSI 10	1413	1732.6	19.13	20.00	1.222	-0.18	0.112	0.137
24	WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	Ant 31	DSI 10	1413	1732.6	19.13	20.00	1.222	-0.04	0.420	**0.513**
	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 13	DSI 10	9400	1880	15.71	17.00	1.346	-0.08	0.223	0.300
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	9400	1880	15.71	17.00	1.346	0.1	0.271	0.365
	WCDMA II	RMC 12.2Kbps	Left Side	10mm	Ant 13	DSI 10	9400	1880	15.71	17.00	1.346	0.16	0.039	0.052
	WCDMA II	RMC 12.2Kbps	Right Side	10mm	Ant 13	DSI 10	9400	1880	15.71	17.00	1.346	0.06	0.027	0.037
25	WCDMA II	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	9400	1880	15.71	17.00	1.346	0.02	0.393	**0.529**
	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 31	DSI 10	9400	1880	19.10	20.00	1.230	0.14	0.195	0.240
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 31	DSI 10	9400	1880	19.10	20.00	1.230	0.08	0.318	0.391
	WCDMA II	RMC 12.2Kbps	Left Side	10mm	Ant 31	DSI 10	9400	1880	19.10	20.00	1.230	-0.06	0.051	0.063
	WCDMA II	RMC 12.2Kbps	Right Side	10mm	Ant 31	DSI 10	9400	1880	19.10	20.00	1.230	-0.04	0.121	0.149
	WCDMA II	RMC 12.2Kbps	Bottom Side	10mm	Ant 31	DSI 10	9400	1880	19.10	20.00	1.230	0.08	0.424	0.522

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	25	Front	10mm	Ant 13	DSI 10	23095	707.5	23.15	24.00	1.216	0.04	0.091	0.111
	LTE Band 12	10M	QPSK	1	25	Back	10mm	Ant 13	DSI 10	23095	707.5	23.15	24.00	1.216	-0.15	0.124	0.151
	LTE Band 12	10M	QPSK	1	25	Left Side	10mm	Ant 13	DSI 10	23095	707.5	23.15	24.00	1.216	0.16	0.074	0.090
	LTE Band 12	10M	QPSK	1	25	Right Side	10mm	Ant 13	DSI 10	23095	707.5	23.15	24.00	1.216	0.02	0.091	0.111
	LTE Band 12	10M	QPSK	1	25	Top Side	10mm	Ant 13	DSI 10	23095	707.5	23.15	24.00	1.216	0.08	0.060	0.073
	LTE Band 12	10M	QPSK	25	12	Front	10mm	Ant 13	DSI 10	23095	707.5	22.09	23.00	1.233	0.04	0.071	0.087
	LTE Band 12	10M	QPSK	25	12	Back	10mm	Ant 13	DSI 10	23095	707.5	22.09	23.00	1.233	0.05	0.098	0.121
	LTE Band 12	10M	QPSK	25	12	Left Side	10mm	Ant 13	DSI 10	23095	707.5	22.09	23.00	1.233	-0.11	0.065	0.080
	LTE Band 12	10M	QPSK	25	12	Right Side	10mm	Ant 13	DSI 10	23095	707.5	22.09	23.00	1.233	0.04	0.066	0.081
	LTE Band 12	10M	QPSK	25	12	Top Side	10mm	Ant 13	DSI 10	23095	707.5	22.09	23.00	1.233	-0.1	0.047	0.058
	LTE Band 12	10M	QPSK	1	25	Front	10mm	Ant 41	DSI 10	23095	707.5	23.11	24.00	1.227	-0.07	0.100	0.123
	LTE Band 12	10M	QPSK	1	25	Back	10mm	Ant 41	DSI 10	23095	707.5	23.11	24.00	1.227	0.04	0.127	0.156
26	LTE Band 12	10M	QPSK	1	25	Left Side	10mm	Ant 41	DSI 10	23095	707.5	23.11	24.00	1.227	-0.06	0.198	**0.243**
	LTE Band 12	10M	QPSK	1	25	Right Side	10mm	Ant 41	DSI 10	23095	707.5	23.11	24.00	1.227	-0.09	0.075	0.092
	LTE Band 12	10M	QPSK	1	25	Bottom Side	10mm	Ant 41	DSI 10	23095	707.5	23.11	24.00	1.227	0.07	0.043	0.053
	LTE Band 12	10M	QPSK	25	12	Front	10mm	Ant 41	DSI 10	23095	707.5	22.10	23.00	1.230	0.15	0.081	0.100
	LTE Band 12	10M	QPSK	25	12	Back	10mm	Ant 41	DSI 10	23095	707.5	22.10	23.00	1.230	-0.03	0.098	0.121
	LTE Band 12	10M	QPSK	25	12	Left Side	10mm	Ant 41	DSI 10	23095	707.5	22.10	23.00	1.230	0.04	0.144	0.177
	LTE Band 12	10M	QPSK	25	12	Right Side	10mm	Ant 41	DSI 10	23095	707.5	22.10	23.00	1.230	0.08	0.061	0.075
	LTE Band 12	10M	QPSK	25	12	Bottom Side	10mm	Ant 41	DSI 10	23095	707.5	22.10	23.00	1.230	-0.17	0.035	0.043
	LTE Band 17	10M	QPSK	1	25	Front	10mm	Ant 13	DSI 10	23790	710	23.18	24.50	1.355	-0.04	0.100	0.136
	LTE Band 17	10M	QPSK	1	25	Back	10mm	Ant 13	DSI 10	23790	710	23.18	24.50	1.355	0.08	0.143	0.194
	LTE Band 17	10M	QPSK	1	25	Left Side	10mm	Ant 13	DSI 10	23790	710	23.18	24.50	1.355	0.04	0.082	0.111
	LTE Band 17	10M	QPSK	1	25	Right Side	10mm	Ant 13	DSI 10	23790	710	23.18	24.50	1.355	-0.13	0.094	0.127
	LTE Band 17	10M	QPSK	1	25	Top Side	10mm	Ant 13	DSI 10	23790	710	23.18	24.50	1.355	-0.06	0.077	0.104
	LTE Band 17	10M	QPSK	25	12	Front	10mm	Ant 13	DSI 10	23790	710	22.28	23.50	1.324	-0.01	0.079	0.105
	LTE Band 17	10M	QPSK	25	12	Back	10mm	Ant 13	DSI 10	23790	710	22.28	23.50	1.324	0.16	0.114	0.151
	LTE Band 17	10M	QPSK	25	12	Left Side	10mm	Ant 13	DSI 10	23790	710	22.28	23.50	1.324	-0.08	0.064	0.085
	LTE Band 17	10M	QPSK	25	12	Right Side	10mm	Ant 13	DSI 10	23790	710	22.28	23.50	1.324	-0.06	0.076	0.101
	LTE Band 17	10M	QPSK	25	12	Top Side	10mm	Ant 13	DSI 10	23790	710	22.28	23.50	1.324	0.06	0.062	0.082
	LTE Band 17	10M	QPSK	1	25	Front	10mm	Ant 41	DSI 10	23790	710	23.14	24.50	1.368	0.04	0.124	0.170
	LTE Band 17	10M	QPSK	1	25	Back	10mm	Ant 41	DSI 10	23790	710	23.14	24.50	1.368	0.01	0.155	0.212
27	LTE Band 17	10M	QPSK	1	25	Left Side	10mm	Ant 41	DSI 10	23790	710	23.14	24.50	1.368	-0.01	0.236	**0.323**
	LTE Band 17	10M	QPSK	1	25	Right Side	10mm	Ant 41	DSI 10	23790	710	23.14	24.50	1.368	0.14	0.087	0.119
	LTE Band 17	10M	QPSK	1	25	Bottom Side	10mm	Ant 41	DSI 10	23790	710	23.14	24.50	1.368	0.01	0.047	0.064
	LTE Band 17	10M	QPSK	25	12	Front	10mm	Ant 41	DSI 10	23790	710	22.15	23.50	1.365	-0.1	0.101	0.138
	LTE Band 17	10M	QPSK	25	12	Back	10mm	Ant 41	DSI 10	23790	710	22.15	23.50	1.365	-0.15	0.123	0.168
	LTE Band 17	10M	QPSK	25	12	Left Side	10mm	Ant 41	DSI 10	23790	710	22.15	23.50	1.365	0.02	0.193	0.263
	LTE Band 17	10M	QPSK	25	12	Right Side	10mm	Ant 41	DSI 10	23790	710	22.15	23.50	1.365	-0.16	0.074	0.101
	LTE Band 17	10M	QPSK	25	12	Bottom Side	10mm	Ant 41	DSI 10	23790	710	22.15	23.50	1.365	-0.01	0.035	0.047
	LTE Band 26	15M	QPSK	1	37	Front	10mm	Ant 13	DSI 10	26865	831.5	23.33	24.50	1.309	-0.15	0.150	0.196
	LTE Band 26	15M	QPSK	1	37	Back	10mm	Ant 13	DSI 10	26865	831.5	23.33	24.50	1.309	-0.03	0.247	0.323
	LTE Band 26	15M	QPSK	1	37	Left Side	10mm	Ant 13	DSI 10	26865	831.5	23.33	24.50	1.309	-0.03	0.043	0.056
	LTE Band 26	15M	QPSK	1	37	Right Side	10mm	Ant 13	DSI 10	26865	831.5	23.33	24.50	1.309	0.04	0.098	0.128
	LTE Band 26	15M	QPSK	1	37	Top Side	10mm	Ant 13	DSI 10	26865	831.5	23.33	24.50	1.309	-0.13	0.178	0.233
	LTE Band 26	15M	QPSK	36	20	Front	10mm	Ant 13	DSI 10	26865	831.5	22.20	23.50	1.349	0.06	0.117	0.158
	LTE Band 26	15M	QPSK	36	20	Back	10mm	Ant 13	DSI 10	26865	831.5	22.20	23.50	1.349	0.04	0.194	0.262
	LTE Band 26	15M	QPSK	36	20	Left Side	10mm	Ant 13	DSI 10	26865	831.5	22.20	23.50	1.349	0.06	0.057	0.077
	LTE Band 26	15M	QPSK	36	20	Right Side	10mm	Ant 13	DSI 10	26865	831.5	22.20	23.50	1.349	0.02	0.079	0.107
	LTE Band 26	15M	QPSK	36	20	Top Side	10mm	Ant 13	DSI 10	26865	831.5	22.20	23.50	1.349	-0.17	0.139	0.188
	LTE Band 26	15M	QPSK	1	37	Front	10mm	Ant 41	DSI 10	26865	831.5	23.40	24.50	1.288	0.08	0.194	0.250

28	LTE Band 26	15M	QPSK	1	37	Back	10mm	Ant 41	DSI 10	26865	831.5	23.40	24.50	1.288	-0.09	0.307	**0.395**
	LTE Band 26	15M	QPSK	1	37	Left Side	10mm	Ant 41	DSI 10	26865	831.5	23.40	24.50	1.288	-0.05	0.225	0.290
	LTE Band 26	15M	QPSK	1	37	Right Side	10mm	Ant 41	DSI 10	26865	831.5	23.40	24.50	1.288	-0.1	0.098	0.126
	LTE Band 26	15M	QPSK	1	37	Bottom Side	10mm	Ant 41	DSI 10	26865	831.5	23.40	24.50	1.288	0.07	0.080	0.103
	LTE Band 26	15M	QPSK	36	20	Front	10mm	Ant 41	DSI 10	26865	831.5	22.32	23.50	1.312	-0.07	0.151	0.198
	LTE Band 26	15M	QPSK	36	20	Back	10mm	Ant 41	DSI 10	26865	831.5	22.32	23.50	1.312	0.04	0.237	0.311
	LTE Band 26	15M	QPSK	36	20	Left Side	10mm	Ant 41	DSI 10	26865	831.5	22.32	23.50	1.312	0.16	0.154	0.202
	LTE Band 26	15M	QPSK	36	20	Right Side	10mm	Ant 41	DSI 10	26865	831.5	22.32	23.50	1.312	0.11	0.078	0.102
	LTE Band 26	15M	QPSK	36	20	Bottom Side	10mm	Ant 41	DSI 10	26865	831.5	22.32	23.50	1.312	0.13	0.060	0.079
	LTE Band 4	20M	QPSK	1	49	Front	10mm	Ant 13	DSI 10	20175	1732.5	18.09	19.00	1.233	0.15	0.206	0.254
	LTE Band 4	20M	QPSK	1	49	Back	10mm	Ant 13	DSI 10	20175	1732.5	18.09	19.00	1.233	0.13	0.204	0.252
	LTE Band 4	20M	QPSK	1	49	Left Side	10mm	Ant 13	DSI 10	20175	1732.5	18.09	19.00	1.233	0.01	0.031	0.039
	LTE Band 4	20M	QPSK	1	49	Right Side	10mm	Ant 13	DSI 10	20175	1732.5	18.09	19.00	1.233	-0.05	0.035	0.043
	LTE Band 4	20M	QPSK	1	49	Top Side	10mm	Ant 13	DSI 10	20175	1732.5	18.09	19.00	1.233	0.17	0.307	0.379
	LTE Band 4	20M	QPSK	50	24	Front	10mm	Ant 13	DSI 10	20175	1732.5	18.08	19.00	1.236	0.14	0.207	0.256
	LTE Band 4	20M	QPSK	50	24	Back	10mm	Ant 13	DSI 10	20175	1732.5	18.08	19.00	1.236	0.18	0.204	0.252
	LTE Band 4	20M	QPSK	50	24	Left Side	10mm	Ant 13	DSI 10	20175	1732.5	18.08	19.00	1.236	-0.07	0.030	0.037
	LTE Band 4	20M	QPSK	50	24	Right Side	10mm	Ant 13	DSI 10	20175	1732.5	18.08	19.00	1.236	0.04	0.033	0.041
	LTE Band 4	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	20175	1732.5	18.08	19.00	1.236	0.11	0.305	0.377
	LTE Band 4	20M	QPSK	1	49	Front	10mm	Ant 31	DSI 10	20175	1732.5	19.76	20.50	1.186	0.14	0.208	0.247
	LTE Band 4	20M	QPSK	1	49	Back	10mm	Ant 31	DSI 10	20175	1732.5	19.76	20.50	1.186	0.09	0.371	0.440
	LTE Band 4	20M	QPSK	1	49	Left Side	10mm	Ant 31	DSI 10	20175	1732.5	19.76	20.50	1.186	0.14	0.042	0.050
	LTE Band 4	20M	QPSK	1	49	Right Side	10mm	Ant 31	DSI 10	20175	1732.5	19.76	20.50	1.186	0.05	0.071	0.085
29	LTE Band 4	20M	QPSK	1	49	Bottom Side	10mm	Ant 31	DSI 10	20175	1732.5	19.76	20.50	1.186	0.11	0.434	**0.515**
	LTE Band 4	20M	QPSK	50	24	Front	10mm	Ant 31	DSI 10	20175	1732.5	19.74	20.50	1.191	0.19	0.195	0.232
	LTE Band 4	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	20175	1732.5	19.74	20.50	1.191	-0.08	0.367	0.437
	LTE Band 4	20M	QPSK	50	24	Left Side	10mm	Ant 31	DSI 10	20175	1732.5	19.74	20.50	1.191	0.13	0.040	0.048
	LTE Band 4	20M	QPSK	50	24	Right Side	10mm	Ant 31	DSI 10	20175	1732.5	19.74	20.50	1.191	0.09	0.070	0.083
	LTE Band 4	20M	QPSK	50	24	Bottom Side	10mm	Ant 31	DSI 10	20175	1732.5	19.74	20.50	1.191	0.14	0.413	0.492
	LTE Band 2	20M	QPSK	1	49	Front	10mm	Ant 13	DSI 10	19100	1900	15.97	17.00	1.268	0.12	0.202	0.256
	LTE Band 2	20M	QPSK	1	49	Back	10mm	Ant 13	DSI 10	19100	1900	15.97	17.00	1.268	0.13	0.242	0.307
	LTE Band 2	20M	QPSK	1	49	Left Side	10mm	Ant 13	DSI 10	19100	1900	15.97	17.00	1.268	0.12	0.036	0.046
	LTE Band 2	20M	QPSK	1	49	Right Side	10mm	Ant 13	DSI 10	19100	1900	15.97	17.00	1.268	0.06	0.017	0.021
	LTE Band 2	20M	QPSK	1	49	Top Side	10mm	Ant 13	DSI 10	19100	1900	15.97	17.00	1.268	0.18	0.337	0.427
	LTE Band 2	20M	QPSK	50	24	Front	10mm	Ant 13	DSI 10	19100	1900	15.95	17.00	1.274	0.19	0.201	0.256
	LTE Band 2	20M	QPSK	50	24	Back	10mm	Ant 13	DSI 10	19100	1900	15.95	17.00	1.274	0.19	0.241	0.307
	LTE Band 2	20M	QPSK	50	24	Left Side	10mm	Ant 13	DSI 10	19100	1900	15.95	17.00	1.274	0.01	0.034	0.043
	LTE Band 2	20M	QPSK	50	24	Right Side	10mm	Ant 13	DSI 10	19100	1900	15.95	17.00	1.274	0.02	0.017	0.022
	LTE Band 2	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	19100	1900	15.95	17.00	1.274	0.15	0.315	0.401
	LTE Band 2	20M	QPSK	1	49	Front	10mm	Ant 31	DSI 10	19100	1900	20.04	21.00	1.247	0.13	0.215	0.268
	LTE Band 2	20M	QPSK	1	49	Back	10mm	Ant 31	DSI 10	19100	1900	20.04	21.00	1.247	-0.01	0.372	0.464
	LTE Band 2	20M	QPSK	1	49	Left Side	10mm	Ant 31	DSI 10	19100	1900	20.04	21.00	1.247	-0.03	0.068	0.085
	LTE Band 2	20M	QPSK	1	49	Right Side	10mm	Ant 31	DSI 10	19100	1900	20.04	21.00	1.247	0.16	0.133	0.166
	LTE Band 2	20M	QPSK	1	49	Bottom Side	10mm	Ant 31	DSI 10	19100	1900	20.04	21.00	1.247	0.16	0.487	0.607
	LTE Band 2	20M	QPSK	50	24	Front	10mm	Ant 31	DSI 10	19100	1900	20.02	21.00	1.253	0.17	0.217	0.272
	LTE Band 2	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	19100	1900	20.02	21.00	1.253	-0.01	0.386	0.484
	LTE Band 2	20M	QPSK	50	24	Left Side	10mm	Ant 31	DSI 10	19100	1900	20.02	21.00	1.253	0.18	0.071	0.089
	LTE Band 2	20M	QPSK	50	24	Right Side	10mm	Ant 31	DSI 10	19100	1900	20.02	21.00	1.253	-0.05	0.136	0.170
30	LTE Band 2	20M	QPSK	50	24	Bottom Side	10mm	Ant 31	DSI 10	19100	1900	20.02	21.00	1.253	0.12	0.489	**0.613**
	LTE Band 7	20M	QPSK	1	49	Front	10mm	Ant 13	DSI 10	21100	2535	17.53	18.50	1.250	0.07	0.158	0.198
	LTE Band 7	20M	QPSK	1	49	Back	10mm	Ant 13	DSI 10	21100	2535	17.53	18.50	1.250	0.11	0.300	0.375
	LTE Band 7	20M	QPSK	1	49	Left Side	10mm	Ant 13	DSI 10	21100	2535	17.53	18.50	1.250	0.16	0.044	0.055
	LTE Band 7	20M	QPSK	1	49	Right Side	10mm	Ant 13	DSI 10	21100	2535	17.53	18.50	1.250	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	49	Top Side	10mm	Ant 13	DSI 10	21100	2535	17.53	18.50	1.250	-0.04	0.447	0.559
	LTE Band 7	20M	QPSK	50	24	Front	10mm	Ant 13	DSI 10	21100	2535	17.51	18.50	1.256	-0.19	0.159	0.200

	LTE Band 7	20M	QPSK	50	24	Back	10mm	Ant 13	DSI 10	21100	2535	17.51	18.50	1.256	-0.12	0.308	0.387
	LTE Band 7	20M	QPSK	50	24	Left Side	10mm	Ant 13	DSI 10	21100	2535	17.51	18.50	1.256	0.11	0.046	0.058
	LTE Band 7	20M	QPSK	50	24	Right Side	10mm	Ant 13	DSI 10	21100	2535	17.51	18.50	1.256	-	n/a	n/a
31	LTE Band 7	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	21100	2535	17.51	18.50	1.256	0.18	0.449	**0.564**
	LTE Band 7C	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	21100+ 20902	2535+ 2515.2	17.50	18.50	1.259	0.02	0.445	0.560
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Front	10mm	Ant 13	DSI 10	21100	2535	14.97	16.00	1.268	-0.12	0.081	0.103
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Back	10mm	Ant 13	DSI 10	21100	2535	14.97	16.00	1.268	0.02	0.149	0.189
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Left Side	10mm	Ant 13	DSI 10	21100	2535	14.97	16.00	1.268	0.03	0.021	0.027
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Right Side	10mm	Ant 13	DSI 10	21100	2535	14.97	16.00	1.268	-	n/a	n/a
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Top Side	10mm	Ant 13	DSI 10	21100	2535	14.97	16.00	1.268	-0.11	0.243	0.308
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Front	10mm	Ant 13	DSI 10	21100	2535	14.00	15.00	1.259	0.07	0.065	0.082
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Back	10mm	Ant 13	DSI 10	21100	2535	14.00	15.00	1.259	-0.05	0.126	0.159
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Left Side	10mm	Ant 13	DSI 10	21100	2535	14.00	15.00	1.259	-0.04	0.017	0.021
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Right Side	10mm	Ant 13	DSI 10	21100	2535	14.00	15.00	1.259	-	n/a	n/a
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	21100	2535	14.00	15.00	1.259	-0.15	0.211	0.266
	LTE Band 7	20M	QPSK	1	49	Front	10mm	Ant 31	DSI 10	21100	2535	18.45	19.50	1.274	0.14	0.160	0.204
	LTE Band 7	20M	QPSK	1	49	Back	10mm	Ant 31	DSI 10	21100	2535	18.45	19.50	1.274	0.14	0.246	0.313
	LTE Band 7	20M	QPSK	1	49	Left Side	10mm	Ant 31	DSI 10	21100	2535	18.45	19.50	1.274	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	49	Right Side	10mm	Ant 31	DSI 10	21100	2535	18.45	19.50	1.274	-0.14	0.113	0.144
	LTE Band 7	20M	QPSK	1	49	Bottom Side	10mm	Ant 31	DSI 10	21100	2535	18.45	19.50	1.274	0.18	0.130	0.166
	LTE Band 7	20M	QPSK	50	24	Front	10mm	Ant 31	DSI 10	21100	2535	18.42	19.50	1.282	0.14	0.156	0.200
	LTE Band 7	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	21100	2535	18.42	19.50	1.282	0.16	0.246	0.315
	LTE Band 7	20M	QPSK	50	24	Left Side	10mm	Ant 31	DSI 10	21100	2535	18.42	19.50	1.282	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	24	Right Side	10mm	Ant 31	DSI 10	21100	2535	18.42	19.50	1.282	0.03	0.115	0.147
	LTE Band 7	20M	QPSK	50	24	Bottom Side	10mm	Ant 31	DSI 10	21100	2535	18.42	19.50	1.282	0.02	0.131	0.168
	LTE Band 7C	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	21100+ 20902	2535+ 2515.2	18.43	19.50	1.279	0.15	0.225	0.288
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Front	10mm	Ant 31	DSI 10	21100	2535	16.49	17.50	1.262	0.05	0.096	0.121
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Back	10mm	Ant 31	DSI 10	21100	2535	16.49	17.50	1.262	-0.14	0.151	0.191
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Left Side	10mm	Ant 31	DSI 10	21100	2535	16.49	17.50	1.262	-	n/a	n/a
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Right Side	10mm	Ant 31	DSI 10	21100	2535	16.49	17.50	1.262	0.08	0.077	0.097
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Bottom Side	10mm	Ant 31	DSI 10	21100	2535	16.49	17.50	1.262	0.04	0.080	0.101
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Front	10mm	Ant 31	DSI 10	21100	2535	15.53	16.50	1.250	-0.11	0.077	0.096
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	21100	2535	15.53	16.50	1.250	-0.14	0.126	0.158
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Left Side	10mm	Ant 31	DSI 10	21100	2535	15.53	16.50	1.250	-	n/a	n/a
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Right Side	10mm	Ant 31	DSI 10	21100	2535	15.53	16.50	1.250	-0.06	0.063	0.079
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Bottom Side	10mm	Ant 31	DSI 10	21100	2535	15.53	16.50	1.250	0.07	0.061	0.076

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Front	10mm	Ant 13	DSI 10	41490	2680	19.87	20.50	1.155	62.9	1.006	0.02	0.110	0.128
	LTE Band 41	20M	QPSK	1	49	Back	10mm	Ant 13	DSI 10	41490	2680	19.87	20.50	1.155	62.9	1.006	-0.07	0.249	0.289
	LTE Band 41	20M	QPSK	1	49	Left Side	10mm	Ant 13	DSI 10	41490	2680	19.87	20.50	1.155	62.9	1.006	0.11	0.037	0.043
	LTE Band 41	20M	QPSK	1	49	Right Side	10mm	Ant 13	DSI 10	41490	2680	19.87	20.50	1.155	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	1	49	Top Side	10mm	Ant 13	DSI 10	41490	2680	19.87	20.50	1.155	62.9	1.006	0.04	0.318	0.370
	LTE Band 41	20M	QPSK	50	24	Front	10mm	Ant 13	DSI 10	41490	2680	19.85	20.50	1.161	62.9	1.006	0.05	0.111	0.130
	LTE Band 41	20M	QPSK	50	24	Back	10mm	Ant 13	DSI 10	41490	2680	19.85	20.50	1.161	62.9	1.006	0.1	0.253	0.296
	LTE Band 41	20M	QPSK	50	24	Left Side	10mm	Ant 13	DSI 10	41490	2680	19.85	20.50	1.161	62.9	1.006	0.05	0.037	0.044
	LTE Band 41	20M	QPSK	50	24	Right Side	10mm	Ant 13	DSI 10	41490	2680	19.85	20.50	1.161	62.9	1.006	-	n/a	n/a
32	LTE Band 41	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	41490	2680	19.85	20.50	1.161	62.9	1.006	0.01	0.321	**0.375**
	LTE Band 41C	20M	QPSK	50	24	Top Side	10mm	Ant 13	DSI 10	41490+ 41292	2680+ 2660.2	19.83	20.50	1.167	62.9	1.006	0.09	0.319	0.374
	LTE Band 41	20M	QPSK	1	49	Front	10mm	Ant 31	DSI 10	41490	2680	21.15	22.00	1.216	62.9	1.006	0.16	0.168	0.206
	LTE Band 41	20M	QPSK	1	49	Back	10mm	Ant 31	DSI 10	41490	2680	21.15	22.00	1.216	62.9	1.006	0.07	0.198	0.242
	LTE Band 41	20M	QPSK	1	49	Left Side	10mm	Ant 31	DSI 10	41490	2680	21.15	22.00	1.216	62.9	1.006	0.08	0.018	0.022
	LTE Band 41	20M	QPSK	1	49	Right Side	10mm	Ant 31	DSI 10	41490	2680	21.15	22.00	1.216	62.9	1.006	0.15	0.083	0.102
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10mm	Ant 31	DSI 10	41490	2680	21.15	22.00	1.216	62.9	1.006	0.07	0.111	0.136
	LTE Band 41	20M	QPSK	50	24	Front	10mm	Ant 31	DSI 10	41490	2680	21.12	22.00	1.225	62.9	1.006	0.1	0.171	0.211
	LTE Band 41	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	41490	2680	21.12	22.00	1.225	62.9	1.006	-0.13	0.198	0.244
	LTE Band 41	20M	QPSK	50	24	Left Side	10mm	Ant 31	DSI 10	41490	2680	21.12	22.00	1.225	62.9	1.006	0.02	0.017	0.021
	LTE Band 41	20M	QPSK	50	24	Right Side	10mm	Ant 31	DSI 10	41490	2680	21.12	22.00	1.225	62.9	1.006	0.11	0.084	0.103
	LTE Band 41	20M	QPSK	50	24	Bottom Side	10mm	Ant 31	DSI 10	41490	2680	21.12	22.00	1.225	62.9	1.006	-0.04	0.104	0.128
	LTE Band 41C	20M	QPSK	50	24	Back	10mm	Ant 31	DSI 10	41490 41292	2680 2660.2	21.12	22.00	1.225	62.9	1.006	0.06	0.195	0.240

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 N5	20M	BPSK	1	53	DFT-15	Front	10mm	Ant 13	DSI 10	167300	836.5	20.82	22.00	1.312	-0.14	0.090	0.118
	FR1 N5	20M	BPSK	1	53	DFT-15	Back	10mm	Ant 13	DSI 10	167300	836.5	20.82	22.00	1.312	-0.18	0.147	0.193
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Side	10mm	Ant 13	DSI 10	167300	836.5	20.82	22.00	1.312	-	n/a	n/a
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Side	10mm	Ant 13	DSI 10	167300	836.5	20.82	22.00	1.312	0.14	0.055	0.072
	FR1 N5	20M	BPSK	1	53	DFT-15	Top Side	10mm	Ant 13	DSI 10	167300	836.5	20.82	22.00	1.312	0.15	0.098	0.129
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 13	DSI 10	167300	836.5	20.70	22.00	1.349	0.11	0.091	0.123
33	FR1 N5	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 13	DSI 10	167300	836.5	20.70	22.00	1.349	0.11	0.151	**0.204**
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 13	DSI 10	167300	836.5	20.70	22.00	1.349	-	n/a	n/a
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 13	DSI 10	167300	836.5	20.70	22.00	1.349	0.1	0.056	0.076
	FR1 N5	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 13	DSI 10	167300	836.5	20.70	22.00	1.349	0.16	0.100	0.135
	FR1 N5	20M	BPSK	1	53	DFT-15	Front	10mm	Ant 41	DSI 10	167300	836.5	20.48	21.50	1.265	-0.01	0.077	0.097
	FR1 N5	20M	BPSK	1	53	DFT-15	Back	10mm	Ant 41	DSI 10	167300	836.5	20.48	21.50	1.265	0.14	0.144	0.182
	FR1 N5	20M	BPSK	1	53	DFT-15	Left Side	10mm	Ant 41	DSI 10	167300	836.5	20.48	21.50	1.265	-0.05	0.110	0.139
	FR1 N5	20M	BPSK	1	53	DFT-15	Right Side	10mm	Ant 41	DSI 10	167300	836.5	20.48	21.50	1.265	-0.19	0.051	0.065
	FR1 N5	20M	BPSK	1	53	DFT-15	Bottom Side	10mm	Ant 41	DSI 10	167300	836.5	20.48	21.50	1.265	-0.02	0.035	0.044
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 41	DSI 10	167300	836.5	20.45	21.50	1.274	-0.07	0.078	0.099
	FR1 N5	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 41	DSI 10	167300	836.5	20.45	21.50	1.274	-0.08	0.138	0.176
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 41	DSI 10	167300	836.5	20.45	21.50	1.274	-0.06	0.113	0.144
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 41	DSI 10	167300	836.5	20.45	21.50	1.274	0.15	0.049	0.062
	FR1 N5	20M	BPSK	50	28	DFT-15	Bottom Side	10mm	Ant 41	DSI 10	167300	836.5	20.45	21.50	1.274	0.15	0.036	0.046
	FR1 N7	20M	BPSK	1	53	DFT-15	Front	10mm	Ant 11	DSI 10	507000	2535	16.92	18.00	1.282	0.17	0.089	0.114
	FR1 N7	20M	BPSK	1	53	DFT-15	Back	10mm	Ant 11	DSI 10	507000	2535	16.92	18.00	1.282	-0.11	0.271	0.348
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Side	10mm	Ant 11	DSI 10	507000	2535	16.92	18.00	1.282	-0.14	0.275	0.353
	FR1 N7	20M	BPSK	1	53	DFT-15	Right Side	10mm	Ant 11	DSI 10	507000	2535	16.92	18.00	1.282	0.05	0.003	0.004
	FR1 N7	20M	BPSK	1	53	DFT-15	Top Side	10mm	Ant 11	DSI 10	507000	2535	16.92	18.00	1.282	0.04	0.044	0.056
	FR1 N7	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 11	DSI 10	507000	2535	16.90	18.00	1.288	0.09	0.090	0.116
	FR1 N7	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 11	DSI 10	507000	2535	16.90	18.00	1.288	0.06	0.301	0.388
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 11	DSI 10	507000	2535	16.90	18.00	1.288	0.14	0.267	0.344
	FR1 N7	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 11	DSI 10	507000	2535	16.90	18.00	1.288	-0.11	0.004	0.005
	FR1 N7	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 11	DSI 10	507000	2535	16.90	18.00	1.288	0.13	0.044	0.057
	FR1 N7	20M	BPSK	1	53	DFT-15	Front	10mm	Ant 13	DSI 10	507000	2535	16.06	17.00	1.242	0.12	0.095	0.118
	FR1 N7	20M	BPSK	1	53	DFT-15	Back	10mm	Ant 13	DSI 10	507000	2535	16.06	17.00	1.242	-0.1	0.217	0.269
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Side	10mm	Ant 13	DSI 10	507000	2535	16.06	17.00	1.242	0.1	0.025	0.031
	FR1 N7	20M	BPSK	1	53	DFT-15	Right Side	10mm	Ant 13	DSI 10	507000	2535	16.06	17.00	1.242	0.05	0.001	0.001
34	FR1 N7	20M	BPSK	1	53	DFT-15	Top Side	10mm	Ant 13	DSI 10	507000	2535	16.06	17.00	1.242	0.18	0.321	**0.399**
	FR1 N7	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 13	DSI 10	507000	2535	16.04	17.00	1.247	-0.18	0.098	0.122
	FR1 N7	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 13	DSI 10	507000	2535	16.04	17.00	1.247	0.05	0.209	0.261
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 13	DSI 10	507000	2535	16.04	17.00	1.247	0.03	0.027	0.034
	FR1 N7	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 13	DSI 10	507000	2535	16.04	17.00	1.247	-0.08	0.001	0.001
	FR1 N7	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 13	DSI 10	507000	2535	16.04	17.00	1.247	0.15	0.306	0.382
	FR1 N41	100M	BPSK	1	137	DFT-30	Front	10mm	Ant 11	DSI 10	518598	2592.99	17.01	18.00	1.256	0.16	0.076	0.095
	FR1 N41	100M	BPSK	1	137	DFT-30	Back	10mm	Ant 11	DSI 10	518598	2592.99	17.01	18.00	1.256	0.19	0.265	0.333
	FR1 N41	100M	BPSK	1	137	DFT-30	Left Side	10mm	Ant 11	DSI 10	518598	2592.99	17.01	18.00	1.256	0.13	0.237	0.298
	FR1 N41	100M	BPSK	1	137	DFT-30	Right Side	10mm	Ant 11	DSI 10	518598	2592.99	17.01	18.00	1.256	-	n/a	n/a
	FR1 N41	100M	BPSK	1	137	DFT-30	Top Side	10mm	Ant 11	DSI 10	518598	2592.99	17.01	18.00	1.256	-0.13	0.024	0.030
	FR1 N41	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 10	518598	2592.99	17.00	18.00	1.259	-0.13	0.076	0.096
	FR1 N41	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 10	518598	2592.99	17.00	18.00	1.259	0.18	0.256	0.322
	FR1 N41	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 10	518598	2592.99	17.00	18.00	1.259	0.06	0.235	0.296
	FR1 N41	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 11	DSI 10	518598	2592.99	17.00	18.00	1.259	-	n/a	n/a
	FR1 N41	100M	BPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 10	518598	2592.99	17.00	18.00	1.259	0.05	0.023	0.029
	FR1 N41	100M	BPSK	1	137	DFT-30	Front	10mm	Ant 13	DSI 10	518598	2592.99	16.92	18.00	1.282	0.07	0.156	0.200

	FR1 N41	100M	BPSK	1	137	DFT-30	Back	10mm	Ant 13	DSI 10	518598	2592.99	16.92	18.00	1.282	0.11	0.365	0.468
	FR1 N41	100M	BPSK	1	137	DFT-30	Left Side	10mm	Ant 13	DSI 10	518598	2592.99	16.92	18.00	1.282	-0.05	0.065	0.083
	FR1 N41	100M	BPSK	1	137	DFT-30	Right Side	10mm	Ant 13	DSI 10	518598	2592.99	16.92	18.00	1.282	-	n/a	n/a
	FR1 N41	100M	BPSK	1	137	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	16.92	18.00	1.282	0.15	0.532	0.682
	FR1 N41	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 13	DSI 10	518598	2592.99	16.90	18.00	1.288	0.03	0.156	0.201
	FR1 N41	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 13	DSI 10	518598	2592.99	16.90	18.00	1.288	0.14	0.376	0.484
	FR1 N41	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 13	DSI 10	518598	2592.99	16.90	18.00	1.288	0.12	0.066	0.085
	FR1 N41	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 13	DSI 10	518598	2592.99	16.90	18.00	1.288	-	n/a	n/a
35	FR1 N41	100M	BPSK	135	69	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	16.90	18.00	1.288	0.11	0.545	**0.702**
	FR1 N41	100M	BPSK	270	0	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	16.84	18.00	1.306	0.06	0.537	0.701

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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	Front	10mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.05	0.072	0.087
36	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.16	0.143	**0.172**
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.14	0.014	0.016
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.11	0.013	0.015
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.15	0.125	0.150

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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)
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	10mm	Ant 22	Reduced	46	5230	14.53	15.50	1.250	94.92	1.054	-0.05	0.095	0.125
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	10mm	Ant 22	Reduced	46	5230	14.53	15.50	1.250	94.92	1.054	0.02	0.145	0.191
	WLAN5.2GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 22	Reduced	46	5230	14.53	15.50	1.250	94.92	1.054	-	n/a	n/a
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	10mm	Ant 22	Reduced	46	5230	14.53	15.50	1.250	94.92	1.054	0.11	0.149	0.196
37	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	10mm	Ant 22	Reduced	46	5230	14.53	15.50	1.250	94.92	1.054	0.04	0.171	**0.225**
	WLAN5.8GHz	802.11n-HT40 MCS0	Front	10mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	0.09	0.112	0.169
	WLAN5.8GHz	802.11n-HT40 MCS0	Back	10mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	-0.11	0.143	0.215
	WLAN5.8GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	-	n/a	n/a
	WLAN5.8GHz	802.11n-HT40 MCS0	Right Side	10mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	0.15	0.160	0.241
38	WLAN5.8GHz	802.11n-HT40 MCS0	Top Side	10mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	-0.09	0.163	**0.245**

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	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	DH5 1Mbps	Front	10mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	-0.02	0.012	0.016
39	Bluetooth	DH5 1Mbps	Back	10mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.19	0.026	**0.034**
	Bluetooth	DH5 1Mbps	Left Side	10mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.15	0.003	0.004
	Bluetooth	DH5 1Mbps	Right Side	10mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.03	0.004	0.005
	Bluetooth	DH5 1Mbps	Top Side	10mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.01	0.021	0.027

16.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS 2 Tx slots	Front	15mm	Ant 13	DSI 4	128	824.2	30.62	31.50	1.225	-0.19	0.141	0.173
40	GSM850	GPRS 2 Tx slots	Back	15mm	Ant 13	DSI 4	128	824.2	30.62	31.50	1.225	-0.08	0.163	**0.200**
	GSM850	GPRS 2 Tx slots	Front	15mm	Ant 41	DSI 4	128	824.2	30.47	31.50	1.268	-0.03	0.084	0.106
	GSM850	GPRS 2 Tx slots	Back	15mm	Ant 41	DSI 4	128	824.2	30.47	31.50	1.268	0.11	0.111	0.141
	GSM1900	GPRS 2 Tx slots	Front	15mm	Ant 13	DSI 4	810	1909.8	26.57	27.50	1.239	0.09	0.260	0.322
41	GSM1900	GPRS 2 Tx slots	Back	15mm	Ant 13	DSI 4	810	1909.8	26.57	27.50	1.239	0.19	0.378	**0.468**
	GSM1900	GPRS 2 Tx slots	Front	15mm	Ant 31	DSI 4	810	1909.8	27.11	28.00	1.227	0.16	0.233	0.286
	GSM1900	GPRS 2 Tx slots	Back	15mm	Ant 31	DSI 4	810	1909.8	27.11	28.00	1.227	0.17	0.263	0.323

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	15mm	Ant 13	DSI 4	4182	836.4	23.37	24.50	1.297	0.03	0.102	0.132
	WCDMA V	RMC 12.2Kbps	Back	15mm	Ant 13	DSI 4	4182	836.4	23.37	24.50	1.297	0.02	0.127	0.165
	WCDMA V	RMC 12.2Kbps	Front	15mm	Ant 41	DSI 4	4182	836.4	23.41	24.50	1.285	0.02	0.123	0.158
42	WCDMA V	RMC 12.2Kbps	Back	15mm	Ant 41	DSI 4	4182	836.4	23.41	24.50	1.285	-0.05	0.168	**0.216**
	WCDMA IV	RMC 12.2Kbps	Front	15mm	Ant 13	DSI 4	1413	1732.6	22.26	23.50	1.330	0.11	0.225	0.299
43	WCDMA IV	RMC 12.2Kbps	Back	15mm	Ant 13	DSI 4	1413	1732.6	22.26	23.50	1.330	0.1	0.288	**0.383**
	WCDMA IV	RMC 12.2Kbps	Front	15mm	Ant 31	DSI 4	1413	1732.6	20.65	21.50	1.216	-0.08	0.160	0.195
	WCDMA IV	RMC 12.2Kbps	Back	15mm	Ant 31	DSI 4	1413	1732.6	20.65	21.50	1.216	-0.18	0.276	0.336
	WCDMA II	RMC 12.2Kbps	Front	15mm	Ant 13	DSI 4	9400	1880	21.32	22.50	1.312	-0.07	0.279	0.366
44	WCDMA II	RMC 12.2Kbps	Back	15mm	Ant 13	DSI 4	9400	1880	21.32	22.50	1.312	-0.1	0.459	**0.602**
	WCDMA II	RMC 12.2Kbps	Front	15mm	Ant 31	DSI 4	9400	1880	20.05	21.00	1.245	-0.01	0.145	0.180
	WCDMA II	RMC 12.2Kbps	Back	15mm	Ant 31	DSI 4	9400	1880	20.05	21.00	1.245	-0.06	0.236	0.294

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	25	Front	15mm	Ant 13	DSI 4	23095	707.5	23.15	24.00	1.216	-0.01	0.094	0.114
	LTE Band 12	10M	QPSK	1	25	Back	15mm	Ant 13	DSI 4	23095	707.5	23.15	24.00	1.216	-0.12	0.109	0.133
	LTE Band 12	10M	QPSK	25	12	Front	15mm	Ant 13	DSI 4	23095	707.5	22.09	23.00	1.233	-0.17	0.075	0.092
	LTE Band 12	10M	QPSK	25	12	Back	15mm	Ant 13	DSI 4	23095	707.5	22.09	23.00	1.233	-0.03	0.078	0.096
	LTE Band 12	10M	QPSK	1	25	Front	15mm	Ant 41	DSI 4	23095	707.5	23.11	24.00	1.227	-0.13	0.092	0.112
45	LTE Band 12	10M	QPSK	1	25	Back	15mm	Ant 41	DSI 4	23095	707.5	23.11	24.00	1.227	0.18	0.115	**0.141**
	LTE Band 12	10M	QPSK	25	12	Front	15mm	Ant 41	DSI 4	23095	707.5	22.10	23.00	1.230	-0.03	0.071	0.087
	LTE Band 12	10M	QPSK	25	12	Back	15mm	Ant 41	DSI 4	23095	707.5	22.10	23.00	1.230	-0.05	0.097	0.119
	LTE Band 17	10M	QPSK	1	25	Front	15mm	Ant 13	DSI 4	23790	710	23.18	24.50	1.355	-0.04	0.101	0.137
	LTE Band 17	10M	QPSK	1	25	Back	15mm	Ant 13	DSI 4	23790	710	23.18	24.50	1.355	-0.09	0.112	0.152
	LTE Band 17	10M	QPSK	25	12	Front	15mm	Ant 13	DSI 4	23790	710	22.28	23.50	1.324	0.13	0.077	0.102
	LTE Band 17	10M	QPSK	25	12	Back	15mm	Ant 13	DSI 4	23790	710	22.28	23.50	1.324	-0.1	0.089	0.118
	LTE Band 17	10M	QPSK	1	25	Front	15mm	Ant 41	DSI 4	23790	710	23.14	24.50	1.368	0.08	0.111	0.152
46	LTE Band 17	10M	QPSK	1	25	Back	15mm	Ant 41	DSI 4	23790	710	23.14	24.50	1.368	-0.04	0.139	**0.190**
	LTE Band 17	10M	QPSK	25	12	Front	15mm	Ant 41	DSI 4	23790	710	22.15	23.50	1.365	-0.07	0.088	0.121
	LTE Band 17	10M	QPSK	25	12	Back	15mm	Ant 41	DSI 4	23790	710	22.15	23.50	1.365	0.06	0.111	0.151
	LTE Band 26	15M	QPSK	1	37	Front	15mm	Ant 13	DSI 4	26865	831.5	23.33	24.50	1.309	0.05	0.111	0.145
	LTE Band 26	15M	QPSK	1	37	Back	15mm	Ant 13	DSI 4	26865	831.5	23.33	24.50	1.309	-0.12	0.127	0.166
	LTE Band 26	15M	QPSK	36	20	Front	15mm	Ant 13	DSI 4	26865	831.5	22.20	23.50	1.349	0.14	0.083	0.111
	LTE Band 26	15M	QPSK	36	20	Back	15mm	Ant 13	DSI 4	26865	831.5	22.20	23.50	1.349	0.09	0.086	0.116
	LTE Band 26	15M	QPSK	1	37	Front	15mm	Ant 41	DSI 4	26865	831.5	23.40	24.50	1.288	0.09	0.107	0.138
47	LTE Band 26	15M	QPSK	1	37	Back	15mm	Ant 41	DSI 4	26865	831.5	23.40	24.50	1.288	-0.13	0.152	**0.196**
	LTE Band 26	15M	QPSK	36	20	Front	15mm	Ant 41	DSI 4	26865	831.5	22.32	23.50	1.312	0.09	0.084	0.110
	LTE Band 26	15M	QPSK	36	20	Back	15mm	Ant 41	DSI 4	26865	831.5	22.32	23.50	1.312	0.18	0.127	0.167
	LTE Band 4	20M	QPSK	1	49	Front	15mm	Ant 13	DSI 4	20175	1732.5	22.08	23.00	1.236	0.12	0.215	0.266
	LTE Band 4	20M	QPSK	1	49	Back	15mm	Ant 13	DSI 4	20175	1732.5	22.08	23.00	1.236	-0.12	0.228	0.282
	LTE Band 4	20M	QPSK	50	24	Front	15mm	Ant 13	DSI 4	20175	1732.5	22.05	23.00	1.245	0.15	0.212	0.264
	LTE Band 4	20M	QPSK	50	24	Back	15mm	Ant 13	DSI 4	20175	1732.5	22.05	23.00	1.245	-0.06	0.224	0.279
	LTE Band 4	20M	QPSK	1	49	Front	15mm	Ant 31	DSI 4	20175	1732.5	20.77	21.50	1.183	0.02	0.138	0.163
	LTE Band 4	20M	QPSK	1	49	Back	15mm	Ant 31	DSI 4	20175	1732.5	20.77	21.50	1.183	-0.15	0.235	0.278
	LTE Band 4	20M	QPSK	50	24	Front	15mm	Ant 31	DSI 4	20175	1732.5	20.75	21.50	1.189	-0.16	0.142	0.169
48	LTE Band 4	20M	QPSK	50	24	Back	15mm	Ant 31	DSI 4	20175	1732.5	20.75	21.50	1.189	0.02	0.240	**0.285**
	LTE Band 2	20M	QPSK	1	49	Front	15mm	Ant 13	DSI 4	19100	1900	21.42	22.50	1.282	-0.07	0.296	0.380
	LTE Band 2	20M	QPSK	1	49	Back	15mm	Ant 13	DSI 4	19100	1900	21.42	22.50	1.282	-0.13	0.388	0.498
	LTE Band 2	20M	QPSK	50	24	Front	15mm	Ant 13	DSI 4	19100	1900	21.41	22.50	1.285	-0.19	0.306	0.393
49	LTE Band 2	20M	QPSK	50	24	Back	15mm	Ant 13	DSI 4	19100	1900	21.41	22.50	1.285	0.16	0.399	**0.513**
	LTE Band 2	20M	QPSK	1	49	Front	15mm	Ant 31	DSI 4	19100	1900	20.52	21.50	1.253	-0.04	0.145	0.182
	LTE Band 2	20M	QPSK	1	49	Back	15mm	Ant 31	DSI 4	19100	1900	20.52	21.50	1.253	-0.15	0.232	0.291
	LTE Band 2	20M	QPSK	50	24	Front	15mm	Ant 31	DSI 4	19100	1900	20.50	21.50	1.259	-0.13	0.148	0.186
	LTE Band 2	20M	QPSK	50	24	Back	15mm	Ant 31	DSI 4	19100	1900	20.50	21.50	1.259	-0.02	0.240	0.302
	LTE Band 7	20M	QPSK	1	49	Front	15mm	Ant 13	DSI 4	21100	2535	22.08	23.00	1.236	-0.07	0.222	0.274
	LTE Band 7	20M	QPSK	1	49	Back	15mm	Ant 13	DSI 4	21100	2535	22.08	23.00	1.236	-0.11	0.387	0.478
	LTE Band 7	20M	QPSK	50	24	Front	15mm	Ant 13	DSI 4	21100	2535	22.05	23.00	1.245	-0.05	0.229	0.285
50	LTE Band 7	20M	QPSK	50	24	Back	15mm	Ant 13	DSI 4	21100	2535	22.05	23.00	1.245	0.04	0.394	**0.490**
	LTE Band 7C	20M	QPSK	50	24	Back	15mm	Ant 13	DSI 4	21100+ 20902	2535+ 2515.2	22.04	23.00	1.247	0.02	0.392	0.489
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Front	15mm	Ant 13	DSI 4	21100	2535	21.45	22.50	1.274	0.1	0.184	0.234
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Back	15mm	Ant 13	DSI 4	21100	2535	21.45	22.50	1.274	0.09	0.310	0.395
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Front	15mm	Ant 13	DSI 4	21100	2535	20.44	21.50	1.276	0.03	0.141	0.180
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Back	15mm	Ant 13	DSI 4	21100	2535	20.44	21.50	1.276	0.06	0.249	0.318
	LTE Band 7	20M	QPSK	1	49	Front	15mm	Ant 31	DSI 4	21100	2535	19.94	21.00	1.276	-0.06	0.119	0.152
	LTE Band 7	20M	QPSK	1	49	Back	15mm	Ant 31	DSI 4	21100	2535	19.94	21.00	1.276	0.19	0.149	0.190

	LTE Band 7C	20M	QPSK	1	49	Back	15mm	Ant 31	DSI 4	21100+ 20902	2535+ 2515.2	19.91	21.00	1.285	0.01	0.136	0.175
	LTE Band 7	20M	QPSK	50	24	Front	15mm	Ant 31	DSI 4	21100	2535	19.91	21.00	1.285	-0.14	0.117	0.150
	LTE Band 7	20M	QPSK	50	24	Back	15mm	Ant 31	DSI 4	21100	2535	19.91	21.00	1.285	0.19	0.144	0.185
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Front	15mm	Ant 31	DSI 4	21100	2535	17.97	19.00	1.268	-0.17	0.074	0.094
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Back	15mm	Ant 31	DSI 4	21100	2535	17.97	19.00	1.268	0.16	0.093	0.118
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Front	15mm	Ant 31	DSI 4	21100	2535	17.01	18.00	1.256	-0.02	0.055	0.069
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Back	15mm	Ant 31	DSI 4	21100	2535	17.01	18.00	1.256	0.02	0.075	0.094

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Front	15mm	Ant 13	DSI 4	41490	2680	23.23	24.50	1.340	62.9	1.006	-0.09	0.118	0.159
51	LTE Band 41	20M	QPSK	1	49	Back	15mm	Ant 13	DSI 4	41490	2680	23.23	24.50	1.340	62.9	1.006	-0.14	0.238	**0.321**
	LTE Band 41C	20M	QPSK	1	49	Back	15mm	Ant 13	DSI 4	41490+ 41292	2680+ 2660.2	23.22	24.50	1.343	62.9	1.006	-0.04	0.232	0.313
	LTE Band 41	20M	QPSK	50	24	Front	15mm	Ant 13	DSI 4	41490	2680	22.19	23.50	1.352	62.9	1.006	0.05	0.093	0.126
	LTE Band 41	20M	QPSK	50	24	Back	15mm	Ant 13	DSI 4	41490	2680	22.19	23.50	1.352	62.9	1.006	0.17	0.196	0.267
	LTE Band 41	20M	QPSK	1	49	Front	15mm	Ant 31	DSI 4	41490	2680	22.28	23.50	1.324	62.9	1.006	0.03	0.113	0.151
	LTE Band 41	20M	QPSK	1	49	Back	15mm	Ant 31	DSI 4	41490	2680	22.28	23.50	1.324	62.9	1.006	-0.16	0.126	0.168
	LTE Band 41	20M	QPSK	50	24	Front	15mm	Ant 31	DSI 4	41490	2680	22.26	23.50	1.330	62.9	1.006	0.17	0.115	0.154
	LTE Band 41	20M	QPSK	50	24	Back	15mm	Ant 31	DSI 4	41490	2680	22.26	23.50	1.330	62.9	1.006	-0.06	0.126	0.169
	LTE Band 41C	20M	QPSK	50	24	Back	15mm	Ant 31	DSI 4	41490+ 41292	2680+ 2660.2	22.25	23.50	1.334	62.9	1.006	0.01	0.125	0.168

<5GNR NSA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 N5	20M	BPSK	1	53	DFT-15	Front	15mm	Ant 13	DSI 4	167300	836.5	23.05	24.00	1.245	0.16	0.084	0.105
	FR1 N5	20M	BPSK	1	53	DFT-15	Back	15mm	Ant 13	DSI 4	167300	836.5	23.05	24.00	1.245	-0.09	0.095	0.118
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 13	DSI 4	167300	836.5	23.03	24.00	1.250	-0.1	0.085	0.106
	FR1 N5	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 13	DSI 4	167300	836.5	23.03	24.00	1.250	0.07	0.099	0.124
	FR1 N5	20M	BPSK	1	53	DFT-15	Front	15mm	Ant 41	DSI 4	167300	836.5	23.19	24.00	1.205	0.05	0.087	0.105
	FR1 N5	20M	BPSK	1	53	DFT-15	Back	15mm	Ant 41	DSI 4	167300	836.5	23.19	24.00	1.205	-0.09	0.124	0.149
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 41	DSI 4	167300	836.5	23.17	24.00	1.211	-0.11	0.087	0.105
52	FR1 N5	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 41	DSI 4	167300	836.5	23.17	24.00	1.211	-0.12	0.127	**0.154**
	FR1 N7	20M	BPSK	1	53	DFT-15	Front	15mm	Ant 11	DSI 4	507000	2535	22.52	23.50	1.253	-0.14	0.165	0.207
53	FR1 N7	20M	BPSK	1	53	DFT-15	Back	15mm	Ant 11	DSI 4	507000	2535	22.52	23.50	1.253	0.06	0.439	**0.550**
	FR1 N7	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 11	DSI 4	507000	2535	22.50	23.50	1.259	-0.11	0.161	0.203
	FR1 N7	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 11	DSI 4	507000	2535	22.50	23.50	1.259	0.08	0.434	0.546
	FR1 N7	20M	BPSK	1	53	DFT-15	Front	15mm	Ant 13	DSI 4	507000	2535	22.04	23.00	1.247	-0.05	0.205	0.256
	FR1 N7	20M	BPSK	1	53	DFT-15	Back	15mm	Ant 13	DSI 4	507000	2535	22.04	23.00	1.247	0.17	0.408	0.509
	FR1 N7	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 13	DSI 4	507000	2535	22.02	23.00	1.253	0.1	0.208	0.261
	FR1 N7	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 13	DSI 4	507000	2535	22.02	23.00	1.253	0.14	0.414	0.519
	FR1 N41	100M	BPSK	1	137	DFT-30	Front	15mm	Ant 11	DSI 4	518598	2592.99	22.02	23.00	1.253	-0.08	0.131	0.164
	FR1 N41	100M	BPSK	1	137	DFT-30	Back	15mm	Ant 11	DSI 4	518598	2592.99	22.02	23.00	1.253	-0.11	0.326	0.409
	FR1 N41	100M	BPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	518598	2592.99	22.00	23.00	1.259	-0.09	0.136	0.171
	FR1 N41	100M	BPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	518598	2592.99	22.00	23.00	1.259	0.15	0.331	0.417
	FR1 N41	100M	BPSK	1	137	DFT-30	Front	15mm	Ant 13	DSI 4	518598	2592.99	21.39	22.50	1.291	0.15	0.220	0.284
	FR1 N41	100M	BPSK	1	137	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	21.39	22.50	1.291	0.01	0.412	0.532
	FR1 N41	100M	BPSK	135	69	DFT-30	Front	15mm	Ant 13	DSI 4	518598	2592.99	21.38	22.50	1.294	-0.12	0.222	0.287
54	FR1 N41	100M	BPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	21.38	22.50	1.294	0.13	0.418	**0.541**

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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	Front	15mm	Ant 22	Full	6	2437	18.80	20.00	1.318	100	1.000	0.08	0.070	0.092
55	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 22	Full	6	2437	18.80	20.00	1.318	100	1.000	-0.19	0.107	**0.141**
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.05	0.045	0.054
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 22	Reduced	6	2437	16.70	17.50	1.202	100	1.000	0.19	0.069	0.083

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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	802.11a 6Mbps	Front	15mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	0.05	0.157	0.206
56	WLAN5.3GHz	802.11a 6Mbps	Back	15mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	-0.15	0.247	**0.324**
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	15mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	0.08	0.088	0.125
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	15mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	-0.01	0.136	0.192
	WLAN5.5GHz	802.11a 6Mbps	Front	15mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.04	0.130	0.188
57	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.16	0.229	**0.332**
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	15mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	0.13	0.087	0.138
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	15mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	-0.06	0.156	0.247
	WLAN5.8GHz	802.11a 6Mbps	Front	15mm	Ant 22	Full	149	5745	17.75	19.00	1.333	97.46	1.026	0.07	0.145	0.198
58	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 22	Full	149	5745	17.75	19.00	1.333	97.46	1.026	-0.15	0.246	**0.336**
	WLAN5.8GHz	802.11n-HT40 MCS0	Front	15mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	0.03	0.054	0.081
	WLAN5.8GHz	802.11n-HT40 MCS0	Back	15mm	Ant 22	Reduced	151	5755	13.95	15.50	1.429	94.92	1.054	0.02	0.129	0.194

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	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	DH5 1Mbps	Front	15mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.05	0.008	0.010
59	Bluetooth	DH5 1Mbps	Back	15mm	Ant 22	39	2441	12.00	12.00	1.000	76.37	1.309	0.11	0.014	**0.019**

16.4 Product specific 10g SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA IV	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	1413	1732.6	18.84	20.00	1.306	0.01	1.700	2.220
	WCDMA IV	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	1312	1712.4	18.81	20.00	1.315	0.14	1.680	2.210
60	WCDMA IV	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	1513	1752.6	18.83	20.00	1.309	0.16	1.740	**2.278**
	WCDMA IV	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 8	1413	1732.6	17.23	18.50	1.340	0.1	1.170	1.567
	WCDMA IV	RMC 12.2Kbps	Top Side	11mm	Ant 13	DSI 4	1413	1732.6	22.26	23.50	1.330	0.17	0.451	0.600
61	WCDMA II	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	9400	1880	17.87	19.00	1.297	0.19	1.280	**1.660**
	WCDMA II	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 8	9400	1880	15.71	17.00	1.346	0.1	0.790	1.063
	WCDMA II	RMC 12.2Kbps	Top Side	11mm	Ant 13	DSI 4	9400	1880	21.32	22.50	1.312	0.03	0.659	0.865

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	49	Top Side	0mm	Ant 13	DSI 5	19100	1900	18.42	19.50	1.282	0.14	1.140	1.462
62	LTE Band 2	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 5	19100	1900	18.39	19.50	1.291	0.14	1.200	**1.549**
	LTE Band 2	20M	QPSK	1	49	Top Side	0mm	Ant 13	DSI 8	19100	1900	15.97	17.00	1.268	0.16	0.618	0.783
	LTE Band 2	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 8	19100	1900	15.95	17.00	1.274	0.17	0.628	0.800
	LTE Band 2	20M	QPSK	1	49	Top Side	11mm	Ant 13	DSI 4	19100	1900	21.42	22.50	1.282	0.09	0.613	0.786
	LTE Band 2	20M	QPSK	50	24	Top Side	11mm	Ant 13	DSI 4	19100	1900	21.41	22.50	1.285	0.02	0.586	0.753
	LTE Band 7	20M	QPSK	1	49	Top Side	0mm	Ant 13	DSI 5	21100	2535	18.55	19.50	1.245	0.11	1.180	1.469
63	LTE Band 7	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 5	21100	2535	18.53	19.50	1.250	0.05	1.220	**1.525**
	LTE Band 7C	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 5	21100+20902	2535+2515.2	18.52	19.50	1.253	-0.07	1.170	1.466
	LTE Band 7	20M	QPSK	1	49	Top Side	0mm	Ant 13	DSI 8	21100	2535	17.53	18.50	1.250	0.17	0.870	1.088
	LTE Band 7	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 8	21100	2535	17.51	18.50	1.256	0.02	0.882	1.108
	LTE Band 7C	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 8	21100+20902	2535+2515.2	17.50	18.50	1.259	-0.12	0.855	1.076
	LTE Band 7	20M	QPSK	1	49	Top Side	11mm	Ant 13	DSI 4	21100	2535	22.08	23.00	1.236	0.05	0.583	0.721
	LTE Band 7	20M	QPSK	50	24	Top Side	11mm	Ant 13	DSI 4	21100	2535	22.05	23.00	1.245	0.09	0.584	0.727
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Top Side	0mm	Ant 13	DSI 5	21100	2535	16.44	17.50	1.276	-0.05	0.681	0.869
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 5	21100	2535	15.44	16.50	1.276	-0.12	0.518	0.661
	LTE Band 7(EN-DC)	20M	QPSK	1	49	Top Side	0mm	Ant 13	DSI 8	21100	2535	14.97	16.00	1.268	-0.07	0.485	0.615
	LTE Band 7(EN-DC)	20M	QPSK	50	24	Top Side	0mm	Ant 13	DSI 8	21100	2535	14.00	15.00	1.259	-0.18	0.375	0.472

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	FR1 N7	20M	BPSK	1	53	DFT-15	Back	0mm	Ant 11	DSI 5	507000	2535	18.43	19.50	1.279	0.06	1.420	1.817
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Side	0mm	Ant 11	DSI 5	507000	2535	18.43	19.50	1.279	-0.03	0.884	1.131
64	FR1 N7	20M	BPSK	50	28	DFT-15	Back	0mm	Ant 11	DSI 5	507000	2535	18.41	19.50	1.285	0.11	1.450	**1.864**
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Side	0mm	Ant 11	DSI 5	507000	2535	18.41	19.50	1.285	-0.09	0.903	1.161
	FR1 N7	20M	BPSK	1	53	DFT-15	Back	0mm	Ant 11	DSI 8	507000	2535	16.92	18.00	1.282	0.07	0.997	1.278
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Side	0mm	Ant 11	DSI 8	507000	2535	16.92	18.00	1.282	0.12	0.637	0.817
	FR1 N7	20M	BPSK	50	28	DFT-15	Back	0mm	Ant 11	DSI 8	507000	2535	16.90	18.00	1.288	0.14	1.060	1.366
	FR1 N7_	20M	BPSK	50	28	DFT-15	Left Side	0mm	Ant 11	DSI 8	507000	2535	16.90	18.00	1.288	0.01	0.639	0.823
	FR1 N7	20M	BPSK	1	53	DFT-15	Back	9mm	Ant 11	DSI 4	507000	2535	22.52	23.50	1.253	0.15	0.498	0.624
	FR1 N7	20M	BPSK	1	53	DFT-15	Left Side	10mm	Ant 11	DSI 4	507000	2535	22.52	23.50	1.253	-0.03	0.476	0.596
	FR1 N7	20M	BPSK	50	28	DFT-15	Back	9mm	Ant 11	DSI 4	507000	2535	22.50	23.50	1.259	0.08	0.503	0.633
	FR1 N7	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 11	DSI 4	507000	2535	22.50	23.50	1.259	-0.04	0.484	0.609
	FR1 N7	20M	BPSK	1	53	DFT-15	Top Side	0mm	Ant 13	DSI 5	507000	2535	18.53	19.50	1.250	0.09	1.080	1.350
	FR1 N7	20M	BPSK	50	28	DFT-15	Top Side	0mm	Ant 13	DSI 5	507000	2535	18.51	19.50	1.256	-0.15	1.120	1.407
	FR1 N7	20M	BPSK	1	53	DFT-15	Top Side	0mm	Ant 13	DSI 8	507000	2535	16.06	17.00	1.242	-0.03	0.645	0.801
	FR1 N7	20M	BPSK	50	28	DFT-15	Top Side	0mm	Ant 13	DSI 8	507000	2535	16.04	17.00	1.247	0.15	0.659	0.822
	FR1 N7	20M	BPSK	1	53	DFT-15	Top Side	11mm	Ant 13	DSI 4	507000	2535	22.04	23.00	1.247	0.11	0.528	0.659
	FR1 N7	20M	BPSK	50	28	DFT-15	Top Side	11mm	Ant 13	DSI 4	507000	2535	22.02	23.00	1.253	0.05	0.541	0.678
65	FR1 N41	100M	BPSK	1	137	DFT-30	Back	0mm	Ant 13	DSI 5	518598	2592.99	17.92	19.00	1.282	0.14	1.180	**1.513**
	FR1 N41	100M	BPSK	1	137	DFT-30	Top Side	0mm	Ant 13	DSI 5	518598	2592.99	17.92	19.00	1.282	0.17	0.927	1.189
	FR1 N41	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 13	DSI 5	518598	2592.99	17.90	19.00	1.288	0.11	1.130	1.456
	FR1 N41	100M	BPSK	135	69	DFT-30	Top Side	0mm	Ant 13	DSI 5	518598	2592.99	17.90	19.00	1.288	0.13	0.918	1.183
	FR1 N41	100M	BPSK	270	0	DFT-30	Back	0mm	Ant 13	DSI 5	518598	2592.99	17.87	19.00	1.297	0.06	1.120	1.453
	FR1 N41	100M	BPSK	1	137	DFT-30	Back	0mm	Ant 13	DSI 8	518598	2592.99	16.92	18.00	1.282	0.08	0.972	1.246
	FR1 N41	100M	BPSK	1	137	DFT-30	Top Side	0mm	Ant 13	DSI 8	518598	2592.99	16.92	18.00	1.282	0.12	0.743	0.953
	FR1 N41	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 13	DSI 8	518598	2592.99	16.90	18.00	1.288	0.16	0.977	1.259
	FR1 N41	100M	BPSK	135	69	DFT-30	Top Side	0mm	Ant 13	DSI 8	518598	2592.99	16.90	18.00	1.288	0.05	0.746	0.961
	FR1 N41	100M	BPSK	1	137	DFT-30	Back	11mm	Ant 13	DSI 4	518598	2592.99	21.39	22.50	1.291	0.05	0.432	0.558
	FR1 N41	100M	BPSK	1	137	DFT-30	Top Side	11mm	Ant 13	DSI 4	518598	2592.99	21.39	22.50	1.291	0.11	0.611	0.789
	FR1 N41	100M	BPSK	135	69	DFT-30	Back	11mm	Ant 13	DSI 4	518598	2592.99	21.38	22.50	1.294	0.08	0.458	0.593
	FR1 N41	100M	BPSK	135	69	DFT-30	Top Side	11mm	Ant 13	DSI 4	518598	2592.99	21.38	22.50	1.294	-0.06	0.631	0.817

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	0.14	0.609	0.799
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	0.1	0.736	0.966
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	0.02	0.028	0.037
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	0.04	1.000	1.312
66	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 22	Full	60	5300	17.93	19.00	1.279	97.46	1.026	0.02	1.020	**1.338**
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	-0.06	0.244	0.345
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	0.02	0.318	0.450
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	0.07	0.054	0.076
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	0.02	0.431	0.610
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 22	Reduced	54	5270	14.22	15.50	1.343	94.92	1.054	0.09	0.503	0.712
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.02	0.596	0.863
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.14	0.546	0.791
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.1	0.030	0.043
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.07	0.754	1.092
67	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 22	Full	116	5580	17.50	19.00	1.412	97.46	1.026	0.01	0.839	**1.215**
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	0.05	0.216	0.341
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	0.01	0.266	0.420
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	-0.12	0.046	0.073
	WLAN5.5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	0.05	0.308	0.487
	WLAN5.5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 22	Reduced	110	5550	13.74	15.50	1.500	94.92	1.054	-0.05	0.532	0.841

17. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + 2.4GHz WLAN	Yes	Yes	Yes	Yes
2.	WWAN + 5GHz WLAN	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	5GHz WLAN + Bluetooth	Yes	Yes	Yes	Yes
5.	WWAN + 5GHz WLAN + Bluetooth	Yes	Yes	Yes	Yes

General Note:

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

17.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+4	3+4	1+2	1+3	1+3+4
		WWAN	2.4GHz WLAN Ant 22	5GHz WLAN Ant 22	Bluetooth Ant 22	Summed	Summed	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)
GSM850Ant 13	Right Cheek	0.671	0.192	0.132	0.039	0.71	0.17	0.86	0.80	0.84
	Right Tilted	0.496	0.236	0.207	0.046	0.54	0.25	0.73	0.70	0.75
	Left Cheek	0.500	0.501	0.407	0.102	0.60	0.51	1.00	0.91	1.01
	Left Tilted	0.434	0.404	0.346	0.076	0.51	0.42	0.84	0.78	0.86
GSM850Ant 41	Right Cheek	0.085	0.192	0.132	0.039	0.12	0.17	0.28	0.22	0.26
	Right Tilted	0.075	0.236	0.207	0.046	0.12	0.25	0.31	0.28	0.33
	Left Cheek	0.119	0.501	0.407	0.102	0.22	0.51	0.62	0.53	0.63
	Left Tilted	0.104	0.404	0.346	0.076	0.18	0.42	0.51	0.45	0.53
GSM1900Ant 13	Right Cheek	0.437	0.192	0.132	0.039	0.48	0.17	0.63	0.57	0.61
	Right Tilted	0.601	0.236	0.207	0.046	0.65	0.25	0.84	0.81	0.85
	Left Cheek	0.313	0.501	0.407	0.102	0.42	0.51	0.81	0.72	0.82
	Left Tilted	0.347	0.404	0.346	0.076	0.42	0.42	0.75	0.69	0.77
GSM1900Ant 31	Right Cheek	0.103	0.192	0.132	0.039	0.14	0.17	0.30	0.24	0.27
	Right Tilted	0.089	0.236	0.207	0.046	0.14	0.25	0.33	0.30	0.34
	Left Cheek	0.120	0.501	0.407	0.102	0.22	0.51	0.62	0.53	0.63
	Left Tilted	0.092	0.404	0.346	0.076	0.17	0.42	0.50	0.44	0.51
WCDMA VAnt 13	Right Cheek	0.489	0.192	0.132	0.039	0.53	0.17	0.68	0.62	0.66
	Right Tilted	0.400	0.236	0.207	0.046	0.45	0.25	0.64	0.61	0.65
	Left Cheek	0.325	0.501	0.407	0.102	0.43	0.51	0.83	0.73	0.83
	Left Tilted	0.276	0.404	0.346	0.076	0.35	0.42	0.68	0.62	0.70
WCDMA VAnt 41	Right Cheek	0.184	0.192	0.132	0.039	0.22	0.17	0.38	0.32	0.36
	Right Tilted	0.086	0.236	0.207	0.046	0.13	0.25	0.32	0.29	0.34
	Left Cheek	0.221	0.501	0.407	0.102	0.32	0.51	0.72	0.63	0.73
	Left Tilted	0.091	0.404	0.346	0.076	0.17	0.42	0.50	0.44	0.51
WCDMA IVAnt 13	Right Cheek	0.449	0.192	0.132	0.039	0.49	0.17	0.64	0.58	0.62
	Right Tilted	0.599	0.236	0.207	0.046	0.65	0.25	0.84	0.81	0.85
	Left Cheek	0.319	0.501	0.407	0.102	0.42	0.51	0.82	0.73	0.83
	Left Tilted	0.421	0.404	0.346	0.076	0.50	0.42	0.83	0.77	0.84
WCDMA IVAnt 31	Right Cheek	0.108	0.192	0.132	0.039	0.15	0.17	0.30	0.24	0.28
	Right Tilted	0.118	0.236	0.207	0.046	0.16	0.25	0.35	0.33	0.37
	Left Cheek	0.163	0.501	0.407	0.102	0.27	0.51	0.66	0.57	0.67
	Left Tilted	0.110	0.404	0.346	0.076	0.19	0.42	0.51	0.46	0.53
WCDMA IIAnt 13	Right Cheek	0.508	0.192	0.132	0.039	0.55	0.17	0.70	0.64	0.68
	Right Tilted	0.658	0.236	0.207	0.046	0.70	0.25	0.89	0.87	0.91
	Left Cheek	0.349	0.501	0.407	0.102	0.45	0.51	0.85	0.76	0.86
	Left Tilted	0.429	0.404	0.346	0.076	0.51	0.42	0.83	0.78	0.85
WCDMA IIAnt 31	Right Cheek	0.143	0.192	0.132	0.039	0.18	0.17	0.34	0.28	0.31
	Right Tilted	0.146	0.236	0.207	0.046	0.19	0.25	0.38	0.35	0.40
	Left Cheek	0.222	0.501	0.407	0.102	0.32	0.51	0.72	0.63	0.73
	Left Tilted	0.141	0.404	0.346	0.076	0.22	0.42	0.55	0.49	0.56
LTE Band 12Ant 13	Right Cheek	0.757	0.192	0.132	0.039	0.80	0.17	0.95	0.89	0.93
	Right Tilted	0.569	0.236	0.207	0.046	0.62	0.25	0.81	0.78	0.82
	Left Cheek	0.420	0.501	0.407	0.102	0.52	0.51	0.92	0.83	0.93
	Left Tilted	0.307	0.404	0.346	0.076	0.38	0.42	0.71	0.65	0.73
LTE Band 12Ant 41	Right Cheek	0.089	0.192	0.132	0.039	0.13	0.17	0.28	0.22	0.26
	Right Tilted	0.041	0.236	0.207	0.046	0.09	0.25	0.28	0.25	0.29
	Left Cheek	0.120	0.501	0.407	0.102	0.22	0.51	0.62	0.53	0.63
	Left Tilted	0.048	0.404	0.346	0.076	0.12	0.42	0.45	0.39	0.47
LTE Band	Right Cheek	0.644	0.192	0.132	0.039	0.68	0.17	0.84	0.78	0.82

17Ant 13	Right Tilted	0.559	0.236	0.207	0.046	0.61	0.25	0.80	0.77	0.81
	Left Cheek	0.431	0.501	0.407	0.102	0.53	0.51	0.93	0.84	0.94
	Left Tilted	0.312	0.404	0.346	0.076	0.39	0.42	0.72	0.66	0.73
LTE Band 17Ant 41	Right Cheek	0.120	0.192	0.132	0.039	0.16	0.17	0.31	0.25	0.29
	Right Tilted	0.057	0.236	0.207	0.046	0.10	0.25	0.29	0.26	0.31
	Left Cheek	0.152	0.501	0.407	0.102	0.25	0.51	0.65	0.56	0.66
	Left Tilted	0.069	0.404	0.346	0.076	0.15	0.42	0.47	0.42	0.49
LTE Band 26Ant 13	Right Cheek	0.632	0.192	0.132	0.039	0.67	0.17	0.82	0.76	0.80
	Right Tilted	0.480	0.236	0.207	0.046	0.53	0.25	0.72	0.69	0.73
	Left Cheek	0.443	0.501	0.407	0.102	0.55	0.51	0.94	0.85	0.95
	Left Tilted	0.400	0.404	0.346	0.076	0.48	0.42	0.80	0.75	0.82
LTE Band 26Ant 41	Right Cheek	0.153	0.192	0.132	0.039	0.19	0.17	0.35	0.29	0.32
	Right Tilted	0.067	0.236	0.207	0.046	0.11	0.25	0.30	0.27	0.32
	Left Cheek	0.205	0.501	0.407	0.102	0.31	0.51	0.71	0.61	0.71
	Left Tilted	0.091	0.404	0.346	0.076	0.17	0.42	0.50	0.44	0.51
LTE Band 4Ant 13	Right Cheek	0.558	0.192	0.132	0.039	0.60	0.17	0.75	0.69	0.73
	Right Tilted	0.764	0.236	0.207	0.046	0.81	0.25	1.00	0.97	1.02
	Left Cheek	0.401	0.501	0.407	0.102	0.50	0.51	0.90	0.81	0.91
	Left Tilted	0.480	0.404	0.346	0.076	0.56	0.42	0.88	0.83	0.90
LTE Band 4Ant 31	Right Cheek	0.094	0.192	0.132	0.039	0.13	0.17	0.29	0.23	0.27
	Right Tilted	0.089	0.236	0.207	0.046	0.14	0.25	0.33	0.30	0.34
	Left Cheek	0.156	0.501	0.407	0.102	0.26	0.51	0.66	0.56	0.67
	Left Tilted	0.085	0.404	0.346	0.076	0.16	0.42	0.49	0.43	0.51
LTE Band 2Ant 13	Right Cheek	0.548	0.192	0.132	0.039	0.59	0.17	0.74	0.68	0.72
	Right Tilted	0.715	0.236	0.207	0.046	0.76	0.25	0.95	0.92	0.97
	Left Cheek	0.386	0.501	0.407	0.102	0.49	0.51	0.89	0.79	0.90
	Left Tilted	0.468	0.404	0.346	0.076	0.54	0.42	0.87	0.81	0.89
LTE Band 2Ant 31	Right Cheek	0.138	0.192	0.132	0.039	0.18	0.17	0.33	0.27	0.31
	Right Tilted	0.122	0.236	0.207	0.046	0.17	0.25	0.36	0.33	0.38
	Left Cheek	0.235	0.501	0.407	0.102	0.34	0.51	0.74	0.64	0.74
	Left Tilted	0.144	0.404	0.346	0.076	0.22	0.42	0.55	0.49	0.57
LTE Band 7Ant 13	Right Cheek	0.420	0.192	0.132	0.039	0.46	0.17	0.61	0.55	0.59
	Right Tilted	0.639	0.236	0.207	0.046	0.69	0.25	0.88	0.85	0.89
	Left Cheek	0.315	0.501	0.407	0.102	0.42	0.51	0.82	0.72	0.82
	Left Tilted	0.401	0.404	0.346	0.076	0.48	0.42	0.81	0.75	0.82
LTE Band 7Ant 31	Right Cheek	0.466	0.192	0.132	0.039	0.51	0.17	0.66	0.60	0.64
	Right Tilted	0.194	0.236	0.207	0.046	0.24	0.25	0.43	0.40	0.45
	Left Cheek	0.213	0.501	0.407	0.102	0.32	0.51	0.71	0.62	0.72
	Left Tilted	0.144	0.404	0.346	0.076	0.22	0.42	0.55	0.49	0.57
LTE Band 41Ant 13	Right Cheek	0.309	0.192	0.132	0.039	0.35	0.17	0.50	0.44	0.48
	Right Tilted	0.406	0.236	0.207	0.046	0.45	0.25	0.64	0.61	0.66
	Left Cheek	0.156	0.501	0.407	0.102	0.26	0.51	0.66	0.56	0.67
	Left Tilted	0.226	0.404	0.346	0.076	0.30	0.42	0.63	0.57	0.65
LTE Band 41Ant 31	Right Cheek	0.345	0.192	0.132	0.039	0.38	0.17	0.54	0.48	0.52
	Right Tilted	0.095	0.236	0.207	0.046	0.14	0.25	0.33	0.30	0.35
	Left Cheek	0.122	0.501	0.407	0.102	0.22	0.51	0.62	0.53	0.63
	Left Tilted	0.091	0.404	0.346	0.076	0.17	0.42	0.50	0.44	0.51
FR1 N7Ant 11	Right Cheek	0.558	0.192	0.132	0.039	0.60	0.17	0.75	0.69	0.73
	Right Tilted	0.111	0.236	0.207	0.046	0.16	0.25	0.35	0.32	0.36
	Left Cheek	0.195	0.501	0.407	0.102	0.30	0.51	0.70	0.60	0.70
	Left Tilted	0.065	0.404	0.346	0.076	0.14	0.42	0.47	0.41	0.49
FR1 N7Ant 13	Right Cheek	0.473	0.192	0.132	0.039	0.51	0.17	0.67	0.61	0.64
	Right Tilted	0.640	0.236	0.207	0.046	0.69	0.25	0.88	0.85	0.89
	Left Cheek	0.270	0.501	0.407	0.102	0.37	0.51	0.77	0.68	0.78
	Left Tilted	0.352	0.404	0.346	0.076	0.43	0.42	0.76	0.70	0.77
FR1 N41Ant	Right Cheek	0.444	0.192	0.132	0.039	0.48	0.17	0.64	0.58	0.62

11	Right Tilted	0.102	0.236	0.207	0.046	0.15	0.25	0.34	0.31	0.36
	Left Cheek	0.157	0.501	0.407	0.102	0.26	0.51	0.66	0.56	0.67
	Left Tilted	0.060	0.404	0.346	0.076	0.14	0.42	0.46	0.41	0.48
FR1 N41Ant 13	Right Cheek	0.454	0.192	0.132	0.039	0.49	0.17	0.65	0.59	0.63
	Right Tilted	0.612	0.236	0.207	0.046	0.66	0.25	0.85	0.82	0.87
	Left Cheek	0.261	0.501	0.407	0.102	0.36	0.51	0.76	0.67	0.77
	Left Tilted	0.339	0.404	0.346	0.076	0.42	0.42	0.74	0.69	0.76

EN-DC

WWAN Band		Exposure Position	1	2	5	1+2	1+2+5
			WWAN	FR1	Bluetooth Ant 22	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 13	Right Cheek	0.280	0.600	0.039	0.88	0.92
		Right Tilted	0.382	0.461	0.046	0.84	0.89
		Left Cheek	0.178	0.404	0.102	0.58	0.68
		Left Tilted	0.239	0.321	0.076	0.56	0.64
LTE Band 7Ant 31	FR1 N5Ant 13	Right Cheek	0.466	0.600	0.039	1.07	1.11
		Right Tilted	0.194	0.461	0.046	0.66	0.70
		Left Cheek	0.213	0.404	0.102	0.62	0.72
		Left Tilted	0.144	0.321	0.076	0.47	0.54
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 41	Right Cheek	0.280	0.117	0.039	0.40	0.44
		Right Tilted	0.382	0.054	0.046	0.44	0.48
		Left Cheek	0.178	0.145	0.102	0.32	0.43
		Left Tilted	0.239	0.075	0.076	0.31	0.39
LTE Band 7Ant 31	FR1 N5Ant 41	Right Cheek	0.466	0.117	0.039	0.58	0.62
		Right Tilted	0.194	0.054	0.046	0.25	0.29
		Left Cheek	0.213	0.145	0.102	0.36	0.46
		Left Tilted	0.144	0.075	0.076	0.22	0.30

WWAN Band		Exposure Position	1	2	3	4	5	1+2+3	1+2+4	1+2+4+5
			WWAN	FR1	2.4GHz WLAN Ant 22	5GHz WLAN Ant 22	Bluetooth Ant 22	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)
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 13	Right Cheek	0.227	0.505	0.192	0.132	0.039	0.92	0.86	0.90
		Right Tilted	0.310	0.389	0.236	0.207	0.046	0.94	0.91	0.95
		Left Cheek	0.126	0.359	0.501	0.407	0.102	0.99	0.89	0.99
		Left Tilted	0.188	0.415	0.404	0.346	0.076	1.01	0.95	1.03
LTE Band 7Ant 31	FR1 N5Ant 13	Right Cheek	0.466	0.505	0.192	0.132	0.039	**1.16**	1.10	**1.14**
		Right Tilted	0.194	0.389	0.236	0.207	0.046	0.82	0.79	0.84
		Left Cheek	0.213	0.359	0.501	0.407	0.102	1.07	0.98	1.08
		Left Tilted	0.144	0.415	0.404	0.346	0.076	0.96	0.91	0.98
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 41	Right Cheek	0.227	0.117	0.192	0.132	0.039	0.54	0.48	0.52
		Right Tilted	0.310	0.054	0.236	0.207	0.046	0.60	0.57	0.62
		Left Cheek	0.126	0.145	0.501	0.407	0.102	0.77	0.68	0.78
		Left Tilted	0.188	0.075	0.404	0.346	0.076	0.67	0.61	0.69
LTE Band 7Ant 31	FR1 N5Ant 41	Right Cheek	0.466	0.117	0.192	0.132	0.039	0.78	0.72	0.75
		Right Tilted	0.194	0.054	0.236	0.207	0.046	0.48	0.46	0.50
		Left Cheek	0.213	0.145	0.501	0.407	0.102	0.86	0.77	0.87
		Left Tilted	0.144	0.075	0.404	0.346	0.076	0.62	0.57	0.64

17.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+4	3+4	1+2	1+3	1+3+4
		WWAN	2.4GHz WLAN Ant 22	5GHz WLAN Ant 22	Bluetooth Ant 22	Summed	Summed	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)
GSM850Ant 13	Front	0.256	0.087	0.169	0.016	0.27	0.19	0.34	0.43	0.44
	Back	0.431	0.172	0.215	0.034	0.47	0.25	0.60	0.65	0.68
	Left side	0.070	0.016		0.004	0.07	0.00	0.09	0.07	0.07
	Right side	0.170	0.015	0.241	0.005	0.18	0.25	0.19	0.41	0.42
	Top side	0.299	0.150	0.245	0.027	0.33	0.27	0.45	0.54	0.57
	Bottom side					0.00	0.00	0.00	0.00	0.00
GSM850Ant 41	Front	0.188	0.087	0.169	0.016	0.20	0.19	0.28	0.36	0.37
	Back	0.292	0.172	0.215	0.034	0.33	0.25	0.46	0.51	0.54
	Left side	0.203	0.016		0.004	0.21	0.00	0.22	0.20	0.21
	Right side	0.074	0.015	0.241	0.005	0.08	0.25	0.09	0.32	0.32
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.072				0.07	0.00	0.07	0.07	0.07
GSM1900Ant 13	Front	0.306	0.087	0.169	0.016	0.32	0.19	0.39	0.48	0.49
	Back	0.383	0.172	0.215	0.034	0.42	0.25	0.56	0.60	0.63
	Left side	0.042	0.016		0.004	0.05	0.00	0.06	0.04	0.05
	Right side	0.026	0.015	0.241	0.005	0.03	0.25	0.04	0.27	0.27
	Top side	0.607	0.150	0.245	0.027	0.63	0.27	0.76	0.85	0.88
	Bottom side					0.00	0.00	0.00	0.00	0.00
GSM1900Ant 31	Front	0.281	0.087	0.169	0.016	0.30	0.19	0.37	0.45	0.47
	Back	0.454	0.172	0.215	0.034	0.49	0.25	0.63	0.67	0.70
	Left side	0.094	0.016		0.004	0.10	0.00	0.11	0.09	0.10
	Right side	0.218	0.015	0.241	0.005	0.22	0.25	0.23	0.46	0.46
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.571				0.57	0.00	0.57	0.57	0.57
WCDMA VAnt 13	Front	0.215	0.087	0.169	0.016	0.23	0.19	0.30	0.38	0.40
	Back	0.380	0.172	0.215	0.034	0.41	0.25	0.55	0.60	0.63
	Left side	0.083	0.016		0.004	0.09	0.00	0.10	0.08	0.09
	Right side	0.130	0.015	0.241	0.005	0.14	0.25	0.15	0.37	0.38
	Top side	0.278	0.150	0.245	0.027	0.31	0.27	0.43	0.52	0.55
	Bottom side					0.00	0.00	0.00	0.00	0.00
WCDMA VAnt 41	Front	0.276	0.087	0.169	0.016	0.29	0.19	0.36	0.45	0.46
	Back	0.449	0.172	0.215	0.034	0.48	0.25	0.62	0.66	0.70
	Left side	0.271	0.016		0.004	0.28	0.00	0.29	0.27	0.28
	Right side	0.118	0.015	0.241	0.005	0.12	0.25	0.13	0.36	0.36
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.103				0.10	0.00	0.10	0.10	0.10
WCDMA IVAnt 13	Front	0.240	0.087	0.169	0.016	0.26	0.19	0.33	0.41	0.43
	Back	0.249	0.172	0.215	0.034	0.28	0.25	0.42	0.46	0.50
	Left side	0.039	0.016		0.004	0.04	0.00	0.06	0.04	0.04
	Right side	0.038	0.015	0.241	0.005	0.04	0.25	0.05	0.28	0.28
	Top side	0.409	0.150	0.245	0.027	0.44	0.27	0.56	0.65	0.68
	Bottom side					0.00	0.00	0.00	0.00	0.00
WCDMA IVAnt 31	Front	0.257	0.087	0.169	0.016	0.27	0.19	0.34	0.43	0.44
	Back	0.439	0.172	0.215	0.034	0.47	0.25	0.61	0.65	0.69
	Left side	0.055	0.016		0.004	0.06	0.00	0.07	0.06	0.06
	Right side	0.137	0.015	0.241	0.005	0.14	0.25	0.15	0.38	0.38
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.513				0.51	0.00	0.51	0.51	0.51
WCDMA IIAnt	Front	0.300	0.087	0.169	0.016	0.32	0.19	0.39	0.47	0.49

13	Back	0.365	0.172	0.215	0.034	0.40	0.25	0.54	0.58	0.61
	Left side	0.052	0.016		0.004	0.06	0.00	0.07	0.05	0.06
	Right side	0.037	0.015	0.241	0.005	0.04	0.25	0.05	0.28	0.28
	Top side	0.529	0.150	0.245	0.027	0.56	0.27	0.68	0.77	0.80
	Bottom side					0.00	0.00	0.00	0.00	0.00
WCDMA IIAnt 31	Front	0.240	0.087	0.169	0.016	0.26	0.19	0.33	0.41	0.43
	Back	0.391	0.172	0.215	0.034	0.43	0.25	0.56	0.61	0.64
	Left side	0.063	0.016		0.004	0.07	0.00	0.08	0.06	0.07
	Right side	0.149	0.015	0.241	0.005	0.15	0.25	0.16	0.39	0.40
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.522				0.52	0.00	0.52	0.52	0.52
LTE Band 12Ant 13	Front	0.111	0.087	0.169	0.016	0.13	0.19	0.20	0.28	0.30
	Back	0.151	0.172	0.215	0.034	0.19	0.25	0.32	0.37	0.40
	Left side	0.090	0.016		0.004	0.09	0.00	0.11	0.09	0.09
	Right side	0.111	0.015	0.241	0.005	0.12	0.25	0.13	0.35	0.36
	Top side	0.073	0.150	0.245	0.027	0.10	0.27	0.22	0.32	0.35
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 12Ant 41	Front	0.123	0.087	0.169	0.016	0.14	0.19	0.21	0.29	0.31
	Back	0.156	0.172	0.215	0.034	0.19	0.25	0.33	0.37	0.41
	Left side	0.243	0.016		0.004	0.25	0.00	0.26	0.24	0.25
	Right side	0.092	0.015	0.241	0.005	0.10	0.25	0.11	0.33	0.34
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.053				0.05	0.00	0.05	0.05	0.05
LTE Band 17Ant 13	Front	0.136	0.087	0.169	0.016	0.15	0.19	0.22	0.31	0.32
	Back	0.194	0.172	0.215	0.034	0.23	0.25	0.37	0.41	0.44
	Left side	0.111	0.016		0.004	0.12	0.00	0.13	0.11	0.12
	Right side	0.127	0.015	0.241	0.005	0.13	0.25	0.14	0.37	0.37
	Top side	0.104	0.150	0.245	0.027	0.13	0.27	0.25	0.35	0.38
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 17Ant 41	Front	0.170	0.087	0.169	0.016	0.19	0.19	0.26	0.34	0.36
	Back	0.212	0.172	0.215	0.034	0.25	0.25	0.38	0.43	0.46
	Left side	0.323	0.016		0.004	0.33	0.00	0.34	0.32	0.33
	Right side	0.119	0.015	0.241	0.005	0.12	0.25	0.13	0.36	0.37
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.064				0.06	0.00	0.06	0.06	0.06
LTE Band 26Ant 13	Front	0.196	0.087	0.169	0.016	0.21	0.19	0.28	0.37	0.38
	Back	0.323	0.172	0.215	0.034	0.36	0.25	0.50	0.54	0.57
	Left side	0.077	0.016		0.004	0.08	0.00	0.09	0.08	0.08
	Right side	0.128	0.015	0.241	0.005	0.13	0.25	0.14	0.37	0.37
	Top side	0.233	0.150	0.245	0.027	0.26	0.27	0.38	0.48	0.51
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 26Ant 41	Front	0.250	0.087	0.169	0.016	0.27	0.19	0.34	0.42	0.44
	Back	0.395	0.172	0.215	0.034	0.43	0.25	0.57	0.61	0.64
	Left side	0.290	0.016		0.004	0.29	0.00	0.31	0.29	0.29
	Right side	0.126	0.015	0.241	0.005	0.13	0.25	0.14	0.37	0.37
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.103				0.10	0.00	0.10	0.10	0.10
LTE Band 4Ant 13	Front	0.256	0.087	0.169	0.016	0.27	0.19	0.34	0.43	0.44
	Back	0.252	0.172	0.215	0.034	0.29	0.25	0.42	0.47	0.50
	Left side	0.039	0.016		0.004	0.04	0.00	0.06	0.04	0.04
	Right side	0.043	0.015	0.241	0.005	0.05	0.25	0.06	0.28	0.29
	Top side	0.379	0.150	0.245	0.027	0.41	0.27	0.53	0.62	0.65
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 4Ant 31	Front	0.247	0.087	0.169	0.016	0.26	0.19	0.33	0.42	0.43
	Back	0.440	0.172	0.215	0.034	0.47	0.25	0.61	0.66	0.69
	Left side	0.050	0.016		0.004	0.05	0.00	0.07	0.05	0.05

	Right side	0.085	0.015	0.241	0.005	0.09	0.25	0.10	0.33	0.33
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.515				0.52	0.00	0.52	0.52	0.52
LTE Band 2Ant 13	Front	0.256	0.087	0.169	0.016	0.27	0.19	0.34	0.43	0.44
	Back	0.307	0.172	0.215	0.034	0.34	0.25	0.48	0.52	0.56
	Left side	0.046	0.016		0.004	0.05	0.00	0.06	0.05	0.05
	Right side	0.022	0.015	0.241	0.005	0.03	0.25	0.04	0.26	0.27
	Top side	0.427	0.150	0.245	0.027	0.45	0.27	0.58	0.67	0.70
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 2Ant 31	Front	0.272	0.087	0.169	0.016	0.29	0.19	0.36	0.44	0.46
	Back	0.484	0.172	0.215	0.034	0.52	0.25	0.66	0.70	0.73
	Left side	0.089	0.016		0.004	0.09	0.00	0.11	0.09	0.09
	Right side	0.170	0.015	0.241	0.005	0.18	0.25	0.19	0.41	0.42
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.613				0.61	0.00	0.61	0.61	0.61
LTE Band 7Ant 13	Front	0.200	0.087	0.169	0.016	0.22	0.19	0.29	0.37	0.39
	Back	0.387	0.172	0.215	0.034	0.42	0.25	0.56	0.60	0.64
	Left side	0.058	0.016		0.004	0.06	0.00	0.07	0.06	0.06
	Right side		0.015	0.241	0.005	0.01	0.25	0.02	0.24	0.25
	Top side	0.564	0.150	0.245	0.027	0.59	0.27	0.71	0.81	0.84
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 7Ant 31	Front	0.204	0.087	0.169	0.016	0.22	0.19	0.29	0.37	0.39
	Back	0.315	0.172	0.215	0.034	0.35	0.25	0.49	0.53	0.56
	Left side		0.016		0.004	0.00	0.00	0.02	0.00	0.00
	Right side	0.147	0.015	0.241	0.005	0.15	0.25	0.16	0.39	0.39
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.168				0.17	0.00	0.17	0.17	0.17
LTE Band 41Ant 13	Front	0.130	0.087	0.169	0.016	0.15	0.19	0.22	0.30	0.32
	Back	0.296	0.172	0.215	0.034	0.33	0.25	0.47	0.51	0.55
	Left side	0.044	0.016		0.004	0.05	0.00	0.06	0.04	0.05
	Right side		0.015	0.241	0.005	0.01	0.25	0.02	0.24	0.25
	Top side	0.375	0.150	0.245	0.027	0.40	0.27	0.53	0.62	0.65
	Bottom side					0.00	0.00	0.00	0.00	0.00
LTE Band 41Ant 31	Front	0.211	0.087	0.169	0.016	0.23	0.19	0.30	0.38	0.40
	Back	0.244	0.172	0.215	0.034	0.28	0.25	0.42	0.46	0.49
	Left side	0.022	0.016		0.004	0.03	0.00	0.04	0.02	0.03
	Right side	0.103	0.015	0.241	0.005	0.11	0.25	0.12	0.34	0.35
	Top side		0.150	0.245	0.027	0.03	0.27	0.15	0.25	0.27
	Bottom side	0.136				0.14	0.00	0.14	0.14	0.14
FR1 N7Ant 11	Front	0.116	0.087	0.169	0.016	0.13	0.19	0.20	0.29	0.30
	Back	0.388	0.172	0.215	0.034	0.42	0.25	0.56	0.60	0.64
	Left side	0.353	0.016		0.004	0.36	0.00	0.37	0.35	0.36
	Right side	0.005	0.015	0.241	0.005	0.01	0.25	0.02	0.25	0.25
	Top side	0.057	0.150	0.245	0.027	0.08	0.27	0.21	0.30	0.33
	Bottom side					0.00	0.00	0.00	0.00	0.00
FR1 N7Ant 13	Front	0.122	0.087	0.169	0.016	0.14	0.19	0.21	0.29	0.31
	Back	0.269	0.172	0.215	0.034	0.30	0.25	0.44	0.48	0.52
	Left side	0.034	0.016		0.004	0.04	0.00	0.05	0.03	0.04
	Right side	0.001	0.015	0.241	0.005	0.01	0.25	0.02	0.24	0.25
	Top side	0.399	0.150	0.245	0.027	0.43	0.27	0.55	0.64	0.67
	Bottom side					0.00	0.00	0.00	0.00	0.00
FR1 N41Ant 11	Front	0.096	0.087	0.169	0.016	0.11	0.19	0.18	0.27	0.28
	Back	0.333	0.172	0.215	0.034	0.37	0.25	0.51	0.55	0.58
	Left side	0.298	0.016		0.004	0.30	0.00	0.31	0.30	0.30
	Right side		0.015	0.241	0.005	0.01	0.25	0.02	0.24	0.25
	Top side	0.030	0.150	0.245	0.027	0.06	0.27	0.18	0.28	0.30

	Bottom side					0.00	0.00	0.00	0.00	0.00
FR1 N41Ant 13	Front	0.201	0.087	0.169	0.016	0.22	0.19	0.29	0.37	0.39
	Back	0.484	0.172	0.215	0.034	0.52	0.25	0.66	0.70	0.73
	Left side	0.085	0.016		0.004	0.09	0.00	0.10	0.09	0.09
	Right side		0.015	0.241	0.005	0.01	0.25	0.02	0.24	0.25
	Top side	0.702	0.150	0.245	0.027	0.73	0.27	0.85	0.95	0.97
	Bottom side					0.00	0.00	0.00	0.00	0.00

EN-DC

WWAN Band		Exposure Position	1	2	5	1+2	1+2+5
			WWAN	FR1	Bluetooth Ant 22	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 13	Front	0.103	0.123	0.016	0.23	0.24
		Back	0.189	0.204	0.034	0.39	0.43
		Left side	0.027		0.004	0.03	0.03
		Right side		0.076	0.005	0.08	0.08
		Top side	0.308	0.135	0.027	0.44	0.47
		Bottom side				0.00	0.00
LTE Band 7Ant 31	FR1 N5Ant 13	Front	0.204	0.123	0.016	0.33	0.34
		Back	0.315	0.204	0.034	0.52	0.55
		Left side			0.004	0.00	0.00
		Right side	0.147	0.076	0.005	0.22	0.23
		Top side		0.135	0.027	0.14	0.16
		Bottom side	0.168			0.17	0.17
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 41	Front	0.103	0.099	0.016	0.20	0.22
		Back	0.189	0.182	0.034	0.37	0.41
		Left side	0.027	0.144	0.004	0.17	0.18
		Right side		0.065	0.005	0.07	0.07
		Top side	0.308		0.027	0.31	0.34
		Bottom side		0.046		0.05	0.05
LTE Band 7Ant 31	FR1 N5Ant 41	Front	0.204	0.099	0.016	0.30	0.32
		Back	0.315	0.182	0.034	0.50	0.53
		Left side		0.144	0.004	0.14	0.15
		Right side	0.147	0.065	0.005	0.21	0.22
		Top side			0.027	0.00	0.03
		Bottom side	0.168	0.046		0.21	0.21

WWAN Band		Exposure Position	1	2	3	4	5	1+2+3	1+2+4	1+2+4+5
			WWAN	FR1	2.4GHz WLAN Ant 22	5GHz WLAN Ant 22	Bluetooth Ant 22	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)
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 13	Front	0.103	0.123	0.087	0.169	0.016	0.31	0.40	0.41
		Back	0.189	0.204	0.172	0.215	0.034	0.57	0.61	0.64
		Left side	0.027		0.016		0.004	0.04	0.03	0.03
		Right side		0.076	0.015	0.241	0.005	0.09	0.32	0.32
		Top side	0.308	0.135	0.150	0.245	0.027	0.59	0.69	0.72
		Bottom side						0.00	0.00	0.00
LTE Band 7Ant 31	FR1 N5Ant 13	Front	0.204	0.123	0.087	0.169	0.016	0.41	0.50	0.51
		Back	0.315	0.204	0.172	0.215	0.034	0.69	0.73	0.77
		Left side			0.016		0.004	0.02	0.00	0.00
		Right side	0.147	0.076	0.015	0.241	0.005	0.24	0.46	0.47
		Top side		0.135	0.150	0.245	0.027	0.29	0.38	0.41
		Bottom side	0.168					0.17	0.17	0.17
LTE Band	FR1 N5Ant	Front	0.103	0.099	0.087	0.169	0.016	0.29	0.37	0.39

7(EN-DC)Ant 13	41	Back	0.189	0.182	0.172	0.215	0.034	0.54	0.59	0.62
		Left side	0.027	0.144	0.016		0.004	0.19	0.17	0.18
		Right side		0.065	0.015	0.241	0.005	0.08	0.31	0.31
		Top side	0.308		0.150	0.245	0.027	0.46	0.55	0.58
		Bottom side		0.046				0.05	0.05	0.05
LTE Band 7Ant 31	FR1 N5Ant 41	Front	0.204	0.099	0.087	0.169	0.016	0.39	0.47	0.49
		Back	0.315	0.182	0.172	0.215	0.034	0.67	0.71	0.75
		Left side		0.144	0.016		0.004	0.16	0.14	0.15
		Right side	0.147	0.065	0.015	0.241	0.005	0.23	0.45	0.46
		Top side			0.150	0.245	0.027	0.15	0.25	0.27
		Bottom side	0.168	0.046				0.21	0.21	0.21

17.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+4	3+4	1+2	1+3	1+3+4
		WWAN	2.4GHz WLAN Ant 22	5GHz WLAN Ant 22	Bluetooth Ant 22	Summed	Summed	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)
GSM850Ant 13	Front	0.173	0.054	0.138	0.010	0.18	0.15	0.23	0.31	0.32
	Back	0.200	0.083	0.247	0.019	0.22	0.27	0.28	0.45	0.47
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
GSM850Ant 41	Front	0.106	0.054	0.138	0.010	0.12	0.15	0.16	0.24	0.25
	Back	0.141	0.083	0.247	0.019	0.16	0.27	0.22	0.39	0.41
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
GSM1900Ant 13	Front	0.322	0.054	0.138	0.010	0.33	0.15	0.38	0.46	0.47
	Back	0.468	0.083	0.247	0.019	0.49	0.27	0.55	0.72	0.73
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
GSM1900Ant 31	Front	0.286	0.054	0.138	0.010	0.30	0.15	0.34	0.42	0.43
	Back	0.323	0.083	0.247	0.019	0.34	0.27	0.41	0.57	0.59
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
WCDMA VAnt 13	Front	0.132	0.054	0.138	0.010	0.14	0.15	0.19	0.27	0.28
	Back	0.165	0.083	0.247	0.019	0.18	0.27	0.25	0.41	0.43
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
WCDMA VAnt 41	Front	0.158	0.054	0.138	0.010	0.17	0.15	0.21	0.30	0.31
	Back	0.216	0.083	0.247	0.019	0.24	0.27	0.30	0.46	0.48
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
WCDMA IVAnt 13	Front	0.299	0.054	0.138	0.010	0.31	0.15	0.35	0.44	0.45
	Back	0.383	0.083	0.247	0.019	0.40	0.27	0.47	0.63	0.65
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
WCDMA IVAnt 31	Front	0.195	0.054	0.138	0.010	0.21	0.15	0.25	0.33	0.34
	Back	0.336	0.083	0.247	0.019	0.36	0.27	0.42	0.58	0.60
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
WCDMA IIAnt 13	Front	0.366	0.054	0.138	0.010	0.38	0.15	0.42	0.50	0.51
	Back	0.602	0.083	0.247	0.019	0.62	0.27	0.69	0.85	0.87
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
WCDMA IIAnt 31	Front	0.180	0.054	0.138	0.010	0.19	0.15	0.23	0.32	0.33
	Back	0.294	0.083	0.247	0.019	0.31	0.27	0.38	0.54	0.56
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 12Ant 13	Front	0.114	0.054	0.138	0.010	0.12	0.15	0.17	0.25	0.26
	Back	0.133	0.083	0.247	0.019	0.15	0.27	0.22	0.38	0.40
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 12Ant 41	Front	0.112	0.054	0.138	0.010	0.12	0.15	0.17	0.25	0.26
	Back	0.141	0.083	0.247	0.019	0.16	0.27	0.22	0.39	0.41
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band	Front	0.137	0.054	0.138	0.010	0.15	0.15	0.19	0.28	0.29

17Ant 13	Back	0.152	0.083	0.247	0.019	0.17	0.27	0.24	0.40	0.42
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 17Ant 41	Front	0.152	0.054	0.138	0.010	0.16	0.15	0.21	0.29	0.30
	Back	0.190	0.083	0.247	0.019	0.21	0.27	0.27	0.44	0.46
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 26Ant 13	Front	0.145	0.054	0.138	0.010	0.16	0.15	0.20	0.28	0.29
	Back	0.116	0.083	0.247	0.019	0.14	0.27	0.20	0.36	0.38
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 26Ant 41	Front	0.138	0.054	0.138	0.010	0.15	0.15	0.19	0.28	0.29
	Back	0.196	0.083	0.247	0.019	0.22	0.27	0.28	0.44	0.46
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 4Ant 13	Front	0.266	0.054	0.138	0.010	0.28	0.15	0.32	0.40	0.41
	Back	0.282	0.083	0.247	0.019	0.30	0.27	0.37	0.53	0.55
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 4Ant 31	Front	0.169	0.054	0.138	0.010	0.18	0.15	0.22	0.31	0.32
	Back	0.285	0.083	0.247	0.019	0.30	0.27	0.37	0.53	0.55
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 2Ant 13	Front	0.393	0.054	0.138	0.010	0.40	0.15	0.45	0.53	0.54
	Back	0.513	0.083	0.247	0.019	0.53	0.27	0.60	0.76	0.78
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 2Ant 31	Front	0.186	0.054	0.138	0.010	0.20	0.15	0.24	0.32	0.33
	Back	0.302	0.083	0.247	0.019	0.32	0.27	0.39	0.55	0.57
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 7Ant 13	Front	0.285	0.054	0.138	0.010	0.30	0.15	0.34	0.42	0.43
	Back	0.490	0.083	0.247	0.019	0.51	0.27	0.57	0.74	0.76
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 7Ant 31	Front	0.152	0.054	0.138	0.010	0.16	0.15	0.21	0.29	0.30
	Back	0.190	0.083	0.247	0.019	0.21	0.27	0.27	0.44	0.46
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 41Ant 13	Front	0.159	0.054	0.138	0.010	0.17	0.15	0.21	0.30	0.31
	Back	0.321	0.083	0.247	0.019	0.34	0.27	0.40	0.57	0.59
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
LTE Band 41Ant 31	Front	0.154	0.054	0.138	0.010	0.16	0.15	0.21	0.29	0.30
	Back	0.169	0.083	0.247	0.019	0.19	0.27	0.25	0.42	0.44
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
FR1 N7Ant 11	Front	0.207	0.054	0.138	0.010	0.22	0.15	0.26	0.35	0.36
	Back	0.550	0.083	0.247	0.019	0.57	0.27	0.63	0.80	0.82
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
FR1 N7Ant 13	Front	0.261	0.054	0.138	0.010	0.27	0.15	0.32	0.40	0.41
	Back	0.519	0.083	0.247	0.019	0.54	0.27	0.60	0.77	0.79
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
FR1 N41Ant	Front	0.171	0.054	0.138	0.010	0.18	0.15	0.23	0.31	0.32

11	Back	0.417	0.083	0.247	0.019	0.44	0.27	0.50	0.66	0.68
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00
FR1 N41Ant 13	Front	0.287	0.054	0.138	0.010	0.30	0.15	0.34	0.43	0.44
	Back	0.541	0.083	0.247	0.019	0.56	0.27	0.62	0.79	0.81
	Front with Headset					0.00	0.00	0.00	0.00	0.00
	Back with Headset					0.00	0.00	0.00	0.00	0.00

EN-DC

WWAN Band		Exposure Position	1	2	5	1+2	1+2+5
			WWAN	FR1	Bluetooth Ant 22	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 13	Front	0.234	0.106	0.010	0.34	0.35
		Back	0.395	0.124	0.019	0.52	0.54
		Front with Headset				0.00	0.00
		Back with Headset				0.00	0.00
LTE Band 7Ant 31	FR1 N5Ant 13	Front	0.152	0.106	0.010	0.26	0.27
		Back	0.190	0.124	0.019	0.31	0.33
		Front with Headset				0.00	0.00
		Back with Headset				0.00	0.00
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 41	Front	0.234	0.105	0.010	0.34	0.35
		Back	0.395	0.154	0.019	0.55	0.57
		Front with Headset				0.00	0.00
		Back with Headset				0.00	0.00
LTE Band 7Ant 31	FR1 N5Ant 41	Front	0.152	0.105	0.010	0.26	0.27
		Back	0.190	0.154	0.019	0.34	0.36
		Front with Headset				0.00	0.00
		Back with Headset				0.00	0.00

WWAN Band		Exposure Position	1	2	3	4	5	1+2+3	1+2+4	1+2+4+5
			WWAN	FR1	2.4GHz WLAN Ant 22	5GHz WLAN Ant 22	Bluetooth Ant 22	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)
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 13	Front	0.234	0.106	0.054	0.138	0.010	0.39	0.48	0.49
		Back	0.395	0.124	0.083	0.247	0.019	0.60	0.77	0.79
		Front with Headset						0.00	0.00	0.00
		Back with Headset						0.00	0.00	0.00
LTE Band 7Ant 31	FR1 N5Ant 13	Front	0.152	0.106	0.054	0.138	0.010	0.31	0.40	0.41
		Back	0.190	0.124	0.083	0.247	0.019	0.40	0.56	0.58
		Front with Headset						0.00	0.00	0.00
		Back with Headset						0.00	0.00	0.00
LTE Band 7(EN-DC)Ant 13	FR1 N5Ant 41	Front	0.234	0.105	0.054	0.138	0.010	0.39	0.48	0.49
		Back	0.395	0.154	0.083	0.247	0.019	0.63	0.80	0.82
		Front with Headset						0.00	0.00	0.00
		Back with Headset						0.00	0.00	0.00
LTE Band 7Ant 31	FR1 N5Ant 41	Front	0.152	0.105	0.054	0.138	0.010	0.31	0.40	0.41
		Back	0.190	0.154	0.083	0.247	0.019	0.43	0.59	0.61
		Front with Headset						0.00	0.00	0.00
		Back with Headset						0.00	0.00	0.00

17.4 Product specific 10g SAR Exposure Conditions

WWAN Band	Exposure Position	1	4	1+4
		WWAN	5GHz WLAN Ant 22	Summed
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
WCDMA IVAnt 13	Front		0.345	0.35
	Back		0.450	0.45
	Left side		0.076	0.08
	Right side		0.610	0.61
	Top side	1.567	0.841	**2.41**
	Bottom side			0.00
WCDMA IIAnt 13	Front		0.345	0.35
	Back		0.450	0.45
	Left side		0.076	0.08
	Right side		0.610	0.61
	Top side	1.063	0.841	1.90
	Bottom side			0.00
LTE Band 2Ant 13	Front		0.345	0.35
	Back		0.450	0.45
	Left side		0.076	0.08
	Right side		0.610	0.61
	Top side	0.800	0.841	1.64
	Bottom side			0.00
LTE Band 7Ant 13	Front		0.345	0.35
	Back		0.450	0.45
	Left side		0.076	0.08
	Right side		0.610	0.61
	Top side	1.108	0.841	1.95
	Bottom side			0.00
FR1 N7Ant 11	Front		0.345	0.35
	Back	1.366	0.450	1.82
	Left side	0.823	0.076	0.90
	Right side		0.610	0.61
	Top side		0.841	0.84
	Bottom side			0.00
FR1 N7Ant 13	Front		0.345	0.35
	Back		0.450	0.45
	Left side		0.076	0.08
	Right side		0.610	0.61
	Top side	0.822	0.841	1.66
	Bottom side			0.00
FR1 N41Ant 13	Front		0.345	0.35
	Back	1.259	0.450	1.71
	Left side		0.076	0.08
	Right side		0.610	0.61
	Top side	0.961	0.841	1.80
	Bottom side			0.00

Note: For Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

Test Engineer : Bruce Li, Martin Li, Ricky Gu, Varus Wang, Damon Zhu

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 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

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

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

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

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

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

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

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

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

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

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

Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_750MHz

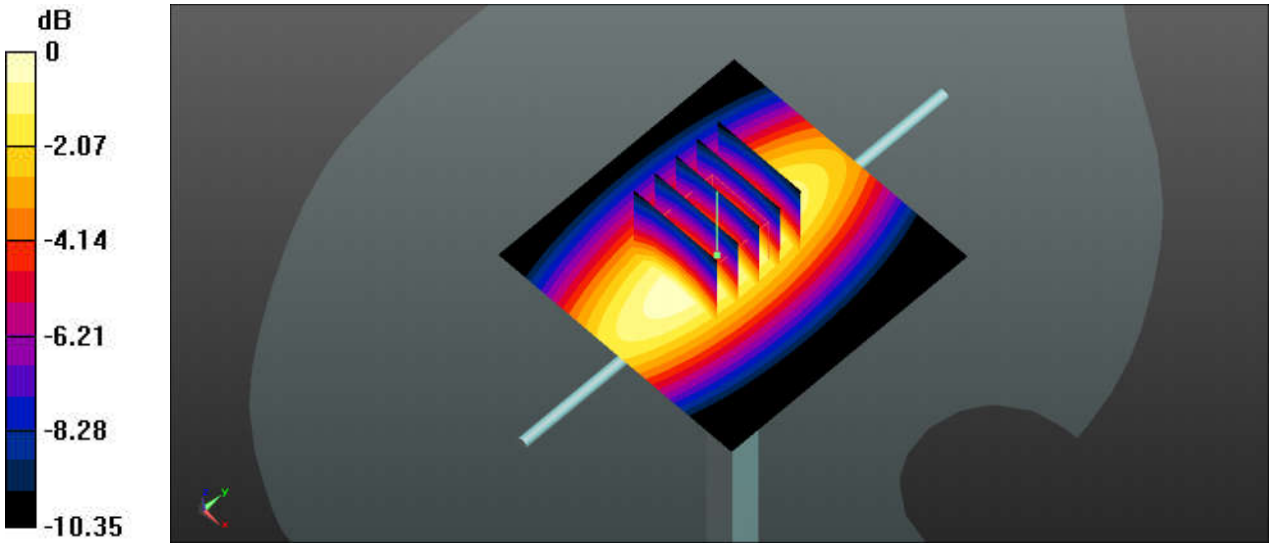
DUT: D750V3-SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750_211208 Medium parameters used: f = 750 MHz; σ = 0.921 S/m; ε_r = 41.563; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(6.74, 6.74, 6.74); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.40 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.60 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.02 W/kg
SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.37 W/kg
Maximum value of SAR (measured) = 2.40 W/kg



0 dB = 2.40 W/kg

System Check_Head_835MHz

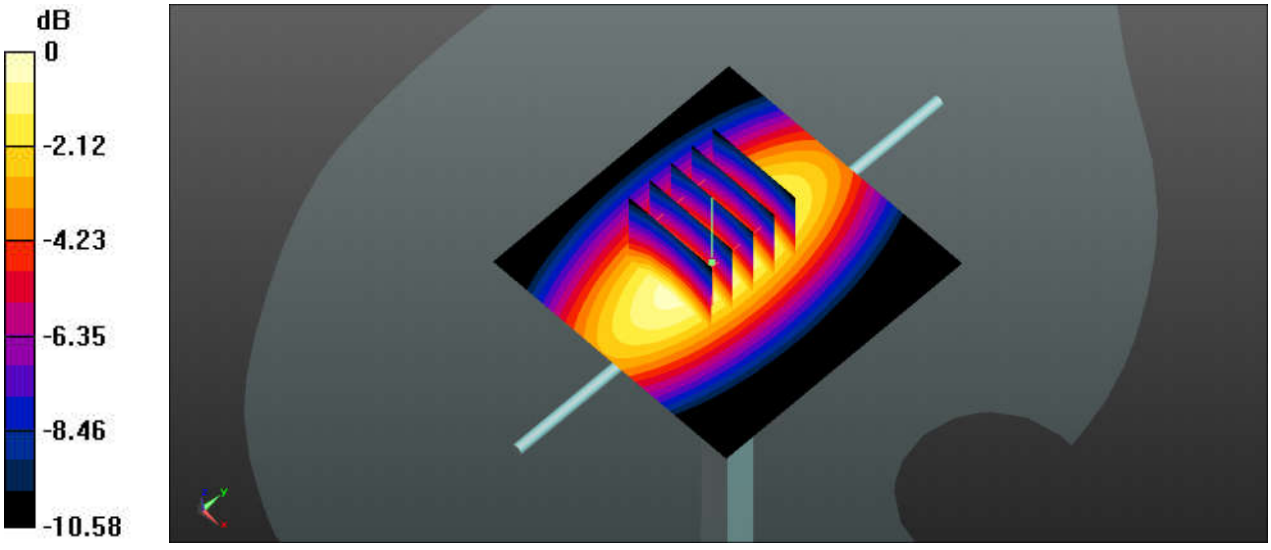
DUT: D835V2-SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835_211210 Medium parameters used: f = 835 MHz; σ = 0.902 S/m; ε_r = 42.419; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(6.57, 6.57, 6.57); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.69 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.30 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 2.31 W/kg; SAR(10 g) = 1.51 W/kg
Maximum value of SAR (measured) = 2.70 W/kg



0 dB = 2.70 W/kg

System Check_Head_835MHz

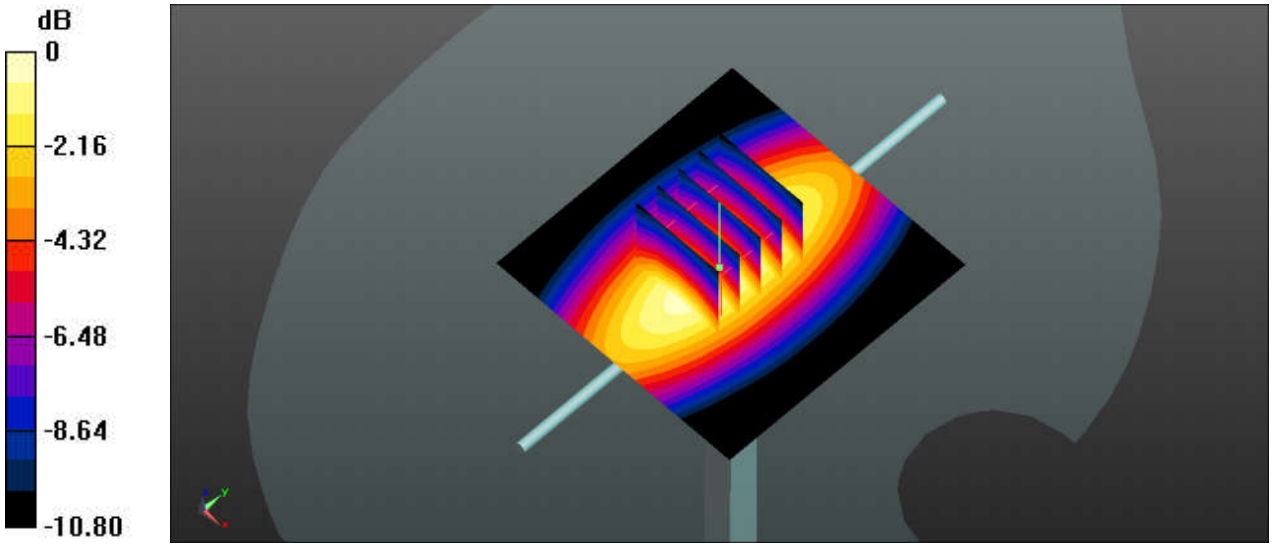
DUT: D835V2-SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835_211220 Medium parameters used: f = 835 MHz; σ = 0.925 S/m; ε_r = 42.207; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.3 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(6.57, 6.57, 6.57); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.19 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 61.77 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.59 W/kg
Maximum value of SAR (measured) = 3.23 W/kg



0 dB = 3.23 W/kg

System Check_Head_1750MHz

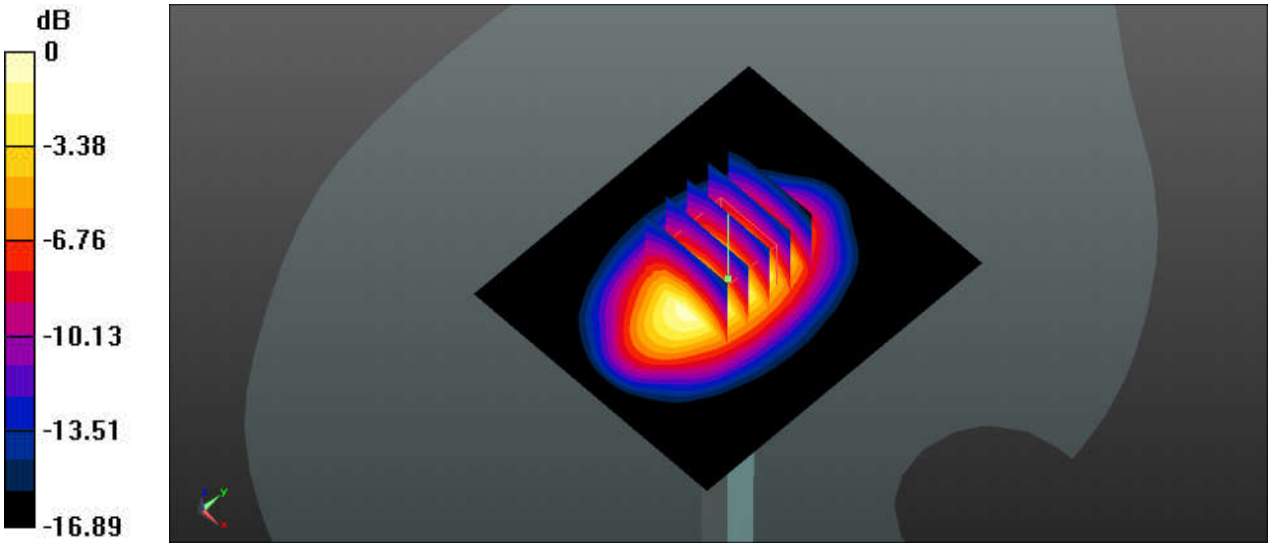
DUT: D1750V2-SN:1137

Communication System: UID 0, CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750_211212 Medium parameters used: f = 1750 MHz; σ = 1.367 S/m; ε_r = 40.221; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.48, 5.48, 5.48); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 12.9 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 95.87 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 15.0 W/kg
SAR(1 g) = 8.65 W/kg; SAR(10 g) = 4.7 W/kg
Maximum value of SAR (measured) = 12.0 W/kg



0 dB = 12.0 W/kg

System Check_Head_1750MHz

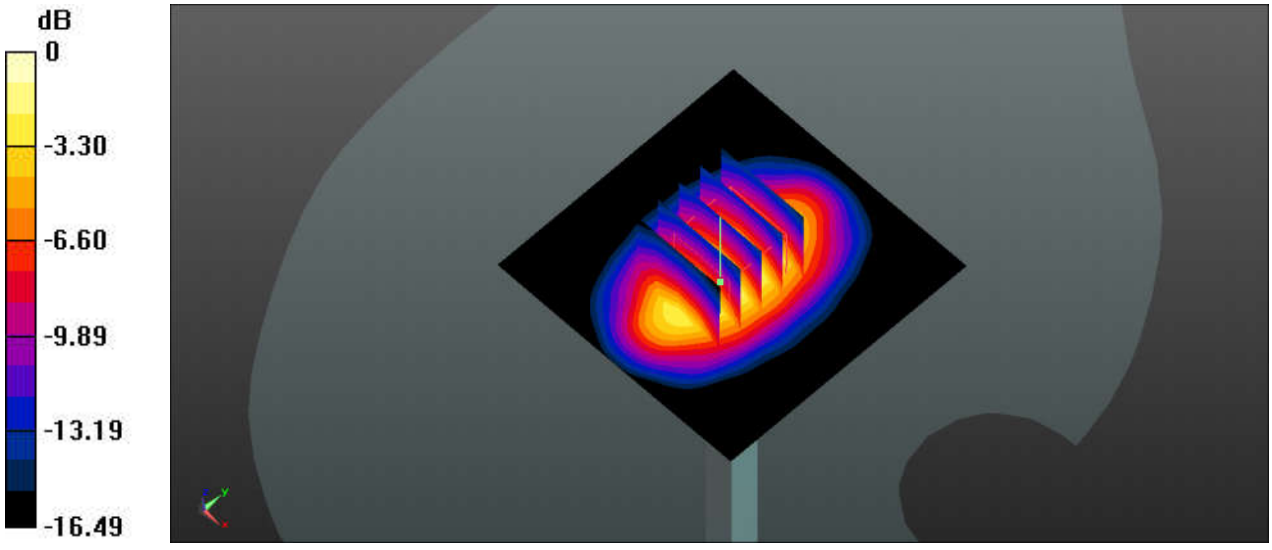
DUT: D1750V2-SN:1137

Communication System: UID 0, CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750_211224 Medium parameters used: f = 1750 MHz; σ = 1.38 S/m; ε_r = 41.322;ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.48, 5.48, 5.48); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 11.4 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 93.99 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 13.9 W/kg
SAR(1 g) = 8.45 W/kg; SAR(10 g) = 4.57 W/kg
Maximum value of SAR (measured) = 11.2 W/kg



0 dB = 11.2 W/kg

System Check_Head_1900MHz

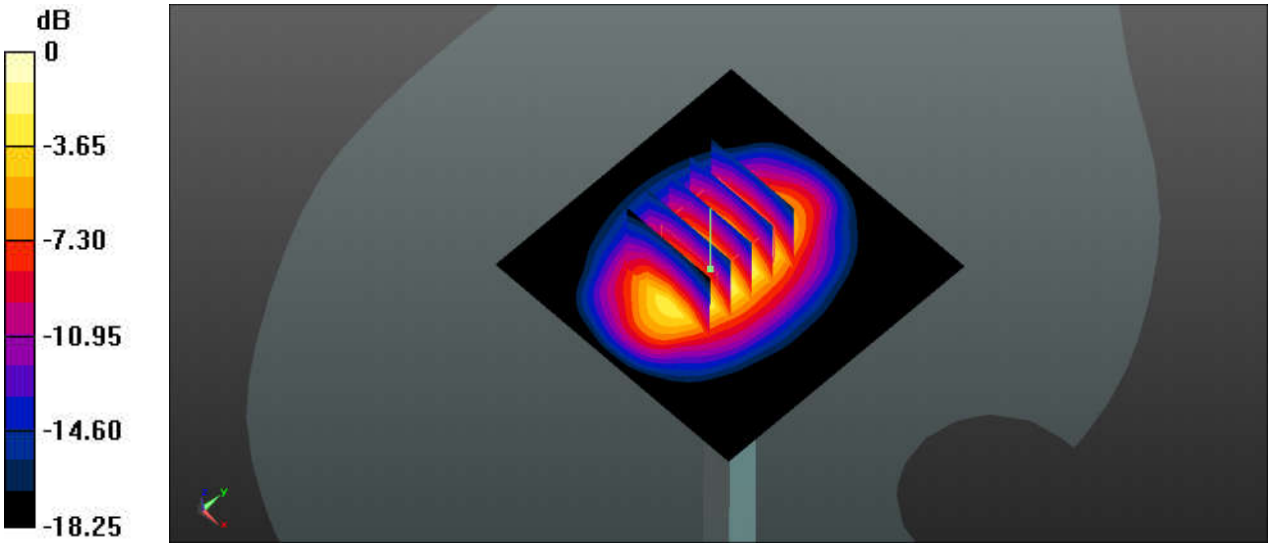
DUT: D1900V2-SN:5d170

Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_211214 Medium parameters used: f = 1900 MHz; σ = 1.412 S/m; ε_r = 38.427; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.4 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.2, 5.2, 5.2); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 12.4 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 91.94 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 9.62 W/kg; SAR(10 g) = 4.99 W/kg
Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg

System Check_Head_1900MHz

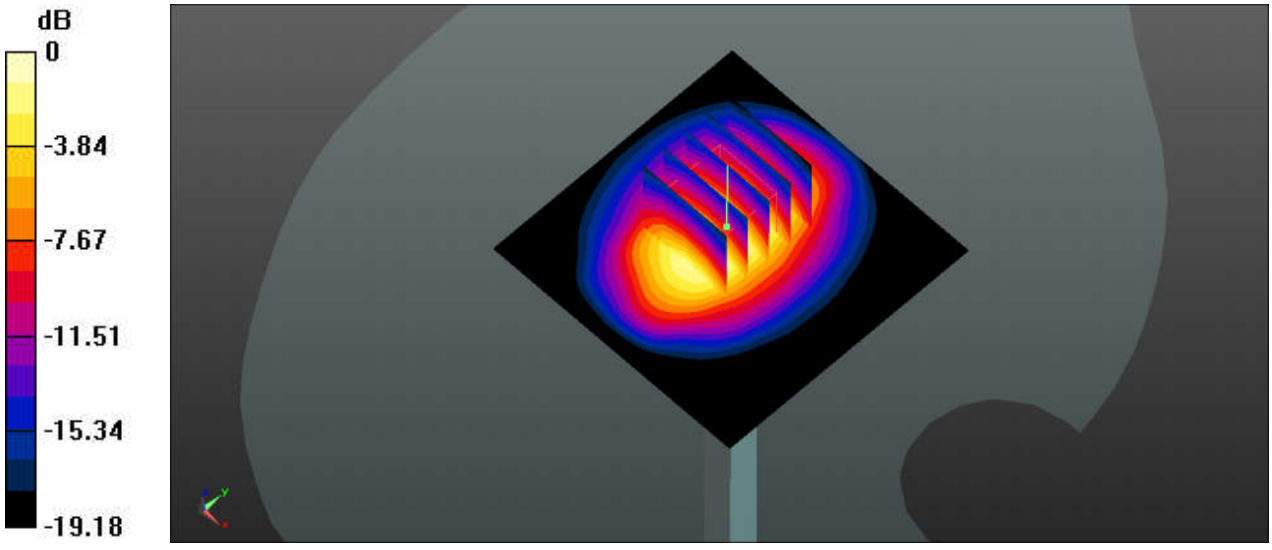
DUT: D1900V2-SN:5d170

Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_211225 Medium parameters used: f = 1900 MHz; σ = 1.455 S/m; ε_r = 39.186; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.2, 5.2, 5.2); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

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 = 95.08 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 19.5 W/kg
SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.31 W/kg
Maximum value of SAR (measured) = 15.0 W/kg



0 dB = 15.0 W/kg

System Check_Head_2450MHz

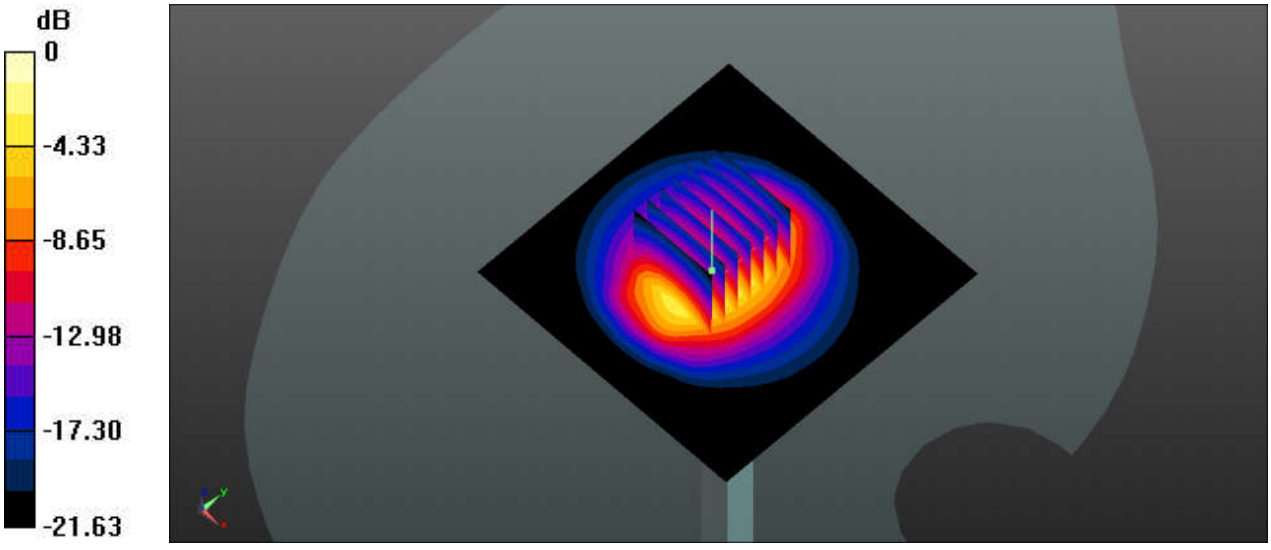
DUT: D2450V2-SN:924

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_211218 Medium parameters used: f = 2450 MHz; σ = 1.789 S/m; ε_r = 39.418; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(4.63, 4.63, 4.63); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 16.8 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.11 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 25.9 W/kg
SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.87 W/kg
Maximum value of SAR (measured) = 16.6 W/kg



0 dB = 16.6 W/kg

System Check_Head_2600MHz

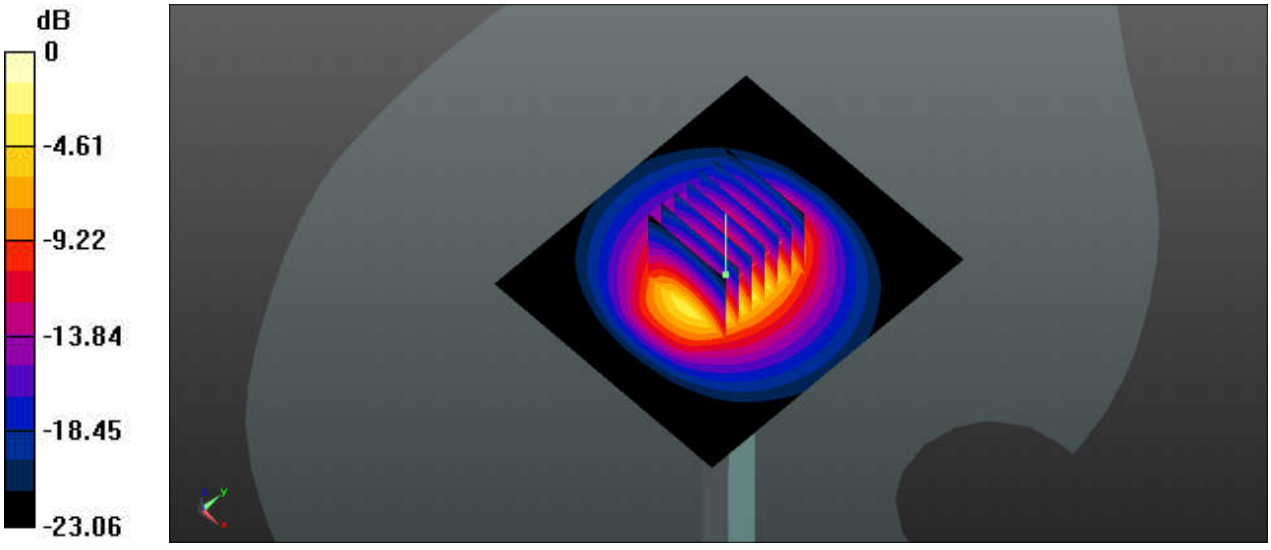
DUT: D2600V2-SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600_211216 Medium parameters used: f = 2600 MHz; σ = 1.934 S/m; ε_r = 37.621; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(4.47, 4.47, 4.47); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 18.8 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.6 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 28.7 W/kg
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.03 W/kg
Maximum value of SAR (measured) = 18.0 W/kg



0 dB = 18.0 W/kg

System Check_Head_2600MHz

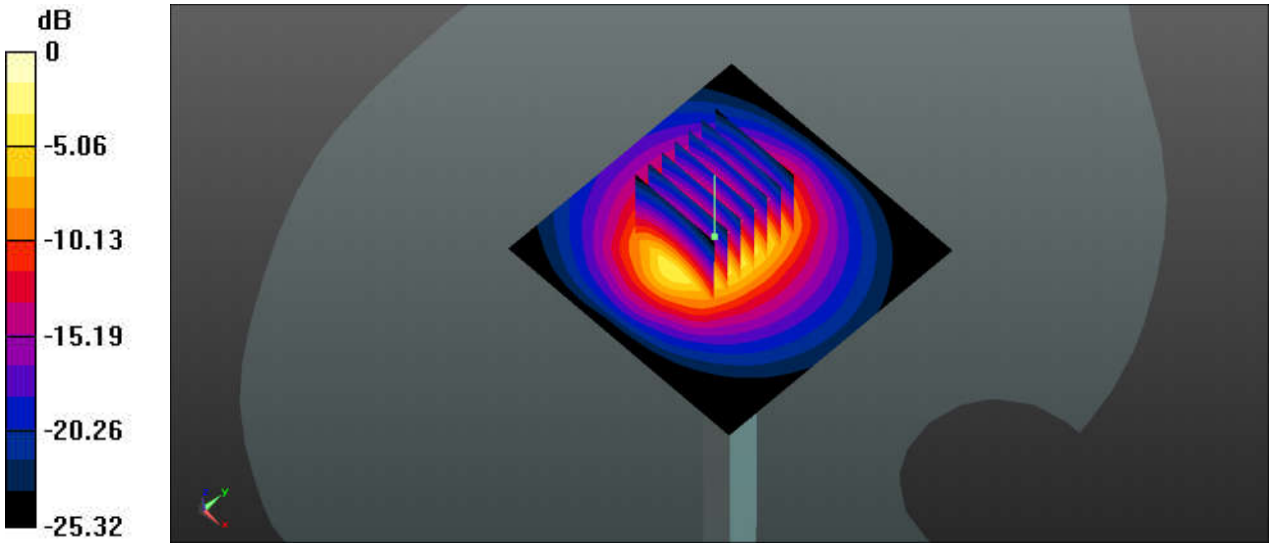
DUT: D2600V2-SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600_211222 Medium parameters used: f = 2600 MHz; σ = 1.939 S/m; ε_r = 37.94; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.4 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(4.47, 4.47, 4.47); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 24.1 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.17 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 32.9 W/kg
SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.32 W/kg
Maximum value of SAR (measured) = 23.4 W/kg



0 dB = 23.4 W/kg

System Check_Head_5250MHz

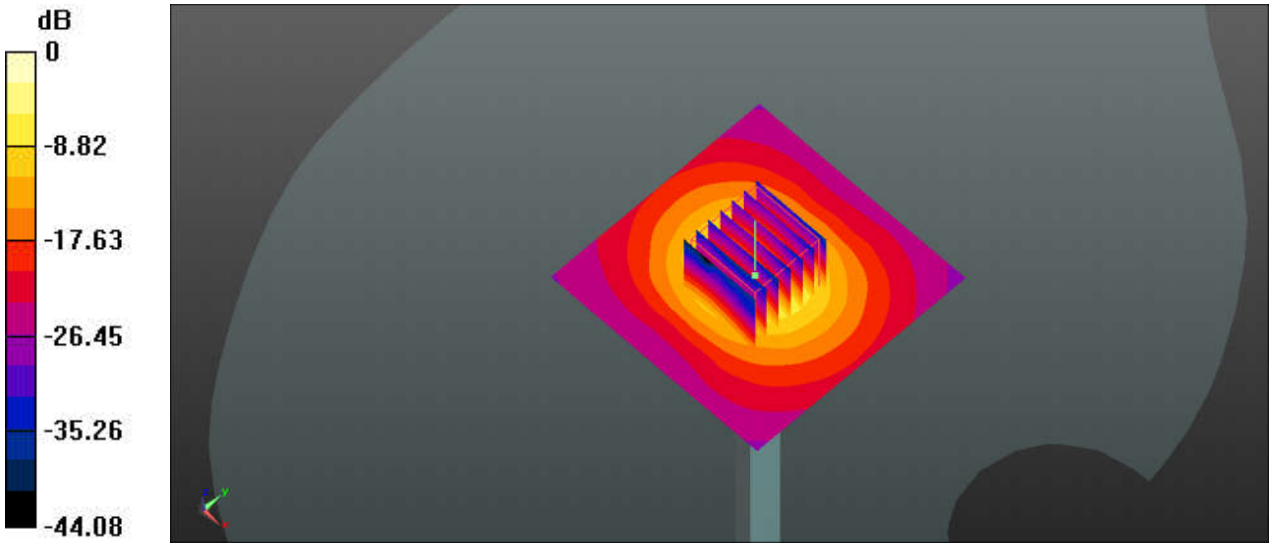
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: HSL_5250_211223 Medium parameters used: f = 5250 MHz; σ = 4.626 S/m; ε_r = 37.038; ρ = 1000 kg/m^3
Ambient Temperature：23.7 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3975; ConvF(5.31, 5.31, 5.31); Calibrated: 2021/6/7
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2021/8/25
- Phantom: SAM with CRP v5.0(Front); Type: QD000P40CD; Serial: TP-1671
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.0 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 57.52 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 33.5 W/kg
SAR(1 g) = 7.86 W/kg; SAR(10 g) = 2.15 W/kg
Maximum value of SAR (measured) = 20.0 W/kg



0 dB = 20.0 W/kg

System Check_Head_5600MHz

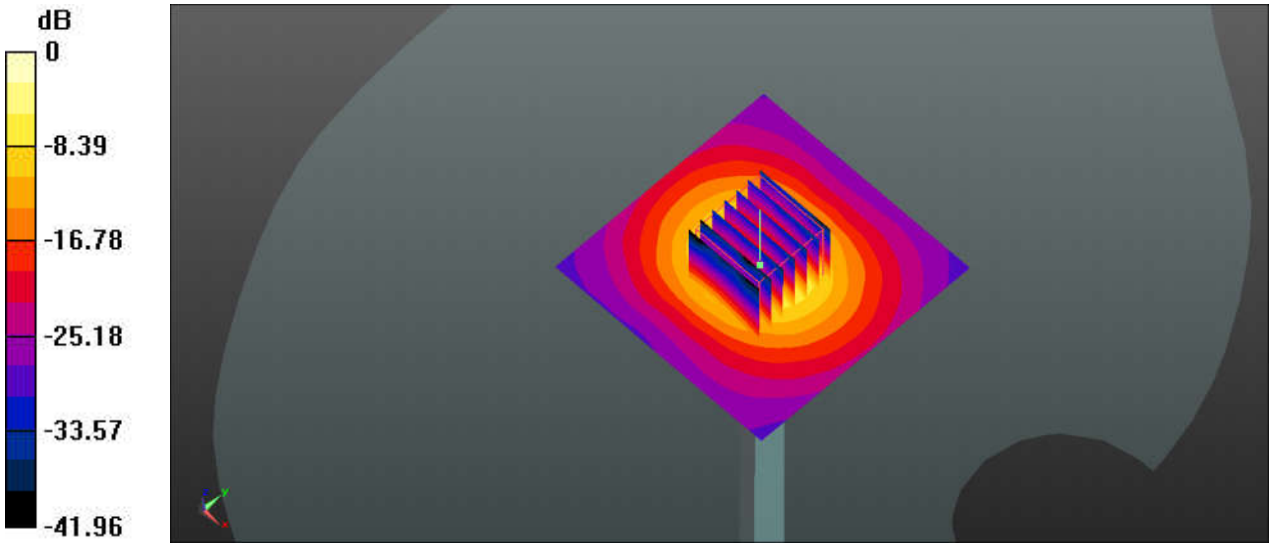
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: HSL_5600_211224 Medium parameters used: f = 5600 MHz; σ = 5.034 S/m; ε_r = 36.508; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3975; ConvF(4.82, 4.82, 4.82); Calibrated: 2021/6/7
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2021/8/25
- Phantom: SAM with CRP v5.0(Front); Type: QD000P40CD; Serial: TP-1671
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 20.5 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 56.98 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 35.4 W/kg
SAR(1 g) = 8.32 W/kg; SAR(10 g) = 2.27 W/kg
Maximum value of SAR (measured) = 21.2 W/kg



0 dB = 21.2 W/kg

System Check_Head_5750MHz

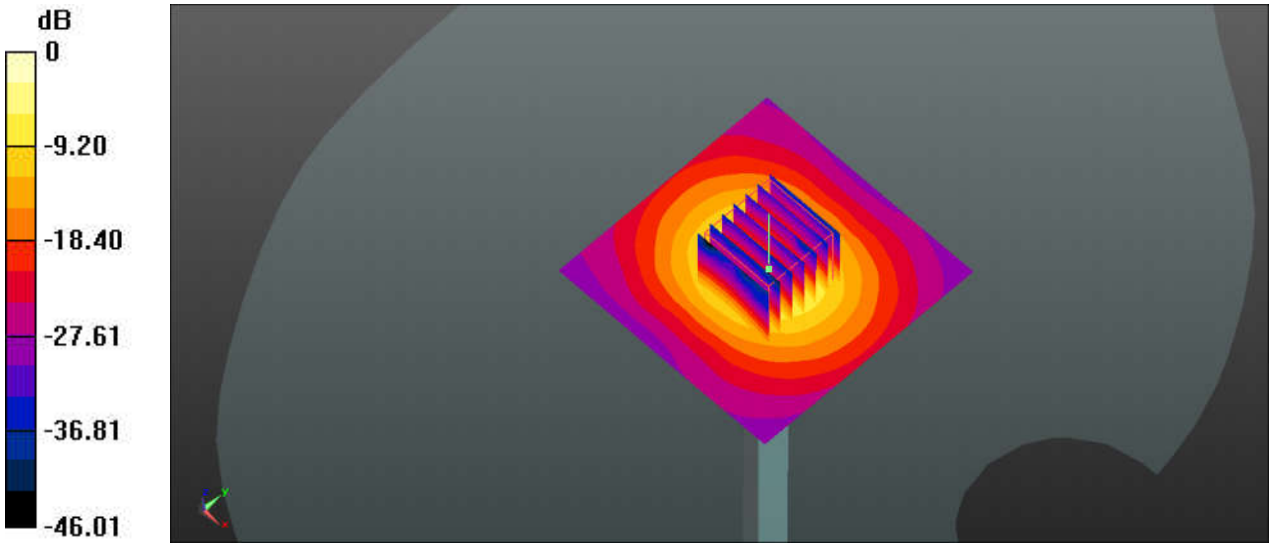
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: HSL_5750_211225 Medium parameters used: f = 5750 MHz; σ = 5.203 S/m; ε_r = 36.253; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3975; ConvF(4.9, 4.9, 4.9); Calibrated: 2021/6/7
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2021/8/25
- Phantom: SAM with CRP v5.0(Front); Type: QD000P40CD; Serial: TP-1671
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.6 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 54.45 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 34.6 W/kg
SAR(1 g) = 7.93 W/kg; SAR(10 g) = 2.17 W/kg
Maximum value of SAR (measured) = 20.2 W/kg



0 dB = 20.2 W/kg

System Check_Head_2450MHz

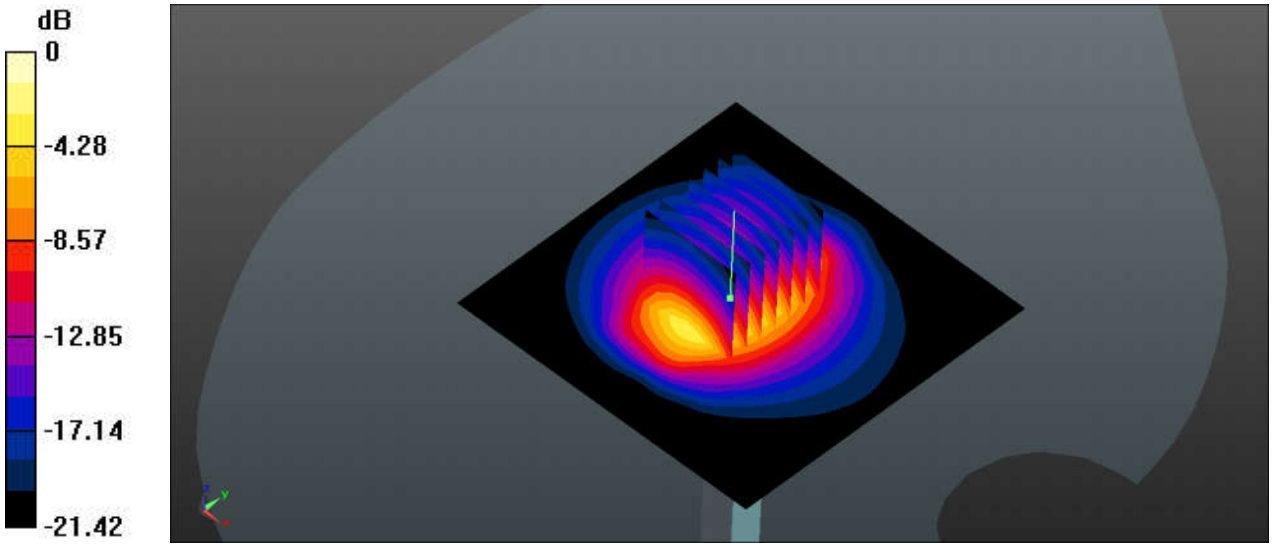
DUT: D2450V2-SN:924

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_211230 Medium parameters used: f = 2450 MHz; σ = 1.85 S/m; ε_r = 38.467; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7577; ConvF(8.03, 8.03, 8.03); Calibrated: 2021/11/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 21.4 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 106.6 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 27.0 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.87 W/kg
Maximum value of SAR (measured) = 21.7 W/kg



0 dB = 21.7 W/kg

System Check_Head_5250MHz

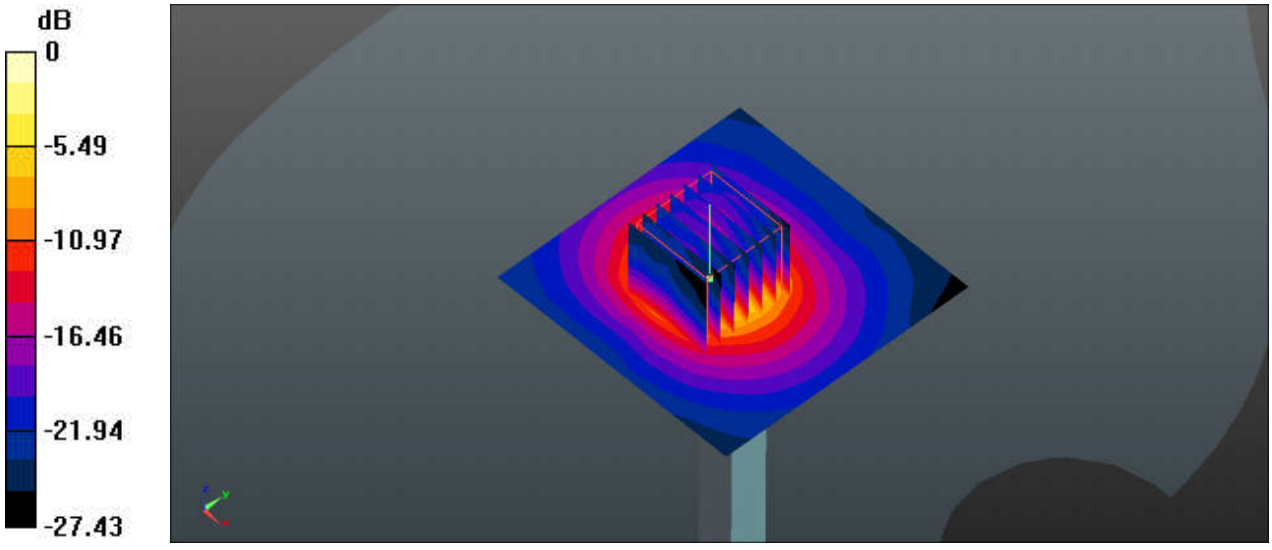
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW; Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: HSL_5250_211230 Medium parameters used: f = 5250 MHz; σ = 4.726 S/m; ε_r = 36.478; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7577; ConvF(5.4, 5.4, 5.4); Calibrated: 2021/11/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

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 (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 59.88 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 30.9 W/kg
SAR(1 g) = 7.72 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 19.1 W/kg

System Check_Head_5600MHz

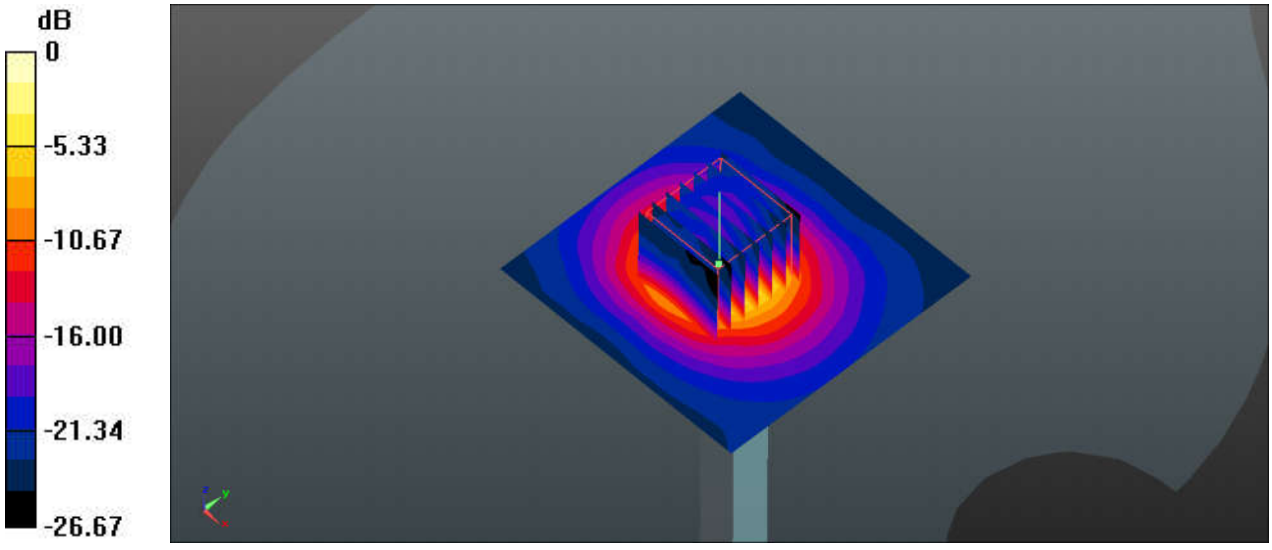
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: HSL_5600_211230 Medium parameters used: f = 5600 MHz; σ = 5.154 S/m; ε_r = 35.866; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7577; ConvF(4.82, 4.82, 4.82); Calibrated: 2021/11/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 20.2 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.27 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 34.3 W/kg
SAR(1 g) = 7.96 W/kg; SAR(10 g) = 2.3 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 19.0 W/kg

System Check_Head_5750MHz

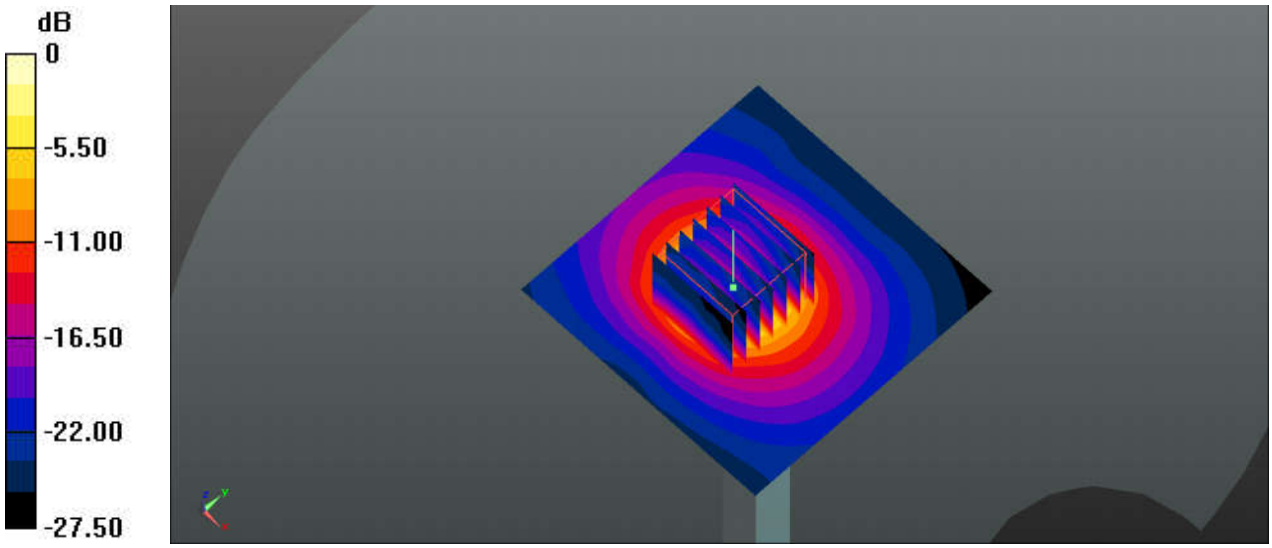
DUT: D5GHzV2-SN:1113

Communication System: UID 0, CW; Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: HSL_5750_211230 Medium parameters used: f = 5750 MHz; σ = 5.329 S/m; ε_r = 35.584; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7577; ConvF(5.03, 5.03, 5.03); Calibrated: 2021/11/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.3 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.46 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 35.5 W/kg
SAR(1 g) = 7.64 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 19.8 W/kg



0 dB = 19.8 W/kg

Appendix B. Plots of High SAR Measurement

The plots are shown as follows.

01_GSM850_GPRS 4 Tx slots_Right Cheek_Ch128

Communication System: UID 0, GPRS/EDGE12 (0); Frequency: 824.2 MHz;Duty Cycle: 1:2.08
Medium: HSL_835_211210 Medium parameters used: f = 824.2 MHz; σ = 0.892 S/m; ε_r = 42.549; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃; Liquid Temperature：22.5 ℃

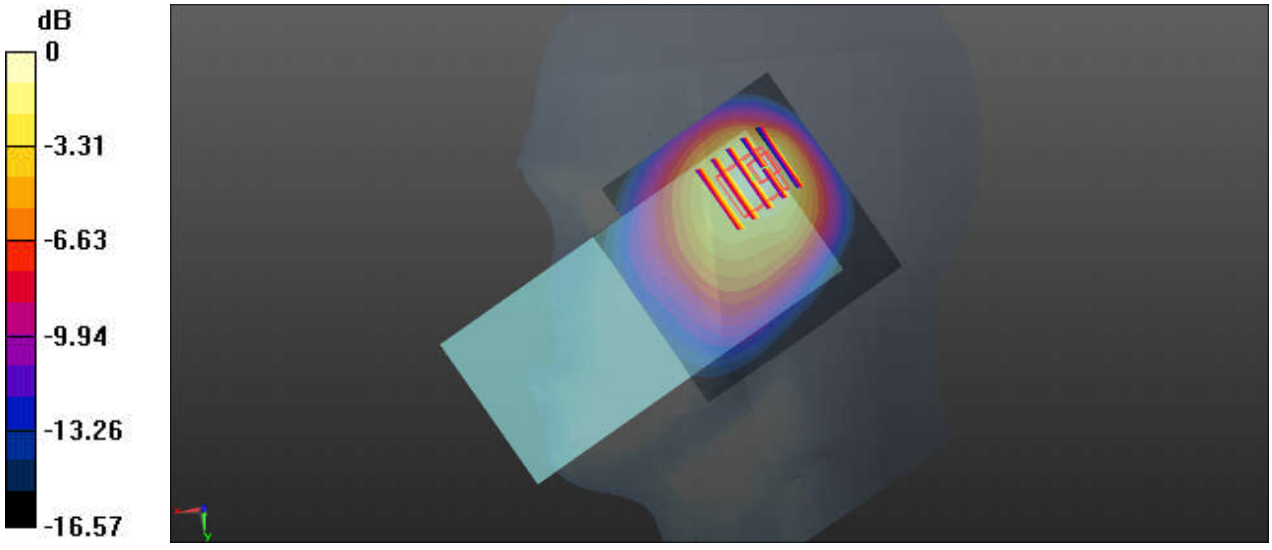
DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(6.57, 6.57, 6.57); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Ch128/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.640 W/kg

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.53 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.557 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 0.696 W/kg



0 dB = 0.696 W/kg

02_GSM1900_GPRS 2 Tx slots_Right Tilted_Ch810

Communication System: UID 0, GPRS/EDGE10 (0); Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium: HSL_1900_211214 Medium parameters used: f = 1910 MHz; σ = 1.421 S/m; ε_r = 38.392; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.4 ℃

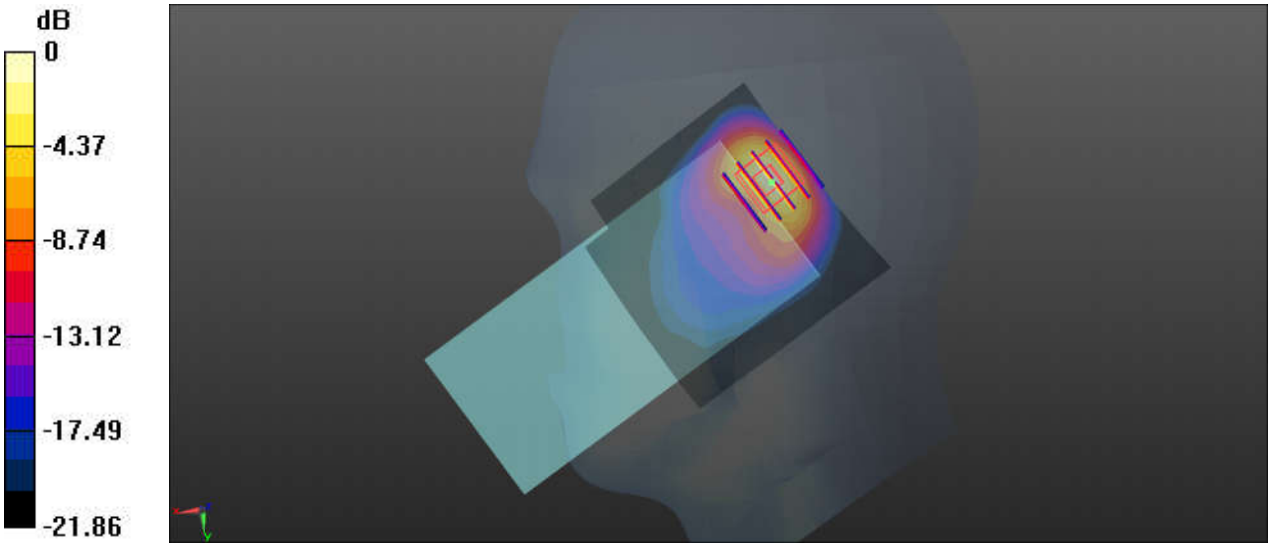
DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.2, 5.2, 5.2); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Ch810/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.596 W/kg

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.60 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.972 W/kg
SAR(1 g) = 0.474 W/kg; SAR(10 g) = 0.210 W/kg
Maximum value of SAR (measured) = 0.638 W/kg



0 dB = 0.638 W/kg

03_WCDMA V_RMC 12.2Kbps_Right Cheek_Ch4182

Communication System: UID 0, UMTS (0); Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: HSL_835_211220 Medium parameters used: f = 836.4 MHz; σ = 0.926 S/m; ε_r = 42.185; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.3 ℃

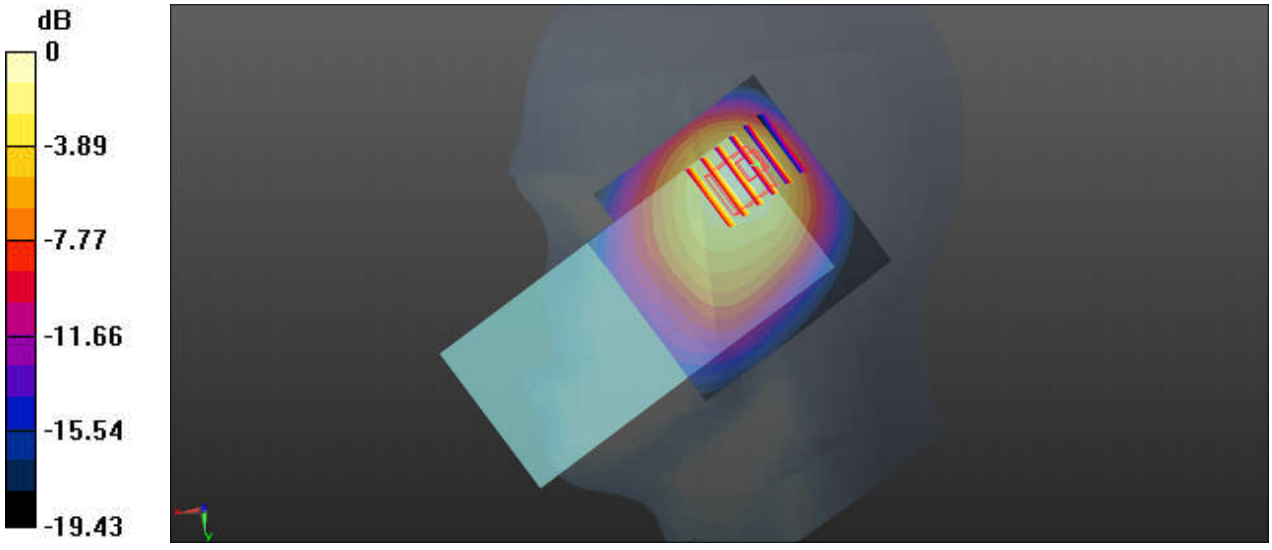
DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(6.57, 6.57, 6.57); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Ch4182/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.420 W/kg

Ch4182/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.47 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.781 W/kg
SAR(1 g) = 0.376 W/kg; SAR(10 g) = 0.225 W/kg
Maximum value of SAR (measured) = 0.476 W/kg



0 dB = 0.476 W/kg

04_WCDMA IV_RMC 12.2Kbps_Right Tilted_Ch1413

Communication System: UID 0, UMTS (0); Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium: HSL_1750_211224 Medium parameters used: f = 1733 MHz; σ = 1.362 S/m; ε_r = 41.408; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.7 ℃

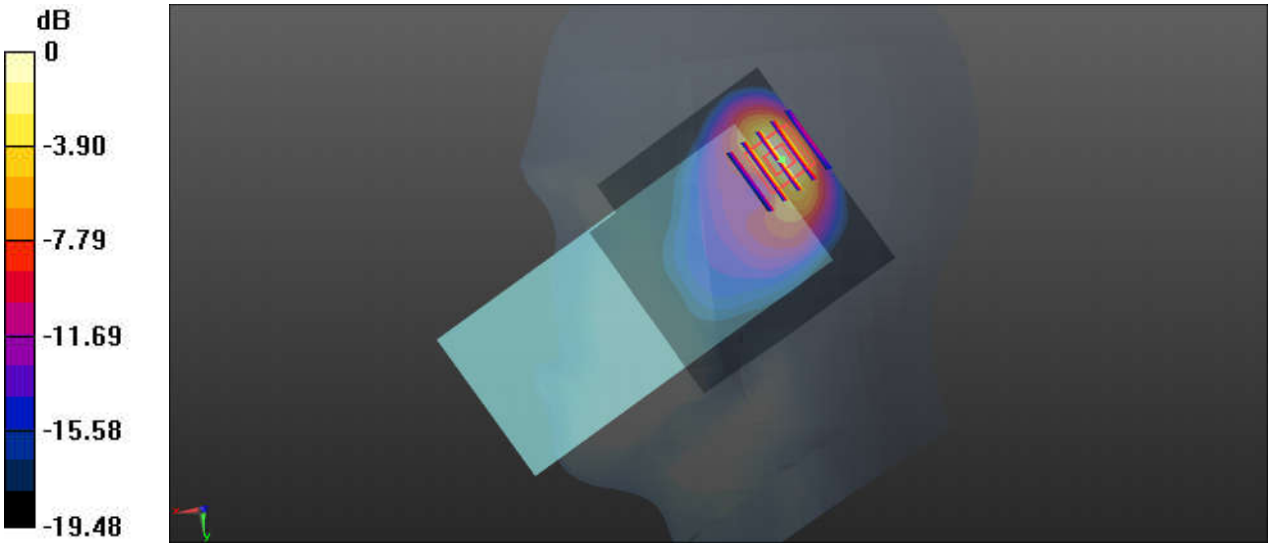
DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.48, 5.48, 5.48); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Ch1413/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.610 W/kg

Ch1413/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.44 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.988 W/kg
SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.217 W/kg
Maximum value of SAR (measured) = 0.638 W/kg



0 dB = 0.638 W/kg

05_WCDMA II_RMC 12.2Kbps_Right Tilted_Ch9400

Communication System: UID 0, UMTS (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: HSL_1900_211225 Medium parameters used: f = 1880 MHz; σ = 1.442 S/m; ε_r = 39.189; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

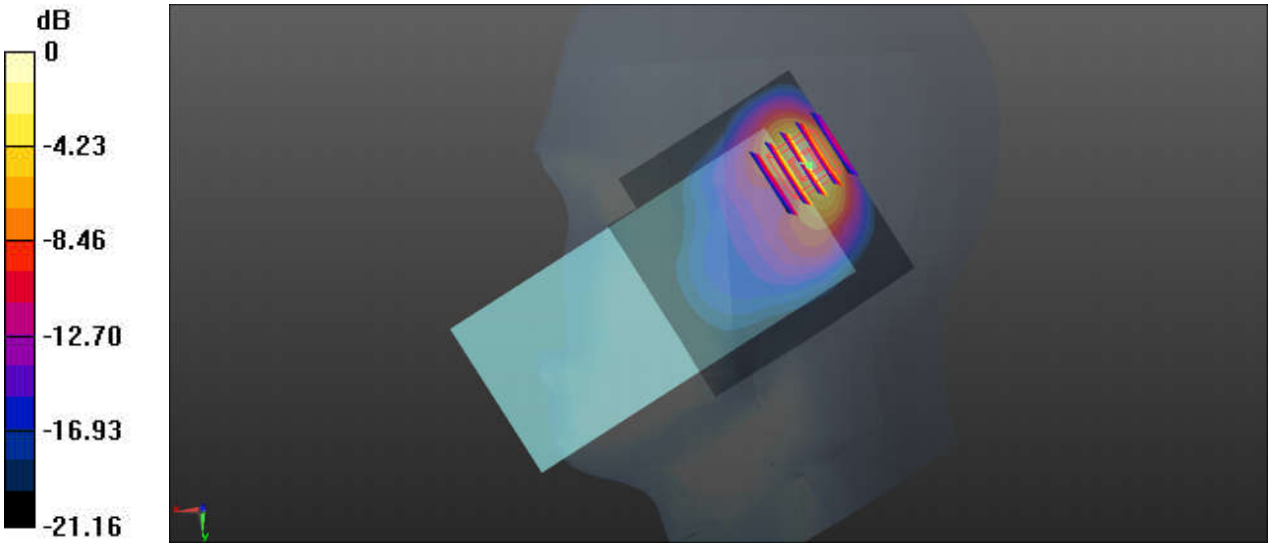
DASY5 Configuration:
- Probe: ES3DV3 - SN3191; ConvF(5.2, 5.2, 5.2); Calibrated: 2021/2/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn910; Calibrated: 2021/7/15
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Ch9400/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.657 W/kg

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.60 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.511 W/kg; SAR(10 g) = 0.229 W/kg
Maximum value of SAR (measured) = 0.679 W/kg



0 dB = 0.679 W/kg